Electronically Filed
Docket: 19-CRB-0005-WR (2021-2025)
Filing Date: 10/23/2020 04:34:57 PM EDT

Public Version

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
LIBRARY OF CONGRESS
Washington, D.C.

In re **Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies to Facilitate those Performances (*Web V*)**	Docket No. 19-CRB-0005-WR (2021-2025)

SOUNDEXCHANGE'S SECOND CORRECTED PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

October 16, 2020

TABLE OF CONTENTS

COMMERCIAL SERVICES

I. Procedural Background 1

A. The Participants 1

1. Artist and Copyright Owner Participants 1

2. Webcasting Licensees 4

B. Past Webcasting Proceedings 5

1. *Web II* 5

2. *Web III* 6

3. *Web IV* 6

C. This Proceeding 7

II. SoundExchange's Witnesses 8

A. Expert Witnesses 9

B. Fact Witnesses 10

C. Designated Testimony 13

III. The Willing Buyer/Willing Seller Rate Standard 13

IV. SoundExchange's Proposed Rates and Terms 15

V. Mr. Orszag's Benchmarking Analysis Is Reliable and Supports SoundExchange's Rate Proposal for Commercial Webcasters, While the Services' Benchmarking Analyses Are Flawed 17

A. Introduction 17

B. Mr. Orszag's Benchmark Analysis for Noninteractive Subscription Services Supports a Rate of $0.0033 Per Performance, While Professor Shapiro's Benchmark Analysis for Noninteractive Subscription Services Is Fatally Flawed 19

1. The Rates Paid by Interactive Subscription Streaming Services Are an Appropriate Benchmark for Commercial Webcasters 19

2. **Mr. Orszag's Use of Rates Paid by Spotify for Individual Full-Price Subscriptions Is Appropriate and Conservative 23**

   i. **Use of Spotify Rates 24**

   ii. **Use of Full-Price Individual Plans 25**

3. **Mr. Orszag Correctly Adjusted for Interactivity Based on the *Web IV* Determination's Ratio Equivalency Concept 27**

4. **Mr. Orszag's Conversion to a Per-Play Rate 35**

C. **Professor Shapiro's Benchmark Analysis for Noninteractive Subscription Services Is Flawed 38**

1. **Professor Shapiro's Attempt to Apply the *Web IV* Ratio Equivalency Adjustment Incorrectly Used the List Prices for Undiscounted Individual Plans to Adjust the Effective Per-Play Rates Calculated by Including Discount Plans 38**

2. **No Further Interactivity Adjustment Is Necessary to Account for the Non-Statutory Functionality in Pandora, iHeart, and Rhapsody Services 43**

D. **Mr. Orszag's Benchmark Analysis for Noninteractive Ad-Supported Services Supports a Rate of $0.0025 Per Performance 49**

1. **Mr. Orszag Correctly Uses Subscription Interactive Services as a Benchmark 49**

2. **Mr. Orszag's Interactivity Adjustment Correctly Accounted for the Lower Willingness to Pay of Ad-Supported Service Users 53**

E. **Professor Shapiro and Dr. Peterson Improperly Determined Rates for Ad-Supported Services 55**

1. **Professor Shapiro Miscalculated the Effective Per Play Rate for Spotify's Ad-Supported Service 55**

2. **The Services Improperly Use Spotify's Ad-Supported Tier as a Benchmark 57**

   i. **Spotify's Ad-Supported Tier Serves as a Funnel to Its Subscription Service, and Its Ability to Convert Free Users into Higher-Value Subscribers [ ] 57**

ii. Statutory Services Have Neither Spotify's Incentives Nor Spotify's Demonstrated Ability to Upsell to Subscription Interactive Services 62

iii. Professor Shapiro and Dr. Peterson Made No Effort to Adjust Their Spotify Free Benchmark to Account for its Value in Promoting Sales of Interactive Service Subscriptions 65

3. SoundCloud Is Not an Appropriate Benchmark Due to Its User-Generated Content and Lack of Catalog-Wide Licenses 67

4. Professor Shapiro and Dr. Peterson Fail to Properly Adjust Their Ad-Supported Benchmark Analysis for Interactivity 68

i. Introduction 68

ii. Professor Shapiro Erroneously Used the Same Interactivity Adjustment for His Ad-Supported Benchmark as He Did for His Subscription Service Benchmark, Although There Is No Reason to Believe that the Value of Interactivity in the Ad-Supported Service Market Is the Same as the Value of Interactivity in the Subscription Market 69

iii. Professor Shapiro Ignores the Fact that His Benchmark Spotify Ad-Supported Service Is Less Interactive Than the Subscription On-Demand Services He Uses to Calculate His Interactivity Adjustment 73

iv. Dr. Peterson's Interactivity Adjustment Is Invalid 74

F. Additional Adjustments 79

1. Mr. Orszag's Analysis Incorporates a Skips Adjustment 79

2. No Adjustment Is Appropriate for Promotion or Substitution 83

3. No Adjustment Is Appropriate Based on the Identity of the Rightsholder 83

G. Potential Upward Adjustments to Benchmark Rates for Non-Royalty Benefits 84

1. Advertising and Marketing Benefits 84

2. The Value of Data 85

H. No Competition Adjustment is Required Because the Benchmark Agreements on Which Mr. Orszag's Analysis Is Based Reflect Effectively Competitive Rates 86

1. Bargaining Models Predict that Spotify's Enhanced Market Power Will Result in Lower Royalty Rates that Are Consistent with Effectively Competitive Outcomes 89

2. [redacted] 91

i. [redacted] 93

ii. [redacted] 97

iii. [redacted] 98

3. [redacted] 101

i. Record Companies [redacted] 101

a. Between 2013 and 2017, Record Companies Became Much More Dependent on Subscription On-Demand Services in General [redacted] 103

b. [redacted] 105

c. [redacted] 107

d. [redacted] 109

e. Conclusion 113

ii. Spotify Had Ability to Significantly Influence Record Company Market Share on Its Platform While Negotiating the Benchmark Agreements 114

a. Overview 114

b. Spotify's Ability to Influence Record Company Market Share Increased Dramatically Following the 2013 Agreements 117

c. Growth in Consumption of Spotify-Controlled Playlists and Spotify's Power over Platform Real Estate Allowed Spotify to Exercise Considerable Influence over Listening on Its Platform 118

d. [ ] 125

e. The Record Confirms that Record Companies [ ] 130

4. The Record Does Not Support the Services' Effort to Explain [ ] 132

i. [ ] 134

ii. [ ] 139

iii. [ ] 143

iv. [ ] 148

v. The Record Indicates that [ ] 152

5. The Judges Do Not Need to Make a Competition Adjustment, and the Services Do Not Offer Any Reliable Adjustments 157

i. Professor Shapiro's Attempt to Calculate a Competition Adjustment Proves That No Adjustment Is Required 157

ii. Professor Shapiro's Proposed Competition Adjustment Is Overstated 158

iii. Dr. Peterson's Competition Adjustment Is Based on Stale Evidence and Otherwise Unreliable. 159

I. The Service-Side Economists Introduce Several Red Herrings that Should Be Disregarded 161

1. There Is No Basis for Adjusting Per-Play Rates Because of Decreasing Song Length 161

2. There Is No Basis for Adjusting Per-Play Rates for Unilateral Market Power 162

3. There Is No Basis for Eliminating Inflation-Based Adjustments 163

VI. No Promotional Adjustment or Offset Is Warranted 164

A. The Services' Anecdotal Evidence Is Irrelevant, As It Cannot Establish Net Promotion on a Catalog-Wide Basis 167

B. The Services' Evidence Is Irrelevant to an Opportunity Cost Analysis, As It Cannot Establish Relative Promotion 168

C. The Services' Evidence Is Irrelevant to a Benchmarking Analysis, As It Cannot Establish Relative Promotion 170

D. The Services' Anecdotal Evidence Is Unpersuasive On Its Own Terms 172

1. The Anecdotes Do Not Capture the Complex Interplay of Factors that Lead to the Success of a Recording or Artist 173

2. The Anecdotes Fail to Distinguish Between Webcasts and Broadcasts on Terrestrial and Satellite Radio 174

3. The Specific Anecdotes Are Overstated 176

VII. Professor Willig's Opportunity Cost and Modeling Analysis Is Reliable and Supports SoundExchange's Commercial Rate Proposal 180

A. Introduction 180

B. Shapley Values Are an Accepted Approach to Rate Setting and Effectuate the Objectives of Section 114 181

1. Shapley Values Explained 181

2. Why Shapley Values Are an Appropriate Tool 185

C. Defining the Model 188

1. Opportunity Cost Inputs 192

i. Must-Have Specification (Majors) 192

ii. Must-Have Specification (Indies) 202

iii. Retention 203

iv. Diversion Ratios 207

v. Royalties from Other Forms of Distribution 208

a. Subscription Interactive 209

b. Ad-Supported Interactive 210

c. Physical Purchases and Digital Downloads 210

d. Terrestrial Broadcast 214

vi. Plays-Per-User Ratio 215

vii. Record Company Play Shares 217

2. Willingness to Pay Inputs 217

i. Using Pandora as a Proxy is Appropriate 218

ii. Using Projections Instead of Historical Data Is Appropriate 220

iii. Pandora's Merger Proxy Scenario 2 Is a Reliable Set of Projections and the LRS Is Not 221

iv. Professor Willig's Willingness to Pay Calculations Consider Pandora's Fixed Costs, Whereas Professor Shapiro's Do Not 224

v. The Services' Criticisms of Professor Willig's Allocation of Costs Have Been Mooted 225

vi. The Services' Criticism of Professor Willig's Allocation of Revenue Is Immaterial 227

3. Fixed Costs of Record Companies 228

D. To Recover Their Opportunity Cost, Record Companies Must Earn a Royalty of At Least $0.00302 per Performance from Noninteractive Ad-Supported Webcasters and $0.00212 per Performance from Noninteractive Subscription Webcasters 229

E. The Shapley Analysis for Noninteractive Webcasters Supports a 2021 Royalty Rate of $0.0030 per Performance for Noninteractive Ad-Supported Webcasters and $0.0031 per Performance for Noninteractive Subscription Webcasters 232

F. The Appropriate Rate Under an Alternative Nash-in-Nash Bargaining Model Is $0.0030 per Performance for Noninteractive Subscription Webcasters and $0.0030 per Performance for Noninteractive Ad-Supported Webcasters 234

G. Professor Willig's Finding that the Shapley Value for the Ad-Supported Noninteractive Service Is Near Zero Is Consistent with Other Evidence 235

H. Professor Willig's Model Is Robust to the Extreme and Unsupported Assumptions Made in Professor Shapiro's Analysis 237

I. Professor Willig's Model Is Robust to Use of Results from Surveys Offered by Professors Zauberman, Hanssens, and Simonson 243

1. Professor Zauberman Conducted a Reliable and Informative Survey 244

2. The Hanssens and Simonson Surveys Corroborate Professor Zauberman's Findings 252

i. The Hanssens Pandora Survey Confirms that Professor Zauberman's Replacement Data Is Reliable 252

ii. The Simonson Surveys Further Corroborate the Other Survey Experts' Findings 256

3. All Three Experts' Surveys Elicit Conservative Diversion Ratios 261

4. The Services' Critiques of the Zauberman Survey Have No Merit 263

5. All Three Experts' Surveys Understate the Effect that Losing Access to Music Would Have on a Noninteractive Service 273

J. The Services' Remaining Criticisms of Professor Willig Have No Merit 273

1. The Must-Have Status of the Major Record Companies Does Not Necessitate an Effective Competition Adjustment to the Shapley Value Model 273

2. The Shapley Value Model Does Not Imply Anticompetitive Cooperation Among the Negotiating Parties 276

3. Professor Shapiro's So-Called "Myerson Value" Approach Is a Red Herring 282

4. Dr. Peterson's Claim that Professor Willig Failed to Account for Diversion to Non-Music Options Is False 287

5. Notwithstanding NAB's Claims to the Contrary, Professor Willig Properly Considered Simulcasting 289

VIII. Professor Shapiro's Opportunity Cost and Bargaining Model Analyses Are Deeply Flawed 290

A. Professor Shapiro's Diversion Ratios Rest on Label Suppression Experiments that Are Unreliable and Uninformative 294

1. The LSEs Were Not Designed Properly 295

i. The LSEs' Experimental Design Impeded Detection of the Treatment and Failed to Measure the Resulting Effects 295

ii. The LSEs' Failure to Inform Treated Users Deflated the Effects of the Suppression 302

2. The LSEs Were Not Implemented Properly 304

3. Additional Limitations Make the LSEs Uninformative 309

i. The LSEs Are Not Useful for Estimating True Long-Run Effects 309

ii. The LSEs Are Underpowered 312

iii. The LSEs Are Not Applicable to Subscription Noninteractive Webcasting Services 313

iv. The LSEs Do Not Measure the Effect of Losing [ ] 314

v. The LSEs Provide No Information about Downstream Costs of a Blackout to a Noninteractive Service 315

vi. The LSEs Are Refuted By Survey Evidence 318

4. Professor Shapiro's Application of the LSE Data Highlights and Compounds Dr. Reiley's Errors 321

i. The LSEs Produce Nonsensical Results that Professor Shapiro Is Forced to Disregard 321

ii. Professor Shapiro's Arbitrary Adjustments Cannot Save the LSEs 325

B. Professor Shapiro Miscalculates Royalty Rates Earned by Blacked-Out Record Companies 329

1. Professor Shapiro Fails to Distinguish Between Per-Play and Per-Subscriber Royalties 329

2. Professor Shapiro Incorrectly Estimates Royalties Earned from the Other Noninteractive Distributor 336

C. Correcting Professor Shapiro's Opportunity Cost Estimates 337

1. Correcting Professor Shapiro's Flawed Assessment of Royalties For Subscription Services.....337

2. Replacing Professor Shapiro's Flawed LSE Results with Survey-Based Results.....338

D. Professor Shapiro Chooses an Inapposite Proxy for the Subscription Noninteractive Webcasting Market 339

E. Professor Shapiro Incorrectly Suppresses Pandora's Willingness to Pay and So Depresses the Higher Bound of his Bargaining Model 341

1. Professor Shapiro Incorrectly Assesses Pandora's Willingness to Pay Based on Historical Data 342

2. Professor Shapiro Incorrectly Assesses Pandora's Willingness to Pay Based on an Erroneous Allocation of Pandora's Variable Costs 345

F. Obtaining Professor Shapiro's Proposed Royalty Rates Requires a Nash-In-Nash Bargaining Model that Is Specified Inappropriately and Relies on Incorrect and Unsupported Assumptions 349

1. The Nash-in-Nash Bargaining Model is Inferior to the Shapley Value Model For Purposes of This Proceeding.....350

2. Professor Shapiro's Nash-In-Nash Model Fails to Correctly Model Competition and So Depresses the Lower Bound of the Model 356

3. Professor Shapiro's Model Collapses When His Extreme Assumptions Are Removed 360

G. Professor Shapiro's Conclusion that the Current Statutory Rate Is Above a Market Rate Is Belied by Actual Competitive Dynamics in the Noninteractive Marketplace 361

IX. Simulcasters Should Pay the Same Rates Paid by Other Commercial Webcasters, and NAB's Benchmark Analysis Should Be Rejected 363

A. There Is No Basis for Distinguishing Between Simulcasters and Other Webcasters 363

1. NAB Bears the Burden of Proof to Establish that Simulcasters Should Pay Rates Different and Lower Than Other Webcasters 363

2. Simulcasters Compete for Listeners with Other Commercial Webcasters, Eliminating Record Companies' Incentive to Price Discriminate in the Hypothetical Market 364

3. Marketplace Agreements Contradict NAB's Argument that Simulcasters Should Pay Different and Lower Rates 371

4. Dr. Leonard's Reliance on Agreements with Musical Work Performance Rights Organizations Is Misplaced 375

5. Dr. Leonard's Contention that Simulcasters Should Pay Less Than Other Webcasters Because They Have a Different Business Model that Monetizes Poorly Is Irrelevant and Wrong 379

6. Dr. Leonard Incorrectly Asserts that Listeners to Simulcast Streams Value Music Less Than Custom Radio Listeners 384

i. Survey Evidence Contradicts Dr. Leonard's Opinion 384

ii. Simulcasters' Use of Non-Music Content Does Not Show that the Music They Use Is Valued Less Than Music Used by Other Webcasters 385

iii. No Evidence Supports the Claim that Simulcast Listeners Have a Lower Willingness to Pay 389

iv. NAB's Focus on Local Issues, Community Programming, and On-Air Personalities Is Irrelevant to Setting a Royalty Rate 390

7. The Alleged Promotional Value of Simulcasting Does Not Justify a Lower Rate 393

B. Direct Licenses Between iHeart and Independent Record Companies Do Not Provide a Reliable or Appropriate Benchmark 395

1. The iHeart/Indie Agreements Are Not Representative 397

2. Dr. Leonard Excluded Relevant Direct Licenses from His Benchmark 400

3. iHeart Did Not Meaningfully Steer, or Promise to Steer, Toward Direct License Indies....403

i. iHeart Did Not Commit to Steer and Had Little Incentive to Do So....403

ii. iHeart Abandoned Its Programmatic Ability to Steer on Its Webcasting Service in 2016, Before the Direct Licenses Were Renewed....406

iii. iHeart Engaged in Minimal Steering on its Simulcasts, Limiting Any Steering to the Middle of the Night When its Impact Was Minimal....407

iv. Dr. Leonard Does Not Know that Indies Were Motivated to Enter into Direct Licenses by the Potential for Steering....409

4. Indies Had Motivations Other Than Steering for Entering into Direct Licenses....410

5. Dr. Leonard's Benchmark Rate Is Undermined by His Opportunity Cost Calculation....415

C. Dr. Leonard's Opportunity Cost Analysis Is Deeply Flawed....415

1. Dr. Leonard's Diversion Ratios Are Unreliable Because of Critical Flaws in the Hauser Survey....416

i. Overview....416

ii. Professor Hauser's Hypothetical and Response Options Are Poorly Designed and Biased....418

a. Confusing Hypothetical Scenario....418

b. Confusing and Biased Response Options....419

c. Instructions and Questions Prime Respondents to Choose Non-Music Options....425

iii. Professor Hauser's Improper Use of a Two-Stage Decision-Making Process Depresses Diversion....426

iv. Professor Hauser's Poorly Designed Time Estimation Question Does Not Generate Reliable Data....433

2. Dr. Leonard Miscalculates Royalty Rates Associated with Relevant Forms of Music Distribution....435

i. Dr. Leonard Significantly Overestimates the Average Plays per Month for Simulcast Users 435

ii. Dr. Leonard Assumes that the Current Statutory Royalty Rates Apply 439

iii. Dr. Leonard Then Ignores the Statutory Royalty Rate Structure for Subscription Services 439

iv. Dr. Leonard Uses Outdated Estimates that Understate Royalties for Physical Products and Downloads 440

v. Dr. Leonard's Royalty Rates for Ad-Supported On-Demand Services Are Lower than Calculated by Professor Shapiro 441

D. Dr. Leonard Inappropriately Assumed that the Willing Buyer/Willing Seller Rate Would be Equal to Record Company Opportunity Cost 441

E. Dr. Leonard's Adjustment for Complementary Oligopoly Power Is Unnecessary and Should Be Disregarded 442

X. To the Extent It Is Relevant Under the Willing Buyer/Willing Seller Standard, Noninteractive Webcasters Are Well Positioned to Pay Higher Rates 443

A. Ability to Pay Is Not the Standard 443

B. The Services' Claimed Inability to Pay Higher Royalties Does Not Withstand Scrutiny 444

1. Mr. Wheeler's Testimony that His Company Does Not Have the Ability to Pay Higher SoundExchange Royalties Is Not Accurate 444

2. Mr. Newberry's Testimony that Commonwealth Does Not Have the Ability to Pay Higher SoundExchange Royalties Is Not Accurate 447

3. Mr. Ryan's Testimony that Pandora Does Not Have the Ability to Pay Higher SoundExchange Royalties Is Incomplete and Therefore Misleading 447

C. If the Services' Financial Positions Are Considered, Artists' Financial Positions and Record Company Investment Should Be Considered as Well 448

D. Economic Trends Underlying the Digital Music Business Have Evolved in Recent Years and Enable Noninteractive Webcasters to Pay Higher Rates 450

1. Increasing Adoption of Smart Devices Points to Growing Reach of Streaming Services 450

2. Ongoing Technological Innovation and Reduced Costs Have Allowed Streaming Services to Better Monetize at a User Level 451

i. Trend 1: Increasing Ability to Focus on User-Level Economics, Due to Reduced Data Storage Costs and Improvements in Tracking Capabilities 451

ii. Trend 2: Improvements in Machine Learning, Leading to More Personalized Services 453

iii. Trend 3: Advances in Targeted and Programmatic Advertising 453

3. Statutory Webcasting Increasingly Serves as a Contributor to Firms' Larger Digital Ecosystems 455

E. Commercial Webcasters Are Well Positioned to Pay Higher Statutory Rates Than They Currently Are Paying 456

1. Pandora Is Well Positioned to Pay Higher Royalty Rates for 2021-2025 457

2. iHeartMedia Is Well Positioned to Pay Higher Royalty Rates for 2021-2025 459

F. Under-Monetized Services Should Not Be Subsidized by Record Companies and Artists 461

<u>NONCOMMERCIAL WEBCASTERS; MINIMUM FEE; EPHEMERALS; TERMS</u>

XI. Noncommercial Webcasters 462

A. The Judges Should Adopt SoundExchange's Proposed Rates for Noncommercial Webcasters 463

1. SoundExchange's Proposed Rates for Noncommercial Webcasters Continue a Longstanding Rate Structure with Wide Acceptance 463

i. *Web II* 463

ii. *Web III* 465

iii. *Web IV* 466

iv. *Web V* 467

2. The Vast Majority of Noncommercial Webcasters Have Usage Under 159,140 ATH per Month and Pay Only the Minimum Fee.....468

3. In a Free Market, Record Companies Would Not Provide Further Discounts to the 20 Large Noncommercial Webcasters with Usage in Excess of 159,140 ATH per Month.....469

i. Noncommercial Webcasters May Constitute a Distinct Market Segment, but Only to a Point 470

a. Commercial and Noncommercial Music Stations Both Use Music to Monetize an Audience 472

b. There Are Commercial and Noncommercial Webcasting Services Providing Programming that Is Not Clearly Differentiated.....473

c. Commercial and Noncommercial Services Use Similar Christian Music 474

d. Commercial and Noncommercial Religious Broadcasters Compete Directly 478

e. In an Unregulated Market, Commercial and Noncommercial Services with Similar Music Programming Would Not Pay Dramatically Different Rates for Music.....481

ii. Large Noncommercial Webcasters Benefit from Steep Discounts Despite Paying Commercial Rates for Usage Over 159,140 ATH per Month.....482

iii. NRBNMLC Has Not Established that Large Noncommercial Webcasters Have a Willingness and Ability to Pay for High Usage of Sound Recordings Less than that of Commercial Services 485

a. Large Noncommercial Webcasters Are Well-Resourced Organizations with the Willingness and Ability to Pay Royalties at Commercial Rates for Usage in Excess of 159,140 ATH per Month 485

b. Family Radio's Financial Condition Is Not Representative of Other Large Noncommercial Webcasters.....487

c. The Argument that Royalties on Excess Usage Are Too Unpredictable to Finance with Donations Is Not Based on Data or Economics 491

iv. NRBNMLC's Evidence of Discounting Practices in Other Sectors Is Unpersuasive 492

B. The Judges Should Not Adopt Any of NRBNMLC's Rate Proposals 495

1. There Is No Sound Basis for NRBNMLC's New Alternative 1 496

i. *Web I* Rates Do Not Provide Support for NRBNMLC's New Alternative 1 496

ii. The NPR Agreement Is Not an Appropriate Benchmark in Support of NRBNMLC's New Alternative 1 499

iii. Exhibit 3022 Does Not Support Professor Steinberg's Translation of the CPB/NPR Agreement into NRBNMLC's New Alternative 1 507

iv. There Is No Sound Basis for Annualizing the ATH Threshold 509

2. There Is No Sound Basis for NRBNMLC's New Alternative 2 510

XII. Minimum Fee 514

A. The Minimum Fee Has Been $500 Since the Beginning of the Statutory License for Webcasting, and the Judges Have Recognized that an Increase Is Warranted 514

B. SoundExchange's Average Administrative Costs per Webcaster Channel or Station Have More than Doubled Since *Web IV*, Warranting an Increase in the Minimum Fee 518

C. The Need for an Increase in the Minimum Fee Is Reflected in SoundExchange's Settlement with CBI 522

D. Other Indicators Also Support a Substantial Increase in the Minimum Fee at This Time 523

XIII. Ephemerals 527

A. The Ephemeral License Has Economic Value, and It Is Appropriate to Express the Value of Ephemeral Copies as a Fixed Percentage of a Bundled Royalty 528

B. The Best Benchmark for the Allocation Is the Agreement Between Artists and Record Companies....529

C. The Judges Should Make the Editorial Changes Proposed by SoundExchange and Embraced by NRBNMLC....529

XIV. Terms and Other Regulatory Language....530

A. Standards for the Adoption of Terms and Other Regulatory Language....530

B. Consistency with PSS/SDARS Regulations....530

C. Designating SoundExchange as the Collective....532

D. Audit Terms....533

1. Late Fee for Late Payments Discovered in Audits....534

i. The Webcasting Context Is Different from the PSS/SDARS Context....536

ii. Webcasters Pay Interest at Much Higher Rates on General Corporate Borrowing....537

iii. Record Evidence Suggests a Substantial Risk of Underpayments by Webcasters that Are Not the Result of Good Faith Errors....539

iv. Willing Buyers and Willing Sellers Would Not Agree to a Near-Zero Late Fee....540

v. The Services Provided No Evidence of Hardship Due to the Current Late Fee on Late Payments Discovered in Audits....542

vi. The Late Fee Should Motivate Compliance and Prevent Irreparable Injury to Artists and Rights Owners....543

2. Frequency of Audits....543

3. Response Deadlines....545

4. Fee Shifting If Requested Information Is Not Provided on a Timely Basis....548

5. Auditor's Right to Consult Its Client....551

6. The Possibility of Overpayments....554

7. Deadline for Audit Completion....556

E. Statements of Account Showing Recoupment of Minimum Fees.....557

F. Account Numbers.....557

G. Reporting of ISRCs.....558

H. Reporting Usage of Directly Licensed Tracks.....561

I. Unclaimed Funds 562

J. Proxy Distribution for Missing Reports of Use.....565

K. Definition of Performance.....568

COMMERCIAL SERVICES

1. SoundExchange, Inc., American Federation of Musicians of the United States and Canada, Screen Actors Guild-American Federation of Television and Radio Artists, American Association of Independent Music, Sony Music Entertainment, UMG Recordings, Inc., Warner Music Group Corp., and Jagjaguwar Inc. (collectively, "SoundExchange") hereby submits its proposed findings of fact and conclusions of law.[1] Pursuant to 37 C.F.R. § 351.14(c), SoundExchange's proposed conclusions of law are indicated with three asterisks at the end of the paragraph.[2]

I. Procedural Background

A. The Participants

1. Artist and Copyright Owner Participants

2. ***SoundExchange, Inc. ("SoundExchange").*** SoundExchange is a Section 501(c)(6) nonprofit performance rights organization established to ensure the prompt, fair, and efficient collection and distribution of royalties payable to performing artists and sound recording copyright owners for the use of their recordings under the statutory licenses in Sections 112(e) and 114 of the Copyright Act. Ex. 5625, App. A ¶ 4 (Bender WDT).

3. SoundExchange has approximately 150,000 artist members and approximately 110,000 rights owner members (including both record companies and artists who own the copyrights in their own recordings). *Id.*, App. A at ¶ 6 (Bender WDT). It is governed by an

[1] SoundExchange recognizes that the Judges have reserved on the admissibility of certain exhibits, some of which are cited below. SoundExchange is happy to provide a list of such exhibits upon request.
[2] Those paragraphs are: 4, 18-25, 55-58, 67, 75-76, 103, 229, 238, 259, 261, 269-71, 351, 499, 507, 525, 537, 565-66, 568, 571, 586, 718, 813, 817, 923, 926, 1062-64, 1093, 1116, 1132, 1136, 1138, 1141-42, 1148, 1293, 1340, 1343, 1349-65, 1368, 1374-75, 1451, 1457, 1488, 1490, 1492, 1494, 1509, 1518, 1520, 1531-41, 1567, 1578, 1581, 1589, 1591-93, 1607, 1614, 1622, 1635, 1646-48, 1654, 1658, 1662, 1672, 1677, 1680-81, 1686-88, 1690, 1696, and 1700.

eighteen-member Board of Directors made up of equal numbers of artist representatives and copyright owner representatives. *Id.*, App. A at ¶ 5 (Bender WDT).

4. The Copyright Royalty Judges have consistently designated SoundExchange as the sole collective to receive royalty payments, statements of account, and reports of use from statutory licensees and to distribute such royalty payments to recording artists and copyright owners. *E.g.*, *In re Digital Performance Right in Sound Recordings and Ephemeral Recordings*, 72 Fed. Reg. 24084, 24105 (2007) (hereinafter "*Web II*"); *In re Determination of Royalty Rates for Digital Performance Right in Sound Recordings and Ephemeral Recordings*, 79 Fed. Reg. 23102, 23124 (2014) (hereinafter "*Web III Remand*"); *In re Determination of Royalty Rates and Terms for Ephemeral Recording and Digital Performance of Sound Recordings (Web IV)*, 81 Fed. Reg. 26316, 26400 (2016) (hereinafter "*Web IV*").***

5. ***Sony Music Entertainment ("SME").*** SME is a recorded music company home to many best-selling artists and renowned record labels. Ex. 5613 ¶¶ 5-6 (Piibe WDT). SME's artists include Adele, Beyoncé, Billy Joel, Bob Dylan, Bruce Springsteen, Khalid, and Lil Nas X. *Id.* at ¶ 6. SME's catalog also contains recordings by many legendary recording artists, including Dolly Parton, Elvis Presley, Frank Sinatra, Johnny Cash, Louis Armstrong, Miles Davis, Prince, and Whitney Houston. *Id.* at ¶ 7. SME's labels include Arista Records, Columbia Nashville, Epic Records, Legacy Recordings, Sony Classical, and Sony Music Latin. *Id.* at ¶ 5.

6. ***Universal Music Group ("UMG").*** UMG is a group of music-related companies owned by Vivendi S.A. Ex. 5609 ¶ 1 (Harrison WDT). It is the largest recorded music company in the world, with a U.S. market share of [[redacted]] (as of September 2019). *Id.* at ¶¶ 1, 4. The artists who have recorded for UMG include U2, Kacey Musgraves, Kendrick Lamar, Taylor Swift, Paul

McCartney, and Stevie Wonder. UMG labels include Capitol Records, Def Jam Recordings, Geffen Records, and Interscope Records. *Id.* at ¶ 5.

7. ***Warner Music Group ("WMG").*** WMG is a recorded music company. Ex. 5611 ¶ 3 (Adadevoh WDT). WMG artists include Ed Sheeran, Cardi B, Bruno Mars, Janelle Monáe, and Lizzo. WMG's catalog also includes recordings by legendary artists such as Prince, the Eagles, James Taylor, and Phil Collins. WMG's labels include Atlantic, Elektra, Nonesuch, Reprise, and Warner Records. *Id.* The recorded music division of WMG also includes Alternative Distribution Alliance ("ADA"), which has been a leading distributor for independent record labels for more than two decades. *Id.* at ¶ 4.

8. ***Jagjaguwar Inc. ("Jagjaguwar").*** Jagjaguwar is a recorded music company. The president of Jagjaguwar holds a seat on the Board of Directors of SoundExchange. Joint Petition to Participate of SoundExchange *et al.* at 4.

9. ***The American Association of Independent Music ("A2IM").*** A2IM is a nonprofit organization representing a diverse group of over 400 independent record labels of all sizes and staffing levels across the United States. *Id.* at 3. A2IM currently holds a seat on the Board of Directors of SoundExchange. Ex. 5625, App. A ¶ 5 (Bender WDT).

10. ***The American Federation of Musicians of the United States and Canada ("AFM").*** The AFM is the oldest and largest union of musicians in the world, representing over 80,000 professional musician members in the United States and Canada. Ex. 5621 ¶ 8 (Hair WDT). AFM members span the full range of professional musicians, and they record and perform music of every genre. *Id.* The AFM is represented on SoundExchange's Board of Directors. Ex. 5625, App. A ¶ 5 (Bender WDT).

11. ***Screen Actors Guild and American Federation of Television and Radio Artists ("SAG-AFTRA").*** SAG-AFTRA is a labor union representing approximately 160,000 performers, including many singers, recording artists, vocalists, and other performers on sound recordings. Joint Petition to Participate of SoundExchange *et al.* at 2. SAG-AFTRA is represented on SoundExchange's Board of Directors. Ex. 5625, App. A ¶ 5 (Bender WDT).

2. Webcasting Licensees

12. ***Pandora Media, LLC ("Pandora").*** Pandora operates the largest commercial webcasting service in the United States. *Id.*, App. A at ¶ 35. Pandora has offered an ad-supported noninteractive radio service since 2004. Ex. 5604 ¶ 89 (Tucker WDT). In 2009, Pandora launched a subscription-based version of its ad-supported service, which offered ad-free playback, higher quality audio, and an increased daily skip limit on songs. *Id.* Pandora relies significantly on direct licenses from copyright owners to provide these services. Ex. 5625, App. A ¶ 35 (Bender WDT). For 2018, Pandora paid SoundExchange statutory royalties in the amount of [[redacted]] for its ad-supported offering and [[redacted]] for its subscription offering. *Id.*

13. ***Sirius XM Radio Inc. ("Sirius XM").*** Sirius XM provides various music services, including a subscription noninteractive webcasting service. For 2018, it paid SoundExchange webcasting statutory royalties in the amount of [[redacted]]. *Id.* It acquired Pandora in 2018. Ex. 5604 ¶ 90 (Tucker WDT).

14. ***Google Inc. ("Google").*** Google provides various music services. It relies on the statutory license for an ad-supported noninteractive webcasting service. For 2018, it paid SoundExchange statutory royalties in the amount of [[redacted]]. Ex. 5625, App. A ¶ 35 (Bender WDT).

15. ***Educational Media Foundation ("EMF").*** EMF is a large noncommercial religious broadcaster that also webcasts. *Id.* In 2018, it paid SoundExchange statutory royalties in

the amount of [ ]. *Id.* at ¶¶ 22, 37 (Ploeger WRT).

16. ***National Association of Broadcasters ("NAB").*** NAB is a trade association representing broadcasters, some of which also webcast. *Id.*, App. A at ¶ 35 (Bender WDT).

17. ***National Religious Broadcasters Noncommercial Music License Committee ("NRBNMLC").*** NRBNMLC is a committee of the National Religious Broadcasters, which is a trade association representing Christian broadcasters, some of which also webcast. *Id.*

B. Past Webcasting Proceedings

18. This proceeding is the fourth time that the Judges have considered statutory royalty rates and terms for webcasting. *See Web II*, 72 Fed. Reg. 24084; *Web III Remand*, 79 Fed. Reg. 23102; *Web IV*, 81 Fed. Reg. 26316. The following paragraphs briefly review the past history of webcasting rate litigation before the Judges.***

1. *Web II*

19. In 2005-2006, the Copyright Royalty Judges conducted their first proceeding to set statutory royalty rates and terms for webcasters, covering the period 2006 through 2010. The Judges' determination adopted the following per-performance rates for commercial webcasters: $.0008 for 2006, $0.0011 for 2007, $0.0014 for 2008, $0.0018 for 2009, and $0.0019 for 2010. For noncommercial webcasters, the Judges adopted a per station or channel rate of $500 for transmissions not exceeding 159,140 aggregate tuning hours ("ATH") per month, with usage in excess of the ATH threshold to be paid for at the commercial per-performance rates. *Web II*, 72 Fed. Reg. at 24111. Several webcasters appealed various aspects of the Judges' determination. The D.C. Circuit largely affirmed the Judges' determination. *See Intercollegiate Broad. Sys., Inc. v. Copyright Royalty Bd.*, 574 F.3d 748 (D.C. Cir. 2009).***

2. *Web III*

20. In 2009-2010, the Copyright Royalty Judges conducted a proceeding to set statutory royalty rates and terms for webcasters for 2011 through 2015. The Judges' determination adopted the following per-performance rates for commercial webcasters: $0.0019 for 2011, $0.0021 for 2012, $0.0021 for 2013, $0.0023 for 2014, and $0.0023 for 2015. *In re Digital Performance Right in Sound Recordings and Ephemeral Recordings, Final Rule and Order*, 76 Fed. Reg. 13026, 13048 (Mar. 9, 2011) ("*Web III*"). As the result of a settlement, the Judges adopted somewhat different rates for broadcast simulcasts: $0.0017 for 2011, $0.0020 for 2012, $0.0022 for 2013, $0.0023 for 2014, and $0.0025 for 2015. 76 Fed. Reg. at 13051. The Judges continued the same fee structure for noncommercial webcasters as was adopted in *Web II. Id.* at 13042.***

21. On appeal, the D.C. Circuit ruled that the Judges were acting as principal officers of the United States in violation of the Appointments Clause. *See Intercollegiate Broad. Sys., Inc. v. Copyright Royalty Bd.*, 684 F.3d 1332, 1342 (D.C. Cir. 2012). The court cured the violation by eliminating a limit on the Librarian's power to remove Judges and remanded. *Id.****

22. On remand, the Judges reviewed the entire record and issued a new determination adopting the same rates as prior to the appeal. *Web III Remand*, 79 Fed. Reg. at 23103, 23128, 23131.***

3. *Web IV*

23. In 2014-2015, the Copyright Royalty Judges conducted a proceeding to set statutory royalty rates and terms for webcasters for 2016 through 2020. The Judges reduced the statutory royalty rates for 2016 to $0.0022 per performance for commercial subscription services and $0.0017 per performance for commercial ad-supported services, with adjustments over time in accordance with the Consumer Price Index. The Judges continued the same fee structure for

noncommercial webcasters as was adopted in *Web II* and *Web III. Web IV*, 81 Fed. Reg. at 26409.***

24. SoundExchange appealed several aspects of the Judges' determination to the D.C. Circuit, which affirmed the Judges' decision. *SoundExchange, Inc. v. Copyright Royalty Bd.*, 904 F.3d 41 (D.C. Cir. 2018).***

25. As a result of inflation adjustments, the statutory royalty rate for 2020 is $0.0024 per performance for commercial subscription services and $0.0018 per performance for commercial ad-supported services. 37 C.F.R. § 380.10(a)(1).***

C. This Proceeding

26. The Judges commenced this proceeding on January 24, 2019 by publishing a notice in the Federal Register soliciting petitions to participate. *Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies to Facilitate Those Performances (Web V)*, 84 Fed. Reg. 359 (Jan. 24, 2019).

27. Twenty-seven parties filed petitions to participate in this proceeding—the eight artist and copyright owner participants identified in Part I.A.1 and nineteen actual or potential webcaster licensee participants. Notice of Participants, Commencement of Voluntary Negotiation Period, and Case Scheduling Order, Att. A (Feb. 6, 2019).

28. A voluntary negotiation period began on February 7, 2019, and ended on May 7, 2019. No parties reported a settlement during that time. *See id.* at 1; *see, e.g.*, Notification of Status of Negotiations (May 10, 2019).

29. Nine licensee parties withdrew their petitions to participate between May 24, 2019 and September 20, 2019. On September 23, 2019, the remaining Participants except for College Broadcasters, Inc. ("CBI") and National Public Radio ("NPR") filed their written direct statements, although the written direct statement filed by Mr. David Powell d/b/a Circle God Network did not

include testimony and exhibits as required by 37 C.F.R. § 351.4. *See, e.g.*, Order Modifying Case Schedule (June 27, 2019).

30. On September 23, 2019, CBI and SoundExchange filed a Joint Motion to Adopt a Partial Settlement between them governing webcasting by college radio stations and certain other noncommercial educational webcasters. That settlement was eventually adopted by the Judges and has already been published as a final rule. 85 Fed. Reg. 12745 (Mar. 4, 2020).

31. On September 23, 2019, NPR and SoundExchange filed a Joint Motion to Adopt a Partial Settlement between them and the Corporation for Public Broadcasting ("CPB") governing webcasting by NPR and other certain public radio stations. That settlement was eventually adopted by the Judges and has also been published as a final rule. 85 Fed. Reg. 11857 (Feb. 28, 2020).

32. On January 10, 2020, the remaining Participants except for Mr. Powell filed their written rebuttal statements. *See, e.g.*, Order Modifying Case Schedule (June 27, 2019).

33. On March 23, 2020, the Judges dismissed Mr. Powell as a participant. Order Dismissing David Powell and Circle God Network Inc. from the Proceeding (Mar. 23, 2020).

34. On July 29, 2020, iHeartMedia, Inc. ("iHeart") withdrew its petition to participate, leaving the webcaster licensee participants identified in Part I.A.2. *See* Notice of Withdrawal of Petition to Participate (July 29, 2020).

35. After delays due to the coronavirus pandemic, the Judges conducted a virtual hearing from August 4, 2020 to September 9, 2020. *Cf.* 8/4/20 Tr. 7:7-11:1.

II. SoundExchange's Witnesses

36. SoundExchange presented written testimony from six expert witnesses and ten fact witnesses. All of the witnesses testified live via video except for four fact witnesses whose written testimony was admitted into evidence without their live video testimony (Jonathan Bender, Jason

Gallien, Raymond Hair, and John Strohm). SoundExchange also submitted designated testimony from prior proceedings. *See infra* Part II.C.

A. Expert Witnesses

37. *Professor Robert D. Willig* is Professor Emeritus of Economics and Public Affairs at Princeton University, and the former Chief Economist of the Antitrust Division of the U.S. Department of Justice. *See* Ex. 5600 ¶¶ 1-2 (Willig CWDT). Professor Willig submitted written direct and rebuttal testimony, describing his economic modeling and opportunity cost analysis. Having been qualified as an expert in microeconomics and industrial organization, he testified orally on August 5, 6, 10, and 25, 2020. 8/5/20 Tr. 303:4-594:11 (Willig); 8/6/20 Tr. 607:21-879:12 (Willig); 8/10/20 Tr. 890:1-1145:13 (Willig); 8/25/20 Tr. 3849:4-3890:1 (Willig).

38. *Jonathan Orszag* is a Senior Managing Director and member of the Executive Committee of Compass Lexecon, LLC. His past experience includes serving as the Assistant to the U.S. Secretary of Commerce and Director of the Office of Policy and Strategic Planning and as an Economic Policy Advisor on President Clinton's National Economic Council. Ex. 5602 ¶¶ 1-4 (Orszag WDT). Mr. Orszag submitted written direct and rebuttal testimony regarding SoundExchange's benchmarking approach. Having been qualified as an expert in applied microeconomics, industrial organization, and econometrics, he testified orally on August 10, 11, 12, 13, and 25, 2020. 8/10/20 Tr. 1146:1-1173:14 (Orszag); 8/11/20 Tr. 1183:25-1475:15 (Orszag); 8/12/20 Tr. 1485:17-1777:20 (Orszag); 8/13/20 Tr. 1791:2-2077:6 (Orszag); 8/25/20 Tr. 3808:25-3846:19 (Orszag).

39. *Professor Catherine Tucker*, Sloan Distinguished Professor of Management Science at the MIT Sloan School of Management, specializes in platform economics, the effect of digitization on markets, and digital advertising. Ex. 5605 ¶ 1 (Tucker WDT). Professor Tucker submitted written direct and rebuttal testimony. Having been qualified as an expert in economics,

digital industries, and marketing, she testified orally on August 17 and 18, 2020. 8/17/20 Tr. 2088:6-2363:24 (Tucker); 8/18/20 Tr. 2375:18-2527:12 (Tucker).

40. *Dr. George S. Ford* is the President of Applied Economic Studies and the Chief Economist of the Phoenix Center for Advanced Legal & Economic Policy Studies. Having been qualified as an expert in industrial economics, he testified orally regarding his written rebuttal testimony on August 18, 2020. 8/18/20 Tr. 2528:16-2624:11 (Ford); *see also* Ex. 5615 (Ford WRT).

41. *Professor Gal Zauberman*, Joseph F. Cullman 3rd Professor of Marketing at the Yale School of Management, specializes in consumer judgment and decision-making, financial decision-making, and survey methodology. Ex. 5606 ¶¶ 1, 4 (Zauberman WDT). As a marketing professor and as a consultant, Professor Zauberman has conducted, supervised, and/or evaluated several hundred marketing surveys and analyzed issues related to consumer behavior. *Id.* at ¶ 4. Professor Zauberman submitted written direct and rebuttal testimony. Having been qualified as an expert in consumer decision-making and survey methodology, he testified orally on August 26 and 27, 2020. 8/26/20 Tr. 4160:20-4163:25 (Zauberman); 8/27/20 Tr. 4174:7-4273:8 (Zauberman).

42. *Professor Itamar Simonson*, Sebastian S. Kresge Professor of Marketing at the Graduate School of Business, Stanford University, has conducted, supervised, or evaluated over 2,000 marketing research studies. Ex. 5608 ¶¶ 1, 9 (Simonson CWRT). Having been qualified as an expert in consumer decision-making and survey methodology, he testified orally regarding his written rebuttal testimony on August 27, 2020. 8/27/20 Tr. 4274:2-4327:9 (Simonson).

B. Fact Witnesses

43. *Mark Piibe*, Executive Vice President for Global Business Development and Digital Strategy at SME, oversees business development, including digital deal making and digital strategic account management, and directs SME's digital strategy and investment portfolios. He

participates directly in SME's negotiations with digital partners, including with key partners like Spotify, Apple, and Pandora. Ex. 5613 ¶¶ 1-2 (Piibe WDT). Mr. Piibe submitted written direct testimony and testified orally on September 1 and 2, 2020. 9/1/20 Tr. 5081:19-5121:11 (Piibe); 9/2/20 Tr. 5141:17-5398:5 (Piibe).

44. *Jennifer Fowler*, Senior Vice President, Commercial Business & Marketing within the U.S. Sales Division of SME, manages SME's relationships with digital partners who provide on-demand and customized streaming services—such as Apple, Amazon, Google, Pandora, and Spotify—and develops strategies to promote SME's content and increase artist exposure through those partnerships. Ex. 5619 ¶ 1 (Fowler CWDT). Ms. Fowler submitted written direct testimony and testified orally on September 2, 2020. 9/2/20 Tr. 5399:17-5448:16 (J. Fowler).

45. *Reni Adadevoh* is Vice President, Legal and Business Affairs for Warner Music International, a London-based division of WMG focused on the creation, marketing, and distribution of sound recordings. Ex. 5611 ¶ 1 (Adadevoh WDT). She is one of the attorneys primarily responsible for developing WMG relationships and negotiating agreements with digital music services. *Id*. Ms. Adadevoh submitted written direct and rebuttal testimony and testified orally on September 3, 2020. 9/3/20 Tr. 5472:15-5622:20 (Adadevoh).

46. *Aaron Harrison*, Senior Vice President, Digital Business & Legal Affairs at UMG, has negotiated more than 100 significant deals with various digital music service providers that use the sound recording repertoire of UMG and the independent record labels that UMG distributes. Ex. 5609 ¶ 1 (Harrison WDT). Mr. Harrison submitted written direct and rebuttal testimony and testified orally on September 3, 2020. 9/3/20 Tr. 5634:16-5757:9 (Harrison).

47. *Travis Ploeger* is Director of License Management for SoundExchange. His department handles SoundExchange's relationships with licensees, including receiving and

processing payments, statements of account, and reports of use; performing quality assurance checks to identify issues; and interacting with licensees as needed. Ex. 5625 ¶ 1 (Ploeger WRT). Mr. Ploeger submitted written rebuttal testimony and adopted Mr. Jonathan Bender's written direct testimony as his own after Mr. Bender left SoundExchange. *Id.* at ¶ 3. Mr. Ploeger testified orally on September 9, 2020. 9/9/20 Tr. 5787:9-5907:11 (Ploeger).

48. *Michael Sherwood*, Senior Vice President, Streaming & Revenue for Warner Records ("WR"), a record label wholly owned by WMG, oversees all of WR's revenue-generating commercial distribution accounts. Ex. 5620 ¶¶ 1-2 (Sherwood WDT); 9/9/20 Tr. 5912:21-5913:13 (Sherwood). Mr. Sherwood's team of twelve WR employees focuses on the streaming business, and overseeing WR's relationships and strategies with Apple Music and Spotify commands a big portion of his time. Ex. 5620 ¶¶ 2-3 (Sherwood WDT). However, Mr. Sherwood and his team are not involved in WR's negotiations of music licensing agreements with digital music services. *Id.* at ¶ 37; 9/9/20 Tr. 5924:15-24 (Sherwood). Mr. Sherwood submitted written direct testimony and testified orally on September 9, 2020. 9/9/20 Tr. 5912:4-5961:15 (Sherwood).

49. *Mary Gauthier* is a professional musician, recording artist, and songwriter. Ex. 5623 ¶ 1 (Gauthier WDT). Ms. Gauthier submitted written direct testimony and testified orally on September 9, 2020. 9/9/20 Tr. 5968:19-5980:2 (Gauthier).

50. *Jonathan Bender* was the Chief Operating Officer of SoundExchange between 2011 and January 2020. Ex. 5625, App. A ¶ 1 (Bender WDT); *Id.* at ¶ 3 (Ploeger WRT). He oversaw the collection, processing, and distribution of royalties for all types of services eligible for statutory licensing, including statutory webcasting services. *Id.*, App. A ¶ 1 (Bender WDT). Mr. Bender submitted written direct testimony and did not testify in person before the Judges.

51. *Jason Gallien*, Chief Financial Officer for North America for UMG, oversees all of UMG's financial reporting and accounting matters for UMG's recorded music operations in the United States. Ex. 5618 ¶ 1 (Gallien WDT). Mr. Gallien submitted written direct testimony and did not testify in person before the Judges.

52. *Raymond M. Hair, Jr.*, International President of AFM, has been involved in the representation of artists and musicians for over 30 years. Ex. 5621 ¶ 1 (Hair WDT). Mr. Hair submitted written direct testimony and did not testify in person before the Judges.

53. *John Strohm* has been the President of Rounder Records since 2017. Ex. 5622 ¶ 1 (Strohm WDT). Mr. Strohm has spent 30 years in the independent music community, including ten years as a full-time working musician and another ten as an artist-side lawyer. *Id.* Mr. Strohm submitted written direct testimony and did not testify in person before the Judges.

C. Designated Testimony

54. SoundExchange also designated Dr. George S. Ford's testimony from *Web III*, Trial Ex. 5616 (Des. WDT of Ford, Web III), and his testimony from *SDARS III*, Trial Ex. 5617 (Des. WDT of Ford, SDARS III).

III. The Willing Buyer/Willing Seller Rate Standard

55. In this proceeding, the Judges are to "establish rates and terms that most clearly represent the rates and terms that would have been negotiated in the marketplace between a willing buyer and a willing seller." 17 U.S.C. § 114(f)(1)(B); *accord id.* § 112(e)(4).***

56. In doing so, the marketplace that the Judges look to is a hypothetical marketplace "free of the influence of compulsory, statutory licenses," *Web IV*, 81 Fed. Reg. at 26316, where the sellers are the record companies and the product being sold is a "blanket license for each record company's complete repertoire of sound recordings." *Web II*, 72 Fed. Reg. at 24091. In *Web IV*,

the Judges held that the hypothetical marketplace should be "effectively competitive." 81 Fed. Reg. at 26333.***

57. The relevant statutory provisions call upon the Judges to take into account promotion/substitution and the relative roles of the copyright owner and the licensee. 17 U.S.C. §§ 112(e)(4), 114(f)(1)(B)(i). However, the Judges have found that a benchmarking approach to setting royalties encompasses those factors. For example, in *Web IV*, the Judges found that these considerations are "baked-in" to benchmarks. 81 Fed. Reg. at 26327 (noting that "there is a presumption that marketplace benchmarks demonstrate how parties to the underlying agreements commit real funds and resources, which serve as strong indicators of their understanding of the market," including promotional or substitutional effects); *see also Web II*, 72 Fed. Reg. at 24092.***

58. The Judges have recognized that a market rate based on the willing buyer/willing seller standard need not guarantee that any particular webcasters will be profitable, able to continue operating, or able to enter the market in the first place:

> It must be emphasized that, in reaching a determination, the Copyright Royalty Judges cannot guarantee a profitable business to every market entrant. Indeed, the normal free market processes typically weed out those entities that have poor business models or are inefficient. To allow inefficient market participants to continue to use as much music as they want and for as long a time period as they want without compensating copyright owners on the same basis as more efficient market participants trivializes the property rights of copyright owners. Furthermore, it would involve the Copyright Royalty Judges in making a policy decision rather than applying the willing buyer/willing seller standard of the Copyright Act.

Web II, 72 Fed. Reg. at 24088 n.8; *see also Web IV*, 81 Fed. Reg. at 26318, 26329 ("[T]he statute neither requires nor permits the Judges to protect any given business model proposed or adopted by a market participant."); *Web III Remand*, 79 Fed. Reg. at 23119 ("[T]he fact that any particular

number of webcasters might not profit under that rate, or that others would either shut down or never enter the market, is not evidence that the rate deviates from the market rate.”).***

IV. SoundExchange’s Proposed Rates and Terms

59. SoundExchange’s proposed rates and terms are set forth in full in the Proposed Rates and Terms of SoundExchange, Inc. and Artist and Copyright Owner Participants, which SoundExchange submitted as part of its written direct statement on September 23, 2019. *See* SoundExchange Proposed Rates and Terms (filed Sept. 23, 2019). SoundExchange’s proposed rates and terms are summarized in the following paragraphs.

60. *Commercial Webcasters*. For public performances and related ephemeral recordings made by a commercial webcaster as part of a subscription service, as defined in 17 U.S.C. § 114(j)(14), SoundExchange proposes a rate of $0.0031 per performance for 2021. For public performances and related ephemeral recordings made by a commercial webcaster as part of a nonsubscription (ad-supported) service, SoundExchange proposes a rate of $0.0028 per performance for 2021. SoundExchange proposes that those rates be adjusted for subsequent years of the rate period based on changes in the CPI-U, in the same manner currently provided in 37 C.F.R. § 380.10(c). The rationale for SoundExchange’s rate proposal for commercial webcasters is discussed in Parts V-X.

61. *Noncommercial Webcasters*. SoundExchange proposes that noncommercial webcasters pay only the $1,000 minimum fee described below for a channel or station with usage up to 159,140 ATH per month. SoundExchange proposes that a noncommercial webcaster that transmits over 159,140 ATH on any channel or station in a single month pay for performances in excess of that threshold at the per-performance rate applicable to commercial webcasters. These rates would not apply to noncommercial webcasters covered by SoundExchange’s settlements with College Broadcasters, Inc. (“CBI”) and the Corporation for Public Broadcasting (“CPB”)/National

Public Radio ("NPR"), which the Judges have already adopted. *See* 85 Fed. Reg 12745, 12746 (Mar. 4, 2020) (CBI); 85 Fed. Reg. 11857, 11858 (Feb. 28, 2020) (CPB/NPR). Royalty rates for noncommercial webcasters are addressed in detail in Part XI.

62. *Minimum Fee.* SoundExchange proposes that all webcaster licensees pay an annual, nonrefundable fee of $1,000 per individual channel or station for each calendar year or part of a calendar year during the rate period in which they are licensees. This fee would be credited towards royalty payments for the same calendar year. For commercial webcasters, the minimum fee would be capped at $100,000 per year. *See infra* Part XII.

63. *Ephemeral Recordings*. SoundExchange proposes continuing the current allocation of statutory royalty payments 5% to Section 112(e) and 95% to Section 114. *See* 37 C.F.R. § 380.10(d). However, SoundExchange proposes certain clarifying changes in the regulatory language expressing that allocation. Evidence supporting this structure is described in Part XIII.

64. *Terms and Other Regulatory Language*. SoundExchange proposes that the regulations currently set forth in 37 C.F.R. Part 380 Subparts A and B generally be conformed to the Copyright Royalty Judges' revisions in *SDARS III* of the regulations in 37 C.F.R. Part 382 (with certain conforming and editorial changes). However, SoundExchange believes that there are good reasons to depart from the *Web IV* and/or *SDARS III* terms in certain respects, including to make the statutory license audit process more workable. SoundExchange's proposed terms, including marked proposed regulations with drafting notes, are set forth in its rate proposal. Proposed terms are described in detail in Part XIV.

V. Mr. Orszag's Benchmarking Analysis Is Reliable and Supports SoundExchange's Rate Proposal for Commercial Webcasters, While the Services' Benchmarking Analyses Are Flawed

A. Introduction

65. On behalf of SoundExchange, Mr. Orszag conducted a benchmarking analysis that yielded a statutory royalty rate of $0.0033 per-performance for commercial subscription services and $0.0025 per-performance for commercial ad-supported services. Ex. 5602 ¶ 9 (Orszag WDT).

66. Benchmarking is a process that uses rates freely negotiated in unregulated markets as a benchmark to set rates in a similar, regulated market. Benchmarking analysis is especially useful because it relies on actual marketplace data, providing information from real-world negotiations that serves as a reliable basis to set rates in the hypothetical market. *Id.* at ¶¶ 43-44.

67. Benchmarking analyses have been relied on in prior rate-setting proceedings before the Judges. For example, in *Web II,* the Judges explained, "both copyright owners and commercial services agree that the best approach to determining what rates would apply in such a hypothetical marketplace is to look to comparable marketplace agreements as 'benchmarks' indicative of the prices to which willing buyers and willing sellers in this marketplace would agree." *Web II*, 72 Fed. Reg. at 24091. Indeed, the benchmark approach is "a hallmark of the sound recording and musical works rate proceedings within the Judges' jurisdiction." *Distribution of Cable Royalty Funds*, 84 Fed. Reg. 3602, 3552 (Feb. 12, 2019).***

68. Mr. Orszag explained that a good benchmark must be reasonably comparable to the hypothetical or "target" market, but by definition will differ from the hypothetical market in some respects. So long as the benchmark rates can be adjusted to account for any material differences, there are no sound economic reasons to "throw out the baby with the bathwater." Ex. 5602 ¶ 46 (Orszag WDT).

69. Mr. Orszag's benchmark analysis used the effective percentage of revenue royalty rates paid to record companies by the largest of the interactive subscription streaming services, Spotify. *Id.* at ¶¶ 76, 86. Mr. Orszag analyzed those rates separately for subscription and ad-supported noninteractive services. In so doing, he took into account the fact that noninteractive services earn lower revenue per user from an ad-supported product, compared to the revenue per user received from a subscription product. As a result, his analysis produces lower per-play rates for ad-supported noninteractive services than for subscription noninteractive services. *Id.* at ¶ 12.

70. For both the subscription and ad-supported noninteractive markets, Mr. Orszag adjusted the benchmark rates to account for the absence of interactivity in the statutory noninteractive market, making this adjustment in a manner consistent with the ratio equivalency concept adopted by the Judges in *Web IV*. *Id.* at ¶ 11.

71. Mr. Orszag's analysis also effectively adjusted for the fact that [ ]. 8/11/20 Tr. 1228:13-1230:23 (Orszag).

72. Mr. Orszag considered whether any adjustment to the benchmark rates was necessary to account for potential differences in the promotional and substitutional effects of the benchmark and target services, but found that no adjustment was necessary. Ex. 5602 ¶¶ 159, 164 (Orszag WDT).

73. Based on substantial changes in the market for licensing recordings to interactive services since the time of *Web IV*, and the new evidentiary record presented in this proceeding, Mr. Orszag concluded that the rates negotiated by Spotify in 2017 reflect outcomes consistent with

an effectively competitive marketplace. Consequently, Mr. Orszag found that it is not necessary to adjust the benchmark rates for effective competition. *Id.* at ¶ 10.

B. Mr. Orszag's Benchmark Analysis for Noninteractive Subscription Services Supports a Rate of $0.0033 Per Performance, While Professor Shapiro's Benchmark Analysis for Noninteractive Subscription Services Is Fatally Flawed

1. The Rates Paid by Interactive Subscription Streaming Services Are an Appropriate Benchmark for Commercial Webcasters

74. Mr. Orszag's use of the subscription interactive market as a benchmark is consistent with the Judges' acceptance of that benchmark in prior proceedings. *See Web II*, 72 Fed. Reg. at 24092; *Web III Remand*, 79 Fed. Reg. at 23115; *Web IV*, 81 Fed. Reg. at 26353.

75. In *Web II*, the Judges found this benchmark appropriate because the buyers and sellers and the rights being sold are similar in both markets, both markets are input markets driven by downstream consumer demand, and music is delivered in a similar fashion in both markets except for interactivity. *Web II*, 72 Fed. Reg. at 24092. Similarly, in *Web III*, the Judges found that the interactive services benchmark market was similar to the noninteractive target market, the difference being that the ultimate consumer played a much larger role in selecting the music in the interactive market. *Web III Remand*, 79 Fed. Reg. at 23115. And in *Web IV*, the Judges accepted the interactive benchmark as one of the foundations to set the rates for subscription services. *Web IV*, 81 Fed. Reg. at 26353.***

76. As the Judges have observed, "'comparability' is a key issue in gauging the relevance of any proffered benchmarks." *SDARS I*, 73 Fed. Reg. 4080, 4088; *accord SDARS III*, 83 Fed. Reg. at 65214 ("[a] key component of a marketplace benchmark is that the market it purports to represent is comparable to the hypothetical target market in the proceeding").***

77. In determining whether a benchmark market is comparable, the Judges consider whether it has the same buyers and sellers as the target market and whether they are negotiating

for the same rights. Ex. 5602 ¶ 53 (Orszag WDT) (citing *SDARS III*, 83 Fed. Reg. at 65214)). Here, the sellers of the benchmark market are the same entities that would be sellers in the hypothetical unregulated target market. *Id.* at ¶ 54. Although the buyers in the benchmark interactive market (including Spotify, Apple Music, iHeart, Amazon, and Google) are not all identical to those in the target noninteractive market, there is some overlap. Pandora, Google and iHeart, for example, are buyers in the interactive market and participants in this proceeding. As Mr. Orszag testified, there is no need for the buyers in the benchmark negotiations and the target negotiations to be identical; they only have to represent similar dynamics, so that the benchmark negotiations are a reasonable proxy for the target negotiations. *Id.* at ¶ 55. Moreover, the product being sold in the interactive negotiations is generally the same as the product in the hypothetical noninteractive negotiations: a license of rights to a record company's sound recording catalog. *Id.* at ¶ 56.

78. The principle difference between the benchmark market and the target market is that the benchmark services obtain from the record companies the right to offer their users interactive functionality. Over time, however, this distinction between the markets has eroded because the interactive services increasingly offer—and their subscribers increasingly take advantage of—noninteractive or "lean-back" listening options. *Id.* at ¶ 57. The functional convergence between interactive and noninteractive services stems in large part from the growing use by subscribers of playlists made available by the interactive services. *Id.* at ¶ 59.

79. A playlist is a set of tracks on a streaming platform that can be listened to by users as a program. Playlists can be generated by the service's users, the service itself, or by third parties (*e.g.*, the record companies). Some playlists are considered "editorial playlists," meaning they are curated by music experts or editorial teams employed by a streaming service. Algorithmic playlists

are generated with algorithms designed by a service, which rely on each user's listening history and behavior to generate individualized recommendations. Ex. 5602 ¶ 60 (Orszag WDT).

80. Playlists on interactive services have become quite popular. For example, as of year-end 2017, more than 32% of monthly content hours on Spotify came from service-generated playlists, including both editorial playlists (15%) and algorithmic playlists personalized for each user (17%). 36% of all Spotify streams came from user-generated playlists, which can be listened to by the user or by other Spotify users if the playlist is made public. Thus, as of 2017, at least 68% of listening on Spotify was lean-back. A survey by MusicWatch in 2018 showed that [[redacted]] of Spotify Premium users and [[redacted]] of Apple Music users had engaged in some type of playlisting activity in the previous 12 months. For instance, [[redacted]] of Spotify Premium users had created and saved a playlist of music, [[redacted]] had listened to a friend's playlist, [[redacted]] had listened to a playlist created by an artist, and [[redacted]] had listened to a playlist created by the streaming service. Ex. 5602 ¶ 61 (Orszag WDT).

81. Playlist listening has grown in connection with the services' push to generate and promote their own playlists. When Spotify launched in the United States in 2011, it allowed users to create their own playlists and to make them public (so that other users could see and listen to the same playlists), but Spotify did not at that time offer its own service-generated playlists and it did not feature playlists heavily on its user interface. In 2013, however, Spotify debuted Today's Top Hits and Baila Reggaeton, which were curated and controlled by Spotify. The launch in 2015 of Discover Weekly—a personalized playlist aimed at helping users discover new music—proved to be a pivotal point for the trend towards service-controlled playlists. Discover Weekly uses a listener's playback history to identify new, undiscovered recordings based on other users' listening

habits and playlists. Ex. 5602 ¶ 62 (Orszag WDT); *see also infra* Part V.H.3.ii.c (addressing emergence and growth in consumption of Spotify-controlled playlists).

82. In 2014 Apple acquired Beats Electronics, an audio equipment company with a streaming service that had advanced music curation and playlist personalization based on listeners' music tastes. When Apple Music launched in 2015, the acquisition of Beats helped Apple offer both expert-curated and algorithmically personalized playlists, which may have provided Apple Music with a competitive advantage over Spotify. Apple Music's personalized playlists, called For You, were touted as a key feature of the service, while other service-generated playlists, such as Deep Cuts, were also praised for delivering access to new, lesser-known recordings. Apple bolstered its algorithmic, personalized playlist offerings with My New Music Mix and My Chill Mix in 2016 and 2017, respectively. Ex. 5602 ¶ 63 (Orszag WDT).

83. Apple's and Spotify's increasing focus on the lean-back listening experience illustrates the convergence between interactive and noninteractive services in terms of user behavior and the type of services they offer. The playlists on interactive services and the stations on noninteractive services are not necessarily identical, but they attempt to achieve the same goal, which is to provide listeners with a lean-back listening experience and music discovery options. Ex. 5602 ¶ 65 (Orszag WDT). Indeed, Aguiar and Waldfogel (2018) noted that "[p]laylists are in some ways like radio stations." Ex. 5450 at 8.

84. Spotify's recent introduction of an app called Stations, designed to offer a minimalist, lean-back only listening experience, is the latest indication that the traditionally interactive and noninteractive services are converging in terms of functionality. In addition to Pandora-like stations, the app incorporates Spotify's personalized playlists, such as Discover Weekly, and allows Spotify users to further personalize stations with "thumbs up" and "thumbs

down" buttons, which are essentially the same functionalities that Pandora's noninteractive tiers offer. Ex. 5602 ¶ 70 (Orszag WDT).

85. The changes in listening on interactive services were neatly summarized by one industry analyst as follows:

> Pandora was meant to be different to Spotify, and it was, until Spotify started stealing Pandora's clothes. Pandora grew its user base by delivering a lean back, but personalized listening experience—radio on its users' terms. Spotify soon recognized the value of lean back listening, bringing in a vast selection of curated playlists, directly and via partners. Beats Music followed suit, and soon became the foundation for Apple Music's curated streaming proposition.

Ex. 5602 ¶ 68 (Orszag WDT).

86. Convergence between interactive and noninteractive services is not simply a matter of functionality and how subscribers use the services—prices have converged since *Web IV* as well, with ARPU in the interactive market falling as a result of the growing popularity of family and student discount plans. 8/11/20 Tr. 1197:20-1198:11 (Orszag).

87. The evidence discussed above demonstrates that the distinction between interactive and noninteractive music services has continued to blur significantly during the past five years, making the market for interactive streaming services an even better benchmark today than it was at the time of the *Web IV* proceeding. Ex. 5602 ¶ 71 (Orszag WDT).

2. Mr. Orszag's Use of Rates Paid by Spotify for Individual Full-Price Subscriptions Is Appropriate and Conservative

88. Mr. Orszag's benchmark analysis was conducted using the royalty rates (1) paid by Spotify (2) for full-price individual plans on Spotify's subscription interactive service. Ex. 5602 ¶¶ 83, 86 (Orszag WDT). As explained below, both of these decisions were appropriate and conservative.

i. Use of Spotify Rates

89. Mr. Orszag based his benchmark analysis on the rates paid by Spotify, [ ] 8/11/20 Tr. 1210:15-20 (Orszag). Mr. Orszag recognized that the Judges have found in the past that the interactive services market is not effectively competitive. While Mr. Orszag believed that more recent evidence shows that the market is now effectively competitive, he utilized [ ]. Ex. 5602 ¶ 86 (Orszag WDT). Thus, in Mr. Orszag's opinion, [ ] 8/11/20 Tr. 1210:15-1211:3 (Orszag).

90. In support of that conclusion, Mr. Orszag pointed out that [ ].[3] Ex. 5602 ¶ 85 & Table 7 (Orszag WDT). The fact that [ ], 8/11/20 Tr. 1211:4-22 (Orszag).

91. Mr. Orszag used data for the year ending April 2019 because it was the most recent 12-month period available at the time he conducted his analysis. Mr. Orszag declined to use any

[3] Unless otherwise indicated, all calculated and contractual rates referenced in these findings are U.S. rates.

time period covering less than a full 12-month period to avoid seasonal effects or other idiosyncratic monthly variation in the observed effective rates. Ex. 5602 ¶ 86 (Orszag WDT).

ii. Use of Full-Price Individual Plans

92. Mr. Orszag excluded Spotify's family, student, military, employee, and trial and promotional products in calculating the effective percentage of revenue royalty rate for his benchmark service. Ex. 5602 ¶ 83 (Orszag WDT).

93. The interactive subscription services offer a variety of popular and widely-used discount subscription plans, while the target market services for the most part do not. For instance, in 2018 and the year ended April 2019, discount and promotional plays accounted for approximately [ ] of interactive subscription services' total plays, respectively. In contrast, for the Pandora Plus service, discount plays ([ ]) accounted for only [ ] of plays in 2018 and approximately [ ] of plays for the year ended April 2019. Ex. 5603 ¶ 87 (Orszag WRT).

94. Because there was no good way to compare the use of discount and promotional offerings by noninteractive subscription services versus the interactive subscription services, Mr. Orszag did not have a ready way to adjust for differences between the two markets in this regard. Ex. 5602 ¶ 83 (Orszag WDT). [ ] 8/11/20 Tr. 1215:6-16 (Orszag).

95. If Mr. Orszag had included Spotify's discount plans in his benchmark analysis, however, it would have [ ]

[redacted]

[redacted] 8/11/20 Tr. 1216:12-1217:8 (Orszag).

96. Specifically, for the 12 months ending April 2019, the effective percentage-of-revenue rate paid by Spotify was [redacted] if calculated to include all service plans, compared to [redacted] for the individual full price plans that Mr. Orszag used for his benchmark analysis. The higher effective percentage of revenue rate calculated by including Spotify subscription discount plans would have translated into a rate of [redacted] for subscription noninteractive services, compared to Mr. Orszag's proposed rate of [redacted], and a rate of [redacted] for ad-supported noninteractive services, compared to Mr. Orszag's proposed rate of [redacted]. Ex. 5603 ¶ 89 & n.198 (Orszag WRT).

97. Confirming that Mr. Orszag was conservative when he decided to use the effective rates paid by Spotify for its full-price plans as his benchmark, Professor Shapiro in his written rebuttal testimony calculated per-play rates for the target market using his preferred approach of including all services (rather than just Spotify) and all plans (rather than just full-price individual plans), *see* 8/20/20 Tr. 3019:24-3020:10 (Shapiro), but accepting Mr. Orszag's approach of calculating the interactivity adjustment using the percentage of revenue rates paid in the interactive market. Although Professor Shapiro then applied a "skips" adjustment which lowered the rate to [redacted], he acknowledged at trial that it was a mistake to do so. 8/20/20 Tr. 3024:25-3025:22 (Shapiro). The results confirm that Mr. Orszag's decisions to use only Spotify as his benchmark, and to exclude discount plans from the analysis, was conservative. Before the further adjustments proposed by Professor Shapiro (a second interactivity adjustment for "limited interactivity" and a

competition adjustment), the rate calculated by Professor Shapiro was [[redacted]] per play, compared to Mr. Orszag's $.0033 per play. Ex. 4107 at 35, Fig. 4 (Shapiro WRT).

3. Mr. Orszag Correctly Adjusted for Interactivity Based on the *Web IV* Determination's Ratio Equivalency Concept

98. Despite the fact that the interactive streaming market is comparable to the noninteractive market in many ways, it remains the case that interactive services offer on-demand functionality that is valuable to consumers. Mr. Orszag therefore adjusted for this difference in his analysis. Ex. 5602 ¶ 75 (Orszag WDT).

99. In summary, Mr. Orszag calculated proposed per-play rates for the subscription noninteractive market by (1) determining the effective percentage of revenue paid by interactive services, (2) multiplying that percentage by the gross revenues earned by noninteractive subscription or ad-supported streaming services, and (3) dividing the resulting number by the total number of plays on the noninteractive subscription or ad-supported services. *Id.* at ¶ 176.

100. In so doing, Mr. Orszag employed the concept of "ratio equivalency" adopted and explained by the Judges in *Web IV*. As the Judges stated, "when the downstream subscription market is competitive, the 'Hicks/Marshall relationship' provides that if the elasticities in the downstream market are the same then, *ceteris paribus*, pursuant to the Lerner Equation the markup of price over cost will be the same in both the upstream and downstream subscription markets." *Web IV*, 81 Fed. Reg. at 26349. In other words, assuming similar own elasticities of demand in the benchmark and target market, one can adjust for the value of interactivity by determining the ratio of royalty cost to revenue in the benchmark market and then applying that ratio to the revenues in the target market to solve for the appropriate royalty. Ex. 5602 ¶ 74 (Orszag WDT). As Mr. Orszag summarized it, the *Web IV* ratio equivalency concept holds that the royalty rate as a share of price will be the same in the benchmark and target markets. 8/11/20 Tr. 1221:21-1222:2 (Orszag). The

result, presumably, will be lower royalties in the target noninteractive market compared to the benchmark market, reflecting the fact that the critical difference between the two markets—the absence of interactive functionality—is revealed and quantified by the revenues in the target market. Ex. 5602 ¶ 74 (Orszag WDT).

101. The Judges have, in prior cases, accepted that the own elasticity of demand is the same or very close in the benchmark and target markets. *Id.* at ¶ 72. The Judges found this conclusion reasonable in *Web IV*, where the Judges stated that they "do not believe that there are any significant uncertainties regarding the approximate equivalence of the elasticities between the interactive and noninteractive upstream markets for the right to acquire licenses to play sound recordings for subscribers." *Web IV*, 81 Fed. Reg. at 26349. The evidence in this case provides no suggestion that a gap between the own price elasticities of demand has opened up in recent years—especially in light of the increased functional convergence discussed above. Indeed, if anything, increased functional convergence suggests that the own elasticities of demand in the markets are increasingly similar. Ex. 5602 ¶ 73 (Orszag WDT).

102. To apply the *Web IV* ratio equivalency concept and adjust for the value of interactivity, Mr. Orszag used the effective royalty rates paid in the benchmark market, rather than "headline" or contractual rates. As Mr. Orszag explained, most if not all of the record company agreements with the interactive services [ ]. As the name implies, "effective" rates capture the royalty rates actually paid by the services regardless of [ ]. Moreover, the effective rates capture not only the results of the negotiations, but also the actual marketplace realities regardless of what the parties expected at the time terms were

negotiated. Ex. 5602 ¶ 77 (Orszag WDT). Professor Shapiro agreed that it is reasonable to use effective rates rather than contractual headline rates for the analysis in this case. Ex. 4107 at 25 n.68 (Shapiro WRT); 8/20/20 Tr. 3005:16-22 (Shapiro). Indeed, Professor Shapiro used effective rates in his own analysis. 8/20/20 Tr. 3006:2-5 (Shapiro).

103. In *Web IV*, the Judges expressed ratio equivalency in the form of an equation:

$$\frac{[A]}{[B]} = \frac{[C]}{[D]}$$

Where A is the average retail subscription interactive price, B is the interactive subscription royalty rate, C is the average retail noninteractive subscription price, and D is the noninteractive subscription royalty rate. *Web IV*, 81 Fed. Reg. at 26337-38; *see also SDARS III*, 83 Fed. Reg. at 65243-44.***

104. In Mr. Orszag's application of the *Web IV* equation, "A" in the equation is the revenue from Spotify's subscription service. 8/11/20 Tr. 1224:4-16 (Orszag). "B" is the royalty payment by Spotify for its interactive subscription service. *Id.* at 1225:13-17 (Orszag). "C" is the subscription revenue for noninteractive subscription services offered by Pandora, Rhapsody and iHeart. *Id.* at 1225:18-1226:1 (Orszag).

105. Mr. Orszag then solved the *Web IV* ratio equivalency equation for "D" (the proposed royalty in the target market) by multiplying "C" by "B" over "A" ("B" over "A" representing the effective percentage of revenue royalty rate paid by the benchmark service). *Id.* at 1226:2-20 (Orszag).

106. To obtain the values of "A" and "B", Mr. Orszag relied on Spotify's monthly subscription interactive service royalty statements obtained from the Majors and Merlin. Mr. Orszag used these royalty statements to identify the amount of royalties paid by the interactive

services to the record companies, as well as the interactive services' gross revenues. Details of the royalty statements, data processing and cleaning procedures, and calculations can be found in Appendix B to Mr. Orszag's written direct testimony. Ex. 5602 ¶ 76 (Orszag WDT).

107. For "C", Mr. Orszag used gross revenue and play data for the Pandora, iHeart and Rhapsody services, because they [ ]. *Id.* at ¶ 176.

108. As noted above, Mr. Orszag's application of the *Web IV* equation expressed the effective rate in the benchmark market as a percentage of revenue (*i.e.*, "B" divided by "A"), *id.* at ¶ 78, and then multiplied the target market revenue by the effective percentage of revenue royalty rate in the benchmark market. *Id.* at ¶ 176. Using the effective percentage of revenue rate paid by interactive subscription services allowed Mr. Orszag to account for the impact of interactivity in an economically intuitive way. The percentage of revenue rate paid by the interactive services, when applied to noninteractive services, yields a lower royalty for the record companies on a per-play or per-subscriber basis because the noninteractive services earn lower revenues in the downstream market, reflecting the lower value consumers may place on a service that lacks on-demand functionality. *Id.* at ¶ 79.

109. Put another way, Mr. Orszag's application of ratio equivalency results in the services paying the same effective royalty as a share of revenue in both markets. *Id.* This result is consistent with marketplace evidence. To the extent that the services have entered into licenses with the record companies covering multiple tiers of service (typically, an interactive tier of service and a mid-tier of service), the percentage of revenue rates are [ ]. For example, [

[redacted]]. Likewise, [[redacted]]. Consistent with the Judges' analysis, [[redacted]]. *Id.* at ¶ 80 (Orszag WDT).

110. In his written rebuttal testimony, Professor Shapiro criticized Mr. Orszag's interactivity adjustment for doing what in Mr. Orszag's view made intuitive economic sense. In Professor Shapiro's words, Mr. Orszag "requires the target service to pay the same percent-of-revenue as the benchmark service, *not* the same per-performance rate (adjusted for the value of interactivity)." Ex. 4107 at 25 (Shapiro WRT) (emphasis in original). Professor Shapiro's criticism is wrong as a matter of economics, wrong as a matter of fact, and betrays a complete misunderstanding of ratio equivalency as described in the *Web IV* and *SDARS III* decisions.

111. As a matter of economics, there is simply no reason why one must base the analysis on effective per-play rates in the benchmark market, rather than effective percentage of revenue rates or, for that matter, effective per-subscriber rates. Indeed, Professor Shapiro admitted as much, conceding that he does not believe that starting the analysis with the per-play rates in the benchmark market is the only benchmarking method that is reasonable or sensible. 8/20/20 Tr. 3000:6-12 (Shapiro).

112. As a matter of fact, starting the analysis with effective per-play rates is inconsistent with marketplace reality. Professor Shapiro argues that one must "first calculate the per-performance rate in the benchmark market." Ex. 4107 at 25 (Shapiro WRT). But insisting that analysis of the benchmark market must start with or be based on per-play rates ignores the fact that per-play rates are largely irrelevant in the interactive market. As Mr. Orszag put it, [[redacted]

[redacted]. 8/11/20 Tr. 1207:12-18 (Orszag). [redacted]. *Id.* at 1208:10-15 (Orszag). And for each of the [redacted] *Id.* at 1379:23-1380:10 (Orszag). Even Professor Shapiro agrees that in the interactive market today, interactive services generally calculate and pay royalties on a percentage of revenue or per-subscriber basis, and not on a per-play basis, and most interactive service agreements today do not even contain per-play rates. 8/20/20 3000:13-21 (Shapiro).

113. Because the percentage of revenue prong is the basis for payment in the vast majority of circumstances ([redacted]), 8/11/20 Tr. 1209:14-24 (Orszag), it simply makes no sense to insist, as Professor Shapiro does, that economic analysis intended to produce rates consistent with those that would be negotiated in an unregulated market must begin with a per-play rate metric that is no longer a feature of the market.

114. Ultimately, Professor Shapiro's criticism of Mr. Orszag's interactivity adjustment appears to be premised not on economic theory or marketplace reality, but instead on a complete misreading (or non-reading) of the Judges' relevant decisions. Simply put, Professor Shapiro asserts that Mr. Orszag did not follow the guidance from those decisions. Ex. 4107 at 24 (Shapiro WRT). This is wrong for a variety of reasons.

115. To begin, [redacted]. 8/19/20 Tr. 2950:1-6 (Shapiro). However, in this respect, both Professor Shapiro and Mr. Orszag departed

from what Professor Rubinfeld did in *Web IV,* since both used effective rates in their analysis in this case. 8/20/20 Tr. 3005:16-3006:5 (Shapiro),

116. *Second,* although Professor Rubinfeld used per-play rates in the benchmark market as an element of his analysis in *Web IV*, nothing in the Judges' *Web IV* determination says the analysis must be conducted in this fashion. To the contrary, in *SDARS III*, the Judges noted that the "the ratio equivalency approach is well-depicted in algebraic form" as follows:

$$\frac{\text{Royalty Payment (in \$) in Benchmark Market}}{\text{Downstream Revenue (in \$) in Benchmark Market}} = \frac{\text{Royalty Payment (in \$) in Target Market}}{\text{Downstream Revenue (in \$) in Target Market}}$$

84 Fed. Reg. at 65244.

117. Nothing in the "algebraic form" above requires or suggests that the "royalty payment in the benchmark market" must be expressed as a per-play rate. Nor would it make sense to use per-play rates here. As Mr. Orszag pointed out in his oral testimony, in the formulation above, the denominator of "Downstream Revenue" in the benchmark market and the numerator of "Royalty Payment" in the benchmark market produces an effective percentage of revenue in the benchmark market. Mathematically, it does not matter whether that percentage is calculated using (1) total revenue and total royalties, (2) revenue per-subscriber and royalty per-subscriber, or (3) revenue per-play and royalty per-play. Each approach yields precisely the same result. To calculate the percentage on a per-play basis, for example, one would simply divide total revenue in the denominator and total royalties in the numerator by the same number—total plays—which would produce the same percentage result. 8/11/20 Tr. 1226:21-1227:10 (Orszag).

118. *Third,* Professor Shapiro appears to claim that not only does *Web IV* require that the analysis begin with per-play rates in the benchmark market, but also that the application of the

Web IV ratio equivalency equation must be carried out in a particular order—first, determining per-play rates in the benchmark market ("B"), and then adjusting those rates by the ratio of retail prices in the benchmark and target markets ("A" and "C"). Ex. 4107 at 25 (Shapiro WRT). But Professor Shapiro evidently did not read *Web IV* closely enough, or think through the basic math involved. The Judges in *Web IV* pointed out that "[a]s a basic mathematical point, if [A]/[B] = [C]/[D], then [A]/[C] = [B]/[D]. *Web IV*, 81 Fed. Reg. at 26338 n.84. The order in which one solves the equation does not matter.

119. *Finally,* in faulting Mr. Orszag for "requir[ing] the target market service to pay the same percent-of revenue as the benchmark service," Ex. 4107 at 25 (Shapiro WRT), Professor Shapiro apparently overlooked the *SDARS III* decision, in which the Judges described ratio equivalency as a concept that assumes "equality between two ratios: (1) subscription revenues to royalties in the interactive market; and (2) subscription revenues to royalties in the non-interactive market." *SDARS III*, 83 Fed Reg. at 65243 n.137. Confronted with this language at trial, Professor Shapiro conceded that this description of ratio equivalency from *SDARS III* is consistent with how Mr. Orszag understood the concept and how Mr. Orszag applied it in this case. 8/20/20 Tr. 3017:12-3019-5 (Shapiro).

120. One last error on this topic by Professor Shapiro must be addressed. In his written rebuttal testimony, Professor Shapiro claims that Mr. Orszag's approach of using effective percentage of revenue rates inflates Mr. Orszag's proposed rates because Mr. Orszag did not account for the difference in play intensity between the benchmark and target markets. Ex. 4107 at 24-28 (Shapiro WRT). At trial, however, Professor Shapiro admitted that Mr. Orszag's analysis is simply not affected by play intensity in the benchmark market. 8/20/20 Tr. 3009:25-3010:15 (Shapiro).

121. Moreover, although Professor Shapiro claimed that this put Mr. Orszag at odds with the analysis employed by Professor Rubinfeld in *Web IV*, Professor Shapiro then admitted at trial that Professor Rubinfeld's analysis likewise was not sensitive to the number of plays in the benchmark market. 8/20/20 Tr. 3014:3-9 (Shapiro) ("Q: Thank you. So just to sum it up, with respect to the benchmark on-demand market, neither Professor Rubinfeld's analysis nor Mr. Orszag's analysis is impacted by the number of plays in the benchmark market, right? A: I think you—you're correct about that since he used contractual rates"). This is because Professor Rubinfeld used headline per-play rates in the benchmark interactive market, and contractual headline per-play rates are what they are—they do not vary with the number of plays.[4] *Id.* at 3012:15-18 (Shapiro). Only Professor Shapiro's analysis is affected by the average number of plays per subscriber in the benchmark market. *Id.* at Tr. 3015:3-5 (Shapiro) ("Q: Okay. So it's only your approach that injects the number of plays in the benchmark market? A: I think that's correct."). Consequently, only Professor Shapiro's analysis could be affected by different play intensity between the benchmark and target markets, since only Professor Shapiro's analysis is affected by the number of plays in the benchmark market.

4. Mr. Orszag's Conversion to a Per-Play Rate

122. As the last step in his interactivity adjustment, Mr. Orszag converted the proposed total royalties in the target market into a per-play rate by dividing total target market royalties by

[4] During redirect examination, Professor Shapiro attempted to walk back this admission by observing that Professor Rubinfeld weighted the headline per-play rates from various services by the total number of performances per service. 8/20/20 Tr. 3217:22-3218:19 (Shapiro). This may be true, but it is also entirely irrelevant. Regardless of how he may have weighted the average of the headline per-play rates, Professor Rubinfeld still indisputably used headline rates that were unaffected by the average number of plays per subscriber, as Professor Shapiro admitted. And as Professor Shapiro further admitted, his supposed "*Web IV*" equation (the one he says Mr. Orszag failed to follow) contained a term calculating the effective per-play rate in the benchmark market (using plays from that market)—a term that would not have appeared in an equation describing Professor Rubinfeld's approach. *Id.* at 3013:5-20 (Shapiro).

the total plays in the target market, derived from the royalty statements of Pandora, Rhapsody and iHeart. 8/11/20 Tr. 1227:16-1228:22 (Orszag).

123. Mr. Orszag recommended a per-play rate in this case for several reasons. First, an enforceable percentage-of-revenue rate requires an unambiguous definition of the revenue against which the percentage will be applied. That can be difficult to achieve, even if only one service is at issue and the revenue definition can be tailored to that service's business model and accounting practices (as evidenced by the periodic disputes between SoundExchange and Sirius XM with respect to its satellite service). When multiple services with differing business models and accounting practices use the statutory license, the problem is magnified. Second, a percentage-of-revenue rate (or, for that matter, a per-subscriber rate) can be difficult to apply to services that are offered as part of a bundle of other services (*e.g.*, telephone service) or that include non-music content on the service (*e.g.*, Sirius XM). Finally, a per-play rate may be necessary to safeguard against the potential for noninteractive statutory services engaging in practices that could result in artificially low revenues. Ex. 5602 ¶ 82 (Orszag WDT).

124. Figure 1 (Table 7 in Mr. Orszag's Written Direct Testimony) displays the calculations that resulted in his proposed per-play rate for the subscription noninteractive market. *Id.* ¶ 85.

125. As shown in Figure 1, below, the effective rate for year ending April 2019 is [[redacted]] for Spotify, [[redacted]] for Apple Music, and [[redacted]] for all services. *Id.* at ¶¶ 84-85 & Table 7.

126. To calculate an effective per-play rate for noninteractive subscription services, Mr. Orszag multiplied the noninteractive subscription gross revenue for Pandora, iHeart, and Napster (Rhapsody) by the percentage-of-revenue rate for interactive subscription services, and divided by

their corresponding number of plays. The resulting proposed per-play rate for noninteractive subscription services is presented in the right-hand column of Figure 1. *Id.* at Table 7.

127. Mathematically, the same result can be reached by first dividing total revenue in the target market by the total number of plays in that market in order to derive the target market revenue per play, and then multiplying that target market revenue per play by the effective percentage of revenue rate paid in the benchmark market. 8/11/20 Tr. 1231:7-13 (Orszag). The three noninteractive subscription services' combined average revenue per-play is about [ ] for the year ending April 2019. Multiplying this average revenue per-play by the percentage-of-revenue royalty rate for interactive subscription services results in the per-play royalty rate. Ex. 5602 ¶ 85 (Orszag WDT).

Figure 1 - Noninteractive Subscription Benchmark, May 2018 – April 2019
Ex. 5602, Table 7 (Orszag WDT) (RESTRICTED)

[ ]

128. Although Figure 1 calculates per-play rates using the effective percentage of revenue rates paid by each of the subscription interactive services, as noted previously, Mr. Orszag's proposal [ ] resulting in a proposed rate of $0.0033 per-play rate for statutory noninteractive subscription streaming services. Ex. 5602 ¶ 86 (Orszag WDT).

C. Professor Shapiro's Benchmark Analysis for Noninteractive Subscription Services Is Flawed

1. Professor Shapiro's Attempt to Apply the *Web IV* Ratio Equivalency Adjustment Incorrectly Used the List Prices for Undiscounted Individual Plans to Adjust the Effective Per-Play Rates Calculated by Including Discount Plans

129. Like Mr. Orszag, Professor Shapiro used the subscription interactive market as a benchmark to set rates for the subscription noninteractive market. Ex. 4094 at 39 (Shapiro 2nd CWDT). There the similarity ends.

130. Professor Shapiro adjusted the benchmark market rates twice in order to account for the value of interactivity in the subscription interactive market. For his first adjustment, discussed in this section, Professor Shapiro believes he followed the ratio equivalency equation that appears in the *Web IV* determination, 81 Fed. Reg. at 26337; 8/19/20 Tr. 2930:25-2931:2 (Shapiro).

131. For the value of "B" in the *Web IV* equation, Professor Shapiro used the effective per-play royalty for interactive subscription services, including discount plans. 8/19/20 Tr. 2931:3-2931:9 (Shapiro). Specifically, Professor Shapiro relied on a play-weighted average effective per-play rate of 11 interactive subscription services, resulting in an effective rate of [[redacted]] before adjustments. Ex. 4094 at 42 (Shapiro 2nd CWDT).

132. In contrast to Mr. Orszag, Professor Shapiro included *all* subscription service offerings for each of the interactive subscription services that he relied on to calculate his effective per-play rate, including family plans, student plans, employee plans, military plans, and trial and promotional products. *See id.* at App. D.1.B n.7 (Shapiro 2nd CWDT).

133. Because discount plans produce lower revenue per user compared to full-price plans, but the average number of plays per user is not necessarily any lower for discount plans compared to full-price plans, Professor Shapiro's inclusion of discount plans in his calculation of

effective per-play rates paid by the benchmark interactive subscription services had the effect of lowering the effective per-play rates in the benchmark market and (all else equal) the proposed rates for the target market. Mr. Orszag's testimony proves the point. Mr. Orszag's written direct testimony calculated the weighted average subscription per-play rate for all interactive services, excluding discount plans, to be [[redacted]] per play. Professor Shapiro's effective per-play rate for the same services, *including* discount plans, is [[redacted]] lower at [[redacted]] per-play. Ex. 5603 ¶ 88 (Orszag WRT).

134. [[redacted]]. 8/19/20 Tr. 2936:11-14 (Shapiro). [[redacted]]. *Id*. at 2937:20-25 (Shapiro).

135. In short, [[redacted]]. *Id.* at 2937:13-19 (Shapiro). In Mr. Orszag's opinion, [[redacted]] 8/11/20 Tr. 1387:8-1388:4 (Orszag).

136. [[redacted]]. 8/19/20 Tr. 2939:12-21 (Shapiro). But even though Professor Shapiro calculated effective per-play rates including discount plans, the interactivity adjustment that he made to those rates inconsistently

used list prices for non-discount plans, instead of the ARPU that would reflect what users actually pay when the analysis includes discount plans. In Mr. Orszag's opinion, if Professor Shapiro wanted to calculate effective per-play royalty rates in a manner that included all plans (including discount plans), then he likewise should have based the interactivity adjustment on the effective payment for all plans including discount plans. 8/10/20 Tr. 1164:12-24; 1167:7-22 (Orszag).

137. The problem inherent in Professor Shapiro's interactivity adjustment is highlighted if one considers discount plans to be a form of price discrimination. In response to a question from Judge Strickler, Mr. Orszag agreed that family plans might be viewed as a form of price discrimination, because the services are pricing differently to different groups of people. 8/11/20 Tr. 1201:22-1202:11 (Orszag). Thus, consumers on discount plans pay less on a per-play basis than do consumers on full price plans. 8/26/20 Tr. 3942:3942:2-16 (Shapiro). Professor Shapiro admitted [[redacted]]. 8/19/20 Tr. 2958:17-2959:12 (Shapiro) ([[redacted]]).

138. All of this might not matter if the benchmark subscription interactive services and the target market subscription noninteractive services engaged in similar levels of discounting or price discrimination. Were that the case, the ratio of subscription price in the benchmark market to subscription price in the target market that Professor Shapiro used to adjust his benchmark effective per-play rates might be roughly the same, whether one used ARPU or list prices to calculate that ratio. [[redacted]]

[redacted]. 8/19/20 Tr. 2946:21-24 (Shapiro). Such discount plans are, however, offered by subscription interactive services. Ex. 4094, App. D.1.B n.7 (Shapiro 2nd CWDT). And the use of such discount plans is substantial. From the data available for six subscription interactive services (Spotify, Apple, Pandora, Amazon Music Unlimited, iHeart and Rhapsody), Mr. Orszag calculated that discount and promotional plays accounted for between [redacted] of subscription interactive service total plays. Ex. 5603 ¶ 87 (Orszag WRT). [redacted]. 8/19/20 Tr. 2958:8-21 (Shapiro).

139. Due to a sharp increase in the use of discount plans by interactive services, Mr. Orszag testified that ARPU in the interactive market has fallen. 8/11/20 Tr. 1197:20-1198:11 (Orszag). Dr. Leonard also noted that [redacted]. Ex. 2160 ¶ 84 (Leonard CWRT); *see also* Ex. 5611 ¶ 14 (Adadevoh WDT) [redacted]; Ex. 5613 ¶ 38 (Piibe WDT).

140. If one were to use ARPU calculated by including discount plans to adjust the effective per-play rates that Professor Shapiro calculated—also using discount plans—the effect would be considerable. The ARPU for Pandora Plus was [redacted]. *See* Ex. 5321 at 7. Dr. Leonard cites sources that peg Spotify's interactive service ARPU at $5.50 per month.[5] Ex. 2160

[5] Pandora's [redacted] indicates that the ARPU for Pandora interactive service is [redacted]. Ex. 5321 at 7. However, [redacted]. 8/19/20 Tr. 2945:17-2946:1 (Shapiro). The record companies calculate ARPU for family plans based on the average number of actual users (registered accounts) on the plans, rather than calculating ARPU by treating the entire family unit as a single user, by counting unused accounts, or counting the number of devices used. 8/11/20 Tr. 1199:14-1200:7 (Orszag); *see also* 8/11/20 Tr. 1200:22-1201:20 (Orszag) (ARPU is calculated based on the number of actual users, not the number of permitted users or the number of devices); 9/3/20 Tr. 5507:5-16 (Adadevoh) (explaining that [redacted]).

¶ 84 and n.181 (Leonard CWRT). Alternatively, Mr. Orszag testified that Spotify's subscription interactive service ARPU can be determined from the testimony of [], who provides the ARPU figures for [] written testimony. The ARPU received by [] from Spotify [] for Spotify's subscription service. Ex. [ ]. If one divides that figure by the percentage of revenue that [] receives from Spotify for all service plans, and invert that number, one can calculate the service-level ARPU. 8/25/20 Tr. 3828:18-3829:13 (Orszag). The result, [ ], *see* Ex. 5603 ¶ 89 n.198 (Orszag WRT), [ ]. [ ], Ex. 5613 ¶ 38 (Piibe WDT), which suggests a service ARPU of approximately [ ]. Using these ARPU numbers, Professor Shapiro's first interactivity adjustment would not have been $9.99/$4.99, but rather something on the order of [ ].

141. More generally, whether or not these ARPU numbers for the subscription interactive and subscription noninteractive markets are precise, they illustrate an important point—there is every reason to believe that the ratio of consumer price in the interactive market to consumer price in the noninteractive market if one used ARPU inclusive of discount plans would be far lower than the 2:1 ratio Professor Shapiro used for his first interactivity adjustment using list prices for full-price individual plans. *See* 8/11/20 Tr. 1197:24-1198:8 (Orszag). Professor Shapiro wrongly calculated the value of interactivity by looking exclusively at the consumers who are willing to pay the most for interactivity, and ignoring (for the purposes of his interactivity adjustment only) the consumers who do not value interactivity enough to pay for a full price

individual plan and who have access to the service only because the service's price discrimination brings in consumers with lower willingness to pay.

2. No Further Interactivity Adjustment Is Necessary to Account for the Non-Statutory Functionality in Pandora, iHeart, and Rhapsody Services

142. In addition to Professor Shapiro's first interactivity adjustment discussed above, Professor Shapiro adds a second interactivity adjustment. Professor Shapiro asserts that using the subscription price for mid-tier services as an input to the interactivity adjustment understates the appropriate adjustment because the mid-tier services have non-statutory functionality (*e.g.*, unlimited skips and some replays). Ex. 4094 at 38 (Shapiro 2nd CWDT).

143. To calculate his second interactivity adjustment, Professor Shapiro used the direct licenses between Pandora and the record companies. Prior to 2016, Pandora offered a statutorily compliant subscription noninteractive service called Pandora One. In 2016, Pandora negotiated direct licenses with the major record companies and Merlin that permitted it to offer some limited additional functionality, and renamed its subscription service Pandora Plus. Ex. 5602 ¶ 179 (Orszag WDT). Professor Shapiro calculated the effective royalty rate for the Pandora Plus service ([[redacted]]), and used the ratio of that royalty rate to the statutory subscription service royalty rate to further adjust his benchmark market rates. Ex. 5603 ¶ 102 (Orszag WRT).

144. Professor Shapiro's second interactivity adjustment is wrong and unnecessary, in large part because he side-steps the question of whether the additional functionality obtained by Pandora under its direct licenses has value in the downstream market. Although in Professor Shapiro's first interactivity adjustment he measures the value of interactivity based on consumers' willingness to pay in the downstream market—albeit, incorrectly—in his second interactivity he entirely ignores consumer willingness to pay in the downstream market. *Id.* at ¶ 105.

145. The Judges have noted that the interactivity adjustment is intended to measure the value of interactivity based on subscribers' willingness to pay for interactive functionality in the downstream market. *See Web IV*, 81 Fed. Reg. at 26345, 26348. [ ]. 8/19/20 Tr. 2959:20-2960:7 (Shapiro) ([ ]). There is, however, no evidence to support the notion that consumers in the downstream market have any willingness to pay for the additional functionality that Pandora obtained for its Pandora Plus service through its direct licenses with record companies.

146. The subscription price for Pandora's noninteractive service was the same ($4.99) before *and* after it offered the additional limited functionality. Ex. 4090 ¶¶ 18, 20 (Phillips WDT); Ex. 5602 ¶ 179 (Orszag WDT). Professor Shapiro acknowledged [ ]. 8/19/20 Tr. 2960:8-12 (Shapiro). Nor is there any reason to think that Pandora would have lowered its subscription price in 2016, had it not licensed additional functionality, or that it would lower the subscription price today if it dropped the functionality and reverted to a statutory service. Although Professor Shapiro suggested [ ], *id.* at 2960:21-2961:5 (Shapiro), he agreed [

[redacted]. *Id.* at 2961:6-17 (Shapiro). Similarly, in Pandora's recent [redacted]. 8/31/20 Tr. 4718:18-21, 4719:15-4720:8 (Ryan).

147. Professor Shapiro's response appears to be [redacted]. 8/19/20 Tr. 2960:13-20 (Shapiro). But there are two problems with the argument.

148. First, [redacted]. *Id.* at 2963:25-2964:5 (Shapiro).

149. Second, as Mr. Orszag explained, [redacted] 8/11/20 Tr. 1391:10-19 (Orszag). If the non-statutory functionality permitted Pandora to earn more revenue for the same number of plays, the per-play rates calculated by Mr. Orszag for the benchmark market would potentially be overstated. If, on the other hand, the non-statutory functionality resulted in an increase in the number of plays but had no effect on total revenue, Mr. Orszag's proposed per-play rates would be understated. And if the non-statutory functionality caused both plays and total revenue to increase in the same proportions, no adjustment to Mr. Orszag's rates would be necessary. Ex. 5602 ¶ 177 (Orszag WDT).

150. Mathematical examples help explain the concepts. Assume that the effective percentage of revenue rate in the interactive market is 50%, a noninteractive service with no non-statutory functionality earns total revenues of $100, and it streams a total of 1,000 plays. The

proposed royalty rate would be $0.050 per-play (50% × $100/1,000). Now assume that by reason of additional functionality, the service is able to obtain 25% higher revenue without increasing the number of plays. The proposed royalty becomes $0.0625 per-play (50% × $125/1,000). And finally, assume that by reason of additional functionality, the service is able to obtain 25% higher revenues but the number of plays has also increased by 25%. In this instance, the proposed per-play royalty rate remains $0.050 per-play (50% × $125/1,250), the same as the service with no non-statutory functionality. *Id.* at ¶ 178.

151. There is no reason to think the difference in functionality between Pandora One and Pandora Plus changed the amount of revenue per-play or per-subscriber. Ex. 5603 ¶ 103 (Orszag WRT). [ ] 8/11/20 Tr. 1391:25-1391:7 (Orszag).

152. According to Pandora's witness Mr. Ryan, Pandora undertook an analysis of [ ] 8/31/20 Tr. 4714:13-4715:1 (Ryan); *see* Ex. 5321 [ ]. Pandora's analysis revealed that [ ]. 8/31/20 Tr. 4715:15-4716:5 (Ryan).

153. Professor Shapiro claims that the "additional functionality shifts out the demand curve for the limited interactive product, *increasing its per-performance value*." Ex. 4107 at 34 n.92 (Shapiro WRT) (emphasis added). This is simply not correct, as Professor Shapiro should know, since he reviewed [ ]. 8/20/20 Tr. 3214:23-3215:16 (Shapiro).

154. [ ]. Ex. 5321 at 7 ([ ]); *see also* 8/31/20 Tr. 4718:18-21, 4719:15-4720:8 (Ryan). [ ]. Ex. 5321 at 7. [ ]. *See* Ex. 5321 at 3 ([ ]), 7 ([ ]). [

[redacted]. The exercise can be conducted for other years with similar results.

155. The additional functionality that Pandora obtained for the Plus service [redacted]. *See, e.g.*, Ex. 5012; Ex. 5013; Ex. 5083 ([redacted]). [redacted]. *See* 8/19/20 Tr. 2962:15-17 (Shapiro) ([redacted]). Regardless, there is no credible evidence that the additional functionality obtained for the Pandora Plus service increased its value in the downstream market in any way that would affect the interactivity adjustment or the proposed rates. Indeed, if Professor Shapiro had believed that the non-statutory functionality on the Pandora Plus service genuinely contributed value to the service, it would have made no sense for him to use Pandora Plus as his proxy for a statutory-eligible subscription noninteractive webcaster's "willingness to pay" in his bargaining model. *See* Ex. 4094, App. F at 10 (Shapiro 2nd CWDT).

156. A further problem with Professor Shapiro's second interactivity adjustment merits mention. The adjustment is based in part on the current statutory rates, which violates the requirement that benchmark rates be free from the influence of regulation. Ex. 5603 ¶ 7 (Orszag WRT). As with Dr. Peterson's benchmark (discussed below), Professor Shapiro's benchmark violates the requirement that the hypothetical marketplace be free of the influence of compulsory,

statutory licenses. *Web II*, 72 Fed. Reg. at 24087. This affects Professor Shapiro's benchmark analysis because the statutory rate ($0.0023) he relies on for his interactivity adjustment is potentially too low, meaning that the adjustment he calculates and applies is too large, resulting in understated final benchmark rates. Ex. 5603 ¶ 106 (Orszag WRT).

D. Mr. Orszag's Benchmark Analysis for Noninteractive Ad-Supported Services Supports a Rate of $0.0025 Per Performance

1. Mr. Orszag Correctly Uses Subscription Interactive Services as a Benchmark

157. Similar to Mr. Orszag's analysis for noninteractive subscription services, Mr. Orszag used the effective percentage of revenue paid by subscription interactive services (in particular, Spotify) as his benchmark to calculate rates for the noninteractive ad-supported market on a per-play basis. Ex. 5602 ¶ 96 (Orszag WDT).

158. Mr. Orszag recognized that in *Web IV* the Judges rejected the use of subscription interactive services as a benchmark for ad-supported noninteractive services. *See Web IV*, 81 Fed. Reg. at 26345. There are, however, two important differences between this case and *Web IV*. First, by using revenue earned by noninteractive ad-supported services as an input to his interactivity adjustment as described below, Mr. Orszag took into account the lower revenue earned by ad-supported services, thus addressing one of the Judges' concerns in *Web IV*. 8/11/20 Tr. 1248:19-1249:12 (Orszag). Second, the evidence in this case shows greater substitution between the benchmark and target markets than was apparent in *Web IV*, further supporting the use of interactive services as a benchmark. Ex. 5602 ¶ 88 (Orszag WDT).

159. In *Web IV*, the Judges concluded that the method used to adjust rates in the benchmark interactive market to account for the absence of interactive functionality in the target market (ratio equivalency) did not apply to the ad-supported market because users of ad-supported services have no willingness to pay. *Id.* at ¶ 89 (Orszag WDT) (citing *Web IV*, 81 Fed. Reg. at

26345). From an economic perspective, however, users of ad-supported services *do* pay; they pay with their time spent listening to advertisements. The difference between subscription and ad-supported services comes down to *how* consumers pay for the streaming service experience. Advertisements simply are a different form of a price that the consumer must pay. Just like a subscription, advertising puts real dollars in the pockets of the services, and to the extent that the services earn revenue from their users' willingness to listen to ads, the services (who are the buyers in the hypothetical market) have a positive willingness to pay. Put another way, if it were really true that ad-supported service *users* have zero willingness to pay, then ad-supported *services* themselves should also have zero willingness to pay, which plainly is not the case. *Id.* at ¶ 90.

160. This is not to say that the Judges erred in *Web IV*. What the foregoing discussion suggests is that a benchmark analysis that uses subscription interactive services is appropriate if the interactivity adjustment is calculated using the revenue of noninteractive ad-supported services (thus reflecting their particular willingness to pay) rather than the revenue of noninteractive subscription services. *Id.* at ¶ 91.

161. In Mr. Orszag's analysis, therefore, the consumers' willingness to pay is reflected in their willingness to listen to advertising, 8/11/20 Tr. 1240:21-1241:7 (Orszag), which then translates into advertising revenue for the service. *Id.* at 1243:24-1244:5 (Orszag). The advertising dollars in turn relate to the service's willingness to pay. *Id.* at 1245:21-1246:3 (Orszag). Thus, Mr. Orszag used the advertising dollars earned by the service as the estimate of willingness to pay. *Id.* at 1241:23-1242:14 (Orszag).

162. Moreover, the record in *Web IV* suggested to the Judges that consumers generally did not view subscription interactive services as a substitute for ad-supported noninteractive services, further undermining the Judges' confidence in the interactive benchmark as applied to

the ad-supported market. *Web IV*, 81 Fed. Reg. at 26327-28. Evidence in this case, however, shows that consumers—including many users of ad-supported noninteractive services—are increasingly willing to pay for an advertisement-free, on-demand option. Ex. 5602 ¶ 92 (Orszag WDT). Some of this evidence comes [ ] contained the following information:

Figure 2 (RESTRICTED)

[ ]

163. Other [ ] documents tell the same story. One, for example, states: "[ ]." Ex. 5056 at 26. According to this document, [ ]. *Id.* Another [ ] document notes: "[ ]." Ex. 5061 at 2; *see also* Ex. 5602 ¶ 93 (Orszag WDT) (citing Ex. 5056; Ex. 5061).

164. Spotify's business model confirms that the willingness to pay of ad-supported service users may not be much different than those of paid subscribers. Ex. 5603 ¶ 74 (Orszag WRT). Spotify's estimates conclude that more than 60% of its total gross added premium subscribers were driven by its ad-supported service. What is sometimes perceived as a low willingness to pay for an ad-supported tier may be only a temporary or transitory phenomenon. As

a Google witness has testified, "not every consumer is ready to sign up for a paid subscription out of the gate; many consumers need time to develop a habit of streaming music and to discover and understand the benefits of our music offerings." *Id.* at ¶ 75 (citing Ex. 1100 ¶ 17 (T. Fowler WDT)).

165. Survey evidence also confirms the competition (or cross elasticity) between interactive services and ad-supported noninteractive services. For example, results of a survey commissioned by SoundExchange as part of this proceeding show that about 9.1% of respondents would switch from ad-supported noninteractive services to a new on-demand subscription, if their ad-supported noninteractive service was not available. Ex. 5600 ¶ 47, Fig. 6 (Willig CWDT). Survey evidence commissioned by Sirius XM and Pandora shows even greater diversion from ad-supported noninteractive services to new on-demand subscription services, under circumstances involving degradation of the ad-supported noninteractive service. Ex. 4095 ¶ 49 & Table 3 (Hanssens WDT).

166. Finally, the fact that the [ ] suggests that, under the Lerner Index, the elasticities of demand are very similar. 8/25/20 Tr. 3809:9-3010:4 (Orszag). Thus, the fact that consumers increasingly view subscription interactive services as a viable (and sometimes preferred) alternative to an ad-supported noninteractive service further supports Mr. Orszag's use of subscription interactive services as a benchmark for his analysis of ad-supported noninteractive service rates in this case. Ex. 5602 ¶ 95 (Orszag WDT).[6]

[6] Mr. Orszag opined that no particular level of cross-elasticity is necessary for one market to serve as an appropriate benchmark for another market. For example, the subscription price for a cable television service in Chicago may be an ideal benchmark if one were attempting to determine an appropriate subscription price for a cable television service in Philadelphia, even though there is zero cross-elasticity for cable services between the two cities, because residents of Philadelphia cannot access the Chicago service and vice versa. Ex. 5602 ¶ 95 n.132 (Orszag WDT).

2. Mr. Orszag's Interactivity Adjustment Correctly Accounted for the Lower Willingness to Pay of Ad-Supported Service Users

167. Similar to his analysis for the subscription noninteractive market, Mr. Orszag needed to adjust his benchmark market rates to account for the absence of interactive functionality in the target ad-supported noninteractive market. He did so using the ratio equivalency concept described in *Web IV*. *See id.* at ¶¶ 91, 98.

168. Using the ratio equivalency equation from *Web IV* to adjust the benchmark rates for interactivity, "A" and "B" remain the total revenue earned by and total royalty paid by Spotify for its subscription interactive service. As before and for the same reasons provided in Mr. Orszag's benchmark analysis for noninteractive subscription services, *see supra* Part V.B.2, the analysis conservatively uses the effective rates paid by Spotify as the basis for the proposed per-play rate for statutory ad-supported noninteractive services. *Id.* at ¶ 99. Similar to the benchmarking analysis presented above for noninteractive subscription services, Mr. Orszag relied on royalty statements to calculate an effective percentage-of-revenue royalty rate for interactive subscription services as a basis for determining noninteractive ad-supported statutory rates. *Id.* at ¶ 87. And as before, Mr. Orszag excluded family, student, military, employee, and trial and promotional products in calculating the effective rates because these products are unlikely to be relevant to an ad-supported service. *Id.* at ¶ 97.

169. In the *Web IV* ratio equivalency equation, "C" is now the revenue earned by the ad-supported service. 8/11/20 Tr. 1248:5-1248:18 (Orszag). Mr. Orszag used gross revenue and play data for the Pandora and iHeart services. [[redacted]

[redacted]

[redacted]]. Ex. 5602 ¶ 98 (Orszag WDT).

170. Figure 3 (Table 9 in Mr. Orszag's Written Direct Testimony) shows the calculation of rates for the target ad-supported noninteractive market using data from the year ending in April 2019. The effective rate for the year ending April 2019 is [[redacted]]. *Id.* at ¶ 97. To calculate an effective per-play rate for noninteractive ad-supported services, Mr. Orszag multiplied the percentage-of-revenue rate for interactive subscription services by the noninteractive ad-supported gross revenue for Pandora and iHeart, and then divided by the corresponding number of plays for the target market services. *Id.* at ¶ 98.

Figure 3 – Noninteractive Ad-Supported Benchmark, May 2018 – April 2019
Ex. 5602, Table 9 (Orszag WDT) (RESTRICTED)

[redacted]

171. The resulting proposed per-play rate for noninteractive ad-supported services is $0.0025, as presented in the right-hand column of the table above. *Id.* at ¶ 99. Put another way, Pandora and iHeart's combined average revenue per play was [[redacted]] in the year ending April 2019. Multiplying this average revenue per play by the percentage-of-revenue royalty rate for interactive subscription services results in the per-play royalty rates for noninteractive ad-supported services. *Id.* at ¶ 98.

E. Professor Shapiro and Dr. Peterson Improperly Determined Rates for Ad-Supported Services

1. Professor Shapiro Miscalculated the Effective Per Play Rate for Spotify's Ad-Supported Service

172. Professor Shapiro relied on a per-play ad-supported benchmark rate that, in his original written direct testimony, was artificially understated for two reasons: (1) Professor Shapiro overstated Spotify's [ ] plays, resulting in an understated effective per-play rate; and (2) Professor Shapiro understated Spotify royalties paid to [ ]. Ex. 5603 ¶ 76 (Orszag WRT).

173. Professor Shapiro then filed corrected testimony that [ ]. 8/11/20 Tr. 1384:14-1385:13 (Orszag).

174. In Figure 4 (Table 6 of Mr. Orszag's Written Rebuttal Testimony), below, he corrected Professor Shapiro's analysis for the inflated [ ] plays. Ex. 5603 ¶ 78 (Orszag WRT). As Figure 4 shows, after correcting for Professor Shapiro's [ ] error, the analysis yields comparable pre-marketing per-play rates for [ ] and [ ]), but a [ ] per-play rate of [ ] than the rates for [ ]. This anomalous result occurred because Professor Shapiro did not conduct a [ ]. *Id.* at ¶ 79.

Figure 4 - Corrected for Double-Counting of Certain [ ] Plays
Ex. 5603, Table 6 (Orszag WRT) (RESTRICTED)

[ ]

175. [ ]. *See* Ex. 4094, App. D.1.A and n.3 (Shapiro Second CWDT). However, as Mr. Orszag testified, the [ ] royalty statements present royalty amounts that [ ]. Using the information within the [ ] royalty statements, Professor Shapiro [ ]. Ex. 5603 ¶ 80 (Orszag WRT). Indeed, [ ]. 8/11/20 Tr. 1385:20-125 (Orszag) (". . . and I think it's also important to note Dr. Peterson and I have both done this and we came up with end results that are very similar to each other. And the odd person out in this is Dr. Shapiro's treatment of [ ]").

176. After correcting Professor Shapiro's analysis to include the additional [ ], the pre-marketing per-play rates are comparable for [ ]. Professor Shapiro's overall (pre-marketing) weighted average increases to [ ]. Figure 5 (Table 8 from Mr. Orszag's Written Rebuttal Testimony), below, shows that the corrected per-play rates are now comparable to the rates presented by Dr. Peterson in Figure 2 of Dr. Peterson's amended testimony. Ex. 5603 ¶ 81 (Orszag WRT).

Figure 5 - Summary of Professor Shapiro's and Dr. Peterson's Per-Play Rates
Ex. 5603, Table 8 (Orszag WRT) (RESTRICTED)

[ ]

2. The Services Improperly Use Spotify's Ad-Supported Tier as a Benchmark

i. Spotify's Ad-Supported Tier Serves as a Funnel to Its Subscription Service, and Its Ability to Convert Free Users into Higher-Value Subscribers [ ]

177. Dr. Peterson and Professor Shapiro each rely on the effective per-play royalty rates paid by Spotify for its ad-supported interactive service as their benchmark to set the rates for noninteractive ad-supported services. *Id.* at ¶ 69.

178. The fundamental problem with their use of the Spotify ad-supported tier is that Spotify's ad-supported service is highly successful at converting users to the more valuable Spotify subscription tier, and the Services' economists fail to take this fact into account, or adjust for it. *Id.* at ¶ 72. Simply put, if Spotify's ad-supported tier were a stand-alone business, without the potential to upsell to an on-demand subscription service and [ ], the record companies would have negotiated for higher rates. *Id.* at ¶ 73.

179. Professor Shapiro agreed that the more promotional of other revenue streams a music service is on net, the lower the royalty rate the service will pay. Further, Professor Shapiro conceded that, in principle, if one were to use Spotify's ad-supported service as a benchmark, one

would have to compare the promotional effects of the Spotify ad-supported service to the promotional effects of ad-supported statutory services. 8/19/20 Tr. 2997:14-24 (Shapiro). And if one were to conclude that Spotify is uniquely promotional, then [ ] 8/19/20 Tr. 2967:14-24 (Shapiro).

180. Similarly, Dr. Peterson is well aware of this funneling dynamic between ad-supported and subscription services, explaining that "[a]d-supported streaming provides an opportunity for listeners to try streaming and for the service to encourage them to upgrade to the paid subscription offering." Ex. 1103 ¶ 41 (Peterson AWDT). In principle, Dr. Peterson agreed that the rate-setting exercise should take into account "the potential for licensed performances to promote or cannibalize paid consumption." *Id.* at ¶ 6. Dr. Peterson was also aware of the possibility that there is a [ ] on Spotify's ad-supported rates, but he erroneously concluded, without any basis, that [ ] was not part of the negotiation between Spotify and the record companies. *Id.* at ¶ 43.

181. Contrary to Dr. Peterson's opinions, the record in this case leaves no doubt that Spotify's ad-supported service is uniquely promotional. The testimony of SoundExchange fact witnesses in this proceeding is replete with statements that [ ] without the prospect and proven track record of Spotify successfully converting ad-supported users to the more valuable subscription tier. Ex. 5603 ¶ 72 (Orszag WRT).

182. As a general matter, the record companies [ ]. Ex. 5609 ¶ 74 (Harrison WDT). For example, UMG only sees value in a standalone ad-supported audio

streaming service where the rates are sufficiently high on their own to justify licensing UMG's content. Consequently, [ ]. *Id.* at ¶ 76. Similarly, to the knowledge of SME's Mark Piibe, [ ]. Ex. 5613 ¶ 55 (Piibe WDT).

183. The record companies' views about the link between the rates they charge an ad-supported service and the service's ability to upsell users to a premium subscription interactive service are [ ]. UMG considers [ ] Ex. 5609 ¶ 23 (Harrison WDT). As Mr. Harrison put it, [ ] *Id.* at ¶ 23. For UMG, [ ] *Id.* at ¶ 23. Likewise, because WMG sees [

[redacted]]. Ex. 5611 ¶ 21 (Adadevoh WDT). [redacted]]. *Id*. at ¶ 22.

184. The record companies do not simply rely on [redacted]]—they review actual performance. [redacted]] Ex. 5609 at ¶ 75 (Harrison WDT). As Mr. Harrison testified, [redacted]]. *Id.* at ¶ 23.

185. The importance of converting ad-supported users to paying subscribers, and [redacted]]. Ex. 5603 ¶ 73 (Orszag WRT).

186. For UMG, [redacted]]. Ex. 5609 ¶ 66 (Harrison WDT). [redacted]

]. *Id.* at ¶¶ 66, 67; *see also* 9/3/20 Tr. 5662:10-5663: 13 (Harrison) ([ ]).

187. Similarly, for WMG, the royalty rates in its [ ]. Ex. 5611 ¶ 20 (Adadevoh WDT). In addition, and because of [ ]. It negotiated a provision [ ]. For similar reasons, the agreement provides for [ ]. The goal, in each case, is to [

[redacted]]. *Id.* at ¶ 21.

188. Overall, [redacted] what Professor Tucker teaches about "freemium" pricing models—that "you have to be constantly experimenting with different ways of nudging people to upgrade," because "it is very easy for a customer to be anchored to a zero price" and therefore "you have to work hard to be constantly nudging the customer and reminding them of the potential benefits of the premium paid product." 8/17/20 Tr. 2116:4-17 (Tucker). [redacted]]. *Id.* at 2120:13-212120 (Tucker).

ii. Statutory Services Have Neither Spotify's Incentives Nor Spotify's Demonstrated Ability to Upsell to Subscription Interactive Services

189. The evidence that Spotify excels at converting users of its ad-supported service to paid subscriptions stands in stark contrast to the track record of other ad-supported services.

190. Pandora, for example, freely admits that "the conversion rate to one of our subscription products, however, is low." Ex. 4090 ¶ 28 (Phillips WDT). Pandora's self-assessment was empirically confirmed by the work of Professor Willig, who modeled the future conversion rate for Pandora, using Pandora public projections for its streaming services from 2021 through 2025. Professor Willig assumed, conservatively, that [redacted]]. 8/6/20 Tr. 628:24-630:5 (Willig). The financial projections [redacted]]. Ex. 5600 ¶ 51 n.33 (Willig CWDT). [redacted]]. 8/6/20 Tr. 632:5-19 (Willig).

191. As poor as Pandora is at conversion, simulcasters are worse. With respect to simulcasters' ability to "funnel users to the service's more profitable subscription services," as Dr. Leonard observes, "it is not even possible for many simulcasters to use such a business model, as they have no subscription service to which to funnel users." Ex. 2160 ¶ 9 (Leonard CWRT).

192. Quite apart from the undisputed evidence that statutory ad-supported services do not provide the record companies with the promotional benefit that Spotify's ad-supported service does [[redacted]], statutory services do not have Spotify's economic [[redacted]] incentives to upsell their users.

193. [[redacted]]. 8/11/20 Tr. 1383:9-1383:23 (Orszag). [[redacted]] 8/17/20 Tr. 2122:9-22 (Tucker); *see also id.* at 2124:5-8 (Tucker) ([[redacted]]).

194. [[redacted]]. 8/11/20 Tr. 1383:9-1383:23 (Orszag).

195. [], statutory services generally do not have the same conversion-related economic incentives that drive Spotify's business. For Pandora, for example, its primary, flagship product is its ad-supported service, rather than its subscription service. 8/31/20 4635:15-18 (Phillips). Pandora carefully tailors the ad load for its ad-supported service to the individual user's tolerance for advertising. *Id.* at 4652:2-15 (Phillips). Serving too many ads "degrades the listener experience and, in our view, leads to reduced listener hours and, in turn, reduced opportunities to monetize listening. Ex. 4090 ¶ 30 (Phillips WDT). Thus, [], *see, e.g.*, Ex. 5611 ¶ 21 (Adadevoh WDT), Pandora would not be willing to accept an across-the-board rule that ad-load must increase the longer a user is on the service. 8/31/20 4652:16-4654:4 (Phillips).

196. Indeed, Pandora has faced [], increasing its churn rate. Ex. 5060 at 39; *see also* Ex. 5055 at 46 []; Ex. 5061 at 2 []. To combat this threat, [] *See* Ex. 5062 at 7; *see also* Ex. 5056 at 73 ([]).

197. Similarly, as observed previously, simulcasters have no incentive to convert because they have no subscription service they can convert to. Ex. 2160 ¶ 9 (Leonard CWRT). Consequently, the royalty rates paid by Spotify for its ad-supported service cannot be extended to statutory ad-supported services on the theory that they promote sales of subscriptions just as well (they don't) or that they might do so in the future (they won't).

iii. Professor Shapiro and Dr. Peterson Made No Effort to Adjust Their Spotify Free Benchmark to Account for its Value in Promoting Sales of Interactive Service Subscriptions

198. [ ]. 8/19/20 Tr. 2966:22-25 (Shapiro). But despite having also agreed a service that is promotional will negotiate relatively lower rates, *id.* at 8/19/20 Tr. 2967:14-24 (Shapiro), [ ]. *Id.* at 2968:13-17 (Shapiro).

199. Although his proposed rates do not reflect it, Professor Shapiro suggested in his written testimony that if an upward adjustment to his benchmark rates from the Spotify ad-supported service was necessary, the Judges [ ] Ex. 4107 at 42-43 (Shapiro WRT). Subsequently, he testified that [ ] 8/19/20 Tr. 2970:18-25 (Shapiro). The proposed adjustment by Professor Shapiro and Mr. Orszag, on which they appear to agree, is based on the [ ]. For example, [ ].

200. The rationale for a 1.14 adjustment was explained by Mr. Orszag. Although the record company contracts with Spotify generally provide that the [

[redacted]]. 8/11/20 Tr. 1381:8-1383:6 (Orszag). This is because Spotify almost always pays for its ad-supported service based on the percentage of revenue rate and not on a per-play rate basis. *Id.* at 1233:5-10 (Orszag).

201. Consequently, [redacted]]. 8/11/20 Tr. 1382:18-1383:6 (Orszag). This weighting results in the 1.14 adjustment. 8/25/20 Tr. 3815:24-3816:20 (Orszag).

202. [redacted]]. 8/11/20 Tr. 1405:4-1406:25 (Orszag); *see also* 8/25/20 Tr. 3817:18-3818:10 (Orszag). This number does not include the value of advertising that the Services' experts included in their analysis. *Id.* at 3821:1-5 (Orszag).

203. Such an adjustment is necessary but not sufficient to render the rates paid by Spotify for its ad-supported basis suitable for use as a benchmark. Even Professor Shapiro agrees that [redacted]]. 8/19/20 Tr. 2971:1-5 (Shapiro). [redacted]]. *Id.* at 2971:6-13 (Shapiro).

204. Moreover, adjusting the Spotify ad-supported service rates based on [redacted]

[redacted]. Indeed, according to Mr. Orszag, [redacted]. As shown in Ex. 5186—[redacted]. Ex. 5603 ¶ 74 (Orszag WRT); *see also* 9/3/20 Tr. 5491:14-5492:12 (Adadevoh).

3. SoundCloud Is Not an Appropriate Benchmark Due to Its User-Generated Content and Lack of Catalog-Wide Licenses

205. Professor Shapiro relies in his benchmarking analysis for the ad-supported noninteractive market not only on Spotify ad-supported rates, but also on the effective rates paid by SoundCloud. Dr. Peterson [redacted] includes significant user-generated content and limits access to music provided by music labels. Ex. 5603 ¶ 70 (Orszag WRT); Ex. 1103 ¶ 47 (Peterson AWDT).

206. In Mr. Orszag's opinion, [redacted]. 8/11/20 1408:25-1409:13 (Orszag).

207. The testimony of [redacted]

]; Ex. 5289 at 7.

208. [ ]. Ex. 5610 at ¶ 13 (Harrison WRT). [ ]. Indeed, [ ]. *Id.* at ¶ 14.

209. [ ]. 8/19/20 Tr. 2972:12-21 (Shapiro). [ ]. *Id.* at 2973:18-21 (Shapiro).

4. Professor Shapiro and Dr. Peterson Fail to Properly Adjust Their Ad-Supported Benchmark Analysis for Interactivity

i. Introduction

210. Even assuming that the decision by Professor Shapiro and Dr. Peterson to use Spotify's ad-supported service (and SoundCloud, in the case of Professor Shapiro) was appropriate, neither Professor Shapiro nor Dr. Peterson correctly address the question of whether

and how to adjust the benchmark rates for the value of interactivity in the ad-supported market. *See generally* Ex. 5603 ¶¶ 93-106 (Orszag WRT).

211. The Services' economists employed very different approaches to calculate an interactivity adjustment, with wildly different results. Professor Shapiro calculates a [ ] discount to his benchmark Spotify royalty rates as his interactivity adjustment, dwarfing the still-too-high [ ] interactivity adjustment applied by Dr. Peterson to the exact same benchmark market. 8/11/20 Tr. 1187:5-14 (Orszag). Both economists are wrong, because neither failed to appreciate that there is scant evidence that interactivity contributes to the value of an ad-supported service. As discussed further below, [ ]. Both interactivity adjustments are unsupported and overstated.

ii. Professor Shapiro Erroneously Used the Same Interactivity Adjustment for His Ad-Supported Benchmark as He Did for His Subscription Service Benchmark, Although There Is No Reason to Believe that the Value of Interactivity in the Ad-Supported Service Market Is the Same as the Value of Interactivity in the Subscription Market

212. In contrast to Dr. Peterson's [ ] interactivity adjustment for noninteractive ad-supported services, Professor Shapiro adjusts both his benchmark ad-supported and subscription per-play rates by [ ] for interactivity. Ex. 5603 ¶ 96 (Orszag WRT); 8/19/20 Tr. 2974:2-7 (Shapiro). Thus, [ ] 8/19/20 Tr. 2975:2-9 (Shapiro).

213. Professor Shapiro has never explained, or even addressed, why he thinks the value of interactivity is the same for an ad-supported service as it is for a subscription service, or why in the downstream market users of ad-supported services would value interactivity in the same way

and to the same degree that it is valued by consumers who pay for a subscription. *See generally* Ex. 4094 (Shapiro Second CWDT); Ex. 4107 (Shapiro WRT).

214. Professor Shapiro's decision to blindly apply to the ad-supported market the interactivity adjustment he derived from the subscription market is at odds with the Judges' decision in *Web IV*. There, the Judges concluded that the interactivity adjustment should be based on the willingness to pay of the downstream users of target services (which reflects the degree to which they value interactivity). *See Web IV*, 81 Fed. Reg. at 26345, 26348. It follows that the interactivity adjustment for ad-supported webcasting should not be based on the price of subscription services. One would have to consider an adjustment based on comparing the ratio of the "price" (willingness of users to listen to advertisements and willingness of advertisers to pay for ads) on Spotify's ad-supported service compared to noninteractive ad-supported services. Ex. 5603 ¶ 100 (Orszag WRT).

215. In short, as NAB expert witness Dr. Leonard put it, "the relationship between revenue generation and interactivity is substantially different for ad-supported than for subscription services." Ex. 2160 ¶ 54 (Leonard CWRT).

216. According to Mr. Orszag, [ ] 8/11/20 Tr. 1396:2-13 (Orszag).

217. Dr. Leonard, on behalf of NAB, made the same point: "Subscription services generate revenues through subscription fees paid by users. To the extent that some users value interactivity, a subscription service may be able to charge a higher price for an interactive service than a non-interactive service. An ad-supported service, in contrast, generates revenue through

placing advertisements. Advertisers have no reason to prefer advertising on a service with greater interactivity. In particular, they would not be willing to pay more per impression for an ad on an interactive service than a non-interactive service (unless an interactive service attracts more valuable impressions than a non-interactive service, a proposition for which I have seen no evidence)." Ex. 2160 ¶ 54 (Leonard CWRT).

218. [ ]. 8/19/20 Tr. 2976:20-24 (Shapiro) ([ ]). [ ]. *Id.* at 2977:13-1278:23 (Shapiro).

219. [ ] 8/11/20 Tr. 1396:14-1397:2 (Orszag). The revenue per play for Spotify's ad-supported service for the year ended April 2019 was approximately [ ] per-play, Ex. 5603 ¶ 83 and Table 9 (Orszag WRT), while the weighted average revenue per play for Pandora and iHeart's ad-supported services for the year ended April 2019 was [ ] per-play.[7] Ex. 2160 ¶ 55 (Leonard CWRT).

220. Alternatively, one might hypothesize that the value of interactivity to an ad-supported service is not that advertisers will pay more per ad, but rather than users will listen to more ads. Additional functionality might be useful in attracting or retaining users, or incentivizing

[7] Professor Shapiro later suggested that Pandora's revenue per-play might be higher relative to Spotify's ad-supported service simply because Pandora "has systems by which advertisers compete for space," which would increase revenue per play for reasons unrelated to interactivity. 8/20/20 3219:10-3220:7 (Shapiro). But Professor Shapiro, for all the record discloses, has no basis whatsoever to compare Pandora's ad-sales systems to those of Spotify, and he offers no basis whatsoever to say one is better than the other. And his attempt to explain away the facts that Pandora's ad-supported service and Spotify's ad-supported service earn roughly the same revenue per play and ARPU still leaves him with no evidence at all that interactive functionality contributes anything to the value of an ad-supported service, much less the whopping [ ] of value he claims it contributes.

users to listen longer, thus increasing revenue through incremental listening—the more hours of listening, the more ads are served. Ex. 5603 ¶ 104 (Orszag WRT). [ ]. 8/19/20 Tr. 2977:13-1278:23; 2979:2-2980:7 (Shapiro).

221. If increased interactivity increased consumers' willingness to listen to ads, all else equal, ARPU should be higher for an ad-supported service with greater interactive functionality. [ ] 8/19/20 Tr. 2981:7-20 (Shapiro). [ ] *Id.* at 2981:21-2982:2 (Shapiro).

222. Had Professor Shapiro compared the ARPU for Spotify's ad-supported service to the ARPU for Pandora's ad-supported service, he would have seen no evidence that interactivity contributed to advertising revenue. Spotify's ad-supported service ARPU in 2018 was [ ], while Pandora's 2018 ad-supported service ARPU [ ] Ex. 5603 ¶ 100 (Orszag WRT).

223. There is no plausible theoretical basis—and Professor Shapiro offers none, *see generally* Ex. 4094 (Shapiro Second CWDT); Ex. 4107 (Shapiro WRT)—to believe that the value of interactive functionality is the same for all services, no matter what their business model, or for all consumers, no matter how they pay or how much they are willing to pay for interactivity. The marketplace evidence—both revenue per play and ARPU—demonstrates that there is little if any willingness to pay for interactivity by the advertisers or the users who generate revenue for an ad-supported service. Professor Shapiro's use of his interactivity adjustment from the subscription market as a basis to adjust for interactivity in the ad-supported market is wholly without support.

iii. Professor Shapiro Ignores the Fact that His Benchmark Spotify Ad-Supported Service Is Less Interactive Than the Subscription On-Demand Services He Uses to Calculate His Interactivity Adjustment

224. Professor Shapiro's [[redacted]] interactivity adjustment to derive his proposed ad-supported noninteractive royalty rates is partly based on the price ratio of $9.99 for subscription interactive services (such as Pandora Premium) to $4.99 for mid-tier interactive services (such as Pandora Plus), resulting in a 2:1 adjustment. Ex. 5603 ¶ 97 (Orszag WRT). [[redacted]]. 8/19/20 Tr. 2984:2-10 (Shapiro). Professor Shapiro ignores the fact that Spotify ad-supported tier in fact has less interactive functionality than interactive subscription services. Consequently, using the interactive subscription price for the adjustment calculation results in an overstated adjustment. Ex. 5603 ¶ 99 (Orszag WRT).

225. Dr. Leonard, in his written rebuttal testimony, provides an extensive list of the ways interactive functionality is limited on Spotify's ad-supported service. Ex. 2160 ¶ 65 (Leonard CWRT). Dr. Peterson, too, observes that Spotify's "ad-supported tier requires certain limitations

in terms of the user experience relative to most subscription services." Ex. 1103 ¶ 44 (Peterson AWDT). And Mr. Orszag notes that "Dr. Shapiro ignores the fact that Spotify ad-supported tier has less interactivity/functionality than interactive subscription services." Ex. 5603 ¶ 99 (Orszag WRT).

226. [ ].[8] 8/19/20 Tr. 2984:11-14 (Shapiro). [ ]. *Id.* at 2986:18-23 (Shapiro). In essence, Professor Shapiro's interactivity adjustment for ad-supported services credits his benchmark service with a degree of functionality that even Professor Shapiro agrees it does not have, which necessarily results in an overstatement of the interactivity adjustment—an overstatement that no one has proposed a way to quantify or correct.

iv. Dr. Peterson's Interactivity Adjustment Is Invalid

227. Using direct licenses between Pandora and the record companies that granted certain interactive functionality for Pandora's ad-supported service, Dr. Peterson adjusted his noninteractive ad-supported per-play benchmark rate by [ ] based on the relative difference between the license fees Pandora would have paid for a statutory ad-supported service ($0.0018) and what he calculates that it did pay pursuant to its direct licenses [ ]. Ex. 1103 ¶¶ 53-55 (Peterson CWDT).

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[8] [ ]. 8/19/20 Tr. 2985:11-25 (Shapiro). [ ] *Id.* at 2986-24-2987:4 (Shapiro). [ ]. *Id.* at 2986:1-5 (Shapiro).

228. Dr. Peterson's adjustment is flawed for at least two reasons. First, the adjustment is not based on the incremental value placed on the interactive functionality of the services by consumers in the downstream market. Second, Dr. Peterson's adjustment is based in part on the statutory rate, which violates the requirement that benchmark rates be free from the influence of regulation. Ex. 5603 ¶ 7 (Orszag WRT); 8/11/20 Tr. 1187:15-24 (Orszag).

229. As to the first point, the Judges in past cases have accepted that the interactivity adjustment should be based on downstream market value evidenced by consumers' willingness to pay for the functionality. *Web IV*, 81 Fed. Reg. at 26345, 26348; *see also Web II*, 72 Fed. Reg. at 24902 (accepting SoundExchange's interactivity adjustment, which was based on average consumer subscription price and the average per-subscriber royalty rate for on-demand services).***

230. [ ] 8/25/20 Tr. 3638:20-25 (Peterson).

231. There is, however, vanishingly little evidence that consumers value the additional functionality that Pandora obtained under its direct licenses. That should come as no surprise. The additional functionality on Pandora's ad-supported service was minimal; even Pandora describes its ad-supported service as "fundamentally the same product it was at the time of the *Web IV* proceeding." Ex. 4090 ¶ 5 (Phillips WDT). To the extent there have been any improvements, the only one related to the functionality of the ad-supported service identified anywhere in the testimony is that Pandora licensed from the record companies the right to allow users of the ad-

supported service to obtain 30 minutes of music on-demand in return for viewing a video ad. This aspect of Pandora's ad-supported service is referred to as the Premium Access feature. 8/31/20 Tr. 4631:15-4632:3 (Phillips); *see also* 8/25/20 Tr. 3643:4-15 (Peterson) ([ ]).

232. In Mr. Orszag's view, [ ] 8/11/20 Tr. 1401:1-4 (Orszag). But Dr. Peterson admittedly cannot say whether the increased functionality that Pandora obtained through its direct licenses generated more revenue per play on the ad-supported service. 8/25/20 Tr. 3764:1-5 (Peterson). Although Dr. Peterson's written testimony claimed that the additional functionality allowed Pandora to sell video advertising amounting to 9% of total advertising revenue in 2019, Ex. 1105 ¶ 46 (Peterson CWRT), Dr. Peterson admitted at trial that Pandora was offering video ads before it entered into the direct licenses, and cannot say how much or how little of the video ad revenue is attributable to the additional functionality. 8/25/20 Tr. 3764:14-3765:3 (Peterson). At bottom, Dr. Peterson simply does not know whether the additional functionality has affected either the number of ads on the Pandora advertising service or the revenue per advertisement. *Id.* at 3765:4-8 (Peterson).

233. Although Dr. Peterson apparently never considered it, [ ]

[redacted]]. Ex. 5321 at 7. [[redacted]]. *See* Ex. 5321 at 3 ([[redacted]]), 7 ([[redacted]]). [[redacted]]. As forecast by Pandora, therefore, [[redacted]].

234. [[redacted]] 8/25/20 Tr. 3639:3-22 (Peterson). [[redacted]]. *Id.* at. 3650:1-16 (Peterson). As Mr. Orszag points out, there is no empirical evidence to suggest any change in functionality caused an increase in revenue per listener hour. Ex. 5602 ¶ 180 (Orszag WDT).

235. Dr. Peterson's interactivity adjustment ignores the most likely reason Pandora sought to license the functionality that allowed it to offer Premium Access. Premium Access is, in effect, a 30-minute fully interactive session, which gives Pandora an opportunity to promote and

upsell its subscription interactive service by allowing users to experience on-demand functionality. 8/31/20 Tr. 4646:13-16 (Phillips). In fact, [ ] Ex. 5097 at 1.

236. Dr. Peterson did not interview anyone at Pandora to learn why Pandora entered into the direct licenses, 8/25/20 Tr. 3762:4-8 (Peterson), but he recognized that one of the potential benefits for Pandora under the direct licenses was that it could use interactive functionality to expose ad-supported users to the premium subscription tier in the hope they would buy a subscription. 8/25/20 Tr. 3762:14-20 (Peterson). That the interactive functionality may have benefitted a different part of Pandora's business (its subscription interactive business) does not render the direct licenses useful as a way to value of interactivity for an ad-supported noninteractive business. *See Web IV*, 81 Fed. Reg. at 26352 ("Where, as here, a transaction is part of a complex interlocking business relationship, it is appropriate—even necessary—for the Judges to consider other evidence and analysis to determine the true economic value of the transaction.").

237. There is an additional problem with Dr. Peterson's attempt to adjust for interactivity by using the difference between the current statutory rate and the direct licensed rate to calculate his adjustment. Dr. Peterson confirmed that he considers the direct license royalty rate to be tied to the statutory rate, at least within certain bounds. If the statutory rate had been higher or lower at the time the direct licenses were negotiated, the royalty rates in the direct licenses would be higher or lower in the same degree, in his view. 8/25/20 Tr. 3754:11-22, 3755:19-3756:10 (Peterson).

238. This approach violates a critical basis for establishing rates by the Judges (and sound economics)—namely that the hypothetical marketplace is free of the influence of compulsory statutory licenses. *See Web II*, 72 Fed. Reg. at 24087).***

239. Moreover, Dr. Peterson provides no substantial basis in theory or empirical evidence for his opinion that the direct license rate will always be the same amount above the statutory license, not matter what the statutory license rate is (at least, within certain bounds). And this assumption is critical. As Mr. Orszag testified, if the statutory rate that Dr. Peterson relied on in his adjustment ($0.0018) is now too low (for all of the reasons discussed in SoundExchange's evidence and these Proposed Findings of Fact), Dr. Peterson's interactivity adjustment will be too large, unless an increase in the statutory rate necessarily means that the direct license rate increases by the same amount. Ex. 5603 ¶ 95 (Orszag WRT).

F. Additional Adjustments

1. Mr. Orszag's Analysis Incorporates a Skips Adjustment

240. All experts recognize that [ ]. How to address this issue, and what data to use, is in dispute. Mr. Orszag's analysis directly incorporated a skips adjustment because Mr. Orszag divided the total royalties due in the target market by the number of plays in the target market. The play counts in the target market are dominated by Pandora, which, [ ].[9] By dividing the total royalties due by the number of plays—including skipped

[9] The other services that were part of Mr. Orszag's benchmark analysis (iHeart and Rhapsody) do not report or pay for skips. Because those two services represent a very small portion of the total noninteractive plays, even if one assumes (consistent with Professor Shapiro's analysis) that [ ] of the plays on those services are skips, adjusting for iHeart and Rhapsody skipped plays would not change Mr. Orszag's proposed rate. 8/11/20 Tr. 1230:10-23 (Orszag). For instance, Mr. Orszag's ad-supported benchmark rate of [ ] in Figure 3 (Table 9 of his written direct testimony) would change by a small amount to [ ] if Mr.

plays—Mr. Orszag's analysis yielded a result that produced the proper per-play rate for a market in which the buyers pay for skipped plays. 8/11/20 Tr. 1191:23-1192:7, 1249:13-1250:2 (Orszag).

241. Professor Shapiro claimed in his written testimony that Mr. Orszag erred by allegedly omitting a skips adjustment in his benchmarking methodology, asserting that "Mr. Orszag does not make, or even discuss, an adjustment to account for skipped tracks." Ex. 4107 at 33 (Shapiro WRT). At trial, however, Professor Shapiro admitted that he, not Mr. Orszag, was the one who was wrong: "So I think there was an error earlier in what I did, and I think I may have criticized Mr. Orszag for not including skips adjustment—this is part of the back and forth—which I then recognized that he did not need to do given his percentage-of-revenue approach." 8/20/20 Tr. 3025:3-8 (Shapiro); *see also id.* at 3026:15-18 (Shapiro) ("I did not go back—but this is a separate issue about whether Mr. Orszag needs any skips adjustment at all, and I mistakenly thought he did, and I now agree that he does not need to do that.").

242. Both Professor Shapiro and Dr. Peterson propose to adjust their benchmark effective per-play rates by [[redacted]] to address the fact that the target market services pay for skipped plays under the statutory license. Ex. 4094 at 39 (Shapiro 2nd CWDT); Ex. 1103 ¶ 68 (Peterson AWDT).

243. The data used for this [[redacted]] skips adjustment came from "radio" plays on all three tiers of Pandora's service – ad-supported, mid-tier and fully interactive. 8/20/20 Tr. 3028:22-3029:2 (Shapiro). Mr. Orszag pointed out that this skips rate using Pandora data is likely overstated because it reflects noninteractive plays to subscribers of Pandora's higher tiers (Plus and Premium), both of which have unlimited skips, and subscribers of those tiers are thus more likely to skip. Ex. 5603 ¶ 120 (Orszag WRT). Professor Shapiro agreed that, because the mid-tier and

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Orszag were to apply Dr. Peterson's [[redacted]] skips rates to the iHeart plays in his calculation. Ex. 5603 ¶ 124 (Orszag WRT).

fully interactive tiers of service permit unlimited skips, the skip rate would likely be biased upward as a result. 8/20/20 Tr. 3030:21-3032:8 (Shapiro). Although Professor Shapiro believed that any upward bias would have a *de minimis* effect, he did not do anything to measure the effect. 8/20/20 Tr. 3032:6-11 (Shapiro).

244. Moreover, neither Professor Shapiro nor Dr. Peterson account for the fact that listeners to simulcast services have no ability to skip plays. 8/25/20 Tr. 3835:1-22 (Orszag). Professor Shapiro and Dr. Peterson should have weighted their adjustment to account for the absence of skips on simulcast services. A proper skip rate that is applied to all statutory noninteractive services would have to be adjusted downward to reflect the relative weighting of custom radio versus simulcast. Dr. Peterson and Professor Shapiro did not consider this complexity in their benchmarking approach. Dr. Leonard, who did consider this issue, used approximately a 50-50 weighting based on his analysis of iHeart. Ex. 5603 ¶ 123 (Orszag WRT); 8/10/20 Tr. 1171:1-20 (Orszag).

245. Dr. Peterson proposed a second, alternative skips adjustment based on the [ ]. Ex. 5603 ¶ 122 (Orszag WRT). Dr. Peterson does not explain which of his two very different skips rates should be used for the purpose of adjusting his Spotify ad-supported benchmark per-play rate. *Id.* at ¶ 118.

246. [ ]. 8/25/20 Tr. 3774:19-23 (Peterson). Whether Spotify's skip rate is 10% or 30% has no impact on what Spotify pays the record companies, since it pays on a percentage of revenue basis. Thus, as Mr. Orszag points out, and Professor Shapiro implicitly agrees, what matters is

calculating a per-play rate for the target market that produces the correct royalty on a per-play basis, taking into account the fact that the target service pays for skips. 8/11/20 Tr. 1191:3-22 (Orszag).

247. Dr. Peterson's reliance on the Spotify ad-supported service's skip rate ([ ]) incorrectly considers only the benchmark market's skip rate and ignores the target market's skip rate. If one takes an approach that warrants a skip adjustment, then proper analysis requires consideration of skip rates in both markets. Consider two hypothetical scenarios to illustrate the point. First, consider a benchmark service that pays $1 in royalties for an hour of a user's time listening. Suppose further that the user of the benchmark service skips three recordings in the hour and listens to about 10 recordings in the hour. The benchmark service pays $1 in royalties for the hour, and the per-play benchmark rate is $0.10 based on the 10 compensable plays. In the statutory world, a listener who also skips three recordings in an hour is effectively playing 13 songs for royalty calculation purposes, because the statutory royalty rate structure requires paying on the three skips plus the 10 recordings played in full. Therefore, we would have $0.10 × 13 = $1.30 in royalties, which is overstated by 30% and would require a downward 23.1% adjustment to the $0.10 per-play benchmark rate (leading to 13 performances × ($0.10 × (1 - 0.231)) = $1.00). Next, suppose the same scenario as above for the benchmark market, but in the statutory world, a listener of the target statutory service skips only one recording (not three). This still results in listening to 10 recordings in the hour, but there are 11 plays for royalty calculation purposes because the statutory rate structure requires paying on the one skip plus the 10 recordings played in full. Therefore, we would have $0.10 × 11 = $1.10 in royalties, which is only 10% overstated and would require only a 9.1% adjustment to the $0.10 per-play benchmark rate (leading to 11 performances ($0.10 × (1 - 0.091)) = $1.00). What this shows is that one must consider the *target* market's skip

rate, and not just the benchmark market's skip rate. The benchmark market's skip rate may only be used if there is a basis to assume that the benchmark market and the target market have the same skip rate. Dr. Peterson has provided no such basis, and there is no empirical evidence to suggest that the noninteractive ad-supported statutory services would have the same skip rate as Spotify's interactive ad-supported service. Ex. 5603 ¶ 119 n.244 (Orszag WRT).

248. These issues, and the wide disparity in Dr. Peterson's and Professor Shapiro's proposed skips adjustments, demonstrate that Dr. Peterson and Professor Shapiro introduce an unnecessary layer of complexity and potential for error to their calculation by adjusting for skips. *Id.* at ¶ 124.

2. No Adjustment Is Appropriate for Promotion or Substitution

249. Mr. Orszag did not make any adjustment to his benchmark rates for promotion or substitution because he found no empirical evidence to support the proposition that such an adjustment was required. 8/11/20 Tr. 1371 6-1372:8 (Orszag); *see also infra* Part VI (addressing fatal flaws in purported evidence of promotion). Neither Dr. Peterson nor Professor Shapiro implemented such an adjustment as part of their benchmarking analysis. 8/11/20 Tr. 1372:4-8 (Orszag).

3. No Adjustment Is Appropriate Based on the Identity of the Rightsholder

250. In his benchmarking analysis, Mr. Orszag relied on contracts and royalty statements for the three major record companies and Merlin. 8/11/20 1203:16-22 (Orszag). [ ]. 8/11/20 Tr. 1206:9-23 (Orszag). The independent record companies are represented in Mr. Orszag's effective rate calculations for interactive subscriptions services to the extent that they are distributed by Merlin, UMG, or WMG, and therefore are included in the royalty statements that he used in his effective

rate calculations. Ex. 5602 ¶ 169 (Orszag WDT). [ ].[10] 8/11/20 Tr. 1421:24-1422:8.

251. In addition, Mr. Orszag and his staff reviewed agreements between the interactive services and other significant distributors of Indie sound recordings, such as INgrooves and The Orchard, and found [ ]. Thus, Mr. Orszag opined that the effective rates for interactive subscription services he relied on for benchmarking purposes are representative of the broader interactive subscription services market. Ex. 5602 ¶ 168 (Orszag WDT).

G. Potential Upward Adjustments to Benchmark Rates for Non-Royalty Benefits

252. Agreements between record companies and the interactive services frequently include non-rate compensation that is valuable to the record companies, and that is not available to the record companies from services that operate under the statutory license. Therefore, in theory, it would be appropriate to adjust benchmark rates upward to account for the value of the non-rate compensation in the interactive market. *Id.* at ¶ 171.

1. Advertising and Marketing Benefits

253. The non-rate compensation in the interactive service agreements includes [ ]. *Id.* at ¶ 172.

254. The record companies derive significant value from [ ]. For example, UMG negotiates [

[10] The effective rates for Merlin [ ]. For instance, the percentage-of-revenue effective rate paid by Spotify to Merlin was [ ] in 2018 compared to [ ] for each of the majors. As another example, Pandora Premium paid [ ] to Merlin in 2018 compared to [ ] paid to the majors. Likewise, in 2018, iHeart paid Merlin [ ] compared to [ ] to [ ] to the majors. Ex. 5602 ¶ 167 (Orszag WDT).

[redacted]]. *See* Ex. 5609 ¶ 70 (Harrison WDT) (noting provision requiring [redacted]). [redacted]]. UMG considers this to be additional monetary consideration not available under the statutory license. Ex. 5609 ¶ 71 (Harrison WDT).

255. Similarly, under the 2017 Agreement, WMG receives [redacted]]. And when the parties were operating under [redacted]]. Additionally, WMG received a [redacted]]. Ex. 5611 ¶ 24 (Adadevoh WDT).

256. Had Mr. Orszag adopted the upward adjustment for [redacted] calculated by Professor Shapiro and Dr. Peterson, his proposed per-play royalty would have been higher by approximately $0.0001. 8/11/20 Tr. 1372:9-1373:5 (Orszag). Mr. Orszag believes it would be appropriate to do so. 8/25/20 Tr. 3821:1-8 (Orszag).

2. The Value of Data

257. The record companies obtain valuable data from the interactive services, particularly Spotify and Apple Music. The record companies find this data extremely useful to make optimal decisions about signing artists, releasing new tracks, and developing promotional strategies, among other things. Ex. 5602 ¶ 173 (Orszag WDT).

258. For WMG, [ ]. Ex. 5611 ¶ 25 (Adadevoh WDT). [ ] Ex. 5620 ¶¶ 44-47 (Sherwood WDT). For SME, too, the data received from interactive audio music services is critical. [ ]. Ex. 5613 ¶ 51 (Piibe WDT). The data that Spotify and Apple provide is essential to SME's marketing efforts, and is used in connection with both long-term and short-term planning. Ex. 5619 ¶¶ 21-25 (Fowler CWDT). And UMG employs a large and global team of analysts to review and analyze data from interactive services for a variety of purposes. Among many other things, personnel will use data to evaluate [ ]. Ex. 5618 ¶ 40 (Gallien WDT).

H. No Competition Adjustment is Required Because the Benchmark Agreements on Which Mr. Orszag's Analysis Is Based Reflect Effectively Competitive Rates

259. In *Web IV*, the Judges held that the hypothetical marketplace for which they are setting rates should be "effectively competitive." *Web IV*, 81 Fed. Reg. at 26333. This hypothetical market, however, need not be characterized by "perfect" competition. *Intercollegiate Broad. Sys., Inc. v. Copyright Royalty Bd.*, 574 F.3d 748, 757 (D.C. Cir. 2009) ("The statute does not require that the market assumed by the Judges achieve metaphysical perfection in competitiveness."); *Web II*, 72 Fed. Reg. at 24091. Rather, "[b]etween the extremes of a market with metaphysically perfect

competition and a monopoly (or collusive oligopoly) market devoid of competition there exists in the real world a mind-boggling array of different markets, all of which possess varying characteristics of a competitive marketplace." *Web III Remand,* 79 Fed. Reg. at 23114 n.37 (internal quotations and citation omitted).***

260. In their benchmarking analyses for ad-supported noninteractive services for this case, Mr. Orszag and Professor Shapiro rely primarily on agreements entered into in 2017 between [[redacted]], on the one hand, and Spotify, on the other hand (the "Benchmark Agreements"). *See* Ex. 4094 at 31-39 (Shapiro Second CWDT); Ex. 5602 ¶¶ 96-99 (Orszag WDT). In his benchmarking analysis for ad-supported interactive services, Dr. Peterson [[redacted]]. Ex. 1103 ¶¶ 45-46 (Peterson AWDT). For the subscription noninteractive market, Mr. Orszag likewise relies on the 2017 agreements with Spotify.[11] Ex. 5602 ¶ 86 (Orszag WDT).

261. Where agreements for use of recordings by on-demand services are used as a benchmark, an effectively competitive market is one that "mitigate[s] the effect of complementary oligopoly" on the prices paid by the on-demand services, for which each majors record company's repertoire was a "must have." *Web IV*, 81 Fed. Reg. at 26366.***

262. The Judges have never ruled on whether the Benchmark Agreements reflect effectively competitive conditions. *See, e.g.*, *Phonorecords III*, 84 Fed. Reg. at 1940; *SDARS III*, 83 Fed. Reg. at 65245; *Web IV*, 81 Fed. Reg. at 26340. In previous proceedings, the Judges evaluated Spotify agreements entered into in 2013 (the "2013 Agreements"). None of the Benchmark Agreements were part of the record in *Web IV*, *SDARS III*, or *Phonorecords III.* Negotiations for each Benchmark Agreement were ongoing when written direct and rebuttal

[11] Professor Shapiro's analysis for the subscription non-interactive market turns on an analysis of agreements between the record companies and approximately ten subscription noninteractive services, including Spotify. Ex. 4094 at 39 (Shapiro Second CWDT).

testimony was submitted in the *SDARS III* and *Phonorecords III* proceedings. *See* Ex. 5011 at 11; Ex. 5037 at 1; Ex. 5038 at 1. Consequently, the Judges have not previously had access to the comprehensive evidence concerning competitive conditions and expectations reflected in the negotiation documents for the Benchmark Agreements. *See, e.g.*, 8/11/20 Tr. 1644:19-1645:2 (Orszag); 8/12/20 Tr. 2073:25-2074:3 (Orszag).

263. The record in this case confirms that rates in the Benchmark Agreements were negotiated under effectively competitive conditions. *See generally* Ex. 5602 ¶¶ 119-157 (Orszag WDT); *see also* Ex. 5603 ¶¶ 11-23, 107-14 (Orszag WRT). After protracted negotiations, Spotify [[redacted]], *see infra* Part V.H.2; Ex. 5603 ¶ 16 & Table 1 (Orszag WRT), [[redacted]], *see infra* Part V.H.3; *see, e.g.*, Ex. 5603 ¶¶ 11-18 (Orszag WRT).

264. Spotify's market power resulted in part from the [[redacted]]. *See infra* Part V.H.3.i; *see, e.g.*, Ex. 5602 ¶ 119-38 (Orszag WDT). Spotify's bargaining power also resulted in part from its undisputed influence over listening on its platform. *See infra* Part V.H.3.ii; *see also, e.g.*, 8/18/20 Tr. 2650:10-16 (Shapiro) ("There's no dispute . . . that Spotify can influence listening on its on-demand service through the playlists that it generates.").

265. Spotify's ability to [[redacted]], *see infra* Part V.H.4.i.-iii; *see, e.g.*, 8/11/20 Tr. 1210:15-1213:22, 1252:25-1370:3 (Orszag), including contemporaneous negotiation documents Professor Shapiro recommended that all parties review. 8/19/20 Tr. 2870:22-2871:1 (Shapiro); *see also* 8/20/20 Tr. 3085:10-14 (Shapiro). This evidence also

illustrates why attempts to [ ]. *See infra* Part V.H.4.iv-v; *see, e.g.*, 8/11/20 Tr. 1366:23-1367:15 (Orszag)

266. The competition adjustments proposed by Professor Shapiro and Dr. Peterson are therefore unnecessary. *See infra* Part V.H.5; *see generally, e.g.*, Ex. 5603 ¶¶ 107-14 (Orszag WRT). In fact, Professor Shapiro's discussion of his proposed competition adjustment provides strong evidence that the Benchmark Agreements reflect effectively competitive rates. Professor Shapiro characterized the effective per-play rates paid by [ ]. 8/20/20 Tr. 3113:11-20 (Shapiro); *id.* at 3119:2-13 (Shapiro); 8/19/20 Tr. 2850:11-18 (Shapiro); *see infra* Part V.H.5.i). Indeed, Professor Shapiro acknowledged that the effective rate for Spotify's subscription service is [ ] 8/20/20 Tr. 3116:17-3117:8 (Shapiro). No competition adjustment is required for benchmarks based on Spotify's service. 8/25/20 Tr. 3840:5-15 (Orszag).

1. Bargaining Models Predict that Spotify's Enhanced Market Power Will Result in Lower Royalty Rates that Are Consistent with Effectively Competitive Outcomes

267. Economic principles indicate that rates negotiated between the major record companies and Spotify can reflect effective competition. Ex. 5602 ¶¶ 109-11 (Orszag WDT). The major record companies are must-have suppliers for Spotify in the long term. *Id.* at ¶¶ 107; 8/18/20 Tr. 2639:19-2640:4 (Shapiro); 8/19/20 Tr. 2859:9-14, 2867:16-18 (Shapiro); *see also* 8/25/20 Tr. 3714:15-20 (Peterson) ([ ]). However, rates negotiated between the major record companies and Spotify will be consistent with effective competition so long as Spotify has sufficient bargaining power. Ex. 5602 ¶¶ 109-11 (Orszag WDT).

268. Bargaining power can arise from a number of sources, including market power, superior information, and credible threats against a counterparty. *Id.* at ¶ 110. As Mr. Orszag explained in his written testimony, bargaining theory predicts that royalties paid to copyright owners will decline as the relative bargaining power of a distributor like Spotify increases. *Id.* at ¶ 111.

269. The principle that effectively competitive rates can emerge from negotiations between a must have supplier and counterparty with roughly equal bargaining power finds support in previous decisions by the Judges. For example, in *Web II*, the Judges observed that "the question of competition is not confined to an examination of the seller's side of the market alone. Rather, it is concerned with whether market prices can be unduly influenced by sellers' power *or* buyers' power in the market." *Web II*, 72 Fed. Reg. at 24091 (emphasis added). In evaluating effective competition, the Judges relied on the same standard adopted in *Web I*, affirming that effective competition exists when parties to a negotiation have "comparable resources, sophistication, and market power." *Web II*, 72 Fed. Reg. at 24091 (citing *Web I*, 67 Fed. Reg. 45245).***

270. Similarly, in *Web IV*, the Judges observed that applying the effective competition standard requires evaluating "highly specific facts" put forth by the participants, because the "very essence of a competitive standard" suggests a continuum and turns on differences in degree, not differences in kind. *Web IV*, 81 Fed. Reg. at 26334, 26343; *see also SDARS III*, 83 Fed. Reg. at 65237 (noting that the concept of effective competition is "fuzzy" and that "no bright line can be drawn effectively").***

271. As a result, the Judges in *Web IV* found that determining whether rates are consistent with effective competition must be done "on a case-by-case basis, from the evidence and testimony adduced at the hearing." *Web IV*, 81 Fed. Reg. at 26343; *see also SDARS III*, 83

Fed. Reg. at 65237 (applying case-by-case approach by declining to "simply import" steering adjustment from *Web IV* and reasoning that adjustment was "derived from highly specific evidence presented in *Web IV*"). In light of the record presented in *Web IV*, the Judges in that proceeding focused primarily on whether steering could offset bargaining power derived from the record companies' must have status. The Judges' conclusions with that regard are addressed below. *Infra* Part V.H.3.ii.b.***

272. Evidence adduced in this hearing indicates that the nature of Spotify's platform has changed dramatically, and now enables Spotify to exercise considerable power over consumption on its platform. *See infra* Part V.H.3.ii. Spotify's control over a large portion of the recordings that users hear, and other levers that enable Spotify to affect record company market share, enable it to steer [[redacted]]. Accordingly, and because of other factors discussed below that enhance Spotify's relative bargaining position, the Judges should apply the legal standard articulated in *Web IV* to reach a different conclusion based on the facts in the record of this proceeding: that proposed rates based on the Benchmark Agreements are effectively competitive rates. 8/11/20 Tr. 1323 13-25 (Orszag); *see also Web IV*, 81 Fed. Reg. at 26343.

2. [[redacted]]

273. When Spotify entered the U.S. market in 2011, the headline royalty rate [[redacted]]. That royalty rate [[redacted]]. 9/3/2020 Tr. 5691:24-5692:5 (Harrison). There is no reason to think [[redacted]] in the physical product and download context were inconsistent with

effective competition. That is particularly true [ ]. *See.* 9/2/20 Tr. 5193:1-4 (Piibe).

274. Since 2011, [ ]. Ex. 5602 ¶ 152 (Table 14) (Orszag WDT). Moreover, based on the record in this case, several things are clear with respect to rates in the market for subscription interactive services.

275. [ ]. *Id.*; Ex. 5609 ¶ 24 (Harrison WDT); Ex. 5611 ¶ 10 (Adadevoh WDT); Ex. 5613 ¶ 31 (Piibe WDT). For both the subscription and ad-supported services, it is [ ]. 8/20/20 Tr. 3085:22-3086:1 (Shapiro); *see* 8/11/20 Tr. 1233:5-10 (Orszag).

276. *Second*, Spotify's effective rates [ ] between 2015 and 2018, the only full years for which royalty statements were available under the Benchmark Agreements.[12] Ex. 5602 ¶ 153 (Orszag WDT).

277. *Third*, [ ]. *Id.* ¶ 152, Table 14; Ex. 5609 ¶ 29 (Harrison WDT). Moreover, as of 2018, [ ]. *See* 8/11/20 Tr. 1211:4-16 (Orszag); *see also* Ex. 5602 ¶ 153, Table 15 (Orszag WDT). That figure

[12] Relying on the effective rate for the first four months of 2019 would introduce seasonality concerns. *See* Ex. 5602 ¶ 86 (Orszag WDT); 8/11/20 Tr. 1352:10-20 (Orszag).

warrants emphasis. In *Web IV*, the Judges concluded that a 12% downward adjustment to rates based on interactive services would result in an effectively competitive rate. [ ].

278. *Finally*, [ ]. Ex. 5611 ¶ 14 (Adadevoh WDT); Ex. 5613 ¶¶ 18, 39 (Piibe WDT). [ ]. Ex. 5611 ¶ 15 (Adadevoh WDT); Ex. 5613 ¶ 39 (Piibe WDT); *accord* 9/2/20 Tr. 5193:18-5194:4 (Piibe). [ ], Ex. 5611 ¶¶ 13-14 (Adadevoh WDT); Ex. 5613 ¶¶ 38, 40 (Piibe WDT); *see also* Ex. 5602 ¶ 154 (Orszag WDT), [ ]. *See* Ex. 5609 ¶ 25 (Harrison WDT) (describing rates and plan); Ex. 5611 ¶ 16 (Adadevoh WDT) (same); Ex. 5613 ¶ 40 (Piibe WDT) (same). And at least one record company's [ ]. 9/2/20 Tr. 5165:17-5166:3, 5181:8-23 (Piibe). We address each point in more detail, below.

i. [ ]

279. Since the record was developed in *Web IV*, and as depicted in Figure 6 below, several prominent music services have [ ]. Ex. 5602 ¶ 152, Table 14 (Orszag WDT).

280. Additionally, although Amazon had not launched its on-demand service when the *Web IV* record was developed, it has since entered the market [ ]. *Compare* Ex. 4039 at 1, *with* Ex. 5109 at 35; Ex. 5292 at 13; Ex. 5610 ¶ 23 (Harrison WRT). Pandora also entered the market for subscription on-demand services after *Web IV*, [ ]. *Compare* Ex. 5013 at 31, *with* Ex. 5107 at 1. [ ].

Figure 6 – Headline Rates Applicable to Subscription Interactive Services[13]
Ex. 5602 ¶ 152, Figure 14 (Orszag WDT) (RESTRICTED)

[ ]

[13] [ ]. *See* Ex. 5037 at 84-86; Ex. 5609 at ¶ 22 (Harrison WDT); Ex. 5038 at 5; Ex. 5611 at ¶ 9 (Adadevoh

281. Looking at effective rates—[ ], Ex. 5602 ¶ 153 (Orszag WDT)—[ ]. Figure 7, below, illustrates effective rates for several major services.[14] Notably, in the first full year after the Benchmark Agreements went into effect, [ ].

Figure 7 – Interactive Subscription Services Effective Rates
Ex. 5602 ¶ 153, Figure 15 (Orszag WDT) (RESTRICTED)

[ ]

282. In sum, and [ ]. Moreover, [ ]. 8/11/20 Tr. 1211:4-22 (Orszag).

WDT); Ex. 5011 at 48; Ex. 5613 at ¶ 31 (Piibe WDT); *see also* 8/11/20 Tr. 1361:3-11 (Orszag) 8/12/20 Tr. 1503:23-1504:5 (Orszag); Ex. 5469 (memorializing perception that [ ]).

[14] Although Mr. Orszag also analyzed the first four months of 2019, those figures are excluded because of the potential for seasonal variation. *See* Ex. 5602 at ¶ 153 n.224 (Orszag WDT).

283. In light of evidence set out elsewhere in this findings, [ ] rates within the Benchmark Agreements are consistent with effective competition. 8/11/20 Tr. 1212:3-12:13:22 (Orszag).

284. Dr. Peterson's contrary view of [ ] has no merit. As an initial matter, Dr. Peterson suggests that [ ] cannot obviate the need for a competition adjustment because [ ]. 8/25/20 Tr. 3721:17-3722:5 (Peterson). In effect, Dr. Peterson suggests the Judges assume [ ] were agreed. That assumption finds no support in the record. *Infra* Part V.H.3-4 (reviewing evidence that Spotify developed considerable relative bargaining power following execution of the 2013 agreements).

285. Dr. Peterson's assertion that the Judges should assume that [ ], 8/25/20 Tr. 3721:17-3722:5 (Peterson), is also barred by precedent. *See Web IV*, 81 Fed. Reg. at 26343 (specifying that effective competition is to be assessed on a case-by-case basis based on evidence).

286. Other contrary views expressed by the Services' economists are also without merit. Dr. Peterson testified that because [ ] considered consistent with the exercise of complementary oligopoly power. 8/25/20 Tr. 3722:6-11 (Peterson). Even if Dr. Peterson were correct that [ ], and not changes in the competitive landscape, that would say nothing about whether rates

in the Benchmark Agreements reflect effectively competitive conditions, particularly given that [ ].

287. [ ]. *See* 8/19/20 Tr. 2889:17-2890:9 (Shapiro). [ ]. *See* 8/20/20 Tr. 3106:14-16 (Shapiro). Moreover, [ ]. Ex. 5602 ¶ 153, Table 15 (Orszag WDT).

ii. [ ]

288. In addition to [ ]. Ex. 5609 ¶ 24 (Harrison WDT); Ex. 5611 ¶ 10 (Adadevoh WDT); Ex. 5613 ¶ 31 (Piibe WDT); *see also* Ex. 5011 at 45-49, 81-82 (SME/Spotify Agreement); Ex. 5037 at 5-8, 172 (UMG/Spotify Agreement); Ex. 5038 at 2, 26 (WMG/Spotify Agreement).

289. [ ]. Ex. 5609 ¶ 24 (Harrison WDT); Ex. 5611 ¶ 10 (Adadevoh WDT); Ex. 5613 ¶ 31 (Piibe WDT). As a result, [ ].

290. [ ]. 8/20/20 Tr. 3085:22-3086:1 (Shapiro); 8/11/20 Tr. 1233:5-10 (Orszag); *see also* 8/20/20 Tr. 3087:21-3088:14 (Shapiro) (acknowledging that [ ]").

291. In addition to [ ]. 9/3/2020 Tr. 5710:7-5711:8 (Harrison). In fact, [ ]. 9/3/2020 Tr. 5710:7-5711:8 (Harrison). Because [ ]. 9/3/2020 Tr. 5710:3-5711:8 (Harrison).

iii. [ ]

292. Since 2016, Spotify [ ].

Figure 8 ([redacted]) (RESTRICTED)

	2013 Agreements	2017 Agreements
SME	[redacted].	[redacted].
UMG	[redacted].	[redacted].
WMG	[redacted)].	[redacted].

293. [redacted]. Ex. 5613 ¶ 40 (Piibe WDT). [redacted]. *Id.* [redacted]. 9/3/20 Tr. 5567:10-12 (Adadevoh). [redacted]

[redacted]]. 9/3/20 Tr. 5567:13-16, 5610:10-17 (Adadevoh).

294. [redacted]], *see, e.g.*, Ex. 5611 ¶ 18 (Adadevoh WDT), [redacted]]. *Id.* ¶ 17 (noting that [redacted]]. In fact, [redacted]]. *Id.* ¶¶ 13-14; Ex. 5613 ¶¶ 38, 40 (Piibe WDT); *see also* Ex. 5602 ¶ 154 (Orszag WDT).

295. [redacted]]. *See* 9/2/20 Tr. 5164:18-5165:9, 5170:7-5171:22 (Piibe). Indeed, [redacted]]. *See id.* at 5173:23-5174:15 (Piibe). [redacted]]. *See id.* at 5174:13-25 (Piibe).

296. [redacted]], *see* Ex. 5451; 9/2/20 Tr. 5165:17-5166:3, 5181:8-23 (Piibe), [redacted]]. As Mark Piibe explained

at trial, [[redacted]]. 9/2/20 Tr. 5165:17-5166:3, 5166:6-13, 5181:8-23, 5183:7-18, 5184:4-11 (Piibe); *see also* Ex. 5461 at 38-39; Ex. 5451 at 2.

3. [[redacted]]

297. After execution of the 2013 Agreements, the competitive landscape changed in several important ways. Together, the changes enhanced Spotify's relative bargaining power and enabled it to obtain in the Benchmark Agreements rates that are consistent with effective competition. *See infra* Part V.H.3.i-ii; *see generally* Ex. 5602 ¶¶ 119-50 (Orszag WDT). Testimony and contemporaneous documents concerning negotiation of each Benchmark Agreement executed between the major record companies and Spotify confirms that the rates reflected in those agreements are consistent with effective competition, *see infra* Part V.H.4.i-iii, as does broader and still contemporaneous evidence of price competition. *See infra* Part V.H.4.iv-v. We discuss each issue in turn.

i. Record Companies [[redacted]]

298. Following execution of the 2013 Agreements, [[redacted]]. For example, between 2014 and 2017, Spotify led a period of explosive growth in the subscription on-demand format, [[redacted]]. *See, e.g.*, Ex. 5602 ¶¶ 119-31 (Orszag WDT).

299. During the same period, Spotify was increasing its editorial influence on the platform, including through investment in its own playlists, through assertion of control over platform real-estate, and through other means. *See, e.g.*, *id.* ¶¶ 138-50.

300. For both reasons, record companies [ ]. *See, e.g.*, *id.* ¶ 150; 9/3/20 Tr. 5478:17-21 (Adadevoh); *id.* at 5669:5-18, 5670:10-16, 5676:7-25 (Harrison); 9/9/20 Tr. 5917:6-16, 5922:2-25, 5925:5-5926:19 (Sherwood). And, in addition to [ ]. *See, e.g.*, Ex. 5602 ¶¶ 132-34 (Orszag WDT).

301. For these reasons—[ ], 8/11/20 Tr. 1296:23-1297:21 (Orszag)—the record companies [ ]. *See, e.g.*, Ex. 5609 ¶¶ 34-44 (Harrison WDT); Ex. 5611 ¶¶ 11-12 (Adadevoh WDT); Ex. 5613 ¶¶ 34-36 (Piibe WDT).

302. Professor Shapiro insists rates negotiated between the major record companies and Spotify cannot be competitive because [ ]. 8/20/20 Tr. 3057:6-23 (Shapiro). Dr. Peterson and Professor Shapiro both look entirely to [ ] 8/25/20 Tr. 3712:25-3713:5 (Peterson).

303. As Mr. Orszag explained at trial, however, [ ]. 8/12/20 Tr. 1664:14-1665:7 (Orszag); 8/11/20 Tr. 1296:23-1297:21 (Orszag). [ ]. 8/11/20 Tr. 1296:23-

1297:21 (Orszag). [ ], *id.* at 1295:11-1296:13 (Orszag), [ ]. *Id.* at 1296:19-1297:21 (Orszag).

304. Professor Shapiro and Dr. Peterson do not consider [ ]. 8/20/20 Tr. 3105:17-24 (Shapiro).

305. The [ ] find considerable support in the record. Ex. 5602 ¶ 119-57 (Orszag WDT). The following subsections review record evidence illustrating why the major record companies [ ], *see* Ex. 5609 ¶¶ 34-36 (Harrison WDT); Ex. 5613 ¶¶ 23-36 (Piibe WDT); Ex. 5611 ¶¶ 11-12 (Adadevoh WDT), and [ ]. 8/25/20 Tr. 3714:15-20 (Peterson) ([ ]).

a. Between 2013 and 2017, Record Companies Became Much More Dependent on Subscription On-Demand Services in General [ ]

306. The period following execution of the 2013 Agreements was a time of explosive growth in on-demand subscription services. In 2013, U.S. retail revenue from on-demand services was approximately $0.9 billion. *See* Ex. 5604, App. 2 (Tucker WDT). In 2016, U.S. retail revenue

from on-demand services was approximately $2.8 billion and in 2017, it was approximately $4.2 billion. *Id.*

307. By 2018, retail revenue from on-demand services was over $5.4 billion, *id.*, and in 2019 it hit $6.8 billion, Ex. 4115 at 3. As Mr. Orszag testified, negotiators have expectations about industry trends that bear on bargaining leverage, including in negotiations with Spotify. 8/12/20 Tr. 1615:3-1617:3 (Orszag).

308. During the same period, revenue generated by physical and digital sales declined steadily. Ex. 5604, App. 1 (Tucker WDT). In aggregate, the decline in revenue from physical and digital sales has been significant, even accounting for growth in the sale of vinyl records. In 2013, physical sales and digital downloads generated industry revenues exceeding $5.6 billion. *Id.* at App. 2. By 2017, that figure dropped to $3.1 billion. *Id.* And in 2019, it dropped to $2 billion. Ex. 4115 at 2. As a relative matter, U.S. retail revenue from on-demand services went from approximately 16.1% of sales revenue in 2013 to approximately 135.5% of sales revenue in 2017.

309. The Benchmark Agreements were negotiated—in large part—during portions of 2016 and 2017. During those years, [ ]. *See* Ex. 5602 ¶ 124, Table 11 (Orszag WDT). Moreover, [ ]. *See id.* ¶ 124, Table 10 (Orszag WDT).

310. [ ], *id.*, [ ]. *See, e.g.*, 9/3/20 Tr. 5478:22-5479:3 (Adadevoh); 8/12/20 Tr. 1755:18-25 (Orszag) ([

[redacted]

[redacted]]).

Figure 9 (Spotify Interactive Subscription Services U.S.)
Ex. 5602 ¶ 124, Table 10 (Orszag WDT) (RESTRICTED)

[redacted]

b. [redacted]

311. Record companies [redacted]. *See, e.g.*, Ex. 5602 ¶¶ 128, 135 (Orszag WDT); Ex. 5613 ¶ 34 (Piibe WDT); Ex. 5618 ¶ 15 (Gallien WDT).

312. *First*, [redacted]. Ex. 5602 ¶¶ 128, 135 (Orszag WDT); Ex. 5609 ¶¶ 34-36 (Harrison WDT); Ex. 5613 ¶ 34 (Piibe WDT). As Mark Piibe explained, [redacted]. 9/2/20 Tr. 5229:9-5230:2 (Piibe); *cf.* 9/3/20 Tr. 5671:5-21, 5674:16-5675:5 (Harrison).

313. *Second*, [redacted]

[].” Ex. 5609 ¶ 35 (Harrison WDT); *see also* Ex. 5618 ¶ 15 (Gallien WDT).

314. *Moreover*, [ ]. That would benefit competitors in the short-term. It could also benefit them in the long-term, particularly because [ ] Ex. 5609 ¶ 35 (Harrison WDT). In fact, [ ]. *Id.*

315. [ ]. Ex. 5077.

316. [ ]. *Id.* at 2-3. In other words, [ ]. *Id.* at 3.

317. [

[redacted]]. *Id.*

c. [redacted]]

318. [redacted]]. Ex. 5602 ¶ 130 (Orszag WDT); Ex. 5609 ¶ 36 (Harrison WDT); Ex. 5620 ¶ 50 (Sherwood WDT); Ex. 5622 ¶ 33 (Strohm WDT).

319. Artists are the foundation of record company business. 8/11/20 Tr. 1284:3-12 (Orszag). To vie for market share on subscription on-demand services, record companies engage in vigorous competition to sign and retain popular artists. Ex. 5603 ¶ 14 (Orszag WRT); 8/11/20 Tr. 1280:16-23 (Orszag).

320. [redacted]], *see, e.g.*, 8/11/20 Tr. 1283:16-1288:24 (Orszag). That is so for several reasons.

321. *First*, [redacted]]. 9/2/20 Tr. 5230:3-10 (Piibe); 9/3/20 Tr. 5674:16-5675:5 (Harrison).

322. *Second*, [redacted]]. Ex. 5620 ¶¶ 29-30 (Sherwood WDT); *see also* 9/3/20 Tr. 5676:5-25 (Harrison); 9/9/20 5922:2-13 (Sherwood).

323. As Mark Piibe testified, [redacted]

]. Ex. 5613 ¶ 30 (Piibe WDT); *accord* 9/2/20 5231:19-5232:9 (Piibe).

324. Similarly, Aaron Harrison testified,]. 9/3/20 Tr. 5680:3-19 (Harrison). In fact, artists are [ ]. *Id.* at 5676:11-18 (Harrison).

325. *Finally*, [ ]. *See, e.g.*, Ex. 5620 ¶¶ 30-36, 50 (Sherwood WDT). For example, record companies believe—and it stands to reason—that royalties generated by on-demand services like Spotify are [ ]. Ex. 5609 ¶ 36 (Harrison WDT); Ex. 5613 ¶¶ 29-30 (Piibe WDT); Ex. 5619 ¶ 33 (Fowler CWDT). [ ]. 9/2/2020 5231:2-18 (Piibe).

326. WMG's [ ]. Ex. 5077 at 3; *accord* 9/3/2020 Tr. 5513:3-22 (Adadevoh).

327. Ultimately, [ ]. Ex. 5602 ¶ 130 (Orszag WDT). [

[redacted] underscore why Professor Shapiro's limited emphasis on the cost of capital is not informative.

d. [redacted]

328. [redacted]. *See generally* Ex. 5017 at 25; Ex. 5602 ¶ 132 (Orszag WDT); Ex. 5609 ¶ 73 Harrison (WDT); Ex. 5611 ¶ 25 (Adadevoh WDT); Ex. 5618 ¶ 40 (Gallien WDT); Ex. 5619 ¶¶ 21-23 (Fowler CWDT); Ex. 5620 ¶¶ 43-45, 47 (Sherwood WDT); Ex. 5622 ¶ 27 (Strohm WDT); *accord* Ex. 5619 ¶ 24 (Fowler CWDT) (noting that [redacted]).

329. [redacted] Ex. 5609 ¶ 35 (Harrison WDT).

330. [redacted], *id.* ¶ 42 n.16, particularly if consumers grow

frustrated about the loss of time and money invested in a particular platform. [ ]. *Id.*; 9/3/20 Tr. 5724:8-24 (Harrison). So would [ ]. Ex. 5609 ¶ 35 (Harrison WDT).

331. [ ] Record companies were also unable to [ ]. Ex. 5602 ¶ 135 (Orszag WDT); Ex. 5609 ¶ 43 (Harrison WDT). That is true for at least two reasons.

332. *First*, [ ], Ex. 5602 ¶ 135 (Orszag WDT), [ ]. *Id.* at 59, Table 11. [ ]. *Id.* In fact, by 2018, Spotify and Apple Music together accounted for [ ] of UMG's total domestic revenue, across all formats and excluding Apple's download business. Ex. 5618 ¶ 6 (Gallien WDT). Similarly, for the fiscal year running April 1, 2018-March 31, 2019, Apple Music and Spotify generated [ ]. Ex. 5613 ¶ 10 (Piibe WDT).

333. *Second*, and relatedly, if Spotify was out of the market, record companies would have faced a material reduction in their relative bargaining power with other services. [

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]]”).

334. In fact, the record illustrates that consolidation in the streaming market could pose an issue. According to an article published by Professor Joel Waldfogel: “Growing concentration in the streaming market puts streaming platforms among the handful of online platforms that have come to dominate, or nearly dominate, their respective markets in search advertising (Google), social networking (Facebook), online retailing (Amazon), and others.” Ex. 5450 at 4; *accord id.* at 26 (noting that “playlists have substantial impacts on song success” and concluding that “[g]rowing concentration in the streaming market . . . may create a need for scrutiny of how platforms exercise their power”).

335. Had record companies leveraged their must-have status to walk away from Spotify, as Professor Shapiro suggests they were willing to do, Spotify’s exit would have empowered Apple Music. 8/11/20 Tr. 1273:3-1275:18 (Orszag). While subscribers might divert to smaller on-demand streaming services, Professor Shapiro has in other contexts assumed that diversion is proportional to existing market share. *Id.* In the market for subscription on-demand services, proportional diversion would strengthen Apple Music significantly, *id.*, and also strengthen Amazon and Google, *see* Ex. 5602 ¶ 33, Table 4 (Orszag WDT). [redacted]

[redacted]

[redacted]]. 9/3/20 Tr. 5733:7-9 (Harrison).

336. Put simply, leveraging must-have status to put Spotify out of business would risk making Apple Music dominant in the market. 8/11/20 Tr. 1273:3-1275:18 (Orszag). [ ], the result would be a material increase in their relative bargaining power. The outcome would put the record companies in a precarious position, given that the music business is a rounding error for these big-tech services. See Ex. 5609 ¶ 41 (Harrison WDT) (noting that Amazon, Apple, and Google dwarf UMG, and can rely on their size to absorb losing from their streaming services and "[ ])."

337. [ ], *see* Ex. 5011, Ex. 5037, Ex. 5038, [ ].

338. The short- and long-term consequences of [ ]. *See* Ex. 5410 at 1 ([ ]); *see also* Ex. 5602 ¶ 131 (Orszag WDT); Ex. 5618 ¶ 14 (Gallien WDT).

339. [ ]. Ex. 5602 ¶ 136 (Orszag WDT); 9/2/20 Tr. 5384:9-5385:11 (Piibe). As set out below, users are unlikely to abandon a streaming service immediately for several reasons.

340. *First*, subscribers who pay on a monthly or yearly basis may take time to replace their existing streaming service. Ex. 5609 ¶ 40 (Harrison WDT); Ex. 5611 ¶ 39 (Adadevoh WDT); Ex. 5613 ¶ 35 (Piibe WDT).

341. *Second*, Spotify can be sticky because of its ability to deliver well-tailored recommendations or because users have invested time in building their collection. Ex. 5609 ¶ 42 (Harrison WDT); Ex. 5613 ¶ 35 (Piibe WDT).

342. *Third*, subscribers who receive access to Spotify as part of a bundle may also be less likely to cancel their subscription. Ex. 5609 ¶ 42 (Harrison WDT).

343. *Fourth*, subscribers might believe that a contract dispute between a record company and Spotify is likely to be resolved quickly, that the record company's catalog will be restored, and that it therefore makes sense to wait for a resolution. *Id.* at ¶ 39; Ex. 5613 ¶ 35 (Piibe WDT).

e. Conclusion

344. The record confirms that, for the above reasons, "the immediate consequences of a disruption in the relationship between a Major and Spotify . . . fall[] most heavily on the record company. Due to this asymmetry, the Majors [ ], reducing the hold-out power that 'must-have' status otherwise would confer, and enhancing the bargaining power of the services." Ex. 5602 ¶ 137 (Orszag WDT).

345. [ ]. 9/1/20 Tr. 5096:23-5097:3 (Piibe); *see also* 9/3/20 Tr. 5675:6-5676:4 (Harrison) (describing long-term consequences of [ ]); *id.* at 5724:4-7 (Harrison) (noting that [ ]).

ii. Spotify Had Ability to Significantly Influence Record Company Market Share on Its Platform While Negotiating the Benchmark Agreements

a. Overview

346. As we discuss in more detail below, Spotify developed a considerable ability to influence listening on its platform [[redacted]]. *See e.g.,* Ex. 5602 ¶¶ 138-51 (Orszag WDT); 9/2/20 Tr. 5414:15-20 (Fowler); *Id.* at 5197:14-5198:17 (Piibe). This included both an ability to influence market share through placement on and within Spotify-controlled playlists, Ex. 5602 ¶¶ 141-46 (Orszag WDT); *see generally* Ex. 5450, and an ability to influence share through Spotify's control of platform real estate and discretionary marketing or promotional opportunities, Ex. 5602 ¶ 147 (Orszag WDT). This ability is apparent from empirical studies, testimony, and other evidence reviewed below. *See, e.g.*, Ex. 5450; Ex. 5602 ¶¶ 142, 144 (Orszag WDT); Ex. 5619 ¶ 33 (Fowler CWDT); Ex. 5620 ¶ 50 (Sherwood WDT).

347. In light of this evidence, [[redacted]]. *See* 8/19/20 Tr. 2868:20-25 (Shapiro) ([[redacted]]); *see also* 8/18/20 Tr. 2650:10-20 (Shapiro); 8/20/20 Tr. 3047:13-18 (Shapiro).

348. Although Professor Shapiro acknowledged that Spotify *could* influence market share on its platform at the time parties were negotiating the Benchmark Agreements, he takes the position that the ability to influence market share will not suffice to allow the service to negotiate effectively competitive rates if it is negotiating with a "must-have" record company. 8/20/20 Tr. 3036:3-15 (Shapiro). Professor Shapiro's opinion in this case puts him at odds with his own testimony in *Web IV*, and the Judges' rulings there.

349. In *Web IV*, Professor Shapiro was asked during his deposition, "[s]o in what situation could Universal be a must-have and the market still be workably competitive? And his answer was "[I]t is possible that could happen if the services have substantial ability to steer, although by definition of must have, could not survive without the music entirely." 8/20/20 Tr. 3036:16-3037:3 (Shapiro). And the Judges in *Web IV* appeared to have understood Professor Shapiro's testimony to be that steering could produce effective competition in a market that includes record companies possessing complementary oligopoly power (which makes them, by definition, "must-haves"), noting that "expert testimony has explained how steering is a mechanism by which to offset the complementary oligopoly power of the Majors." *Web IV*, 81 Fed. Reg. at 26343; *see also id.* at 26367 (steering "is the essence of price competition").

350. Attempting to avoid the consequences of the fact that Spotify can influence market share, Professor Shapiro and Dr. Peterson [ ]. *See* Ex. 4107 at 15 (Shapiro WRT); 8/25/20 Tr. 3720:7-23 (Peterson). This too is odds with *Web IV*.

351. In *Web IV*, the Judges described steering as "a licensee's '*ability* to control the mix of music that's played on the service in response to differences in royalty rates charged by different record companies.'" *Web IV*, 81 Fed. Reg. at 26356 (quoting Professor Shapiro's trial testimony; emphasis added).***

352. Indeed, [ ].[15] 8/20/20 Tr. 3067:18-3068-2 (Shapiro). As Mr.

[15] [ ]. 8/12/20 Tr. 1737:9-16, 1738:12-23 (Orszag).

Orszag explained at the trial in this proceeding, [ ]. 8/11/20 Tr. 1211:23-1213-22, 1347:14-1348:4 (Orszag).

353. Professor Shapiro conceded that [ ]. 8/20/20 Tr. 3066:10-3067:17 (Shapiro). [ ]. 8/20/20 Tr. 3052:1-14 (Shapiro).

354. Accordingly, [ ]. Ex. 5602 ¶ 149 (Orszag WDT).

355. Professor Shapiro agreed that Spotify [ ]. 8/20/20 Tr. 3050:173051:12 (Shapiro) ([ ]). And the [ ]. 8/19/20 Tr. 2877:20-2878:19 (Shapiro); 8/20/20 Tr. 3074:16-3075:20 (Shapiro); Ex. 4024 at 2.

356. Ultimately, as Mr. Orszag explained at trial, [ ]. 8/11/20 Tr. 1211:23-1213-22, 1347:14-1348:4 (Orszag). As set out below, the record confirms that [ ]. *Infra* Part V.H.3.ii.c-d, [ ].

b. Spotify's Ability to Influence Record Company Market Share Increased Dramatically Following the 2013 Agreements

357. Spotify was initially used by subscribers to seek out particular artists, albums, or tracks. Ex. 5619 ¶ 14 (Fowler CWDT); 9/2/20 Tr. 5415:7-21 (Fowler).

358. In 2013, Spotify launched some editorial playlists, including Today's Top Hits and Baila Reggaeton. Ex. 5602 ¶ 62 (Orszag WDT); 8/11/20 Tr. 1253:6-18 (Orszag). In the following years, Spotify began evolving into a platform that offered more curated listening. Ex. 5619 ¶ 14 (Fowler CWDT); 9/2/20 Tr. 5415:2-21 (Fowler). Initially, curation was driven mostly by third parties, such as record companies. Ex. 5619 ¶ 14 (Fowler CWDT); 9/2/20 Tr. 5415:2-21 (Fowler); *Id.* at5197:23-5198:2 (Piibe) ([ ]).

359. As listening to playlists became more common [ ], *id.* at 5415:2-21 (Fowler), [ ]. *Id.* at 5415:22-5416:13 (Fowler). In addition to launching personalized playlists like Discovery Weekly—which launched in July 2015 and helps users to discover new music, Ex. 5602 ¶ 62 (Orszag WDT)—Spotify also "began to prioritize its own playlists in search and display platforms across its platform." Ex. 5619 ¶¶ 15, 17 (Fowler CWDT); *see also, e.g.*, Ex. 5223 at 1 ([ ]); *id.* ([ ]); Ex. 5514 at 3-4 ([ ]); Ex 5525 at 9 ([ ]); 9/2/20 Tr. 5197:14-5198:17 (Piibe).

360. For example, [ ]. Ex. 5514 at 3-4. [ ]. *Id.* at 4.

361. In the years following the 2013 Agreements, consumption of Spotify-controlled playlists scaled quickly. Spotify's personalized and curated playlists constituted "less than 20%" of listening on the platform in 2015. Ex. 5602 ¶ 142 (Orszag WDT). However, according to Spotify, it programmed and controlled "approximately 31% of all listening on Spotify" as of 2017. *Id.*

c. Growth in Consumption of Spotify-Controlled Playlists and Spotify's Power over Platform Real Estate Allowed Spotify to Exercise Considerable Influence over Listening on Its Platform

362. The growth in consumption of Spotify-controlled playlists, and Spotify's power over configuration of the user interface, allowed Spotify to begin exercising considerable influence over listening on its platform, including through editorial playlists, algorithmic playlists, the allocation of platform real-estate, and other levers, each of which is discussed below. *See* Ex. 5602 ¶¶ 139-58 (Orszag WDT).

363. *Editorial Playlists*. As several record company witnesses explained, [ ]." Ex. 5609 ¶ 48 (Harrison WDT); *accord* Ex. 5619 ¶ 8 (Fowler CWDT); Ex. 5620 ¶ 23 (Sherwood WDT); Ex. 5618 ¶ 34 (Gallien WDT); *see also* Ex. 4017 at 4 ([

[redacted]]).

364. As Jennifer Fowler explained: "These playlists are critical not only for the streams that result from people listening to the playlists, but also as a means to get consumers highly engaged with content. . . . Moreover, placement on a popular playlist results in more listeners saving those tracks to their own collection or adding to their own playlists. Because users do not regularly refresh their created collections and playlists, once a song is added, there is a greater likelihood that the user will continue streaming the track, including long after its peak. Put another way, the popularity and broad reach of service-curated playlists drive critical stream volume in the early stages of a track release; over time, this drives critical engagement and revenue for Sony and our artists." Ex. 5619 ¶ 10 (Fowler CWDT).

365. Additional evidence [redacted]]. Ex. 5620 ¶¶ 23, 25 (Sherwood WDT); *see also* Ex. 5602 ¶¶ 141-144 (Orszag WDT); Ex. 5611 ¶ 31 (Adadevoh WDT); *see generally* Ex. 1085; Ex. 5450 (discussed *infra*).

366. As Mike Sherwood testified: [redacted]]. Ex. 5620 ¶ 23 (Sherwood WDT); *see also* Ex. 1085 ([redacted]]).

367. [ ]. Ex. 5619 at ¶¶ 26 (Fowler CWDT); Ex. 5620 ¶¶ 12-16, 20-21, 27 (Sherwood WDT); Ex. 5618 ¶¶ 34-35 (Gallien WDT); Ex. 5622 ¶ 25 (Strohm WDT).

368. However, [ ]. 9/2/20 Tr. 5404:10-17 (Fowler); Ex. 5609 ¶¶ 47, 53 (Harrison WDT); Ex. 5620 ¶¶ 19-20 (Sherwood WDT). [ ]. 9/2/20 Tr. 5404:10-5406:18 (Fowler); Ex. 5619 ¶ 27 (Fowler CWDT); *see also* Ex. 5620 ¶¶ 21-22 (Sherwood WDT).

369. Record company testimony and documents also confirm that [ ]. *See* Ex. 5070, Ex. 5071, Ex. 5072; Ex. 5609 ¶¶ 49, 52 (Harrison WDT); Ex. 5619 ¶ 12 (Fowler CWDT). In fact, [ ], Ex. 5619 ¶ 12 (Fowler CWDT), which [ ]. 9/9/20 Tr. 5921:14-5922:1 (Sherwood).

370. *Algorithmic Playlists*. [ ]. Spotify [ ]. 9/2/20 Tr. 5405:6-5406:15 (Fowler); Ex. 5609 ¶¶ 45, 51-53 (Harrison WDT).

371. *Autoplay*. [ ]

[redacted]]."

Ex. 5609 ¶ 46 (Harrison WDT). [redacted]]. *Id.*; *accord* Ex. 5619 ¶ 9 n.2 (Fowler CWDT).

372. *Platform Real Estate*. As discussed above, [redacted]]. Record companies view platform real estate—that is, "placement on user interfaces on the platform"—as very valuable. Ex. 5620 ¶ 33 (Sherwood WDT). [redacted]]. *See, e.g.*, Ex. 5609 ¶ 49 (Harrison WDT). Prominent placement on genre pages, mood pages, or in other components of the platform facilitate discovery, increase listenership, and affect the success of tracks and artists. Ex. 5620 ¶ 33 (Sherwood WDT). Platform real estate is also important [redacted]]. *Id.*

373. *Non-Label and Non-Music Content*. Another way that Spotify can affect major record company market share "is by producing content on their own and promoting other lower royalty-bearing (or even no royalty bearing) content on the platform." Ex. 5602 ¶ 148 (Orszag WDT).

374. Some of Spotify's most popular and heavily promoted playlists show [redacted].*Id.*; *see also, e.g.*, Ex. 5609 ¶ 57 (Harrison WDT); Ex. 5611 ¶ 32 (Adadevoh WDT); Ex. 4017 at 4 (noting that [redacted]

[]); Ex. 5223 at 1 ([ ]).

375. Likewise, both Spotify and Apple Music started featuring podcasts prominently on their platform. Ex. 5602 ¶ 148 (Orszag WDT). In other words, Spotify is "not only able to steer between the Majors' catalogues, but also reduce the overall revenues of the Majors by pushing their own music or non-music content." *Id.*

376. *Summary of Record Company Evidence.* Spotify developed a wide variety of playlisting and other tools that enable it influence consumption on its platform. And [ ]. *See, e.g.*, Ex. 5609 ¶ 47 (Harrison WDT); 9/2/20 Tr. 5403:23-5405:15 (Fowler). For those reasons, and because revenue in the subscription ecosystem is predicated on share of streams rather than unit sales, [ ], Ex. 5609 at ¶ 50 (Harrison WDT); Ex. 5619 ¶ 33 (Fowler CWDT); Ex. 5620 ¶ 50 (Sherwood WDT), [ ].

377. *Professor Waldfogel's Empirical Analysis*. Professor Joel Waldfogel—an academic initially offered as an expert by Sirius XM and Pandora, but later withdrawn "to streamline the virtual hearing"—co-authored an article measuring "the power of Spotify to influence song success with its general playlists." Ex. 5450 at 25. The paper, based on data from 2016 and 2017, contains several notable findings that confirm Spotify had considerable ability to influence record company market share at the time Benchmark Agreements were under negotiation.

378. *First*, Professor Waldfogel notes the importance of curation. He observes that "[a]ccess to an increasingly large catalog creates a daunting problem of product discovery." Ex.

5450 at 3. He further observes that, in addition to providing "consumers access to a large catalog, a major value-creating function of a platform is helping consumers discover music that they like." *Id.* at 1. He concludes that, "in the music context, platforms can play important roles in determining song and artist success, including the determination of which songs and artists are discovered in the first place." *Id.* at 4; *see also* id. at 5 ("Spotify also has substantial effects on which new artists and songs become discovered.").

379. *Second*, Professor Waldfogel finds that Spotify-created playlists dominate its platform. For example, based on 2017 data, the 25 most followed playlists on Spotify were maintained by Spotify. Spotify's curated playlists had more than 75 percent of the followers of the top 1,000 playlists, and Spotify's algorithmic playlists (*i.e.*, those personalized for each user) account for another nearly ten percent. *Id.* at 7-8; Ex. 5602 ¶ 143 (Orszag WDT).

380. *Third*, Waldfogel finds "clear evidence that Spotify has the power to influence consumption decisions." Ex. 5450 at 25. In fact, Waldfogel documents "large and statistically significant effects[,]" *id.*, concluding that "the major platform-operated playlists have large and significant causal impacts on streaming, so the platform has power to influence consumption decisions, even among songs and artists that are widely known." *Id.* at 5.

381. Based on his analysis, Professor Waldfogel concludes that "[g]etting on Today's Top Hits is worth almost 20 million *additional* streams, which translates to about $77,000 in additional revenue from Spotify alone." Ex. 5450 at 25 (emphasis added); *see also* Ex. 5602 ¶ 144 (Orszag WDT). He further concludes that "[b]eing ranked #1 on the U.S. New Music Friday list raises a song's streams by about 14 million." Ex. 5450 at 5.

382. *Spotify's Comments*. Spotify has touted its ability to influence what users hear. Ex. 5602 ¶ 144 (Orszag WDT). According to Spotify, between 2014 and 2017, the average number of

artists each user listened to each week grew 37 percent, with most of this growth coming from listeners using service-controlled playlists." *Id.* Those figures are consistent with representations that Spotify made [ ]. Ex. 5611 ¶ 31 n.24 (Adadevoh WDT).

383. *Discretionary Marketing Opportunities*. Although playlist placements and platform real estate are an important focus for record companies, because of their ability to influence consumption on Spotify's platform, there are other marketing tools that enable Spotify to influence the consumption of artists and tracks. Ex. 5602 ¶ 147 (Orszag WDT). For example, services like Spotify maintain their own social media channels, billboards, and in-app alerts. Ex. 5619 ¶¶ 18-19 (Fowler CWDT). They offer homepage takeovers, allow artists to appear on the cover of a playlist, promote concerts, and can feature particular tracks. *Id.* In implementing these marketing efforts, services can identify listeners based on data that they have and do not share with record companies. *Id.*; 9/9/20 Tr. 5923:10-5924:11 (Sherwood); *see also* Ex. 5620 ¶ 22 (Sherwood WDT) (discussing Spotify's discretionary "Fans First" program, which invests in artist events and can help drive streams).

384. [ ]. Ex. 5602 ¶ 147 (Orszag WDT); Ex. 5619 ¶ 20 (Fowler CWDT). [ ]. Ex. 5619 ¶ 20 (Fowler CWDT). As Jennifer Fowler testified, [

[redacted]]. *Id.*

d. [redacted]]

385. In their written testimony, economists for the Services have testified that rates negotiated in the Benchmark Agreements are not consistent with effective competition because [redacted]]. Ex. 1105 ¶ 70 (Peterson WRT); Ex. 2160 ¶ 62 (Leonard CWRT). For reasons set out below, the record in this case confirms that [redacted]] Mr. Orszag's conclusion that the Benchmark Agreements reflect effective competition.

386. There is no necessary reason why an [redacted]]. *See* 8/11/20 Tr. 1254:10- (Orszag).

387. Because [redacted]]. And as Mr. Orszag explained, if a service presses a lower rate using a credible threat of steering, the record company may in turn seek anti-steering protection to avoid a situation where it agrees to a lower rate and is steered against anyway. *See* 8/11/20 Tr. 1331:11-1332:4 (Orszag). [redacted]]. *See* 9/2/20 Tr. 5203:23-5205:17 (Piibe). Thus, the mere presence of anti-steering provisions is not evidence that the market lacks effective competition. Rather, [redacted]

[redacted]]. 8/19/20 Tr. 3089:24-3092:24 (Shapiro).

388. [redacted]]. *See, e.g.*, 9/3/20 Tr. 5702:11-21 (Harrison). In fact, [redacted]]. Ex. 4091 ¶ 12 (Reiley CWDT). At trial, Professor Shapiro acknowledged that [redacted]]. *See* 8/20/20 Tr. 3172:6-12 (Shapiro). [redacted]]. *cf.* Ex. 5012 at 8 (providing in part that [redacted]]). 9/2/20 Tr. 5216:12-25 (Piibe) ([redacted]]).

389. [redacted]]. *See* Ex. 4031 at 37. [redacted]].

390. [redacted]]. *Compare* Ex. 4031 at 37 (Pandora), *with* Ex. 5020 at 20 (Spotify) ([redacted]

[redacted]).

391. *Second*, services [redacted]. *See, e.g.*, Ex. 5619 ¶¶ 18-20 (Fowler CWDT). Aaron Harrison, for example, [redacted]. *See* 9/3/2020 Tr. 5700:21-5701:11 (Harrison)

392. *Third*, [redacted]. For example, [redacted]. Ex. 5602 ¶ 150 (Orszag WDT) ("[redacted]."); *see also* Ex. 5609 ¶¶ 53, 55 (Harrison WDT); Ex. 5611 ¶¶ 32-34 (Adadevoh WDT); Ex. 5619 ¶ 24 (Fowler CWDT) ([redacted]). [redacted]. *See* Ex. 5602 ¶ 150 (Orszag WDT). [redacted]. *See id.* [redacted]

[redacted]]. *See, e.g.*, 9/3/20 Tr. 5601:10-5602:11 (Adadevoh).

393. *Fourth* (and relatedly), [redacted]]. 8/11/20 Tr. 1317:2-1318:3 (Orszag); *accord* Ex. Ex. 4017 at 4 (noting that [redacted]]); Ex. 2124 at 1 ([redacted]]); 9/2/2020 Tr. 5204:14-18 (Piibe) ([redacted]]). [redacted].

394. *Fifth*, [redacted]]. *See* Ex. 5611 ¶ 33 (Adadevoh WDT); 9/3/2020 Tr. 5481:2-6 (Adadevoh). [redacted]]. Ex. 5611 ¶ 33 (Adadevoh WDT); 9/2/2020 Tr. 5404:18-5406:18 (Fowler).[16]

[16] That lack of visibility explains why, for example, [redacted]]. *Compare* 9/2/20 Tr. 5435:2-7 (Fowler), *with id.* at 5404:18-5406:18 (Fowler); *id. at* 5446:19-5447:15 (Fowler). [redacted]]. *Id.* at 5435:8-12 (Fowler); *id.* at5446:19-5447:15 (Fowler). [redacted]]. 9/9/2020 Tr. 5955:7-9 (Sherwood); *cf.* 9/2/20 Tr. 5440:11-12 (Fowler).

395. *Sixth,* [ ]. *See, e.g.*, Ex. 5609 ¶ 56 (Harrison WDT); Ex. 5611 ¶ 34 (Adadevoh WDT); Ex. 5613 ¶¶ 29-30 (Piibe WDT). [ ]. *See, e.g.*, Ex. 5613 ¶ 29 (Piibe WDT); *see also* Ex. 5611 ¶ 38 n.27 (Adadevoh WDT); 9/3/20 Tr. 5482:7-12 (Adadevoh).

396. [ ]. *See, e.g.*, 9/3/20 Tr. 5481:18-21 (Adadevoh); *accord id.* at 5565:9-15 (Adadevoh) ([ ]). [ ]. *See id.* at 5702:11-21 (Harrison).

397. *Conclusion.* For reasons set out above, the record provides no basis to conclude that the [ ], Ex. 5413 at 1; Ex. 5221 at 5, or [ ], Ex. 5401 at 3. As a result—and in light of [ ], *infra*

Part V.H.4.i-iii—the record supports a finding that [ ].

e. The Record Confirms that Record Companies [ ]

398. The record is clear that [ ]. The record is also clear that [ ]. *See* Ex. 5602 ¶ 156 (Orszag WDT); Ex. 5611 ¶ 12 (Adadevoh WDT); Ex. 5613 ¶¶ 21-28 (Piibe WDT).

399. Although Professor Shapiro acknowledged that [ ], 8/2/20 Tr. 3058:20-23 (Shapiro), [ ], *id.* at 3058:14-19 (Shapiro). In his view, [ ]. *Id.* at 3059:5-10 (Shapiro).

400. [ ]. Ex. 5611 ¶ 12 (Adadevoh WDT).

401. Similarly, [ ] "determined that [ ]

[redacted] Ex. 5613 ¶¶ 24, 26-27 (Piibe WDT). [redacted]. *See id.* at ¶ 27.

402. [redacted]. *See, e.g.*, 8/12/20 Tr. 1739:22-1740:2 (Orszag). [redacted]. Ex. 2137 at 1 ([redacted]); Ex. 5469 at 1 ([redacted]); *see also* Ex. 5613 ¶ 21 (Piibe WDT). [redacted]. *See* Ex. 5613 ¶¶ 23-24 (Piibe WDT).

403. Moreover, the record illustrates that [redacted]. *See* Ex. 5611 ¶¶ 11-12 (Adadevoh WDT); 9/3/20 Tr. 5478:3-11, 5496:7-13 (Adadevoh); Ex. 5613 ¶¶ 27-36 (Piibe WDT); *see also supra* Part V.H.3.i. As Mark Piibe explained, [redacted]. Ex. 5613 ¶ 27 (Piibe WDT). [redacted]. *Id.* at ¶¶ 27-28. [redacted]. *Id.* at ¶¶ 33-36.

404. In sum, [ ]. Ex. 5611 ¶ 12 (Adadevoh WDT); Ex. 5613 ¶¶ 23-24 (Piibe WDT); Ex. 2137 at 1; Ex 5469 at 1; 8/12/20 Tr. 1738:3-11 (Orszag); *accord id.* at 1742:17-1743:12 (Orszag).

4. The Record Does Not Support the Services' Effort to Explain [ ]

405. Economists for the Services have testified that [ ] are not explained by effective competition. The record does not support their opinions. Rather, the record confirms that [ ], *supra* Part V.H.3.ii. [ ]. *E.g.* 8/11/20 Tr. 1211:23-1213:22 (Orszag)

406. [ ]. *Cf.* 8/19/20 Tr. 2870:22-2871:1 (Shapiro) ([ ]); 8/20/20 Tr. 3085:10-14 (Shapiro) ([ ]).

407. This section reviews the evidence from [ ], 8/12/20 Tr. 1892:21-1893:10 (Orszag), and the testimony and documents [ ] establish the following, on which we elaborate in Part V.H.4.i-iii, *infra*.

408. *First*, [ ]. *See infra* Part V.H.4.i-iii (reviewing testimony and documents); *accord* Ex. 5609 ¶ 45 (Harrison WDT); Ex. 5611 ¶¶ 28, 33 (Adadevoh WDT); Ex. 5613 ¶¶ 24-26 (Piibe WDT).

409. *Second*, [ ]. *See, e.g.*, Ex. 5413 at 1 ([ ]); Ex. 5401 at 3 ([ ]); Ex. 5611 ¶ 12 n.16 (Adadevoh WDT) ([ ]); Ex. 5469 at 1 ([ ]); *infra* Part V.H.4.i-iii (reviewing testimony and documents).

410. *Third*, [ ]. *See, e.g.*, 9/11/20 Tr. 1348:19-25 (Orszag); *infra* Part V.H.4.i-iii (reviewing testimony and documents); *see generally* Ex. 5011; Ex. 5037; Ex. 5038.

411. *Fourth*, notwithstanding the above, and the [ ]. *See infra* Part V.H.4.i-iii (reviewing testimony and documents); *see generally* Ex. 5011; Ex. 5037; Ex. 5038.

i. [ ]

412. [ ], *see* Ex. 4027 at 1, [ ]. *See* Ex. 5037 at 1.

413. [ ] Ex. 4027 at 7. [ ]. Ex. 5414 at 1. [ ]. *E.g.*, Ex. 4023 at 1. [ ]. 9/3/20 Tr. 5748:4-5753:6 (Harrison).

414. [ ]. *See* Ex. 4027 at 6-7.

415. [ ] Ex. 5414 at 1. [ ]. *Id*.

416. [ ] Ex. 4023 at 1. [ ] Ex. 5421 at 1; Ex. 4023 at 1. [ ] Ex. 4023 at 1; *see also* Ex. 2131 at 1 ([ ]). [ ]. Ex. 4023 at 1. [ ]. Ex. 2131 at 1; *see generally* 9/3/20 Tr. 5716:16-5717:23 (Harrison).

417. UMG's willingness to [ ]. Ex. 2131 at 1 ([ ]); Ex. 4023 at 1 ([ ]); 9/3/20 Tr. 5726:18-5727:8 (Harrison); *see also Id.* at 5716:4-8, 5748:10-5749:1 (Harrison).

418. [ ]. *Id.* at 5697:25-5699:3 (Harrison) ([ ]

[redacted]. 9/3/20 Tr. 5698:13-24 (Harrison) ([redacted]); Ex. 5415 at 1 ([redacted]" (emphasis in original). [redacted]. *See* Ex. 4024 at 2 ([redacted]); Ex. 5223 at 1 ([redacted]); 9/3/20 Tr. 5698:13-24 (Harrison) ([redacted]).

419. [redacted]. Ex. 5410 at 1 ([redacted]). [redacted]. Ex. 4016 at 1 ([redacted]); 5429 at 1 ([redacted]); *see also* Ex. 5223 at 2; Ex. 4019 at 1. [redacted]. Ex. 4019 at 1.

420. [redacted]

t[redacted]. Ex. 5413 at 1. [[redacted], 9/3/20 Tr. 5701:12-19 (Harrison), [[redacted], Ex. 5422 at 1, and [[redacted]). Ex. 5221 at 5.

421. [[redacted]. Ex. 5410 at 1 ([[redacted]); Ex. 5415 at 1 ([[redacted]; *accord* Ex. 5221 at 5.

422. [[redacted]. 9/3/2020 Tr. 5700:21-5701:11 (Harrison) ([[redacted]).

423. [[redacted]. Ex. 5414 at

1. [ ]. Ex. 5421 at 1. [ ]. Ex. 5414 at 1. [ ]. *See generally* Ex. 5037.

424. [ ]). See Ex. 4016 at 1 ([ ]). [ ]. Ex. 4019 at 1; *accord* 9/3/20 Tr. 5728:3-4 ("[ ]); *Id.* at 5745:2-14 (Harrison). [ ], *see* Ex. 4019 at 1, [ ]. 9/3/20 Tr. 5746:25-5748:1 (Harrison).

425. [ ]. Ex. 5609 ¶ 56 (Harrison WDT). [ ]. 9/3/2020 Tr. 5743:16-5744:11 (Harrison). [ ], *Id.* at 5744:7-11 (Harrison), [ ]. Ex. 5609 ¶ 56 (Harrison WDT).

426. [ ]. 9/3/20 Tr. 5716:4-11 (Harrison). [ ] *Id.* at 5716:4-11 (Harrison).

427. [ ]. *Id.* at 5716:21-5717:6. [ ]. *Id.* at 5725:20-23 (Harrison); *see also* Ex. 5609 ¶¶ 34-40, 42-43 (Harrison WDT).

ii. [ ]

428. [ ], 9/3/20 Tr. 5504:7-5505:5 (Adadevoh), [ ]. *Id.* at 5480:13-18 (Adadevoh). [ ]. Ex. 5520 at 2; 9/3/20 Tr. 5505:9-23 (Adadevoh). [ ] 9/3/20 Tr. 5589:17-25 (Adadevoh).

429. [ ]. 9/3/20 Tr. 5504:7-5505:5 (Adadevoh). [ ]. Ex. 5611 ¶ 12 (Adadevoh WDT). [ ]. 9/3/20 Tr. 5479:16-24; 5526:19-5527:15 (Adadevoh). [ ]. Ex. 4022 at 1.

430. [ ]. *Id.*

431. [ ]. *See* Ex. 5264 at 4; Ex. 5265 at 2; 9/3/2020 5495:17-5496:2 (Adadevoh). [ ]. *See* Ex. 5264 at 4; Ex. 5265 at 2; 9/3/2020 5495:23-5497:23 (Adadevoh). [ ]. Ex. 5611 ¶ 12 n.16 (Adadevoh WDT); 9/3/20 Tr. 5497:11-23; 5499:3-8 (Adadevoh).

432. [ ]. *See* Ex. 4020 at 1.

433. [ ]. Ex. 5520 at 2. [ ]. 9/3/20 Tr. 5505:20-23 (Adadevoh). [ ]. *See* Ex. 5038; *accord* 9/3/20 Tr. 5505:17-19 (Adadevoh).

434. [ ]. Ex. 5401 at 3. [ ] 9/3/20 Tr. 5490:23-5491:13 (Adadevoh). [ ]. *Id.* at 5531:3-11 (Adadevoh).

435. [

[redacted]]." Ex. 4014 at 1; 9/3/2020 Tr. 5601:17-5602:11 (Adadevoh).

436. [redacted]]. Ex. 5611 ¶ 12 (Adadevoh WDT); 9/3/20 Tr. 5530:5-5531:7 (Adadevoh). [redacted]]. *See* Ex. 2124 at 1.

437. [redacted]]. *See* Ex. 2124 at 1; Ex. 5611 ¶ 12 (Adadevoh WDT); *infra* Part V.H.3.ii.d ([redacted]]).

438. [redacted]] Ex. 4025 at 1. [redacted]] *Id.*

439. [redacted]]. Ex. 5611 ¶¶ 11-12 (Adadevoh WDT); *see generally* Ex. 5038. [redacted]

[redacted]. 9/3/20 Tr. 5569:24-5570:3 (Adadevoh). [redacted]. *Id.* at 5478:3-11 (Adadevoh) ([redacted]); *id.* at 5480:13-18 (Adadevoh).

iii. [redacted]

440. [redacted], 9/2/20 Tr. 5218:5-12 (Piibe), [redacted]. Ex. 5613 ¶ 20 (Piibe WDT); *see also* 9/2/20 Tr. 5195:11-5196:4 (Piibe); 4018 at 1 ([redacted]).

441. [redacted]. 9/2/20 Tr. 5264:1-14 (Piibe). [redacted], Ex. 4026 at 2, [redacted] 9/2/20 Tr. 5265:5-11 (Piibe). [redacted] *Id.* at 5265:12-17 (Piibe).

442. [redacted]

[redacted]. Ex. 5461 at 7, 35 ([redacted]); *see also* Ex. 4026 at 1, 4 ([redacted]).

443. [redacted]. Ex. 5613 ¶ 22 (Piibe WDT); *accord* 9/2/20 Tr. 5337:8-21 (Piibe). Spotify [redacted]. Ex. 5613 ¶ 22 (Piibe WDT).

444. [redacted]. 9/2/20 Tr. 5196:22-5197:5 (Piibe). [redacted], *Id.* at 5196:22-5197:1 (Piibe), [redacted]. *Id.* at 5173:23-5174:5 (Piibe). [redacted]. *Id.* at 5220:10-14 (Piibe).

445. [redacted]. Ex. 4018 at 1.

446. [redacted]. Ex. 5613 ¶ 21 (Piibe WDT) ([redacted]). [redacted]. Ex. 2137 at 1. [redacted]. Ex. 5469 at 1.

447. [ ] Ex. 2137 at 1. [ ]. *Id.* [ ]. *Id.* at 1, 3. [ ] *Id.* at 1 (ellipses in original).

448. [ ]." Ex. 5613 ¶ 23 (Piibe).

449. [ ]," *Id.* at ¶ 29, [ ]. *Id.*

450. [ ]. *Id.* at ¶ 25; *see also supra* VII.H.3.ii. [ ]. Ex. 5613 ¶ 26 (Piibe WDT). [ ]

]. Ex. 5613 ¶ 26 (Piibe WDT); *see also supra* Part V.H.3.ii.d.

451. [ ]. *See* Ex. 5451 at 1 ([ ]); Ex. 5461 at 40 ([ ]); Ex. 5514 at 3 ([ ]); Ex. 4017 at 4 ([ ]). [ ]," Ex. 5461 at 40; *accord* Ex. 5514 at 3, [ ]. Ex. 5468 at 2.

452. [ ], *Id.* at 2, [ ]. *See* Ex. 5469 at 1 ([ ]).

453. [

[redacted]). *Id.* at 1.

454. [redacted] Ex. 5613 ¶ 24 (Piibe WDT). [redacted] *Id.* at ¶ 26.

455. [redacted]. *Id.* at ¶ 32. [redacted]. *Id.* at ¶ 32 & n.14. And [redacted].

456. [redacted]. *Id.* at ¶ 36. [redacted] 9/2/20 Tr. 5228:6-13 (Piibe). [redacted]

[redacted]]. *Id.* at 5368:8-20 (Piibe). [[redacted]]. Ex. 5467 at 1; *see also* Ex. 5517 at 1 ([[redacted]]); *accord* 9/2/20 Tr. 5248:16-5249:25, 5288:23-5289:18 (Piibe).

Figure 10: Excerpt from Ex. 5517 at 1 (RESTRICTED)

[[redacted]]

iv. [[redacted]]

457. In their written testimony, economists for the Services suggest that [[redacted]]. *See, e.g.*, Ex. 1105 ¶ 79 (Peterson CWRT); Ex. 4107 at 17 (Shapiro WRT). The record does not support that argument.

458. *First*, [[redacted]]. 8/20/20 Tr. 3088:15-22 (Shapiro) ([[redacted]]).

459. *Second*, [ ].[17] *See* 9/2/2020 Tr. 5265:5-17 (Piibe) ([ ]); 9/3/2020 Tr. 5602:19-5603:4 (Adadevoh) ([ ]). As Mark Piibe explained, SME "[ ]." 9/2/2020 Tr. 5265:12-17 (Piibe); *see also* 9/3/2020 Tr. 5602:19-5603:4 (Adadevoh) (testifying that, [ ]).

460. *Third*, [ ]. 8/11/20 Tr. 1366:23-15 (Orszag); 8/13/20 Tr. 1899:13-1900:24 (Orszag) ([ ]).

461. [ ]. *See* Ex. 5264 at 4; Ex. 5265 at 2. Later, [ ]. Ex. 4020 at 1; 9/3/2020 Tr. 5497:8-23 (Adadevoh); *accord id.* at 5500:24-5501:9

[17] [ ]. 9/2/2020 Tr. 5265:5-11 (Piibe); 9/3/2020 Tr. 5578:5-21 (Adadevoh).

(Adadevoh). [[redacted]]. *See* Ex. 5264 at 4; Ex. 5265 at 2; Ex. 4020 at 1; 9/3/2020 5495:23-5496:6 (Adadevoh); *see generally* Ex. 5038.

462. [[redacted]]. Ex. 5421 at 1.

463. [[redacted]] Ex. 4023 at 1; *see also* Ex. 2131 at 1 ([[redacted]]). *See* 9/3/20 Tr. 5716:16-5717:23 (Harrison). [[redacted]]. *Id.* at 5744:12-21; 5748:4-9 (Harrison).

464. [[redacted]]. 8/13/20 Tr. 1899:12-1900:24 (Orszag); 8/11/20 Tr. 1367:10-15 (Orszag).

465. Apple Music did not launch until June 2015. Ex. 5609 ¶ 10 (Harrison WDT). Since then, the service has grown significantly and become very important to record companies. *See, e.g.*, 8/11/20 Tr. 1277:23-1278:4 (Orszag). For example, by 2018, Apple Music generated [[redacted]] of UMG's total U.S. revenue, [[redacted]] of SME's total U.S. revenues, and [[redacted]] of WMG's total U.S. revenues. Ex. 5609 ¶ 13 (Harrison WDT); Ex. 5611 ¶ 11 n.13 (Adadevoh WDT); Ex. 5613 ¶ 10 (Piibe WDT). Through the first half of that year, Apple Music had already acquired more than

43 million subscribers, accounting for nearly 20% of streaming subscribers worldwide. Ex. 5602 ¶ 33, Table 3 (Orszag WDT).

466. The rapid growth of Apple Music, and its importance to record companies, [ ]. *See, e.g.*, *id.* at ¶ 23 (Orszag WDT).

467. [ ]. Ex. 5609 ¶ 31 (Harrison WDT). [ ]. 9/3/2020 Tr. 5681:2-5682:8 (Harrison). [ ]. Ex. 5609 ¶ 31 (Harrison WDT); 9/3/2020 Tr. 5681:2-5682:15 (Harrison). [ ]. Ex. 5610 ¶ 23 (Harrison WRT). [ ]. 9/3/2020 Tr. 5681:2-5682:21 (Harrison); [ ].

468. [ ]. The testimony of Dr.

Leonard makes this point. In arguing that the interactive services [ ] Ex. 2610 ¶ 71 (Leonard CWRT). As a matter of theory Dr. Leonard may be correct, but [ ]. 9/3/2020 Tr. 5681:2-5682:21 (Harrison).

469. More to the point for present purposes, the theory that Spotify [ ]. 8/12/20 Tr. 1899:12-1900:24 (Orszag); 8/11/20 Tr. 1367:10-15 (Orszag).

v. The Record Indicates that [ ]

470. According to Professor Shapiro, [ ] 8/19/20 Tr. 2871:14-19 (Shapiro). In his view, "[ ] *Id.* at 2888:8-17 (Shapiro); *id.* at 2880:2-20 (Shapiro).

471. This now appears to be Professor Shapiro's primary theory for [ ] since *Web IV*. *Id.* at 2880:2-20 (Shapiro). Professor Shapiro's (and Dr. Peterson's) attempts to [ ]

[redacted], *see id.* at 2871:14-2973:5 (Shapiro); 8/25/2020 Tr. 3657:6-21 (Peterson), are inconsistent with the factual record.

472. As an initial matter, the claim that [redacted]. Ex. 4022 at 1. The record companies, for their part, resisted [redacted].

473. Although [redacted] Ex. 4023 at 1. Instead, [redacted] *Id.* [redacted]. *id.*; *accord* Ex. 2131 at 1 ([redacted]); Ex. 5421 at 1 ([redacted] (emphasis added)); 9/3/20 Tr. 5719:15-24 (Harrison) ([redacted]).

474. [redacted]. 9/3/20 Tr. 5504:18-5505:5 (Adadevoh). [redacted] Ex. 5264 at 4. [redacted]. Ex. 5265 at 2 ([redacted]); Ex. 5611 ¶ 12 n.16 (Adadevoh WDT); 9/3/20 Tr.

5480:13-18 (Adadevoh). WMG's [ ]. Ex. 4020 at 1.

475. SME was [ ]. *See, e.g.*, Ex. 4018; Ex. 5451. SME [ ] Ex. 5613 ¶ 23 (Piibe WDT); *see also* Ex. 2137 at 1 ([ ]). [ ]. Ex. 5469 at 1.

476. Under the theories of Professor Shapiro and Dr. Peterson, [ ]. Ex. 4023 at 1. Likewise, [ ] Ex. 5264 at 2. [ ] Ex. 2137 at 1 (emphasis and ellipsis in original).

477. There is a further problem with Professor Shapiro's theory that [ ]. When asked why the record companies would [ ]. 8/19/20 Tr. 2880:2-20 (Shapiro). Were that explanation accurate, the [ ]. Ex. 4107 at 23, Fig. 1 (Shapiro WRT); 8/20/20 Tr. 3108:12-3109:14 (Shapiro). [ ]. 9/3/2020 Tr. 5681:2-5682:21 (Harrison).

478. Professor Shapiro and Dr. Peterson also testified that [ ]. *See* 8/19/20 Tr. 2877:13-19 (Shapiro); 8/25/20 Tr. 3657:10-13 (Peterson). This theory is wrong for four reasons.

479. *First*, [ ]. *See, e.g.*, Ex. 2137 at 1.

480. *Second*, [ ]. 9/3/20 Tr. 5479:16-24; 5526:19-5527:15 (Adadevoh); Ex. 5611 ¶ 12 n.16 (Adadevoh WDT).

481. *Third*, Professor Shapiro assumes, without evidence, that the record companies believe [ ]. 9/3/20 Tr. 5706:15-5707:9 (Harrison). In other words, [ ]. 9/3/20 Tr. 5706:15-5707:9 (Harrison). [ ]. *See* 9/3/20 Tr. 5706:24-5707:2 (Harrison). [ ]. *See* Ex. 5513 at 1. [ ]. *See* 9/3/20 Tr. 5479:21-5480:12 (Adadevoh).

482. *Fourth*, Professor Shapiro and Dr. Peterson's theory is predicated on the incorrect assumption that [ ]. Professor Shapiro correctly notes [ ]. *See* 8/19/20 Tr. 2873:21-2874:4 (Shapiro). [ ] 8/13/20 Tr. 1902:7-1903:17 (Orszag).

5. The Judges Do Not Need to Make a Competition Adjustment, and the Services Do Not Offer Any Reliable Adjustments

i. Professor Shapiro's Attempt to Calculate a Competition Adjustment Proves That No Adjustment Is Required

483. Professor Shapiro's proposed effective competition adjustment draws on agreements executed between record companies and [[redacted]]. According to Professor Shapiro, the effective per play rate paid by [[redacted]] represents an effectively competitive rate because the service [[redacted]], customers "do not expect to find all their favorite artists and recordings on the service." Ex. 4094 at 40 (Shapiro Second CWDT); *accord* 8/19/20 Tr. 2850:11-18 (Shapiro). In other words, the [[redacted]] rate is an effectively competitive rate, and reliable for purposes of making a competition adjustment, because arguably no record company is a must-have for the service. 8/20/20 Tr. 3110:1-3111:25 (Shapiro); *accord id.* at 3117:22-3118:7 (Shapiro); *id.* at 3119:2-13 (Shapiro); Ex. 4094 at 40 (Shapiro Second CWDT).

484. To calculate his adjustment, Professor Shapiro compares the [[redacted]] per-play rate, which is [[redacted]], to an effective per play rate that is weighted by plays, derived from agreements with ten subscription interactive services, and equals [[redacted]]. Based on the difference between those rates, Professor Shapiro proposes a [[redacted]] adjustment. Ex. 4094 at 42 & Table 10 (Shapiro Second CWDT).

485. Notwithstanding his proposal, Professor Shapiro's analysis [[redacted]]. 8/20/20 Tr. 3112:5-3113:20 (Shapiro); 8/10/20 Tr. 1170:7-23 (Orszag). More

specifically, Professor Shapiro [ ]. Ex. 4094 at 40 & Table 10 (Shapiro Second CWDT); 8/20/20 Tr. 3112:13-19 (Shapiro).

486. Professor Shapiro acknowledges, as he must, [ ] 8/20/20 Tr. 3113:11-20 (Shapiro). [ ]. 8/25/20 Tr. 3839:1-3840:4 (Orszag). And Professor Shapiro recognized this at trial, [ ]," 8/20/20 Tr. 3116:17-3117:8 (Shapiro), [ ]. 8/19/20 Tr. 2891:13-18 (Shapiro); 8/25/20 Tr. 3839:1-3840:15 (Orszag).

ii. Professor Shapiro's Proposed Competition Adjustment Is Overstated

487. Even if a competition adjustment were necessary, Professor Shapiro's proposed [ ] adjustment is overstated.[18] Because the [ ] agreements are negotiated under effectively competitive conditions, *see, e.g.*, 8/20/20 Tr. 3119:2-13 (Shapiro), any competition adjustment is appropriately capped at the difference between the effective rates for [ ]. 8/25/20 Tr. 3840:16-3841:8 (Orszag).

488. Were the Judges inclined to look past these issues, and there is no basis in the record to do so, Professor Shapiro's proposed competition adjustment remains flawed and overstated. That is because Professor Shapiro does not account for a number of variables that deflate the

[18] [ ]. *See, e.g.*, 8/11/20 Tr. 1391:3-1392:21 (Orszag) ([ ]); 8/25/20 Tr. 3678:11-3679:7 (Peterson) ([ ]); *see also* Ex. 5609 at ¶ 79 (Harrison WDT) (noting that, when UMG negotiates rates with mid-tier services, it faces the possibility that such services will simply drop any non-DMCA compliant functionality and pay the statutory rate and providing example).

effective rates paid by [], including that (i) [], (ii) that agreements between the record companies and [], and (iii) that []. Ex. 5603 ¶ 112 (Orszag WRT); Ex. 5610 ¶¶ 6-7, 9 (Harrison WRT). While it would be reasonable to reduce Professor Shapiro's adjustment factor for each of these reasons, even Professor Shapiro recognizes that []. 8/20/20 Tr. 3120:11-17 (Shapiro).

489. Significantly, Professor Shapiro's recognition that [], 8/20/20 Tr. 3120:11-17 (Shapiro), underscores that the []. 8/25/20 Tr. 3840:5-15 (Orszag).

iii. Dr. Peterson's Competition Adjustment Is Based on Stale Evidence and Otherwise Unreliable.

490. Dr. Peterson proposes that the Judges apply a competition adjustment in the range of []. Ex. 1103 ¶ 65 (Peterson AWDT). To calculate his proposed adjustment, Dr. Peterson relied on evidence []. 8/25/2020 Tr. 3661:21-25 (Peterson). More specifically, he relied on (1) an agreement between Merlin and Pandora, (2) a 2013 agreement between iHeart and WMG, and (3) a 2014 litigation experiment conducted by Pandora. Ex. 1103 ¶¶ 61-62, 65 (Peterson AWDT).

491. Dr. Peterson's approach to calculating a competition adjustment should be disregarded because the market for subscription interactive services has grown more competitive

since *Web IV*. *See, e.g.*, Ex. 5602 ¶¶ 120-150 (Orszag WDT). From a Nash bargaining perspective, even if the walk-away payoffs for the services arguably have not changed since *Web IV*, the walk-away payoffs for the record companies have changed due to the growth of the interactive services. *See* 8/20/20 Tr. 3104:11-3105:1 (Shapiro).

492. Relying on evidence from *Web IV* to make a competition adjustment is also inappropriate because, in *Web IV*, the parties put forth benchmarks based on the rates paid by a number of different services. The Judges applied the 12% *Web IV* adjustment against all of those services, [[redacted]]. Were the Judges to apply the *Web IV* adjustment in this proceeding, the Judges would need to [[redacted]]. 8/11/20 Tr. 1190:1-8 (Orszag).

493. To rely on evidence from *Web IV* in making a competition adjustment, it is necessary to begin with the 12% adjustment made in *Web IV*, and then adjust it downward to account for increasingly competitive conditions in the upstream market. Even Professor Shapiro [[redacted]]. 8/19/20 Tr. 2863:3-8 (Shapiro). Mr. Orszag proposed (assuming for the sake of argument that some adjustment is necessary) [[redacted]]. *See* 8/25/20 Tr. 3837:10-3638:14 (Orszag); *see also* 8/11/20 Tr. 1189:16-1190:14 (Orszag). The result would be a 4% competition adjustment. 8/25/20 Tr. 3837:10-24 (Orszag).

I. The Service-Side Economists Introduce Several Red Herrings that Should Be Disregarded

1. There Is No Basis for Adjusting Per-Play Rates Because of Decreasing Song Length

494. Drs. Leonard and Peterson both claim that the average length of songs in the Billboard Hot 100 has decreased over time, and that shorter song length implies an increase in the number of songs played for a given number of minutes devoted to music. According to Dr. Leonard and Dr. Peterson, this in turn means that a station is paying an increasing amount in royalty fees for the same number of minutes of music, and a downward adjustment is warranted. Ex. 5603 ¶ 127 (Orszag WRT). There are at least three reasons why song length is not an issue.

495. First, [ ]. 8/11/20 Tr. 1463:13-17 (Orszag). As Mr. Orszag demonstrated, the median song length of the Billboard Hot 100 has been generally declining since 2000. Declining song length is not new or transitory, and is known in the music industry. Thus, any consideration of its impact on negotiated royalty rates, if warranted at all, would already be reflected in the marketplace agreements and already included in the effective rates being proposed in this proceeding. Ex. 5603 ¶ 128 (Orszag WRT).

496. Second, Drs. Leonard and Peterson implicitly assume that the minutes of music programming that a service plays are held constant. In fact, a decrease in song length could result in additional time for the streaming services and stations to run longer ads or run more ads in a given period, resulting in higher revenues and profits. Drs. Leonard and Peterson provided no evidence to suggest the reduction in song length has resulted in noninteractive services paying more royalties or resulted in them earning more revenues and profits. *Id.* at ¶ 129.

497. Third, [ ]. 8/11/20 Tr. 1463:23-1464:11

(Orszag). But top playlists or stations often feature music from decades that predate the decline in song lengths noted by Drs. Leonard and Peterson and also feature music from various genres. *See, e.g.*, Ex. 5625 ¶ 34 n.21 (Ploeger WRT) (contrasting 15 performance per hour estimate for music-only services in general with 17 performance per hour for current pop music channels). Consequently, there is no basis to make any adjustment to the proposed rates due to decreasing song length. Ex. 5603 ¶ 130 (Orszag WRT).

2. There Is No Basis for Adjusting Per-Play Rates for Unilateral Market Power

498. Dr. Leonard notes that in *Web IV,* the Judges did not adjust for unilateral market power possessed by the record companies. Unilateral market power, according to Dr. Leonard, stems from the inability of the services to negotiate with "individual copyright owners of each song" and instead having to negotiate with the label that has aggregated substitutable songs. Ex. 5603 ¶ 131 (Orszag WRT).

499. Dr. Leonard's argument has been repeatedly rejected by the Judges in prior proceedings. For example, the tribunal in *Web I* concluded that in the hypothetical market, "the willing sellers are record companies," *Web I*, 67 Fed. Reg. at 45244, and in *Web II* the Judges re-affirmed that conclusion: "Furthermore, we find that in the hypothetical marketplace that would exist in the absence of a statutory license constraint, the willing sellers are the record companies." *Web II*, 72 Fed. Reg. at 24091. Again, in *Web IV*, the Judges found that "[t]here is absolutely no record evidence to suggest that the market power that a Major enjoys individually by ownership of its collective repertoire is in any sense the consequence of improper activity or that it is being used individually by a Major to diminish competition." *Web IV*, 81 Fed. Reg. at 26368.***

500. Moreover, Dr. Leonard failed to consider that a hypothetical market in which the sellers are individual copyright owners (by which Dr. Leonard appears to mean individual artists,

even though in the real world the copyrights are largely owned by record companies) would be unworkable due to the transaction costs of identifying the owners of each individual sound recording and obtaining licenses from each (again assuming, in Dr. Leonard's hypothetical world, that artists rather than record companies owned the copyrights). As the Judges have pointed out, "if the sellers' side of the market were characterized by so many sellers as to be consistent with perfect competition, the transaction costs to the buyers of the copyrights would likely be prohibitive." *See Web II*, 72 Fed. Reg. at 24091; *see also Web III Remand*, 79 Fed. Reg. at 23109 (the "rationale for the statutory license is to cure the perceived market failure that may arise if multiple webcasters were required to negotiate for individual licenses for a multitude of recordings from the various copyright owners"). Thus, there is no basis for making a downward adjustment to rates due to any putative unilateral market power possessed by the labels. Ex. 5603 ¶ 134 (Orszag WRT).

3. There Is No Basis for Eliminating Inflation-Based Adjustments

501. Mr. Orszag calculated his proposed per-play rates using the noninteractive services' revenue, and because that revenue can be expected to increase over time at least at the rate of inflation, he proposed that the regulations adopted by the Judges adjust the rates to reflect annual changes in the Consumer Price Index, Ex. 5602 ¶ 82 (Orszag WDT), similar to the approach adopted in *Web IV*. *See Web IV*, 81 Fed. Reg. at 26405.

502. Dr. Leonard opined that the statutory rate should not be increased at the rate of general inflation. But Dr. Leonard provided no evidence that prices in the music industry have not increased at the rate of inflation, other than citing that premium interactive subscription prices have remained at $9.99 per month in the last few years. Dr. Leonard's reliance on that lone piece of evidence is misguided. Ex. 5603 ¶ 136 (Orszag WRT).

503. The fact that interactive subscription prices have stayed constant at $9.99 per month is not material in this proceeding considering that Dr. Leonard's analysis is intended to provide per-play rates for noninteractive ad-supported services. What could potentially be informative on the question of inflation is the extent to which advertising prices, not the retail price of interactive subscriptions, have increased over time. In that regard, Sirius XM and Pandora reported increases in the average price per ad sold over the 2015 to 2018 period, as did Spotify. Moreover, a Consumer Price Index adjustment is conservative to the extent digital ad pricing in the U.S. tends to increase over time at rates higher than the inflation rate of the economy. *Id.* at ¶ 137.

504. Indeed, Dr. Peterson notes that "[a]n inflation adjustment is consistent with the existing statutory rate structure and would approximate changes in the rates determined by the revenue share-based benchmarks to the extent advertising rates rise at roughly the rate of inflation." *See* Ex. 1103 ¶ 14 (Peterson CWDT). Consequently, Mr. Orszag found that an inflation adjustment based on the Consumer Price Index continues to be appropriate.

VI. No Promotional Adjustment or Offset Is Warranted

505. Sirius XM and NAB imply they should receive credit for the supposed ability of their platforms to promote the consumption of sound recordings and artists on other platforms. *See, e.g.*, Ex. 4093 ¶¶ 2, 5 (Blatter WDT); 8/4/20 Tr. 219:3-8 (NAB opening statement). However, none of the economists testifying on behalf of the Services propose a specific and quantified adjustment to their analyses. While Dr. Leonard suggested in his written testimony that the Judges apply a promotional offset to his opportunity cost analysis, he acknowledged that promotional effects are "difficult to quantify," made no attempt to quantify them, and proposed no adjustment to his opportunity cost analysis on that basis. Ex. 2150 ¶¶ 108-13 (Leonard CWDT); Ex. 5615 ¶ 4 n.7 (Ford WRT); *accord* 8/25/20 Tr. 3604:5-21 (Leonard).

506. Sirius XM and NAB's support for their promotion arguments consist primarily of cherry-picked, qualitative anecdotes concerning individual tracks and artists. Ex. 5615 ¶¶ 3-5, 8 (Ford WRT) (citing Ex. 2153 (Poleman WDT); Ex. 2155 (Newberry WDT); Ex. 2156 (Gille WDT); Ex. 2157 (Wheeler CWDT); Ex. 4090 (Phillips WDT); Ex. 4093 (Blatter WDT)).

507. In previous proceedings, the Judges have rejected efforts to support a promotional adjustment based on this type of evidence. *See SDARS III*, 83 Fed. Reg. at 65253; *Web IV*, 81 Fed. Reg. at 26322 n.41 & 26323; *SDARS II*, 78 Fed. Reg. at 23066-67; *SDARS I*, 73 Fed. Reg. at 4094-95. Thus, in *SDARS III*, the Judges held that relative and not absolute promotion "is the relevant factor in their consideration of the statutory rates." 83 Fed. Reg. at 65253. Additionally, the Judges reiterated that anecdotal evidence cannot support a rate adjustment. *Id.* at 65253 n.173; *accord Web IV*, 81 Fed. Reg. at 26327 (finding "observational and anecdotal testimony" of industry witnesses to be "unhelpful and essentially self-serving" with respect to evaluating the potential promotional effect of noninteractive streaming services).***

508. For reasons that are described in the Judges' previous determinations, in Dr. Ford's written rebuttal testimony, and below, the Services' anecdotal evidence does not justify a downward promotional adjustment to analyses conducted by the economists testifying in this case, *see* Ex. 5615 ¶¶ 3-8 (Ford WRT); Ex. 5617 at 3-5 (Des. WDT of Ford, SDARS III); *accord* Ex. 5602 ¶ 160 (Orszag WDT), nor does any other asserted evidence of promotion. *See supra* Part V.E.2.

509. First, anecdotal evidence at the artist or recording level does not illuminate whether a record company actually receives net additional income from any promotion of plays by a service—or whether that promotion results in, and is offset by, fewer plays of the record company's other content. *See* Ex. 5615 ¶¶ 6, 41, 58 (Ford WRT); *see also id.* at ¶ 41 (when

assessed at the catalog level, "[t]he net effect may be no additional income"); 8/26/20 Tr. 4047:3-11 (Steinberg) (acknowledging that anecdotal evidence is not the best basis for a decision).

510. Second, the Services' evidence says nothing about the promotional power of the noninteractive services as a category of distribution—that is, whether the promotional power of noninteractive services is greater or less than the promotional power of other distribution modes such as ad-supported on-demand services. 8/10/20 Tr. 1126:22-1128:2 (Willig); Ex. 5615 ¶ 58 (Ford WRT). As a consequence, such evidence does not present a useful basis on which to make adjustments to any of the economists' opportunity cost calculations in this case (as it is not even clear whether those adjustments would increase or decrease the opportunity cost associated with licensing to noninteractive distributors). 8/10/20 Tr. 1127:19-1128:2 (Willig).

511. Third, and because promotion is baked into benchmark agreements, to adjust a benchmarking approach for promotion, the Services needed to make a quantitative showing that the target platform is more promotional than the benchmark platform, which they have not (and cannot) do. *See* Ex. 5615 ¶¶ 3, 6, 17, 58 (Ford WRT).

512. Fourth, the Services' anecdotes are unreliable. Because the anecdotes do not distinguish between plays on webcasting and other services, and for several additional reasons set out below, they may overstate any promotional effects. *See id.* at ¶¶ 6-7, 26-28.

513. "[I]n this proceeding, promotion matters only to the extent that it can be accurately quantified and applied in a straightforward manner." *Id.* at 58. Because the Services have made no attempt to quantify alleged promotional effects on a catalog-wide basis, or in any way assess their promotional power relative to other services, the Judges should decline to apply any promotional adjustment. *Id.* at ¶¶ 8, 58.

A. The Services' Anecdotal Evidence Is Irrelevant, As It Cannot Establish Net Promotion on a Catalog-Wide Basis

514. In analyzing the promotional effects of a service, what ultimately matters is the net effect of promotion in dollars to a record company. *Id.* at ¶¶ 21, 41. This has two important consequences.

515. First, it is the average, catalog-wide promotion for a record company that matters, not the effects for a given song or artist. *Id.* at ¶¶ 16, 21, 41; *accord* Ex. 5617 at 15-16 (Des. WDT of Ford, SDARS III); 8/18/20 Tr. 2550:7-13 (Ford). That is because licenses are typically for record companies' entire catalogs and because the promotion of one recording or artist may affect plays of other recordings or artists. Ex. 5615 ¶ 21 (Ford WRT). In other words, while spinning Sony Artist X may increase the sales of Sony Artist X, it may actually *reduce* the sales of Sony Artist Y, leading to zero or even negative net promotion. *Id.* at ¶¶ 16, 21, 41.

516. Second, it is important to know what kind of listening a service is actually promoting. The net effect will be negative to a record company if, for example, a service slightly increases demand for satellite radio, but reduces demand for the use of more profitable or more promotional musical outlets. *Id.* at ¶¶ 21, 41. Likewise, it will be negative to a record company if it promotes additional plays on terrestrial radio (which generate zero dollars in royalties to a record company) and in doing so draws plays away from subscription services (which generate positive royalties). 8/6/20 Tr. 672:11-21 (Willig).

517. The Services' anecdotal evidence does not speak to either of these issues, on either a qualitative or quantitative basis. *See* Ex. 5615 ¶¶ 9-35 (Ford WRT). As a result, it cannot support a promotional adjustment.

B. The Services' Evidence Is Irrelevant to an Opportunity Cost Analysis, As It Cannot Establish Relative Promotion

518. At trial, the Services suggested that Professor Willig wrongly failed to account for promotional effects in his model. *See, e.g.*, 8/6/20 Tr. 782:15-20 (Willig). But the Services have failed to establish that any adjustment on that basis is necessary. Moreover, no service expert has attempted to quantify or made an adjustment to their opportunity cost or modeling analysis. *See, e.g.*, Ex. 2150 ¶ 113 (Leonard CWDT); *see also* 8/24/20 Tr. 3572:12-15 (Leonard); *see generally* Ex. 4094 (Shapiro Second CWDT).

519. This is not surprising. Promotional effects capture the extent to which the use of music by one distribution platform generates additional income for the record company in other distribution channels. Ex. 5615 ¶ 14 (Ford WRT). A service is promotional, on a relative basis, if it generates additional revenue in quantities greater than the competing services from which it cannibalizes. 8/10/20 Tr. 1126:22-1128:2 (Willig); Ex. 5615 ¶¶ 17-18 (Ford WRT).

520. The Services have presented no quantitative evidence or empirical analysis of relative promotion. *See* 8/10/20 Tr. 1128:5-1129:9 (Willig) (no empirical analysis presented by service economists that, relative to other sources of distribution, Pandora stimulates additional downloads, CD purchases, vinyl purchases, additional plays on free on-demand services, additional subscriptions to satellite radio, or additional subscriptions to on-demand streaming services); 8/25/20 Tr. 3604:5-19 (Leonard) (acknowledging that he conducted no empirical analysis of the impact of simulcasting on sales of CDs, sales of downloads, or sales of subscriptions to services like Sirius XM satellite radio).

521. Notably, to the extent the Services insist that such evidence should be considered, the only existing quantitative evidence favors SoundExchange. Professor Willig created a model demonstrating that, [

[redacted]]. 8/6/20 Tr. 631:8-632:19 (Willig); 8/10/20 Tr. 1060:11-1061:8 (Willig); Ex. 5600 ¶ 51 n.33 (Willig CWDT); *accord* Ex. 4090 ¶ 28 (Phillips WDT) (admitting that Pandora's conversion rate to its subscription products is low).[19] But there is no dispute that [[redacted]]. 8/26/20 Tr. 3963:13-17 (Peterson). And ad-supported Pandora's low upsell rate stands in stark contrast to the undisputed success of ad-supported Spotify in converting its users to Spotify Premium—[[redacted]]. Ex. 5609 ¶ 23 (Harrison WDT); *see also* Ex. 5186 ([[redacted]]); Ex. 5603 ¶¶ 72, 74 (Orszag WRT); Ex. 1100 ¶¶ 15, 30 (T. Fowler WDT); Ex. 5600 ¶ 28 n.33 (Willig CWDT); Ex. 5604 ¶ 68 (Tucker WDT); 8/10/20 Tr. 1060:15-1061:8 (Willig). Given these numbers, any diversion of users from ad-supported Spotify to ad-supported Pandora not only incurs an opportunity cost to the record company (by forfeiting plays on a more lucrative service), it also replaces the robust conversion power of ad-supported Spotify with the relatively anemic conversion power of ad-supported Pandora. Put simply, the relative promotion of the noninteractive services may actually be a financial negative for the record companies.

522. In any event, even if robust and complete data spanning the promotional effects of all the different distribution services were in the record (and they decidedly are not), *see* Ex. 5615 ¶¶ 25-33, 58 (Ford WRT); 8/10/20 Tr. 1129:21-1130 (Willig), making an opportunity cost adjustment to account for conversion effects would still remain theoretically fraught. That is so because not all noninteractive services even have subscription services to which they can convert

[19] The Services' additional evidence of conversion, and its deficiencies, were addressed in Part V.E.2, *supra*.

users. It would be improper, therefore, for the Judges to build conversion effects into a royalty rate that will apply to *all* noninteractive services, even ones that cannot and therefore do not "upsell." *See* Ex. 5615 ¶¶ 31, 33 (Ford WRT); *cf.* 8/5/20 Tr. 558:10-13 (Willig). That notably includes the simulcasters; Dr. Leonard agreed that he has no reason to think that listening to a simulcast would promote new on-demand subscriptions. 8/24/20 Tr. 3576:18-24; 3577:24-3578:4 (Leonard).

523. Record companies and services can always negotiate direct deals that take into account a service's positive track record on conversion—as indeed the record companies have done with Spotify. *See, e.g.*, Ex. 5603 ¶ 72 (Orszag WRT); *accord* Ex. 5600 ¶ 51 n.33 (Willig CWDT); Ex. 5604 ¶¶ 82, 85 (Tucker WDT); 8/5/20 Tr. 560:3-561:7 (Willig); 8/18/20 Tr. 2547:17-2548:22 (Ford). Given its blanket nature, the statutory license is not well-suited to account for this factor. *See, e.g.*, Ex. 5604 ¶ 84 (Tucker WDT); 8/17/20 Tr. 2131:2-17 (Tucker) ([ ]); *accord* 8/18/20 Tr. 2546:18-2547:16 (Ford). And attempting to account for this factor risks setting a too-low rate that distorts the evolution of the industry, by artificially incentivizing digital music firms to focus on offering noninteractive services rather than providing the right incentives to migrate users to interactive services. Ex. 5604 ¶ 86 (Tucker WDT); 8/17/20 Tr. 2130:12-21 (Tucker) ([ ]).

C. The Services' Evidence Is Irrelevant to a Benchmarking Analysis, As It Cannot Establish Relative Promotion

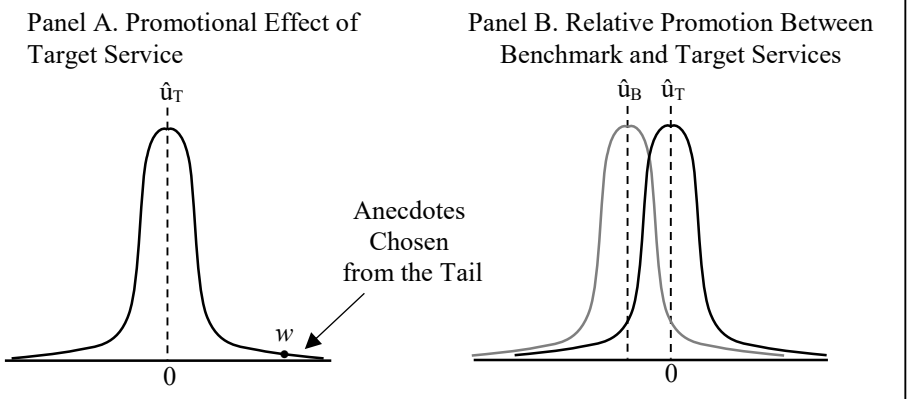
524. In order for the Judges to apply any kind of benchmark adjustment based on promotion, there needs to be evidence that the service in question is more promotional than the

benchmark service. *See* Ex. 5602 ¶ 163 (Orszag WDT); Ex. 5615 ¶ 17 (Ford WRT); *see also* 8/26/20 Tr. 3963:13-17 (Peterson) (acknowledging the need to compare the benchmark service to the statutory service when thinking about promotion). None of the services provide such evidence.

525. In past proceedings, the Judges have repeatedly emphasized that evidence of relative promotion is needed. *See SDARS III*, 83 Fed. Reg. at 65253; *Web IV*, 81 Fed. Reg. at 26322, 26327; *SDARS II*, 78 Fed. Reg. at 23066-67. As the Judges have recognized, relative promotion is the critical question because the promotional and substitutional effect of a given service will be factored into the rates it negotiates directly with record companies. *Web IV*, 81 Fed. Reg. at 26326, 26329; *SDARS III*, 83 Fed. Reg. at 65253; *SDARS II*, 78 Fed. Reg. at 23066-67.***

526. In other words, promotional and substitutional effects are "baked in" to negotiated rates—a principle that Dr. Ford illustrated in his testimony with a simple Nash Bargaining model. Ex. 5615 ¶¶ 18-21 (Ford WRT); *see also* Ex. 5602 ¶ 162 (Orszag WDT); *accord* Ex. 5332; Ex. 5617 at 5-11 (Des. WDT of Ford, *SDARS III*). These principles can be illustrated in a simple diagram:

Figure 11. Anecdote in the Analysis of Relative Promotion
(Ex. 5615 ¶ 22 Fig. 1 (Ford WRT))



527. Panel A illustrates a hypothetical distribution of net promotional effects for the tracks played by a single service, *T*. Ex. 5615 ¶ 22 (Ford WRT). As illustrated, promotional effects

for any given song can be positive or negative. *Id.* If a service increases the amount of income that a record company and artist make from a given track, the net promotional effect is positive. *Id.* If a service's plays reduce the amount of income a record company receives from a given track, the net promotional effect is negative. *Id.* In the figure, the average promotional effect of the target service is labeled $\hat{u}_T$. *Id.*

528. Panel B illustrates the concept of relative promotion. Panel B assumes that there are two services: a benchmark ($\hat{u}_B$) and a target service ($\hat{u}_T$). *Id.* at ¶ 23. For illustration purposes alone, it assumes that the mean of promotional effects for the benchmark service is lower than that of the target service ($\hat{u}_B < \hat{u}_T$). *Id.* Ignoring the presence of other music services, the necessary calculation for relative promotion is the difference between the two means, or $\hat{u}_T - \hat{u}_B$. *Id.* That is, the mere presence of a promotional effect does not justify a promotional discount. *Id.* Rather, in a valid benchmarking analysis, any discount based on promotional effects would be calculated with reference to the monetary value of the difference between $\hat{u}_T$ and $\hat{u}_B$. *Id.*

529. The record evidence demonstrates that Spotify's ad-supported service is highly promotional of other services that pay high royalties—specifically, subscription interactive services. Ex. 1103 ¶¶ 46-47 (Peterson AWDT); Ex. 4094 at 33 (Shapiro Second CWDT); *see* Ex. 5603 ¶¶ 72, 74 (Orszag WRT) (describing ad-supported Spotify's success at converting ad-supported users to subscribers); Ex. 1100 ¶ 30 (T. Fowler WDT); Ex. 5600 ¶ 28 n.33 (Willig CWDT); 8/10/20 Tr. 1060:15-1061:8 (Willig). The Services do not factor this into their promotion arguments at all, and therefore have no basis to conclude that a benchmark adjustment is appropriate based on relative promotion. *See also supra* Part V.E.2.

D. The Services' Anecdotal Evidence Is Unpersuasive On Its Own Terms

530. Even if anecdotal evidence were relevant to the determination of whether to apply a promotional adjustment, the anecdotes provided by the Services are unpersuasive. *See generally*

Ex. 5615 ¶¶ 10-16, 36-57 (Ford WRT). They fail to isolate the potential promotional effect of the Services, and further do not disaggregate the effect of webcast plays versus plays on the Services' associated terrestrial and satellite platforms. They do not even establish that the Services played a significant role in the success of the specific recordings and artists identified.

1. The Anecdotes Do Not Capture the Complex Interplay of Factors that Lead to the Success of a Recording or Artist

531. [[redacted]]. 8/26/20 Tr. 3963:25-3964:2 (Peterson). That is so because, in an environment characterized by interdependent platforms and multifaceted promotional strategies, it is exceptionally difficult to establish that any particular action actually causes any particular effect on paying consumption. Ex. 5615 ¶ 25 (Ford WRT). Indeed, there is likely to be great variation in the extent and direction of promotion effects on the massive pools of recordings the services use in a year. *Id.* at ¶ 16.

532. Record companies may promote music through many media, including interactive and non-interactive streaming services, satellite radio, terrestrial radio, download stores, physical product retailers, special appearances (live and in the studios of radio stations and services), television shows and commercials, music videos, concert tours, interviews, news media, reviewers, dance club DJs, Twitter, Instagram, Facebook, YouTube, books, apparel, and even perfumes. *Id.* at ¶ 26. Social media has become an exceedingly important promotional tool, because it allows artists to communicate directly and continuously to their fans without mass media as an intermediary. *Id.* Many of these activities continue on an ongoing basis between recording releases, while others happen more or less simultaneously around the time of a release. *Id.* Although each of these platforms may contribute to the success of a given recording, recordings become hits (and therefore become significantly profitable for their creators) only when a mix of these varied

opportunities expose as many consumers as possible to, and create demand for, a compelling artist and a great recording. *Id.*

533. The causal chain between exposure and artist and record company income is complex, unique to each recording, and nearly impossible to quantify. *Id.* at ¶ 27. Even for industry experts, and even after the fact, it is difficult to identify which factors have caused paid consumption fact; determining the ex-ante success of any particular part of a promotional strategy is practically impossible. *Id.* Not only is success created by an accumulation of interest from multiple promotional activities, but what works varies widely among genres of music, recordings, and artists. *Id.* at ¶ 28. And in the end, the success of a sound recording is inextricably tied to its quality—something that cannot be quantified. *Id.*

534. In part because of this complex interplay—and for the other reasons identified in this section—anecdotes about purported promotional effects simply do not provide useful information in assessing net or relative promotion, which remains a "difficult, data-intensive task." *Id.* at ¶¶ 16, 25, 35 (Ford WRT); *see also SDARS III*, 83 Fed. Reg. at 65253; *SDARS II*, 78 Fed. Reg. at 23066; *id.* at 23092 (Roberts, J., dissenting); *SDARS I*, 73 Fed. Reg. at 4095.

2. The Anecdotes Fail to Distinguish Between Webcasts and Broadcasts on Terrestrial and Satellite Radio

535. Both Sirius XM and NAB have identified songs and artists that they claim to have popularized. The recordings in question were not played solely on Sirius XM's internet radio platform or on NAB's simulcasts, though, which have a much smaller reach than the services' respective satellite and terrestrial broadcasts. *See* Ex. 5615 ¶¶ 6, 10, 12 (Ford WRT); *see, e.g.*, Ex. 4092 ¶ 11 (Witz) ("Use of our internet radio offerings has remained low over the years compared to our millions (and now tens of millions) of satellite radio subscribers."); Ex. 5610 ¶ 20 (Harrison

WRT) (noting that simulcast listenership is small). Sirius XM has made no attempt to disaggregate the promotional effect of its internet streaming satellite radio services.

536. NAB's witnesses have suggested that record labels view simulcasts and terrestrial radio as "one and the same"—the implication being that simulcasts should be grouped with terrestrial radio in terms of promotional effects. *See* Ex. 2153 ¶ 7 (Poleman WDT); Ex. 2155 ¶ 24 (Newberry WDT); Ex. 2156 ¶ 20 (Gille WDT); Ex. 2157 ¶ 38 (Wheeler CWDT).

537. NAB has made this argument before, without success. *See Web IV*, 81 Fed. Reg. at 26322; *see also infra* Part IX.A.7.***

538. In addition, testimony from the record label side directly contradicts NAB's assertions. Even NAB's own expert has acknowledged that "the right question to ask here is about the promotional value of simulcast." 8/24/20 Tr. 3574:20-22 (Leonard).

539. NAB's fact witnesses assume that, because record labels do not expressly distinguish between terrestrial and simulcast plays when they communicate with broadcasters, they must be considering them as one unit. Ex. 2153 ¶ 7 (Poleman WDT); Ex. 2155 ¶ 24 (Newberry WDT); Ex. 2156 ¶ 20 (Gille WDT); Ex. 2157 ¶ 38 (Wheeler CWDT). As Mr. Harrison of UMG explained, however, the reason that labels do not mention simulcasting in their discussion with radio broadcasters is that they simply do not "think about simulcasting when [they] think about promotion." Ex. 5610 ¶ 20 (Harrison WRT). And the reason for that is because simulcasting is understood to have less promotional value than terrestrial radio, because simulcast listenership is very small. *Id.*

540. At trial, the Services suggested that simulcast has some of the same features that make terrestrial radio promotional—specifically, "tight," repetitive playlists. *See* 8/3/20 Tr. 5734:13-5735:21 (Harrison). Those features, however, cannot overcome the fact that very few

people listen to simulcasts. *Cf.* Ex. 5610 ¶ 20 (Harrison WRT). In other words, even if a particular song is played repeatedly on a simulcast, its promotional power is limited by that simulcast's reach. And in any event, the fact that particular recordings are frequently played—necessarily at the expense of other recordings—cannot establish net promotion. *See, e.g.*, Ex. 5615 ¶¶ 16, 21, 41 (Ford WRT).

541. In any event, the promotional value of other channels of distribution—particularly streaming—have increased significantly over time and record companies are now more focused on promoting through on-demand streaming services like [[redacted]], as well as social media. Ex. 5610 ¶¶ 19-20 (Harrison WRT); Ex. 5620 ¶¶ 10-12, 28 n.7 (Sherwood WDT); *see also* Ex. 5619 ¶¶ 29-32 (Fowler CWDT); Ex. 5622 ¶ 25 (Strohm WDT); *accord* Ex. 5602 ¶¶ 161, 164 (Orszag WDT). On-demand services have a large number of users and generate [[redacted]] and are therefore natural targets of the record labels' promotional efforts. Ex. 5619 ¶ 30 (Fowler CWDT); Ex. 5620 ¶ 11 (Sherwood WDT). [[redacted]] Ex. 5620 ¶ 10 (Sherwood WDT).

542. Moreover, to the extent that simulcasting effectively protects terrestrial radio (which pays no royalties) from competition from other internet webcasting services (which do), simulcasting is more likely to hurt record companies than help them. Ex. 5610 ¶ 21 (Harrison WRT).

3. The Specific Anecdotes Are Overstated

543. Even if anecdotal evidence were relevant, it would be inappropriate to rely on the specific anecdotes that the Services have provided, as they overstate or misrepresent promotional effects. Ex. 5615 ¶ 36 (Ford WRT); *accord* 8/18/20 Tr. 2614:6-11 (Ford).

544. As a preliminary matter, the anecdotes selected by the Services are not representative of the full range of recorded music subject to the statutory license. They make up a miniscule subset of the hundreds of thousands of unique sound recordings played by Sirius XM and NAB's members in a single year. *See, e.g.*, Ex. 5615 ¶¶ 11-12 (Ford WRT) (noting that Sirius XM used approximately [[redacted]] unique recordings under the statutory license in 2018 alone). Additionally, the chosen anecdotes pertain to new releases, not to the range of new and older catalog recordings that the Services use. *Id.* at ¶ 13. In the same vein, the anecdotes tend to focus on recordings that were played a lot—treatment which not every recording receives. *Id.*; *accord* 8/27/20 Tr. 4464:21-4465:6, 4465:22-24 (Newberry). And finally, the anecdotes were not randomly selected and in fact were presumably chosen *because* the songs in question were successful. *See* Ex. 5615 ¶ 24 (Ford WRT). The anecdotes thus cannot assist the Judges in setting rates for virtually all recorded music played by the Services. *See id.* at ¶ 13; *cf. id.* at ¶ 29 n.44.

545. The Services' witnesses have pointed to expressions of gratitude from label personnel to stations and programmers for airplay as evidence that their platforms are promotional. *See, e.g.*, Ex. 2156 ¶¶ 17-19 (Gille WDT); Ex. 4093 ¶¶ 19, 23 (Blatter WDT). But these thank you notes and other acknowledgments do not provide persuasive evidence of promotional power, as the Judges recognized in *Web IV*. Ex. 5615 ¶ 37 (Ford WRT); *see Web IV*, 81 Fed. Reg. 26322 n.41; *see also SDARS III*, 83 Fed. Reg. at 65250, 65253 & n.173. Rather, they reflect common courtesy and are routine among artists' managers and record companies' promotions staff. Ex. 5615 ¶ 37 (Ford WRT); *cf. id.* at ¶ 34 (observing that many of the emails Mr. Wheeler references refer generically to "[[redacted]]," not just to airplay on his stations). Successful promotions executives are passionate about the music they are promoting, and their job consists of building relationships with programmers to whom they pitch recordings week after week. Effusive gratitude

is one of the tools of their trade and does not illuminate whether a given platform is promotional. *Id.* at ¶¶ 37-38.

546. In addition, the Services' witnesses have suggested that special events such as in-studio performances, interviews, other special programming, and pop-up channels prove that their platforms are promotional. *See* Ex. 2153 ¶ 19 (Poleman WDT); Ex. 4093 ¶ 11 (Blatter WDT). In reality, however, the fact that services and record companies are able to reach agreements separate from the statutory license concerning mutually beneficial promotional events does not shed light on either the absolute or relative promotional value of having a service merely play a recording outside the context of an agreed-upon promotional event. Ex. 5615 ¶¶ 15, 40 (Ford WRT). Moreover, these events typically feature a single, already-established artist and thus cannot speak to the promotion of overall record company income. *Id.* at ¶ 40.

547. Mr. Blatter's testimony highlighted five anecdotes of tracks he believes became hits because of Sirius XM's plays. *Id.* at ¶ 42. Dr. Ford investigated each of these anecdotes in both the trade press and through conversations with the relevant record labels and concluded that the anecdotes inflate Sirius XM's influence. *Id.* at ¶¶ 42-57.

548. To take one example, Mr. Blatter touted Sirius XM's supposed role in the success of a cover of the Cranberries' "Zombie" by the hard rock band Bad Wolves. *Id.* at ¶ 47. But his testimony fails to acknowledge the unique circumstances surrounding that song: Rock icon and lead singer of the Cranberries, Dolores O'Riordan, had committed to recording vocals for the song. *Id.* The night before she was to record, however, she died in a tragic accident. *Id.* Following her death, Bad Wolves immediately released their cover and promised to donate the proceeds to O'Riordan's children. *Id.* The song caught on extremely quickly. Radio play picked up and the music video began racking up views. *Id.* ¶ 48. Numerous music outlets and artists, including Five

Finger Death Punch (a successful heavy metal band), promoted the song. *Id.* It was featured on key Spotify playlists Rock This and Pop Rising, as well as terrestrial radio and Sirius XM. *Id.* The role of these other factors—plus O'Riordan's enormous fan base and Bad Wolves' tribute to her and her family—cannot be underestimated in examining the song's meteoric rise. *Id.* The suggestion that Sirius XM was the only or most important factor contributing to the song's success is patently incorrect. *Id.*

549. According to Mr. Blatter, Sirius XM was also responsible for the success of metalcore band Ice Nine Kills' "A Grave Mistake." Ex. 4093 ¶ 21 (Blatter WDT). Again, a number of factors—including the band's growing fan following, successful live shows, and high-concept cinematic videos—were just as important to the song's success, if not more so, than the spins on Sirius XM. Ex. 5615 ¶¶ 49-51, 54 (Ford WRT). In September 2018, Sirius XM's Octane began spinning "A Grave Mistake." Soon after, the band premiered the song's music video, based on the movie "The Crow." *Id.* at ¶ 52. At the same time, the band was making appearances at Halloween- and horror-themed events, like Six Flags Hell Fest. *Id.* The song was officially released a month later, in the lead-up to Halloween. Contrary to Mr. Blatter's suggestion, [ ] *Id.* Thus Sirius XM's characterization of its airplay of "A Grave Mistake" as exclusive is misleading and does not shed light on Sirius XM's potential promotional power. *Id.*

550. [ ] Ex. 5335; Ex. 5615 ¶ 52 (Ford WRT). [

[redacted] Ex. 5336; Ex. 5615 ¶ 52 (Ford WRT). [redacted] Ex. 5335; Ex. 5336; Ex. 5615 ¶ 52 (Ford WRT). Clearly, more than just Sirius XM spins are important to popularizing a song.

551. Mr. Poleman provided testimony similar to Mr. Blatter, discussing at length why he believes that "iHeart played a substantial role in the breakout success of New York-based pop singer Halsey." Ex. 5615 ¶ 36 (Ford WRT) (citing Ex. 2153 ¶ 17 (Poleman WDT)). Mr. Poleman's story starts with Halsey's second studio album. Ex. 2153 ¶ 17 (Poleman WDT). But Halsey was successful well before that: Her first album was already certified Platinum, she had earned a Grammy nomination for her collaboration with The Chainsmokers, and she had toured with major acts like The Weeknd and Imagine Dragons. Ex. 5615 ¶¶ 55-56 (Ford WRT). She had a song in a major motion picture, a cover on Billboard, and a line of beauty products—again, all before iHeart's supposed role in her "breakout success." *Id.* at ¶ 56. There is no reason to think that iHeart's involvement marked an inflection point in the upward trajectory of Halsey's career, much less a primary cause of her success. *Id.* at ¶ 57.

VII. Professor Willig's Opportunity Cost and Modeling Analysis Is Reliable and Supports SoundExchange's Commercial Rate Proposal

A. Introduction

552. On behalf of SoundExchange, Professor Robert Willig calculated the royalty rates that would be negotiated in the hypothetical marketplace for commercial noninteractive webcasting, using a multi-party bargaining approach known as the Shapley Value. Ex. 5600 ¶ 9 (Willig CWDT).

553. Based on his Shapley Value analysis, Professor Willig concluded that a reasonable royalty rate beginning in 2021 is $0.0029 per play for ad-supported noninteractive webcasting and $0.0030 per play for subscription noninteractive webcasting (or $1.96 per subscriber per month). *Id.* at ¶ 12.

554. Professor Willig has demonstrated that these results are robust to different input data, different model specifications, and even different bargaining models. *Id.* For example, Professor Willig used additional detail on Pandora's financial projections, and adopted various cost allocation assumptions put forward by Professor Shapiro, and found that the resulting royalty rates did not change materially (and, in fact, increased). Ex. 5601 ¶ 75 n.138 & App. L (Willig WRT) (calculating rates of $0.0030 per play for ad-supported and $0.0031 per play for subscription). Similarly, Professor Willig presented various "sensitivity tests" utilizing the Nash-in-Nash bargaining framework preferred by Professor Shapiro, and demonstrated that similar royalty rates result, under a range of assumptions about the appropriate empirical inputs to the model. *Id.* at ¶¶ 83-90; 8/5/20 Tr. 312:24-313:6, 318:3-9, 369:14-18 (Willig).

B. Shapley Values Are an Accepted Approach to Rate Setting and Effectuate the Objectives of Section 114

555. This section explains the Shapley Value approach and why it is an appropriate tool for assessing the rates that would be negotiated in the hypothetical marketplace for noninteractive webcasting. *See* Ex. 5600 ¶ 12 (Willig CWDT).

1. Shapley Values Explained

556. In bargaining theory, the value a party can create on its own, without an agreement with the other parties, is the party's "fallback value." *Id.* at ¶ 13. The total value that the parties can create absent any agreement is simply the sum of all the parties' individual fallback values. *Id.*

The extra value generated *with* an agreement is the "surplus." *Id.* Bargaining games focus on how the surplus is divided among parties to a negotiation. *Id.*; 8/6/20 Tr. 681 (Willig).

557. Shapley Values are a generalized solution to the problem of how to apportion the surplus created by a group of parties to an agreement. Ex. 5600 ¶ 14 (Willig CWDT); 8/5/20 Tr. 318:22-25, 371:13-17 (Willig); 8/6/20 Tr. 719:23-25 (Willig) (describing Shapley Value model as a "bargaining solution that generalizes the Nash Bargaining Solution to the multi-party context"). The solution begins by assessing the value created by every possible combination of deals that may be struck by the different parties (whether unilateral, bilateral, or multilateral). Ex. 5600 ¶ 14 (Willig CWDT). The tool that delineates this value for any particular subset is called the subset's "characteristic function." *Id.* at ¶ 17. Each combination of parties (including subsets that have only one, or even zero, parties) has its own characteristic function value. *Id.*

558. Once the characteristic function value of every subset is determined, the Shapley Value model assesses each party's incremental contribution to every subset—that is, "the added value provided by the participation of that party." 8/5/20 Tr. 327:13-7 (Willig); Ex. 5600 ¶ 14 (Willig CWDT). Each party's Shapley Value is equal to its incremental contributions, averaged across *all* of the subsets. 8/5/20 Tr. 327:18-328:7, 371:20-372:16 (Willig); Ex. 5600 ¶ 14 (Willig CWDT). Royalties derived from the model are "set equal to the amount that, after they are paid out and received, . . . will leave each party with its Shapley Value." 8/5/20 Tr. 372:20-22 (Willig).

559. The concept of the Shapley Value is best understood through a simple analogy. Imagine that parties A, B, and C are negotiating a deal in person. Ex. 5600 ¶ 15 (Willig CWDT). Party C can be the first, the second, or the third to arrive in the room. The value it brings to the bargaining table may be contingent on the order in which it arrives. For example, if Party C is last to the negotiation it may have more bargaining power as a result of its ability to hold up or frustrate

consummation of a deal to which Parties A and B are otherwise amenable. When C is first to the negotiation, it has no bargaining power over the others. Shapley analysis takes into account all such possible differences in Party C's bargaining power that are contingent on its order of arrival to the negotiation. It does so by taking the average of each "incremental value" created by Party C in each possible sequence of arrivals. As such, Party C's Shapley Value will only be high relative to the other parties' Shapley Values if, on average, it brings a relatively high incremental value to all possible orderings and sub-orderings of Parties A, B, and C. *Id.* In other words, a party's Shapley Value rests on the value that it brings to the group's agreement, taking into account all the subsets of the group to which it can join. *Id.* at ¶ 16.

560. Professor Willig provided a more robust illustration of the same principles in his written and oral testimony. *Id.* at ¶¶ 18-23; 8/5/20 Tr. 373:10-375:20 (Willig). In his illustration, Professor Willig imagined a scenario in which two patent owners are needed by a drug manufacturer in order to bring a drug to market. Ex. 5600 ¶ 18 (Willig CWDT); 8/5/20 Tr. 373:15-20 (Willig). Professor Willig first illustrated how each party's Shapley Value can be calculated, by averaging the party's incremental contributions across all possible orders of arrival. Ex. 5600 ¶¶ 19-21 (Willig CWDT); 8/5/20 Tr. 379:10-383:21 (Willig). Professor Willig then illustrated how the model delineates a royalty rate that permits each party to achieve its Shapley Value. Ex. 5600 ¶ 22 (Willig CWDT); 8/5/20 Tr. 383:22-384:22, 387:9-388:20 (Willig).

561. Finally, Professor Willig illustrated how the royalty rate derived from the Shapley Value approach is consistent with basic principles of bargaining theory. For instance, the Shapley Value derived royalty rate ensures that each party earns at least its fallback value (ensuring it is no worse off with a deal than without). Ex. 5600 ¶ 23 (Willig CWDT). So, suppose a patent owner can earn $5 in the market without a deal with the drug manufacturer (its fallback value). 8/5/20 Tr.

374:1-7 (Willig). The Shapley Value derived royalty rate ensures that the patent owner will still make at least $5 if the deal is consummated. Ex. 5600 ¶ 23 (Willig CWDT).

562. Relatedly, the Shapley Value derived royalty rate ensures that each party recovers at least its opportunity cost (any reduction to its fallback value when a deal is consummated). *Id.*; 8/5/20 Tr. 328:9-11-20 (Willig). So, suppose the same patent owner can only earn $3 from other sources if it enters a deal with the drug manufacturer. 8/5/20 Tr. 374:20-375:20 (Willig). The Shapley Value derived royalty rate ensures that the patent owner recovers at least its $2 opportunity cost from doing a deal. Ex. 5600 ¶ 23 (Willig CWDT); 8/5/20 Tr. 384:23-385:10 (Willig).

563. Finally, the Shapley Value "looks at all the value-creating services and charges them no more than their willingness to pay." 8/5/20 Tr. 328:9-11 (Willig). So if the drug manufacturer can earn profits of $16 after doing a deal with the patent owners, the Shapley Value model will not require a payout of royalties exceeding that amount. *Id.* at 374:8-19, 388:21-389:4 (Willig).

564. Importantly, [ ], *see* 8/20/20 Tr. 3126:22-3127:8 (Shapiro), the licensee's willingness to pay does not necessarily constitute a ceiling. Ex. 5601 ¶ 80 (Willig WRT). Consider a situation in which a licensor's opportunity cost *exceeds* the contemporaneous profitability of the licensee. *Id.* The Shapley Value model would indicate that the negotiating parties would not reach a deal. *Id.*; 8/5/20 Tr. 332:15-20 (Willig). However, that does not mean royalties set through a compulsory license should be at or below distributor profitability. Ex. 5601 ¶ 80 (Willig WRT). If that were true, the compulsory license would prevent the licensees from earning their opportunity cost and force them to subsidize distributors (despite not being "willing sellers"). *Id.*; 8/5/20 Tr. 348:9-25 (Willig). Instead, under such circumstances, the statutory license should be set at or above opportunity cost,

so that statutory-eligible distributors are incentivized to formulate a longer-term business plan—either on a stand-alone basis, through synergies with some other related business, or through a funnel to higher paying services—that can generate sufficient revenue to pay for the license. Ex. 5601 ¶ 80 (Willig WRT); 8/5/20 Tr. 330:8-331:16, 332:25-333:6 (Willig).

2. Why Shapley Values Are an Appropriate Tool

565. Shapley Value analysis is consistent with the Judges' overriding charge to "establish rates and terms that most clearly represent the rates and terms that would have been negotiated in the marketplace between a willing buyer and a willing seller." 17 U.S.C. § 114(f)(1)(B); 8/5/20 Tr. 326:24-327:4 (Willig); Ex. 5600 ¶ 24 (Willig CWDT). That is so because the Shapley Value generates a royalty rate that "will not exceed the willingness to pay" of the service (ensuring there is a willing buyer) and that will "exceed opportunity costs in the case where there's positive value created" (ensuring there is a willing seller). 8/5/20 Tr. 334:5-25, 385:21-23, 387:1-6 (Willig).***

566. Shapley Value analysis also comports with specific directives of the Copyright Act. 17 U.S.C. § 114(f)(1)(B)(i)(I) provides that the Judges "shall base their decision" in part on "whether use of the service may substitute for or may promote the sales of phonorecords or otherwise may interfere with or may enhance the sound recording copyright owner's other streams of revenue from the copyright owner's sound recordings." 17 U.S.C. § 114(f)(1)(B)(i)(I).***

567. The Shapley Value model takes this factor into account by considering copyright owners' fallback value and opportunity cost of licensing to noninteractive distributors. Ex. 5600 ¶ 24 (Willig CWDT); 8/5/20 Tr. 407:11-408:2 (Willig). That is, in the course of calculating the surplus from a deal between sound recording copyright owner and noninteractive webcasting distributor, the Shapley Value model considers the extent to which such a deal might enhance or cannibalize revenue from other sources. Ex. 5600 ¶ 24 (Willig CWDT).

568. The Shapley Value approach is also consistent with the objective laid out in 17 U.S.C. § 114(f)(1)(B)(i)(II). That part of the statute says that the Judges "shall base their decision" in part on "the relative roles of the copyright owner and the transmitting entity in the copyrighted work and the service made available to the public with respect to relative creative contribution, technological contribution, capital investment, cost, and risk." 17 U.S.C. § 114(f)(1)(B)(i)(II).***

569. An appropriately specified Shapley Value model like Professor Willig's inherently considers what each party brings to the negotiation in terms of relative contributions, investments, costs, and risks. Ex. 5600 ¶ 24 (Willig CWDT); 8/5/20 Tr. 428:14-429:17 (Willig). As Professor Willig explained at trial, the Shapley Value approach quantifies in terms of dollars what "each party contributes to the various subsets" (its incremental value). 8/5/20 Tr. 429:10-14 (Willig). Those contributions include a wide variety of "different elements," including "the technology that they contribute, on the part of the services especially, [and] the capital investment that goes into the capability of those services," as well as "the capital investment, the cost, and the risks that went into the establishment of the portfolios of music, the libraries that the labels bring into a service." *Id.* at 429:1-14 (Willig).

570. Moreover, the Shapley Value approach is symmetrical, in that it considers in equal measure the relative values that both the copyright owner and the distributor bring to the negotiating table. *See* 8/10/20 Tr. 1073:25-1074:6 (Willig). Hence, in arrival orderings where the distributor is the last to arrive to the negotiation, it is credited with creating all of the surplus value. *Id.* at 1116:19-21 (Willig) (explaining that this "goes to the incremental value created by the distributor as one part of the distributor's Shapley Value"). That is so because if the distributor "is not at the table or is not willing to deal, then there's no proceeds to any of the labels," whereas if it does participate, then "all of a sudden the service is up and running." *Id.* at 1073:25-1074:6,

1116:13-21 (Willig). The Shapley Value therefore accords both labels and distributors an equal opportunity to function as "must haves" to consummate a value-creating deal. *Id.* at 1074:25-1076:1, 1109:10-1110:12 (Willig). (Importantly, as detailed below, the empirics of Professor Willig's model reveal that, if noninteractive distributors "were to be unavailable in the industry, very little in the way of net value would be lost from the point of view of the record companies." *Id.* at 1109:10-1110:12 (Willig).)

571. Shapley Value analysis has an additional virtue that the Judges have recognized in the past. Ex. 5600 ¶ 14 & n.11 (Willig CWDT); 8/5/20 Tr. 319:5-21 (Willig). In *Phonorecords III*, the Copyright Royalty Judges credited Shapley Value analysis as one way of addressing concerns about complementary oligopoly power, noting that the analysis performed in that proceeding "eliminate[d] this 'walk away' power by valuing all possible orderings of the players' arrivals." *Phonorecords III*, 84 Fed. Reg. at 1933 n.69; *see also id.* at 1950 ("[The Judges . . . find that the Shapley Analysis, taking the number of sellers in the market as a given, eliminates the 'hold-out' problem that would otherwise cause a rate to be unreasonable."). Professor Willig's Shapley Value model has the same virtue for the same reason. Ex. 5600 ¶ 16 (Willig CWDT); 8/25/20 Tr. 3864:18-3865:10 (Willig). It, too, averages all possible sequences of a party's incremental impacts on the group's value. Ex. 5600 ¶ 16 (Willig CWDT). In doing so, it ensures that no party's allocation of the total surplus is affected by its preferential position in the negotiations. *Id.****

572. At trial, Professor Willig explained why the design of the Shapley Value approach eliminates from the royalty calculation any "holdout market power" that the record companies might possess by virtue of being able to walk away from a deal. 8/5/20 Tr. 389:13-390:11 (Willig). Professor Willig explained that the model does credit each record company and each distributor for the "actual value that they bring to the table"—"the extra value that their participation does

create." *Id.* at 389:23-24, 390:2-3 (Willig). But the Shapley Value eliminates any "expression of market power in the anticompetitive sense, the antitrust sense, in the abusive sense." *Id.* at 390:1-2 (Willig). It accomplishes this by ensuring that any "extra value they bring to the table when they are the last to arrive … gets averaged in with all of the other orders of arrival where they are not really essential to doing very much." *Id.* at 389:23-24, 390:4-9 (Willig); *see also id.* at 338:8-339:10 (Willig).

573. As described in further detail elsewhere, *see infra* at Part VIII, and as discussed by Professor Willig at trial, Shapley Value is not only an appropriate model to use in this proceeding, it is "the best model to use" and is "superior . . . for the purposes at hand" to alternatives such as the Nash-in-Nash framework. 8/5/20 Tr. 320:4-15 (Willig).

C. Defining the Model

574. Professor Willig's Shapley model represents a hypothetical negotiation between four upstream record companies and two downstream noninteractive webcasting distributors. Ex. 5600 ¶ 25 (Willig CWDT). The four upstream record companies specified in Professor Willig's model are the three major record companies and an amalgam that represents all of the remaining record companies (i.e., the indies). *Id.*; 8/5/20 Tr. 321:14-322:3, 398:4-14 (Willig). The two downstream distributors in the model represent the combination of all of the ad-supported noninteractive distributors and the combination of all of the subscription noninteractive distributors, respectively. Ex. 5600 ¶ 25 (Willig CWDT). The characteristic function defines the value created by each possible cooperating grouping of these six parties to the hypothetical negotiation. *Id.* at ¶ 27.

575. Professor Willig's specification of four record labels and two noninteractive distributors strikes a balance between offering a granular and realistic depiction of the hypothetical

market and maintaining enough simplicity around the number of entities being modeled such that the model can be readily solved and necessary data inputs can be estimated. *Id.* at ¶ 26.

576. Professor Willig noted that he "deliberately model[ed] the indies as an amalgam," 8/5/20 Tr. 393:7-8 (Willig), in order to "make the model understandable and . . . practical." *Id.* at 322:7-8, 392:24-393:22 (Willig). For the avoidance of doubt, Professor Willig did not "collectivize [the indies], except notionally." *Id.* at 400:1-2 (Willig). That is, while Professor Willig *did* "aggregate them together," he *did not* "assum[e] that they all together would be making the same decision in some sort of a collusive way." *Id.* at 400:5-9 (Willig).

577. Moreover, Professor Willig explained why his modeling decision to amalgamate the indies had no impact on his results: "if I had instead modeled there to be ten different independents, each of which contributed to the total value in accordance with the music that it brings to the table, it wouldn't have changed the answer in terms of the royalties paid to the majors or the co-royalty obligations of the distributors," because "each one would bring to the valuation a number of dollars proportional to the market share of music." *Id.* at 393:1-6, 19-22 (Willig); *see also id.* at 401:2-9 (Willig) (result would not change even if amalgam indie were "exploded into being hundreds or thousands of individual record companies").

578. Professor Willig's decision to model all ad-supported noninteractive distributors together and all subscription noninteractive distributors together is conservative from the perspective of SoundExchange (i.e., produces lower royalty rates), because it simplified away competition within each group of distributors, thus raising their respective market power in the negotiation. Ex. 5600 ¶ 26 (Willig CWDT); 8/5/20 Tr. 323:16:-324:6 (Willig); *see also Phonorecords III*, 84 Fed. Reg. at 1950.

579. However, the model correctly maintained competition between the collective ad-supported noninteractive distributor and the collective subscription noninteractive distributor. Ex. 5600 ¶ 26 (Willig CWDT). This permits an assessment of whether each form of distribution should yield different royalty rates, as the Judges held was the case in *Web IV*. *Id.* (citing *Web IV*, 81 Fed. Reg. at 26316). It is also consistent with the surveys conducted by the experts in this proceeding, all of which reveal that there can be and is diversion between these two types of distribution. Ex. 5606 ¶¶ 71-74, Figures 8-9 (Zauberman WDT); Ex. 5608 ¶¶ 97-99, Table 4B & App. E-G (Simonson WRT); Ex. 4095 ¶¶ 45-50, Table 3 & ¶¶ 72-76, Table 7 (Hanssens CWDT); *see* 8/5/20 Tr. 405:3-11 (Willig) ("[T]heir businesses are interacting inside the model because there is substitution between them for audience. And that does affect the answer."); *id.* at 405:12-24, 550:20-551:1 (Willig).

580. In addition to specifying an appropriate number of players, the Shapley Value model requires a number of additional specifications and empirical inputs. Ex. 5600 ¶¶ 32, 35 & App. C at C-1, C-2 (Willig CWDT); 8/5/20 Tr. 312:12-20 (Willig). These are addressed in the two subsections that follow.

581. The first subsection concerns specifications and inputs related to record company opportunity cost. As illustrated in Professor Willig's patent example, opportunity cost is an essential component of the Shapley Value analysis. Ex. 5600 ¶¶ 18, 23 (Willig CWDT). No record company would accept a royalty rate lower than its opportunity cost, as such a rate would not permit the record company to recover its fallback value (what it could earn absent a deal with the noninteractive service). *Id.* at ¶ 28. To calculate opportunity cost, Professor Willig evaluated what would happen if each noninteractive distributor did not have access to the record company's recordings (that is, if the hypothetical deal were not consummated). *Id.* at ¶ 29. Specifically,

Professor Willig evaluated (i) how much listening a noninteractive service would lose absent the catalog of a record company; (ii) what portion of plays diverted to other services would be retained by the missing record company; (iii) to what other sources of distribution those plays would divert; and (iv) what those outside sources of distribution would pay in royalties. *Id.* To express opportunity cost on a per-play basis, Professor Willig also required (v) an estimate of the plays-per-user on ad-supported and subscription noninteractive services. Finally, to determine each record company's portion of the total opportunity cost, Professor Willig also determined (vi) each record company's share of overall music listening. *Id.* Each of these inputs is discussed in the first subsection below.

582. The second subsection concerns inputs related to distributor willingness to pay. In the Shapley Value analysis, no noninteractive service will pay more in royalties than it can generate in profits. *Id.* at ¶ 30. Put differently, no noninteractive service would pay more in royalties than the value that it brings to the hypothetical negotiation. *Id.* As such, "the profitability of the services is an intrinsic part of the Shapley Value and the calculation of the royalties." 8/5/20 Tr. 317:19-21 (Willig). The key empirical inputs for this part of the model are the fixed costs and marginal profit rates of the noninteractive distributors. *Id.* at ¶¶ 30, 35, 49-50 and App. D; *see also* Ex. 5601, App. L (Willig WRT). [ ] 8/5/20 Tr. 699:15-19 (Willig); *see id.* 699:20-25 (Willig) ([ ]); Ex. 5600 ¶ 30 (Willig CWDT). [

[redacted]].

8/5/20 Tr. 700:1-701:18 (Willig).

1. Opportunity Cost Inputs

i. Must-Have Specification (Majors)

583. Professor Willig's baseline model specifies that each of the three major record companies is a "must have," meaning that the sound recording collection of each is necessary for a noninteractive service to operate. Ex. 5600 ¶ 31 (Willig CWDT); 8/5/20 Tr. 342:1-14 (Willig). Under this specification, a noninteractive service cannot operate without access to the sound recordings of all three of the major record companies, and absent such access contributes zero profits to the rest of the subset of the bargaining parties. Ex. 5600 ¶ 31 (Willig CWDT); 8/6/20 Tr. 790:15-22 (Willig).

584. As detailed below, the royalty rates that result from Professor Willig's baseline Shapley Value model are robust to other specifications about whether and to what extent the major record companies are "must-have" to noninteractive services. 8/5/20 Tr. 434:13-25 (Willig) ("[T]here are examples in my roster of sensitivity tests that show that if the 'all majors being must-haves' feature of the model is discarded in favor of other alternatives, then that doesn't necessarily make a substantial change in the bottom-line royalties."). In his rebuttal testimony, Professor Willig presented four sensitivity scenarios that show similar royalty rate levels even if the Judges determine that none, or only a subset, of the major record companies are "must-have" to noninteractive services. Ex. 5601 ¶¶ 81-91 (Willig WRT).

585. With that said, Professor Willig's baseline specification is consistent with past statements of the Judges, testimony of the Services' own expert witnesses, and industry evidence. Ex. 5601 ¶¶ 36-42 (Willig WRT).

586. The Judges have previously observed that "[t]here appears to be a consensus that the repertoire of each of the three Majors is a 'must have' in order for a noninteractive service to be viable." *Web IV*, 81 Fed. Reg. at 26373; *see also* 8/5/20 Tr. 436:12-14 (Willig). That finding is consistent with what the Judges have held with respect to satellite radio—that "[t]he evidence in this proceeding strongly demonstrates the 'must have' status of each Major," *SDARS III*, 83 Fed. Reg. at 65230 n.82, and that "[i]t would be difficult to imagine a successful SDARS service that did not have access to the types of recordings that the major labels possess," *SDARS II*, 78 Fed. Reg. at 23063-64.***

587. The services have offered no evidence or argument explaining how major record companies could be "must-have" for Sirius XM's satellite radio broadcasts but not "must-have" for Sirius XM internet simulcasts of those broadcasts. Ex. 5601 ¶ 45 (Willig WRT).

588. Professor Willig's baseline specification is also consistent with admissions from the Services' economists. For instance, Dr. Leonard testified that, in his expert opinion, "the major labels are 'must haves' for simulcasters." Ex. 2150 ¶ 72 n.99 (Leonard CWDT); 8/5/20 Tr. 436:18-20 (Willig). No economist has proffered an explanation as to why the major record companies would be "must-have" for simulcasters but not "must-have" for other noninteractive services. Professor Willig testified that he has seen no evidence to this effect. 8/5/20 Tr. 436:20-24 (Willig).

589. Similarly, there is no dispute that, to quote the Services' expert Dr. Peterson, "at least the major labels are 'must haves' for the on-demand services." Ex. 1103 ¶ 15.b (Peterson AWDT); 8/5/20 Tr. 436:25-437:3 (Willig). That is relevant because "the distinction between interactive and noninteractive music services has blurred significantly in the past five years," suggesting that if the majors are "must haves" in the interactive market they are also "must haves" in the noninteractive market. Ex. 5602 ¶¶ 57-71 (Orszag WDT); *see also* Ex. 5061 at 9 ([[redacted]

[redacted]]); Ex. 5153 at 14 ([redacted]]); *id.* at 54 ([redacted]]).

590. Evidence from record company witnesses is also consistent with Professor Willig's baseline specification that the major record companies are "must-have" for noninteractive services. Ex. 5601 ¶¶ 36-42 (Willig WRT). [redacted]]. *See* Ex. 5614 ¶ 2 (Piibe WRT); 9/1/20 Tr. 5088:12-21, 5089:12-14 (Piibe); Ex. 5610 ¶ 9 n.2 (Harrison WRT); Ex. 5601 ¶ 36 (Willig WRT). In addition, Mark Piibe (Executive Vice President for Global Business Development and Digital Strategy at SME) stated that [redacted]] Ex. 5614 ¶ 2 (Piibe WRT); 9/1/20 Tr. 5088:12-21 (Piibe). Mr. Piibe explained why: [redacted]] 9/1/20 Tr. 5089:6-11 (Piibe); *see id.* at 5094:16-19 (Piibe) ([redacted]]).

591. All of this evidence is consistent with a basic understanding of the market for sound recordings. Ex. 5601 ¶ 40 (Willig WRT). [redacted]] invest substantially in artist and repertoire (A&R) activities to ensure that artists' sound recordings are *not* received as uniform

and fungible commodities, but rather as unique works of art that "get noticed among the millions of recordings available on digital music services." Ex. 5618 ¶ 34 (Gallien WDT); *see also id.* at ¶¶ 18-31 (describing record company investments in scouting and signing artists with hit-making potential, in "oversee[ing] the process of creating and curating an album" to "help [artists] realize their creative vision," and in a variety of production costs to maximize the aesthetic merit, cultural relevance, and commercial appeal of their artists' recordings); Ex. 5601 ¶ 40 (Willig WRT).

592. Only a fraction of recordings become "hits" with staying power on music distribution platforms. Ex. 5601 ¶ 40 (Willig WRT). According to one internal document from UMG, [ ]. Ex. 5163 at 2; *see* 8/5/20 Tr. 439:6-440:19 (Willig). As another internal UMG document observes, [ ] Ex. 5164 at 4; *see id.* (observing that [ ]); *see also, e.g.*, Exhibit 5164 at 1 ([ ]); *id.* at 2 ([ ]); 8/5/20 Tr. 441:7-442:4 (Willig).

593. [ ] 8/5/20 Tr. 442:16-25, 447:1-448:13 (Willig); *see* Ex. 5165 at 19 ([ ]

[redacted]); Ex. 5166 at 2 ([redacted]), Ex. 5166 at 5 ([redacted]); Ex. 1090 at 5 ([redacted]). Conversely, [redacted] 8/5/20 Tr. 443:11-12 (Willig); *see, e.g.*, *id.* at 443:15-20 (Willig) ([redacted]).

594. Because individual sound recordings are differentiated in nature, rather than perfectly substitutable commodities, it logically follows that aggregates of sound recordings (record company catalogs) are differentiated from each other as well, and thus access to one of those aggregates contributes incremental value to a distributor, with the amount depending on how many "hits" are included in a given collection. Ex. 5601 ¶ 40 (Willig WRT).

595. Given the importance of the "hits" to consumers, it is not surprising that a Sirius XM witness has previously testified before the Judges about the importance of retaining access to hit sound recordings on Sirius XM's noninteractive satellite radio service. *SDARS II*, 78 Fed. Reg. at 23064 (quoting Sirius XM witness: "Sirius XM is very hits driven, and they want to have the most successful service they can, so they're going to use what's popular."). Again, no service

witness has presented any reason why the hit recordings of major record companies should matter to a noninteractive service broadcast over satellite radio but not to a noninteractive service transmitted over the Internet.

596. Finally, documents from the Services in this case belie the view that a [[redacted]]. Ex. 5153 at 35-56; *see* 8/5/20 Tr. 467:17-468:5 (Willig); 8/10/20 Tr. 960:3-961:1 (Willig); *see, e.g.*, Ex. 5156 at 17 ([[redacted]]); Ex. 5157 at 22 ("[[redacted]]"); Ex. 5154 at 18 ([[redacted]]); Ex. 5155 at 31 (Pandora/Sirius XM merger findings report stating that on Pandora, [[redacted]]); Ex. 5158 at 13 ([[redacted]]); *accord* Ex. 5055 at 46; Ex. 5056 at 18. [[redacted]]. *See* Ex. 5154 at 5 ([[redacted]]); *id.* at 67 ([[redacted]]).

597. Consistent with this perception, Pandora's principal marketing goal to combat ad-supported churn is to "[ ] and it does so by "[ ]. Ex. 5153 at 56; 8/5/20 Tr. 468:6-25 (Willig); *see also* Ex. 5226 at 6 ([ ]); Ex. 5158 at 13 [ ].

598. [ ]. *See* Ex. 5160 at 4 ([ ]); Ex. 5189 at 31 ([ ]). [ ]. Ex. 5153 at 35, 56.

599. This evidence from the Services does not square with the idea that a noninteractive distributor like Pandora could drop [ ] from its ad-supported service with little to no consequence for its listener base. Ex. 5601 ¶ 37 (Willig WRT); 8/5/20 Tr. 469:25-470:11 (Willig).

600. Perhaps not surprisingly in light of this evidence, [ ]. Ex. 5601 ¶ 41 (Willig WRT).

[ ] Ex. 5619 ¶ 28 (Fowler CWDT). These sorts of competitive dynamics would not be present if streaming services considered the sound recordings of major record companies to be substitutable commodities. [ ]. *See* 8/10/20 Tr. 942:9-11 (Willig). The Services present no reason to doubt that, in a counterfactual world without a statutory license, similar competitive dynamics would arise among noninteractive services.

601. [ ]

[20] Needless to say, noninteractive services that are statutorily compliant would have no need to worry about obtaining direct deals from record companies, given the existence of the statutory license.

602. [ ]

603. These documents indicate that, at a minimum, a noninteractive service must have at least two out of the three majors to be viable. [ ], 8/5/20 Tr. 477:19-479:8, but also for one of his key sensitivity tests. *See infra* at Part VII.H (discussing Scenario 1 sensitivity test, which yields similar royalty rates when specifying that a noninteractive service "must have" the catalogs of two but not all three of the major record companies); 8/5/20 Tr. 449:14-450:14, 455:9-456:21 (Willig).

604. Finally, the survey conducted by Professor Simonson (known variously as the "Simonson Survey" or "Modified Hanssens Survey") provides [ ]. 8/5/20 Tr. 471:1-9 (Willig). That survey found that 62.4% of respondents would reduce their listening to an ad-supported noninteractive service, by on average 55.8%, if the service "stopped streaming songs by some of your favorite artists and some newly released music." Ex. 5608, Table 1B (Simonson CWRT); *see also* Ex. 5601 ¶¶ 33-34 (Willig WRT); 8/5/20 Tr. 473:24-474:12 (Willig). In combination, this indicates that [ ]. 8/5/20 Tr. 474:13-17, 474:22-475:1 (Willig).

605. These results likely understate the loss of listening that would occur. Ex. 5601 ¶ 34 n.63 (Willig WRT). The Modified Hanssens Survey, like Professor Hanssens' survey, asked what respondents would do if *all* ad-supported noninteractive services stopped streaming recordings due to the blackout out of a major record company. *Id.* Loss of listening to a *single* ad-supported noninteractive service that lost major label content may very well be greater, under circumstances where all of the services' competitors (including other ad-supported noninteractive services) retained such content. *Id.*

606. In any event, as Professor Willig explained at trial, [ ] 8/5/20 Tr. 475:19-25 (Willig); *see also id.* at 475:2-16 (Willig) ([ ]).

607. During Professor Willig's cross examination, counsel for the Services appeared to advance the argument that the 35% loss rate revealed by the Simonson Survey overstates the true loss of listening that would occur upon a label blackout. 8/10/20 Tr. 971:11-976:21 (Willig). Counsel argued—and Professor Willig disagreed—that, "[i]f only 50 percent of Pandora users were actually informed or otherwise noticed that the non-interactive service was not playing some of their favorite artists and some new releases, then you would need to reduce the lost listening measured in the Simonson Survey by half." 8/10/20 Tr. 974:1-6 (Willig); *see id.* at 974:7-9 (Willig) (A: "I don't see that. I don't testify to that. And as I listen to you, it doesn't sound right necessarily.").

608. This argument fails for at least two reasons. First, the idea that half of Pandora users would fail to notice a degradation to their service is an invention of counsel; there is no quantification of such a number anywhere in the record. As discussed extensively by Professor Tucker, there is every reason to believe that the actual percentage of users who would notice, perceive, or learn about of a degradation is substantially higher. *See infra* at Part VIII.A.1.ii. Second, counsel's incomplete hypothetical does not address how to quantify the loss rate for the percentage of users who do *not* notice, perceive, or learn about a degradation. 8/10/20 Tr. 979:12-19 (Willig). While it is beyond question that the LSEs were conducted in secret, that fact alone does not make the experiments reliable to measure loss rates for this population, given their many errors in implementation and failure to test complete suppression. *Id.* at 981:20-982:4 (Willig); *see infra* at Part VIII.A.1.ii.

609. For their part, the Services have offered no credible evidence demonstrating that the major record companies are anything other than "must-have" to noninteractive services. Ex. 5601 ¶ 29 (Willig WRT). In an interrogatory response, the Services acknowledged that they are unaware of any documents or evidence supporting the contention that [ ] other than the Label Suppression Experiments conducted by Dr. Reiley. Ex. 5151 at 7-8; Ex. 5601 ¶ 29 (Willig WRT); 8/5/20 Tr. 476:2-477:9 (Willig). The Judges should accord those experiments no weight, and their many flaws are discussed at length elsewhere in this document. *See infra* at Part VIII.A.

ii. Must-Have Specification (Indies)

610. Professor Willig's baseline model specifies that, unlike the major record companies, the amalgam record company representing the indies does not have a must-have repertoire. Ex. 5600 ¶ 31 (Willig CWDT); 8/5/20 Tr. 398:11-14, 400:2-3 (Willig); 8/10/20 Tr. 1106:5-22 (Willig). Instead, the model assumes that without access to indies' recordings, a

distributor's profits decline not to zero, but rather to an extent determined by listeners' preferences for the content carried by indies. Ex. 5600 ¶ 31 (Willig CWDT); 8/6/20 Tr. 791:20-24, 792:19-793:11, 795:2-24 (Willig). Professor Willig observed at trial that he is unaware of any economist in this proceeding positing that any of the indies is a must have and that he has seen no evidence indicating that would be the case. 8/5/20 Tr. 402:18-402:24 (Willig) ("I haven't seen that from any of the economists in this matter in terms of their testimony or the analytics they are bringing to bear."); *id.* at 402:25-403:3 (Willig).

611. At trial, Professor Willig explained why the aggregation of independent record companies in his Shapley Value model did not result in those labels gaining must-have status, regardless of the fact that this amalgam has a modeled market share greater than [ ]. *Id.* at 399:25-401:1 (Willig). First, Professor Willig clarified that he doesn't actually collectivize the indies, "except notionally," and that he does not assume "that they all together would be making the same decision in some sort of a collusive way." *Id.* at 400:1-12 (Willig). Second, Professor Willig rebuffed the idea that must-have status is simply a function of market share. Rather, the must-have status of record companies is "about the hits that they bring and make available to the service," and "how essential is that [content] to the attentiveness of the audience and the appeal that the service has to the audience." *Id.* at 400:13-401:1 (Willig). Professor Willig demonstrated that there is no necessary correlation between the number of hit sound recordings owned or controlled by a record company and its market share, [ ]. *Id.* at 610:4-611:8 (Willig); *see* Ex. 5601 ¶ 28 (Willig WRT).

iii. Retention

612. In addition to specifying how many plays would leave a service that lost the catalog of a record company, the Shapley Value model also requires a specification regarding what portion

of plays that divert to other services would be of the missing record company's catalog. Professor Willig labels this concept "retention." Ex. 5601 ¶ 66 (Willig WRT). He uses the term "Retention Ratio" to refer to the percentage of diverted plays that consist of a blacked-out record company's sound recordings. *Id.*

613. If a record company is a "must have," by definition a noninteractive service requires its catalog in order to be able to sustain itself in the marketplace. 8/5/20 Tr. 342:10-14 (Willig). Therefore, the loss of a must-have label's content will result in a full loss of plays on the service. *Id.* at 346:1-6, 492:8-11 (Willig). Not all of those plays will necessarily divert to other distributors (as some people may choose to replace their listening time with non-music options). *Id.* at 492:14-21 (Willig). But of the plays that *do* divert to other distributors, the blacked-out record company can expect to retain plays in accordance with its natural market share. *Id.* at 346:12-15 (Willig); 8/6/20 Tr. 612:3-15 (Willig). That is, a major record company that is a "must have" will experience a retention ratio equal to the record company's share of all plays. 8/5/20 Tr. 346:12-15 (Willig); 8/6/20 Tr. 612:3-15 (Willig).

614. The situation is different for a record company that is *not* a "must have," such as the indies in Professor Willig's Shapley Value model. When a service loses a label that is not a "must have," the service does not necessarily lose all plays. Ex. 5601 ¶ 66 (Willig WRT). Professor Willig and Professor Shapiro disagree on how best to treat the plays that are lost upon the blackout of such a label. *Id.*

615. Professor Shapiro assumes that, [ ]. 8/20/20 Tr. 3199:1-11 (Shapiro); Ex. 5601 ¶ 66 (Willig WRT). Professor Shapiro acknowledges but fails to account for the likelihood that consumers unable to access some of their favorite artists due to the blackout of an

indie may press ahead with their use of the noninteractive service but try to fill in catalog gaps by specifically seeking out the missing content on other music distributors. Ex. 5601 ¶¶ 48 n.95, 66 (Willig WRT); 8/6/20 Tr. 613:5-19, 808:10-24 (Willig); 8/20/20 Tr. 3201:20-3202:19 (Shapiro) ("[I]n the case where an indie, a particular artist, for example, . . . was not there and the user noticed that as part of their service, then there would be cases where the user would go and seek out that artist's music, particularly if they were a hard-core fan of the artist, for example.").

616. Consumers are able to behave in such a manner to varying degrees depending on the outside mode of distribution. For example, "buying new digital downloads" is an alternative through which "the listener has a great deal of ability to focus exactly on what music she is missing from Pandora." 8/6/20 Tr. 816:12-17 (Willig). Likewise, on-demand services present listeners with the ability to pick and choose the content that they would like, and thereby seek out the content blacked-out on their noninteractive service. *Id.* at 822:5-15 (Willig). And while services like Sirius XM satellite radio do not allow consumers to seek out particular recordings, they nonetheless present "differentiated channels within them that enable some exercise of choice by the listener in terms of style of the music," permitting users to direct their listening in a manner "that will satisfy the desire, the demand, of that listener to hear the music that became unavailable on Pandora." *Id.* at 816:25-817:9 (Willig); *see, e.g.*, Ex. 4000 at 2-4 (Sirius XM channel lineup identifying stations "Indie & Beyond," "The New Indie Pop Alternative," "New & Emerging Indie/Alt-Rock," and "First-generation Indie Rock," among others).

617. Record evidence confirms that consumers may, in fact, hunt out content that is missing from a service. Ex. 5601 ¶ 66 n.124 (Willig WRT); 8/6/20 Tr. 614:4-11 ([[redacted]

[redacted]). For example, an [redacted] Ex. 5169 at 3, 6; 8/6/20 Tr. 615:24-616:12 (Willig).

618. Unlike Professor Shapiro, Professor Willig accounts for the likelihood that a diversion of plays of a blacked-out indie may consist substantially of plays of that label's content. Ex. 5601 ¶ 66 (Willig WRT). This specification avoids an unjustified exaggeration of the substitution between record companies' sound recordings. *Id.* Importantly, this specification does not require each individual mode of distribution to permit full retention of plays by the blacked-out indie label. 8/6/20 Tr. 815:20-816:7 (Willig). Rather, it only needs to apply "to the totality of the different elements of opportunity cost." *Id.* at 821:23-25 (Willig); *see id.* at 816:1-10 (Willig). "So there is more leeway for some differences from element of opportunity cost to element of opportunity cost," and lower retention on satellite radio may be balanced out by very high retention (and even additional substitution to indie labels) via downloads and CD purchases. *Id.* at 815:25-816:17, 822:2-4 (Willig); *see also* Ex. 5600 ¶ 47, Fig. 6 (Willig CWDT) (Zauberman survey reflects much higher diversion of respondents to new purchases of downloads, CDs, and vinyl, than to new subscriptions to Sirius XM satellite radio).

619. With that said, Professor Willig acknowledged that this was a "simplified assumption," 8/6/20 Tr. 811:1-3 (Willig), given the lack of "any empirical evidence . . . from any of the parties" speaking to this issue. 8/6/20 Tr. 825:5-12 (Willig); 8/10/20 Tr. 1030:14-19 (Willig) ("empirical hole" as to retention by indies).

620. Professor Willig's Shapley Value model results [ ]. 8/6/20 Tr. 619:4-20, 811:4-19 (Willig). As detailed below, Professor Willig has presented multiple sensitivity tests varying this assumption (including two that adopt wholesale Professor Shapiro's approach to Retention Ratios). *See infra* at Part VII.H; Ex. 5601 ¶¶ 84-90 (Willig WRT); 8/6/20 Tr. 811:4-19 (Willig). These sensitivity tests yield royalty rates in line with Professor Willig's baseline Shapley Value model. Ex. 5601 ¶ 90 (Willig WRT).

iv. Diversion Ratios

621. In addition to understanding how many lost plays occur and how many lost plays are recovered elsewhere by a label that is blacked out, calculation of record company opportunity cost requires understanding where lost plays and listeners would divert. 8/5/20 Tr. 346:19-22 (Willig). Professor Willig derived the diversion ratios—meaning the amount of a noninteractive distributor's audience that would switch to various other forms of music distribution and generate royalties if that noninteractive distributor were unavailable—from the results of a survey conducted by Professor Gal Zauberman (the "Zauberman Survey"). Ex. 5600 ¶ 46 & App. E (Willig CWDT); 8/5/20 Tr. 346:23-347:2 (Willig). That survey is described in detail in Professor Zauberman's written direct testimony, *see generally* Ex. 5606 (Zauberman WDT), and is discussed below in Part VII.C.3. In short, Professor Zauberman asked hundreds of users of both ad-supported and subscription noninteractive services how they currently listen to music and then how they would listen to music under hypothetical scenarios where noninteractive services are no longer available. Ex. 5600 ¶ 46 & App. E (Willig CWDT).

622. In Professor Willig's written direct testimony, he corroborated the Zauberman survey data with data from Edison Research's quarterly "Share of Ear" study. *Id.* at ¶¶ 56-57. Professor Willig found that the royalty rates determined by the Shapley Value model using

diversion ratios from Professor Zauberman's survey are highly consistent with the royalty rates determined using alternative Share of Ear data. *Id.* at ¶¶ 59-60 & Fig. 10 (finding royalty rates of $0.0029 per play for ad-supported and $0.0031 for subscription, using Share of Ear based diversion rates).

v. Royalties from Other Forms of Distribution

623. In order to compute record company opportunity cost, Professor Willig needed to assess the royalty flows that diverted plays generate for a blacked-out record company. 8/5/20 Tr. 347:10-13 (Willig) ("We know where they . . . go, but what kind of royalty flows do those diverted plays actually return . . . ?").

624. Professor Willig used currently observable sound recording royalty rates as a proxy for the sound recording royalty rates that will prevail during the relevant 2021-2025 period. Ex. 5600 ¶ 36 (Willig CWDT); 8/6/20 Tr. 832:3-4 (Willig). Professor Willig explained at trial why it was not possible to use projections of sound recording royalty rates into the future. First, "that would require having similarly reliable projections for all of the royalty rates," to avoid the "unevenness" of projecting out some but not all elements of opportunity cost. 8/6/20 Tr. 831:12-832:14 (Willig). Second, Professor Willig explained that, "from my economic point of view, it would really make no sense" to incorporate royalty rate projections "without also taking into account . . . changes in diversion rates that might be a cause of or an effect of the changes in royalties." *Id.* at 833:2-8 (Willig); *id.* at 832:14-21, 833:19-834:4 (Willig) (attempting to do so would be a "source of . . . dramatic unreliability" given that the two elements "clearly interact with each other"). Of course, none of the survey experts had the "ability to put the respondents into a time machine" to assess their anticipated preferences during the 2021-2025 rate period. *Id.* at 833:13-15 (Willig). Given the availability of only "the current viewpoints of listeners about their current preferences . . . set in the current time frame," *id.* at 832:22-833:1 (Willig), Professor

Willig determined that "it makes sense to use the current royalty rates that go along with those together in the modeling." *Id.* at 833:15-18 (Willig).

625. Consistent with the "fork in the road" approach endorsed by the Judges in *SDARS III*, the royalty rates for each "outside" distributor—*e.g.*, interactive services, satellite radio, digital downloads, AM/FM radio, etc.—was taken as they actually are or are expected to be. Ex. 5600 ¶ 28 (Willig CWDT); 8/5/20 Tr. 406:15-20 (Willig) ("I took those elements of opportunity costs from the market data as they are."); *id.* at 488:20-489:18 (Willig); 8/20/20 Tr. 3164:7-17 (Shapiro) ("I did not take issue with that."); *SDARS III*, 83 Fed. Reg. at 65238 (adopting Professor Willig's recommendation that the Judges "should take the fork in the road that says take those markets as they are because that's what drives honest-to-goodness opportunity cost"); *see also* 8/5/20 Tr. 378:14-379:3 (Willig).

a. Subscription Interactive

626. For subscription interactive streaming services (for example, Spotify Premium, Apple Music, Amazon Music, YouTube Premium, etc.), Professor Willig derived the royalty rates from royalty statements for the twelve-month period ending in March 2019 (the most recent period available to him). Ex. 5600 ¶ 37 & n.20 (Willig CWDT). The weighted average amount of monthly royalties these services paid was approximately [[redacted]] per subscriber. *Id.* at ¶ 37 & App. D, Ex. D.1; 8/5/20 Tr. 499:14-21 (Willig). Professor Willig was careful to compute opportunity cost associated with on-demand subscriptions on a per-subscriber basis, noting that "every month that there's an additional subscriber, there's the extra amount of royalty generated to the providers of the music." 8/5/20 Tr. 499:14-21 (Willig). However, Professor Willig did not credit as royalty-bearing diversion to existing (as opposed to new) subscriptions to on-demand services. *See* 8/5/20 Tr. 499:22-500:25 (Willig) (discussing use of Zauberman Survey results to distinguish between respondents who did and didn't have an existing subscription to an on-demand service).

b. Ad-Supported Interactive

627. For ad-supported interactive music streaming and video services (e.g., Spotify Free and free YouTube), Professor Willig also used royalty statements from the same time period to derive royalty rates. Ex. 5600 ¶ 38 (Willig CWDT). The weighted average amount of royalties these services paid was approximately [[redacted]] per play. *Id.* at ¶ 38 & App. D, Ex. D.2; *see* 8/5/20 Tr. 501:7-19 (Willig) (noting that opportunity cost associated with diversion to ad-supported on-demand services should be calculated on a per-play basis, because "extra plays . . . drives extra royalties being paid to the record company").

628. For Sirius XM satellite radio broadcasts, Professor Willig used statements of account provided by Sirius XM to SoundExchange detailing the total statutory royalties paid for satellite radio performances over the twelve-month period ending in March 2019, as well as the subscriber counts from Sirius XM's Forms 10-K and 10-Q. Ex. 5600 ¶ 39 & Fig. 3 (Willig CWDT). Professor Willig calculated Sirius XM's monthly royalties per subscriber as [[redacted]]. *Id.*; 8/5/20 Tr. 501:23-502:4 (Willig) (observing that Sirius XM satellite "pays royalties on the basis of the number of subscriptions"). Professor Willig observed that this royalty estimation is "artificially conservative" for two reasons. Ex. 5600 ¶ 39 (Willig CWDT). First, it does not account for royalty payments that do not pass through SoundExchange (payments under direct licenses with certain record companies, for example). *Id.*; 8/5/20 Tr. 502:14-19 (Willig). Second, it does not account for royalty payments for sound recordings fixed prior to February 15, 1972, which did not become royalty-bearing until late 2018. Ex. 5600 ¶ 39 (Willig CWDT); 8/5/20 Tr. 502:9-13 (Willig).

c. Physical Purchases and Digital Downloads

629. For physical music purchases (e.g. CDs and vinyl records) and digital downloads, Professor Willig obtained data on (1) the average amount spent by purchasers of CDs, vinyl, and

digital downloads, and (2) sound recording royalties as a percentage of retail prices for these mediums. *See* Ex. 5600 ¶ 40 & App. D, Ex. D.3 (Willig CWDT). Taking the product of these two numbers allowed Professor Willig to obtain average monthly royalties per purchaser of CDs, vinyl, and digital downloads, which he then used to obtain a weighted average for this category of opportunity cost. *See id.*; 8/5/20 Tr. 503:2-13 (Willig).

630. For the first data input, Professor Willig relied on an Annual Music Study prepared for the RIAA by industry research firm MusicWatch, which indicates that, in 2018, CD purchasers spent an average of [[redacted]] on CDs, vinyl purchasers spent an average of [[redacted]], and digital download purchasers spent an average of [[redacted]]. Ex. 5600 ¶ 40 (Willig CWDT); Ex. 5039 at 19. At trial, Professor Willig was asked whether he knows if a user of a noninteractive service is likely to purchase CDs, vinyl, and digital downloads at the same rate as an average purchaser of those products. 8/10/20 Tr. 1120:3-9 (Willig). Professor Willig explained that he is unaware of any economist in this proceeding having conducted any empirical analysis on this question, *id.* at 1120:10-17 (Willig), and as such the "average seemed like the best available estimate under the circumstances." 8/6/20 Tr. 847:16-848:4 (Willig); 8/10/20 1121:19-1122:8 (Willig).

631. For the second data input, Professor Willig relied on RIAA data indicating that, in 2018, sound recording royalties totaled approximately [[redacted]] of the retail prices of CDs, vinyl, and digital downloads, respectively. Ex. 5600 ¶ 40 & App. D, Ex. D.3 (Willig CWDT). Notably, these data are more current than outdated estimates used by Professor Shapiro when computing this category of opportunity cost. Ex. 5601 ¶ 52 (Willig WRT). Specifically, Professor Shapiro assumes royalties make up [[redacted]] of retail revenue for digital downloads and [[redacted]] of retail revenue for physical recordings, the figures used by Professor Willig in the *SDARS III* proceeding. *Id.*; Ex. 4094, App. D at 4 (Shapiro Second CWDT). When replaced with the

current data used by Professor Willig in this proceeding, Professor Shapiro's royalty rates on physical music purchases and digital downloads increase by [[redacted]]. Ex. 5601 ¶ 52 (Willig WRT); Ex. 5600, App. D at Ex. D. 3 (Willig CWDT).

632. Multiplying the first and second data inputs together, and converting annual amounts to monthly amounts, yielded average monthly royalties per purchaser of [[redacted]] for CDs, [[redacted]] for vinyl, and [[redacted]] for digital downloads. *See* Ex. 5600 ¶ 40 & App. D, Ex. D.3 (Willig CWDT); 8/5/20 Tr. 503:2-13 (Willig). Taking these together, Professor Willig obtained a weighted average of [[redacted]] across all forms of physical and digital download distribution. *See* Ex. 5600 ¶ 40 & App. D, Ex. D.3 (Willig CWDT); 8/5/20 Tr. 502:23-24 (Willig).

633. Professor Shapiro has criticized Professor Willig for making "an arithmetic error in his weighting of these various formats." Ex. 4107 at 53 (Shapiro WRT). Specifically, Professor Shapiro argues that Professor Willig improperly "uses the retail revenues of each format . . . as weights," which "gives excessive weight to the spending categories with a higher royalty per purchaser." *Id.* at 84. Instead, Professor Shapiro argues that Professor Willig should have used "unit purchases of each format (*i.e.*, the number purchased of each format) as the weights." *Id.* According to Professor Shapiro, applying this correction reduces the weighted average monthly royalties per purchaser obtained from CDs, vinyl, and digital downloads from [[redacted]] to [[redacted]]. *Id.* at 85.

634. At trial, Professor Willig acknowledged that "there was some merit to that point that Professor Shapiro made, so I went back and changed that." 8/5/20 Tr. 504:21-25 (Willig). But Professor Willig also observed that, while performing this correction, he encountered a problem with Professor Shapiro's own computation. *Id.* at 504:25-505:6 (Willig). Specifically, Professor Shapiro's calculation takes "a total amount of money spent" and "divide[s] by the number of

people"— without recognizing the reality that any given consumer may purchase multiple formats (CDs, vinyl, and digital downloads). *Id.* at 505:3-4 (Willig).

635. This is easily understood by comparing Professor Shapiro's calculations to the MusicWatch report. *See* Ex. 4107, App. D at Fig. D.1 (Shapiro WRT); Ex. 5039. According to Professor Shapiro, in a given month, there are [] purchasers of CDs, [] purchasers of vinyl, and [] purchasers of digital downloads. Ex. 4107, App. D at Fig. D.1 (Shapiro WRT). Professor Shapiro arrives at his [] number by assuming that the total number of purchasers across this whole category is just the sum of these three numbers, 63.1 million. *See id.* [].

636. But there is no logical reason to believe that, for instance, zero people purchased both a CD and a vinyl record in 2018, as Professor Shapiro's calculation assumes. And in fact, the MusicWatch report belies that assumption. *See* Ex. 5039 at 16. That report shows purchase rates in 2018 of [] for CDs, [] for digital downloads, and [] for vinyl, which summed together would total to []. *See id.* However, the report *also* shows that, in 2018, only [] of people purchased CDs *or* vinyl *or* downloads. *See id.* This data indicates that Professor Shapiro's total number of purchasers of 63.1 million should have been reduced by a ratio of []. That, in turn, yields a [] as Professor Willig testified at trial. 8/5/20 Tr. 504:16-20, 505:5-6, 515:14-19 (Willig). []

637. Given that the net effect of correctly addressing the issue raised by Professor Shapiro is to *increase* the opportunity cost for this category, Professor Willig noted at trial that he

has "still gone forward in my calculations out of conservatism with the [[redacted]] number." 8/5/20 Tr. 503:24-504:1 (Willig).

638. Professor Shapiro also criticizes Professor Willig's computation of royalties from CDs, vinyl, and digital downloads as predicated on "a flawed assumption that new purchases in this category are 'all or nothing' rather than scaled to listening." Ex. 4107 at 53 (Shapiro WRT). Specifically, Professor Shapiro maintains that Professor Willig should have treated royalties generated by diversion to this category "like an advertising-supported service" rather than "like a subscription service" because "[i]n reality … consumers choose how much or how little they listen to these media during a month, and make purchases accordingly." *Id.*, App. D at 86. But Professor Shapiro offers no evidence, empirical or otherwise, to support his assumption about the "reality" of consumer behavior, which underlies his "correction" to Professor Willig. Indeed, it is equally plausible to assume that consumer purchases of CDs, vinyl, and digital downloads are driven by factors other than anticipated (or actual) listening time—such as a desire to support an artist, acquire a physical souvenir at a concert, or gift music to others.

639. Notably, this purported correction on its own (even if it were valid) has little meaningful impact on the royalty rates that emerge from any of the economists' bargaining models. *See id.* at 64, Fig. 12. Professor Shapiro's written testimony indicates that his opportunity cost corrections reduce the ad-supported royalty rate by [[redacted]] and the subscription royalty rate by [[redacted]]. *Id.* Moreover, even these modest numbers are overstated, as they are predicated on Professor Shapiro's erroneous figure of [[redacted]] per subscriber, instead of the corrected number of [[redacted]]. *Id.*, App. D at 84-86.

d. Terrestrial Broadcast

640. Consistent with the "fork in the road" approach, Professor Willig assumed that royalty rates for terrestrial radio broadcasts and any other forms of outside music distribution are

zero. Ex. 5600 ¶ 41 (Willig CWDT); *SDARS III*, 83 Fed. Reg. at 65238; 8/5/20 Tr. 509:13-21 (Willig).

vi. Plays-Per-User Ratio

641. Using diversion ratios and royalty rates from outside forms of distribution allowed Professor Willig to compute opportunity cost to record companies on a dollars-per-user basis. In order to calculate opportunity cost on a dollars-per-play basis, Professor Willig required an estimation of the number of plays per month generated by noninteractive services' users. Ex. 5600 ¶¶ 29, 43 (Willig CWDT).

642. Professor Willig utilized Pandora's public financial projections to determine projected plays and projected average monthly users, on both Pandora Free and Plus, over the 2021-2025 period. Ex. 5600 ¶ 45 & App. D, Ex. D.6 (Willig CWDT); Ex. 5601 at App. L, L-4 (Willig WRT). Dividing the former by the latter allowed Professor Willig to determine that users of Pandora's ad-supported service are projected to listen to approximately [[redacted]] plays per month, and subscribers to Pandora's subscription noninteractive service (i.e., Pandora Plus) are projected to listen to approximately [[redacted]] plays per month. Ex. 5600 ¶ 45 & App. D, Ex. D.6 (Willig CWDT); *see* 8/20/20 Tr. 3133:18-21 (Shapiro); *see also* Ex. 5601 at App. L, L-4 (Willig WRT) (updating these numbers based on information provided in discovery, to [[redacted]] plays per month for ad-supported and [[redacted]] plays per month for subscription).

643. Professor Willig utilized Pandora data for two reasons. First, Pandora was the only service for which he was able to obtain the necessary forward-looking data. Ex. 5600 ¶ 49 & App. D, Ex. D.4 (Willig CWDT). Second, as discussed further below, he determined that Pandora is an appropriate proxy for the noninteractive services market as a whole given its size relative to the market. Specifically, royalty statements and data from SoundExchange indicate that Pandora has an approximately [[redacted]] play share of the ad-supported noninteractive market and an [[redacted]]

play share of the subscription noninteractive market. Ex. 5600 ¶ 43 (Willig CWDT); *see* 8/10/20 Tr. 1101:24-1102:20 (Willig).

644. At trial, counsel for the Services criticized Professor Willig's calculations by pointing out that [ ]. *See* 8/10/20 Tr. 902:13-20 (Willig). This is an immaterial criticism for three reasons.

645. First, [ ]. 8/10/20 Tr. 902:23-903:10 (Willig); *see infra* at Part VII.C.2.iii (discussing merger proxy statement). [ ]. 8/10/20 Tr. 902:23-903:10 (Willig).

646. Second, monthly active users are only important to Professor Willig's calculations as the denominator of a fraction. If the numerator differs by the same amount, then the fraction does not change, and neither do Professor Willig's calculations. As Professor Willig explained it, "if the plays are viewed as proportional to the audience size or, conversely the number of people involved is viewed as proportional to plays, as long as they are all moving together . . . then when one divides the other to put the monetary figures on a per-play basis . . . then the fact that the overall level is off is immaterial." *Id.* at 1135:1-12 (Willig).

647. Third, even if one were to use Pandora's historical results to derive this input, at most it would suggest that Professor Willig's calculation is conservative. Pandora's data indicates that there were 13.44 billion ad-supported listener hours in 2019 and, at least as of the middle of 2019, approximately [ ] ad-supported monthly active users. Ex. 5345 at 20; Ex. 5226 at 4. This indicates a ratio of [ ] on Pandora's ad-supported service, using

the same formula set forth in Professor Willig's written testimony. *See* Ex. 5601 at App. L, L-3 [66], L-4 [75] (Willig WRT). Using that ratio would *raise* the per-play opportunity cost associated with Pandora's ad-supported tier, from [ ] to [ ]. *See* Ex. 5600 ¶ 47, Fig. 6 (Willig CWDT) [ ].

vii. Record Company Play Shares

648. Professor Willig estimated the music content shares of each major record company and the indie amalgam using the royalty statements that services provide to record companies when operating under direct licenses. Ex. 5600 ¶ 48 (Willig CWDT). These royalty statements, from the twelve-month period ending in March 2019, capture the plays on all tiers of service of Pandora, as well as most other services. *Id.* at ¶ 48 n.26. In Professor Willig's calculation, the indie amalgam's play share was 100% less the sum of the major record companies' shares. The record companies play shares are as follows:

Figure 12 (RESTRICTED)

[ ]

Id. at ¶ 48, Fig. 7 & App. D, Ex. D-5. [ ]. 8/10/20 Tr. 1043:15-18 (Willig) ([ ]); *see* 8/6/20 Tr. 807:4-16 (Willig) (play shares relatively stable over the long run).

2. Willingness to Pay Inputs

649. The value that a noninteractive distributor brings to a hypothetical negotiation depends on its ability to generate profits, before paying any sound recording royalties. Ex. 5600

¶ 49 (Willig CWDT). To calculate those profits, one must ascertain a distributor's revenues and subtract out its costs (including the copyright royalties paid to music publishers). *Id.* For purposes of his Shapley Value computations, Professor Willig determined and utilized noninteractive distributor profits on a per-play basis. *See id.* at ¶ 50 & Fig. 8.

i. Using Pandora as a Proxy is Appropriate

650. Professor Willig used Pandora's financials as a proxy for the noninteractive distributor market, again because Pandora accounts for more than [ ] of the total plays in the noninteractive market and because Pandora was the only service for which Professor Willig was able to obtain the necessary forward-looking data. *Id.* at ¶ 49 & App. D, Ex. D.4; 8/5/20 Tr. 529:13-530:8 (Willig).

651. [ ]. 8/5/20 Tr. 530:12-17 (Willig) ([ ]); 8/25/20 Tr. 3783:21-3784:1 (Peterson). Notably, [ ]. 8/5/20 Tr. 530:9-12 (Willig); 8/10/20 Tr. 938:21-939:3 (Willig); 8/25/20 Tr. 3787:17-3788:1 (Peterson).

652. At various points, the Services' economists have suggested that, [ ] 8/25/20 Tr. 3693:8-9 (Peterson). But the Services' economists have not advanced a view as to what "representativeness" is supposed to mean, how it should be assessed, and in what way it would matter to the willingness to pay computation. By contrast, Professor Willig carefully explained that using a less profitable noninteractive service as a proxy "wouldn't have any effect on what's important for the analysis,

namely profitability per-play," if the service's lower profits "went along with smaller audience [and] fewer plays." 8/10/20 Tr. 1137:18-23 (Willig).

653. Professor Willig testified [ ] 8/5/20 Tr. 534:18-535:6, 536:5-18 (Willig). Indeed, Professor Tucker testified based on her review of iHeart financial data that [ ] 8/17/20 Tr. 2194:13-25 (Tucker); *see id.* at 2195:1-3 (Tucker) ([ ]).

654. Meanwhile, Dr. Peterson's testimony provides no reason to think that Google would be a more apposite proxy for the noninteractive services market than Pandora, and [ ]. 8/25/20 Tr. 3789:22-3790:21 (Peterson) ([ ]). [ ]. *Id.* at 3789:16-21 (Peterson). Indeed, [ ] *Id.* at 3788:13-3789:4 (Peterson).

655. Notably, in response to questioning from Judge Strickler, Dr. Peterson acknowledged that he did not have a specific proposal to aggregate the "3400 statutory webcasters" to create a composite proxy, indicating that "you could use something like the average" if there's

"a good central tendency," or "[i]f there is a wide variation, it may be appropriate to come up with different rates for different groups, if they can be well defined." *Id.* at 3736:18-3737:14 (Peterson). [ ]. *Id.* at 3787:17-3788:1 (Peterson) ([ ]); Ex. 5600 ¶ 43 (Willig CWDT); *see* 8/10/20 Tr. 1101:24-1102:20 (Willig).

656. In short, the Services have come up with no credible and quantified alternative to using Pandora as a proxy when assessing willingness to pay. And Professor Willig's decision to do so is defensible on the simple basis that over [ ] of the plays impacted by this rate-setting proceeding will be plays on Pandora's service. *See* Ex. 5600 ¶ 49 & App. D, Ex. D.4 (Willig CWDT).

ii. Using Projections Instead of Historical Data Is Appropriate

657. In addition, because the hypothetical negotiation will set royalty rates for the 2021-2025 period, Professor Willig's empirical inputs reflected forward-looking estimates to the greatest extent possible. Ex. 5600 ¶ 35 (Willig CWDT); *see* 8/5/20 Tr. 330:18-22 (Willig) (noting that a distributor may be "looking at the long run" and that "losses may be viewed as temporary, which is part of why a longer run forward-looking projection is an important way to do the assessments here."); *id.* at 516:4-14 (Willig).

658. As Professor Willig explained, it is unreliable to estimate marginal profit rates for the coming rate period on the basis of a single year of historical financials—"if we look at a particular year's results, it's just one year. And years have their own vicissitudes." 8/25/20 Tr. 3887:2-4 (Willig). By contrast, "the idea of a well thought out projection going forward to the applicable time smooths out the kinds of ups and downs that are idiosyncratic and should not be used as the foundation for what's expected five years later or so." *Id.* at 3887:5-10 (Willig). While Professor Shapiro tried to suggest at trial that "there has been some persistent overoptimism" with

Pandora's forecasts, when pressed he acknowledged that he had "not gone back and tested the accuracy of the forecasts." 8/20/20 Tr. 3208:15-18, 3214:4-10 (Shapiro). Finally, as discussed extensively elsewhere, Professor Shapiro's attempt to use Pandora's 2018 historical financials instead of projections for the coming rate period is deeply flawed. *See infra* at Part VIII.E.1.

iii. Pandora's Merger Proxy Scenario 2 Is a Reliable Set of Projections and the LRS Is Not

659. To best approximate Pandora's marginal profit rates for the coming rate period, and to avoid any downward bias from reliance on historical profit figures, Professor Willig used projections from Pandora's public and SEC-filed Merger Proxy statement. Ex. 5600 ¶ 50 (Willig CWDT); 8/5/20 Tr. 347:23-25 (Willig). Among the available projections, these have the highest indicia of reliability, as they were filed with the SEC, presented to Pandora's Board, provided to Pandora's shareholders prior to their vote to approve Sirius XM's acquisition of the company, and utilized by two sets of investment bankers as an input into their fairness opinions regarding the transaction. Ex. 5600 ¶ 50 (Willig CWDT); 8/31/20 Tr. 4698:12-4699:8, 4700:3-5, 4700:9-4703:13 (Ryan); 8/5/20 Tr. 517:4-14 (Willig) ([ ]); 8/6/20 Tr. 696:4-21 (Willig); *see also id.* at 690:4-6 (Willig); 8/10/20 Tr. 904:17-905:6 (Willig); 8/25/20 3886:13-3887:1, 3888:9-3889:2 (Willig) ("[I]t does represent the best and best thought-through judgment of the executives of the company. And it's labeled as such.").

660. In utilizing Pandora projections to compute distributor willingness to pay, Professor Shapiro relied on a different document, known as the LRS. Ex. 4107 at 47 (Shapiro WRT). The LRS is a format that Sirius XM has historically used. 8/31/20 Tr. 4691:23-25 (Ryan). After its

acquisition of Pandora, Sirius XM directed Pandora to adopt the LRS format and instructed Pandora how to contribute to the LRS. *Id.* at 4692:1-6 (Ryan).

661. However, according to sworn testimony by David Frear, Sirius XM's Chief Financial Officer, [ ]. 8/31/20 Tr. 4694:21-4695:21, 4696:4-12 (Ryan); *see also* 8/6/20 Tr. 690:15-19, 692:1-10 (Willig). Mr. Frear testified under oath that [ ] 8/31/20 Tr. 4695:10-21, 4696:13-17 (Ryan). Accordingly, [ ]. 8/6/20 Tr. 690:11-691:13 (Willig); 8/31/20 Tr. 4696:18-23 (Ryan) [ ]. At trial, Mr. Ryan acknowledged and credited Mr. Frear's testimony. 8/31/20 Tr. 4692:17-4693:2 (Ryan). He further acknowledged that the LRS was not prepared by a CPA, was never audited, was prepared solely for Pandora's internal use, and involved judgments about future economic, regulatory, and financial market conditions subject to uncertainties outside of Pandora's control. *Id.* at 4690:17-4691:17 (Ryan).

662. Given these admissions, [ ]. 8/6/20 Tr. 689:14-690:6 (Willig).

663. In any event, as Professor Willig noted during trial, [ ] *Id.* at 700:1 (Willig). [ ] *Id.* at 700:20-701:1 (Willig). [ ]

[redacted] *Id.* at 701:2-9 (Willig).

664. Professor Willig explained that, [redacted] *Id.* at 701:14-17 (Willig). Indeed, [redacted]. *Id.* at 701:19-24 (Willig). When questioned by Judge Strickler on this topic, Professor Shapiro agreed [redacted] 8/19/20 Tr. 2734:10-23 (Shapiro); *see id.* at 2738:18-21 (Shapiro) ([redacted]).

665. As explained in Willig WDT, Appendix D at D-2, Pandora disclosed two sets of projections in its publicly disclosed Merger Proxy, a lower "Scenario 1a" projection and a higher "Scenario 2" projection. Ex. 5600, App. D, D-2 (Willig CWDT); Ex. 5601 ¶ 75 n.136 (Willig WRT); 8/31/20 Tr. 4699:9-4700:8 (Ryan). In addition, internal documents at Pandora show that [redacted]. Ex. 5171 at 2; 8/6/20 Tr. 696:22-697:1; 8/31/20 Tr. 4706:23-4707:1 (Ryan).

666. Professor Willig used the [redacted] Scenario 2 projections in his analysis because those projections resulted in valuation estimates performed by Pandora's investment bankers that are consistent with the actual market price paid by Sirius XM to acquire Pandora. Ex. 5601 ¶ 75 n.136 (Willig WRT); 8/6/20 Tr. 697:1-11 (Willig); *see id.* at 697:12-699:7 (Willig) ([redacted]

[redacted]); *see also* 8/31/20 Tr. 4704:23-4705:1 (Ryan) (acknowledging that Sirius XM has never disclosed to its investors that it overpaid for Pandora); *id.* at 4511:2-5 (Witz) (same).

iv. Professor Willig's Willingness to Pay Calculations Consider Pandora's Fixed Costs, Whereas Professor Shapiro's Do Not

667. Professor Willig explained at trial that these total pre-royalty profit rates factor in the fixed costs of the noninteractive distributors. *See* 8/5/20 Tr. 539:7-22 (Willig) ([redacted]); *id.* at 549:11-25 (Willig) (showing where distributor fixed costs enter into the algebraic notation of the characteristic function); *id.* at 324:21-325:12 (Willig) (distributors' "fixed costs enter into the model" and are "within the purview of the assessment of the Shapley Values"); *id.* at 326:16-18 (Willig) (model considers both fixed and variable costs). [redacted]. *See id.* at 339:11-340:8, 536:5-14 (Willig).

668. By contrast, [redacted]. 8/19/20 Tr. 2737:13-17 (Shapiro); Ex. 4107 at 81 n.200 (Shapiro WRT) ("[F]ixed costs do not enter into the negotiations and do not factor into the Nash-in-Nash bargaining solution when majors are not must-have."). As such, Professor Shapiro's willingness to pay calculations, and his overall model, are sensitive to the classification of Pandora's costs as either variable (in which case they are factored into the analysis) or fixed (in which case they are not). [redacted]. 8/5/20 Tr. 539:24-540:4, 541:2-10 (Willig).

v. The Services' Criticisms of Professor Willig's Allocation of Costs Have Been Mooted

669. In his written rebuttal testimony, Professor Willig updated his willingness to pay calculations based on new information obtained in discovery about projected user and subscriber counts, projected play counts, projected growth of Pandora subscription revenue, and the allocation of costs as either fixed or variable. *See* Ex. 5601, App. L, L-3 (Willig WRT); 8/5/20 Tr. 361:25-362:4 (Willig); *see also* Ex. 5600 ¶ 50 n.30 (Willig CWDT). These updates moot many of the criticisms levied against Professor Willig in the written testimony of Professor Shapiro and Mr. Ryan.

670. Mr. Ryan claimed that Professor Willig incorrectly attributed all of Pandora's advertising revenues to Pandora's advertising-supported music service. Ex. 4109 ¶ 6 (Ryan WRT); 8/31/20 Tr. 4684:20-25 (Ryan). Professor Willig anticipated and mooted this issue in his rebuttal report, a point that Mr. Ryan acknowledged at trial. *See* Ex. 5601, App. L at L-1 n.2 (Willig WRT); 8/31/20 Tr. 4685:1-6 (Ryan) ("My understanding is that he did take my rebuttal to address his original analysis and then modify it."); *see also* 8/5/20 Tr. 523:25-525:7 (Willig).

671. Mr. Ryan claimed that Professor Willig erred in his estimate of the projected growth of subscription revenue for Pandora Plus and Pandora Premium. Ex. 4109 ¶¶ 10-11 (Ryan WRT); 8/31/20 Tr. 4685:7-11 (Ryan). Professor Willig anticipated and mooted this issue in his rebuttal report. *See* Ex. 5601, App. L at L-1 nn.3-4 (Willig WRT); 8/5/20 Tr. 527:18-528:18 (Willig); 8/31/20 Tr. 4685:7-15 (Ryan).

672. Mr. Ryan claimed that Professor Willig incorrectly classified certain sales and marketing expenses as fixed, and incorrectly classified all product development costs as variable. Ex. 4109 ¶¶ 13-19 (Ryan WRT); 8/31/20 Tr. 4685:17-4686:21 (Ryan). Again, Professor Willig anticipated and mooted this issue in his rebuttal report, adopting Mr. Ryan's classifications with

respect to these expense categories. *See* Ex. 5601, App. L at L-4 nn.55-58 nn.3-4 (Willig WRT); 8/5/20 Tr. 520:16-21 (Willig) ([ ]); *id.* at 521:10-522:4, 522:10-17; 523:6-21, 527:3-17 (Willig); 8/31/20 Tr. 4686:1-6, 18-21 (Ryan).

673. Mr. Ryan claimed that Professor Willig improperly characterized certain costs of goods sold as attributable to Pandora's music service as opposed to its off-platform businesses. Ex. 4109 ¶¶ 23-24 (Ryan WRT); 8/31/20 Tr. 4686:22-4687:6 (Ryan). Professor Willig anticipated and mooted this issue in his rebuttal report. *See* Ex. 5601, App. L at L-1 nn.11 (Willig WRT); 8/31/20 Tr. 4687:7-12 (Ryan).

674. Finally, Mr. Ryan claimed that Professor Willig incorrectly approximated the number of projected users for Free, and projected subscribers for Plus and Premium. Ex. 4109 ¶¶ 27, 29 (Ryan WRT); 8/31/20 Tr. 4687:13-4688:4 (Ryan). Once again, Professor Willig anticipated and mooted this issue in his rebuttal report. *See* Ex. 5601, App. L at L-3 nn.72-74 (Willig WRT); 8/5/20 Tr. 528:15-22 (Willig); 8/31/20 Tr. 4687:24-4688:4 (Ryan).

675. Professor Willig determined that the royalty rates derived from the Shapley Value model in his corrected written direct testimony are not materially affected by these changes. *See* Ex. 5601 ¶ 75 n.138 (Willig WRT). In his corrected written direct testimony, [ ]. *See* Ex. 5600 ¶ 51, Fig. 9 & App. D, Ex. D-6 (Willig CWDT). [ ]. Ex. 5601, App. L, L-3 (Willig WRT); 8/5/20 Tr. 538:10-16 (Willig).

676. Because the changes raise the distributor's willingness to pay, royalty rates under Professor Willig's Shapley Value model modestly increase when the updated data is taken into account. Ex. 5601, App. L, L-3 (Willig WRT). In short, the empirical inputs expressed in Professor Willig's corrected written direct testimony lead to modestly conservative results. *Id.*

vi. The Services' Criticism of Professor Willig's Allocation of Revenue Is Immaterial

677. At trial, counsel for the Services emphasized that, in computing distributor willingness to pay, Professor Willig's written rebuttal testimony does not subtract out revenue associated with non-music content on Pandora Free, another criticism levied by Mr. Ryan. *See* 8/31/20 Tr. 4737:15-4738:1 (Ryan); Ex. 4109 ¶¶ 8-9 (Ryan WRT). This is valid—[ ]. 8/5/20 Tr. 519:1-11 (Willig). But the critique gets the Services nowhere. Professor Willig explained that, [ ] *Id.* at 519:7-11 (Willig).

678. It is easy to understand why. As noted above, [ ]. 8/6/20 Tr. 699:15-19 (Willig) ([ ]); *see id.* at 699:20-25 (Willig) ([ ]); Ex. 5600 ¶ 30 (Willig CWDT). Advertising revenue associated with non-music content will only increase if plays associated with non-music content increase as well. 8/31/20 Tr. 4630:3-6 (Phillips) (testifying that Pandora expects podcasts on Pandora Free to be a growing

percentage of listening hours over the next several years); *id.* at 4671:25-4672:6, 4675:9-11 (Ryan). Conversely, any decrease in advertising revenue associated with music content would correlate to a reduction in plays of music content. Pandora's per-play profit rate would stay the same, and that is the fraction that actually matters to the willingness to pay calculation.

679. Finally, to the extent the Services pursue the argument that Pandora's historical instead of projected financials should be used to compute willingness to pay, non-music content would be immaterial to such calculations. [ ] 8/31/20 Tr. 4732:5-21 (Ryan). Indeed, Pandora's [ ] in 2019. *Id.* at 4724:15-4725:2 (Ryan).

3. Fixed Costs of Record Companies

680. At trial, Professor Willig explained that the algebra of his Shapley Value model considers the fixed costs of the record companies. 8/5/20 Tr. 544:8-11 (Willig). However, in the course of quantifying Shapley Value royalties, these costs cancel out in the math, and hence "are not at issue." *Id.* at 340:13-16, 545:5-13 (Willig).

681. Professor Willig explained why this mathematical result makes intuitive sense. "[T]hese record companies are assumed to be incurring fixed costs and those fixed costs are not going to be changed" whether or not they do a deal with noninteractive services. *Id.* at 340:13-21 (Willig). "Because if they don't, then they are still going to be licensing their music to, say, the interactive distributors, for example, and to the other ways of music distribution that we contemplate." *Id.* at 544:14-21 (Willig). "They're going to stay in business any way and, therefore, incur the fixed costs of their music operations," *id.* at 341:14-16 (Willig), including "their signing

of those artists and the investments that they make pursuant to creating that music." *Id.* at 544:22-545:4 (Willig).

D. To Recover Their Opportunity Cost, Record Companies Must Earn a Royalty of At Least $0.00302 per Performance from Noninteractive Ad-Supported Webcasters and $0.00212 per Performance from Noninteractive Subscription Webcasters

682. The figure below obtains an estimate of the opportunity cost that record companies experience by licensing to noninteractive distributors instead of only licensing to all the outside forms of music distribution. Ex. 5600 ¶ 47 (Willig CWDT). Panel A utilizes diversion ratios from the Zauberman Survey and shows the percentage of survey respondents that would respond to the absence of noninteractive services by obtaining new music subscriptions, beginning to purchase CDs/digital downloads, or consuming additional monthly plays on ad-supported streaming services. Panel B shows the corresponding levels of royalty compensation that the record companies would earn as a result from these various forms of music distribution. (AM/FM radio is not shown below as it generates zero royalties and thus zero opportunity cost.) Panel C multiplies the diversion rates in Panel A by the royalty rates in Panel B to obtain the opportunity cost on a per-user basis. *Id.*; 8/5/20 Tr. 512:9-17 (Willig).

Figure 13: Diversion Ratios and Opportunity Cost
Ex. 5600, Fig. 6 (Willig CWDT) (RESTRICTED)

[redacted]

Ex. 5600 ¶ 47, Fig. 6 (Willig CWDT).

683. Importantly, the opportunity costs displayed above include only the portion of opportunity cost associated with diversion to *outside* distributors. *Id.* at ¶ 51 n.32; 8/5/20 Tr. 512:18-513:4 (Willig). This figure does *not* include the additional portion of opportunity cost associated with diversion to the other noninteractive distributor. Ex. 5600 ¶ 51 n.32 (Willig CWDT); 8/5/20 Tr. 512:18-513:4 (Willig).

684. The reason is that the Judges are tasked in this proceeding with determining royalty rates that cover both ad-supported and subscription noninteractive services. Ex. 5601 ¶¶ 53, 115 (Willig WRT). As such, there is no exogenous royalty rate for one type of noninteractive service that can be applied to compute the opportunity cost for the other type of noninteractive service. *Id.*; 8/6/20 Tr. 656:23-659:1 (Willig). Professor Willig was able to avoid the circularity problem of determining new statutory rates in part based on the levels of existing statutory rates, by treating

both royalty rates as endogenous variables and solving for them simultaneously. Ex. 5601 ¶¶ 53, 115 (Willig WRT); Ex. 5600, App. C (Willig CWDT); 8/5/20 Tr. 511:1-19 (Willig). Having done so, Professor Willig was able to determine the amount by which the market operations of ad-supported noninteractive distributors cannibalize the audience of subscription noninteractive distributors, and vice versa. Ex. 5600 ¶ 51 n.32 (Willig CWDT); 8/5/20 Tr. 510:2-22 (Willig); 8/6/20 Tr. 656:23-659:1 (Willig). He computed these additional amounts of opportunity cost as the diversion of plays from one noninteractive distributor to the other (as reflected in Panel A of Figure 13, above) times the relevant per-play royalty rates derived endogenously to the Shapley Value model, as shown in Figure 14 below. Ex. 5600 ¶ 51 n.32 (Willig CWDT).

685. Finally, [ ]. 8/5/20 Tr. 513:9-17 (Willig); *see supra* at Part VII.C.1.vi. Using these conversion ratios, *see* Ex. 5601, App. L, L-4, Professor Willig determined that total opportunity cost to record companies from licensing to noninteractive services—inclusive of diversion between types of noninteractive services—is [ ]. 8/5/20 Tr. 514:9-13 (Willig).

686. As Professor Willig explained at trial, "there is common agreement among economists" that a licensor will not be a willing seller if royalties are set below its opportunity cost. *Id.* at 385:21-23, 387:1-6 (Willig). Accordingly, "the record companies that are providing the license to their music, certainly in the unregulated market that's the model here . . . shouldn't be required to accept less than their opportunity cost." *Id.* at 331:18-332:1 (Willig); *see id.* at 558:18-24 (Willig).

E. The Shapley Analysis for Noninteractive Webcasters Supports a 2021 Royalty Rate of $0.0030 per Performance for Noninteractive Ad-Supported Webcasters and $0.0031 per Performance for Noninteractive Subscription Webcasters

687. Using the characteristic function, specified with the empirical parameters discussed above, Professor Willig determined the Shapley Values for each party to the hypothetical negotiation. Ex. 5600 ¶¶ 32-33 & App. C (Willig CWDT). Professor Willig then used the Shapley Values he derived to calculate corresponding royalty rates for ad-supported and subscription noninteractive distributors. *Id.* at ¶ 51; 8/5/20 Tr. 316:9-12 (Willig) ("[T]he royalties are the amount of money that needs to be paid to the record companies to get them to their Shapley Value."). Professor Willig's Shapley Value model indicates a reasonable royalty rate for ad-supported noninteractive distributors of $0.00309 per play over the 2021-2025 period, and for subscription noninteractive distributors of $0.00322 per play (or $2.54 per subscriber per month) over that period. Ex. 5453; Ex. 5601 ¶ 75 n.138 (Willig WRT); 8/5/20 Tr. 565:23-566:2 (Willig). These results are summarized below:

Figure 14: Estimated Shapley Values and Royalty Rates for Noninteractive Distributors (all amounts except discount factor in $ per play) (RESTRICTED)

[redacted]

Ex. 5453; Ex. 5601 ¶ 75 n.138 (Willig WRT); 8/5/20 Tr. 554:11-25 (Willig).

688. Notably, these royalty rates are estimated using projected data for the 2021-2025 period, and as such, reflect "on average" rates for the entire five-year period. Ex. 5600 ¶ 55 (Willig CWDT). To the extent it is appropriate to express a rate as of the beginning of this period (such that the rate can be adjusted over the 2021-2025 period based on increases or decreases in the general price level, as is the case for the current statutory rates that were determined in the *Web IV* proceeding), these rates can be discounted back two years (from the mid-point of 2023 to the mid-point of 2021) using a discount rate equal to the rate of inflation. *Id.*; 8/5/20 Tr. 566:3-19 (Willig).

689. At the time Professor Willig submitted his testimony, the U.S. Federal Open Market Committee's inflation rate forecast for 2021 was 2%, *see* Ex. 5019, yielding a discount factor of 0.96117. Ex. 5600 ¶ 55 & n.43 (Willig CWDT); 8/5/20 Tr. 566:5-7 (Willig).

690. Multiplying this discount factor by the above rates produces a 2021 rate of **$0.0030 per play** for ad-supported noninteractive services and **$0.0031 per play** for subscription noninteractive services (or $2.44 per subscriber per month). 8/5/20 Tr. 349:7-10, 566:3-19 (Willig); 8/6/20 Tr. 769:18-22 (Willig); Ex. 5453; Ex. 5601 ¶ 75 n.138 (Willig WRT).

691. These royalties result in each party's bottom line equaling its Shapley Value. Ex. 5600 ¶ 34 (Willig CWDT). For each distributor, the total royalty payments it makes to the record companies equals the difference between its profits from its market operations and its Shapley Value. *Id.* For each record company, the total royalty payments it receives equals the difference between its Shapley Value and the total compensation it receives from its other sources of distribution, less its costs of operation. *Id.*

F. The Appropriate Rate Under an Alternative Nash-in-Nash Bargaining Model Is $0.0030 per Performance for Noninteractive Subscription Webcasters and $0.0030 per Performance for Noninteractive Ad-Supported Webcasters

692. Professor Willig tested the sensitivity of his Shapley Value model using a Nash-in-Nash bargaining framework, another approach for modeling a multi-party negotiation. Ex. 5600 ¶¶ 61-67 (Willig CWDT); 8/6/20 Tr. 738:20-739:11 (Willig). Under that framework, each potential pair reaches a Nash bargain, receiving its fallback value plus one half of the surplus created by the deal. Ex. 5600 ¶ 62 (Willig CWDT). In these negotiations, the parties assume that all other pairs of parties have reached (or will reach) an equilibrium agreement. *Id.* A solution is reached when there is no negotiating pair with an incentive to change its agreement. *Id.*

693. Professor Willig's Nash-in-Nash model is described in detail in Appendix G of his written direct testimony. *Id.* at ¶¶ 65-66 & Fig. 11, App. G. It produces similar royalty rates to

those obtained from Professor Willig's Shapley Value model: specifically, 2021 royalty rates of [ ]. Ex. 5601 ¶ 82 n.147 (Willig WRT); 8/6/20 Tr. 739:8-11 (Willig).

G. Professor Willig's Finding that the Shapley Value for the Ad-Supported Noninteractive Service Is Near Zero Is Consistent with Other Evidence

694. As Figure 14 above indicates, [ ]. 8/5/20 Tr. 555:15-23 (Willig). Put another way, the Shapley Value for the ad-supported noninteractive distributor is near zero—its average incremental contribution to the total surplus created through an agreement is extremely low. Ex. 5600 ¶ 51 (Willig CWDT); 8/5/20 Tr. 555:3-14 (Willig); 8/10/20 Tr. 1109:8-1110:12 (Willig). Put still another way, the vast majority of the ad-supported noninteractive service's projected profits are necessary to compensate the record companies for the service's cannibalization of listeners that would otherwise consume music via other compensatory forms of music distribution. Ex. 5600 ¶ 51 (Willig CWDT); 8/10/20 Tr. 1139:21-1140:10 (Willig). The finding that ad-supported noninteractive services, on their own, currently bring little (if any) incremental value to the hypothetical negotiation is consistent with evidence in the record. 8/5/20 Tr. 557:5-16 (Willig).

695. First, the testimony of record company executives confirms this finding. Ex. 5600 ¶ 53 (Willig CWDT). [ ]

] *Id.* In short, [ ] *Id.*

696. Similarly, Aaron Harrison (Senior Vice President, Business & Legal Affairs, Digital, UMG Recordings, Inc.) explained: "Ordinarily, UMG only sees value in a standalone ad-supported audio streaming service where the rates are sufficiently high on their own to justify licensing our content. To that end, [ ] Ex. 5609 at ¶ 76 (Harrison WDT). Moreover, in describing the value brought by subscription noninteractive services, Mr. Harrison states that "even if mid-tier subscription services succeed in drawing some consumers away from poorly-monetized ad-supported streaming services, there is also a danger that they could cannibalize the premium on-demand subscription services" and thus [ ] *Id.* at ¶ 78.

697. Second, streaming services themselves [ ] *See* Ex. 5051 at 18

(explaining that [ ]). [ ] Ex. 5604 ¶¶ 73-79 (Tucker WDT); *see also Phonorecords III*, 84 Fed. Reg. at 1927. For example, broadcasters represented by NAB use their simulcasts to protect their core business, AM/FM radio, and fend off competition from digital streaming services. Ex. 2157 ¶ 26 (Wheeler CWDT). [ ] *See* Ex. 5053 at 18 [ ]; Ex. 5051 at 16 [ ]; Ex. 5052 at 2 [ ].

H. Professor Willig's Model Is Robust to the Extreme and Unsupported Assumptions Made in Professor Shapiro's Analysis

698. Professor Willig's Shapley Value model produced royalty rates starting in 2021 of $0.0030 per play for ad-supported noninteractive services and $0.0031 per play for subscription noninteractive services. Ex. 5601 ¶¶ 75 n.138, 82 n.146 (Willig WRT). These royalty rates should hold if the Judges accept the specification that the major record companies are "must haves" to noninteractive services, as they have done in past proceedings. *Id.* at ¶ 82.

699. As detailed below, Professor Willig presented four sensitivity scenarios that show similar royalty rate levels even if the Judges determine that the major record companies are not "must haves." *Id.* at ¶ 83; 8/5/20 Tr. 312:24-313:6, 318:3-9, 369:14-370:10 (Willig); 8/6/20 Tr.

756:6-12 (Willig). These sensitivity checks use the more conservative diversion ratios from the Zauberman Survey (which produce lower opportunity costs as compared to the results of the Hanssens Survey), utilize Professor Willig's computation of royalty rates from outside distributors (thereby correcting Professor Shapiro's significant error concerning royalties paid by subscription services), and incorporate Pandora's own projected financial data for the target years 2021-2025 (rather than Pandora data on its 2018 operations, on which Professor Shapiro relies). Ex. 5601 at ¶¶ 10 n.6, 12, 84 n.150, & 90 Fig.16 n.1 (Willig WRT); 8/6/20 Tr. 760:9-761:8 (Willig); 8/25/20 Tr. 3879:1-3880:21 (Willig).

700. **Scenario 1**: In this scenario, Professor Willig specified his Shapley Value model crediting: (a) Professor Shapiro's assumption that no record company is individually a "must have;" (b) Professor Shapiro's LSE-based assumption about the negligible listening losses that would occur if a noninteractive distributor lost access to the content [[redacted]] (*i.e.*, a "Power Ratio"[21] of approximately 0.7); and (c) Professor Shapiro's assumption that the number of diverted plays retained by a blacked-out label equals that blacked-out label's normal average play share. Ex. 5601 ¶ 84 & n.149 (Willig WRT); 8/25/20 Tr. 3878:10-25 (Willig). When paired with a recognition that a noninteractive service needs at least two of the three major record companies to survive, the Shapley Value model still produces royalty rates starting in 2021 of [[redacted]] per play for ad-supported noninteractive services and [[redacted]] per play for subscription noninteractive services. Ex. 5601 ¶¶ 12 & n.8, 84-85 (Willig WRT); 8/6/20 Tr. 756:13-758:10 (Willig); 8/25/20 Tr. 3853:24-3854:9, 3854:20-25 (Willig). Professor Willig described Scenario 1 as "an extremely conservative sensitivity test" because it "employed Professor Shapiro's LSE's

[21] Professor Shapiro uses the term "Power Ratio" to refer to the number of lost plays in the event of the blackout of a particular record company from a service, divided by that record company's market share. 8/19/20 Tr. 2713:9-17 (Shapiro); 8/5/20 Tr. 568:24-569:23 (Willig).

assumptions for missing labels" and because it "back[s] off" the observation that each major is a must-have. 8/25/20 Tr. 3854:6-7, 3855:1-7 (Willig).

701. Notably, the proposition that a noninteractive service needs at least two major record companies to survive is undisputed in the record. *See* Ex. 5601 ¶ 36 n.66 (Willig WRT); Ex. 1105 ¶ 114 n.118 (Peterson CWRT); Ex. 5051 at 11, 45; Ex. 5053 at 13; 8/5/20 Tr. 437:10-18 (Willig); 8/25/20 Tr. 3852:5-8, 3853:5-9 (Willig); *see also* 8/20/20 Tr. 3197:23-3198:4 (Shapiro) (agreeing that, if Pandora [ ]); Ex. 5600 ¶ 48, Fig. 7 (Willig CWDT) [ ].

702. [ ]. 8/20/20 Tr. 3194:1-3 (Shapiro); 8/25/20 Tr. 3853:10-17 (Willig). During cross-examination, Professor Shapiro agreed that the LSEs [ ][22] 8/20/20 Tr. 3194:1-3, 12-15 (Shapiro). (This is particular notable, given that [ ]. *See* 8/20/20 Tr. 3194:15-3196:22 (Shapiro); Ex. 4107 at 58, Fig. 10 (Shapiro WRT).)

703. In short, even when crediting Professor Shapiro's extreme assumptions about the substitutability of music repertoires and his claim that no single record company is a "must have,"

[22] During surrebuttal, Professor Shapiro inconsistently claimed that the six-month LSE results prove there is no "magnification effect if a service lost two labels," because [ ]. 8/26/20 Tr. 3930:1-21 (Shapiro). In addition to being contradicted by his own testimony, this argument incorrectly assumes that the LSE results can be credited. *See infra* at Part VIII.A. Moreover, it assumes that [ ]. *See* 8/26/20 Tr. 3930:25-3931:3 ("What I've been assuming—not assuming—a reasonable assumption to start with is the power ratios are constant with market share."). Professor Shapiro does not cite any evidence for that assumption, other than a belief (which Professor Willig has disproven) that there is a straight-line correlation between a record company's market size and the number of valuable hits in its catalog. *See supra* at ¶ 611.

Professor Willig's Shapley Value model continues to produce royalty rates [ ]. Ex. 5601 ¶ 85 (Willig WRT); 8/5/20 Tr. 353:24-354:5 (Willig). The robustness of Professor Willig's Shapley Value results, even when the model is exposed to Professor Shapiro's incorrect assumptions, is driven by the assessment of all potential arrival orderings of the bargaining parties. *Id.*

704. Professor Willig also presented three additional sensitivity tests showing that, *even if* Professor Shapiro's Nash-in-Nash model is utilized, and *even if* his assumption is correct that no single record company is a "must have," the model still produces royalty rates [ ] if some of his other extreme and unsupported assumptions are relaxed. *Id.* at ¶ 86; 8/6/20 Tr. 758:12-15 (Willig).

705. **Scenario 2**: In this scenario, Professor Willig assumed *arguendo* that no record company is a must have, and that the loss of plays resulting from a blackout occurs according to Professor Shapiro's flawed LSEs. Ex. 5601 ¶ 87 (Willig WRT). However, Professor Willig relaxed Professor Shapiro's assumption that a blacked-out record company only receives its normal average play share of the performances that divert from the noninteractive distributor to competing distributors. *Id.* Instead, he applied Retention Ratios ranging from 90% to 100%, consistent with the reasonable notion that consumers unable to access some of their favorite recordings due to a blackout would seek out and try to replace that missing content from other competing music distributors. *Id.* With these inputs, Professor Shapiro's Nash-in-Nash model produces royalty rates starting in 2021 ranging from [ ] per play for ad-supported noninteractive distributors and from [ ] per play for subscription noninteractive distributors. *Id.*; 8/6/20 Tr. 758:15-759:6 (Willig).

706. **Scenario 3**: In this scenario, Professor Willig assumed *arguendo* that no record company is a must have, and that Professor Shapiro's Retention Ratio assumption is correct, such that a blacked-out record company only receives its normal average play share of the performances that divert to competing distributors. Ex. 5601 ¶ 88 (Willig WRT). However, Professor Willig relaxed Professor Shapiro's assumption that a noninteractive service will lose plays due to a label blackout according to the results of the LSEs. Instead, Professor Willig credited the loss rate for major record companies revealed by the Modified Hanssens Survey. As described above, the Modified Hanssens Survey indicates Pandora Free would lose approximately [[redacted]] of its plays in response to [[redacted]]. This implies a "Power Ratio" of 2.0 for [[redacted]] based on that record company's play share, which Professor Willig then applied to the other major record companies as well. Ex. 5601 at ¶ 88 & n.154 (Willig WRT); *see* 8/10/20 Tr. 1035:9-17 (Willig). With these inputs, Professor Shapiro's Nash-in-Nash model produces royalty rates starting in 2021 of [[redacted]] per play for ad-supported noninteractive distributors and [[redacted]] per play for subscription noninteractive distributors.[23] *Id.*; 8/6/20 Tr. 759:7-18 (Willig).

707. **Scenario 4**: In this scenario, Professor Willig assumed *arguendo* that no record company is a must have, and applied a Power Ratio of 1.0 to all record companies. Ex. 5601 ¶ 89 (Willig WRT); 8/10/20 Tr. 1041:9-15 (Willig). This means that if [[redacted]] content, which accounts for approximately [[redacted]] of all plays, were no longer available on Pandora, Pandora would lose [[redacted]] of its total plays. Ex. 5601 ¶ 89 (Willig WRT). Professor Willig also applied a Retention Ratio at the midpoint between each record company's typical average play share (per Professor Shapiro's *ad hoc* assumption) and 100%. *Id.*; 8/10/20 Tr. 1041:3-8, 16-20 (Willig). With these

[23] Alternatively, using a "Power Ratio" of 1.7 (as deduced from [[redacted]] play share) produces royalty rates starting in 2021 of [[redacted]] per play for ad-supported noninteractive distributors and [[redacted]] per play for subscription noninteractive distributors. Ex. 5601 ¶ 88 n.155 (Willig WRT).

inputs, Professor Shapiro's Nash-in-Nash model produces royalty rates starting in 2021 of [ ]. Ex. 5601 ¶ 89 (Willig WRT); 8/6/20 Tr. 759:19-760:7 (Willig).

708. The results of these sensitivity tests are summarized in the figure below. Ex. 5601 ¶ 90 (Willig WRT).

Figure 15: Royalty Rates in Different Scenarios (RESTRICTED)

[ ]

Id. at ¶ 90, Fig. 16.

709. In summary, Scenario 1 shows that Professor Willig's Shapley Value model produces royalty rates in line with his baseline case, even accepting *arguendo* Professor Shapiro's erroneous claim that no record company is a "must have" and his assumption about music substitutability emanating from his flawed LSEs. *Id.* at ¶ 91; 8/6/20 Tr. 770:13-17 (Willig). Scenarios 2, 3, and 4 demonstrate that, by contrast, the royalty rates advanced by Professor Shapiro critically depend both on a Nash-in-Nash model that is incorrectly specified for its application and on various extreme and unsupported assumptions about the substitutability of record company catalogs. Ex. 5601 ¶ 91 (Willig WRT); 8/6/20 Tr. 771:16-772:4 (Willig). As these assumptions are

relaxed (even by relatively small amounts), his model produces royalty rates [ ]. Ex. 5601 ¶ 91 (Willig WRT); 8/6/20 Tr. 771:16-772:4 (Willig).

I. Professor Willig's Model Is Robust to Use of Results from Surveys Offered by Professors Zauberman, Hanssens, and Simonson

710. As noted, Professor Willig relied for his baseline model on diversion ratios obtained from Professor Zauberman's survey results. However, [ ]. 8/5/20 Tr. 354:15-23, 493:2-15 (Willig). "The three pertinent surveys . . . all agree that there is substantial diversion and that there is substantial heterogeneity among the various modes to which there would be diversion. Some of the numbers are somewhat different from each other, one survey to the next, but they all agree that there is very substantial diversion to some important services that are particularly salient in terms of generating opportunity cost." 8/6/20 Tr. 621:19-622:3 (Willig).

711. Professor Willig explained that, [ ] 8/5/20 Tr. 354:25-355:4 (Willig). For example, the Zauberman Survey indicates that 9.1% of respondents would switch from ad-supported noninteractive services to a new on-demand subscription, whereas the Hanssens survey found 21.3% for this category. 8/5/20 Tr. 493:16-494:8 (Willig); *see id.* at 497:8-9 (Willig) (noting that diversion to paid on-demand subscriptions is "far and away the most important quantitatively"). For this category of diversion, and indeed summing across *all* categories of diversion, using the Hanssens survey "would much elevate the opportunity cost built up from those numbers." *Id.* at 494:13-14, 494:21-495:14 (Willig). The same conclusion

holds with respect to diversion from subscription noninteractive services. *Id.* at 497:16-25 (20.6% of respondents to Hanssens Survey would purchase new subscriptions to on-demand services, compared to 11.5% of respondents to Zauberman Survey). In both cases, "the Zauberman Survey is quite conservative when it comes to my use of the surveys for the estimation of opportunity costs." *Id.* at 494:14-17, 494:21-495:8, 498:15-17 (Willig). Specific issues related to these three surveys are discussed in detail in the below subsections.

1. Professor Zauberman Conducted a Reliable and Informative Survey

712. Professor Zauberman designed and directed an online survey conducted between September 6 and September 13, 2019. Ex. 5606 ¶ 19 (Zauberman WDT). The survey was carefully designed and executed, and followed scientific principles of survey research to ensure results were reliable and scientifically valid. *Id.* at ¶¶ 16, 20. In implementing the survey, Professor Zauberman was assisted by the Brattle Group, an economic consulting firm, and Dynata, a marketing research company with extensive experience in conducting surveys. *Id.* at ¶ 28. The survey was conducted under double-blind conditions. *Id.* at ¶ 29.

713. The Zauberman Survey was intended to measure the music-listening behavior of current listeners to Streaming Radio services. *Id.* at ¶ 12. Professor Zauberman defined "Streaming Radio services" as services that provide *free* or *paid* custom, personalized radio stations streamed over the internet where listeners cannot choose a specific song. *Id.* at ¶ 12 n.4. The Zauberman Survey defined "current listeners of Streaming Radio services" as people who used one or more Streaming Radio services as a music-listening option in the past 30 days. *Id.* at ¶ 13; 8/27/20 Tr. 4190:2-4191:5 (Zauberman) (explaining choice of 30-day timeframe).

714. The survey asked consumers how they would listen to music if *free* or *paid* Streaming Radio services were not available. Ex. 5606 ¶ 13 (Zauberman WDT). It also assessed

how certain current listeners of Streaming Radio services would allocate their listening time across the replacement music-listening options they selected. *Id.* at ¶ 14.

715. In total, 2,151 respondents answered both the current listening question (Q1) and the replacement question (Q2). *Id.* at ¶ 20. That group was comprised of respondents in two "cells," meaning that respondents were asked about one of two different scenarios. 1,416 respondents were asked questions about a scenario in which *free* Streaming Radio would no longer be available, and 735 were asked questions about a scenario in which *paid* Streaming Radio would no longer be available. *Id.* at ¶ 22 & App. F (screening statistics), App. G (survey responses). A subset of respondents in each scenario was also asked how they would allocate their time among replacement music-listening options (Q3, Q3A). *Id.* at ¶ 26.

716. The survey questions and all descriptions were pretested to ensure that respondents understood and could respond to the survey accurately. *Id.* at ¶ 30. The survey was conducted by Dynata, a highly reputable survey firm that prescreens all panel participants. *Id.* at ¶ 39; *id.* at ¶¶ 40-41 (describing click balancing and safeguards built into Dynata's recruiting structure); 8/27/20 Tr. 4180:1-19 (Zauberman) (Dynata conducts rigorous screening, including assigning each panelist a "trust score" based on past participation).

717. Professor Zauberman took additional steps to ensure the reliability of the survey, including screening respondents for demographic and other qualifying information; ensuring that respondents were members of the target population; requiring respondents to complete a CAPTCHA to confirm that they were human beings as opposed to bots; using quasi-filters (i.e., "Don't know/unsure," and "Other") where applicable; randomizing questions to control for order effects; randomly assigning qualified respondents to the "paid" or "free" cells; terminating respondents who answered "unsure" to any question; eliminating respondents who completed the

survey too quickly (less than 90 seconds) or too slowly (more than 15 minutes); and performing other analyses to ensure robustness of the sample. Ex. 5606 ¶¶ 20, 31-33, 36-37, 52 (Zauberman WDT); 8/27/20 Tr. 4201:16-4203:9 (Zauberman) (describing rigorous screening process and robustness checks).

718. Internet surveys are a widely accepted form of market research, on which both this tribunal and numerous federal courts have relied. *See, e.g.*, *SDARS III*, 83 Fed. Reg. at 65210, 65231-40; *In re NJOY, Inc. Consumer Class Action Litig.*, 120 F. Supp. 3d 1050, 1080-81 (C.D. Cal. 2015) (accepting expert contention that Internet panel surveys are a "well-accepted approach in the field of consumer advertising and consumer research" (quotation marks omitted)); *GoSMiLE, Inc. v. Levine*, 769 F. Supp. 2d 630, 643-44 (S.D.N.Y. 2011).***

719. A correctly designed Internet survey that is representative of the target population can be used to draw valid statistical inferences about the target population. Ex. 5606 ¶ 38 (Zauberman WDT). Professor Zauberman used a bootstrapping procedure, derived from 1,000 resamples, to calculate 95% confidence intervals around his survey results. *Id.* at ¶ 67; *see id.* at pp. 29-35, Figs. 7-11 & App. G; *see also* 9/1/20 Tr. 4966:16-19 (Reiley) (testifying that 95% confidence intervals are a standard way of reporting statistical uncertainty).

720. The complete survey and programming instructions are presented in Appendix D to Professor Zauberman's written direct testimony, with sample screenshots presented in Appendix E. Ex. 5606 ¶ 29 & Apps. D & E (Zauberman WDT); 8/27/20 Tr. 4245:19-25 (Zauberman) (screenshots in Appendix E are exemplars, which show one of multiple customized scenarios).

721. Prior to beginning the main questionnaire, respondents were provided with a list of music-listening options in random order, with a description and examples of each option. Respondents were encouraged to read this list and told the descriptions would appear again later

in the survey. The list included approximate retail prices for subscription streaming services, *see* Figure 16 below, which also were shown to respondents whenever a survey question offered respondents the option to purchase a new subscription. 8/27/20 Tr. 4179:17-21 (Zauberman) ("Q: Okay. So every time there's a choice as to whether or not you want to subscribe to something new, the price is always presented together with that choice? A: Absolutely, Judge."); *see also id.* at 4178:21-4179:16 (Zauberman).

Figure 16: Music-Listening Options (S7)
Ex. 5606, Fig. 1 (Zauberman WDT)

MUSIC-LISTENING OPTIONS
A **PAID on-demand streaming** service, such as Spotify Premium, Apple Music, YouTube Premium, and Amazon Music, where you can choose the specific songs you want to hear on-demand and/or listen to playlists, all commercial free, at a price of approximately $9.99 per month.
A **FREE on-demand streaming** service, such as free Spotify and free YouTube, where you can choose the specific songs you want to hear on-demand and/or listen to playlists, but must listen to advertisements.
AM/FM radio on a traditional radio receiver. (This option does not include AM/FM radio streamed over the internet or on a phone.)
A **PAID streaming radio** service, such as Pandora Plus, iHeart Radio Premium, and Rhapsody unRadio, where you can listen to customized radio stations commercial free, but cannot choose a specific song, at a price of approximately $4.99 per month. (This option also includes SiriusXM streamed over the internet or on a phone, but not on a satellite receiver.)
A **FREE streaming radio** service, such as personalized radio services like free Pandora and free iHeart Radio, and online streams of AM/FM radio stations, where you cannot choose a specific song, and must listen to advertisements.
Sirius XM satellite radio on a satellite receiver in your car, home or somewhere else, at a price of approximately $10.99 to $20.99 per month. (This option does not include Sirius XM streamed over the internet or on a phone.)
CDs, vinyl records, or MP3 files that you own.

Ex. 5606 ¶ 49 & Fig. 1; *see id.*, Apps. D & E (Zauberman WDT).

722. *Current Listening Question (Q1)*: In the main survey, respondents were asked how they have listened to music in the past 30 days. *Id.* at ¶ 51. Respondents were provided with the list of seven music-listening options, and asked to select "Yes," "No," or "Unsure" for each option. *Id.* at ¶¶ 51-52, 54. Figure 7 of Professor Zauberman's written direct testimony shows the responses to Question 1. *Id.* at ¶ 69, Fig. 7.

723. *Replacement Question (Q2):* After being provided with a hypothetical scenario in which *free* or *paid* Streaming Radio services were no longer available, respondents were asked how they would replace the time they currently spent listening to music on their *free* or *paid* Streaming Radio service(s). *Id.* at ¶ 57. Question 2 asked:

> If you could no longer listen to music with a **[FREE or PAID] streaming radio** service(s), which of the following music-listening option(s) would you now use instead during that time.

Id. Respondents were presented with the same list of music-listening options, with two exceptions: The Streaming Radio option that was made unavailable in a respondent's given hypothetical scenario was omitted, and all respondents were given the option of "do[ing] something other than listen to music." *Id.* Again, respondents were asked to select "Yes," "No," or "Unsure" for each replacement option listed. *Id.* at ¶ 57, Figs. 4 & 5. Respondents were able to choose more than one option. *Id.* at ¶ 70.

724. The Zauberman Survey explicitly asks about replacement time—that is, the option(s) respondents would "use instead" during the time that they otherwise would have listened to music on free or paid Streaming Radio. Ex. 5606 ¶¶ 52, 55-57, 70 & App. D (Zauberman WDT); *see* 8/10/20 Tr. 1098:11-17 (Willig) ("[I]t's really carefully worded to speak to the replacement of the time that the respondent would have otherwise spent listening to the service that has now disappeared.").

725. The Zauberman Survey also repeatedly specifies that the replacement questions are focused on time respondents would have spent listening to *music*, not the time they would have spent listening to non-music content on streaming services. The main questionnaire begins with the instruction:

> **In this survey, you will be asked about the ways that you listen to music.**
>
> In your responses throughout the survey, refer only to **music** that you actively choose to listen to or subscribe to. Do not include listening to any podcasts, talk radio, other non-music content, or music you happen to hear in a public setting, such as in a store, in an elevator, etc.

See Ex. 5606, App. D (Zauberman WDT). This instruction is reinforced throughout the survey, including in each of the substantive questions. *Id.*

726. Further information about Professor Zauberman's replacement questions can be found in his written and oral testimony. *See id.* at ¶¶ 57, 70 & App. D; 8/27/20 Tr. 4183:1-4184:3, 4186:16-4187:4 (Zauberman). To facilitate calculation of diversion ratios, Professor Zauberman provided Professor Willig with the raw responses from his survey, along with a corresponding data map defining how the responses were coded. Ex. 5600, App. E ¶ 6 (Willig CWDT). Based on 989 qualified responses for the "free" cell and 563 qualified responses for the "paid" cell, Professor Willig computed the diversion ratios reflected in Figure 17, below. *See id.* at ¶ 47, Fig. 6.

Figure 17: Diversion Ratios from Zauberman Survey
From Ex. 5600, Fig. 6 (Willig CWDT) (RESTRICTED)

[ ]

727. *Time Allocation Questions (Q3/Q3A):* Lastly, Professor Zauberman asked a subset of respondents two additional questions about how they would allocate their music-listening time to each replacement option they had selected. Ex. 5606 ¶ 59 (Zauberman WDT).

728. Consistent with best survey practices, these questions were only asked of the respondents for whom they were relevant and necessary. 8/27/20 Tr. 4194:12-4195:5 (Zauberman) (testifying that, consistent with the principle of parsimony, he "will not ask something that is not necessary" and explaining why it was unnecessary to ask all respondents Q3/Q3A); *see also* 8/26/20 Tr. 4114:6-23 (Hanssens) (discussing principle of parsimony). The questions were only relevant and necessary for respondents who indicated they would use an ad-supported streaming option in the hypothetical scenario, Ex. 5606 ¶ 59 & n.35 (Zauberman), and also indicated they were sure they would use multiple replacement options in the hypothetical scenario. *Id.* at ¶ 58; 8/27/20 Tr. 4193:13-24 (Zauberman). That is because additional information about relative usage was only needed where respondents indicated they would use a streaming service that pays royalties on a per-play basis and indicated they would use multiple services.[24] 8/27/20 Tr. 4193:13-4195:5 (Zauberman); Ex. 5606 ¶ 59 (Zauberman WDT).

729. The prompt and response options for questions 3 and 3A were customized based on cell assignment and on the day of the week on which a respondent took the survey. Ex. 5606 ¶¶ 60-61 & App. D (Zauberman WDT) (programming instructions). For instance, a respondent completing the survey on a Tuesday, and assigned to the scenario in which *free* Streaming Radio services were no longer available, was asked whether he would "expect to listen to [his] **FREE streaming radio** service(s) on Tuesday of next week." If that respondent answered affirmatively, and therefore moved on to Question 3A, he was then asked to allocate "the time [he] would have listened to [his] **FREE streaming radio** service(s) on Tuesday of next week" by assigning each

[24] Professor Zauberman also precluded respondents from answering the time allocation question if they indicated they were "unsure" about whether they would use any particular replacement option in the hypothetical scenario—indeed, Professor Zauberman terminated those respondents. Ex. 5606 ¶ 63 (Zauberman WDT). Under those circumstances, Professor Willig assigned zero switching time to all categories, which is conservative with respect to opportunity cost. Ex. 5600, App. E n.7 (Willig CWDT).

option a portion of the replacement time between 0 and 100% (Q3A). *Id.* at ¶¶ 60-61, 64-65 & Apps. D & E (sample screenshots).

730. A complete description of Professor Zauberman's time allocation questions can be found in his written direct testimony. *See id.* at ¶¶ 58-65, 75-76. The results of that time allocation question are reported in Figures 10 (free streaming listeners) and 11 (paid streaming listeners) of Professor Zauberman's written direct testimony. The data in those figures should and do add up to 100% for each individual respondent, but should not and do not add up to 100% on a cumulative basis across all respondents. That is because the time allocation questions are conditional questions in which respondents selected not only different replacement options but also different numbers of replacement options, as reflected in data from Exhibit 5026 (Zauberman Survey Data) and illustrated in Figure 18 below. In utilizing the Zauberman Survey, Professor Willig ensured that each respondent's time allocations added up to 100% to avoid any over-counting. 8/25/20 Tr. 3885:11-3886:1 (Willig) ("[T]he way I used those data is that the different options that people say they will utilize, in reaction to losing the services, they are asked to give a set of numbers that add up to 100 percent . . . . The way I use the data, they do add up to 100 percent.").

Figure 18: Time Allocation Example

Zauberman Respondent ID	PAID On-Demand	FREE On-Demand	PAID Streaming	AM/FM	CDs	**Total**
788	50%	30%	-	5%	15%	**100%**
829	30%	30%	30%	5%	5%	**100%**
Average time allocation	40%	30%	30%	5%	10%	**115%**

2. The Hanssens and Simonson Surveys Corroborate Professor Zauberman's Findings

731. Two additional experts—one retained by Sirius XM and Pandora and the other retained by SoundExchange—ran surveys designed to test how consumers of noninteractive streaming services would respond if their current service(s) were no longer available in the same form. The surveys conducted by Professor Hanssens and Professor Simonson are reliable and informative, and their results largely comport with Professor Zauberman's findings regarding replacement options. *See generally* Ex. 5608 (Simonson CWRT); Ex. 4095 (Hanssens CWDT).

i. The Hanssens Pandora Survey Confirms that Professor Zauberman's Replacement Data Is Reliable

732. Sirius XM and Pandora retained Professor Dominique Hanssens to conduct two consumer surveys. Like the Zauberman Survey, the Hanssens Surveys measured how consumers would respond if their noninteractive streaming services changed. Ex. 4095 ¶¶ 13, 33, 39-40 & App. 6 (Hanssens CWDT). The "Pandora Survey" addressed listeners of Free Internet Radio and the "Sirius XM Survey" addressed listeners of Sirius XM's subscription webcasting service. *Id.* at ¶ 20. The Pandora Survey and Sirius XM Survey pose comparable hypotheticals and proceed in parallel. *Id.* at ¶¶ 33, 66 & Apps. 6 & 12. SoundExchange's Findings of Fact and Conclusions of Law focus on the Hanssens Pandora Survey, unless otherwise indicated.

733. *Professor Hanssens' Assignment*. According to Professor Hanssens, the goal of the Pandora survey was to answer (among others) the following questions. First: "Whether listeners of Free Internet Radio would change their listening to Free Internet Radio if the music selection across all Free Internet Radio Services were limited by the loss of access to ***any given record company's repertoire***." *Id.* at ¶ 21 (emphasis added). And second: "Which alternative sources of music, if any, listeners of Free Internet Radio would turn to if the music selection across all Free Internet Radio services" were limited in the same fashion. *Id.*; *see also id.* at ¶ 13.

734. To answer the above questions, Professor Hanssens designed a hypothetical that asked respondents to: "Imagine that you were not satisfied with [this service] because you noticed that it had stopped streaming songs ***by some of your favorite artists and some newly released music***. Imagine that all other **Free Internet Radio** services stopped streaming those same songs as well." *Id.* at ¶ 33 & App. 6 (Hanssens CWDT) (first emphasis added) (explaining that hypothetical was intended to address any concern that listeners do not know what music is associated with a particular record company and to ensure degradation scenario was presented "in a way music listeners could easily understand").

735. At trial, Professor Hanssens appeared to suggest his decision to design a hypothetical focused on artists and new releases would actually *preclude* someone from relying on his results to evaluate user reaction to the loss of a particular record company's repertoire.[25] *See* 8/26/20 Tr. 4092:11-4093:8 (Hanssens). That testimony is not credible.

736. In his written testimony, Professor Hanssens emphasized that his reference to artists and newly released music was intended to ensure he could answer questions concerning "how U.S. based listeners of Free Internet Radio services (which includes free Pandora) would react in terms of music listening behaviors in the event that the selection of music available on all Free Internet Radio services was limited by the ***loss of access to any given record company's repertoire***." Ex. 4095 ¶ 33 (Hanssens CWDT) (emphasis added). Even headings in Professor Hanssens' written testimony indicate that responses to his hypothetical are intended to answer questions about user reaction to the loss of access to a given record company's catalogue. *See, e.g.*, *id.* at Headings

[25] Professor Hanssens also suggested that his survey could not be used to evaluate user reaction to the loss of a particular record company's catalogue because his hypothetical was focused on consumers who notice and are impacted by the loss of music. 8/26/20 Tr. 4093:5-8 (Hanssens). However, that explanation finds no support in the record, because Professor Simonson's modification of the Hanssens survey confirms that language asking respondents to presume they notice and are dissatisfied by the change had no effect on results. *See infra* ¶¶ 750-51 & Part VIII.A.

V.B.4.a (p. 22) & V.B.4.c (p. 27). And during cross-examination, Professor Hanssens conceded that his hypothetical was designed to address questions concerning "the loss of access to any given record company's repertoire." 8/26/20 Tr. 4106:6-4107:17 (Hanssens) (Q: "[T]he hypothetical that you formulated in your instrument was designed to address that assignment, right?" A: "Yes.").

737. *First "Key Result."* Professor Hanssens asked respondents whether they would listen to free internet radio more, less, or about the same under his hypothetical. Ex. 4095 ¶ 34 (Hanssens CWDT). Professor Hanssens reported the results in Part V.B.4.a of his written direct testimony (which tellingly is titled "Would listeners of Free Internet Radio services change their listening to Free Internet Radio services if the music selection across all Free Internet Radio services were limited by the loss of access to any given record company's repertoire"). *Id.* at p. 22.

738. Professor Hanssens reported that 60.1% of respondents would listen to Free Internet Radio services less.[26] *Id.* at ¶¶ 39-40 & Table 1; *see also* 8/26/20 Tr. 4107:14-17 (Hanssens). Professor Hanssens also reported that 35.8% of respondents would listen to Free Internet Radio services about the same amount and that 4.2% of respondents were not sure about what actions they would take. Ex. 4095, Table 1 (Hanssens WDT).

739. In calculating his results, Professor Hanssens excluded respondents who indicated they would use Free Internet Radio services more in response to his hypothetical. As he testified at trial, that response is "counterintuitive . . . [b]ecause it is inconsistent with the notion of consumers seeking value." 8/26/20 Tr. 4135:20-4136:9 (Hanssens); *see also* Ex. 4095 ¶ 39 (Hanssens CWDT); *accord* 8/10/20 Tr. 1122:11-1123:13, 1124:6-14 (Willig); *cf.* 8/10/20 Tr. 986:15-988:8 (Willig).

[26] That number rises to 61.8% after accounting for Professor Hanssens' subsequent exclusions. Ex. 5601 ¶ 31 & n.55 (Willig WRT).

740. Professor Hanssens' belief that it is counterintuitive to increase use of Free Internet Radio is consistent with other portions of his written testimony. In fact, throughout his written testimony, Professor Hanssens uses the term "degradation" to describe the scenario in which music selection on free internet radio is limited by the loss of access to any given record company's content. *See generally* Ex. 4095; *accord* 8/26/20 Tr. 4108:3-7 (Hanssens). Professor Hanssens used that term because consumers are value seekers, because the availability of music creates value, and because his hypothetical scenario involves narrowing the number of sound recordings made available to consumers. 8/26/20 Tr. 4108:3-20 (Hanssens); 8/27/20 Tr. 4281:5-22 (Simonson).

741. *Second "Key Result."* Professor Hanssens also asked certain respondents to indicate what alternative sources of music they would increase listening to under his hypothetical. Ex. 4095 ¶ 34 (Hanssens WDT). Professor Hanssens reported results in Part V.B.4.c of his written testimony (which is titled, again tellingly, "[W]hich sources of music, if any, would listeners of Free Internet Radio change their listening to if the music selection across all Free Internet Radio services were limited by the loss of access to any given record company's repertoire"). *Id.* at p. 27.

742. Like the Zauberman Survey, the Hanssens Pandora Survey found that a significant number of respondents who listen to ad-supported noninteractive streaming services would replace those services with other music-listening options. For example, the Hanssens survey found that 21.3% of qualifying respondents would purchase a new subscription to an on-demand service. *Id.* at ¶ 49, Table 3.

743. The record leaves no doubt that the 21.3% figure represents a diversion ratio, not a "loss rate" (as Professor Shapiro tried to claim). *See* 8/20/20 Tr. 3136:18-23 (Shapiro). Specifically, the figure represents the number of users who would divert from Free Internet Radio to a newly purchased subscription to an on-demand service, if the music selection across all Free

Internet Radio services were degraded by the loss of access to any given record company's repertoire. Ex. 4095 ¶ 21 & Table 3 (Hanssens WDT); *see also* 8/26/20 Tr. 4155:25-4156:5 (Hanssens) (Q: "So just to be clear, this is a measure of where respondents had switched their listening, not a measure of how much listening would be lost on a degraded service, right?" A. "I agree. It—it's about the direction of change, yes."); *see infra* Part VIII.B.1.

744. Professor Hanssens also found material diversion to other royalty bearing channels of distribution, including through purchase of new paid internet radio services (26.6%), through increased use of free on-demand service (45.6%), and through purchase of a new Sirius XM webcasting subscription (15.3%). Ex. 4095 ¶ 49, Table 3 (Hanssens WDT). Ultimately, and despite the differences in the Hanssens and Zauberman surveys, both found similar results in terms of *which* replacement options respondents would choose. *See infra* Figure 19; *compare* Ex. 4095 ¶¶ 42-50 & App. 6 (Hanssens CWDT), *with* Ex. 5606 ¶¶ 70-72 & Fig. 8 & Apps. D & G (Zauberman WDT).

ii. The Simonson Surveys Further Corroborate the Other Survey Experts' Findings

745. The results of the Simonson Surveys further corroborate the findings of the Zauberman and Hanssens Surveys regarding consumers' choice of replacements for ad-supported noninteractive services. *See generally* Ex. 5608, App. F at Table 4B (p. 245) & App. G (Simonson CWRT); *see infra* Figure 19.

746. SoundExchange retained Professor Itamar Simonson to assess the testimony of several witnesses, including Professor Hanssens. In so doing, Professor Simonson ran a replication of the Hanssens Pandora Survey ("Hanssens Replication" survey), as well as a modified version of that survey ("Modified Hanssens Survey"). Ex. 5608 ¶ 12 (Simonson CWRT).

747. To implement his Hanssens Replication survey, Professor Simonson adopted the same methodology and screening criteria as Professor Hanssens used in the Hanssens Pandora Survey. *Id.* at ¶¶ 88, 92; 8/27/20 Tr. 4282:15-4283:13 (Simonson). As Professor Simonson explained at trial, the results of his Replication survey indicate that the Hanssens Pandora Survey is reliable, because it can be replicated with a different panel and at a different time of year. 8/27/20 Tr. 4283:14-23 (Simonson); *accord* 8/26/20 Tr. 4090:12-25 (Hanssens).

748. The Modified Hanssens survey was, in methodology and target population, materially identical to the original Hanssens Pandora Survey, with two exceptions. Ex. 5608 ¶ 91 & App. D (Simonson CWRT).

749. *First*, the Modified Hanssens Survey tested whether removing the language instructing respondents to imagine they were "not satisfied" and "noticed" degradation changed their responses. 8/27/20 Tr. 4284:22-4285:8 (Simonson); Ex. 5601 ¶ 32 n.56 (Willig WRT). Professor Simonson modified the Hanssens hypothetical to read as follows:

> Imagine that this service stopped streaming songs by some of your favorite artists and some newly released music. Imagine that all other Free Internet Radio services stopped streaming those same songs as well.

Ex. 5608 ¶ 95 (Simonson CWRT); *see also id.* at App. D (Simonson CWRT) (omitting dissatisfaction and notice language throughout Modified Hanssens Survey); 8/27/20 Tr. 4284:1-7 (Simonson); *accord* Ex. 5601 ¶ 32 n.56 (Willig WRT).

750. The Modified Hanssens Survey shows that removing the notice and dissatisfaction language from Professor Hanssens' hypothetical had little impact on respondents' decision-making. *See infra* Figure 19; 8/26/20 Tr. 4093:9-4094:5 (Hanssens); *see also* Ex. 5608 ¶ 99 (Simonson CWRT); 8/26/20 Tr. 4104:22-25 (Hanssens); 8/27/20 Tr. 4284:1-4286:22 (Simonson); Ex. 5601 ¶ 32 n.56 (Willig WRT).

751. Because respondents' selection of replacement options does not depend on the notice or dissatisfaction language, Professor Simonson's modification shows that the implications of the Hanssens Pandora Survey are not limited to listeners who themselves notice degradation and are dissatisfied with it. 8/27/20 Tr. 4284:1-4286:22 (Simonson); Ex. 5601 ¶ 32 n.56 (Willig WRT) ("[T]his 'not satisfied' language seems to have been just a point of clarification to help respondents understand the hypothetical rather than a way to target just a subset of listeners that would become dissatisfied from a record company blackout.").

752. *Second*, at the request of SoundExchange's economic experts, Professor Simonson added a question to determine the magnitude of respondents' likely decrease in listening to ad-supported noninteractive services in the hypothetical degradation scenario. Ex. 5608 ¶¶ 89-90 & App. D (p. 80) (Simonson CWRT) (Q225: "[H]ow much less time would you spend listening to Free Internet Radio services in a typical week?"); *see also id.* at App. F, Table 2A (p. 237) (reporting responses); Ex. 5601 ¶ 34 (Willig WRT) (using Simonson data to calculate an overall reduction in listening of [[redacted]]).

753. For reasons set out elsewhere, the results of this question undermine the validity of Pandora's label suppression experiments. *See infra* Part VIII.A.

754. Professor Simonson testified at length about this question. 8/27/20 Tr. 4284:1-4285:24, 4288:19-4289:24 (Simonson). Drawing on extensive research, including his own work, Professor Simonson applied two background principles to construct a question that would permit reliable estimation of decreased listening time: (1) respondents can make relative assessments about the percentage of time they devote to an activity relative to a status quo, but have difficulty reporting absolute values, and (2) relative assessments are more reliable when respondents have some latitude in offering estimations. *Id.* at 4288:19-4290:17 (Simonson). For these reasons,

Professor Simonson's listening time question represents a reliable approach to collecting data about the magnitude of lost listening time. Indeed, providing respondents with relatively wide ranges based on percent of time, and relying on the middle point of each, ensures that data collection and interpretation is grounded in a realistic appraisal of the information that respondents reliably can provide. *Id.* at 4288:19-4290:3 (Simonson).

755. The survey data of Professors Zauberman, Hanssens, and Simonson show that many users of ad-supported noninteractive services would switch their listening to other options, in the various hypothetical scenarios presented. Moreover, these three experts all found remarkably similar patterns of diversion of ad-supported users to other options. 8/26/20 Tr. 4090:16-25 (Hanssens) (testifying that his survey and Simonson's Replication "gave results very, very similar" to one another and, therefore, "add[ed] to the credibility and generalizability" of the data); *id.* at 4093:9-4094:14 (Hanssens) (testifying that the results of Simonson's Replication and Modified Hanssens Surveys are also "very comparable" and that differences between them are "very minor"); 8/27/20 Tr. 4283:14-23 (Simonson); *id.* at 4185:18-4187:4, 4217:12-14 (Zauberman) (results of replacement listening questions across three experts' surveys "highly consistent"). The below figure compares those findings.

Figure 19: Comparison of Zauberman / Hanssens / Simonson Replacement Data For Users of Ad-Supported Noninteractive Services

	Share of Respondents who would pay for a new subscription to		Share of Respondents who would increase purchases of	Share of Plays that would divert to a new or existing subscription to	
	Sirius XM satellite radio	Subscription on-demand	CDs, vinyl, downloads	Subscription Noninteractive	Ad-supported on-demand
Zauberman (Q2)	5.50% [4.2% – 6.9%]	9.10% [7.2% – 11.1%]	14.8%[27] [12.7% – 17.2%]	4.30% [3.6% – 5%]	19.3% [19.1% – 22.5%]
Simonson – Modified Hanssens (Q230)	5.60%	12.40%	29.00%	9.50%	17.00%
Simonson – Hanssens Replication (Q130)	8.30%	21.90%	27.80%	9.80%	18.40%
Hanssens Pandora (P50)	12.70%	21.30%	29.90%	11.40%	32.4%

Ex. 4095 ¶¶ 49-50 (Hanssens CWDT); Ex. 5600 ¶ 47, Fig. 6 & App. E at ¶¶ 14-20 (Willig CWDT); Ex. 5601, App. J (Willig WRT); Ex. 5608 ¶ 98 & App. F at Tables 4B, 5A (Simonson CWRT); *see also* Ex. 4094 at 7 & App. D (Shapiro Second CWDT). The bracketed numbers indicate the range within Professor Zauberman's 95% confidence intervals for each option. *See* Ex. 5606 ¶ 67 & App. G (Zauberman WDT).

756. As indicated in this figure, and as Professor Zauberman testified, "[i]f anything, [the Zauberman] results tend to be slightly conservative compared to" the results offered by Professors Hanssens and Simonson. 8/27/20 Tr. 4186:7-4187:4 (Zauberman).

757. The similarity among these findings confirms that Professor Zauberman's replacement question (Q2) elicited informative data regarding the behavior of ad-supported

[27] The percentage in the Zauberman Survey reflects the share of respondents who would purchase new CDs, vinyl, and downloads, as opposed to the share of respondents who would increase their purchases of these media. *See* 8/5/20 Tri. 496:8-497:1 (Willig). At trial, Professor Willig explained why he was unable to generate an apples-to-apples comparison across this diversion category and why this did not impact his bottom-line comparison of opportunity cost using each survey. *Id.* at 496:12-497:9 (Willig).

noninteractive listeners. In fact, the general agreement evident in these three surveys—as to how they approached survey design and the resulting replacement data—adds to their credibility and suggests that all three are roughly accurate. 8/26/20 Tr. 4090:16-25, 4093:16-4094:5 (Hanssens); 8/27/20 Tr. 4185:18-4187:4, 4217:12-14 (Zauberman); *id.* at 4282:17-4283:22 (Simonson).

3. All Three Experts' Surveys Elicit Conservative Diversion Ratios

758. *Hanssens and Simonson*: Any calculation of diversion ratios based on the Hanssens Surveys (and the Simonson Surveys by extension) is likely to be conservative for at least three reasons. First, Professor Hanssens required respondents to consider whether they would increase listening to various entertainment options before permitting respondents to indicate whether they would increase listening to particular music options. *See* Ex. 4095 ¶¶ 34 & App. 6 (Hanssens CWDT); 8/26/20 Tr. 4097:20-4098:7 (Hanssens) (describing use of consideration set). This consider-then-choose approach can depress diversion to key distribution platforms, and is not grounded in a realistic appraisal of consumer decision-making, because deciding whether and from where to consume music is a decision that involves little financial risk and can easily be reversed. *See* Ex. 5607 ¶¶ 73, 93-94 (Zauberman WRT); Ex. 5608 ¶¶ 16, 75-81 (Simonson CWRT).

759. Second, Professor Hanssens presented numerous non-music replacement options. *See* Ex. 4095 ¶¶ 33-34 & App. 6 (Hanssens CWDT). The inclusion of these non-music options is likely to have resulted in lower rates of diversion to alternate *music* services. Ex. 5607 ¶¶ 69-71, 93-94 (Zauberman WRT); Ex. 5608 ¶¶ 71-74 (Simonson CWRT); Ex. 5492 (detailing corrections to relevant parts of Zauberman WRT).

760. Third, Professor Hanssens did not allow respondents to take his surveys on their smartphones, despite the fact that a large proportion of users stream music via smartphone. Ex. 4095 ¶¶ 26 n.19, 33-34 & App. 6 (Hanssens CWDT). Excluding this group of potential respondents necessarily skewed the survey population. Ex. 5607 ¶¶ 82-88 (Zauberman WRT). As both the

Zauberman Survey and the Hauser Survey conducted on behalf of NAB show, respondents who took those surveys on their smartphones tended to be younger, to listen more heavily, and to replace Free Streaming Radio with Paid streaming services at higher rates than those who took the survey on other devices. Ex. 5607 ¶¶ 86-88 & Table 5 (Zauberman WRT) ("Table 5: Music Listening in Past 30 Days by Device in the Zauberman Survey").

761. *Zauberman*: Professor Zauberman also made a number of decisions indicating that his diversion ratios are conservative. For example, he did not allow respondents to indicate that they would subscribe to multiple paid subscription services in a given category. The replacement options available to respondents who said they already used a paid Streaming Radio or paid On-Demand Streaming service (Q1) included listening to that existing service but not subscribing to a new one of that kind (Q2). *See* Ex. 5606 at App. D (p. 63) (Zauberman WDT) (programming instructions stating that Q2 response options should be customized such that "if a respondent indicated in Q1 that he/she listens to a paid-OD service, word as 'Listen to your PAID-on demand streaming service'" and not "Subscribe" to such a service). This design choice likely resulted in conservative diversion ratios, given [ ]. *See e.g.,* Ex. 5144 at 13 ([ ]).

762. Additionally, Professor Zauberman's definitions make lower royalty-bearing streaming options more attractive by minimizing some of their limitations. In describing "FREE streaming radio services" and "FREE on-demand streaming services," for instance, the Zauberman Survey does not mention that many such services limit the number of songs that a user can skip or that these services do not allow songs to be replayed. *Compare* Ex. 5606, App. D (Zauberman WDT), *with* Ex. 4095 at Apps. 6 & 12 (Hanssens WDT) (noting in definitions that "**Free Internet**

Radio services generally have advertisements, do not allow unlimited song skips, and do not allow listeners to replay songs).

763. Finally, as discussed below, Professor Zauberman's treatment of listening to CDs, vinyl records, and MP3 files likely understates purchasing of those media. *See* Ex. 5606, App. D (Zauberman WDT); *see infra* at ¶¶ 780-81.

4. The Services' Critiques of the Zauberman Survey Have No Merit

764. The Services—particularly NAB—have advanced several meritless arguments in an attempt to call the reliability of the Zauberman Survey into question. Even putting aside the similarity of Professor Zauberman's findings with those of Professors Hanssens and Simonson, *see supra* Figure 19, the Services' critiques all fail on their own terms.

765. *Attention Checks:* Professor Hauser's unfounded claim that Professor Zauberman erred in deciding not to ask any "attention check" questions is contrary to all available evidence. Neither Professor Hauser's broad generalization about the need for such questions, nor his reference to the 38% failure rate of respondents answering one such question in his own survey, is a credible basis for his position. Ex. 2161 ¶¶ 31-34 (Hauser WRT).

766. There is no evidence that attention check questions are always necessary. Each of the other survey experts acknowledged that tools other than attention checks can be used to ensure that respondents are engaged in a survey. 8/26/20 Tr. 4114:6-4116:11 (Hanssens) (implementing principle of parsimony is one way to reduce the risk of inattentiveness); 8/27/20 Tr. 4283:5-13, 4295:12 (Simonson) (testifying that he does not normally use attention check questions); *id.* at 4201:4-4208:1 (Zauberman); Ex. 4095 ¶ 39 (Hanssens CWDT) (substantive question (P20) in Hanssens Pandora Survey functions as a check on respondents' attentiveness). Tellingly, even Professor Hauser did not state this criticism as a general rule. 8/27/20 Tr. 4334:23-4335:1 (Hauser) (testifying merely that attention checks are now "becoming widely used").

767. Explaining that decisions about whether or not to include attention check questions in a survey must be context-dependent, Professor Zauberman discussed how and why these tools were developed: "To explain when I use an attention check, attention check[s] were essentially provided when we no longer knew who the respondents were. In the old days where respondents were, say, college students in our campuses or people we intercept in malls, we didn't have attention checks. We didn't need [them]. We knew who these respondents are. With the expansion of the Internet panel, that's where we needed—we didn't know who these people are, we didn't know what they're doing. We invented these attention checks." 8/27/20 Tr. 4203:19-4204:4 (Zauberman); *see also id.* at 4201:4-4203:19 (Zauberman).

768. Although attention check questions can be a useful tool for samples derived from Amazon Mechanical Turk, Prolific, and other automated sources that have no serious monitoring of respondents, Professor Zauberman's survey does not fit that mold. 8/27/20 Tr. 4201:22-4202:3 (Zauberman). Professor Zauberman did not rely on mechanical intercepts of unknown, unmonitored individuals (or bots). *Id.* Rather, he employed a reputable firm whose panelists are monitored and repeatedly verified. *Id.* at 4180:2-15, 4202:1-3 (Zauberman) (Dynata knows who each of its panelists is, recruits and screens them, monitors their performance over multiple surveys, and assigns trust scores based on their ongoing evaluation of quality). This decision alone considerably increased the reliability of his panel.

769. Other checks—including a rigorous screening process, robustness tests, and eliminating respondents who answered "unsure" to even a single response option, as well as the relatively short length of the Zauberman Survey—made an attention check question unnecessary in context. *See* 8/27/20 Tr. 4201:13-4203:9 (Zauberman); *supra* at Part VII.I.1; *compare* Ex. 5606, App. D (pp. 59-65) (Zauberman WDT) (six-page questionnaire requiring "about 5 minutes" to

complete), *with* Ex. 2151, App. D (pp. 111-27) (Hauser WDT) (seventeen-page questionnaire requiring "10-15 minutes" to complete).

770. At trial, Professor Hauser claimed that there are "a lot of people who do not pay full attention" to internet surveys. *See* 8/27/20 Tr. 4334:18-20 (Hauser). But Professor Hauser makes no attempt to distinguish between the need for attention checks in a highly reliable internet survey using a pre-screened panel, like a Dynata panel, versus internet surveys like Amazon Turk, which do not have the same safeguards. *See id.* Moreover, although he could have done so, Professor Hauser did not conduct a rebuttal survey to support his conjecture regarding the Zauberman Survey. *See generally* Ex. 2161 (Hauser WRT).

771. Nor does Professor Hauser cite any academic literature or other evidence to indicate that attention checks provide "higher quality responses" or constitute "best practices in survey research[,]" particularly as to surveys like Professor Zauberman's, which was conducted by a reputable firm using prescreened panels and other checks on reliability. *See* Ex. 2151 ¶¶ 40-42 (Hauser WDT); Ex. 2161 ¶¶ 31-34 (Hauser WRT); 8/27/20 Tr. 4334:23-4335:1 (Hauser) (gesturing broadly at what has "been shown" without identifying support).

772. Still worse, Professor Hauser's written testimony claims that "[t]ypically, many respondents fail attention check questions. This is what was observed in the Hauser Survey and the Hanssens Surveys." Ex. 2161 ¶ 34 (Hauser WRT) (citing no additional evidence). In reality, the high failure rate in Professor Hauser's survey is due to his deeply flawed questions.

773. What Professor Hauser refers to as an "attention check" question actually tests respondents' comprehension rather than their attentiveness. 8/27/20 Tr. 4208:20-4209:9 (Zauberman). In the screening section of his survey, he asks:

QS6. You indicated that you are using a **[insert answer from QS5]** to complete this survey. Your **[insert answer from QS5]** could be of any brand. However, people vary in the amount they pay attention to these kinds of surveys. Some take surveys seriously and read each question, while others take surveys very quickly and barely read the questions at all. If you are the type of person who takes surveys seriously and reads all of the questions, please select Lenovo from the list. *(Select one only)* **[RANDOMIZE LIST, ANCHOR "OTHER" AND "DON'T KNOW" LAST]**

- ⦿ Apple
- ⦿ HP
- ⦿ Dell
- ⦿ Acer
- ⦿ Samsung
- ⦿ LG
- ⦿ Lenovo **[CONTINUE IF "LENOVO" SELECTED, OTHERWISE TERMINATE]**
- ⦿ Other. Please specify: **[ANCHOR; TEXTBOX, DO NOT ALLOW BLANK IF CHECKED]**
- ⦿ Don't know/Unsure **[ANCHOR]**

Ex. 2151 at App. D (Hauser WDT) (in addition to QS6 (the "Lenovo" question copied above), asking respondents an additional flawed "attention check" question at QS9 (the "hologram" question)).

774. In contrast to Professor Hauser's questions, the Hanssens and Simonson Surveys included standard attention checks that do not test comprehension. For instance, Professors Hanssens and Simonson ask respondents to:

SP100. Please select Yellow from the following list in order to continue the survey. *Select one only.* **[PROGRAMMER: RANDOMIZE. ALLOW ONLY ONE SELECTION. TERMINATE IF RESPONDENT DOES NOT CHOOSE 3. ALL OTHERS GO TO P10.]**

1. Green
2. Blue
3. Yellow
4. Red

Ex. 4095 at App. 6 (Hanssens CWDT) (in addition to SP100/SX100 (the "Yellow" question copied above), asking respondents an additional attention check question at P60/X60 (the "Thursday" question)); Ex. 5608 at App. D (Simonson CWRT) (same).

775. The standard attention checks in the Hanssens and Simonson surveys yielded failure rates that are magnitudes smaller than Professor Hauser's flawed "Lenovo" question, and much more in line with industry standards:

Figure 20: Attention Check Failure Rate Comparison of All Surveys

	Number of Respondents Who Answered	Number of Respondents Who Failed	**Attention Check Failure Rate**
Hanssens Pandora Survey • SP100 ("Yellow") • P60 ("Thursday")	826 598	0 2	**0.0%** **0.3%**
Hanssens Sirius XM Survey • SX100 ("Yellow") • X60 ("Thursday")	327 304	2 0	**0.6%** **0.0%**
Simonson Hanssens Replication • SP100 ("Yellow") • P60 ("Thursday")	527 527	0 5	**0.0%** **0.9%**
Simonson Modified Hanssens • SP100 ("Yellow") • P60 ("Thursday")	548 548	0 8	**0.0%** **1.5%**
Hauser Survey • **QS6 ("Lenovo")** • QS9 ("Hologram")	**8,752** 4,971	**3,376** 172	**38.6%** **3.5%**

Ex. 4095 ¶¶ 41, 67 n.89 (Hanssens CWDT); Ex. 5399 (Hanssens Pandora Survey data); Ex. 5400 (Hanssens Sirius XM Survey data); *see also* Ex. 5402 (Simonson data); 8/26/20 Tr. 4112:5-12 (Hanssens); 8/27/20 Tr. 4295:12-17 (Simonson).

776. Had the Zauberman Survey included a standard attention check question, like the questions used in the Hanssens and Simonson Surveys, it would have had no effect whatsoever on his data. 8/27/20 Tr. 4201:4-4208:1 (Zauberman). At the same time, including a "superfluous" question would have been contrary to best survey practices and risked negatively impacting the sample. *Id.* at 4208:22-4209:9 (Zauberman) (an "attention check" that really tests comprehension

skews and truncates the survey population); *see also* 8/26/20 Tr. 4114:6-23 (Hanssens) (discussing principle of parsimony).

777. *30-Day Time Period:* There is no sound basis for NAB's argument that the Zauberman Survey overstates new purchases of subscription streaming services and CDs, vinyl records, and MP3s by failing to adequately distinguish between new and existing replacement options. Ex. 2160 ¶¶ 3, 22, 26 (Leonard CWRT); Ex. 2161 ¶¶ 20-27 (Hauser WRT). This argument hinges on the claim that the 30-day time period that Professor Zauberman uses in Question 1 is inappropriate because it might fail to capture respondents who have paid for physical copies and/or subscription streaming services but not listened to them in the past 30 days. *But see* 8/27/20 Tr. 4181:5-4182:19 (Zauberman) (discussing his choice of 30-day time period).

778. First, NAB asks the Judges to assume there are a material number of respondents who subscribe to paid streaming services, but have not listened to them in the past 30 days. That is unlikely. *See* Ex. 5041 at 3, 7-8 ([ ]); Ex. 5005 at 5-6 ([ ]); 8/27/20 Tr. 4184:8-4185:5 (Zauberman) (the small number of subscribers who may fall in this category makes NAB's critique "a non-issue"). And NAB has provided no contrary evidence. 8/27/20 Tr. 4184:14-17 (Zauberman).

779. Second, even if there are a material number of respondents who subscribe to paid streaming services, but have not listened to them in the past month, NAB's criticism turns on a second unsupported assumption: That, despite already subscribing to an interactive service, those individuals indicated they would purchase a *new* subscription in response to Professor Zauberman's replacement question. There is no reason to think this unsupported assumption is accurate. With the exception of any respondents who were planning to subscribe to *additional* paid

On-Demand streaming services, anyone in this group should have answered "no" or "unsure." Because respondents who answered "no" or "unsure" would not be included in the count of new subscriptions, such responses do not overstate the number of new subscriptions. 8/27/20 Tr. 4184:8-4185:17 (Zauberman); *see* Ex. 5606, App. D (Zauberman WDT).

780. With regard to CDs, vinyl records, and MP3s, NAB's argument depends on another unwarranted assumption: that respondents who would dust off their existing CD collections and start listening to them again would not *also* make new purchases, in order to supplement their collections with new music. *See* 8/6/20 Tr. 843:20-847:14 (Willig). As Professor Willig observed, "those people are not counted at all as having contributed new royalties to the music companies as a result of buying more of the physical forms or the digital files because they already said that they were listening to that form of distribution in the last 30 days." *Id.* at 844:15-20 (Willig). Not counting such purchases introduced a "conservative bias" given that "more than half of all respondents" fell into this category. *Id.* at 846:1-17 (Willig). As such, even assuming NAB's critique has merit, "it seems quite likely that the balance of these two forces is on the conservative side." *Id.* at 846:15-25 (Willig).

781. The Hanssens and Simonson Surveys further undercut NAB's argument that the Zauberman Survey overstates diversion to new purchases of CDs, vinyl records, and MP3s. 8/27/20 Tr. 4184:8-13, 4185:18-4187:4 (Zauberman). The Hanssens and Simonson Surveys, which do distinguish between new purchases and existing collections, find over twice the amount of diversion to new purchases of physical copies as the Zauberman Survey does. *Compare* Ex. 5600 ¶ 47, Fig. 6 (Willig CWDT) ([ ] diversion to CDs, vinyl records, and MP3s based on Zauberman Survey), *with* Ex. 5608, App. F at Table 4B (Simonson CWRT) (comparing data from

the Hanssens Pandora Survey, Simonson's Modified Hanssens Survey, and Hanssens Replication) (see excerpt below; highlighting added); *see also* 8/27/20 Tr. 4185:18-4187:4 (Zauberman).

Figure 21: Comparison of Simonson and Hanssens Results
Q40/140/240 Responses, Qualifying Respondents Only (Excerpt)
From Ex. 5608, Table 4B (Simonson CWRT)

	Hanssens	Simonson	
In place of [listening to] Free Internet Radio in a typical week, I would…	N = 432	Cell 1 N = 424	Cell 2 N = 372
Purchase new physical or digital recordings (downloads) of music	29.9%	27.8%	29.0%
Listen more to physical or digital recordings (downloads) of music I already own	49.3%	51.2%	49.5%
Listen to borrowed copies of recordings from friends, family, or the public library	26.2%	26.2%	22.0%

Ex. 5608, App. F at Table 4B (Simonson CWRT).

782. Notably, NAB's critique that Professor Zauberman's use of a 30-day period is too short to accurately reflect the current listening of all relevant respondents is in tension with the arguments its experts make elsewhere. Continuing to shoot wildly at Professor Zauberman's choices, Professors Leonard and Hauser also argue that using a 30-day timeframe is *too long* because respondents may not remember what music sources they have used in this period. Ex. 2161 ¶ 6 (Hauser WRT) (pointing to Hauser pretests as supposed basis for this critique). As Professor Zauberman explained, this critique is misplaced and drastically overstates what information pretesting can provide. 8/27/20 Tr. 4181:13-4182:19 (Zauberman) (agreeing with Professor Hanssens' testimony that a pretest is "where you test for confusion," not an instrument for "parameterize[ing] your elements of your survey," like time); *see also* 8/26/20 Tr. 4102:17-4104:7 (Hanssens) (purpose of pretesting if to uncover issues of miscomprehension or ambiguity of terms); 8/27/20 Tr. 4291:20-4292:2, 4293:20-4294:17 (Simonson) (testifying that, unlike Professor Hauser, "I do not believe that I could rely on 15 or 20 pre-test respondents to tell me

how—what options to present or how to phrase the question," and that it would be "irresponsible" to do so). In any case, NAB cannot have it both ways.

783. *Piracy:* The Services have advanced the argument that some respondents who indicated they would "Purchase new physical or digital recordings (downloads) of music" would in fact obtain pirated copies of recordings. Ex. 4095 ¶ 48, Fig. 1 (Hanssens CWDT); Ex. 5608, App. F at Table 4B (Simonson CWRT); 8/6/20 Tr. 799:10-25 (Willig); 8/10/20 Tr. 1089:15-1092:12 (Willig). However, the Services have advanced no expert testimony defending the proposition that respondents would interpret the term "Purchase" to mean "Steal." Notably, none of the surveys in this proceeding ask respondents whether they might obtain music through piracy, 8/10/20 Tr. 1118:18-1119:2 (Willig), and with good reason: As Professor Hanssens testified, there is no reason to think respondents would truthfully answer that they would engage in illegal activity, as that would be "self-incriminating." 8/26/20 Tr. 4143:6-4144:21 (Hanssens). Moreover, Professor Hanssens made clear that he would not expect respondents to interpret the term "own" to encompass theft. *Id.* at 4142:20-4143:2 (Hanssens). Finally, he noted that his survey gave respondents options to indicate that they would listen to "borrowed" copies, or divert listening to "other" sources—options through which respondents could express their intent to steal recordings. *Id.* at 4143:6-18 (Hanssens).

784. *Zero Time Allocation:* Drs. Peterson and Leonard both observe that a number of respondents to the Zauberman Survey allocated zero time to a replacement option they had previously selected. *See* Ex. 1105 ¶ 137 (Peterson CWRT); Ex. 2160 ¶ 21 (Leonard CWRT). But this in no way invalidates the results of the survey. The Services' attempt to convert this observation into a critique fundamentally misunderstands the structure of Professor Zauberman's time allocation questions.

785. Questions 3 and 3A of the Zauberman Survey ask respondents to consider a specific day in the future, one week after they have completed the survey. Ex. 5606 ¶¶ 60-64 & Apps. D & E (Zauberman WDT) (*e.g.*, "think about the amount of time you would expect to listen to your **[FREE/PAID] streaming radio** service on Tuesday of next week"). There is no conflict between a respondent saying that she would replace her noninteractive streaming service with a particular music-listening option, and that she does not expect to listen to that option on *one specific day* next week. 8/27/20 Tr. 4197:2-4198:5 (Zauberman); 8/6/20 Tr. 848:11-850:10 (Willig).

786. Professor Zauberman illustrated this point with a non-music example: "[I]f I can no longer eat apples, what other fruits would I use, would I eat? I will eat pears, peaches, and bananas. What will you do next Thursday? I will eat only a pear, I will give zero to the other fruits. That is not a contradiction." 8/27/20 Tr. 4197:15-20 (Zauberman). Similarly, a respondent who planned to listen to the radio only on his way to work in the mornings, would correctly choose AM/FM radio as a replacement option in Question 2; if that same respondent took the survey on a Saturday and was therefore asked about Saturday of next week, he would also be correct to allocate zero points to AM/FM radio in Question 3A.

787. Even Dr. Peterson himself cannot seriously contend that zero allocation responses are actually internally inconsistent. Rather, his testimony carefully states that these responses reflect "potentially inconsistent preferences." Dr. Peterson cites no evidence in support of this insinuation. *See* Ex. 1105 ¶ 137 (Peterson CWRT). At trial, he was forced to concede that that the phrasing of the question—asking respondents what they would listen to on the same day the following week—"is a way to relax the contradiction here." 8/25/20 Tr. 3802:1-5 (Peterson).

5. All Three Experts' Surveys Understate the Effect that Losing Access to Music Would Have on a Noninteractive Service

788. The Hanssens, Zauberman, and Simonson Surveys all measure the impact that changing the availability of content on noninteractive services would have on the listening behavior of *current users* of these services. None of these surveys reflect the effects of a change in the quality or availability of content on customer *acquisition*. *See generally* Ex. 4095, App. 6 (Hanssens CWDT); Ex. 5606, App. D (Zauberman WDT); Ex. 5608, App. D (Simonson CWRT). Accordingly, each survey can—at most—measure only part of the impact that losing a record label would have on these services. *See* Ex. 5608 ¶¶ 82-84 (Simonson CWRT); Ex. 5605 ¶¶ 94-96 (Tucker CWRT); *see infra* Part X.E.1.

789. This limitation means that any conclusions about must-have status drawn from the survey data will likely understate the impact that loss of a record label's content would have on noninteractive streaming services in the real world. *See generally* Ex. 5604 (Tucker WDT) (discussing Pandora's financial condition and its focus on improved customer acquisition).

J. The Services' Remaining Criticisms of Professor Willig Have No Merit

1. The Must-Have Status of the Major Record Companies Does Not Necessitate an Effective Competition Adjustment to the Shapley Value Model

790. The Services argue that, because Professor Willig treats the major record companies as must haves, his Shapley Value model requires an effective competition adjustment. It does not. 8/5/20 Tr. 482:9-12 (Willig); 8/25/20 Tr. 3861:8-3862:2 (Willig).

791. Professor Willig explained that "distinguishing between the value that [a party] bring[s] and the abuse of that value is very important in understanding how effective competition should be modeled and how it works." 8/25/20 Tr. 3866:1-4 (Willig). It is appropriate to deny any party "the ability to hold everything up in abusive way." *Id.* at 3865:19-21. However, "if one of

the parties is a must-have, because it's so important, well, it shouldn't be denied the value that it brings . . . because that's part of the marketplace and part of the incentives to the parties." 8/5/20 Tr. 3865:16-25 (Willig).

792. The must-have status of the major record companies "derives from the value that the record companies bring to . . . the negotiation"—specifically, the value of their front-line and evergreen hit recordings. *Id.* at 482:14-18, 485:16-25 (Willig). As Professor Willig explained at trial, and as ample documentary evidence demonstrates, "the hits are extremely important to the overall size of the audience that [the services are] able to draw." *Id.* at 483:24-484:3 (Willig); *see* Ex. 5618 ¶ 18-31, 34 (Gallien WDT); Ex. 1090 at 5; Ex. 5051 at 11, 45; Ex. 5053 at 13; Ex. 5152 at 115; Ex. 5153 at 35, 56; Ex. 5158 at 13; Ex. 5160 at 4; Ex. 5163 at 2; Ex. 5164 at 1, 2, 4; Ex. 5165 at 19; Ex. 5166 at 2, 5.

793. Importantly, "[t]he hits and the appeal of a portfolio of music . . . doesn't come from any ability of the label . . . to be collusive about it or to cartelize it with respect to other owners of rights to other music. It comes, rather, from the value that their own portfolios and the rights to those portfolios bring to the potential distributor of that music." 8/5/20 Tr. 485:5-25 (Willig).

794. Furthermore, the Shapley Value construction by its very design already eliminates the possibility of any abusive, anticompetitive, or holdout value that any party might attempt to assert. Even if, in one arrival ordering, a must-have party could attempt to extract additional value by threatening to hold out and "crash the entire enterprise," the Shapley Value considers "all the [ar]rival orderings" that are possible. *Id.* at 490:22-25 (Willig); *see id.* at 389:4-390:10 (Willig); 8/25/20 Tr. 3861:8-3862:2 (Willig). "[E]verybody who was necessary to the deal sometimes is going to be the last one to arrive, including the distributor itself." 8/5/20 Tr. 491:1-3 (Willig). And

in the "many arrival orderings where it is the distributor who was the last one to arrive," the *distributor* is symmetrically treated as a "must-have," evening out any anticompetitive holdout power that a major record company might have. *Id.* at 491:9-14 (Willig).

795. Finally, the must-have status of the major record companies does not preclude the possibility of steering, as that concept was discussed in *Web IV*. *See SoundExchange, Inc. v. Copyright Royalty Bd.*, 904 F.3d 41, 48 (D.C. Cir. 2018); *Web IV*, 81 Fed. Reg. at 26375. Professor Willig explained that, "in reality there's nothing that would foreclose the possibility" that a service could engender a degree of competition on license price by promising higher prominence or usage on its platform in exchange for lower royalty rates. 8/10/20 Tr. 1068:25-1069:8, 1070:6-15 (Willig).

796. However, there is no need for the Shapley Value model to consider steering as a separate "input" or "adjustment," as counsel for the Services seemed to imply at trial. *See id.* at 1079:15-17 (Willig). That is so because the Shapley Value model through its construction already "takes the idea of [a] competitive determination of pricing" to its "end result." *Id.* at 1079:5-14 (Willig).

797. First, the Shapley Value model sets the characteristic function of each subset of negotiating parties as the maximum value that subset can create. *Id.* at 1071:20-1072:7, 1077:13-1078:21 (Willig). As such, it "already incorporates what is the optimal balance of the music as far as the service is concerned in a way that optimizes the total." *Id.* at 1071:4-7 (Willig). The Shapley Value model does not "take into account some sort of partial non-optimizing playlist" generated through steering, because such a playlist by definition would reduce the total value available to the parties (including to the service). *Id.* at 1078:15-17 (Willig); *accord* 8/26/20 Tr. 3920:23-3921:18 (Shapiro) ("[T]he maximum value of the coalition would involve, let's say, no steering in the end

because steering, let's say, reduces the value of the service to customers and therefore reduces the overall value of the coalition.").

798. Second, the determination of royalties through the Shapley Value model already builds in the "ultimate form of steering," namely the reduction of a given record company's plays to zero (i.e. a blackout). 8/10/20 Tr. 1071:8-10, 1072:6-7 (Willig). As such, "competitive pressures enter the model in the most extreme form, namely, severing the licensing agreement." *Id.* at 1078:8-12 (Willig). "[I]n fact, this is the kernel of the model—tossing out one of the record companies and seeing what that does. And it's that threat that is endemic to the . . . determination of the royalties through the model." *Id.* at 1071:8-14 (Willig).

799. Notably, Professor Shapiro himself acknowledged that "none of our models have steering, Professor Willig and my models." 8/26/20 Tr. 3921:9-11 (Shapiro).

2. The Shapley Value Model Does Not Imply Anticompetitive Cooperation Among the Negotiating Parties

800. The Services have advanced a separate critique of the Shapley Value model predicated on the erroneous notion that the model necessitates anticompetitive cooperation among the parties to the modeled transaction. Ex. 5601 ¶ 98 (Willig WRT); 8/6/20 Tr. 743:21-744:11 (Willig).

801. Professor Willig forcefully rejected the idea that his Shapley Value approach contemplates record companies colluding together, or "holding out in some sort of strategic sense," to drive up royalty rates. 8/5/20 Tr. 389:5-9, 392:10-14 (Willig). "[T]hat's not what's going on in Shapley valuation." *Id.* at 392:10-14 (Willig). "There's no anticompetitive collusion or even anticompetitive cooperation in the way I apply Shapley Value to these negotiations. Shapley Value intrinsically does not require collusion . . . . And my model absolutely steers clear of any such

feature of the modeling." *Id.* at 335:1-14 (Willig); *see also id.* at 389:8-9 (Willig) ("There's no collusion in this Shapley Value."); 8/6/20 Tr. 744:8-11 (Willig); 8/10/20 Tr. 1067:3-21 (Willig).

802. To the contrary, "the change in the value that's created by one of these parties when they join is the actual value that they add"—in other words, "the true change in value that their participation enables." 8/5/20 Tr. 391:4-11 (Willig); *id.* at 389:5-390:11 (Willig). This value is "not expanded by some sort of threat power. It's not expanded by any collusion, nothing anticompetitive." *Id.* at 391:4-11 (Willig). "It's just the extra value that their participation does create." *Id.* at 389:23-390:3 (Willig).

803. This can easily be seen through Professor Willig's patent illustration. *See* Ex. 5600 ¶ 20, Fig. 1 (Willig CWDT). In this example, the characteristic function value of a subset with just patent owner A is $5, and the characteristic function value of a subset with just patent owner B is $5. *See id.* The characteristic function value of the subset with both A and B is $10—nothing more than "[t]heir standalone values . . . just being added up." 8/6/20 Tr. 745:2-4 (Willig); *see* Ex. 5600 ¶ 20, Fig. 1 (Willig CWDT). Because the value the two parties create together "is just the sum of the 5 and the 5 . . . that's modeling the absence of collusion between A and B." 8/6/20 Tr. 745:1-3 (Willig); *see id.* at 753:24-754:5, 755:10-20 (Willig).

804. Professor Willig explained that this is "essentially what goes on in my Shapley Value model. When different record labels arrive to the bargaining table in whatever order, they don't clued [*sic*: collude] with each other. Their values that they can earn alone on a standalone basis add together in the assessment of the characteristic function." *Id.* at 725:7-18 (Willig).

805. Judge Strickler explored this point in some more detail with Professor Willig, asking him whether it wasn't an assumption within the Shapley Value that the characteristic function of any given coalition would reflect the maximum value that coalition could obtain. 8/5/20

Tr. 335:15-336:10, 337:12-14 (Willig). Professor Willig explained that, while this was the case, there are "ground rules built into the characteristic function about what kind of activities and deals will be allowed for that maximization." *Id.* at 337:15-18 (Willig). As in the patent illustration, the algebra underlying Professor Willig's Shapley Value model "in no way represents or contemplates that the different record companies would get together and form . . . a joint negotiating structure, some sort of cabal in an attempt to extract more value from the distributor. Instead, it's all individualistic among the labels themselves." *Id.* at 337:5-11, 21-25 (Willig).

806. At trial, the Services suggested that Professor Willig's Shapley Value model necessarily models collusion among the three major record companies, because the royalty rate derived from modeling one monopoly major record company would be lower than Professor Willig's Shapley Value derived rates. 8/26/20 Tr. 3928:2-6 (Shapiro); Ex. 4107 at 56-57 (Shapiro WRT); *see* 8/5/20 Tr. 487:16-19 (Willig). But the Services' hypothetical is incomplete and therefore uninformative. 8/5/20 Tr. 323:9-13 (Willig).

807. As Professor Willig explained, it is "not reliable analysis" to "imagine a different industry structure only on one side of the market without also considering its impact on the other side of the market." *Id.* at 488:2-5 (Willig). In the event that UMG, SME, and WMG were consolidated into one record company, "[w]hat would [that] monopolization do to the value that's created" and hence available to distribute as surplus? *Id.* at 488:6-7 (Willig). The Services' conjectural monopoly scenario does not consider the likelihood that a single record company would be far less successful than the three major record companies in generating audience and interest in sound recordings, given that "it's the competition among the record companies that makes them so good and makes them invest so much and work so hard to bring in the talent that attracts the listeners [and] builds the audience for all of the modes of distribution." *Id.* at 396:19-

397:4 (Willig); *see also id.* at 394:10-16 (Willig) ("They are competing like crazy in the marketplace to be the record companies that have the rights to the big hits and the best selling artists.").

808. In other words, under the Services' scenario, "the split would change, but also the size of the pie, I think predictably, would be much shrunken." *Id.* at 397:5-14 (Willig). Professor Willig acknowledged that modeling such an effect was "beyond the inputs that are available," and indeed the Services have not attempted to consider or quantify such effects in their incomplete "monopoly" hypothetical. *Id.* at 396:14-17 (Willig).

809. Finally, during surrebuttal, Professor Shapiro advanced an illustration involving a water company and a town supposedly to prove that the Shapley Value "does not eliminate concerns about monopoly power or complementary oligopoly power." 8/26/20 Tr. 3922:6-8 (Shapiro). Professor Shapiro hypothesized a scenario with (i) "a town that needs water and the residents of this town are willing to pay $2,000 per household per month to have water, because it's so essential; and (ii) "a single company that's able to supply water," whose "costs are zero." *Id.* at 3922:9-15. Professor Shapiro testified that running a Shapley Value model in this situation would lead to a royalty of "$1,000 per household per month coming out of Shapley Value," and claimed that this demonstrates the Shapley Value model is incapable of eliminating monopoly power. *Id.* at 3923:2-6 (Shapiro).

810. Far from disproving the utility of the Shapley Value model in this proceeding, Professor Shapiro's example confirms it. In the example, the seller seeks $2,000 per household, but is *unable* to obtain this holdout value, and forced by the Shapley Value approach to accept a substantially lower rate because of the value the town also brings to the negotiation. *Id.* at 3923:2-6 (Shapiro).

811. Professor Shapiro is only able to proffer this example as leading to "nonsense" results because he introduces factors that would apply to a public utility ratemaking but are totally inapposite here. *Id.* at 3923:4-6 (Shapiro); *id.* at 3926:10 (Judge Strickler: "[T]his is not a public utility-style rate regulation case."); *see Web IV*, 81 Fed. Reg. at 26329.

812. First, Professor Shapiro introduces into his hypothetical the water company's "cost to supply the water," positing that this is far lower than the bargained-for $1,000 royalty—perhaps "$20 per household per month or 50." 8/26/20 Tr. 3923:10-12, 18-20 (Shapiro). Professor Shapiro concludes that, because "[w]hatever you think those costs are would be a competitive rate," the much higher $1,000 rate must be due to "the extraction of a monopoly power." *Id.* at 3923:19:22 (Shapiro).

813. Professor Shapiro is wrong. As the Judges have repeatedly made clear, this proceeding is not set up to ascertain a competitive rate by assessing seller's costs and applying a margin. *See Web IV*, 81 Fed. Reg. at 26329 ("[A]ny attempt by the Judges to set rates with these ROI and business model issues in mind would essentially convert this § 114(f)(2)(B) proceeding into a classic public utility style rate-of-return hearing. None of the parties argues that the statutory standard permits such a process, and neither the D.C. Circuit, nor the Judges (or any of their predecessors) have so held."); *Web III Remand*, 79 Fed. Reg. at 23107 ("Rate-setting proceedings under section 114 of the Act are not the same as public utility rate proceedings."). Notably, the Judges have previously criticized as "ill-conceived" an "attempt to utilize the public utility style ratemaking construct in this 'willing buyer/willing seller' context." *Web III Remand*, 79 Fed. Reg. at 23108.***

814. Under the framework that is *actually* relevant to this proceeding—what rate would the town willingly offer and the water company willing accept?— there is no reason to doubt as

improper or anticompetitive the results yielded by the Shapley Value Model. That model determines a rate which prevents the water company from achieving its desired holdout rate ($2000), and instead accords both the water company *and* the town an equal share of the total surplus value they bring to the negotiation. It is of no moment whether that rate is higher than the seller's costs, given that all parties recognize that bargaining models can yield rates above seller opportunity cost. *See, e.g.*, Ex. 4094 at 6 (Shapiro Second CWDT). Indeed, in the course of responding to questions from Judge Strickler, Professor Shapiro acknowledged that his example would essentially devolve into an examination of opportunity cost, in order to assess whether the royalties demanded by the water company are or are not supernormal relative to the seller's costs. 8/26/20 Tr. 3926:2-3928:22 (Shapiro). That rightly puts the focus back where it should belong—Professor Shapiro's indefensible opportunity cost errors that, when corrected, bring his opportunity cost computation *above* the levels of Professor Willig's Shapley Value royalties. *See infra* at Part VIII.B.

815. Second, Professor Shapiro introduces "multiple water companies" into his hypothetical, allowing them to "compete in a contestable sort of way to bid for this franchise." 8/26/20 Tr. 3923:13-15 (Shapiro). The implication seems to be that this sort of competition would effectively bid the royalty rate down from $1000 to the seller's costs. Of course, that is only true in Professor Shapiro's metaphor because each additional water company introduces competition on the seller side without adding *any* incremental value to the total negotiation (because water is water, regardless of its source). That is not a remotely apt metaphor for the sound recording marketplace which, as discussed elsewhere, highly prizes the uniqueness of individual artists and recordings (the hits and hit-makers) rather than treating all sound recordings as purely substitutable commodities. *See, e.g.*, 8/5/20 Tr. 483:24-484:3 (Willig); *see* Ex. 5618 ¶ 18-31, 34 (Gallien WDT);

Ex. 1090 at 5; Ex. 5051 at 11, 45; Ex. 5053 at 13; Ex. 5152 at 115; Ex. 5153 at 35, 56; Ex. 5158 at 13; Ex. 5160 at 4; Ex. 5163 at 2; Ex. 5164 at 1, 2, 4; Ex. 5165 at 19; Ex. 5166 at 2, 5. Multiple fact witnesses have offered testimony in this proceeding discussing the extensive investments made by artists and labels in the writing, recording, producing, mixing, mastering, sequencing, and promoting of music that resonates with the public. Ex. 5618 ¶ 18-31, 34 (Gallien WDT); 9/9/20 Tr. 5972:24-5977:15 (Gauthier).

816. In short, Professor Shapiro's water company hypothetical improperly suggests that the only model of an "effectively competitive" market that "eliminate[s] monopoly power" is one in which numerous alternative sellers offer an interchangeable and perfectly substitutable product, contributing no additional value of their own. 8/26/20 Tr. 3923:8-3924:4 (Shapiro).

817. That is inconsistent with the character of *this* market, it eradicates the valuable contributions that record companies bring to streaming services and consumers, and it imposes a standard on the Judges' rate-setting task that is inconsistent with the Copyright Act. *See* 17 U.S.C. 114(f)(1)(B)(i)(II) (rate-setting decision shall be based in part on parties' "relative creative contribution").***

818. Not surprisingly, Professor Shapiro was forced to acknowledge on cross-examination that his hypothetical "was not meant to describe the record industry" and "not designed for th[e] purpose" of describing competition in this market. 8/26/20 Tr. 3941:7-15 (Shapiro). It is not a valid critique of the Shapley Value model as applied by Professor Willig in this case.

3. Professor Shapiro's So-Called "Myerson Value" Approach Is a Red Herring

819. Professor Shapiro asserts that a tool he calls the Myerson Value "is a better tool than the Shapley Value for the issues at hand," because "it accounts for negative contracting

externalities." 8/5/20 Tr. 368:18-21 (Willig); 8/6/20 Tr. 746:2-13 (Willig); 8/25/20 Tr. 3866:7-17 (Willig). Importantly, the Shapley Value, the Nash-in-Nash model, and what Professor Shapiro calls the Myerson Value "all give the same answer under the view that the majors are all must-haves." 8/5/20 Tr. 320:16-25, 369:2-5 (Willig). Under Professor Shapiro's mistaken view that the major record companies are *not* must haves, his "Myerson Value" produces lower rates than Professor Willig's Shapley Value model. 8/26/20 Tr. 3938:11-19 (Shapiro). However, this model is inappropriate for application in this proceeding.

820. As an initial matter, Professor Shapiro's so-called "Myerson Value" is misnamed. Professor Roger Myerson "is important in economics, being a very brilliant noble [sic] laureate," but he did not attach his name to the model that Professor Shapiro deploys. 8/10/20 Tr. 967:2-4 (Willig); 8/25/20 Tr. 3866:20-25 (Willig). Professor Willig was keen on emphasizing this point at trial, noting that "attaching Myerson's name to this concept of value might have some certification implications, but it's wrong because this is not the value concept that Professor Myerson chooses to carry his own name. It's a different one." 8/10/20 Tr. 966:18-967:9 (Willig); *see id.* at 968:22-970:1 (Willig) (describing the model to which Professor Myerson did choose to attach his name); 8/25/20 Tr. 3866:20-25 (Willig).

821. In any event, Professor Shapiro's argument about the so-called Myerson Value is "just totally wrong." 8/25/20 Tr. 3867:1-6, 3877:5-9 (Willig). Far from serving as a useful revision to the Shapley Value model, Professor Shapiro's "Myerson Value" approach introduces anticompetitive behavior that is anathema to the rate-setting task at hand. 8/6/20 Tr. 750:15-751:5 (Willig); 8/25/20 Tr. 3867:11-15 (Willig).

822. Professor Shapiro proposes the following equation as the "general formula for Myerson Value," applied to distributor D in its negotiations with rights holders A and B:

$$MV_D = \frac{1}{3}\big(V(\{ABD\}) - V(\{AB\})\big) + \frac{1}{6}\big(V(\{AD\}) - V(\{A\},\{B\}\{D\})\big) + \frac{1}{6}\big(V(\{BD\}) - V(\{B\},\{A\}\{D\})\big) + \frac{1}{3}\big(V(\{A\},\{B\}\{D\}) - V(\{A\},\{BD\})\big) + \frac{1}{3}\big(V(\{B\},\{A\}\{D\}) - V(\{B\},\{AD\})\big).$$

Ex. 4107 at 97 (Shapiro WRT); 8/25/20 Tr. 3868:12-3869:3 (Willig). In this formula, the first three terms to the right of the equals sign are identical to the Shapley Value formula for D. 8/25/20 Tr. 3869:4-8 (Willig). However, Professor Shapiro's equation introduces two additional terms, one that changes the value created by A and a second that changes the value created by B.

823. Professor Willig dissected the first of these by way of example: ⅓(V{A},{B}{D}) – V({A},{BD}). He explained that, in this term, *V*({A},{B}{D}) "stands for the value that can be created by A, all by itself, in an environment where B and D, the other parties, are staying separate from each other." *Id.* at 3869:23-3870:3 (Willig). By contrast, *V*({A},{BD}) represents "the value that A can create by itself, but given that B and D are off on their own, . . . forming a consortium"—namely, "creat[ing] their own service and tak[ing] away from the value that A can create by itself." *Id.* at 3870:4-12 (Willig).

824. The new term accomplishes two things, most easily seen by dividing it into two equal halves. Half of the term—⅙(V{A},{B}{D}) – V({A},{BD})—reduces the value that A can obtain on its own, by subtracting out externalities that would result from B and D forming an outside consortium. *Id.* at 3871:15-18 (Willig). (In the first three terms, -⅙(V{A},{B}{D}) is replaced by -⅙(V{A},{BD}).)

825. But the other, equal half of the term has no comparable function. Rather, its addition of value to D represents a "transfer value, like a bribe, from A to get B and D to stop competing with A by joining together." *Id.* at 3871:19-20 (Willig). Professor Willig noted that the other "Myerson Value" equations modeled by Professor Shapiro include similar transfers of value,

including transfers from A to B, and from B to A, to desist from competitive activities with D. *Id.* at 3872:2-8, 13-18 (Willig).

826. Professor Willig noted that, in certain contexts, this modeled value transfer may be "perfectly fine." He provided one example: a would-be occupant of a residential tract paying off a developer to not sell neighboring land to a fraternity house. *Id.* at 3872:24-3873:18 (Willig).

827. That is not the case in the context of this proceeding, however. Modeling the transfer of value from one competitor "to stop the other parties from competing with it" is "not benign" and "could easily be an antitrust violation, depending upon the relevant market." *Id.* at 3873:21-25 (Willig); *see also* 8/6/20 Tr. 750:15-751:5. Accordingly, Professor Willig described this aspect of the algebra as "really problematic," noting that it effectively models an "inducement" by A "to get B and D to stop competing with A by joining together." 8/25/20 Tr. 3871:7-14, 19-20 (Willig).

828. In his response during surrebuttal, Professor Shapiro implored the Judges to "just follow the money" to see that "there are no side payments or bribes." 8/25/20 Tr. 3911:18-20 (Shapiro); *see* 8/26/20 Tr. 3913:23-3914:23 (Shapiro). This is a sleight of hand, both with regard to Professor Shapiro's Myerson model and recursive Nash-in-Nash (which he testified is "equivalent to Myerson" and also "has no side payments"). 8/26/20 Tr. 3913:23-3914:23 (Shapiro).

829. Professor Willig was clear that "[t]he model is silent on the actual cash flows" and "doesn't say those payments would be made." 8/6/20 Tr. 751:13-19 (Willig); *accord* 8/26/20 Tr. 3915:21-22 (Shapiro) ("[T]he whole modeling exercise is not about flows of money. It's about who contributes what."). But that is immaterial. What matters is that Professor Shapiro's model reduces the value accorded to the parties due to transfers that would be "anticompetitive and

illegal" in the real world—regardless if they occurred through "side payments" or simply through revised deal terms. *Id.* at 751:3-5 (Willig).

830. Put plainly, the would-be occupant of the residential tract does not need to hand a suitcase full of cash to the developer; she can simply pay a higher price for the tract, some of which the developer can keep and the rest pass along to the fraternity in the form of a lower price. That value transfer is economically equivalent to a side payment, it is endemic to Professor Shapiro's Myerson and recursive Nash-in-Nash models, and it "just could never occur with any degree of legitimacy in markets like the ones that we are working with here." 8/6/20 Tr. 751:13-19 (Willig). In short, Professor Shapiro offers an improper and unnecessary modification of Professor Willig's Shapley Value model. *Id.* at 751:20-22 (Willig); 8/25/20 Tr. 3867:1-6, 3877:5-9 (Willig).

831. Professor Willig observed that there is a "more straightforward treatment" of contracting externalities available within the Shapley Value model itself. 8/10/20 Tr. 968:3-7 (Willig). Specifically, one could account for negative contracting externalities by reducing each party's fallback value by a corresponding amount. *See* 8/25/20 Tr. 3874:7-17 (Willig); *id.* at 3867:7-10 (Willig) ("There's other ways within the Shapley framework to represent and take into account negative contract externalities without actually using the Myerson Value"). This would fulfill the first, non-problematic function of the terms added by Professor Shapiro, without "fulfil[ling] the second function, which is the transfer of value that's an inducement." *Id.* at 3874:4-21 (Willig). Professor Willig ran exactly such an analysis, 8/6/20 Tr. 752:1-19 (Willig), but was not permitted to testify about its results. 8/25/20 Tr. 3874:22-25 (Willig); *see infra* at ¶¶ 1021-22 (discussing implications of Services' representation that Myerson Value is not Professor Shapiro's "primary model" and offered only to rebut Professor Willig's Shapley Value approach).

832. Finally, Professor Willig observed that, while Professor Shapiro's "Myerson Value" approach purports to consider certain negative contracting externalities, it ignores others. So, Professor Shapiro's approach models "the negative externality that falls on one of the labels, if the others form a service, and take away from the value of the label being by itself." 8/25/20 Tr. 3875:224-3876:3 (Willig). But Professor Shapiro does not consider negative externalities to the ad-supported service generated by the formation of a subscription noninteractive service, which would tend to draw some audience away from the ad-supported distributor. *Id.* at 3876:4-10 (Willig). Nor does he consider such externalities in the other direction. *Id.* at 3876:11 (Willig). "[W]hat Professor Shapiro calls the Myerson Value could be applied to those circumstances also, and that correction for those negative contracting externalities would tend to raise the royalty rates, not lower them." *Id.* at 3876:12-17 (Willig).

4. Dr. Peterson's Claim that Professor Willig Failed to Account for Diversion to Non-Music Options Is False

833. During his direct examination, Dr. Peterson repeatedly claimed that Professor Willig inflated record company opportunity cost by ignoring "evidence . . . in the Zauberman surveys" indicating that some respondents would spend less time listening to music if their noninteractive service went away. *Id.* at 3735:1-13 (Peterson); *id.* at 3800:13-15, 3799:25-3800:15 (Peterson); *see also* 8/26/20 Tr. 3982:16-20, 3970:8-12 (Peterson). Dr. Peterson maintained that Professor Willig's "model is built around the assumption that if you shut down the entire non-interactive streaming business, the music industry does not lose a single performance." 8/25/20 Tr. 3732:13-16 (Peterson); *id.* at 3731:4-7, 3734:20-25 (Peterson).

834. At no point, either in his reports or at trial, did Dr. Peterson identify any calculations in Professor Willig's model or backup to substantiate his claim. 8/25/20 Tr. 3985:1-8 (Peterson);

see also Ex. 1105 ¶¶ 119-21 (Peterson AWRT) (citing no evidence from Professor Willig's testimony).

835. Professor Willig repeatedly and forcefully denied Dr. Peterson's characterization of his math. 8/25/20 Tr. 3884:14-3886:3 (Willig).

836. Dr. Peterson's criticism has no merit. Professor Willig *did* recognize and incorporate the fact that "[a]bout 50 percent of the respondents" to the Zauberman Survey indicated they would "do something other than listen to music" if their noninteractive service became unavailable. 8/25/20 Tr. 3884:20-25 (Willig); *see* Ex. 5606 ¶¶ 24, 57, 72 at Fig. 8, 74 at Fig. 9 (Zauberman WDT). Professor Willig incorporated this information into his opportunity cost model as follows.

837. Professor Willig correctly accorded "zero opportunity cost" to respondents who selected only the switching option "do something other than listen to music"—treating them as if they had selected AM/FM radio (another non-royalty-bearing alternative). 8/25/20 Tr. 3884:14-3886:3 (Willig); *see* Ex. 5600, App. E at 4-5 (Willig CWDT). Dr. Peterson has not and cannot present any evidence to the contrary.

838. For respondents who selected "do something other than listen to music" but *also* indicated they would purchase CDs, vinyl, digital downloads, or a new subscription, Professor Willig fully credited the royalties generated by such purchases. As discussed extensively elsewhere, this is a major point of disagreement between Professor Willig and Professor Shapiro. *See supra* at Part VII.C.1.c.v (describing substantial disagreement between Professor Willig and Professor Shapiro on this issue). Dr. Peterson's critique adds nothing to that debate.

839. Finally, for respondents who indicated they would "do something other than listen to music" but *also* indicated they would listen to services that generate royalties on a per-play

basis, Professor Willig correctly considered the reduced time such respondents would spend listening. 8/25/20 Tr. 3886:18-3886:3 (Willig). To put numbers on this point, if a respondent indicated they would switch 10% of their time to non-music options and 90% of their time to plays on an ad-supported interactive service, Professor Willig calculated royalties only on the basis of that 90%. *Id.* at 3886:18-3886:3 (Willig). In Professor Willig's computations, "that 10 percent of the time gets no opportunity cost . . . . [T]he percent of time spent less listening comes out of the total and, thereby, very much affects the opportunity cost." 8/25/20 Tr. 3885:21-3886:3 (Willig). This is also clearly documented in Professor Willig's written testimony. *See* Ex. 5600, App. E, ¶ 16 (Willig CWDT).

840. Importantly, Dr. Peterson acknowledged this last point during cross-examination in the surrebuttal phase. He recognized that, with respect to the "time allocation" questions in the Zauberman Survey, "Dr. Willig does use that information from the survey when calculating his opportunity cost. He needs to know that to determine the amount of diversion to measure when a respondent says they will be diverting to a service that pays royalties on a per-play basis. And he needs to know how long they'll be listening to the service to know how much of the diversion is that type . . . and how to value it." 8/26/20 Tr. 3969:1-9 (Peterson). This concession is directly at odds with Dr. Peterson's erroneous claim during direct examination that "Dr. Willig's model says if there are a million plays on the service . . . a million plays are diverted and a million plays are collected in the aggregate by the labels." 8/25/20 Tr. 3800:1-6 (Peterson).

5. Notwithstanding NAB's Claims to the Contrary, Professor Willig Properly Considered Simulcasting

841. NAB has levied the charge that Professor Willig's model fails to incorporate simulcasting, but this is simply not the case. As Professor Willig explained at trial, simulcasts are included "in my modeling and in the surveys on which I rely and in my Shapley Value and in my

opportunity cost"—all of these elements "include simulcasting as part of the category of ad-supported non-interactive services." 8/6/20 Tr. 625:15-21 (Willig); *see also* 8/10/20 936:23-25, 937:21-938:4 (Willig) ([ ]).

842. And while Professor Willig did not separately break out a simulcasting service, he explained why this was consistent with the past rulings of the Judges: "I understand that in *Web IV* the Judges decided . . . on rates that would apply to all the ad-supported services, whether they be something like free Pandora or like a simulcaster. There was some back and forth on that in *Web IV*, but the Judges did decide that there would be a single rate applied across that entire category of service. And I asked myself whether there would have been changes in the market that I'm aware of that would today lead to a different conclusion on that subject. And I'm just not aware of any such changes. So I went with the precedent from *Web IV*." 8/5/20 Tr. 403:21-404:11 (Willig); *see* 8/10/20 Tr. 1052:19-1053:12, 1107:6-1108:11 (Willig); *see also infra* at Part IX (explaining why there is no basis for distinguishing between simulcasters and other webcasters).

VIII. Professor Shapiro's Opportunity Cost and Bargaining Model Analyses Are Deeply Flawed

843. Professor Shapiro defines an individual record company's per-play opportunity cost of making its sound recordings available to a noninteractive webcasting service as L x R, where L is the percentage of plays the service would lose if those sound recordings were unavailable, and R is the average royalty earned by all the involved record companies for each play diverted from the service to other forms of listening. Ex. 5601 ¶¶ 18, 21 (Willig WRT); Ex. 4094 at 17-18 (Shapiro Second CWDT). Professor Shapiro's opportunity cost analysis is fundamentally flawed for the reasons discussed in this section. Ex. 5601 ¶ 5 (Willig WRT).

844. Part A addresses Professor Shapiro's use of data from flawed label suppression experiments ("LSEs") to compute L, the percentage of performances that would be lost due to a label blackout. *Id.* at ¶ 19; Ex. 4094 at 18-19 & App. E (Shapiro Second CWDT). These experiments are meant to assess the impact of a record company blackout on the amount of listening to Pandora's ad-supported service. Ex. 5601 ¶ 5 (Willig WRT). They do nothing of the sort. *Id.* The experiments were conducted in secret, failing to inform Pandora Free listeners, the record companies and their artists, and competing distributors of the blackout. *Id.* at ¶¶ 5, 19; Ex. 4094 at 21 & App. E at 1-2 (Shapiro Second CWDT); *see* 9/1/20 Tr. 4943:23-4944:1 (Reiley) [redacted], *id.* at 4944:9-14 (Reiley) [redacted]. As a result, these experiments eliminated the impact that would be driven by the real-world structure of the marketplace, including competition among distributors. Ex. 5601 ¶ 5 (Willig WRT).

845. Because the LSEs are incapable of measuring the effect of an actual record company blackout, Professor Shapiro was required to make a series of arbitrary adjustments to generate usable inputs for his opportunity cost analysis. Ex. 5601 ¶¶ 5-6 (Willig WRT). As discussed below, Professor Shapiro arbitrarily ignored the results of his LSE for [redacted], arbitrarily applied the results for [redacted], and made large and entirely *ad hoc* adjustments to the actual results of his LSEs to purportedly account for their shortcomings. *Id.* at ¶¶ 6, 19. These artificially altered data are inconsistent with the substantial record evidence considered by Professor Willig

indicating that [[redacted]]. *Id.* at ¶ 6; *see supra* at Part VII.C.1.i. The artificially adjusted LSE results are also inconsistent with the empirical results of the Modified Hanssens survey. Ex. 5601 ¶ 6 (Willig WRT); *supra* at Part VII.I.2 (discussing Modified Hanssens survey).

846. Part B addresses a separate conceptual and computational error in Professor Shapiro's opportunity cost analysis, related to his calculation of R, the average royalty earned by the record companies for each play diverted from a noninteractive service to other forms of listening. Ex. 5601 ¶ 7 (Willig WRT). Professor Shapiro recognizes that subscription services generate royalties for record companies on the basis of additional, incremental subscriptions. *Id.* Nonetheless, Professor Shapiro inappositely utilized per-play (not per-subscriber) royalties when computing opportunity cost associated with diversion to such services. *Id.* [[redacted]]. *See* 8/20/20 Tr. 3155:3-3157:2 (Shapiro).

847. Part C shows the impact of Professor Shapiro's errors on his estimate of opportunity cost. As described in this section, the impact of just the error related to R is dramatic. Ex. 5601 ¶ 7 (Willig WRT). Correcting just that error—and assuming *arguendo* that Professor Shapiro's LSEs are valid—causes Professor Shapiro's opportunity cost figures to rise to levels above [[redacted]] the royalty rates reported in Professor Willig's corrected written direct testimony. *Id.* Replacing the LSEs with the results of the Modified Hanssens Survey results in an even steeper rise in record company opportunity cost.

848. Part D raises a critique specific to the subscription noninteractive webcasting market. In particular, it explains why it was inappropriate for Professor Shapiro to model this market using Sirius XM's webcasting service as a proxy. *See* Ex. 4094 at 30 (Shapiro Second CWDT).

849. Part E shifts from problems with Professor Shapiro's opportunity cost floor to problems with his willingness to pay ceiling. This section explains how Professor Shapiro artificially depressed the profitability of Pandora Free (and thereby artificially lowered the upper bound of his bargaining model) by deploying a number of erroneous assumptions about how Pandora allocates costs across its service offerings. [ ]. 8/19/20 Tr. 2730:15-25, 2802:6-12 (Shapiro); 8/20/20 Tr. 3209:17-3210:10 (Shapiro); 8/31/20 Tr. 4668:19-22, 4683:13-21 (Ryan). However, Mr. Ryan disavowed a number of them at trial, deeply undermining Professor Shapiro's computation.

850. Part F addresses Professor Shapiro's effort to derive royalty rates between opportunity cost and willingness to pay using a Nash-in-Nash bargaining model. Ex. 5601 ¶ 9 (Willig WRT). [ ], *see* 8/6/20 Tr. 681:7-22 (Willig), Professor Willig explained why, in the context of this proceeding, the Nash-in-Nash bargaining model is an inferior tool compared to the Shapley Value model. Professor Shapiro's Nash-in-Nash bargaining model is particularly unreliable because it is based on a succession of incorrect and unsupported assumptions, and collapses if even one of these assumptions is removed. Ex. 5601 ¶ 8 (Willig WRT).

851. Part G takes a step back and examines whether Professor Shapiro's overarching proposition—that the current statutory rate is higher than a market rate—comports with actual competitive dynamics in the noninteractive marketplace. As discussed in this section, Professor Shapiro's conclusion cannot be squared with the undisputed observations that [

[redacted] have all had the ability to negotiate steering-induced rates below the current statutory rate, yet have failed to do so. Ex. 5603 ¶ 27 (Orszag WRT)

A. Professor Shapiro's Diversion Ratios Rest on Label Suppression Experiments that Are Unreliable and Uninformative

852. Professor Shapiro's parameter "L" is flawed because it is based on unreliable data from the Label Suppression Experiments ("LSEs") conducted by Pandora research scientist, Dr. David Reiley. Ex. 5601 ¶¶ 22-27 (Willig WRT); 8/5/20 Tr. 351:8-353:11, 570:2-571:16, 572:18-574:9 (Willig) (LSEs are "absolutely not" a reliable source of evidence for use in economic analysis); *see generally* Ex. 4094 18-22, App. E (Shapiro Second CWDT); Ex. 4091 ¶ 1 (Reiley CWDT).

853. The LSEs are a series of experiments designed to "assess whether selectively suppressing user access to music from specific record companies has an impact on consumer listening hours, the extent of any impact, and whether the impact varies by record companies." Ex. 4091 ¶ 4 (Reiley CWDT). The experiments consisted of five treatment groups, including [redacted]. Pursuant to instructions from Professor Shapiro, Dr. Reiley attempted to alter the listening experience of users in each treatment group, so that they did not hear recordings from the relevant record company while listening to ad-supported Pandora in radio mode. Ex. 5601 ¶ 19 (Willig WRT); Ex. 4094, App. E at 1-2 (Shapiro Second CWDT).

854. The LSEs purport to show that Pandora would experience little to no loss in listening hours on its ad-supported service if it stopped playing the entire catalog of a particular record company. Ex. 4091 ¶¶ 11, 21-23 (Reiley CWDT); Ex. 4108 ¶¶ 4, 12-16 (Reiley WRT).

855. However, the LSEs are riddled with design and implementation errors, and by their terms fail to model the full effect of a blackout. These flaws render the LSEs unable to answer the

question of interest. Ex. 5605 ¶ 12 (Tucker CWRT); Ex. 5607 ¶¶ 23-25 (Zauberman WRT); Ex. 5608 ¶ 21 (Simonson CWRT). This conclusion is supported by four SoundExchange experts who analyzed the LSEs. Professors Tucker, Zauberman, and Simonson—all of whom teach and write on research methodology and design—explained why the LSEs are not scientifically valid or informative. Ex. 5605 ¶¶ 9-83 (Tucker CWRT); Ex. 5607 ¶¶ 20-56 (Zauberman WRT); Ex. 5608 ¶¶ 19-61 (Simonson CWRT). Professor Willig further explained why the LSE data is not a valid basis for Professor Shapiro's opportunity cost calculation. Ex. 5601 ¶¶ 22-27 (Willig WRT).

856. Even the testimony of Pandora's own witness, Professor Hanssens, provides further evidence that the LSEs are not a reliable measure of diversion. *See infra* at Part VII.I.

1. The LSEs Were Not Designed Properly

i. The LSEs' Experimental Design Impeded Detection of the Treatment and Failed to Measure the Resulting Effects

857. In designing an experiment intended to approximate real-world effects, matching the experimental treatment to marketplace reality is essential. Ex. 5605 ¶¶ 13-18 (Tucker CWRT); Ex. 5607 ¶ 23 (Zauberman WRT); Ex. 5608 ¶ 23 (Simonson CWRT). Dr. Reiley's experiments do not satisfy this important criterion because he made the LSEs "blind," failing to inform participants in the treatment group that they would no longer have access to recordings from the suppressed record company on Pandora's ad-supported service. Ex. 4091 ¶ 7 (Reiley CWDT); Ex. 5605 ¶ 18 (Tucker CWRT); 9/1/20 Tr. 4937:12-4940:8 (Reiley); 8/17/20 Tr. 2280:10-2280:22, 2281:10-2281:25 (Tucker).

858. Professor Tucker explained that "the scientific reason for keeping something blinded just isn't applicable here." 8/17/20 Tr. 2280:10-2280:22 (Tucker) (explaining that Hawthorne effects have no applicability in the LSEs). Professor Tucker further explained that the economic literature makes clear that a blind, context-free experiment provides less useful general

results when the context itself is relevant to the behavior of the experimental participants. Ex. 5605 ¶¶ 16-17 (Tucker CWRT); 8/17/20 Tr. 2281:1-2282:3 (Tucker). Here, "we're interested in actually measuring what happens when people receive and know about receiving a degraded service." 8/17/20 Tr. 2281:11-25 (Tucker). "[T]he appropriate scientific approach would be to actually try and approximate, as one should do in field experiments, what would happen in the real world, which is that users would be aware that they were not receiving the music that they had done previously." *Id.* at 2280:1-6 (Tucker).

859. Because of the LSEs' "blind" design, the information available to the LSE treatment groups departed from the information that would be available to consumers if Pandora stopped playing a record company's recordings in the real world. Ex. 5605 ¶¶ 13-17 (Tucker CWRT); Ex. 5601 ¶¶ 23-24 (Willig WRT); Ex. 5607 ¶¶ 25-32 (Zauberman WRT) (LSEs "create[] a mismatch between the listener experience and the relevant decision-making context that a real-world manifestation of a label suppression policy would have"); Ex. 5608 ¶¶ 23-32 (Simonson CWRT).

860. In the real world, knowledge of a major record company blackout would be publicly available to many consumers. If Pandora were actually to stop playing music from [ ], competitor services would have strong incentives to respond, including by (1) publicizing the hole in Pandora's catalog and emphasizing that their own services' catalogs compare favorably; (2) targeting existing Pandora users by running advertising campaigns or offering promotional prices emphasizing this gap, to entice users to leave Pandora and switch to their own service; and (3) changing their own offerings, introducing new offerings, and/or changing their prices. Ex. 5605 ¶¶ 48-49 (Tucker CWRT); *see also* Ex. 5601 ¶¶ 23-24 (Willig WRT); Ex. 5607 ¶¶ 23-25, 30-32 (Zauberman WRT); Ex. 5608 ¶¶ 21-27, 30 (Simonson CWRT);

8/5/20 Tr. 570:2-571:16, 572:18-574:9 (Willig). [ ]. 8/19/20 Tr. 2704:20-2705:2, 2705:22-25, 2706:21-2705:11 (Shapiro).

861. Real-world consumers could also learn about the removal of [ ] catalog from Pandora's service from numerous sources. These sources include artists, managers, and the suppressed record labels—all of whom have incentives to punish Pandora for its failure to play their music. 8/5/20 Tr. 352:14-353:11, 570:2-571:16 (Willig); *see generally* Ex. 4091 (Reiley CWDT). They also include friends and family, and news media and social media platforms. Ex. 5605 ¶¶ 19-27 (Tucker CWRT); *see also* Ex. 5601 ¶ 24 (Willig WRT); Ex. 5607 ¶¶ 25-33 (Zauberman WRT); Ex. 5608 ¶¶ 21-30 (Simonson CWRT); 8/17/20 Tr. 2285:7-16 (Tucker) (describing artist reactions).

862. Notably, consumers could also learn about the blackout of [ ] from Pandora itself, which [ ]. 8/17/20 Tr. 2304:3-9 (Tucker). [ ]. 8/17/20 Tr. 2303:18-21 (Tucker); Ex. 5385 at 1, 2, 5. [ ]. 8/17/20 Tr. 2304:13-19 (Tucker). [ ]. *Id.* at 2304:20-2305:5 (Tucker). [

[redacted]. *Id.* at 2306:12-2307:2 (Tucker).

863. Blinded field experiments like Dr. Reiley's LSEs cannot provide reliable information about any of these competitive responses to the treatment. Ex. 5605 ¶¶ 18, 27-28, 48-49 (Tucker CWRT); Ex. 5608 ¶ 26 (Simonson CWRT); 8/5/20 Tr. 572:18-574:9 (Willig); *see also* Ex. 4094 at 21-22 (Shapiro Second CWDT) (LSEs "do not account for the strategic responses of Pandora, the record companies, and perhaps industry participants, to the blackout").

864. At trial, Professor Shapiro tried to downplay the potential impact of competitive responses by arguing that [redacted]. *See, e.g.*, *id.* at 2705:3-2706:20 (Shapiro). But Professor Shapiro pointed to no internal Pandora documents or other evidence that supports this claim. [redacted]. 8/20/20 Tr. 3177:4-9 (Shapiro).

865. In sharp contrast to the real world, listeners subjected to the LSEs who suspected that their content may have changed had no way to confirm their suspicions. Ex. 5607 ¶ 32 (Zauberman WRT); Ex. 5605 ¶¶ 28-32 (Tucker CWRT). *First*, Pandora did not change its website or any other public-facing statements regarding the number of songs available or the breadth of its catalog on the ad-supported tier. Ex. 5605 ¶¶ 28-32 (Tucker CWRT). *Second*, Dr. Reiley testified that, even if a user in a treatment group attempted to seed a station with an artist or song that was no longer available, that user did not receive a message informing him or her of the artist or song's unavailability. 9/1/20 Tr. 4937:12-4940:8 (Reiley). *Third*, [redacted], the chance that users in the treatment

group could seek and obtain confirmation from other listeners in the same treatment group was exceedingly slim. Ex. 5608 ¶ 28 (Simonson CWRT); *see also* Ex. 5605 ¶¶ 31-32 (Tucker CWRT); *see also* Ex. 4091 ¶ 7 (Reiley CWDT) (blind experiments). *Fourth*, even if users suspected a change in content, they may have misattributed this perceived change to Pandora's song selection algorithm or other factors rather than label suppression. Ex. 5605 ¶ 28-32 (Tucker CWRT) (noting that [[redacted]]).

866. The LSE's closed-universe of information, controlled only by Pandora researchers, would be impossible to maintain in today's information environment. Ex. 5608 ¶ 28 (Simonson CWRT); *see* Ex. 5605 ¶¶ 12, 27-32, 57 (Tucker CWRT). In the real world, Pandora would not be able to prevent its customers from finding out if it stopped playing a record company's recordings. Ex. 5608 ¶ 40 (Simonson CWRT). Notably, Pandora took no steps to determine whether users in the treatment group actually detected the suppression. 9/1/20 Tr. 4944:21-4945:3 (Reiley); *see also* Ex. 5607 ¶ 52 (Zauberman WRT) (noting possibility of scientifically appropriate follow-up questions).

867. [[redacted]]. *See* 9/1/20 Tr. 4878:5-8, 4881:14-4882:4 (Diab) ([[redacted]]). [[redacted]]. *See* Ex. 1101 ¶ 15 (Diab WDT).

868. The Hardware Audio Tier is a small and relatively new part of Google's suite of music services. Unlike Google Music and YouTube Music's core offerings, which do utilize recordings from all major labels [[redacted]], the Hardware Audio Tier is available in a

much more limited way. The Hardware Audio Tier can be accessed only on a stationary, screenless, voice-controlled Google Home device that is plugged into a wall. Ex. 1100 ¶¶ 19-22 (T. Fowler WDT); 9/1/20 Tr. 4828:15-4830:7 (T. Fowler) (this service is intended for in-home or in-office use and is available only as a non-portable device). [ ]. 9/1/20 Tr. 4880:6-4881:13 (Diab) ([ ]). Importantly, as Google's witness T. Jay Fowler testified, "Google does not make a profit with the Hardware Audio Tier." Ex. 1100 ¶ 22 (T. Fowler WDT); Ex. 1102 ¶ 14 (Agrawal WDT). Rather, the primary purpose of this tier is to drive subscription growth. Ex. 1100 ¶ 22 (T. Fowler WDT) ([ ] and makes an upsell pitch anytime a user tries to access functionality not available to non-subscribers).

869. [ ]. 8/17/20 Tr. 2120:9-16 (Tucker); Ex. 5604 ¶ 87 (Tucker WDT). Despite the introduction of the Plus and Premium tiers, Pandora's ad-supported tier remains the largest and most profitable of its offerings. 8/31/20 Tr. 4635:15-18 (Phillips); Ex. 5604, App. 9 at [1]-[2], App. 11 at [3]-[12] (Tucker WDT). The ad-supported version of Pandora is available on a wide variety of devices, including smartphone, computers, iPads, and car sound systems. 8/31/20 Tr. 4636:19-4637:3 (Phillips). In contrast to the attention that a niche service like Google's Hardware Audio Tier is likely to garner, when Pandora makes a change, both the industry and the public pay attention. *See, e.g.*, Ex. 5605 ¶¶ 54-57 (Tucker CWRT).

870. In the context of the LSEs, moreover, Pandora did even more than fail to inform users that the content available through its ad-supported offering had changed: Multiple aspects of

the experimental design also worked to impede users' detection of the degradation. Ex. 5605 ¶¶ 27-34 (Tucker CWRT); *see also* Ex. 4091 ¶ 36 (Reiley CWDT) (Pandora's algorithm "might make it difficult for listeners to notice immediately that they are not hearing songs from their favorite artist").

871. Pandora's "Premium Access" feature allows ad-supported users to gain limited-time access to on-demand functionality in exchange for viewing additional video advertisements. Ex. 4091 ¶ 15 (Reiley CWDT); Ex. 4090 ¶¶ 25-26 (Phillips WDT); Ex. 5605 ¶ 38 (Tucker CWRT); 8/31/30 Tr. 4645:10-22 (Phillips). Pandora prompts all ad-supported users to try a Premium Access session each time the user starts and seeds a new station. 8/31/30 Tr. 4645:23-4646:4 (Phillips). Pandora also encourages use of Premium Access sessions via its "For You" capability, which uses ad-supported users' listening patterns to recommend songs or albums, but makes those accessible only "if you opt into a Premium Access session." *Id.* at 4632:10-4633:3; 4646:5-12 (Phillips).

872. There is no indication that Premium Access functionality was modified in connection with the LSEs. *See generally* Ex. 4091 ¶¶ 15, 33 (Reiley CWDT); Ex. 4108 ¶ 18 (Reiley WRT); 9/1/20 Tr. 4916:12-4917:16 (Reiley) (comparing Premium Access experience of users in control and experimental groups). To the contrary, Professor Shapiro instructed Dr. Reiley to suppress the record company of interest completely, *except* when a user in the treatment group used the Premium Access feature. Ex. 4091, App. A (Reiley CWDT) ("[N]o music licensed by that record company will be played . . . except if requested under the Premium Access Feature.") (emphasis added)).

873. The choice not to suppress content when listeners in a treatment group were using "Premium Access" disguised the suppression of content and affirmatively led listeners in the treatment groups to believe that the suppressed label's content was still available to them. Ex. 4091

¶ 15 (Reiley CWDT); Ex. 4090 ¶¶ 25-26 (Phillips WDT); Ex. 5605 ¶ 38 (Tucker CWRT); 8/17/20 Tr. 2319:25-2320:15 (Tucker); 8/31/30 Tr. 4645:23-4646:4 (Phillips). This is true regardless of whether or not users ultimately opted in to Premium Access sessions because the offer of this feature itself disguised the suppression. *See* Ex. 5605 ¶¶ 37-38 (Tucker CWRT).

874. In addition, due to a variety of implementation errors detailed below, users in the treatment groups heard recordings that should have been suppressed, even when they were listening to Pandora's ad-supported service outside of Premium Access. Ex. 4091 ¶¶ 28-32, 34 (Reiley CWDT); Ex. 5605 ¶¶ 69-71, App. 1 (Tucker CWRT); Ex. 5607 ¶¶ 40-45 (Zauberman WRT); Ex. 5608 ¶¶ 46-57 (Simonson CWRT)

875. Dr. Reiley's failure to achieve full label suppression means his findings at most reflect on the effect of suppression on listeners he *intended* to treat, as opposed to listeners who actually received the treatment. Ex. 5607 ¶ 34, n.32 (Zauberman WRT); *see also* Ex. 5605 ¶ 44, App. 1 (Tucker CWRT) (calculating, inter alia, fraction of users in the [[redacted]] treatment groups with limited, reduced, or no exposure to the treatment).

ii. The LSEs' Failure to Inform Treated Users Deflated the Effects of the Suppression

876. Both Dr. Reiley and Professor Shapiro concede that, as a result of the LSEs' "blind" design, the LSEs did not test the effect of label suppression on Pandora listeners who actually knew a record company's content was no longer available to them. 9/1/20 Tr. 4928:19-25 (Reiley) ("[I]f we imagine that listeners were informed of [the missing content], then I don't know what impact that would have on listening."); *id.* at 4943:19-4944:20, 4947:19-4948:2 (Reiley) (in response to being asked whether he could draw any conclusion about whether knowledge of suppression would impact consumer behavior: "I would say I would be speculating . . . . I don't know exactly how it would affect behavior, if at all."); Ex. 4094 at 21 (Shapiro Second CWDT)

(LSEs "do not fully capture what would happen in the real world in the event of a blackout resulting from one of [the] record companies withholding its repertoire from Pandora;" "listeners were presumably not aware of the blackout, and they might react more strongly if they were aware."); *see also* Ex. 5605 ¶ 91 (Tucker CWRT) (Shapiro's arbitrary *ad hoc* corrections do not effectively deal with this limitation).

877. Access to information about a change in Pandora's repertoire would prompt Pandora users to respond strongly, including by looking for alternative music sources. Ex. 5608 ¶¶ 31-40 (Simonson CWRT); *see also* Ex. 5605 ¶ 26 (Tucker CWRT). Well-established behavioral principles, including loss aversion, focalism, and impact bias suggest that the LSEs drastically understate the amount of switching that would occur if Pandora stopped playing the recordings of a given record company. Ex. 5608 ¶¶ 31-40 (Simonson CWRT). In addition, even if some users do not care about Pandora losing a specific artist, they nonetheless value listening to a service that has the most available content options (*i.e.*, the largest catalog). Ex. 5607 ¶ 33 (Zauberman WRT) ("people care about keeping their options open, and are willing to pay a premium for a service that allows them to do that").

878. Indeed, [[redacted]]. *See* Ex. 5055 at 49; Ex. 5153 at 35 ([[redacted]]); Ex. 5154 at 7 ([[redacted]]); Ex. 5155 at 31 (stating that on Pandora, [[redacted]]); Ex. 5156 at 17 ([[redacted]

[redacted]]); Ex. 5157; Ex. 5158 at 13.

879. In short, measuring the effects of removing recordings from [redacted] on users' listening behavior when those users are under the impression they are receiving the same Pandora ad-supported service and music catalogs they have always received, as Dr. Reiley did, is not a useful tool for measuring the real-world impact of losing access to [redacted] catalog. Ex. 5605 at ¶ 18 (Tucker CWRT).

2. The LSEs Were Not Implemented Properly

880. Implementation errors exacerbated the foregoing design flaws and contributed to the failure of the LSEs to accurately measure the effects of suppression. Ex. 5605 ¶¶ 30-39 (Tucker CWRT); Ex. 5607 ¶¶ 40-45 (Zauberman WRT); Ex. 5608 ¶¶ 19-23 (Simonson CWRT).

881. With the exception of music requested under the Premium Access feature, the goal of the LSEs was to *completely* suppress the content of a given record company on the ad-supported tier, for users in the relevant treatment group. Ex. 4091, App. A (Reiley CWDT) (Shapiro's instructions). The LSEs did not achieve the stated goal of otherwise perfect suppression. Ex. 4091 ¶¶ 27-34, App. A (Reiley CWDT); 9/1/20 Tr. 4955:23-4956:14 (Reiley); *see also* Ex. 5605 ¶¶ 30-39, App. 1 (Tucker CWRT); 8/17/20 Tr. 2330:11-15 (Tucker) ([redacted]).

882. *Technical Errors:* Many users were exposed to recordings from the suppressed record companies due to technical errors in the implementation of the experiment. For example, suppression was turned off during several days of the treatment period. Ex. 4091 ¶ 31 (Reiley CWDT) (listeners may have received recordings from the suppressed record company due to

various software upgrades on June 13-16, 2019 and June 26, 2019 or due to other system updates); 9/1/20 Tr. 4956:20-4958:7 (Reiley).

883. *Data Caps:* Because of arbitrary limitations Pandora imposed on the underlying data set, the LSEs fail to capture changes in the behavior of high-frequency listeners. [ ] accordingly, the LSEs do not reflect changes in listening of those users who [ ] Ex. 5605 ¶ 67, App. 1 (Tucker CWRT) ([ ]); [ ] did so during the final 28 days of the experiment); 9/1/20 Tr. 4963:19-4966:14, 4988:25-4989:24 (Reiley); 8/17/20 Tr. 2315:6-16 (Tucker) ([ ]).

884. Similarly, because of Pandora's data caps, the LSEs do not reflect changes in listening of those users who [ ]. 9/1/20 Tr. 4963:19-4966:14, 4988:25-4989:24 (Reiley).

885. Professor Reiley testified that he was not aware of these caps in designing his experiment. *Id.* at 4963:19-4966:14, 4988:25-4989:24 (Reiley).

886. *Miscellaneous Provider Tracks:* Pandora plays a number of legacy "miscellaneous provider" tracks that are "not yet tied to [Pandora's] current direct license agreements [but] continue to be spun on the Pandora service because of the long history of user data associated with those tracks." Ex. 4091 ¶ 28 (Reiley CWDT). These "miscellaneous provider" tracks included

recordings from the suppressed record companies—again resulting in less than 100% suppression. *Id.* at ¶ 29; Ex. 4108 at ¶¶ 21-23 (Reiley WRT); 8/17/20 Tr. 2321:14-2322:9 (Tucker).

887. [ ] were exposed to at least one "miscellaneous provider" track during the LSEs. *See* Ex. 5605, App. 1 (Tucker CWRT) (Rows 13-14); 8/17/20 Tr. 2322:10-14 (Tucker).

888. *Upgrades to Plus or Premium:* Users who upgraded to Plus or Premium subscription tiers during the experiment no longer received the suppression treatment. Despite being analyzed as part of the treatment group, these users received recordings from the suppressed record company as usual. Ex. 4091 ¶ 32 (Reiley CWDT) ("[A]lthough listeners who upgraded to Plus or Premium no longer received treatment after subscribing, I have not excluded those listeners or their listening metrics from the analysis . . . ."); Ex. 4108 ¶ 19 (Reiley WRT).

889. According to the data reported by Dr. Reiley, [ ] Ex. 5605, App. 1 (Tucker CWRT); Ex. 4091 ¶ 32 (Reiley CWDT); 8/17/20 Tr. 2318:13-22 (Tucker) ([ ]).

890. Figure 22 below illustrates the extent of leakage that occurred in the [ ] treatment groups on account of these implementation errors.

Figure 22
From Ex. 5602, App. 1 (Tucker CWRT) (RESTRICTED)

[ ]

891. This data shows that [ ] were erroneously exposed to at least one spin from the suppressed record company on Pandora's ad-supported service while the experiment was running. *Id.* at App. 1 (Row 10). Additionally, [ ] were exposed to at least one spin from the suppressed record company during a Premium Access session. *Id.* at App. 1 (Row 11); 8/17/20 Tr. 2319:25-2320:15 (Tucker).

892. All told, the LSEs suppressed less than [ ]. In other words, based on Dr. Reiley's own data, approximately [ ] recordings that should have been suppressed were "leaked" to the [ ] treatment group. Ex. 4091 ¶ 34 (Reiley CWDT); Ex. 5605 ¶ 70, App. 1 (Tucker CWRT).

893. Moreover, the reported data may understate the actual amount of leakage in the LSEs. As Professor Reiley acknowledged, there may be additional underlying data errors he did not detect. 9/1/20 Tr. 4960:5-4961:15 (Reiley); *see also id.* at 4959:1-4960:4 (Reiley) (testifying

that SoundExchange would have no way to identify additional technical errors if Reiley did not detect and report them).

894. Indeed, at the time he submitted his written direct testimony, Dr. Reiley had missed several errors that he only later discovered contributed to imperfect suppression in the LSEs. 9/1/20 Tr. 4956:23-4958:7 (Reiley) (testifying that he initially ignored certain suppression violations due to technical errors, including three day period when the suppression was turned off, because he "mistakenly believed that they were small" deviations that were not "worth writing about"); 4965:19-4966:13 (testifying he does not know who made the decision to cap data or when that decision was made); 4988:25-4989:24 (testifying that he "wasn't even completely aware of [the data caps] until we got into discovery and I went and tracked down and figured out exactly what was going on").

895. Additionally, Dr. Reiley's estimate of miscellaneous provider tracks that should have been assigned to each suppressed label may not be accurate. To estimate the magnitude of leakage due to miscellaneous provider tracks, Dr. Reiley's team looked at a small sample of 60 observations. Ex. 4091 ¶ 30 (Reiley CWDT); Ex. 4108 ¶ 23 (Reiley WRT); 9/1/20 Tr. 4960:25-4963:18 (Reiley) (team analyzed 60 out of thousands of miscellaneous provider tracks). Dr. Reiley does not claim that this sample is representative of the thousands of Pandora recordings that are labeled "miscellaneous provider." 9/1/20 Tr. 4921:3-4924:9, 4960:17-49613:16 (Reiley).

896. Dr. Reiley and Professor Shapiro provide no empirical basis to support their claims that the leakage in the LSEs is too low to undermine the experiments' results. Ex. 4091 ¶¶ 28-34 (Reiley CWDT); Ex. 4107, App. E (Shapiro WRT); Ex. 4108 ¶¶ 25-26 (Reiley WRT). In reality, as Dr. Reiley himself acknowledges, even slight deviations from perfect suppression can make a significant difference on user behavior. 9/1/20 Tr. 4955:4-21 (Reiley); Ex. 5605 ¶¶ 70-71 (Tucker)

(Reiley ignored literature suggesting that consumers behave differently at extremes of distribution, and his extrapolation from [ ] to full suppression is unjustified); 8/26/20 Tr. at 2326:7-2328:4 (Tucker) ([ ]).

3. Additional Limitations Make the LSEs Uninformative

897. Several other limitations further undercut Pandora's suggestion that LSE data can accurately approximate how loss of a label's content would affect consumer behavior in the real world. Ex. 5605 ¶¶ 76-83 (Tucker CWRT); Ex. 5607 ¶¶ 40-45, 53-56 (Zauberman WRT); Ex. 5608 ¶¶ 41-45 (Simonson CWRT); *see also* Ex. 5601 ¶¶ 26-30, 39 (Willig WRT).

i. The LSEs Are Not Useful for Estimating True Long-Run Effects

898. The LSEs—which initially ran for three months, including an experimental period of only 28 days—do not provide any useful guide to the long-run effects of Pandora's loss of content from [ ]. Ex. 5605 ¶¶ 76-83 (Tucker CWRT); Ex. 5607 ¶¶ 40-45, 53-56 (Zauberman WRT); Ex. 5608 ¶¶ 41-45 (Simonson CWRT); *see* Ex. 5601 ¶ 26 (Willig WRT).

899. The additional three months of data that Dr. Reiley provided on rebuttal does not change this fact. The short extension of the experiments did not alter any expert's view that the LSEs cannot estimate how consumers would react over the five-year rate-setting period. *See* 8/17/20 Tr. 2323:19-2325:9 (Tucker) ([ ]); 8/27/20 Tr. 4216:16-24 (Zauberman); *id.* at 4278:16-4280:6 (Simonson) ("[F]ailure to reflect marketplace reality . . . by itself made the [LSEs] unreliable and uninformative . . . "); *see generally* Ex. 5605 ¶ 77 (Tucker CWRT) ("Consumer learning can lead to substantial difference in the measured effect of a treatment over time").

900. At trial, Dr. Reiley again confirmed that his estimation of long-run effects was really a "guess" and acknowledged that short-run effects do not necessarily translate into long-run effects. 9/1/20 Tr. 4910:16-4911:5 (Reiley) ("[I]t's impossible to know exactly what would happen without running the experiment . . . for a much longer period of time[,] . . . so we are using the ad-load experiment to make our best guess . . .").

901. Dr. Reiley's suggestion that he is better positioned to make such a "guess" than any other person is unsupported by any evidence. Despite his background as an economist, Dr. Reiley was neither offered nor qualified as an expert witness. *Cf.* 9/1/20 Tr. 4929:17-4930:9 (Reiley). There is no basis in the record for the Judges to find that Dr. Reiley's judgment regarding the effects of a change in content consumer behavior is more reliable than that of the drove of experts in economics and experimental and survey design who disagree with him. *See id.* at 4910:16-4911:5 (Reiley); Ex. 5605 ¶¶ 76-83 (Tucker CWRT); Ex. 5607 ¶¶ 40-45, 53-56 (Zauberman WRT); Ex. 5608 ¶¶ 41-45 (Simonson CWRT); *see also* Ex. 5601 ¶¶ 26, 28-30, 39 (Willig WRT); 8/5/20 Tr. 579:8-19 (Willig) ([ ]).

902. The only purported support for Dr. Reiley's extrapolation from the LSEs to long-run effects are two entirely separate studies: one that tested the effects of changing the ad-load on Pandora's ad-supported service and another that tested the effects of steering. Ex. 4091 ¶¶ 26, 35-37 (Reiley CWDT); *see also* Ex. 4094 at 19 (Shapiro Second CWDT) (maximum suppression in steering experiments was 30% of record company's play share).

903. Extrapolating from these studies is not a scientifically valid way of approximating long-run effects of suppressing the content of a record company. Ex. 5601 ¶¶ 26-27 (Willig WRT) (Shapiro's arbitrary adjustments do not remedy this problem); 8/5/20 Tr. 582:11-584:13 (Willig);

Ex. 5605 ¶¶ 76-83 (Tucker CWRT); Ex. 5607 ¶¶ 53-56 (Zauberman WRT); Ex. 5608 ¶¶ 41-45 (Simonson CWRT); 8/17/20 Tr. 2334:3-11 (Tucker) ([ ]).

904. Dr. Reiley's testimony that it is appropriate to extrapolate from short-run to long-run effects is contrary to the academic literature, as well as to Dr. Reiley's other published work. Ex. 5605 ¶¶ 76-83 (Tucker CWRT); 8/17/20 Tr. 2333:18-2334:2 (Tucker).

905. Additionally, the treatment period for many users was shorter than 3 or 6 months. Users who upgraded to, or downgraded from, Plus or Premium during the experiment were included in the analysis—even though they experienced the treatment for only part of the experimental period. Ex. 5605 ¶ 67, App. 1 (Tucker CWRT); Ex. 4091 ¶ 32 (Reiley CWDT) (analysis included); Ex. 4108 ¶ 19 (Reiley WRT).

906. Listeners were also added to the experimental groups on an ongoing basis, even after the treatment began. Ex. 5605 ¶¶ 67-71 (Tucker CWRT); 9/1/20 Tr. 4917:17-4920:17 (Reiley) (responding to questioning by J. Strickler); *see also* Figure 22 (in Rows 6-7, showing that [ ] were added to the experiment or first listened to a song in ad-supported radio mode during the final month of the experiment); 8/17/20 Tr. 2315:17-2316:6 (Tucker). Professor Tucker explained that [ ]. 8/17/20 Tr. 2316:1-7 (Tucker).

907. These choices contribute to the problem illustrated in Figure 22 above. Using the data reported by Dr. Reiley, Professor Tucker shows that approximately [

[redacted] Ex. 5605 ¶ 67, App. 1 (Tucker CWRT) (Row 12); 8/17/20 Tr. 2320:23-2321:13 (Tucker).

ii. The LSEs Are Underpowered

908. The LSEs were underpowered, especially with regard to [redacted]. Ex. 5605 ¶¶ 59-65 (Tucker CWRT) (experimental design is "underpowered to detect small effects" and "does not adequately account for the highly skewed distribution of listening patterns in the population"); 9/1/20 Tr. 4925:8-10 (Reiley) (acknowledging that LSEs used "small samples").

909. Pandora deliberately limited the size of the [redacted] of ad-supported users – because it anticipated that removing [redacted] content could have negative business consequences. Ex. 4091 ¶ 16 (Reiley CWDT) (sample size driven in part by "potential business impact of exposing large groups of listeners to a full suppression of [redacted]"); Ex. 4108 ¶ 8 (Reiley WRT); Ex. 5605 ¶¶ 65-66 (Tucker CWRT); 9/1/20 Tr. 4979:18-4980:6 (Reiley) (sample size limited just in case the impact on Pandora's business was "catastrophically bad"); 8/17/20 Tr. 2278:19-23 (Tucker).

910. Pandora did not impose this same limitation on the treatment groups in which [redacted] were suppressed. The sample size [redacted] was "750,000 listeners each—that is, *fifty times* the samples [redacted]." Ex. 5601 ¶¶ 38-39 (Willig WRT); *see also* Ex. 4091 ¶ 16, App. A (Reiley CWDT); 8/5/20 Tr. 480:22-481:14 (Willig); 9/1/20 Tr. 4979:18-4980:6 (Reiley) (agreeing that concern about potential negative impact on business informed choice of smaller sample size for majors).

911. A sample size of [redacted] users is much smaller than what both Dr. Reiley and Pandora have used in other studies. *See, e.g.*, Ex. 5605 ¶¶ 2-10, 60-65 (Tucker CWRT) (sample

sizes of more than 1 million in Reiley's past work); 9/1/20 Tr. 4925:2-10 (Reiley) (noting that LSEs had "much wider error bars, much wider confidence intervals" than McBride's steering experiments and that McBride used "much larger sample sizes"), 4972:16-19 (McBride's sample included millions of listeners), 4978:14-4980:4 (Reiley would "always want to have a bigger sample size" if possible); 8/17/20 Tr. 2279:1-4 (Tucker) (observing that some of Dr. Reiley's past work used "sample sizes with millions or at least hundreds of thousands of people in them").

912. Dr. Reiley testified that, in his view, this smaller sample size sufficed because the LSEs were designed to detect large effects, but not smaller ones. 9/1/20 Tr. 4900:16-4901:9 (Reiley) (sample sizes were sufficiently large to determine that, *e.g.*, Pandora would not lose "half or more of its listeners"); *id.* at 4980:7-13 (Reiley) (agreeing that "the goal of the LSEs was not to get a really precise measurement of the exact change in listening").

iii. The LSEs Are Not Applicable to Subscription Noninteractive Webcasting Services

913. The LSEs were conducted only on the ad-supported tier of Pandora. They did not attempt to gather any data regarding Pandora Plus, Sirius XM over the internet, or any other subscription noninteractive webcasting service. Ex. 4091 ¶ 12 (Reiley CWDT); 8/5/20 Tr. 587:23-25 (Willig). Nonetheless, Professor Shapiro uses the LSE data in the course of computing record company's opportunity cost of licensing to a subscription webcasting service. Ex. 4094 at 29-31 (Shapiro Second CWDT).

914. Professor Shapiro's extrapolation of LSE data to subscription noninteractive services is premised on the unsupported assumption that the effect of label suppression would be the same for subscribers as for users of ad-supported Pandora. This assumption ignores differences between users of ad-supported services and subscription services that could influence the resulting

effect of the label suppression treatment on listening hours. Ex. 5601 ¶¶ 43-44 (Willig WRT); Ex. 5605 ¶¶ 101-02 (Tucker CWRT); 8/5/20 Tr. 588:11-589:14 (Willig); Ex. 5158 at 4.

915. Professor Willig testified that [ ]. 8/5/20 Tr. 588:11-589:14 (Willig). Professor Shapiro agreed that [ ]. 8/20/20 Tr. 3170:25-3171:13 (Shapiro); *see also* Ex. 5158 at 4 (Pandora deck indicating that [ ]).

916. Ultimately, [ ]. 8/20/20 Tr. 3171:14-18 (Shapiro).

iv. The LSEs Do Not Measure the Effect of Losing [ ]

917. Professor Shapiro uses the results of the LSEs to estimate the per-performance opportunity cost for each of the three major record companies. *See* Ex. 4094 at 24-25 (Shapiro Second CWDT) (adjusting results of [ ] to estimate opportunity cost for all three majors).

918. The LSEs, however, did not test the effect of suppressing [ ]. At the direction of Professor Shapiro, Dr. Reiley included [ ] in his experiment, but he did *not* include an [ ]. Ex. 4091 ¶ 12, App. A (Reiley CWDT); *see also* 8/5/20 Tr. 584:14-585:5 (Willig).

919. As Dr. Reiley testified, omitting [ ] from the LSEs was not solely his choice, nor would he have made that decision had he been designing the experiments without the input of others. 9/1/20 Tr. 4976:18-4978:11 (Reiley) ("more examples is always better"). [ ]. 8/20/20 Tr. 2172:6-12 (Shapiro).

920. Neither Dr. Reiley nor Professor Shapiro has provided any reason to believe that the results of an [ ] would have been identical to the results of the [ ], or that including an [ ] would not have altered Professor Shapiro's analysis. *See* Ex. 4094 at 24-25 (Shapiro Second CWDT); 8/5/20 Tr. 584:14-585:5 (Willig) ([ ]); *see generally* Ex. 4091 ¶ 12, App. A (Reiley CWDT).

v. The LSEs Provide No Information about Downstream Costs of a Blackout to a Noninteractive Service

921. The LSEs attempt to measure the effect of label suppression on Pandora's ad-supported service by looking at potential changes in listening hours. Ex. 4091 ¶¶ 4, 11 (Reiley CWDT); Ex. 4094 at 24-25 (Shapiro Second CWDT); Ex. 5605 ¶ 95 (Tucker CWRT). The LSEs do *not* factor in other costs to Pandora of losing access to content from [ ], including impacts to Pandora's underlying business model. Ex. 5605 ¶¶ 94-103 (Tucker CWRT); *see* 9/1/20 Tr. 4142:19-4143:1 (Reiley). Nor were such costs taken into account by Professor Shapiro in his application of the LSEs to his opportunity cost and bargaining models. *See generally* Ex. 4094 at 77 (App. F, p.6) (Shapiro Second CWDT).

922. *First*, the LSEs' design was premised on the assumption that, if Pandora lost access to a record company's content on its ad-supported tier, it would nonetheless retain access to that

same content on its subscription tiers and Premium Access. *See* Ex. 4091 ¶¶ 11-12 (Reiley CWDT). Pandora provides no basis for this assumption. 9/1/20 Tr. 4952:6-4953:7 (Reiley).

923. As the Judges are well-aware, no statutory license covers on-demand streaming services. *See generally* 37 C.F.R. §§ 380.7, 380.10. There is, consequently, no guarantee that Pandora can utilize any copyrighted sound recordings it chooses on its subscription tiers.***

924. Pandora's unsupported assumption about the potential scope of a label blackout is contrary to how direct license agreements are generally structured, and at odds with the testimony of record label executives about how they believe a blackout would function. *See*, *e.g.*, Ex. 5037 at 3 ¶ 2.1.2; Ex. 5038 at 1-2; *see generally* Ex. 5609 ¶¶ 19-26 (Harrison WDT) (discussing Spotify and Apple Music deal terms, including [[redacted]]), ¶¶ 35-36 (assuming any [[redacted]]).

925. *Second*, the LSEs presuppose that in the real world, it would be possible for Pandora to "blackout" the entire catalog of a particular record company. *See* Ex. 4091 ¶ 11, App. 1 (Reiley CWDT). But Dr. Reiley testified that he does not know whether or not this would be technically feasible for Pandora. 9/1/20 Tr. 4951:25-4952:9 (Reiley). As noted above, multiple implementation errors led to "leakage" of songs that should have been suppressed, but were played to the LSE treatment groups. Ex. 4091 ¶¶ 27-34, App. A (Reiley CWDT); Ex. 5605 ¶¶ 30-39, 67, App. 1 (Tucker CWRT); *see also* 9/1/20 Tr. 4955:23-4956:14 (Reiley) (testifying that it is "not obvious what [he] should have done" to remedy certain implementation errors).

926. In the real world, even a slight deviation from perfect suppression could result in significant liability. If Pandora were to play even one copyrighted sound recording without a statutory or direct license in place, that error could subject it to a costly claim of copyright

infringement. *See* 17 USC § 106(1), (6); *id.* at §§ 501, 504 (actual and statutory damages for copyright infringement), § 505 (fee shifting).***

927. Neither such a risk, nor the cost of technical upgrades that might be necessary to avoid it, is incorporated into Dr. Reiley's experiments or Professor Shapiro's bargaining models. *See generally* Ex. 4091 (Reiley CWDT); Ex. 4094 (Shapiro Second CWDT); 8/20/20 Tr. 2172:6-12 (Shapiro) (suggesting that [[redacted]] may impose additional complications).

928. *Third*, losing access to [[redacted]] catalog would also influence Pandora's unit economics and overall profitability in ways not captured by direct losses of listener hours. Ex. 5605 ¶¶ 94-95 (Tucker CWRT); 8/17/20 Tr. 2334:17-2335:3 (Tucker). The LSEs ignore the potential impact of label suppression on Pandora's ability to attract and acquire new customers, retain (or regain) customers in the long run, sell advertising, upsell customers of its ad-supported service to its Plus and Premium offerings, or cross-sell to Sirius XM's offerings—not to mention the added costs associated with all of these activities. Ex. 5605 ¶¶ 76-77, 94-103 (Tucker CWRT); Ex. 5608 ¶¶ 58-60 (Simonson CWRT); 9/1/20 Tr. 4142:19-4143:18 (Reiley).

929. This is an important limitation, given that Pandora's business model depends on its acquisition of new customers, particularly in light of its high churn rate. Ex. 5605 ¶ 95 (Tucker CWRT); Ex. 5608 ¶ 59 (Simonson CWRT); Ex. 5323 at 4 ([[redacted]]); 8/31/20 Tr. 4641:22-24 (Phillips); Ex. 5226 at 4.

930. Professor Shapiro acknowledged that [[redacted]]. 8/20/20 Tr. 3177:10-17 (Shapiro). And Professor Shapiro acknowledged that [[redacted]

[redacted]]. *Id.* at 3177:18-3178:3 (Shapiro). [[redacted]]. *Id.* at 3178:4-9 (Shapiro). [[redacted]]. *Id.* at 3178:10-18 (Shapiro). Instead, [[redacted]]. *Id.* at 3178:19-3179:4 (Shapiro).

vi. The LSEs Are Refuted By Survey Evidence

931. The LSEs are also inconsistent with the survey evidence in this proceeding, including that of Pandora's own expert Professor Hanssens. Ex. 5601 ¶¶ 30-35 (Willig WRT).

932. Professor Hanssens designed his survey to assess the following question: "Would listeners of Free Internet Radio services change their listening to Free Internet Radio services if the music selection across all Free Internet Radio services were limited by the loss of access to any given record company's repertoire?" Ex. 4095 ¶ 39 (Hanssens CWDT). To answer this question, Professor Hanssens asked survey respondents to "[i]magine that you were not satisfied" with a "Free Internet Radio" service "because you noticed that it had stopped streaming songs by some of your favorite artists and some newly released music" and to "[i]magine that all other Free Internet Radio services stopped streaming those same songs as well." *Id.* (emphasis omitted). Professor Hanssens then asked respondents, "[w]hich of the following actions, if any, would you consider taking in the event that you were not satisfied with Free Internet Radio services because their selection of songs changed in this way [you noticed that they had stopped streaming songs by some of your favorite artists and some newly released music]?" *Id.* at ¶ 39, Table 1.

933. Professor Hanssens found that 61.8% of respondents selected the option to "use Free Internet Radio services less." *Id.* at ¶ 43 n.50, Table 1; *see* Ex. 5601, App. J at 9 (Willig WRT). That figure contrasts sharply with the LSEs, which purportedly identify *zero* impact on listening hours resulting from the suppression of a record company's catalog. Ex. 5601 ¶ 31 (Willig WRT). Professor Hanssens' survey suggests that, when users are informed of a record company blackout (unlike in the LSEs), they will respond by reducing their listening hours on the affected service. *Id.*

934. Responding to this conflict between the findings of its own experts, Pandora suggests that the Hanssens Survey is not inconsistent with his LSEs because the respondents to the Hanssens Survey were asked to assume they were "not satisfied" with their noninteractive service because of a record company blackout, whereas his LSEs purport to reflect whether listeners would actually become dissatisfied or not. *Id.* at ¶ 32; 8/18/20 Tr. 2668:16-2669:9 (Shapiro); 8/19/20 Tr. 2716:223-2717:11 (Shapiro).

935. Professor Simonson's modification of the Hanssens Pandora Survey refutes that argument. Professor Simonson removed all language directing respondents to assume they were "not satisfied" with their ad-supported noninteractive service. Ex. 5608 ¶ 89 (Simonson CWRT); Ex. 5601 ¶ 33 (Willig WRT); *see supra* at Part VII.I.2. Despite the removal of this "not satisfied" assumption, 62.4% of the respondents to the Modified Hanssens Survey indicated that they would reduce listening to their ad-supported noninteractive service if it "stopped streaming songs by some of [their] favorite artists and some newly released music." Ex. 5601, App. J at 9 (Willig WRT); Ex. 5608 ¶ 95 (Simonson CWRT). This result is highly consistent with the Hanssens Pandora Survey and indicates that Professor Hanssens' "not satisfied" language was irrelevant to respondents' answers to this question. Ex. 5601 ¶ 31 n.55 (Willig WRT); *see also* 8/26/20 Tr.

4131:18-4132:23 (Hanssens) (testifying that he would not expect there to be any major differences in his results if respondents found out about the degradation of service through a third party).

936. The Services also contend that the LSEs are not at odds with the results of the Hanssens Survey because the Hanssens Survey does not ask *how much less* respondents would use ad-supported noninteractive streaming services in response to a record company blackout. Ex. 5601 ¶ 32 (Willig WRT); 8/18/20 Tr. 2668:16-2669:9 (Shapiro); 8/19/20 Tr. 2716:223-2717:11 (Shapiro). Again, the Modified Hanssens Survey refutes this claim. In the Modified Hanssens Survey, Professor Simonson asked this precise question. Ex. 5608 ¶¶ 89-90, App. D (Simonson CWRT); Ex. 5601 ¶ 34, App. J at 9 (Willig WRT). Its results show that respondents who would use their ad-supported noninteractive service less in response to a record company blackout would reduce their listening on average by 55.8%. Ex. 5601 ¶ 34, App. J at 9 (Willig WRT).

937. Combining this result with that of the prior question produces an overall reduction in ad-supported noninteractive listening time of [[redacted]]. *Id.*; *see also id.* ¶ 34 n.63 (explaining why these results may actually understate the loss of listening). This is roughly [[redacted]] than Professor Shapiro's "point estimate" reductions in listening time from his LSEs, [[redacted]]. *Id.* at ¶ 34 & n.64.

938. In summary, Professor Shapiro's reliance on the LSEs is completely undermined by survey evidence. *Id.* at ¶ 35; 8/5/20 Tr. 590:21-591:10 (Willig). The Modified Hanssens Survey demonstrates that if users are actually informed that the content available on their ad-supported noninteractive service has been limited due to a blackout, a fact that the LSEs did not disclose to

users, then users would reduce their listening by amounts far in excess of Professor Shapiro's *ad hoc* adjusted LSE results. Ex. 5601 at ¶ 35 (Willig WRT).

939. Only when faced with this conflicting evidence did Pandora attempt to walk back the purpose, findings, and implications of Professor Hanssens' Pandora Survey. But Pandora cannot run from the written testimony, in which Professor Hanssens clearly states both his assignment and the appropriateness of his design choices. Ex. 4095 ¶¶ 13, 17, 24-25, 33, App. 4 (Hanssens CWDT); Ex. 5601 ¶ 31 (Willig WRT).

940. Pandora's *post hoc* theory is that differences in the scope of the two projects account for the contradictory findings of Professor Hanssens and Dr. Reiley. The real explanation for the discrepancy is much simpler: Unlike the Hanssens Survey, the LSEs are so flawed that they do not provide *any* scientifically valid information. *See, e.g.*, Ex. 5604 ¶ 5 (Tucker CWRT); Ex. 5601 ¶ 28 (Willig WRT).

4. Professor Shapiro's Application of the LSE Data Highlights and Compounds Dr. Reiley's Errors

i. The LSEs Produce Nonsensical Results that Professor Shapiro Is Forced to Disregard

941. The LSEs find [[redacted]] in listening hours in any of the five treatment groups. Ex. 4091 ¶¶ 24-25 (Reiley CWDT) ("[S]uppression of spins of any single record company [[redacted]] in the number of listeners or the number of hours they spend listening to Pandora."); Ex. 4108 ¶¶ 12-14 (Reiley WRT) (same); 8/5/20 Tr. 574:10-575:25 (Willig) ([[redacted]]). The implication of Dr. Reiley's finding is that listeners would not care if music content were suppressed. Ex. 5607 ¶ 50 (Zauberman WRT).

942. That conclusion is at odds with psychological understandings of consumers' relationship to music as well as common sense. *Id.* (conclusion that suppression would result in

[] "simply does not pass any reasonable reality check on what we know about consumers' preferences when it relates to music, an activity that is often linked to individuals' very sense of self and expression"); 8/5/20 Tr. 579:8-17 (Willig) ("[]").

943. Moreover, if consumers were similarly satisfied with any collection of sound recordings that Pandora played, there would be little benefit from the personalization and customization features in which Pandora heavily invests. Ex. 5601 ¶ 38 (Willig WRT); *see* Ex. 4090 ¶¶ 6-8 (Phillips WDT) (Music Genome Project and customization tools distinguish Pandora from its competitors); Ex. 5162 at 14 (describing Pandora's "proprietary personalization technologies," such as "complex algorithms that determine which songs play and in what order on each personalized station.").

944. Dr. Reiley's results are further undermined by industry data indicating that music listeners care about being able to listen to a wide selection of music and to the music that they personally like. Ex. 5607 at ¶ 51 (Zauberman WRT); *see also, e.g.*, Ex. 5158 at 13 ([]); *cf.* 8/5/20 Tr. 467:11-468:25, 469:25-470:11 (Willig)

945. The LSEs' results are implausible for a separate reason. After three months, the [] showed a slight (but statistically insignificant) *increase* in listening. Ex. 4091 ¶ 22 (Reiley CWDT) (other treatment groups showed slight decrease in listening). And after six months, the [] showed a slight (but statistically insignificant) increase

in listening hours. Ex. 4108 ¶ 14 (Reiley WRT) (remaining treatment groups, [ ], showed slight declines at six months). The positive point values [ ] suggest that some users might actually increase their listening in the event of [ ]. *See* 8/5/20 Tr. 585:6-20 (Willig) ([ ]).

946. [ ]. 9/1/20 Tr. 4974:5-4675:4 (Reiley); *see also* Ex. 5601 ¶¶ 28-29 (Willig WRT) (the idea that "users would listen to Pandora *more* if it lost access to [ ]" is not plausible); 8/6/20 Tr. 610:4-13 (Willig).

947. Professor Hanssens' testimony supports the view that listening *more* to a degraded service would be nonsensical. Professor Hanssens asked respondents to his survey whether they would listen more, less or the same amount in the hypothetical degradation scenario (P20/X20)—and terminated from the survey those respondents who said "more." Ex. 4095 ¶¶ 39-41, 61 (Hanssens CWDT) (describing termination as a "quality assurance measure" because a "more" response "signals that the respondent was not paying attention or otherwise not properly following the information" in the question); 8/26/20 Tr. 4135:5-14 (Hanssens) (selecting more is "not a reasonable path to follow" and is "inconsistent with the notion of consumers seeking value"); *see also* Ex. 5608 ¶¶ 86-91 (Simonson CWRT) (omitting dissatisfaction language but retaining instruction to terminate respondents who selected "more" in P20), ¶ 99 (finding modification did not generally result in large alterations to the data).

948. At trial, Judge Strickler raised the possibility that these responses might not be illogical and respondents might view the service as improved rather than degraded, if they

preferred *not* to listen to newly-released music. 8/10/20 Tr. 990:14-991:3 (Willig). While this might be a hypothetical possibility, the customization and personalization tools available to ad-supported Pandora users make it a nullity in practice. In the real world, a user who dislikes new releases can easily avoid them by seeding stations focused on other genres and using the "thumbs up"/"thumbs down" features. *See* Ex. 4090 ¶¶ 6-8 (Phillips WDT) (describing customization tools); Ex. 5162 at 14 (same). Moreover, if Pandora lost the content of a [[redacted]], the resulting degradation of content would sweep far beyond just new releases. Ex. 5609 ¶ 5 (Harrison WDT); Ex. 5611 ¶¶ 3-4 (Adadevoh WDT); Ex. 5613 ¶¶ 5-6 (Piibe WDT).

949. Application of the positive point values that Dr. Reiley reported would lead to nonsensical results. Had Professor Shapiro used a positive point value in his analysis, he would have found a *negative* opportunity cost for the relevant label. This means that, in the event of a blackout, ad-supported Pandora would *gain* audience at the expense of its competitors and the label would *lose* royalty income on competing distributors. Ex. 5601 ¶ 28 (Willig WRT).

950. Apparently aware that this outcome would make no sense, Professor Shapiro disregards the [[redacted]] data. His opportunity cost model does not use [[redacted]], but instead uses the [[redacted]] as inputs. Ex. 4094 at 19, 22-23 (Shapiro Second CWDT); Ex. 5601 ¶¶ 28-29 (Willig WRT) (explaining why Shapiro's reliance on [[redacted]] point values is inappropriate); Ex. 5605 ¶¶ 84-85 (Tucker CWRT); 8/5/20 Tr. 585:6-20 (Willig); 8/19/20 Tr. 2701:3-2701:13 (Shapiro).

ii. Professor Shapiro's Arbitrary Adjustments Cannot Save the LSEs

951. Professor Shapiro makes several *ad hoc* adjustments in an attempt to address some of the issues above. Rather than cure the flaws in the LSEs, Professor Shapiro's adjustments exacerbate them. Ex. 5605 ¶¶ 84-85 (Tucker CWRT).

952. *Reliance on [*[redacted]*]:* Lacking an LSE result for [[redacted]] and a non-absurd LSE result for [[redacted]], Professor Shapiro applied the result of the [[redacted]] LSE to [[redacted]], adjusting for the record companies' difference in relative play shares. Ex. 5601 ¶ 19 (Willig WRT); Ex. 4094 at 21, Table 1 & 20, 22-23, 25-26 (Shapiro Second CWDT).

953. Because none of the LSEs produces results that are [[redacted]], Ex. 4091 ¶ 21 (Reiley CWDT), Professor Shapiro's approach amounts to drawing on the random "noise" from one LSE treatment group and asserting that such noise constitutes a better estimate of blackout effects than the random noise from his other treatment groups. Ex. 5601 ¶ 28 (Willig WRT). This attempt to use one label's results to "bootstrap" onto another label, 9/1/20 Tr. 4975:5-11 (Reiley), is inappropriate and cannot form the basis for reliable results. Ex. 5601 ¶¶ 28-29 (Willig WRT). It is completely illogical to reject the results of an LSE as to one label, while simultaneously claiming the results from the same experiment applied to a different label are not only reliable, but can be extrapolated to the label for which the experiment was deemed unreliable. *Id.* at ¶ 28.

954. Notably, in order to extrapolate from one label's blackout to another's, Professor Shapiro posits a proportional relationship between a record company's share of plays on Pandora and the amount of valuable hit recordings in its catalog. *Id.* There is no evidence supporting this *ad hoc* assumption, and there is evidence in the record to the contrary. *See* 8/6/20 Tr. 610:4-611:8 ([redacted]

[redacted].

955. *Failure to Inform:* Professor Shapiro reported per-play opportunity cost estimates using the upper end of the 95% confidence interval from the LSEs. Ex. 5601 ¶ 21 (Willig WRT). Professor Shapiro proffered these upper-end results as a solution to the problem that the LSEs failed to inform affected Pandora Free listeners (and everyone else) of the music suppression experiments. Ex. 5601 ¶ 21 (Willig WRT); Ex. 4094 at 21 (Shapiro Second CWDT). But Professor Willig observed that [redacted]. 8/5/20 Tr. 581:11-581:25 (Willig). As such, [redacted]. 8/5/20 Tr. 581:11-581:25 (Willig); *see also* 8/17/20 Tr. 2335:6-21 (Tucker) ([redacted]); Ex. 5605 ¶ 92 (Tucker CWRT) ("untethered to any valid procedure to produce reliable field experiment estimates"). At trial, Professor Shapiro did not offer any logical, mathematical, or statistical justification for his adjustment. *See* 8/19/20 Tr. 2704:8-2705:11 (Shapiro) ([redacted]).

956. *Estimation of Long-Run Effects:* Professor Shapiro acknowledged that the initial duration of the LSEs (three months) would not capture the full long-term impact and, thus, converted these supposed short-term LSE results into purported long-term label suppression impacts by multiplying by an adjustment factor of three, to produce his parameter "L" for [redacted]. Ex. 5601 ¶ 19 (Willig WRT); Ex. 4094 at 21, 24-25, Table 3 (Shapiro

Second CWDT); 8/17/20 Tr. 2335:6-21 (Tucker); Ex. 5605 ¶ 93 (Tucker CWRT). [ ]. 8/19/20 Tr. 2701:3-13 (Shapiro).

957. Professor Shapiro, however, "provides no legitimate support for why this relationship, which was obtained from a different experiment involving a different treatment and a different experimental design, is applicable here." Ex. 5605 ¶ 93 (Tucker CWRT); *see* 8/5/20 Tr. 583:2-584:13 (Willig). Professor Willig testified that [ ] 8/5/20 Tr. 583:3-6 (Willig).

958. Dr. Reiley relies on his prior ad-load experiment and the McBride steering experiments to extrapolate the long run effects of the LSEs, but they are too different from the LSEs to provide useful information. Ex. 5605 ¶¶ 76-83 (Tucker CWRT); Ex. 5607 ¶¶ 40-45, 53-56 (Zauberman WRT); Ex. 5608 ¶¶ 41-45 (Simonson CWRT); Ex. 5601 ¶ 26 (Willig WRT).

959. In fact, Professor Shapiro and Dr. Reiley's decision to multiply the three-month results by three, or the six-month results by two, is completely arbitrary. Dr. Reiley himself admitted that "it's impossible to know exactly what would happen without running the experiment for a . . . much longer period of time," and that his comparison to the ad-load experiment was a "best guess at what we think the long-run effects are likely to be." 9/1/20 Tr. 4910:20-4911:5 (Reiley). Neither in the ad-load experiments nor in his testimony here did Dr. Reiley make the claim that the relationship between the short term and long term results in his ad load experiments could be generalized to other contexts. Ex. 5605 ¶ 83 (Tucker CWRT). Dr. Reiley cited no evidence of correlation between ad load and label suppression. 9/1/20 Tr. 4970:9-14 (Reiley).

960. Professor Willig explained why attempting to generalize long-run effects from the ad-load experiments makes no sense: [ ] 8/5/20 Tr. 584:2-13 (Willig).

961. In addition, Dr. Reiley's use of the McBride experiments does not provide useful information about what would happen in the long run if Pandora achieved 100% suppression. The McBride experiments measured the effects of up to 30% suppression. 9/1/20 Tr. 4925:2-25, 4990:7-13 (Reiley). Dr. Reiley assumed that the McBride results could be extrapolated linearly all the way to 100% because he viewed the McBride results as consistent with the LSEs' results. *Id.* at 4925:2-25 (Reiley). However, it is impossible to tell if the LSEs' results actually line up with the McBride results, considering Dr. Reiley's admission that the LSEs were not statistically significant and had enormous confidence intervals compared to the McBride results. *Id.* at 4906:20, 4925:2-25 (Reiley). Dr. Reiley had to do this extrapolation because the LSEs did not achieve 100% suppression, and as a result he ignored potential nonlinearities at 100% suppression. Ex. 5605 ¶¶ 70-71 (Tucker CWRT); 8/26/20 Tr. 2326:7-2328:4 (Tucker).

962. The flaws in the LSE data consistently suggest that Dr. Reiley is underestimating the true effect of the loss of a [ ] catalog on Pandora, and Professor Shapiro's arbitrary adjustments do not correct these flaws. Therefore, Professor Shapiro's analysis does not reflect the true effect of a blackout, Pandora's willingness to pay, or the record company's opportunity cost. Ex. 5605 ¶ 103 (Tucker CWRT); Ex. 5601 ¶ 28 (Willig WRT).

B. Professor Shapiro Miscalculates Royalty Rates Earned by Blacked-Out Record Companies

963. Recall that Professor Shapiro's formulation of per-play opportunity cost is L x R, where L is the percentage of performances supposedly lost by a statutory webcaster if a particular record company's catalog of recordings were not available to that webcaster, and R is the average royalty earned by all the involved record companies for each play diverted from the service to other forms of listening. Ex. 5601 ¶ 46 (Willig WRT); Ex. 4094 at 17-18 (Shapiro Second CWDT). The preceding section discussed substantial errors in L arising from Professor Shapiro's use of the LSEs. This section explains a critical flaw in Professor Shapiro's calculation of R, which leads him to massively understate the record companies' per-play opportunity costs. Ex. 5601 ¶¶ 46-47 (Willig WRT).

1. Professor Shapiro Fails to Distinguish Between Per-Play and Per-Subscriber Royalties

964. In computing opportunity cost associated with diversion to outside distributors, Professor Shapiro fails to account for the full amount of royalties that would be earned from new subscriptions to services that generate royalties on a per-subscriber basis. Ex. 5601 ¶ 47 (Willig WRT). [[redacted]]. 8/5/20 Tr. 355:20-356:14 ([[redacted]]); 8/6/20 Tr. 635:20-23 (Willig); *see also* 8/20/20 Tr. 3128:13-18 (Shapiro) ([[redacted]]).

965. Consider the simple example of a Pandora Free listener who purchases a new subscription to a paid on-demand service because the content of a record company, [[redacted]], was no longer available on Pandora Free. Ex. 5601 ¶ 48 (Willig WRT). A new subscription to an on-demand service would cost this individual approximately $9.99 per

month, and record companies would receive approximately [ ] in royalties, regardless of the amount of listening to the service. *Id.*; Ex. 5600, App. D at Ex. D.1 (Willig CWDT); 8/6/20 Tr. 641:20-642:19 (Willig); 8/20/20 Tr. 3128:19-25 (Shapiro). Assuming [ ] would receive a [ ] share, its royalties would be approximately [ ]. Ex. 5601 ¶ 48 (Willig WRT).

966. To compute the opportunity cost actually associated with this diversion, this number must be multiplied by an appropriate diversion ratio. The Hanssens Survey contains exactly such a number, indicating that [ ] of respondents would replace their ad-supported noninteractive service with "a new paid On-Demand music streaming service they do not already use." Ex. 4095 ¶ 49, Table 3 (Hanssens CWDT). [ ]. 8/6/20 Tr. 640:22-12, 643:11-19 (Willig).

967. Professor Shapiro computes the total opportunity cost associated with this diversion differently. [ ]. 8/20/20 Tr. 3129:7-16 (Shapiro); *id.* at 3131:24-3132:1 (Shapiro) ("I looked at the total royalties paid and then divided it by the total number of performances to get an effective rate."). That is, instead of basing his opportunity cost analysis on the amount of revenue the record companies would earn in reality from each Pandora *user* who bought a new subscription, Professor Shapiro attempted to calculate royalties the record companies would earn for each *play* that user transferred from Pandora to a new subscription.

968. To do so, Professor Shapiro needed to know how many plays per month, on average, a Pandora user who bought a new subscription would transfer away from Pandora.

[]. 8/20/20 Tr. 3141:14-25 (Shapiro). That is, if a Pandora user buys a new on-demand subscription, generating a royalty of [] per month, Professor Shapiro calculated that the value of each play lost to Pandora and diverted to that new subscription is worth [] to the record companies (*i.e.*, $4.89/800). Ex. 5601 ¶ 48 (Willig WRT); Ex. 4094 at 42, Table 10 & App. D at 2 (Shapiro Second CWDT); 8/20/20 Tr. 3140:9-3141:24 (Shapiro); 8/6/20 Tr. 636:5-639:19 (Willig). Professor Shapiro then completed his calculation by multiplying this number by the percentage of plays lost to Pandora (from the LSEs) and then by the percentage of those lost plays that would divert to new on-demand subscriptions (from the Hanssens survey). Ex. 4094 at 17-18 (Shapiro Second CWDT).

969. Professor Shapiro's per-play approach does not square with his admissions at trial. [] 8/20/20 Tr. 3156:15-18 (Shapiro); *id.* at 3242:24-3243:3 (Shapiro); *see* 8/26/20 Tr. 3945:13-18 (Shapiro) (agreeing as "correct" that what drives record company opportunity cost is the number of subscriptions, not the number of plays, that divert). [] 8/20/20 Tr. 3156:8-14 (Shapiro).

970. [] *See id.* at Tr. 3128:19-3129:6 (Shapiro); 8/26/20 Tr. 3945:5-12 (Shapiro).

971. As Professor Shapiro further conceded, [ ] 8/20/20 Tr. 3156:15-18 (Shapiro), [ ]. *Id.* at 3135:12-3136:10, 3155:20-3156:3 (Shapiro); *id.* at 3242:18-23 (Shapiro) ([ ]); *cf. id.* at 3136:4-10 (Shapiro) (noting the "small issue" that Professor Hanssens "ends up more like 19 percent" from the 21.3% in his Table 3). *Compare* Ex. 4095 ¶ 49, Table 3 (Hanssens CWDT) (Responses to Question P40), *with id.* at ¶ 53, Table 4 (Hanssens CWDT) (Responses to Question P50).

972. Professor Shapiro was unable to provide a coherent defense of his decision to ignore this critical diversion ratio from the Hanssens Survey. 8/25/20 Tr. 3880:4-9 (Willig). While he initially attempted to characterize this number as a "loss rate," he was ultimately forced to acknowledge that, in fact, it "is a measure of diversion to new on-demand subscriptions." *Compare* 8/20/20 Tr. 3136:18-23 (Shapiro), *with* 3155:20-3156:3, 3242:18-23 (Shapiro); *see* 8/6/20 Tr. 641:2-12 (Willig); 8/25/20 Tr. 3880:12-21 (Willig) ("It's a diversion ratio."); *see also* 8/26/20 Tr. 4155:25-4156:5 (Hanssens) (Q: "So just to be clear, this is a measure of where respondents had switched their listening, not a measure of how much listening would be lost on a degraded service, right?" A. "I agree. It—it's about the direction of change, yes."). [ ] 8/20/20 Tr. 3232:9-12 (Shapiro).

973. It is notable that Dr. Leonard had no trouble interpreting the number in the Hauser Survey that corresponds to Professor Hanssens' 19.3% figure. *See* Ex. 2150, App. B1 (Leonard CWDT) ([ ]

[redacted]). Dr. Leonard readily acknowledged that this number is a diversion ratio that represents the number of people who would purchase a new subscription. 8/24/20 Tr. 3578:14-3579:11 (Leonard). When asked if this was a measure of "loss to the service," Dr. Leonard was appropriately confused. *Id.* at 3578:24-3579:4 (Leonard) ("Loss to the service? Which service? . . . I don't follow."). And it is further notable that Dr. Leonard readily acknowledged that replacing the 1.4% diversion ratio in the Hauser Survey with something closer to 20% (as in the Hanssens survey) would result in his calculated opportunity cost increasing by a factor of approximately 15 times. *Id.* at 3579:16-3580:8 (Leonard).

974. Instead of taking the obvious course—using the diversion ratios from the Hanssens Survey to provide the number of new subscriptions, and then multiplying by the undisputed [redacted] royalty per subscription—Professor Shapiro insisted on translating lost subscriptions into lost royalties per play. This introduced a needless complication, requiring an assumption about how many plays divert from Pandora for each new subscription. Ex. 5601 ¶ 49 (Willig WRT). But Professor Shapiro's assumption was demonstrably wrong.

975. [redacted]. 8/20/20 Tr. 3142:1-14 (Shapiro) ([redacted]); 8/26/20 Tr. 3946:5-14 (Shapiro) ("We don't have real-world data from—isolating out any particular subset of, let's say, Spotify users, and so I'm using the whole group of Spotify users as opposed to some particular group switching in.").

976. Moreover, as demonstrated during his cross-examination, Professor Shapiro's assumption that [redacted] divert from Pandora for each new interactive subscription purchased

is fatally undermined by the Hanssens Survey on which he purports to rely. The Hanssens Survey collected diversion information from 432 listeners to Pandora. Ex. 4095 ¶ 49, Table 3 (Hanssens CWDT). [ ]. 8/20/20 Tr. 3146:18-24, 3147:14-17 (Shapiro); *see* Ex. 4107 at 51, Fig. 7 (Shapiro WRT) ([ ]). [ ]. 8/20/20 Tr. 3149:17-21 (Shapiro). Thus, [ ]. The Hanssens Survey also indicated that at least 82 of the 432 respondents would divert to a new on-demand subscription. Ex. 4095 ¶ 53, Table 4 (Hanssens CWDT); 8/20/20 Tr. 3148:9-3149:2 (Shapiro). This implies that each new on-demand subscription would divert approximately [ ] that Professor Shapiro utilizes in his calculations. [ ]. 8/20/20 Tr. 3143:7-18 (Shapiro) (agreeing this is how the math works).

977. Similar math further exposes the flaws in Professor Shapiro's analysis. As explained above, [ ]. *Id.* at 3146:18-24, 3147:14-17 (Shapiro); *id.* at 3149:17-21 (Shapiro). If Professor Shapiro were correct and [ ] per month diverted to each new subscription, that would imply that [ ]. Ex. 4095 ¶ 53, Table 4 (Hanssens CWDT).

978. Again, the principal source of Professor Shapiro's error is his decision to ignore the *per-subscriber* royalties generated by new subscriptions to services like Spotify Premium and Sirius XM satellite ratio. Notably, that decision is undermined by Professor Shapiro's treatment of the opportunity cost arising from existing subscriptions to such services. Ex. 5601 ¶ 50 (Willig WRT). Professor Shapiro correctly observes that "[t]he relevant record company compensation for diversion to existing subscriptions (i.e., subscriptions with a service that a user already has) is zero, as that additional listening does not generate additional revenue for the subscription services or for record companies." Ex. 4094, App. D at 2-3 (Shapiro Second CWDT); Ex. 5601 ¶ 50 (Willig WRT); *see* 8/6/20 Tr. 635:11-19 (Willig). In other words, Professor Shapiro correctly treats payments to record companies from existing subscriptions as royalties paid on a per-subscriber—*not per-play*—basis. Ex. 5601 ¶¶ 47 n.92, 50 (Willig WRT). This cannot be squared with Professor Shapiro's inconsistent treatment of new subscriptions as generating royalties on a per-play basis. *Id.* at ¶¶ 49 n.96, 50.

979. Professor Shapiro's inconsistent and erroneous approach to new subscription purchases results in an outright error in his opportunity cost computations. *Id.* at ¶ 49; 8/10/20 Tr. 1013:21-1014:8, 1015:19-23 (Willig). This error affects the portion of record company opportunity cost resulting from diversion to new subscriptions to on-demand streaming services (*e.g.*, Spotify Premium), non-statutory subscription noninteractive services (*i.e.*, Pandora Plus), and Sirius XM satellite radio. Ex. 5601 ¶¶ 49-50 (Willig WRT); 8/6/20 Tr. 644:18-654:2 (Willig). Given the rates of diversion to new subscriptions to these paid services found in both the Hanssens Survey and the Modified Hanssens Survey, Professor Shapiro's failure to correctly account for the royalties generated by these new subscriptions results in a massive understatement of opportunity cost. Ex. 5601 ¶¶ 49, 54-56 (Willig WRT); 8/6/20 Tr. 634:4-17 (Willig).

2. Professor Shapiro Incorrectly Estimates Royalties Earned from the Other Noninteractive Distributor

980. In addition to the single, substantial problem described above, Professor Shapiro makes an *ad hoc* assumption that artificially depresses record companies' opportunity costs and lowers his estimates of royalty rates earned on other forms of music distribution. Ex. 5601 ¶ 51 (Willig WRT).

981. Specifically, when computing opportunity costs for ad-supported noninteractive services, Professor Shapiro assumes that statutory subscription noninteractive royalty rates are exogenous and assigns 2019 statutory royalty rates of $0.0023 per play to any diversion of plays to Sirius XM's statutory webcasting service. *Id.* at ¶ 53; Ex. 4094, App. D at 3 (Shapiro Second CWDT). Likewise, when computing opportunity costs for statutory subscription noninteractive services, Professor Shapiro assumes that ad-supported noninteractive rates are exogenous and assigns a statutory royalty rate of $0.0018 per play to any diversion of plays to ad-supported noninteractive services. Ex. 5601 ¶ 53 (Willig WRT); Ex. 4094, App. D at 4 (Shapiro Second CWDT). Dr. Leonard, NAB's expert, took the same approach. *See* Ex. 2150, App. B1 nn.4-5 (Leonard CWDT); Ex. 5601 ¶ 115 (Willig WRT).

982. This is an error, and one that Professor Willig "studiously avoid[ed] . . . even though it leads to a fair amount of analytic effort to do it right." 8/6/20 Tr. 657:14-16 (Willig). This proceeding will determine the rates covering all statutory noninteractive services (ad-supported *and* subscription). Ex. 5601 ¶ 53 (Willig WRT). Thus, both ad-supported and subscription noninteractive royalty rates should be considered endogenous variables so as to avoid the circularity of determining new statutory rates, in part, based on the levels of existing statutory rates. *Id.*; 8/6/20 Tr. 656:23-659:1 (Willig). [ ] 8/5/20 Tr. 511:7-9 (Willig). As discussed

above, Professor Willig simultaneously solved for both ad-supported and subscription noninteractive royalty rates, avoiding this circularity problem. Ex. 5601 ¶¶ 53, 115 (Willig WRT); Ex. 5600, App. C (Willig CWDT); 8/6/20 Tr. 656:23-659:1 (Willig); *see supra* at Part VII.D.

C. Correcting Professor Shapiro's Opportunity Cost Estimates

983. This section shows the effect of correcting Professor Shapiro's flawed opportunity cost analysis for ad-supported noninteractive services, as detailed in Professor Willig's written rebuttal testimony. *See* Ex. 5601 ¶ 54 & App. J (Willig WRT).

1. Correcting Professor Shapiro's Flawed Assessment of Royalties For Subscription Services

984. As a first step, Professor Willig corrected Professor Shapiro's flawed treatment of royalties from services that generate royalties on a per-subscriber basis. *Id.* at ¶ 55. Professor Willig's correction utilized diversion rates from the Modified Hanssens Survey. *Id.* The Modified Hanssens Survey produces diversion rates of 12.4% for new subscriptions to paid on-demand streaming, 16.9% for new subscriptions to non-statutory subscription noninteractive streaming (*i.e.* Pandora Plus), and 5.6% for new subscriptions to Sirius XM satellite radio. *Id.* at ¶ 55 & App. J at 14; *see supra* at Part VII.I.2 (discussing Modified Hanssens Survey).

985. As summarized in the figure below, making just this correction increases Professor Shapiro's per-play opportunity costs substantially. Ex. 5601 ¶ 55 (Willig WRT). For example, Professor Shapiro's per-play opportunity cost "point estimate" for [[redacted]] increases to [[redacted]] per play, which is approximately [[redacted]] per play. *Id.*

Figure 23: Step 1 Corrections to Professor Shapiro's Per-Play Opportunity Cost Analysis For Ad-Supported Noninteractive Services (RESTRICTED)

[ ]

Id. at ¶ 55, Fig. 13.

986. Notably, using diversion ratios from the Hanssens Survey would produce even higher corrected opportunity costs. *See id.*, App. J at ¶ 17 n.29 (Willig WRT); *see* Ex. 4095, Table 3 (Hanssens CWDT).

2. Replacing Professor Shapiro's Flawed LSE Results with Survey-Based Results

987. As a second step, Professor Willig further corrected Professor Shapiro's opportunity cost estimates by replacing his unreliable LSE results with the results of the Modified Hanssens Survey. Ex. 5601 ¶ 56 (Willig WRT). As explained above, whereas the Hanssens Survey only asks respondents whether or not they would reduce their ad-supported noninteractive listening time, the Modified Hanssens Survey goes further—it asks respondents *how much* they would reduce their ad-supported noninteractive listening time. *Id.*

988. The responses to the Modified Hanssens Survey show that overall ad-supported noninteractive listening time would be reduced by [ ], which is [ ]. *Id.*

989. The below figure shows that when this additional correction is made, Professor Shapiro's per-play opportunity costs increase to [ ] per play for [ ], which is approximately [ ] the current statutory rate. *Id.* (This figure also makes a smaller correction for Professor Shapiro's outdated physical and digital royalty rate input, *see supra* ¶ 631; Ex. 5601 ¶ 56 (Willig WRT).)

Figure 24: Step 1 and Step 2 Corrections to Professor Shapiro's Opportunity Cost Analysis For Ad-Supported Noninteractive Services (RESTRICTED)

Id. at ¶ 56, Fig. 14.

D. Professor Shapiro Chooses an Inapposite Proxy for the Subscription Noninteractive Webcasting Market

990. In addition to all of the problems noted above, Professor Shapiro's analysis of the subscription noninteractive market suffers from an independent defect—his decision to survey users of Sirius XM's internet streaming service to obtain diversion ratios. *See* Ex. 4094 at 30 (Shapiro Second CWDT).

991. In her written testimony, Jennifer Witz, Sirius XM's President of Sales, Marketing, and Operations, explained that "Sirius XM internet radio is bundled with other products and rarely purchased as a standalone service." Ex. 4092 ¶ 41 (Witz WDT). For example, Sirius XM's "All Access bundle . . . combines satellite radio, internet radio, and premium non-music content." *Id.*

Likewise, Sirius XM's " Select' satellite radio package—home to more than 20 million paying subscribers—is now a bundle as well, combining satellite and internet radio for a single price." *Id.*

992. This testimony indicates that, in the overwhelming majority of cases, Sirius XM webcasting users will already have access to a Sirius XM satellite radio subscription, or at a minimum have revealed preferences for content available exclusively on Sirius XM. *See id.* at ¶ 13 ("exclusive non-music content . . . makes Sirius XM's programming compelling and valuable"). At trial, Professor Shapiro acknowledged that there are "certainly some differences" between users of a standalone internet-only service and users who have access to a bundled internet and satellite radio product—but that he had not studied or quantified that issue. 8/20/20 Tr. 3213:16-22, 3214:1-3 (Shapiro).

993. Not surprisingly given the factors described above, the Hanssens Survey found that, by far, users of Sirius XM subscription webcasting are likely to divert to Sirius XM satellite radio. *See* Ex. 4094 at 30, Table 5 (Shapiro Second CWDT) ([ ]). This is notably higher than the corresponding diversion ratio from the Zauberman Survey. *See* Ex. 5600 ¶ 47, Fig. 6 (Willig CWDT) ([ ]). This is proof positive that Professor Shapiro's decision to use Sirius XM webcasting as a proxy for the subscription noninteractive market is unreliable, given the considerations unique to that service.

994. Professor Shapiro had an alternative proxy available that he chose to disregard. Like Professor Willig, he could have and should have utilized Pandora Plus as a proxy for this part of the noninteractive streaming market. *See* 8/6/20 Tr. 868:15-19 (Willig). Indeed, this would have created additional consistency across Professor Shapiro's bargaining model, given his (otherwise inconsistent) decision to utilize profit rates of Pandora Plus as his proxy for statutory-eligible

subscription noninteractive webcaster's "willingness to pay." *See* Ex. 4094, App. F at 10 (Shapiro Second CWDT); *see* Ex. 5601 ¶ 20 n.24 (Willig WRT).

995. Professor Shapiro argues that Pandora Plus is an inapposite proxy because it "allows listeners to replay songs, to skip songs as often as they would like, and to listen to cached copies of selected stations offline." Ex. 4094 at 8 n.4 (Shapiro Second CWDT); Ex. 5601 ¶ 20 n.24 (Willig WRT). But neither the Willig WDT nor the Leonard WDT makes such a distinction, for good reason. Despite not being a statutory-compliant service, Pandora Plus royalty rates are negotiated in the shadow of the statutory rate. *See* Ex. 5609 ¶ 79 (Harrison WDT) (explaining that, "when UMG negotiates with mid-tier services, it faces the possibility that such services will simply drop any non-DMCA compliant functionality and pay the statutory rate"). Moreover, at trial, [ ] 8/31/20 Tr. 4713:21-4715:24 (Ryan). Indeed, [ ]. *Id.* at 4717:15-4718:25, 4719:15-4720:8 (Ryan); 8/6/20 Tr. 869:22-872:2 (Willig). Professor Willig testified that Mr. Ryan's testimony adds support to his decision to use Pandora Plus as a proxy for the entire category of subscription noninteractive services. 8/6/20 Tr. 870:24-871:2 (Willig).

E. Professor Shapiro Incorrectly Suppresses Pandora's Willingness to Pay and So Depresses the Higher Bound of his Bargaining Model

996. As noted, the results produced by Professor Shapiro's Nash-in-Nash model are bounded on the low end by the record company's opportunity costs and on the high end by the noninteractive distributor's willingness to pay for the right to distribute the record company's catalog of sound recordings. Ex. 5601 ¶ 72 (Willig WRT). Professor Shapiro assesses this upper

bound, the willingness to pay of ad-supported and subscription noninteractive distributors, by evaluating the profitability of Pandora Free and Pandora Plus, respectively. *Id.* Specifically, Professor Shapiro estimates willingness to pay for ad-supported and subscription noninteractive distributors based on computations of the 2018 variable profit rates of Pandora Free and Pandora Plus, respectively. *Id.* at ¶ 59 & n.113; Ex. 4094, App. F at 6-7, 10 (Shapiro Second CWDT).

997. Professor Shapiro's estimation of Pandora's willingness to pay cannot be right under the terms of his own bargaining model. [ ]. Ex. 5601 ¶ 64 n.120 (Willig WRT). Put differently, if Professor Shapiro's assessment of Pandora's willingness to pay is correct, then under the terms of his model [ ]. *Id.*

998. As it turns out, Professor Shapiro's calculation of willingness to pay is not correct. His computations substantially depress Pandora's willingness to pay because of a significant conceptual error and a significant computational error, each detailed below. *Id.* at ¶ 72.

1. Professor Shapiro Incorrectly Assesses Pandora's Willingness to Pay Based on Historical Data

999. First, Professor Shapiro makes a significant conceptual error. *Id.* at ¶ 73. Given that the parties in the hypothetical negotiation would be bargaining over royalty rates during the 2021-2025 period, Pandora's willingness to pay should be assessed based on expected profits during this period. *Id.* At trial, Professor Shapiro appeared to credit this approach, *see* 8/20/20 Tr. 3206:23-3207:6 (Shapiro), and at a minimum acknowledged its viability. *See id.* at 3235:9-14 (Shapiro) ("[W]hether you look at the actual 2018s or forecasts made a bit later, there's uncertainty and I just think that's the reality. I don't think it favors one—one method over the other particularly.").

1000. Regardless of his current views on the matter, Professor Shapiro did not use Pandora's projections for the 2021-2025 time period to estimate marginal profit rates for the coming rate period. Instead, he depressed Pandora's willingness to pay by using only historical financial results from 2018. Ex. 5601 ¶ 73 (Willig WRT); Ex. 4094, App. F at 6, 10 (Shapiro Second CWDT). Those results show [[redacted]] and fail to account for the anticipated future growth in Pandora's profitability. Ex. 5601 ¶¶ 73-74 (Willig WRT); *see* Ex. 5170 (Professor Shapiro's backup Excel file at the tab titled "Summary"). This, in turn, limits Professor Shapiro's willingness-to-pay estimates and depresses the royalty rates produced by his bargaining model. Ex. 5601 ¶ 73 (Willig WRT); Ex. 5600 ¶ 50 n.29 & App. D (Willig CWDT); *see also* Ex. 5604 ¶ 83 (Tucker WDT) (noting that an "[e]xamination of current profitability alone provides an incomplete and potentially distorted measure of the value generated by webcasting services, given value that the service might derive in non-statutory markets and prospects for future revenue growth on the webcasting platform.").

1001. Pandora's [[redacted]] does not establish an upper bound on its willingness to pay to obtain access to sound recordings. Ex. 5601 ¶ 74 (Willig WRT). Indeed, ample evidence demonstrates that Pandora's recent history of operating losses does not accurately reflect expectations about the incremental value Pandora is anticipated to bring to the hypothetical negotiation concerning royalty rates for the 2021-2025 period. Ex. 5600 ¶ 50 n.29 (Willig CWDT).

1002. First, Sirius XM paid an approximately $3.5 billion purchase price to acquire the historically unprofitable company, and Pandora's market capitalization was approximately $2.4 billion immediately prior to the announcement of that acquisition. *Id.*; Ex. 5601 ¶ 75 (Willig WRT).

1003. Second, recent commentary by Sirius XM management demonstrates Pandora's expectation of future profitability. Ex. 5601 ¶ 76 (Willig WRT). During Sirius XM's second quarter 2019 earnings conference call, Sirius XM CEO James Meyer stated: "[I]n our first full quarter of operating Pandora, the business delivered positive adjusted EBITDA in the second quarter from a $35 million adjusted EBITDA loss in last year's second quarter. This is a huge swing to the positive and will drive more than a $100 million EBITDA improvement in 2019 over 2018." Ex. 5174 at 3. On the same earnings call, Sirius XM CFO David Frear emphasized future growth, stating: "[Y]ou saw us drive monetization at the top line and drop it through to EBITDA, and we continue to—we expect to continue to do things like that." *Id.* at 8.

1004. Third, as discussed in detail above, Pandora's own long-term financial projections that it disclosed publicly in SEC filings prior to its merger with Sirius XM show substantial growth in Pandora's profitability during the 2021-2025 period. Ex. 5601 ¶ 75 & App. L (Willig WRT); *see supra* at Part VII.C.2.iii. Moreover, those projections are standalone projections, and conservatively do not include any potential cost-savings or other synergies arising from the Sirius XM acquisition. Ex. 5601 ¶ 75 n.137 (Willig WRT); 8/6/20 Tr. 697:12-698:10 (Willig); 8/31/20 Tr. 4706:10-22 (Ryan) ([ ]); *id.* at 4510:17-23 (Witz).

1005. Finally, it is worth noting that the 2018 financial data that Professor Shapiro relied on [ ]. *See* Ex. 5170 (Professor Shapiro's backup file); Ex. 5601 ¶ 77 (Willig WRT). Utilizing [ ] his own backup materials that Professor Shapiro ignored produces per-play variable profit rates that are far higher than the historical 2018 variable profit rates computed by Professor Shapiro. Ex. 5601 ¶ 77 & App.

M (Willig WRT). Specifically, utilizing the financial projections in Professor Shapiro's backup (and correcting the flawed cost allocation assumptions discussed beginning in the next paragraph) yields variable profit rates of [[redacted]] per play for Pandora Free and [[redacted]] per play for Pandora Plus. Those rates are substantially higher than the variable profit rates of [[redacted]] per play for Pandora Free and [[redacted]] per play for Pandora Plus that Professor Shapiro computed using 2018 historical data, and they are close to the variable profit rates of [[redacted]] per play for Pandora Free and [[redacted]] per play for Pandora Plus computed Professor Willig using Pandora's publicly disclosed merger proxy. *See* Ex. 5601, App. L at 3 (Willig WRT).

2. Professor Shapiro Incorrectly Assesses Pandora's Willingness to Pay Based on an Erroneous Allocation of Pandora's Variable Costs

1006. The second way in which Professor Shapiro suppresses Pandora's willingness to pay is computational. *Id.* at ¶ 78.

1007. In order to estimate profit rates for Pandora Free, Professor Shapiro needed to determine how to allocate Pandora's total operating costs among the company's various service tiers. *Id.* [[redacted]] 8/6/20 Tr. 703:3-5, 704:6-9 (Willig); *cf.* 8/5/20 Tr. 324:21-325:12 (Willig) (noting that Professor Willig treats the phrases "variable cost" and "marginal cost" as synonymous). As such, Professor Shapiro [[redacted]]. *See* Ex. 4094, App. F at 6 (Shapiro Second CWDT).

1008. The problem arises in Professor Shapiro's attribution of costs to Pandora ad-supported service, as opposed to Pandora's other tiers. Ex. 5601 ¶ 78 (Willig WRT). Professor Shapiro inflates the costs he attributes to the music content on Pandora Free, making it appear less profitable than it is. *Id.*; 8/6/20 Tr. 704:15-22 (Willig).

1009. Specifically, for a number of categories of Pandora's operating expenses—including "certain costs of revenue, certain marketing expenses, G&A expenses," and the largest category, Product Development expenses—Professor Shapiro allocates *all* these variable costs to the music content on Pandora Free and *none* to Pandora Plus, Pandora Premium, Pandora's "off-platform" advertising business, or Pandora Free's non-music content (e.g. podcasts). 8/20/20 Tr. 3209:12-3210:5 (Shapiro) (acknowledging this allocation choice); Ex. 5601 ¶ 78 & n.144 (Willig WRT); 8/6/20 Tr. 702:10-14, 703:13-17, 704:15-25 (Willig); Ex. 5175 at 10 (Sirius XM 10-Q describing the off-platform business). *Compare* Ex. 4094, App. F at Table A.2 (Shapiro Second CWDT) ([ ]), *with* Ex. 4094, App. F at Table A.3 (Shapiro Second CWDT) ([s]).

1010. This misallocation "artificially depresses the expected profitability of the ad-supported tier of Pandora's lines of business," 8/5/20 Tr. 364:15-16 (Willig); *see* 8/6/20 Tr. 709:9-21 (Willig), [ ] *See* 8/6/20 Tr. 710:4-5 (Willig); *see also id.* at 710:6-9 (Willig) ([ ]).

1011. The notion that Pandora incurs not even a single dollar of variable costs to operate its Plus or Premium tiers, to operate its "lucrative" off-platform businesses, or to make available non-music content on Pandora Free, is clearly wrong. Ex. 5601 ¶ 79 (Willig WRT); 8/6/20 Tr. 712:21-25 (Willig). Jason Ryan, Pandora's Vice President of Financial Planning and Analysis, made that plain as day at trial. 8/31/20 Tr. 4668:19-22 (Ryan).

1012. Contrary to Professor Shapiro's allocation assumptions, Mr. Ryan testified that [

[redacted]]. 8/31/20 Tr. 4724:4-7 (Ryan). That testimony is corroborated by Pandora's public statements, which confirm that Pandora's product development expenses are not limited to the ad-supported tier. *See* Ex. 5176 at 43 (Pandora's third quarter 2018 10-Q: "We expect to continue to make enhancement to Pandora Plus and Pandora Premium, which will require engineering effort as well as other resources."); Ex. 5162 at 65 (Pandora 2016 Annual Report: "Product development consists primarily of employee-related and facilities and equipment costs, including salaries and benefits related to employees in software engineering, music analysis and product management departments.").

1013. In addition, Mr. Ryan testified that Pandora [redacted] 8/31/20 Tr. 4675:18-24 (Ryan). These include [redacted]]. *Id.* at 4675:18-24, 4677:9-4678:13 (Ryan).

1014. Mr. Ryan also testified that Pandora incurs costs associated with [redacted]]. *Id.* at 4679:8-21 (Ryan). Mr. Ryan acknowledged that Pandora [redacted]]. *Id.* at 4680:1-10 (Ryan). In addition, when Pandora [redacted]]. *Id.* at 4679:19-25 (Ryan).

1015. Finally, Mr. Ryan testified that Pandora [ ]. *Id.* at 4680:18-24 (Ryan). Mr. Ryan testified that Pandora incurs costs associated with this business as well, including [ ] *Id.* at 4680:22-4681:23 (Ryan).

1016. Mr. Ryan openly conceded that, [ ]. *Id.* at 4678:14-19, 4680:11-17, 4681:24-4682:5 (Ryan).

1017. This is precisely what Professor Shapiro failed to do. Professor Shapiro deflated the profitability of Pandora Free by improperly allocating *all* of Pandora's variable costs to that tier and *none* to the other aspects of its business. 8/20/20 Tr. 3209:12-3210:5 (Shapiro); *see also* 8/6/20 Tr. 712:16-20, 712:25-713:1 (Willig). [ ] 8/6/20 Tr. 712:9-11 (Willig); *see id.* at 715:2-5 (Willig) ([ ]), 706:18-708:9 ([ ]), 712:2-715:6.

1018. During Mr. Ryan's direct examination, counsel for the Services elicited the noncontroversial testimony that a reduction in usage on Pandora's free tier would lead to a variable cost savings on Pandora Free, including a "reduction in product development costs." 8/31/20 Tr.

4671:3-9 (Ryan). That is as true as it is irrelevant. The relevant question is whether, as Professor Shapiro assumed, *all* variable costs incurred by Pandora are properly allocable to Pandora Free—[ ]. Mr. Ryan unequivocally answered *that* question in the negative. *Id.* at 4678:14-19, 4680:11-17, 4681:24-4682:5 (Ryan).

F. Obtaining Professor Shapiro's Proposed Royalty Rates Requires a Nash-In-Nash Bargaining Model that Is Specified Inappropriately and Relies on Incorrect and Unsupported Assumptions

1019. Professor Shapiro builds on his erroneous opportunity cost and willingness to pay calculations using a Nash-in-Nash bargaining model. Ex. 5601 ¶ 57 (Willig WRT). This model has "currency in the economic literature" and can be a "good tool" in certain applications. 8/5/20 Tr. 320:10-15 (Willig); Ex. 5601 ¶ 9 (Willig WRT). For reasons discussed in subsection 1, however, "Shapley is a superior model to the Nash-in-Nash model for [the] purposes at hand." 8/5/20 Tr. 320:10-15 (Willig).

1020. Moreover, as discussed in subsection 2, Professor Shapiro's particular Nash-in-Nash model is beset by an inappropriate specification that eschews any notion of symmetry between the bargaining parties. Ex. 5601 ¶¶ 10, 57 (Willig WRT). In addition, there are numerous incorrect and unsupported assumptions embedded in Professor Shapiro's model that render it unusable for purposes of reliably setting a royalty rate in the noninteractive market. *Id.* Tellingly, Professor Shapiro's royalty rate outcomes are hyper-sensitive to even small changes in these assumptions. *Id.* at ¶ 57; 8/5/20 Tr. 353:17-23, 369:24-370:10 (Willig).

1021. Before addressing these issues, an important procedural point is in order. Counsel for Pandora repeatedly stated that Professor Shapiro's "primary testimony is based on his Nash-in-Nash model," 8/6/20 Tr. 765:9-11, and that his so-called Myerson Value approach is "not his

primary model at all." *Id.* at 763:12-13, 22, 765:8-9. However, Professor Shapiro later testified that "you have to use" the Myerson Value "instead of Shapley or Nash-in-Nash" in order to account for negative contracting externalities. 8/26/20 Tr. 3938:16-19 (Shapiro). This suggests that Professor Shapiro has abandoned his "primary model" of Nash-in-Nash and that the Judges should as well.

1022. To the extent the Services now seek to affirmatively advance royalty rates arising from Professor Shapiro's "Myerson Value" model, *see* 8/6/20 Tr. 764:4-8, 765:1-7, they should be estopped from doing so. By arguing repeatedly that Professor Shapiro was "only offering the Myerson analysis to rebut the testimony from Professor Willig on the Shapley Value," *id.* at 765:14-16, 18-25, the Services succeeded in preventing Professor Willig from providing any empirical or quantitative testimony in response. *Id.* at 768:2-8 (Willig). As such, the Services have intentionally created an incomplete and one-sided record on the Myerson issue. They should be held to their decision to advance Nash-in-Nash as Professor Shapiro's "primary model" despite his seeming disavowal of that approach during surrebuttal.

1. The Nash-in-Nash Bargaining Model is Inferior to the Shapley Value Model For Purposes of This Proceeding

1023. The Nash Bargaining Solution is a widely accepted theory used to characterize the outcomes of bilateral bargaining between willing buyers and willing sellers. 8/10/20 Tr. 893:15-19 (Willig). The Nash Bargaining Solution posits that, in a bilateral bargaining situation, the two parties will equally split the surplus value created through an agreement, such that each party is accorded one half of that surplus plus its fallback value. 8/6/20 Tr. 719:4-12 (Willig).

1024. "The Shapley Value for a bilateral bargain is the same as the Nash Bargaining Solution." *Id.* at 720:2-3 (Willig).

1025. There are different ways of extending the Nash Bargaining Solution to a multi-party context. *Id.* at 720:8-11 (Willig). The Shapley Value model is the standard way of doing so. 8/5/20 Tr. 368:9-13 (Willig); 8/10/20 Tr. 891:3-4 (Willig).

1026. The Nash-in-Nash solution is another way of extending the Nash Bargaining Solution to a multi-player context. 8/5/20 Tr. 368:9-13 (Willig). The Nash-in-Nash solution contemplates that each possible pair of players enters into a bilateral negotiation and reaches a Nash Bargaining Solution. 8/6/20 Tr. 720:16-19 (Willig).

1027. "[A]n intrinsic part of Nash-in-Nash" is that each bilateral negotiation imagines that the "results of the other bilaterals are fixed, that they are what they are, and [that] they would not be altered" if the negotiating pair fails to reach an agreement. *Id.* at 723:19-22, 725:13-14 (Willig); 8/10/20 Tr. 892:21-25, 893:11-14 (Willig). Put differently, "the parties view what they think is going to happen in all these other negotiations as fixed and unchanged by what happens in their own individual negotiations," and they assess their respective fallback values based on this belief. 8/6/20 Tr. 724:17-20, 725:7-12 (Willig); 8/10/20 Tr. 893:20-894:2 (Willig); 8/25/20 Tr. 3856:5-15 (Willig); Ex. 5601 ¶ 68 (Willig WRT).

1028. As a result, the Nash-in-Nash solution concept only considers the incremental value of a record company when it is the last to arrive to the hypothetical negotiation. Ex. 5601 ¶ 11 (Willig WRT). For instance, in a multi-party situation with distributor D and labels A, B, and C, the Nash-in-Nash solution concept assesses the incremental value of A assuming D already has deals with B and C; the incremental value of B assuming D already has deals with A and C; and the incremental value of C assuming D already has deals with A and B. 8/6/20 Tr. 725:2-12 (Willig); 8/20/20 Tr. 3184:12-25 (Shapiro).

1029. The Nash-in-Nash solution then "links together all of those Nash Bargaining Solutions to all the different pairs because each of them depends upon the others." 8/6/20 Tr. 720:22-25 (Willig). "And the Nash-in-Nash concept says: Well, let's find out an equilibrium across all of them so that they all are internally consistent with each other and we will call that the Nash-in-Nash solution." *Id.* at 723:6-9 (Willig).

1030. In a scenario where "the three majors are must-haves for the non-interactive services," Nash-in-Nash does not produce results materially different than the Shapley Value model, and "the dispute about . . . the bargaining model disappears." 8/5/20 Tr. 369:6-10 (Willig); 8/6/20 Tr. 739:22-740:1 (Willig); Ex. 5601 ¶ 13 n.9 (Willig WRT). This is so because a record company that is "must-have" the same fallback value even if (as in Nash-in-Nash) it is treated as the last to enter a deal with a distributor. 8/5/20 Tr. 320:16-25, 369:2-5 (Willig); 8/6/20 Tr. 728:3-16 (Willig) ("[T]he full value that A brings to the table is there . . . in the bilateral between A and D.").

1031. However, the models "start separating from each other under the alternative perspectives that seems to energize Professor Shapiro's work"—for instance, where even one of the three major record companies is *not* treated as a must-have. 8/5/20 Tr. 320:16-25, 369:2-5 (Willig).

1032. Consider a scenario where record companies B and C are must-have, but record company A is not. "[I]f A makes a relatively small contribution to the operations of D, given that D has all the other companies under license, that will be extremely influential on the bilateral negotiation between D and A. D is thinking: Hey, you know, if A doesn't add that much, given that I have license agreements with all the other record companies, then my fallback is pretty good . . . And A knows that. And so the bargaining position of D in its bilateral with A is very strong.

There's very little surplus value that seems to be created by the D and A deal." 8/6/20 Tr. 725:22-726:7 (Willig); Ex. 5601 ¶ 68 (Willig WRT). The bilateral negotiation therefore results in a low royalty to A. Ex. 5601 ¶ 68 (Willig WRT).

1033. In sharp contrast, the Shapley Value approach utilized by Professor Willig considers *all* arrival orderings of the parties to a negotiation. *Id.* at ¶ 12. It does so by crediting to each party its incremental value from joining the subset of parties that arrived earlier to the negotiation and averaging these incremental values over all possible arrival orderings. *Id.*; *Phonorecords III*, 84 Fed. Reg. at 1947-48. For example, under the scenario above, the relatively low value accorded to A when it is the last to arrive would be averaged together with the much greater value of A when it is the next to last record company to arrive to the negotiation. Ex. 5601 ¶ 12 (Willig WRT).

1034. This feature of the Shapley Value model allows it to avoid a portrayal of the negotiating parties' relative bargaining power that is contingent on their order of arrival to the negotiation. *Id.* As such, the Shapley Value is superior to Nash-in-Nash in its ability to reflect effective competition among distributors and record companies. *Id.* at ¶¶ 12, 13, 67.

1035. Indeed, as Professor Willig has explained in detail in his written rebuttal testimony, the Nash-in-Nash model may not even yield a stable equilibrium when applied to a scenario in which a noninteractive distributor requires the content of two major record companies to sustain operations. *Id.* at ¶¶ 11, 67, 70.

1036. In Professor Shapiro's analysis, the major record company that is "last to arrive" to the hypothetical negotiation knows that it has minimal leverage, as the distributor's fallback position will include access to content from the other two majors, making its operations sustainable. *Id.* at ¶ 68; 8/25/20 Tr. 3857:11-3858:18 (Willig). But the negotiating record company

has an alternative strategy available. Ex. 5601 ¶ 69 (Willig WRT). It can just threaten to withhold its sound recordings unless the distributor pays out a much greater royalty. *Id.*

1037. Consider what happens if the negotiating record company makes such a threat [[redacted]]; Ex. 5601 ¶ 69 (Willig WRT). By threatening to go dark, record company A would dramatically alter D's fallback position in its negotiations with B and C. Ex. 5601 ¶ 69 (Willig WRT); 8/25/20 Tr. 3858:20-3859:6 (Willig). In negotiating with B, D would understand that its fallback position would include *only* the content of C—meaning, D would not be sustainable. Ex. 5601 ¶ 69 (Willig WRT). In negotiating with C, D would understand that its fallback position would include *only* the content of B—again, compromising its viability. *Id.*

1038. Consequently, the distributor would have a pronounced incentive to commit to a greater royalty for the threatening major record company in exchange for preventing a blackout that would substantially improve the bargaining position of the other two majors (and greatly reduce the value the distributor could expect to obtain from those negotiations). *Id.* This would significantly drive up the royalty paid to each major record company. *Id.*

1039. As this simple example demonstrates, both the distributor and a holdout record company are motivated to deviate from the Nash-in-Nash equilibrium under circumstances where the incremental value created by each major record company is small when it is assumed to be the last to arrive, but much larger when it is not the last to arrive. *Id.* at ¶ 70. Under these circumstances the "last to arrive" order intrinsic to the Nash-in-Nash solution concept does not make compelling

logical sense, is not likely to produce an empirically valid and stable equilibrium, and is not suitable for predicting market outcomes of a multi-party negotiation.[28] Ex. 5601 ¶¶ 11, 70 & n.128 (Willig WRT); *see also id.* at ¶ 70 n.129 (summarizing recent academic literature on this topic); 8/10/20 Tr. 890:16-21, 891:3-9 (Willig); 8/25/20 Tr. 3859:7-11 (Willig); 8/20/20 Tr. 3188:5-25 (Shapiro).

1040. The inability of Nash-in-Nash to successfully model a scenario in which two majors are "must-have" renders it inappropriate for use in this proceeding. 8/6/20 Tr. 739:13-17, 741:2-3 (Willig); 8/25/20 3860:3-22 (Willig). While the Services have vigorously contested the idea that every major is a "must-have," there is no evidence or testimony in the record rebutting the proposition that a noninteractive distributor needs at least two out of the three major record companies to remain viable. Indeed, that proposition is corroborated by extensive documents from the Services and effectively endorsed by Google's economist Dr. Peterson. *See* Ex. 5051 at 11, 45; Ex. 5053 at 13; Ex. 1105 ¶ 114 n.118 (Peterson CWRT) ("Presumably some group of indies together with a major label may be able to shut down [a] non-interactive service.").

1041. The Shapley Value approach avoids the inconsistencies and instability of the Nash-in-Nash solution concept. Ex. 5601 ¶ 71 (Willig WRT); 8/25/20 Tr. 3860:23-3861:7 (Willig). By definition, the Shapley Value determination of royalties accounts for all arrival orderings of the parties to the negotiation, ensuring that each negotiating party receives its average incremental contributions to the total value created. Ex. 5601 ¶ 71 (Willig WRT). As such, the Shapley Value approach is robust to variations in the incremental values created by the record companies' content that depend on the order of those record companies' arrival. *Id.* at ¶ 71 & n.130.

[28] As the above example indicates, this is true irrespective of whether the deal between record company A and distributor D is seen as irrevocably off-the-table; indeed, the dynamic may inspire deviations from the Nash-in-Nash equilibrium precisely because A is amenable to further rounds of negotiations. 8/25/20 Tr. 3859:12-3860:2 (Willig).

1042. Notably, recent academic literature cited by Professor Shapiro indicates that "some of the flaws in Nash-in-Nash can be cured by a more elaborate model which brings us back to Shapley." 8/10/20 Tr. 891:4-8 (Willig); *see* Ex. 4107, App. F n.223 (Shapiro WRT) (citing papers entitled "Recursive Nash-in-Nash Bargaining Solution" and "Nash-in-Shapley: Bilateral Bargaining with Recursive Threat Points"). "[B]oth of those articles show that if Nash-in-Nash is made more flexible and perhaps more realistic . . . that fascinatingly those changes in Nash-in-Nash to make Nash-in-Nash better devolve into Shapley Value. It's a different route to Shapley Value." 8/10/20 Tr. 892:1-7 (Willig); *id.* at 967:2-9 (Willig) ("[T]hese two recent papers . . . have shown that if one changes Nash-in-Nash to undo the fixity in any bilateral negotiation of the view of what the other negotiations are doing, if one undoes that, in an extremely logical way, then the result in general is much like or sometimes precisely the Shapley Value."); 8/20/20 3190:11-21 (Shapiro); 8/26/20 Tr. 3941:20-22 (Shapiro).

1043. Professor Willig ran a sensitivity test of his Shapley Value in which "only two majors are must-haves and [the] LSE applies to the third major." 8/6/20 Tr. 730:2-3 (Willig). He found that the Shapley Value approach can produce royalty results consistent with his baseline model under these circumstances. Ex. 5601 ¶¶ 71, 90 & Fig. 16 (Willig WRT); 8/6/20 Tr. 730:6-8, 740:25-741:2 (Willig); *see supra* at Part VII.H (discussing Professor Willig's "Scenario 1" which results in an ad-supported rate of [[redacted]] per play and a subscription rate of [[redacted]] per play).

2. Professor Shapiro's Nash-In-Nash Model Fails to Correctly Model Competition and So Depresses the Lower Bound of the Model

1044. Professor Shapiro's Nash-in-Nash model bears no resemblance to the hypothetical marketplace in which "conditions of effective competition" prevail and negotiations take place "between a willing buyer and a willing seller." Ex. 5601 ¶ 61 (Willig WRT).

1045. Professor Shapiro specifies two separate Nash-in-Nash bargaining models, one for ad-supported noninteractive webcasters and one for subscription noninteractive webcasters. *Id.* at ¶ 58. Eschewing any notion of symmetry in the modeling of competition, each of Professor Shapiro's models delineates *one* noninteractive webcaster negotiating with *ten* different record companies. *Id.* at ¶¶ 58, 61; *see* Ex. 4094 at 27 & App. F (Shapiro Second CWDT). As modeled by Professor Shapiro, the ad-supported noninteractive distributor negotiates separately with ten different record companies, with each record company anticipating that the distributor has reached or will reach an agreement with all of the other nine record companies. Ex. 5601 ¶ 58 (Willig WRT).

1046. Professor Shapiro's specification reflects intensive competition among record companies. Indeed, Professor Shapiro even introduces competition between record companies where there is none (such as between SME and its wholly-owned subsidiary, The Orchard, and between Universal and its wholly-owned subsidiary, INgrooves). *Id.* at ¶ 62.

1047. At the same time, Professor Shapiro suppresses any competition whatsoever between distributors (since each model contains only one). *Id.* at ¶¶ 10, 62; 8/5/20 Tr. 404:24-25 (Willig) ("[W]hat he didn't do is model them together in one bargaining framework."). In a correctly specified bargaining model, as in Professor Willig's Shapley Value model, both noninteractive distributors would be "interacting inside the model because there is substitution between them for audience." 8/5/20 Tr. 405:3-11 (Willig); *see* 8/10/20 Tr. 1076:5-19 (Willig) ("[T]he diversions from one to the other and then back, the second to the first, are indications of the kernel of competition, which is whether people find them to be alternatives."). This competition between distributors would increase the loss of audience experienced by either distributor that lost the content of a major record company. Ex. 5601 ¶ 62 (Willig WRT). This dynamic, in turn,

increases the value of the record company's fallback position, decreases the value of the noninteractive distributor's fallback position, and thereby increases royalties. *Id.*

1048. Professor Shapiro incorrectly claims that including only one noninteractive distributor in his model creates a conservative result. Ex. 4094, App. F at 4 (Shapiro Second CWDT). But this is only the case if the "power ratio for the record company in question is less than one." *Id.* That assumption is based exclusively on the flawed LSEs. Ex. 5601 ¶ 62 n.117 (Willig WRT); *see also* 8/5/20 Tr. 568:24-570:1 (Willig) (explaining power ratios); *supra* at Part VII.H (same). The results of the Modified Hanssens Survey indicate Power Ratios far in excess of one for [ ] and approximately equal to one for [ ].

1049. The asymmetry in Professor Shapiro's model specification is amplified by various incorrect and unsupported assumptions that further exaggerate the relative bargaining positions of these parties. Ex. 5601 ¶¶ 10, 60, 63 (Willig WRT). These assumptions exacerbate Professor Shapiro's choice to model intensive competition between record companies while suppressing competition between distributors. *Id.* at ¶ 63.

1050. First, Professor Shapiro incorrectly specifies the noninteractive distributor's fallback value in the scenario where it fails to reach a deal with a record company. *Id.* at ¶ 64. This fallback value depends on the distributor's reduction in plays resulting from losing access to that record company's catalog. *Id.* Professor Shapiro incorrectly assumes that no record company is a "must have," and that the resulting reduction in plays on the noninteractive distributor occurs according to his LSEs. *Id.* at ¶¶ 10, 64; Ex. 4094, App. F at 5 (Shapiro Second CWDT). This reduces the relative bargaining power of the major record companies, as they are each assumed to

be unnecessary for the profitable operation of a noninteractive distributor. Ex. 5601 ¶ 64 & n.119 (Willig WRT). As detailed above, the LSEs are wholly unreliable and the assumption that no record company is a "must have" is contradicted by substantial evidence. *Id.* at ¶ 64.

1051. Second, Professor Shapiro's reliance on the LSEs artificially depresses a record company's fallback value (and stifles its relative bargaining power) in the scenario where no deal is reached. *Id.* at ¶ 65. A record company's fallback value depends on the amount of audience diversion to other forms of music distribution and the associated amount of royalties generated by that diversion. *Id.* Professor Shapiro assumes an amount of audience diversion equal to the amount of lost plays on the noninteractive distributor per his LSEs. Ex. 4094, App. F at 1-4, 7-9 (Shapiro Second CWDT); Ex. 5601 ¶ 65 (Willig WRT). For the same reasons already noted, the LSEs wrongly indicate that sound recording catalogs are commodity-like substitutes for one another. Ex. 5601 ¶ 65 (Willig WRT).

1052. Third, when modeling the scenario where no deal is reached between a record company and distributor, Professor Shapiro assumes that the record company's retention ratio—the proportion of diverted plays that are sound recordings owned by the blacked-out record company—is equal to that record company's share of all plays. Ex. 4094, App. F at 1-4, 7-9 (Shapiro Second CWDT); Ex. 5601 ¶ 66 (Willig WRT). Suppose an independent label called Handzo Music has an approximate average play share of 2% on Pandora. Professor Shapiro assumes that, if Handzo Music does not reach a deal with Pandora and some amount of plays were to leave for other distributors, only 2% of those diverted plays would be of Handzo Music's catalog. Ex. 5601 ¶ 66 (Willig WRT). Professor Shapiro offers no basis to assume this is the case. He fails to account for the likelihood that consumers unable to access some of their favorite artists due to a blackout would try to replace that content via other music distributors. *Id.* He does not

account for the possibility that any increase in performances on competing music distributors would consist substantially of plays of the blacked-out record company's content. *Id.*; *see* Ex. 5169 at 6 ([ ]). As a result of his *ad hoc* assumption, Professor Shapiro's model generates even more substitution between the sound recordings of record companies, further exaggerating the competition among them and lowering their fallback values. Ex. 5601 ¶ 66 & n.125 (Willig WRT).

3. Professor Shapiro's Model Collapses When His Extreme Assumptions Are Removed

1053. Professor Shapiro's cavalcade of extreme assumptions and flawed inputs results in a massive downward bias to the royalty rates derived from his bargaining model. *Id.* at ¶ 81.

1054. What is particularly noteworthy, however, is that if the Judges conclude that Professor Shapiro is wrong about just one or two of these assumptions, his modeled royalty rates dramatically increase to levels [ ]. *Id.* at ¶¶ 10, 81. Professor Willig ran three different sensitivity tests using Professor Shapiro's Nash-in-Nash model, each crediting his assumption that none of the major record companies is a "must have." Professor Willig found a range of royalty rates for ad-supported noninteractive distributors of [ ] per play and for subscription noninteractive distributors of [ ] per play. *Id.* at ¶ 10. *See supra* at Part VII.H.

1055. In other words, *even if* Professor Shapiro's LSEs should be credited, his model requires numerous *other* assumptions in order to produce royalty rates at the level the Services propose. *See* 8/5/20 Tr. 369:24-370:10 (describing Professor Shapiro's approach as "a house of cards" that is "very, very sensitive. If only one or two of his underlying extreme assumptions were

modified to make them more reasonable, then, in fact, there's an enormous magnification of the opportunity costs and the royalty levels").

G. Professor Shapiro's Conclusion that the Current Statutory Rate Is Above a Market Rate Is Belied by Actual Competitive Dynamics in the Noninteractive Marketplace

1056. Professor Shapiro's bottom line conclusion is that the current statutory rate has been set above a true market rate for royalties in the noninteractive service marketplace. Ex. 5603 ¶ 24 (Orszag WRT). This does not comport with the realities of that marketplace.

1057. Professor Shapiro asserts that, because the major record companies are not "must haves" for noninteractive services, such services can threaten to drop a label (so-called "carriage competition") or create "steering competition." *Id.* at ¶ 24; Ex. 4094 at 11-12 (Shapiro Second CWDT). But if current statutory rates are too high, then such competition should *already* have reduced rates below the current statutory rates. Ex. 5603 ¶ 25 (Orszag WRT). This has not happened. *Id.*

1058. Professor Shapiro's answer is that, subsequent to *Web IV*, Pandora [ ], and thus price competition was "snuffed out." Ex. 4094 at 11-12 (Shapiro Second CWDT); Ex. 5603 ¶ 25 (Orszag WRT). It is, of course, true that the agreements between the major record companies and Pandora [ ]. Ex. 5603 ¶ 26 (Orszag WRT). But Professor Shapiro's argument raises the fundamental question *why* Pandora would have [ ] for its webcasting service if (as Professor Shapiro claims) the major record companies do not possess must-have market power in the noninteractive market. *Id.*

1059. Professor Shapiro posits that [ ] were the "price Pandora had to pay for the right to launch and offer its non-statutory service tiers," which "appear to be the result of the complementary oligopoly power held by certain

record companies in the market for licensing recorded music to interactive services." Ex. 4094 at 11-12 (Shapiro Second CWDT); Ex. 5603 ¶ 26 (Orszag WRT). However, Professor Shapiro is engaging in pure speculation; he offers no evidence in support of his conjecture that any purported complementary oligopoly power held by the record companies in the on-demand market was [ ]. Ex. 5603 ¶ 26 (Orszag WRT).

1060. Further, Professor Shapiro focuses his argument on Pandora, but completely ignores other services in his testimony. *Id.* at ¶ 27; *see also* 8/25/20 Tr. 3671:11-3672:2 (Peterson) ([ ]). Specifically, [ ]. *See* Ex. 5106 ([ ]); Ex. 5094 ([ ]); Ex. 5603 ¶ 27 (Orszag WRT). If record labels' market power in the on-demand market could be leveraged [ ], and yet it did not. Ex. 5603 ¶ 27 (Orszag WRT).

1061. Notably, [ ]. *Id.* Additional agreements between [ ]. *See* Ex. 5093 [ ],

Ex. 5105 [[redacted]]; Ex. 5101 [[redacted]]; Ex. 5603 ¶ 27 (Orszag WRT). In the [[redacted]] to have negotiated steering-induced rates with the major record companies below the current statutory rate—if, as Professor Shapiro claims, the statutory rate exceeds a market rate. Ex. 5603 ¶ 27 (Orszag WRT). This has not happened. The lack of anti-steering terms in [[redacted]] provides real-world, marketplace evidence that current statutory rates have *not* been set at a level above the market rate and that Professor Shapiro's speculation is misguided. *Id.*

IX. Simulcasters Should Pay the Same Rates Paid by Other Commercial Webcasters, and NAB's Benchmark Analysis Should Be Rejected

A. There Is No Basis for Distinguishing Between Simulcasters and Other Webcasters

1. NAB Bears the Burden of Proof to Establish that Simulcasters Should Pay Rates Different and Lower Than Other Webcasters

1062. In *Web IV*, the Judges held that because NAB is "the proponent of a rate structure that treats simulcasters as a separate class of webcasters, the NAB bears the burden of demonstrating not only that simulcasting differs from other forms of commercial webcasting, but also that it differs in ways that would cause willing buyers and willing sellers to agree to a lower royalty rate in the hypothetical market." *Web IV*, 81 Fed. Reg. at 26320.***

1063. Noting that "[n]o prior rate determinations treated simulcasters differently from other webcasters," the Judges found that NAB had not met its burden and rejected essentially the same arguments NAB makes in this case. *Id.****

2. Simulcasters Compete for Listeners with Other Commercial Webcasters, Eliminating Record Companies' Incentive to Price Discriminate in the Hypothetical Market

1064. The Judges found in *Web IV* that "simulcasters and other commercial webcasters compete in the same submarket and therefore should be subject to the same rate. Granting simulcasters differential royalty treatment would distort competition in this submarket, promoting one business model at the expense of others." *Id.* at 26323.***

1065. Acknowledging this ruling but attempting to avoid its import, Dr. Leonard argues that lower rates for poorly monetized services are acceptable so long as the services that receive lower rates are not close substitutes for the services that pay higher rates (*i.e.*, diversion ratios between them are not "near 1"). Ex. 2150 ¶ 56 (Leonard CWDT).

1066. Dr. Leonard is wrong. Ex. 5603 ¶ 43 (Orszag WRT). Mr. Orszag testified that it "is not necessary for the diversion ratio between simulcast and custom radio to be 'near one' (that is, if 100 listeners left a simulcast service, nearly all 100 would switch to a custom radio service)." *Id.* at ¶ *45*. Mr. Orszag explained that under Federal Trade Commission and Department of Justice Guidelines, "significantly lower diversion ratios (than 100 percent or one) are indicative of economically relevant substitution." *Id.*

1067. Moreover, Dr. Leonard entirely fails to address the substantial evidence of competition (and thus potential substitution) between simulcasters and other webcasters—evidence that is more compelling today than it was five years ago at the time of *Web IV*. Much of this evidence comes from the simulcasters themselves. For example, NAB said in comments filed with the FCC in 2018: "Any contention that radio broadcasters today compete for audiences and advertisers only with other broadcasters—and not with any other audio outlets and content providers—is untenable." Ex. 5472 at 4. Those comments also acknowledged the rise of digital music streaming services and their effect on the competitive landscape: "While radio broadcasters

are among the myriad competitors for streaming audiences, the dominance of the pure-play streaming services has increased over time, due to their much faster growth rates." *Id.* at 15; *see also id.* at 14 ("With the advent and expansion of streaming and satellite services, the audio marketplace has become more competitive and more fragmented. Consumers may choose from among dozens of different online audio and video music streaming options.").

1068. Similarly, comments filed with the FCC in 2019 by radio broadcasters (including Midwest Communications, which submitted testimony from Andrew Gille in this proceeding) plainly state that "radio faces competition for listeners that has vastly increased since the 1996 adoption of the current ownership rules. For many listeners, the amount of time previously spent listening to broadcast radio has been redistributed to a number of different listening services. And there are many new services that now vie for listeners including those that provide on-demand or interactive audio, non-interactive digital audio or internet radio, and satellite radio." Ex. 5353 at 8; *see also* Ex. 5353 at 6, 75.

1069. Simulcasters have also acknowledged this competition in their filings with the SEC. *See* Ex. 5387 at 27 (iHeart Form 10-K, December 31, 2018) ("Our terrestrial radio broadcasting operations face increasing competition from alternative media platforms and technologies, such as broadband wireless, satellite radio, audio broadcasting by cable television systems and Internet-based streaming music services . . . . These technologies and alternative media platforms, including those used by us, compete with our broadcast radio stations for audience share and advertising revenues."); Ex. 3042 at 8 (Cumulus Media, Inc., Form 10-K, December 31, 2019) ("we compete with various digital platforms and services, including streaming music and other entertainment services for both listeners and advertisers"); Ex. 5483 at 17 (Salem Media, Inc., Form 10-K, December 31, 2019) ("Competition also comes from new media technologies and

services. These include delivery of audio programming by cable television and satellite systems, digital audio radio services, [and] mobile devices including smart phone applications for iPhone® and Android® . . . . The delivery of live and stored audio programming through the Internet has also created new competition.”).

1070. [[redacted]]. For example, an [[redacted]]. Ex. 5194 at 11; *see also* Ex. 5196 at 3 ([[redacted]]); Ex. 5197 at 3 ([[redacted]]); Ex. 2083 at 17 ([[redacted]]).

1071. Third party analyses also show that broadcasters view pure-play webcasters as competitors, and vice versa. A 2019 survey from Jacobs Media titled Radio’s Survival Kit notes that [[redacted]]. Ex. 2089 at 11; *see also* Ex. 2088 at 4 ([[redacted]]); Ex. 5144 at 10-12 ([[redacted]]

[redacted]); Ex. 2041 at 10 ([redacted]); Ex. 5229 at 17 ([redacted]); Ex. 5309 at 15 ([redacted]).

1072. Broadcasters see themselves in competition with internet webcasters like Pandora for good reason. Pandora views its ad-supported service as its flagship product, and it intends to grow that product at the expense of broadcast radio. 8/31/20 Tr. 4635:15-18 (Phillips); *see also* Ex. 4001 at 2 (indicating that Pandora asked a consulting firm to evaluate [redacted]); Ex. 5059 at 18 ([redacted]). Pandora's Chief Product Officer, Christopher Phillips, testified that Pandora views terrestrial radio as the principal competitor for its ad-supported service. 8/31/20 Tr. 4635:19-22 (Phillips). Terrestrial radio is the place Pandora is most likely to gain market share and share of advertising revenue. *Id.* at 4635:23-4636:6 (Phillips). Pandora therefore has invested heavily in Apple CarPlay and Android Auto to capture market share from broadcast radio in the car. *Id.* at 4633:18-4634:19; 4636:7-13 (Phillips). Indeed, Pandora is competing with radio's DJ chatter by adding functionality that will insert into its streams messages, anecdotes and stories from artists. *Id.* at 4637:15-21 (Phillips). And it has [redacted]

[redacted]]. Ex. 5056 at 73. According to Mr. Phillips, these investments and strategies have in fact helped Pandora take market share from broadcast radio. 8/31/20 Tr. 4639:19-22 (Phillips).

1073. Given this unrefuted and irrefutable evidence that broadcast radio competes with internet webcasting, it necessarily follows that simulcasting competes with internet webcasting as well. Ex. 5603 ¶ 46 (Orszag WRT) (relevant question is "whether radio (*i.e.*, terrestrial broadcast or simulcast) competes with webcasting"). That is so because simulcasting is an integral part of the overall radio broadcasting business—it is, as Mr. Wheeler testified, [[redacted]]. 9/1/20 Tr. 5062:4-9 (Wheeler); *accord* 8/27/20 Tr. 4451:12-25 (Newberry).

1074. In fact, simulcasting is a weapon that broadcasters must use in order to defend their market due to the growing importance of digital devices. 8/17/20 Tr. 2268:6-16 (Tucker).

1075. Professor Tucker identified the growing trend toward digital listening "driven by the rise of mobile devices, smart speakers, and connected cars, which in turn reduces the share of traditional venues where people have listened to terrestrial radio." Ex. 5605 ¶ 110 (Tucker CWRT). Data examined by Professor Tucker shows that the use of digital devices to listen to radio is on the rise. *See* Ex. 5605 ¶¶ 110, 111 (Tucker CWRT); Ex. 5194, at 13, 29 ([[redacted]]); Ex. 5300, at 13 ([[redacted]]); *see also* Ex. 5058 at 76 (MusicWatch Annual Music Study 2018: Report to Pandora Media (Apr. 2019)); Ex. 5299 at 30-31, 68; Ex. 5309 at 19 ([[redacted]]

[redacted]).

1076. When consumers decide what to listen to, their choice will be influenced by the device they want to use. 8/31/20 Tr. 4637:8-14 (Phillips). "[I]f you're looking at the typical bedroom now, rather than having a radio, people are likely to have a smart speaker. And that means that the only way that a radio company is to place its product in a home is through a simulcast." 8/17/20 Tr. 2268:9-16 (Tucker). Notably, Pandora has been investing in making itself available on virtually all digital devices, including smart speakers and wearables, with the expectation that this will help Pandora take market share from broadcast radio. *Id.* at 4636:19-4637:7 (Phillips); *see also* 8/31/20 Tr. 4507:9-25 (Witz) (testifying that one of the reasons Sirius XM simulcasts is to help keep Sirius XM relevant to a younger generation that is used to listening to music outside of the car); Ex. 4092 ¶ 13 (Witz WDT) (identifying younger customers as being more used to streaming audio content from their cell phone).

1077. Radio broadcasters recognize the need to offer simulcast transmissions to protect their broadcast market from encroachment by streaming services. 8/17/20 Tr. 2269:4-22 (Tucker); *see* Ex. 2157 ¶ 26 (Wheeler CWDT) ("Wheeler ultimately began streaming to fulfill an anticipated customer expectation and future-proof itself. Most of Wheeler's listeners today are traditional radio listeners. As the President and Owner, I feared that, without at least establishing some streaming presence, we would eventually lose listeners as they increasingly sought to listen to content digitally. In essence, Wheeler has no choice but to make our stations available digitally, to guard against the possibility that our traditional radio audience begins to tune-in, not from traditional AM/FM radios, but rather from their desktop computers, cell phones and smart

speakers."); 9/1/20 Tr. 5067:20-5068:14 (Wheeler) (acknowledging that if Wheeler stopped simulcasting, it could lose listeners to Pandora or Sirius XM; simulcasting is "a customer expectation and if we weren't there, we'd lose them to our competitors").

1078. Once again, broadcaster filings with the FCC acknowledge the point: "To put it simply, devices matter. Consumers' choice of devices influences the source of content they listen to, and consumers' use of multiple devices today reflects their desires to access a range of audio (and video) programming." Ex. 5472 at 16 (FCC filing by NAB from September 2018). Indeed, according to this filing, a growing number of consumers, especially younger ones, no longer even own radios. *Id.* at 24.

1079. Similarly, a 2019 FCC filing by radio broadcasters states: "Technology has also changed the way we consume audio content, exacerbating the other changes already happening in the marketplace. While radio is 'free' to the owners of radios, receivers are becoming less available. The new status quo is having smartphones capable of receiving alternatives or voice-controlled devices in homes or vehicles." Ex. 5353 at 14.

1080. The competition between broadcast radio and internet webcasting, and the role played by simulcasting in helping broadcast radio protect its market share, is precisely why record companies would not want to price discriminate in favor of simulcasting. According to Aaron Harrison, "[s]imulcasting may have the effect of protecting terrestrial radio (which pays no sound recording royalty) from competition with royalty-paying internet webcasting services, particularly as digital devices such as smart speakers gain traction in the home and more automobiles offer internet connections. If so, it would be better for UMG to license simulcasting on the same terms and at the same rates as internet webcasting, rather than protecting a broadcast market that pays no sound recording royalties." Ex. 5610 ¶ 21 (Harrison WRT).

3. Marketplace Agreements Contradict NAB's Argument that Simulcasters Should Pay Different and Lower Rates

1081. Dr. Leonard claims that "actual market outcomes support the idea that simulcasters should and in fact do pay lower rates in marketplace transactions," Ex. 2160 at ¶ 10 (Leonard CWRT), and that "this evidence includes iHeart's direct deals with independent record labels . . . ." *Id.* at ¶ 56. According to Dr. Leonard, pursuant to these direct licenses (the "iHeart/Indie Agreements"), iHeart [ ]. *See id.* at ¶ 64.

1082. Leaving aside for the moment the fact that the direct licenses on which Dr. Leonard relies represent an exceedingly small part of the market—[ ] of the market did *not* agree to the iHeart/Indie Agreement rates and terms, Ex. 5603 ¶ 54 (Orszag WRT))—the licenses actually prove the opposite of Dr. Leonard's desired point.

1083. In addition to a royalty for simulcast plays and a royalty for custom webcasting plays, the iHeart/Indie Agreements on which Dr. Leonard relies also [ ]. Ex. 2150 ¶ 64 (Leonard CWDT). [ ]. *Id*. When Dr. Leonard calculated his effective royalty rates under the iHeart/Indie Agreements, [ ]. 8/24/20 Tr. 3451:19-2452:3; 3365:14-21 (Leonard). Instead, to more accurately approximate how a record

company would view the royalty rates, Dr. Leonard should have allocated 100% of the [ ] when doing his effective royalty rate calculations.

1084. As NAB witnesses stressed throughout this proceeding, simulcasting and terrestrial broadcasting are the same product. *See, e.g.*, Ex. 2150 ¶ 8 (Leonard CWDT) ("A simulcast is a by-product of the terrestrial radio broadcast that it mirrors, and the simulcast audience is much smaller than the broadcast audience. A custom radio service in contrast is its own standalone product."); Ex. 2160 ¶ 44 (Leonard CWDT) ("Because the simulcast stream is identical to the over-the-air broadcast . . . ."); 8/27/20 Tr. 4451:12-25 (Newberry) (describing simulcast as "just 100 percent replication of what is occurring over-the-air"); Ex. 2154 ¶ 11 (Williams CWDT); 9/1/20 Tr. 5062:6-9 (Wheeler). Dr. Leonard agreed that [ ]. 8/24/20 Tr. 3452:18-21; 3453:4-11; 3453:12-20 (Leonard).

1085. It is logical that the indie record companies would view the [ ] where the broadcaster is using a sound recording over the air and transmitting the same programming over the Internet. After all, [ ]. 8/24/20 Tr. 3454:7-3455:25 (Leonard). Indeed, NAB characterizes simulcasting and broadcasting as a "bundle" in its interrogatory response. Ex. 5463 at 8. Dr. Leonard acknowledged that [ ]. 8/24/20 Tr. 3456:24-3457:8 (Leonard). [ ]. 8/24/20 Tr. 3456:24-3457:8 (Leonard).

1086. [ ]. [ ]. *See, e.g.*, Ex. 2013 at 8; Ex. 2178 ([ ]). Reinforcing this point, iHeart witness Tres Williams grouped the terrestrial and simulcast plays together when describing iHeart's direct license campaign: "iHeart's direct-licensing campaign was designed to seek mutually beneficial agreements with record companies that reflected the historical symbiosis between radio and the sound recording industry and recognized the different economics associated with (i) the inclusion of sound recordings in iHeart's simulcasts (and, as a logical predicate, on iHeart's over-the-air broadcasts) and (ii) pure webcasting activities such as iHeart's custom-radio product." Ex. 2154 ¶ 14 (Williams CWDT); *see also* 8/30/20 Tr. 4610:12-4611:9 (Williams) ([ ]). [ ].

1087. Dr. Leonard agreed that [ ]. 8/24/20 Tr. 3468:9-18 (Leonard).

1088. Annual royalty payments from iHeart to Big Machine, the largest indie to sign a direct license and the indie Dr. Leonard discussed the most, are found in Ex. 2178. *See* Ex. 2078; 8/24/20 Tr. 3469:18-24 (Leonard). Big Machine renewed its direct license in June of 2017. *See* Ex. 2013 at 31. Dr. Leonard [

[redacted]. 8/24/20 Tr. 3465:4-10 (Leonard). Accordingly, looking to Big Machine's 2016 royalties from iHeart, [redacted]. Ex. 2078 at 4. [redacted]. *Id.* at 4. [redacted]. *Id.* at 4; 8/24/20 Tr. 3468:7-3469:17 (Leonard). [redacted]. Ex. 2078 at 4; 8/24/20 Tr. 3470:14-3471:2 (Leonard). [redacted]. 8/24/20 Tr. 3468:14-3469:5 (Leonard); *see Web IV*, 81 Fed. Reg. at 26409.

1089. Applying the same calculations for the simulcast effective rate to each other year of Big Machine royalties recorded in Ex. 2178 [redacted]

- [redacted]. Ex. 2178 at 1.
- [redacted]. *Id.* at 2.
- [redacted]. *Id.* at 3.
- [redacted]. *Id.* at 5.
- [redacted]. *Id.* at 6.

- [ ]. *Id.* at 7.

4. Dr. Leonard's Reliance on Agreements with Musical Work Performance Rights Organizations Is Misplaced

1090. Apart from the iHeart/Indie Agreements discussed above, the only evidence Dr. Leonard cites in support of his claim that simulcasting should get lower rates than custom radio is agreements with musical work performance rights organizations ("PROs") ASCAP, BMI, and SESAC. 8/24/20 Tr. 3449:17-3450:13 (Leonard); Ex. 2150 ¶¶ 80-91 (Leonard CWDT). These PROs have licenses with the broadcasters that cover simulcasting and broadcasting at the same rate, and sometimes have separate licenses for custom webcasting at a different and generally higher rate. Ex. 5603 ¶ 47 (Orszag WRT); 8/24/20 Tr. 3534:23-3535:2 (Leonard).

1091. The fact that the PROs license broadcast and simulcast at the same rate is not surprising or particularly informative. Broadcast and simulcast content is the same, and it therefore makes sense they would pay the same rate. Ex. 5603 ¶ 50 (Orszag WRT). The licenses discussed by Dr. Leonard in his testimony actually *require* that [ ]. Ex. 2150 ¶¶ 85, 89, 91 (Leonard CWDT); 8/24/20 Tr. 3390:2-4 (Leonard); 8/31/20 Tr. 4575:17-23, 4582:1-8 (Williams). Mr. Orszag testified that "it stands to reason that radio broadcasters would pay the PROs the same percentage of revenue for their simulcast transmission as they do for their broadcast transmission (because it contains the same mix of music and non-music content)." Ex. 5603 ¶ 50 (Orszag WRT).

1092. Nor is it informative that custom webcasting is generally licensed separately and at a higher rate. This is explained by the fact that licensees necessarily pay the PROs on a percentage of revenue basis. 8/24/20 Tr. 3534:23-3535:2 (Leonard). As Dr. Leonard points out, radio broadcasters typically play less music per hour than custom webcasters. *See, e.g.*, Ex. 2150 ¶ 39

& App. C2-C18 (Leonard CWDT); *see also* 8/24/20 Tr. 3535:11-22 (Leonard); Ex. 5603 ¶ 48 (Orszag WRT); Ex. 5625 ¶¶ 34 n.21, 40 n.31 (Ploeger WRT). As a result, one would expect the percentage-of-revenue rates paid to the PROs by simulcasters to be lower than the rates paid to the PROs by custom webcasters, reflecting the lower intensity of music use by the broadcasters. Ex. 5603 ¶ 48 (Orszag WRT); *see also* 8/24/20 Tr. 3535:25-3536:15 (Leonard).

1093. Confirming this analysis, in a BMI rate court proceeding, Pandora argued that it should pay the lower percentage of revenue rates paid by radio broadcasters, rather than the higher percentage of revenue rates sought by BMI. *See BMI v. Pandora*, 140 F. Supp. 3d 267, 288 (S.D.N.Y. 2015). The court rejected Pandora's argument, observing that Pandora's intensity of music usage was higher than simulcasters'. *Id.* at 289. The Court also observed that broadcasters were able sell more ads than Pandora, implying that a lower percentage-of-revenue rate for broadcasters would nevertheless yield total royalties as high or higher than a higher percentage-of-revenue rate paid by Pandora. *Id.* at 274.***

1094. Importantly, none of this suggests that a different rate for simulcasting and custom webcasting is appropriate where rates are set on a *per-play* basis. Ex. 5603 ¶ 51 (Orszag WRT). For rates set on a per-play basis, the music/non-music split and the difference in intensity of sound recording use is not an issue, because the broadcaster only pays for music that it plays. *Id.* at ¶ 50. As the Judges explained in *Web IV*, "[b]y including non-music content in their transmissions, simulcasters reduce the number of performances of recorded music, thus reducing their royalty obligation under a per-performance rate structure." *Web IV*, 81 Fed. Reg. at 26321 & n.36.

1095. Dr. Leonard acknowledged that one of the reasons simulcast and broadcast radio pay the same percentage of revenue to PROs is because they have the same music intensity. 8/24/20 Tr. 3538:8-19 (Leonard). Recognizing this, Dr. Leonard argued that the disparity between

the PRO rates for simulcasters and the PRO rates for custom webcasters is greater than can be explained by the difference in the intensity with which they use music. Ex. 2150 ¶¶ 87, 88 (Leonard CWDT); 8/24/20 Tr. 3538:20-3539:1; 3540:8-24 (Leonard).

1096. Dr. Leonard's argument on this point rests on just one PRO agreement (between Pandora and ASCAP) covering custom webcasting. 8/24/20 Tr. 3541:2-17 (Leonard). Dr. Leonard has "not actually seen the Pandora agreement." 8/24/20 Tr. 3542:17-25 (Leonard). Dr. Leonard's reliance on a single and unseen agreement raises two substantial problems.

1097. *First*, Dr. Leonard offers no reason to think—and there is substantial reason to doubt—that the lone agreement on which he relies reflects a broader marketplace reality. Dr. Leonard has offered no reason to believe that the terms of Pandora's agreement are replicated in the agreements of other custom webcasters. Importantly, the only other custom webcaster able to offer relevant information is iHeart, and [ ]. [ ]. 8/24/20 Tr. 3556:8-3557:20, 3558:8-16 (Leonard). [ ] 8/31/20 Tr. 4578:24-4579:7 (Williams).

1098. *Second*, because Dr. Leonard does not know what the agreement actually says, he had to perform a series of steps using public information to estimate the rate under that agreement. 8/24/20 Tr. 3543:1-13, 3557:24-3558:7 (Leonard). Dr. Leonard first needed to determine the total percentage of revenue paid by Pandora to record companies for sound recordings. *Id.* at 3543:22-3544:2 (Leonard). Next, he multiplied the percentage of revenue paid by Pandora for sound recording rights by the percentage of those sound recording payments Pandora agreed to pay the

PROs. *Id.* at. 3544:3-7 (Leonard). Then, he needed ASCAP's market share on Pandora. *Id.* at 3544:9-12 (Leonard). But because Dr. Leonard did not know ASCAP's market share on Pandora, he approximated it as 45%, which is ASCAP's market share on iHeart. *Id.* at 3544:12-20 (Leonard). The need to rely on all of these estimates and perform all of these calculations undermines confidence in Dr. Leonard's conclusion.

1099. Moreover, because Dr. Leonard has not seen the ASCAP/Pandora agreement, he cannot say whether the rate he calculates for custom webcasting may reflect potential tradeoffs on other terms. For example, [ ]. Ex. 2042 at 14; 8/24/20 Tr. 3548:14-24 (Leonard). Thus, Dr. Leonard acknowledged that [ ]. 8/24/20 Tr. 3549:9-16 (Leonard). [ ]. *Id.* at 3550:6-13 (Leonard). [ ]. *Id.* at 3550:14-18 (Leonard). Dr. Leonard acknowledged that [ ]. *Id.* at 3550:23-3551:25 (Leonard). Dr. Leonard admitted that because he had not actually seen the agreements, he did not know if there were such tradeoffs or how they were negotiated. *Id.* at 3542:17-25, 3551:2-10 (Leonard).

1100. In short, neither the iHeart/Indie Agreements nor the single ASCAP/Pandora agreement provides useful marketplace evidence distinguishing simulcasting from internet webcasting. Ex. 5603 ¶¶ 47-52, 54-56 (Orszag WRT).

5. Dr. Leonard's Contention that Simulcasters Should Pay Less Than Other Webcasters Because They Have a Different Business Model that Monetizes Poorly Is Irrelevant and Wrong

1101. Dr. Leonard and NAB fact witnesses argue that difficulties generating ad revenue from simulcasts as compared to other webcasting supports their position that simulcasters should pay less than other webcasters. *See, e.g.*, Ex. 2150 ¶¶ 51-56 (Leonard CWDT).

1102. Even if true, NAB's argument is simply not relevant to the rate-setting process. The Judges have repeatedly stated that they cannot "guarantee a profitable business to every market entrant," because "the normal free market processes typically weed out those entities that have poor business models or are inefficient." *Web II*, 72 Fed. Reg. at 24088 n.8; *see also Web IV*, 81 Fed. Reg. at 26329. As Mr. Orszag put it, "[i]n an unregulated market, firms do not obtain lower prices from suppliers simply because they have business models that monetize poorly." Ex. 5603 ¶ 36 (Orszag WRT). Indeed, no less an authority than NAB's own counsel conceded at trial that [ ] 9/9/20 Tr. 6037:18-6037:21. The Judges have consistently rejected the idea that the rate must be set based on a service's ability to pay or based on its business model. *Web IV*, 81 Fed. Reg. at 26318, 26329.

1103. Moreover, even if it were true that simulcasters could not sell ads at the same rates realized by custom webcasters, Mr. Orszag pointed out that "if the presence of different ad rates were the relevant metric for determining different royalty rates, the Judges would need to impose different royalty rates by genre and by geography (since ad rates often differ by genre and by geography). Such an outcome would be administratively burdensome, if not impossible, and is thus an untenable position." Ex. 5603 ¶ 42 (Orszag WRT); *see, e.g.*, Exs. 5255 & 5256 (Cumulus rate cards showing station-based variation in ad rates for the same daypart).

1104. In any event, the facts do not support Dr. Leonard's conclusions. For one thing, as Dr. Leonard agreed, simulcasting is an integral, albeit small, part of the radio broadcasting

business. *See* Ex. 2150 ¶ 36 (Leonard CWDT) ("[S]imulcast is an 'add-on' service that would not exist without the terrestrial radio broadcast" and "the terrestrial broadcast (and the revenues derived therefrom)—not the simulcast—are the primary driver of the radio station's business."). Indeed, NAB's proposed definition of simulcasting applies only to broadcasters that simulcast the same programming that a broadcaster transmits on its terrestrial broadcasts. 8/24/20 Tr. 3454:4-6 (Leonard). Thus, as Mr. Orszag testified, "the relevant entities to consider here are the broadcasters, not hypothetical standalone 'simulcasters' who have no other sources of revenue." Ex. 5603 ¶ 37 (Orszag WRT).

1105. If simulcasting is viewed as part of the larger broadcast business, there is no basis to believe that a broadcaster is in any way at a disadvantage compared to custom webcasters. To the contrary, "simulcasters enjoy cost savings and synergies based on the fact that a simulcast stream is substantially the same as the radio station's broadcast signal" and "costs associated with the creation of the broadcast signal are sunk by the time the broadcaster makes the decision to simulcast the broadcast signal." *Id.* at ¶ 38.

1106. Radio broadcasters pay no sound recording royalties for their over-the-air broadcasts. 8/24/20 Tr. 3451:8-12 (Leonard). As a result, according to Mr. Orszag's estimates using the EBITDA margin of the broadcasting industry, "less than five percent of an average radio station's operating costs goes to paying for music." Ex. 5603 ¶ 37 (Orszag WRT). Non-simulcast webcasters pay a substantially higher percentage of revenue. *See* Ex. 5162 at 10 (Pandora content acquisition costs represented 46% of revenue for its internet transmissions of sound recordings during 2015).

1107. Testimony from NAB's fact witnesses and financial documents from NAB members backs up this analysis. Leonard Wheeler, a fact witness for NAB who stated that sound

recording royalties for simulcasting were "exorbitant" in his written direct testimony, *see* Ex. 2157 ¶ 24 (Wheeler CWDT), later testified that the current statutory royalties are [ ]. 9/2/20 Tr. 5025:11-5025:20, 5028:10-5028:25 (Wheeler).

1108. Mr. Orszag concluded that other broadcasters have similarly low royalty expenses, though from the available data it was not possible to disaggregate sound recording royalties from the musical work royalties paid to PROs. *See* Ex. 5603 ¶ 37 (Orszag WRT); *see also* Ex. 5204 (iHeart data relied on by Mr. Orszag as a basis for his opinion that shows in 2018, music licensing costs were only [ ], and these costs were [ ]); Ex. 5195 (Salem data relied on by Mr. Orszag as a basis for his opinion that shows in 2019, music licensing fees were [ ]).

1109. Mr. Orszag also examined data provided by Midwest Communications, a broadcaster that participated in this proceeding through the written direct testimony of Andrew Gille, showing that simulcasting [ ]. Mr. Orszag examined a number of financial documents produced by Midwest that showed that of Midwest's digital revenue, statutory royalties [ ]. *See* Ex. 5603 ¶ 37 (Orszag WRT); *see also* Exs. 5198-5200.

1110. Dr. Leonard has not provided any evidence that a simulcast listener is any less valuable than an over-the-air listener. Ex. 5603 ¶ 40 (Orszag WRT). As Mr. Orszag explained, that total revenue generated from advertising on over-the-air broadcasts may be higher than total

revenue generated from advertising on simulcast "does not necessarily mean that the ad revenue *per listener* is any different." *Id.* And Mr. Orszag opined that it is possible that "the value of the simulcast listener could be higher than the over-the-air listener when simulcasters are able to deliver personalized ads to listeners on the internet instead of simulcasting broadcast ads." *Id.*

1111. The purported ability of custom webcasters to better target ads than simulcasters does not warrant a lower rate for simulcast. Dr. Leonard acknowledged that simulcasters actually do have some ability to target ads based on listeners being in or out of the station's designated market area ("DMA"), which in some circumstances may be similar to the type of targeting that custom radio is able to achieve. *See* Ex. 2150 ¶ 51 n.58 (Leonard CWDT); Ex. 5603 ¶ 39 (Orszag WRT). Similarly, Dr. Leonard testified that advertisers can target ads on custom webcast based on things "such as the listener's choices regarding genre of music." Ex. 2150 ¶ 51 (Leonard CWDT). As Mr. Orszag pointed out, such targeted advertising by custom webcasters may be "no different than simulcast stations that often have a genre theme and thus attract advertisers for the demographic that listens to that genre." Ex. 5603 ¶ 39 (Orszag WRT). Finally, Mr. Orszag testified that some simulcasters "have the ability to use digitally inserted advertisements that target individual listeners instead of simulcasting the same advertisements being played on the terrestrial broadcast." *Id.* at ¶ 39; s*ee also* Ex. 5308 at 6 ([ ]). And some broadcasters can harvest data from their simulcast listeners to better target ads to their listeners. *See* Ex. 5203 (iHeart presentation [ ]).

1112. Further, Mr. Orszag explained that many radio stations report their total audience of over-the-air and simulcast audiences combined, which increases their audience and hence revenue per ad-play; consequently, "for many simulcasters, there is likely no meaningful difference in revenue between OTA and webcast listeners." Ex. 5603 ¶ 41 (Orszag WRT). Indeed, Mr. Wheeler testified [ ]. 9/1/20 Tr. 5065:2-5065:16 (Wheeler).

1113. As further confirmation for these conclusions, Professor Tucker analyzed financial data and other documents produced by NAB and concluded "[ ]." Ex. 5605 ¶ 108 (Tucker CWRT); 8/17/20 Tr. 2255:9-2256:25 (Tucker); *see also* Ex. 5471, at tab [ ] ([ ]); Ex. 5311; Ex. 5313, at tab [ ]); Ex. 5297 at 2-3 (Declaration of Collin R. Jones, Jan. 7, 2020). Dr. Leonard acknowledged that [ ]. 8/24/20 Tr. 3507:4-8 (Leonard).

1114. Whether the simulcast business model is different or less profitable than the custom webcast model is of no moment. Broadcasters could stop simulcasting if they wanted to. 9/1/20 Tr. 5066:11-13 (Wheeler). They choose to simulcast for the simple reason that [ ]

Id. at 5068:10-5068:18 (Wheeler). As discussed above, simulcasting is [[redacted]], *id.* at 5066:4-10 (Wheeler), and it helps prevent broadcasters from [[redacted]]. *Id.* at 5066:11-21, 5067:22-5068:5 (Wheeler).

6. Dr. Leonard Incorrectly Asserts that Listeners to Simulcast Streams Value Music Less Than Custom Radio Listeners

1115. Dr. Leonard offers a grab-bag of reasons why consumers who listen to simulcast streams purportedly value music less than custom radio listeners, largely revolving around the idea that simulcast listeners care more about non-music content. Ex. 2150 ¶¶ 36-50 (Leonard CWDT). However, the mere fact that simulcasters may offer non-music content along with music content is irrelevant where sound recording royalties are assessed on a per-performance basis. *See* Ex. 5603 ¶ 30 (Orszag WRT).

1116. As the Judges explained in *Web IV*, "[b]y including non-music content in their transmissions, simulcasters reduce the number of performances of recorded music, thus reducing their royalty obligation under a per-performance rate structure." *Web IV*, 81 Fed. Reg. at 26321. As a result, the Judges concluded that "the relative amount of non-music content transmitted by simulcasters versus the amount transmitted by other commercial webcasters does not support a reduced royalty rate for simulcasters." *Id.* The Judges found no "evidence that the value of non-music content is not fully accounted for in this reduction of royalties." *Id.* Dr. Leonard's testimony does not support any contrary conclusion here.***

i. Survey Evidence Contradicts Dr. Leonard's Opinion

1117. Much of Dr. Leonard's testimony about simulcast listeners' affinity for non-music content relies on the *ipse dixit* of radio executives who Dr. Leonard interviewed. *See, e.g*. Ex. 2150 ¶¶ 40, 47. Survey results tell a different story.

1118. A survey by Dr. Hauser, prepared on behalf of NAB, shows that 72% of respondents who listened to both music and non-music content indicated that music content was at least as important as non-music content. Ex. 2150 ¶ 48 (Leonard CWDT). 15% responded that music content was more important, and 57% responded that music content is equally important as non-music content. *Id.* What is particularly telling about these results is that in reporting the survey results Dr. Leonard *excluded* those respondents who listen *only* to music. 8/25/20 Tr. 3610:2-23 (Leonard). That group logically must value music above non-music content.

1119. Other results from Dr. Hauser's survey show that 82% of respondents listen to some music, while news, weather and traffic were a distant second at 55%. Ex. 2151 ¶ 97, Table 1, & App. O (Hauser WDT).

1120. Further, 51% of respondents in the Hauser survey indicated that music is "very important." *Id*. at ¶ 100, Table 2, & App. P (Hauser WDT). In contrast, only 37% of respondents thought news, weather, and traffic were "very important"; only 25% thought talk content (*e.g.*, live DJ commentary, politics) was "very important"; and only 20% thought sports was "very important." *Id.* Notably, only 5% responded that music was "not important." *Id.*

ii. Simulcasters' Use of Non-Music Content Does Not Show that the Music They Use Is Valued Less Than Music Used by Other Webcasters

1121. Dr. Leonard suggests that simulcasters value music less than custom webcasters because simulcasters offer non-music content, particularly during drive time. Ex. 2150 ¶ 39 (Leonard CWDT).

1122. This is inconsistent with the fact that broadcasters derive most of their revenues from music-format stations. *See* Ex. 5603 ¶ 31 (Orszag WRT) (relying on exhibits 5257, 5204, and 5260); *see also* Ex. 5257 ([[redacted]

[redacted]); Ex. 5204 ([redacted]); Ex. 5260 ([redacted]; Ex. 5206 ([redacted]); Ex. 5193 ([redacted]).

1123. NAB's fact witness, Leonard Wheeler, acknowledged that [redacted]. 9/1/20 Tr. 5019:18-5020:1 (Wheeler). Mr. Wheeler also acknowledged that [redacted]. *Id.* at 5020:2-9 (Wheeler). By contrast, [redacted]. *Id.* at 5011:22-5012:1 (Wheeler). Mel Wheeler Inc. 2018 financials reveal that [redacted]. Ex. 5253.

1124. Moreover, given that broadcasters have the option to program relatively more non-music content and relatively less music content, it is telling that Mr. Wheeler acknowledged that [ ] 9/1/20 Tr. 5065:17-24 (Wheeler).

1125. Dr. Leonard's argument about the relative importance of non-music is based in part on his analysis of the ad spot prices for select terrestrial radio station dayparts, but is flawed in its conception and execution. Ex. 5603 ¶ 31 (Orszag WRT); *see also* 8/11/20 Tr. 1432:18-1433:7 (Orszag).

1126. Dr. Leonard confuses correlation with causation, because he fails to consider the size of the audience, which is the most obvious reason why certain dayparts would be associated with higher ad prices and higher revenues. Ex. 5603 ¶ 31 (Orszag WRT). The most popular times are often the Morning Drive and Afternoon Drive dayparts. For example, Mr. Orszag's [ ]. *See* Ex. 5335; *see also* Ex. 5603 ¶ 31 & n.54 (Orszag WRT). Higher ad prices at peak listening hours naturally correlates with a lower number of recordings played: because stations play more ads during peak listening times, they necessarily play fewer recordings. As Mr. Orszag concluded, "the apparent correlation between higher ad spot prices and fewer songs per hour for certain dayparts does not reflect causation; instead, it reflects the effects of consumer listening patterns." Ex. 5603 ¶ 31 (Orszag WRT).

1127. In fact, Mr. Orszag testified that "broadcasters tend to charge [ ]," "[a]s a reflection

of the higher value of music content." *Id.* at ¶ 31; *see, e.g.*, Ex. 5258 ([ ]); Ex. 5259 ([ ]); Ex. 5255 ([ ]); Ex. 5256 (same); Ex. 5254 ([ ]); *see also* Ex. 5262 ([ ]).

1128. Moreover, an analysis of the terrestrial station dayparts that Dr. Leonard relied on shows that while terrestrial station dayparts with higher ad spot prices or higher ad revenues *generally* have the fewest recordings played per hour, there are a number of examples where that is not the case. Ex. 5603 ¶ 33 (Orszag WRT). Mr. Orszag identified a number of examples in his written rebuttal testimony where there appeared to be no correlation between the ad spot prices and the recordings per hour numbers. *See id.*

1129. Finally, some sense of the value of music to simulcasters can be gleaned from the way they promote their stations, often highlighting their music content. As Mr. Ploeger testified with respect to Midwest, "music seems to be important to its marketing of its music stations." Ex. 5625, ¶ 80 (Ploeger WRT); Ex. 5246 at 1, 3, 6, 8 (wixx.com website noting its tagline "Your Hit Music Station" and featuring information about concerts in the local area, as well as a "Music News" section); *id.* at 12 (WIXX marketing for its mobile app with the tagline "Put the Entire WIXX Playlist in Your Pocket," noting that the app provides "all of your favorite Top 40 music

anywhere you can take your phone or tablet!"); Ex. 5247 (page for the WIXX app in the iTunes App Store likewise trumpeting that "WIXX has been Northeast Wisconsin's top choice for hit music" before mentioning "local information and entertainment"). Similarly, Mr. Wheeler markets his best-performing station, WSLC, based on the music it plays. *See* Ex. 5625, ¶ 81 (Ploeger WRT); Ex. 5248 (home page of WSLC, http://www.949starcountry.com, featuring the station's name, 94.9 Star Country, and prominently featuring its music playlist, with cover art).

1130. Indeed, screenshots of Wheeler stations' simulcast players, that were taken during the morning drive time hours, prominently display "now playing" and "recently played" music with album art—and make no mention of news, sports, talk or any other non-music content. *See* Ex. 5259.

iii. No Evidence Supports the Claim that Simulcast Listeners Have a Lower Willingness to Pay

1131. NAB has provided no evidence for Dr. Leonard's assertion that "listeners' preferences for simulcast would be expected to be lower than for other non-subscription non-interactive services" because simulcasting is less interactive than custom webcasting. Ex. 5603 ¶ 35 (Orszag WRT).

1132. The Judges rejected this argument in *Web IV*. There, as here, NAB "has not established (or attempted to establish) that simulcasting as a rule is materially less interactive than any other form of non-custom, noninteractive webcasting, all of which would be subject to the general commercial webcasting rates." Recognizing that "[t]he statutory license is available to services that offer a continuum of features, including various levels of interactivity," the Judges declined "to cobble together a customized rate structure among categories of commercial webcasters based solely on statutorily permissible levels of interactivity." *Web IV*, 81 Fed. Reg. at 26322.***

1133. As Mr. Orszag further pointed out, "simulcasts are streams from radio stations that are defined in part by genre (top hits, country, R&B, etc.)." Ex. 5603 ¶ 35 (Orszag WRT). Dr. Leonard acknowledged that users of custom radio "can influence custom radio's choice of songs by, e.g., suggesting a genre." Ex. 2150 ¶ 49 (Leonard CWDT). Given that users can choose to listen to a particular genre of music on both simulcast stations and custom radio, the user experience is not materially different. Ex. 5603 ¶ 35 (Orszag WRT).

1134. Indeed, as Mr. Orszag explained, "the willingness to pay of users for both ad-supported webcasting and ad-supported simulcasting is likely similar" as "users of both types of services 'pay' by listening to advertisements." *Id.* at ¶ 44. In fact, Mr. Orszag opined that "it may be that users of simulcast services actually have a higher willingness to pay because radio broadcasters often have a higher ad load than webcasters." *Id.* Mr. Orszag therefore concluded that "in an unregulated market, record companies would have no reason to price discriminate in favor of simulcasters based on the theory that they are monetizing consumers with a lower willingness to pay in the downstream market. The opposite would more likely be the case." *Id.*

iv. NAB's Focus on Local Issues, Community Programming, and On-Air Personalities Is Irrelevant to Setting a Royalty Rate

1135. Throughout their testimony in this case, NAB witnesses testified about the alleged importance of the public interest requirement to radio broadcasters. *See, e.g.*, Ex. 2155 ¶¶ 11-17 (Newberry WDT); Ex. 2156 ¶¶ 10-12 (Gille WDT); Ex. 2157 ¶¶ 8, 19, 22 (Wheeler CWDT). NAB has produced no persuasive evidence in this case that should dictate a conclusion any different than what the Judges have reached previously.

1136. NAB raised the same argument in *Web IV*. There, the Judges found that "NAB did not present any persuasive evidence that the public interest requirement would in any way affect the royalty rates that willing buyers and sellers would agree to in the hypothetical market." *Web*

IV, 81 Fed. Reg. at 26321. "To the extent the NAB's argument is that, as a matter of public policy, radio broadcasters' public interest requirement justifies lower royalty rates for simulcasting," the Judges rightly concluded that the "argument is without any basis in § 114." *Id.****

1137. NAB witnesses in this proceeding testified that radio broadcasters focus on their local markets. *See, e.g.*, Ex. 2152 ¶¶ 11-13, 22-24 (Pittman WDT); Ex. 2155 ¶¶ 10, 18 (Newberry WDT); Ex. 2156 ¶¶ 9, 13-16 (Gille WDT); Ex. 2157 ¶¶ 9-18, 20-21 (Wheeler CWDT).

1138. NAB raised this argument in *Web IV* as well. And again, the Judges rejected it, finding "neither record evidence nor an articulated rationale to support a lower royalty rate for simulcasters based on the purported local focus of radio broadcasters." *Web IV*, 81 Fed. Reg. at 26321. Here, as in *Web IV*, there is neither compelling evidence nor a rationale for a lower rate because of "local focus." *Id.****

1139. Again, NAB presents no reason why the Judges should deviate from their previous ruling on this issue. Consider the testimony of one of NAB's principal fact witnesses, Mr. Wheeler. Mr. Wheeler invoked the word "local" over forty times in his written testimony. *See generally* Ex. 2157. But the evidence tells a different story. For instance, a rate card spreadsheet acknowledges that, while WFIR and WLNI have "local news morning show[s], in our circumstance big National syndicated shows such as Rush Limbaugh draw a larger audience and rate." Ex. 5254 at tabs WFIR and WLNI; *see also* 9/1/20 Tr. 5072:8-11 (acknowledging that local morning show host Joey Self is not "carrying the day" for WFIR). Notably, Mr. Wheeler acknowledged that his [[redacted]] 9/1/20 Tr. 5011:13-16 (Wheeler). Other statements by NAB fact witnesses confirm the importance of nationally syndicated content to its programming. *See, e.g.*, Ex. 5533 at 12 (iHeart CEO Robert Pittman: "Distance is no longer an issue in our business … we're able to

project the best talent we have to any location anywhere, any time. We think that's a substantial advantage for us."); 9/9/20 Tr. 6028:20-6029:8 (Pittman) (acknowledging that Ryan Seacrest's show airs on over 100 radio stations nationally, and that Ryan Seacrest is a member of iHeart's "core team"); 9/1/20 Tr. 5007:7-18 (Wheeler) (company spent [[redacted]] for the rights to air Steve Harvey's nationally syndicated show on WVBE, [[redacted]] what it spent on sound recording royalties for that station); Ex. 5254 at tab WPLY (describing station as "New Fox Sports station" with "no local dayparts").

1140. Finally, NAB witnesses testified about the importance of local on-air personalities as a way of differentiating simulcasts from other forms of commercial webcasting. *See, e.g.*, Ex. 2152 ¶¶ 20-21 (Pittman WDT); Ex. 2156 ¶ 15 (Gille WDT); Ex. 2157 ¶ 12 (Wheeler CWDT). But their actions belie those words. Robert Pittman, the CEO of iHeart, acknowledged that iHeart laid off more than one thousand employees in early January 2020, including an unknown number of on-air personalities that may have numbered in the hundreds. *See* 9/9/20 Tr. 6005:2-6006:23 (Pittman); *see also* Ex. 5523 (Letter from Senator Brown to Mr. Pittman: "It is difficult . . . to understand the decision to continue the hollowing out of local media outlets by laying off disc jockeys in smaller communities."). Mr. Pittman's testimony indicates that iHeart has paired those layoffs with a recent emphasis on the use of artificial intelligence—which makes the sequencing and programming of sound recordings on simulcast look increasingly like that on a pure-play streaming service. *See* 9/9/20 Tr. 6020:12-24 (Pittman) ("[W]e've got so many inputs that it's hard for a human being to digest them to decide should we play this song or this song, which song should we play next to which song, how often should they be sequenced . . . . [O]ur programming folks have been working with our—our IT people for a while to build an artificial intelligence that can take over a lot of that work and can also eventually schedule the music."); *see also* Ex. 5522

at 1 (Pittman letter to company: "We are now a technology-powered business."); *id.* at 3 ("As we move to more fully utilizing our investments in technology there will be some employee dislocation . . . which is the unfortunate price we pay to modernize the company."). In short, the record does not support granting simulcasters a special rate reduction because of their use of on-air personalities.

7. The Alleged Promotional Value of Simulcasting Does Not Justify a Lower Rate

1141. NAB argues that simulcasting should receive a discounted rate because of its alleged promotional value. To support this proposition, NAB offers the same "tautological" argument it made in *Web IV*: that simulcasting is the same as terrestrial radio because it is a transmission of the same content as radio, so "it must also have the same promotional impact as terrestrial radio." *Web IV*, 81 Fed. Reg. at 26322. The Judges rejected that argument because "[w]hether or not simulcasting is as promotional as terrestrial radio simply is not the relevant question. The relevant questions are (1) whether simulcasting is *more* promotional *than other forms of commercial webcasting* and, if so, (2) whether such heightened promotional impact justifies a discounted rate for simulcasters." *Id.* at 26323.***

1142. The Judges in *Web IV* also found that this argument was unsupported by the record because "[t]here are a number of differences between terrestrial radio and simulcasting." *Id.* at 26322. The Judges identified the following differences: (1) "terrestrial radio broadcasts are (as the NAB stresses) locally-focused; simulcasts, by contrast, can be accessed throughout the country or even overseas"; (2) "The choices available to radio listeners are more limited than those available to simulcast listeners;" and (3) "Through aggregation sites, such as iHeartRadio and TuneIn, simulcasting offers listeners greater functionality (*e.g.,* the ability to search, pause, rewind and

record) than radio does." *Id.* The Judges thought "[t]hese differences may affect listening habits in a way that diminishes the promotional effect of simulcasting." *Id.****

1143. In reaching this conclusion, the Judges looked at evidence from the record companies that they "do not view simulcasting as having the same promotional impact as terrestrial radio." *Web IV*, 81 Fed. Reg. at 26322. That is a key question because, as Dr. Leonard testified, the right question to ask is about the promotional value of simulcast. 8/24/20 Tr. 3574:3-22 (Leonard). And while simulcast and broadcast are the same in certain respects, they differ in one respect critical to the record companies—audience size and reach. Dr. Leonard agreed one of the reasons broadcast radio might be regarded as promotional by the record companies is that terrestrial radio has a wide reach among American consumers. *Id.* at 3574:23-3575:7 (Leonard). And one characteristic simulcasting does not share with over-the-air radio is audience size. *Id.* at 3575:8-23 (Leonard).

1144. Record company executives testified that [ ]. *See, e.g.*, Ex. 5610 ¶ 20 (Harrison WRT).

1145. In fact, NAB's own witness, Mr. Poleman, testified that "it's about the reach of broadcast," 8/27/20 Tr. 4417:24-4418:6 (Poleman), and record company representatives "never, ever" ask him whether a recording is going to be played on simulcast in addition to broadcast. *Id.* at 4419:2-9 (Poleman).

1146. More generally, and as in *Web IV*, there is no evidence that simulcasting is more promotional than other forms of commercial webcasting. *See Web IV*, 81 Fed. Reg. at 26322-23. Simulcasting does not offer the form of promotion that is most important to the record companies—promotion of streaming subscriptions. 8/24/20 Tr. 3577:4-10 (Leonard). Promotion

of music service subscriptions is critical because music industry revenues now primarily come from streaming services instead of from the sales of digital downloads and physical products. Ex. 5604 at App. 1 (Tucker WDT). As discussed in greater detail above, Dr. Leonard has seen no evidence that simulcasting promotes the sale of new subscriptions to interactive services (or, for that matter, promotes sales of digital downloads, CDs, or Sirius XM subscriptions). 8/24/20 Tr. 3577:22-3578:4, 3604:9-21 (Leonard); *see supra* Part VI.

1147. As in *Web IV*, "NAB and iHeart repeatedly point[ed] to evidence that record company promotional personnel thank music services for playing their artists' music to support the conclusion that such 'spins' are promotional." *Web IV*, 81 Fed. Reg. at 26322 n.41. The Judges found such evidence unpersuasive because it was "at least equally plausible that record company executives were merely displaying 'common courtesy.'" *Id.* NAB provided the same sort of evidence here. *See, e.g.*, Ex. 2156 ¶¶ 17-19 (Gille WDT); Ex. 2157 ¶¶ 36-42 (Wheeler CWDT). It should be rejected for the same reasons. *See* Ex. 5615 ¶ 37 (Ford WRT) (thank you emails reflect common courtesy); 9/1/20 Tr. 5069:8-5069:15 (Wheeler) ([ ]); *supra* Part VI.

B. Direct Licenses Between iHeart and Independent Record Companies Do Not Provide a Reliable or Appropriate Benchmark

1148. Dr. Leonard's proposed benchmark of direct licenses between iHeart and independent record labels (the iHeart/Indie Agreements) is not a reliable or appropriate benchmark. These same direct licenses were proposed—and rejected—as a benchmark in *Web IV*. 81 Fed. Reg. at 26320. There, the benchmark consisted of 27 direct licenses. *Id.****

1149. Dr. Leonard's proposed direct license benchmark should be rejected for the same reasons the Judges rejected it in *Web IV*, and for the same reasons a similar attempt to use direct

licenses between Sirius XM and independent record companies was rejected in *SDARS III. See Web IV*, 81 Fed. Reg. at 26320; S*DARS III*, 83 Fed. Reg. at 65249.

1150. In *SDARS III*, the Judges rejected the direct license benchmark in part because the licenses were not representative of the broader market. S*DARS III*, 83 Fed. Reg. at 65249. Similarly, in this case there is no evidence that the agreements are representative. Ex. 5603 ¶ 6 (Orszag WRT).

1151. In *Web IV*, the Judges rejected the benchmark in part because "there is insufficient evidence and economic analysis in the record for the Judges to determine whether the headline rate for simulcasting in the iHeart-Indie agreements fully accounts for the economic value of the licenses to the parties." *Web IV*, 81 Fed. Reg. at 26320. Here too, the contractual headline rates for simulcasting and custom webcasting in the direct license agreements do not fully account for the economic value of the licenses to the parties, and Dr. Leonard fails to account for the non-statutory benefits that the indies receive, which results in understated per-play rates. Ex. 5603 ¶ 6 (Orszag WRT).

1152. Finally, in *SDARS III*, the Judges rejected the proposed direct license benchmark because the licenses were "uninformative of any effect of steering on royalty rates because none of them contain steering guarantees or economic incentives to promote (or avoid) steering." *SDARS III*, 83 Fed. Reg. at 65250. In this case, the direct licenses not only lack steering guarantees, they affirmatively disclaim any obligation to steer, and there is scant evidence that iHeart had the ability or incentive to steer. Ex. 5603 ¶ 6 (Orszag WRT).

1153. Further, as Professor Willig points out, Dr. Leonard's benchmark rates are suspect because the rates he derives from his benchmark agreements are actually lower than the

opportunity cost he calculates—an economically irrational result because sellers do not price below cost. Ex. 5601 ¶ 101 (Willig WDT).

1. The iHeart/Indie Agreements Are Not Representative

1154. The Judges in *SDARS III* rejected a similar effort by Sirius XM to use as a benchmark a far larger number of direct licenses with indie record labels because they were not representative of the market. There, the direct licenses deemed unrepresentative by the Judges included approximately 500 direct licenses representing 6.4% of plays on Sirius XM. S*DARS III*, 83 Fed. Reg. at 65249. In this case, Dr. Leonard acknowledged that the direct licenses between iHeart and indies account for only [ ] of iHeart's total simulcast, custom radio, and webcast performances, respectively. Ex. 2150 ¶ 72 & App. A4 (Leonard CWDT). Thus, [ ] of the market did not agree to the rates and terms in these agreements. *See* Ex. 5603 ¶ 54 (Orszag WRT).

1155. Even these numbers overstate the segment of the market represented by the direct licenses. Dr. Leonard identified BMG, Broken Bow, and S-Curve as three of his renewal indies. Ex. 2150, at App. A5 (Leonard CWDT); *see* 8/24/20 Tr. 3486:23-3487:11 (Leonard). However, [ ]. Ex. 2154 ¶ 22 (Williams CWDT). [ ]. Ex. 2082 at 1 ([ ]); 8/24/20 Tr. 3484:10-16 (Leonard). [ ]. *Id.* at 3485:6-20 (Leonard).

1156. Dr. Leonard acknowledged that [ ]. *Id.* at 3528:16-20 (Leonard).

1157. Moreover, in offering the iHeart/Indie Agreements as representative of the market, Dr. Leonard chose to ignore all of the indies that rejected the license. Since 2012, iHeart has approached [ ]. Ex. 5278 at 12-14; Ex. 5603 ¶ 54 (Orszag WRT); 8/24/20 Tr. 3474:22-25 (Leonard). Of those 112 indies, only 27 initially agreed to the terms of the proposed direct license. *Web IV*, 81 Fed. Reg. at 26320; *see also* 8/24/20 Tr. 3476:12-18 (Leonard) (recalling 28). Dr. Leonard acknowledged that [ ]. 8/24/20 Tr. 3480:2-25 (Leonard).

1158. Since the time of *Web IV*, 12 of the 27 indies that originally signed direct licenses declined to renew them. *Id.* at 3481:1-7 (Leonard). Thus, 97 indies rejected licenses or declined to renew; only 15 (excluding BMG) remain.

1159. Dr. Leonard did not talk to any of these indies to understand their reasons for not renewing. *Id.* at 3491:22-25 (Leonard). Had Dr. Leonard talked to the indies that did not renew, he would have learned that they may have had unique motivations for entering the direct licenses in the first place, unrelated to steering. Ex. 5603 ¶ 67 (Orszag WRT). For example, Mr. Orszag spoke with an executive from [ ]. *Id.* Mr. Orszag explained that [ ]

[redacted]]. *Id.* After the passage of the Music Modernization Act, [redacted]]. *Id.*

1160. Dr. Leonard offered no reason to think that the 85 indies that declined to license in the first place, and the 12 additional indies that declined to renew, are less representative than the 15 (given that BMG did not renew) that remain licensed today. The best Dr. Leonard can do is to offer innuendo that [redacted]]. 8/24/20 Tr. 3477:24-3478:14 (Leonard). But there is no evidence to support the Services' accusation that SoundExchange has been pressuring labels not to enter direct licenses. While NAB and Google point to Ex. 2113, this document from 2015 does not support their contention. Ex. 2113 shows that SoundExchange explained the basic economics of direct licenses with Sirius XM and stated that as compared to the SDARS rate, the direct licenses "might be attractive to some labels." Ex. 2113 at 2. Although the document acknowledges that direct licenses might be used against artists and record companies as evidence in the *SDARS III* rate-setting proceeding, it expressly states that SoundExchange "is not opposed to direct licenses," that "[w]hether to enter into a direct license with Sirius XM is entirely your decision," and that SoundExchange "does not advise record companies about what is best for their individual businesses." *Id.* Moreover, since Ex. 2113 dates to 2015, it cannot explain [redacted]]. *See* 8/24/20 Tr. 3478:15-3479:7 (Leonard) ([redacted]]). Nor is there any reason to think that this document was on anyone's mind in 2017 when most of the direct licenses renewed—two years after Ex. 2113 was created. [redacted]

[redacted]. 8/24/20 Tr. 3527:17-3528:15 (Leonard).

1161. For these reasons, Mr. Orszag testified that agreements reached by iHeart and licensors representing [redacted] of the market (and only [redacted]) are an unreliable and unrepresentative basis for a benchmark. Ex. 5603 ¶ 54 (Orszag WRT).

2. Dr. Leonard Excluded Relevant Direct Licenses from His Benchmark

1162. Mr. Orszag testified that the licenses on which Dr. Leonard relied as his benchmark agreements were "selected in a biased manner and affected by the statutory rate that acted as a price ceiling" because Dr. Leonard excluded agreements that indies entered into with other broadcasters. Ex. 5603 ¶ 55 (Orszag WRT). In particular, Dr. Leonard excluded from consideration direct licenses between [redacted]. Ex. 5603 ¶¶ 55-56 (Orszag WRT).

1163. Mr. Orszag examined data available to SoundExchange and found that some of these licenses [redacted] than the direct licenses used by Dr. Leonard; rates that were [redacted]. *Id.* at ¶ 55; Ex. 5625 ¶ 83 (Ploeger WRT). For example, based on data available to SoundExchange and contained in an appendix to Mr. Ploeger's Written Rebuttal Testimony, as well as data from royalty statements produced by NAB, the agreement between [redacted] had effective royalty rates of [redacted]; the agreement between [redacted] had effective royalty rates of [redacted]; and the agreement between [redacted] had effective rates of [redacted]

[redacted]. *See* Ex. 5603 ¶ 55 & n.118 (Orszag WRT); Ex. 5625 ¶ 83 & App. F (Ploeger WRT).

1164. Dr. Leonard excluded these agreements from consideration because most had not been renewed and were no longer in effect. Therefore, he contends, these agreements do not reflect a willing buyer-willing seller rate on an ongoing basis "either because [redacted] or because market conditions had otherwise changed." Ex. 2150 ¶ 92 (Leonard CWDT).

1165. As Mr. Orszag pointed out, the obvious change in "market conditions" was the new webcasting rate set by *Web IV* in 2016, which was lower than the rate that the broadcasters had agreed to pay before then. Ex. 5603 ¶ 56 (Orszag WRT). Naturally, broadcasters will not renew a direct license if the direct license rate turns out to be higher than the statutory rate. *Id.* Consequently, looking only at renewed licenses has the effect of ignoring all rates that would have been higher than the statutory rate, if no statutory rate existed. *Id.* "Such a biased sample is inextricably tied to the statutory rate and therefore does not reflect a marketplace free of statutory licenses." *Id*.

1166. SoundExchange offered a very similar argument in *Web IV* though one of its economic experts, Dr. Talley: "Dr. Talley notes that any pair of willing licensors and licensees ("dyads" in Dr. Talley's parlance) in which the licensee's WTP was greater than the statutory rate . . . would not consummate an agreement at a consensual rate, because the buyer could always default to the lower statutory rate." *Web IV*, 81 Fed. Reg. at 26330. The Judges found this argument "rational and hypothetically correct [but] too untethered from the facts to be predictive or useful in adjusting for the supposed shadow of the existing statutory rate." *Id.* The facts in this case now

confirm the theory—higher direct licensed rates existed, until the new statutory rate likely caused licensees to decline to renew them. Ex. 5603 ¶ 57 (Orszag WRT).

1167. Moreover, two of the agreements that Dr. Leonard declined to include in his analysis in fact remain in effect. The first, an agreement between [ ], had effective rates of [ ]. *Id.* at ¶ 55. According to a conversation Mr. Orszag had with an executive at [ ]. *Id.* at ¶ 56 n.121. A declaration provided by an executive at Beasley confirmed that [ ]). Ex. 2070 ¶ 3 (Declaration of Caroline Beasley). Consequently. Dr. Leonard's disregard of this license is directly at odds with how he treated other direct licenses that were [ ]. *See* Ex. 2150 at App. A5 (Leonard CWDT) ([ ]). The [ ] should have been included in Dr. Leonard's analysis. Ex. 5603 ¶ 56 n.121 (Orszag WRT).

1168. The second agreement that remained in effect at the time Dr. Leonard prepared his testimony was the iHeart-Warner agreement. iHeart's license with Warner was [ ]. 8/31/20 Tr. 4617:3-7 (Williams). That license [ ]. *Id.* at 4617:20-4618:3 (Williams). [

[redacted]. *Id.* at 4617:24-4618:12 (Williams). [redacted]. *Id.* at 4617:14-4618:10 (Williams). That iHeart [redacted].

1169. In short, Dr. Leonard's benchmark agreements were selected in a biased manner. Ex. 5602 ¶ 55 (Orszag WDT).

3. iHeart Did Not Meaningfully Steer, or Promise to Steer, Toward Direct License Indies

1170. In *SDARS III*, the Judges considered a direct license benchmark analysis offered by Sirius XM based on Sirius XM's agreements with hundreds of indie record companies. The Judges did not accept the direct licenses as probative in part because the licenses "are uninformative of any effect of steering on royalty rates because none of them contain steering guarantees or economic incentives to promote (or avoid) steering." *SDARS III,* 83 Fed. Reg. at 65249-250. The same can be said here. Ex. 5603 at ¶ 58 (Orszag WRT).

i. iHeart Did Not Commit to Steer and Had Little Incentive to Do So

1171. Dr. Leonard acknowledged that [redacted]. 8/24/20 Tr. 3492:20-24 (Leonard). In fact, [redacted]. Ex. 5603 ¶ 59 (Orszag WRT); 8/31/20 Tr. 4551:7-10 (Williams); 8/24/20 Tr. 3492:24-3492:7 (Leonard). For example, the agreement between iHeart (formerly known as Clear Channel) and Big Machine states in paragraph 18:

[ ]

Ex. 2013 at 20.

1172. The same provision is present in the direct licenses for [ ]. *See* Ex. 2014 at 21; Ex. 2015 at 22; Ex. 2016 at 22; Ex. 2017 at 22; Ex. 2018 at 17; Ex. 2020 at 21; Ex. 2021 at 22; Ex. 2023 at 20; Ex. 2024 at 22; Ex. 2025 at 22; Ex. 2026 at 17; 8/24/20 Tr. 3494:19-3495:3 (Leonard).

1173. Not only did iHeart not promise to steer but, for its broadcast/simulcast transmissions, it had little incentive to do so. The content on a simulcast stream is in most circumstances identical to the broadcast transmission, Ex. 2150 ¶ 32 (Leonard CWDT), and simulcast represents only a small percentage of the combined broadcast/simulcast listening hours. *Id.* at ¶ 53. Consequently, choosing which music to play based on price—rather than selecting the mix of sound recordings that will best attract listeners and therefore advertisers—may degrade the broadcast that represents most of the listening time, while the savings will be realized only on the simulcast streams that represent a very small portion of the listening time. Dr. Leonard acknowledged [ ]. 8/24/10 Tr. 3503:9-14 (Leonard). He further agreed that [ ]

[redacted]]. *Id.* at 3522:1-21 (Leonard). And Dr. Leonard agreed that [redacted]]. *Id.* at 3502:14-18 (Leonard).

1174. Similarly, [redacted]]. 8/31/20 Tr. 4596:15-21; 4598:4-17 (Williams); *Id.* at 4596:15-21 (Williams) ([redacted]]). And to the extent that iHeart may now steer during the day but only in limited circumstances such as out-of-market listening, Mr. Williams offered as the rationale for the limitations that it [redacted]]. *Id.* at 4598:7-17 (Williams).

1175. This dynamic would be true even if one viewed the terrestrial-based and simulcast royalties paid under the direct licenses as both being attributable to simulcasting—saving money on simulcast royalties by choosing sound recordings based on price would still require altering broadcast content as well as the simulcast content, resulting in a less optimal content mix for the broadcast transmissions that are the primary driver of radio station revenue. Ex. 2150 at ¶ 36 (Leonard CWDT). But if one views the terrestrial broadcast royalty contained in the direct licenses as separate and distinct from the simulcast royalty, the direct licenses actually create a disincentive to steer in favor of direct-licensed indies on the broadcast/simulcast service. Thus, Dr. Leonard agreed that [redacted]]. 8/24/20 Tr. 3461:2-11; 3462:12-21; 3463:11-18; 3472:18-3473:13 (Leonard).

1176. For example, in 2016 iHeart paid Big Machine [ ]. Ex. 2078 at 4. Dr. Leonard acknowledged that [ ]. 8/24/20 Tr. 3460:15-3461:1; 3461:21-3462:1; 3472:8-11 (Leonard). He also acknowledged that [ ]. 8/24/20 Tr. 3472:12-17 (Leonard).

ii. iHeart Abandoned Its Programmatic Ability to Steer on Its Webcasting Service in 2016, Before the Direct Licenses Were Renewed

1177. iHeart admits that it did not systematically steer on its custom radio service: [ ]. Ex. 5463 at 7. iHeart [ ]. 8/31/20 Tr. 4593:19-25 (Williams); 8/24/20 Tr. 3495:4-3496:25 (Leonard). Consequently, at the time when iHeart renewed its direct licenses, [ ]. 8/24/20 Tr. 3497:1-3498:15 (Leonard). [ ]. 8/31/20 Tr. 4595:9-14 (Williams).

1178. iHeart's programming team is responsible for managing the content that is played for iHeart, *id.* at 4539:24-4540:3 (Williams), and the programmers were supposed to know what content was directly licensed and consider whether to play it. *Id.* at 4538:3-15 (Williams). But Mr. Williams testified that iHeart's programmers do not report to him, and he did not know whether a

review process existed to confirm that the programmers were engaging in any steering process. *Id.* at 4539:16-4540:3 (Williams). Moreover, at least until September 2019, [ ] Ex. 5494 at 1. [ ]. *Id.* [ ]. *Id.*; *see* 8/31/20 Tr. 4601:8-4602:14 (Williams).

1179. While Mr. Williams testified that, [ ], "iHeart expected to be able to increase performances of its deal partners' music by approximately 50% across its simulcast and custom radio products," Ex. 2154 at ¶ 17 (Williams CWDT), [ ], 8/31/20 Tr. 4592:17-4593:18 (Williams).

1180. Likewise, Dr. Leonard [ ]. 8/24/20 Tr. 3517:16-25 (Leonard).

iii. iHeart Engaged in Minimal Steering on its Simulcasts, Limiting Any Steering to the Middle of the Night When its Impact Was Minimal

1181. [ ]. Ex. 5273 at 8-9; Ex. 5603 ¶ 59 (Orszag WRT). [ ]. Ex. 5273 at 8-9. [ ]. Ex. 5603 ¶ 59 (Orszag WRT); Ex. 5273 at 9. According to iHeart documents, [ ]. Ex. 5489 at 2.

1182. [ ]. Ex. 5603 ¶ 59 (Orszag WRT); 8/11/20 Tr. 1429:10-16 (Orszag). As Mr. Orszag explained, this is because [ ]. *See, e.g.*, Ex. 2013 at 3 § 1(o). As a result, [ ]. Ex. 5603 ¶ 60 (Orszag WRT). Mr. Williams confirmed that [ ]. 8/31/20 Tr. 4596:15-21 (Williams).

1183. Mr. Williams acknowledged that [ ], 8/31/20 Tr. 4599:5-10 (Williams), but iHeart emails demonstrate that]. For example, [ ]. Ex. 5489 at 2; Ex. 5603 ¶ 61 (Orszag WRT). In fact, [

[redacted]. Ex. 5489 at 2; 8/31/20 Tr. 4603:234604:19 (Williams); *id.* at 4606:8-16 (Williams).

1184. [redacted]. Ex. 5273 at 9; 8/24/20 Tr. 3513:2-6 (Leonard). [redacted]. 8/31/20 Tr. 4598:7-17 (Williams).

iv. Dr. Leonard Does Not Know that Indies Were Motivated to Enter into Direct Licenses by the Potential for Steering

1185. Dr. Leonard is decidedly tentative in suggesting that indies were motivated to enter into direct licenses by the prospect of steering. *See* Ex. 2150 ¶ 65 (Leonard CWDT) (describing the decision to renew as "suggesting an understanding that iHeart could and perhaps was steering").

1186. Dr. Leonard's reluctance is understandable. Dr. Leonard [redacted]. 8/24/20 Tr. 3489:23-3490:12 (Leonard). And Dr. Leonard [redacted]. *Id.* at 3491:10-25 (Leonard). Dr. Leonard also [redacted]. *Id.* at 3492:9-19 (Leonard).

4. Indies Had Motivations Other Than Steering for Entering into Direct Licenses

1187. Even though Dr. Leonard had no direct way to know why indies agreed to or renewed direct licenses, he [ ]. *Id.* at 3491:5-9 (Leonard).

1188. In fact, for at least one direct licensed indie, [ ]. According to Dr. Leonard, an indie that was deciding whether to renew its direct license would have looked back at its recent experience in making that decision. *Id.* at 3465:4-10 (Leonard). The largest of the direct licensed indies, Big Machine, renewed in 2017. Ex. 2150 ¶ 64 (Leonard CWDT). In 2016, [ ]. Ex. 2078 at 4. That is higher than the statutory rate was in 2016. *Web IV*, 83 Fed. Reg. at 26409.

1189. In any event, [ ], they did receive other benefits not available under the statutory license in exchange for accepting a lower royalty rate. Mr. Orszag testified that Dr. Leonard did not take account of these benefits, "leading him to calculate effective per-play rates that are artificially too low." Ex. 5603 ¶ 62 (Orszag WRT).

1190. One important non-statutory benefit conveyed by the direct licenses was a [ ]. Under the current statutory regime, record companies receive no royalties for plays of their catalogs on terrestrial radio broadcasts. Ex. 5603 ¶ 65 (Orszag WRT); 8/24/20 Tr. 3451:8-18 (Leonard). But [ ]

[redacted]]. Ex. 5603 ¶ 65 (Orszag WRT); 8/24/20 Tr. 3363:22-3364:3 (Leonard); *see also, e.g.*, Ex. 2013.

1191. Mr. Orszag testified that a number of licensors "were chiefly motivated by [redacted]]. Ex. 5603 at ¶ 65 (Orszag WRT). In part, this benefit was non-monetary. Mr. Orszag was informed by an executive at Big Machine Records that in addition to [redacted]]. *Id.* at ¶ 65; 8/31/20 Tr. 4606:18-4607:6 (Williams) (acknowledging that [redacted]).

1192. Beyond this [redacted]]. Ex. 5603 ¶ 66 (Orszag WRT). For example, Mr. Orszag testified that "an executive of [redacted]], which is mostly Country music, performs especially well on terrestrial radio." *Id.*

1193. Under the direct licenses, [redacted]]. *See, e.g.*, Ex. 2013 at 2 ¶ (j); Ex. 5603 ¶ 66 (Orszag WRT). A record company whose catalog performs better on terrestrial radio than it does on simulcasting or custom webcasting [redacted]]. Ex. 5603 ¶ 66 (Orszag WRT). Mr. Orszag explained that under the direct licenses, [redacted] *Id.*

1194. [ ]. *See, e.g.*, Ex. 2178. As a result, Mr. Orszag explained that [ ]. Ex. 5603 ¶ 66 (Orszag WRT); *see also, e.g.*, Ex. 2178 at 5 ([ ]).

1195. For an indie that over-indexes on terrestrial radio, this math is consequential. For example, [ ]. Ex. 2178 at 4; 8/24/20 Tr. 3519:17-3520:4 (Leonard). [ ]. Ex. 2178 at 4; 8/24/20 Tr. 3520:5-10 (Leonard). [ ]. 8/24/20 Tr. 3520:11-14 (Leonard). [ ]. *See* Ex. 2178. As a result, [ ]. Ex. 2178; 8/24/20 Tr. 3468:9-18 (Leonard) (describing calculation).

1196. [ ]

[redacted]]. *See* Ex. 5603 ¶ 66 & n.139 (Orszag WRT).

1197. Apart from the benefit of a [redacted], Mr. Orszag spoke with executives from indie record companies that confirmed to him that [redacted]]. *Id.* at ¶ 65. In fact, many of these benefits are the same benefits present in indie direct licensees in *SDARS III*. *Id.* at ¶ 62.

1198. One such benefit is that under the statutory license, SoundExchange deducts an administrative fee. *Id.* at ¶ 63. Under a direct license, the label receives the full amount of royalties owed by iHeart without any such deduction. *Id.*; 8/31/20 Tr. 4607:16-22 (Williams) ([redacted]).

1199. The direct licenses provide another benefit relating to the split of statutory royalties. Under the statutory license, the featured artist receives 45% of royalties, 5% is distributed to a fund for background musicians and vocalists, and the rights owner receives the remaining 50%. 17 U.S.C. § 114(g)(2); Ex. 5603 ¶ 63 (Orszag WRT). By signing a direct license, a label avoids this "50/50" split. Ex. 5603 ¶ 63 (Orszag WRT). Under a direct license, the label can disburse payments to its artists under the individually negotiated terms of the label/artist contracts after recouping its expense. *Id.*

1200. One example of an indie motivated by this consideration is [redacted]. Mr. Orszag testified about [redacted]]. *Id.* at ¶ 64 (Orszag WRT). [redacted]

[redacted]. *Id.* Mr. Orszag explained that this is because [redacted]. *Id.* As a result, "Naxos' total compensation [redacted]. *Id.* Dr. Leonard acknowledged that [redacted]. 8/24/20 Tr. 3384:16-22 (Leonard).

1201. Mr. Williams testified that [redacted]. 8/31/20 Tr. 4607:11-4608:1 (Williams).

1202. As a result, Dr. Leonard's "market coverage" numbers are substantially overstated, since a significant share of the indies subject to the iHeart/Indie Agreements entered those agreements for reasons other than steering. Ex. 5603 ¶ 68 (Orszag WRT). Mr. Orszag used the same data spreadsheets relied on by Dr. Leonard in his written testimony to calculate the number of simulcast and webcast performances attributable to [redacted]. *Id.* Mr. Orszag found that together, these indies comprise [redacted]. *Id.* [redacted]. *See* 8/24/20 Tr. 3522:22-3523:5 (Leonard). Mr. Orszag found that the remaining indies, whose licenses could even arguably reflect steering, represent only [redacted] of custom webcasts and [redacted] of simulcasts. Ex. 5603 ¶ 68 (Orszag WRT).

1203. Mr. Orszag testified that the unique motivations of the indie record companies, as well as the varied benefits different record companies received, are key differentiators between

direct license agreements and the statutory environment. *Id.* at ¶ 67. As a result, "[t]aking royalty rates from direct licenses at face value would distort the estimate of overall market rates." *Id.*

5. Dr. Leonard's Benchmark Rate Is Undermined by His Opportunity Cost Calculation

1204. Notably, Dr. Leonard's benchmarking approach is inconsistent with the opportunity cost that he calculated (which is described below). Dr. Leonard's benchmark purports to indicate a royalty rate of [[redacted]] for simulcast, which is [[redacted]] of his calculated simulcast opportunity cost of [[redacted]]. Ex. 2150 at 6-7 (Leonard CWDT). 8/6/20 Tr. 685:8-25 (Willig) ([[redacted]]). [[redacted]]. *See, e.g.*, 8/20/20 Tr. 3126:22-3127:8 (Shapiro).

C. Dr. Leonard's Opportunity Cost Analysis Is Deeply Flawed

1205. Dr. Leonard also performed an opportunity cost analysis on behalf of NAB. This aspect of his testimony, like his benchmark analysis, is applicable only to simulcasting (*i.e.*, streaming AM/FM radio stations over the internet) and not to the broader category of commercial noninteractive webcasters to which this proceeding applies. Ex. 2150 ¶ 100-102 (Leonard CWDT); 5601 ¶ 14 (Willig WRT).

1206. Dr. Leonard's computation of opportunity cost proceeds by: (1) determining diversion ratios reflecting the percentage of simulcast listeners that would switch to alternative forms of music distribution in a world in which record companies do not license their sound recordings to simulcasters; (2) computing the royalties the record companies would earn on each such alternative based on currently prevailing royalty rates, including rates for services other than simulcasting that are subject to the current proceeding; and (3) multiplying the diversion ratios by

their applicable royalty rates and summing these products across all forms of listening to obtain the overall opportunity cost. Ex. 2150 ¶ 103 (Leonard CWDT); Ex. 5601 ¶ 94 (Willig WRT).

1207. Dr. Leonard's calculation is deeply flawed. It does not justify setting a separate simulcaster-only royalty rate. Even if the Judges were otherwise inclined to set a simulcaster-only rate, it would not be useful even for that limited purpose. Ex. 5601 ¶ 108 (Willig WRT); *see supra* Part IX.A.

1. Dr. Leonard's Diversion Ratios Are Unreliable Because of Critical Flaws in the Hauser Survey

1208. In order to determine diversion ratios reflecting the proportion of simulcast listeners that would divert their listening to other forms of music distribution if simulcast options were not available, Dr. Leonard relies exclusively on the results of a survey performed by Professor John Hauser ("Hauser Survey"). Ex. 2150 ¶ 105 (Leonard CWDT); Ex. 5601 ¶ 103 (Willig WRT); *see generally* Ex. 2151 (Hauser WDT).

1209. As discussed below, the Hauser Survey is so fatally flawed that it cannot provide reliable inputs for Dr. Leonard's calculation of diversion ratios. Ex. 5601 ¶¶ 16, 103-07 (Willig WRT); Ex. 5607 ¶¶ 57-59 (Zauberman WRT); Ex. 5608 ¶ 114 (Simonson CWRT); *see also* Ex. 5492 (corrections to Zauberman WRT); 8/6/20 Tr. 645:17-29 (Willig) ("Professor Hauser's survey . . . is unreliable within its own four corners for the use in assessing opportunity costs.").

i. Overview

1210. NAB engaged Professor Hauser to conduct a consumer survey designed "to determine how much consumers listen to Internet simulcasts of terrestrial commercial radio, as well as to what content they listen, and the importance of that content to consumers." Professor Hauser was also asked "to determine what consumers would do in place of listening to Internet

simulcasts of terrestrial commercial radio if such simulcasts were not available for the next five years." Ex. 2151 ¶ 6 (Hauser WDT*); see also* Ex. 5608 ¶ 100 (Simonson WRT).

1211. The Hauser Survey contains two key questions relating to substitute services—Q4 and Q5—which are referred to herein as "replacement questions." For these questions, the survey asked respondents to "suppose that live AM/FM radio broadcasts **from commercial radio stations over the Internet** were not available for the next five years. Assume that everything else would be available for the next five years as it is now." Ex. 2151, App. D at D-11 (bold in original) (Hauser WDT) (Q4); Ex. 5607 ¶ 58 (Zauberman WRT).

1212. Q4 asks: "Which of the following, if anything, would you consider doing **in place of** listening to **such broadcasts over the Internet** during the next five years." Ex. 2151, App. D at D-11 (bold in original) (Hauser WDT). Respondents were provided with a list of 22 options and asked to indicate whether they "Would consider" or "Would not consider" each one, or whether they "Don't know/Unsure." Respondents were also able to select "I would consider doing the following instead" and specify that activity, if they so chose. *Id.* at D-12 to D-14 (bold in original) (Hauser WDT); *see* Ex. 5607 ¶ 59 & n. 74 (Zauberman WRT).

1213. Q5 then asks: "Now think about the **most recent** time you listened to live AM/FM radio broadcasts **from commercial radio stations over the Internet**. Please consider situations similar to that time and the content you listened to at that time. Which one of the following would you do **in place of** listening to **such broadcasts over the Internet** in similar situations during the next five years?" Each respondent was presented with a customized set of replacement options, reflecting what she had said she "Would consider" in Q4. Each respondent was instructed to choose **only one** replacement option from that customized list. Ex. 2151, App. D at D-15 to D-17 (bold in original) (Hauser WDT); *see* Ex. 5607 ¶¶ 60, 71 (Zauberman WRT).

1214. For the reasons detailed below, Professor Hauser's replacement questions are flawed in multiple ways, and create a downward bias in Dr. Leonard's opportunity cost computations. Ex. 5601 ¶¶ 16, 103-07 (Willig WRT); Ex. 5607 ¶¶ 61-75 (Zauberman WRT); Ex. 5608 ¶¶ 104-114 (Simonson WRT); Ex. 5492 (corrections to Zauberman WRT).

ii. Professor Hauser's Hypothetical and Response Options Are Poorly Designed and Biased

a. Confusing Hypothetical Scenario

1215. As an initial matter, Professor Hauser's hypothetical requires respondents to predict what they would do if "live AM/FM radio broadcasts from commercial radio stations over the Internet were not available for the next five years." Ex. 2151, App. D at D-11 (Hauser WDT) (emphasis omitted). This scenario contains numerous flaws. Ex. 5607 ¶ 63 (Zauberman WRT).

1216. *First*, the hypothetical does not explicitly mention that live AM/FM radio broadcasts of *music* from commercial radio stations over the internet would not be available. As a result, respondents may be answering the replacement questions about how they would replace non-music content, rather than how they would replace music content. This would bias the responses to the replacement questions away from music content. *Id.* ¶ 64; *see also* Ex. 5608 ¶¶ 102-107 (Simonson CWRT).

1217. *Second*, it is difficult for people to forecast how they will spend time in the future. Longer time frames, such as the five year statutory period at issue in this proceeding, exacerbate this problem. Ex. 5606 ¶ 62 (Zauberman WDT); *see also* 8/27/20 Tr. 4287:5-4288:1 (Simonson); Ex. 5608 ¶¶ 111-12 (Simonson CWRT).

1218. *Finally*, the ambiguity of Professor Hauser's hypothetical makes this problem worse: It is not clear from the hypothetical whether "live AM/FM radio broadcasts from

commercial radio stations over the Internet" disappear but will somehow reappear in five years, or whether the change is more permanent. Ex. 5607 ¶ 65 (Zauberman WRT).

1219. When a survey poses a hypothetical that requires respondents to imagine a reality that does not exist, research indicates that the best practice is to pose the hypothetical to ensure maximum relatability, so that respondents are not confused about the scenario they are asked to consider. *Id*. Professor Hauser's hypothetical does not follow this best practice.

b. Confusing and Biased Response Options

1220. *Inapplicable Replacement Options (Q4):* Professor Hauser did not customize his list of Q4 replacement options to match respondents' individual circumstances. Rather, all respondents received the same list of 22 replacement options, regardless of whether or not all of these options were applicable to them. For example, one of the options provided is, "I would listen to on-demand music streaming service(s) *through the paid subscription(s) I already have* (e.g., Apple Music, Spotify Premium, Google Play Music)." Ex. 2151, App. D at D-12 (Hauser WDT) (Q4 Response Option 1) (italics added). Respondents were provided with this option even if they do not already subscribe to a paid subscription service. Ex. 5607 ¶¶ 66-67 (Zauberman WRT).

1221. Eight of the 22 options that Professor Hauser asked *all* respondents to consider in Q4 suffer from this problem: Respondents were told that they already own, have access to, or have purchased specific services or content, regardless of whether or not that is true. *Id.*; *see* Ex. 2151, App. D at D-12 to D-14 (Hauser WDT).

1222. Providing respondents with inapplicable options—regardless of what services/content they already own, have access to, or have purchased—creates ambiguity and confusion. Take, as an example, response option 1 ("I would listen to on-demand music streaming service(s) through the paid subscription(s) I already have"): Should a respondent who does not already subscribe to a paid on-demand streaming service answer that they "Would consider" or

that they "Would not consider" this option as a replacement for their simulcast listening? Should such a respondent answer "Don't know/Unsure?" None of the available options makes sense. The only logical answer regarding a service or content that the respondent does not already have would be "N/A" or "I do not have such a subscription." Because the Hauser Survey does not provide such an option, respondents are forced to answer incorrectly, as if they *do* have the service/content. Ex. 5607 ¶ 68 (Zauberman WRT).

1223. Failing to provide options that would allow respondents to answer a question accurately is poor survey design methodology that leads to unreliable data. *Id*.

1224. *Too Many Replacement Options (Q4/Q5):* Both replacement questions in the Hauser Survey present respondents with too many response options. Q4 presents respondents with a list of 22 options, plus an open response "Other." In Q5, respondents are presented with a list of up to 22 options, plus a "Don't know/Unsure" option, and a potential "Other" option, depending on their answers to Q4. The median number of options selected in Q4 was 13 options and the maximum number was 21. Ex. 2151 at ¶ 103, App. Q (Hauser WDT); Ex. 5607 ¶ 70 (Zauberman WRT) (noting that, by contrast, the Zauberman Survey included only 7 response options).

1225. Choice set complexity is a critical driver of choice overload. In other words, too many choices (especially complicated choices like those in the Hauser Survey) can result in cognitive overload and thus unreliable responses. Ex. 5607 ¶ 70 (Zauberman WRT); *see also* Ex. 2151, App. D at D-12 to D-17 (Hauser WDT) (list of Q4 and Q5 response options, spanning three pages each).

1226. *Bias Toward Non-Royalty-Bearing Options (Q4/Q5):* The replacement options in the Hauser Survey are also presented in a confusing way that nudges respondents to select low- or non-royalty-bearing switching options. Ex. 5607 ¶¶ 10-14, 69-71 (Zauberman WRT). These

design flaws ultimately depress the diversion ratios that Dr. Leonard uses. Ex. 5601 ¶¶ 104-106 (Willig WRT); 8/6/20 Tr. 624:2-625:8 (Willig).

1227. *First*, despite providing a confusingly long list of response options in Q4, Professor Hauser does not include all royalty-bearing options to which respondents might reasonably switch. For example, the Hauser Survey does not include listening to Sirius XM over the internet as a response option. This royalty-bearing option might appeal to a different group of respondents. Limiting the number of royalty-bearing response options available is likely to depress the number of respondents who select such options. Ex. 5607 ¶ 71 (Zauberman WRT); Ex. 5492 at 1-2 (corrections to Zauberman WRT).

1228. *Second*, according to the NAB's own witness, 15 of the 22 replacement options Professor Hauser provides in Q4 do not generate additional royalties for record labels. This categorization of options as generating additional royalties or not generating additional royalties aligns with Dr. Leonard's treatment of them. Ex. 5492 (corrections to Zauberman WRT); 8/27/20 Tr. 4176:6-4177:5 (Zauberman); *see also* Ex. 5607 ¶ 71 (Zauberman WRT).

1229. The options that Dr. Leonard treats as not generating additional royalties are shown in red below.

Figure 25:
Response Options in Q4 and Q5 of the Hauser Survey

On-demand music streaming services in place of live AM/FM radio broadcasts from commercial radio stations over the Internet	
[1]	I would listen to on-demand music streaming service(s) through the paid subscription(s) I already have (e.g., Apple Music, Spotify Premium, Google Play Music).
[2]	I would purchase new paid subscription(s) to on-demand music streaming service(s) that I don't currently subscribe to (e.g., an individual subscription to Apple Music, Spotify Premium, or Google Play Music at $9.99 per month or $119.88 per year).
[3]	I would listen to on-demand music streaming service(s) that have ads and that I do not need to pay for (e.g., ad-supported Spotify).
[4]	I would listen to music on video site(s) that have ads and that I do not need to pay for (e.g., ad-supported YouTube).

Not-on-demand music streaming services in place of live AM/FM radio broadcasts from commercial radio stations over the Internet

[5] I would listen to not-on-demand music streaming service(s) through the paid subscription(s) I already have (e.g., Pandora Plus).

[6] I would purchase new paid subscription(s) to not-on-demand music streaming service(s) that I don't currently subscribe to (e.g., an individual subscription to Pandora Plus at $4.99 per month or $59.88 per year).

[7] I would listen to not-on-demand music streaming service(s) that have ads and that I do not need to pay for (e.g., ad-supported Pandora).

Satellite radio (Sirius XM) in place of live AM/FM radio broadcasts from commercial radio stations over the Internet

[8] I would listen to satellite radio through the paid subscription I already have (Sirius XM).

[9] I would purchase a new paid subscription to satellite radio that I don't currently subscribe to (e.g., a Sirius XM subscription at $10.99 per month or $131.88 per year for ad-free music, $15.99 per month or $191.88 per year for ad-free music, news, traffic, weather, and other content).

Other ways of listening to live AM/FM radio broadcasts in place of such broadcasts from commercial radio stations over the Internet

[10] I would listen to live AM/FM radio broadcasts from commercial radio stations through a radio.

[11] I would listen to live AM/FM radio broadcasts from not-for-profit radio stations (e.g., NPR, college radio stations) through a radio.

[12] I would listen to live AM/FM radio broadcasts from not-for-profit radio stations (e.g., NPR, college radio stations) over the Internet.

Owned or purchased audio in place of live AM/FM radio broadcasts from commercial radio stations over the Internet

[13] I would listen to digital music files or CDs that I already purchased.

[14] I would purchase and listen to digital music files or CDs that I don't currently own.

[15] I would listen to music obtained through peer-to-peer file sharing or free download sites.

[16] I would listen to non-music digital content that I already purchased or downloaded (e.g., podcasts, audiobooks).

[17] I would purchase or download and listen to non-music digital content that I don't currently own (e.g., podcasts, audiobooks).

Television and video options in place of live AM/FM radio broadcasts from commercial radio stations over the Internet

[18] I would watch video content that I already purchased, subscribe to, or have access to (e.g., movies, cable television, Hulu, Netflix).

[19] I would purchase or subscribe to video content that I don't currently own or subscribe to (e.g., movies, cable television, a Hulu subscription at $5.99 per month or $71.88 per year, a Netflix subscription at $8.99 per month or $107.88 per year).

[20] I would listen to music channels through my existing cable or satellite television subscription (e.g., Music Choice).

Print options in place of live AM/FM radio broadcasts from commercial radio stations over the Internet

[21] I would read print or online content that I already purchased, subscribe to, or have access to (e.g., books, newspapers, magazines).

[22]	I would purchase or subscribe to print or online content that I don't currently own or subscribe to (e.g., books, newspapers, magazines).

Sources and notes: See Hauser WDT, Appendix D.
Options in red are treated as non-royalty-bearing in Dr. Leonard's testimony.

Ex. 5492 at 1-2 (corrections to Zauberman WRT).

1230. The lack of balance between switching options that generate additional royalties and those that do not ensures that responses to Q4 are both noisy and disproportionally biased towards the latter set of options. Ex. 5607 ¶¶ 10-14, 71 (Zauberman WRT); Ex. 5492 (corrections to Zauberman WRT).

1231. It also, in turn, skews the responses to Q5 and the opportunity cost analysis in which Dr. Leonard uses them. This is because the available Q5 options are entirely dependent on a respondent's answers to Q4. Ex. 5607 ¶ 71 & n.86 (Zauberman WRT) ("The order in which preceding questions were asked can systematically bias the answers to subsequent questions. This type of bias is known as an "order effect" in survey practice."); Ex. 2150 ¶ 105 (Leonard CWDT).

1232. *Inconsistent Framing and Definitions*: Professor Hauser's descriptions of replacement options also depress Dr. Leonard's findings by privileging free options over higher-royalty-bearing paid options. For instance, Professor Hauser emphasizes the cost of paid services by presenting prices in multiple time formats. *See, e.g.*, Ex. 2151 at App. D-13 (Hauser WDT) ("I would purchase a new paid subscription to satellite radio that I don't currently subscribe to (e.g., a SiriusXM subscription at $10.99 per month or $131.88 per year for ad-free music, $15.99 per month for $191.88 per year for ad-free music, news, traffic, weather, and other content)."). By contrast the term "free" is much less salient. Ex. 5607 ¶ 71 (Zauberman WRT). *See generally* Ex. 2151, App. D (Hauser WDT).

1233. Additionally, by explicitly mentioning AM/FM radio in every question in the main questionnaire (Q1a-Q5), Professor Hauser makes the free (and non-royalty-bearing) option of AM/FM radio particularly salient. Ex. 5607 ¶¶ 13, 71 (Zauberman WRT); *see* Ex. 2151, App. D (Hauser WDT).

1234. *Non-Music Options*: Professor Hauser further depresses diversion by burying music replacement options and priming respondents to think about non-music content. Six (6) of the 22 replacement options available in Q4 are non-music options. Ex. 2151, App. D at D-13 to D-14 (Hauser WDT); Ex. 5607 ¶ 71 (Zauberman WRT). These include podcasts, audiobooks, television and video options, and print options. *See* Ex. 5492 at Table 3, Rows 16-19, 21-22 (reproduced above). Including non-music options changes the respondents' task from deciding between different music-listening options to deciding between different types of media content. This change in the decision framework affects respondents' patterns of switching. Ex. 5607 ¶ 71 (Zauberman WRT); Ex. 5608 ¶ 106 (Simonson CWRT) (citing research showing that the set of response options presented has a major impact on respondents' answers).

1235. The Hauser Survey adds to this confusion by mixing different types of content even within a single response option. Options like "non-music digital content" and "music on video sites" could include a combination of music, non-music audio, and/or non-audio content. *See* Ex. 5492 at Table 3, Rows 4, 16-17 (reproduced above); Ex. 2151, App. D at D-12 to D-13 (Hauser WDT). The survey also provides options that are not mutually exclusive, such as "streaming service(s)" and "AM/FM radio broadcasts." *See* Ex. 5492 at Table 3, Rows 1-3, 5-7, 10-12 (reproduced above); Ex. 2151, App. D at D-12 to D-13 (Hauser WDT). It is not clear how a respondent would evaluate these ill-defined response options accurately. For instance, what option should respondents who listen to podcasts on Spotify select: one that reflects their chosen content

(*e.g.*, Response Option 16, "non-music content that I already purchased or downloaded (*e.g.*, podcasts, audiobooks)") or their chosen music service (e.g., Response Option 1, "Spotify")? Ex. 5607 ¶ 71 (Zauberman WRT); Ex. 5492 (corrections to Zauberman WRT). The inconsistency and ambiguity of Professor Hauser's response options leave this unclear.

c. Instructions and Questions Prime Respondents to Choose Non-Music Options

1236. In addition to providing response options that encourage respondents to select non-music options, Professor Hauser's questions themselves push respondents in this direction. Notwithstanding the focus of the current proceedings on sound recordings, the Hauser Survey repeatedly buries music within a wide range of content alternatives, such as traffic, religion, and sports. Ex. 5608 ¶ 102 (Simonson WRT).

1237. In Q2, for example, the Hauser Survey asked respondents to identify types of radio content they had listened to over the Internet in the past three days, and provided these options:

- Music (all genres, e.g., pop, country, rock, children's music, religious music)
- Sports (e.g., game broadcasts, commentary)
- News, weather, and traffic
- Religion (non-music content, e.g., preaching, education)
- Talk (e.g., live DJ commentary, politics, personal finance)
- Comedy (e.g., sketch comedy, stand-up)
- Kids and family (non-music content, e.g., educational programs)
- Other content. Please specify:
- Don't know/Unsure

Ex. 2151, App. D at D-10 (Hauser WDT); Ex. 5608 ¶ 103 (Simonson CWRT). In this list, all types and genres of music are collapsed into just one possibility out of eight (setting aside Don't know/Unsure). Ex. 5608 ¶ 105 (Simonson CWRT).

1238. In Q3, in which the Hauser Survey asks respondents to evaluate the importance of various types of content on commercial simulcasts, respondents receive the options selected in Q2. Ex. 2151. App. D at D-10 to D-11 (Hauser WDT); *see also* Ex. 5608 ¶ 104 (Simonson CWRT).

1239. By providing respondents with a wide range of irrelevant options, Professor Hauser primes respondents to think about more than music listening. This aspect of the Hauser Survey is likely to lower the likelihood that, in subsequent switching questions, respondents choose music options. Ex. 5608 ¶ 107 (Simonson CWRT).

1240. Offering other (non-royalty-bearing) content as a substitute for streaming music services misrepresents people's real-world experience, in which other content does not generally satisfy a desire for music. *Id.*; *see also* Ex. 5607 ¶ 13 (Zauberman WRT).

iii. Professor Hauser's Improper Use of a Two-Stage Decision-Making Process Depresses Diversion

1241. Professor Hauser's two-stage decision-making structure compounds the foregoing errors and further depresses diversion to royalty-bearing options. Ex. 5601 ¶ 104 (Willig WRT); Ex. 5607 ¶¶ 10-14 (Zauberman WRT); Ex. 5608 ¶¶ 102-109, 113 (Simonson CWRT).

1242. Professor Hauser presents his replacement questions using an inappropriate "consider-then-choose" structure. The Hauser Survey first asks respondents in Q4 to identify all of the alternatives they would "consider" switching to in place of simulcasts, among the list of 22 music and non-music options described above. Then, in Q5, the survey forces respondents to pick just *one* option from this consideration set that they would use if "live AM/FM radio broadcasts **from commercial radio stations over the Internet** were not available for the next five years." Ex. 5601 ¶ 104 (Willig WRT); Ex. 5607 ¶¶ 10-14, 73 (Zauberman WRT); Ex. 5608 ¶¶ 102-109 (Simonson CWRT); *see* Ex. 2151 ¶¶ 101, 105-106, App. D at D-15, App. R (Hauser WDT); 8/27/20 Tr. 4209:22-42:10:11 (Zauberman); *id.* at 4303:22-4304:24 (Simonson).

1243. This two-stage process, in which respondents must consider a large set of options before making a final choice, does not match the decision-making processes that consumers would engage in if they were replacing their simulcast listening in reality. Ex. 5607 ¶ 73 (Zauberman WRT); 8/27/20 Tr. 4210:18-4211:23 (Zauberman); *id.* at 4299:24-4301:8 (Simonson).

1244. Professor Hauser provides no basis for limiting Q5 respondents to one replacement option for the next five years. Ex. 5607 ¶ 73 (Zauberman WRT). In the real world, people can and do replace music listening and other broadcasts with multiple substitutes. Ex. 5608 ¶ 112 (Simonson CWRT). As Professor Simonson observes, "[t]he notion that, for the next five years, respondents must limit themselves to only one alternative option makes no sense and utterly misrepresents what would happen in reality." *Id.* There is no financial barrier to choosing multiple options, especially since many of the options presented are free or low-cost.

1245. Moreover, dominant sources of music and other entertainment have rapidly evolved to match the significant technological developments that have occurred in recent years. Given the pace of change, there is no reason to think that the options available to consumers in five years will be the same as the options available today. *See* Ex. 5604 ¶¶ 10-15 (Tucker WDT). The requirement that respondents to the Hauser Survey choose only one option—based on what is available today—stands in contrast to this reality.

1246. SoundExchange does not deny that there may be some real-world contexts in which consumers would indeed follow a two-stage decision-making process, and ultimately select a single option. Ex. 5607 ¶ 73 (Zauberman WRT) (consider-then-choose structure may be appropriate where consumers confront both stimulus-based options (*i.e.*, options that are explicitly presented) and memory-based options (*i.e.*, options that are accessible from memory) before

making a decision); 8/27/20 Tr. 4300:7-4301:8 (Zauberman); *id.* at 4299:25-43011:8 (Simonson). But this framework is far from one-size-fits-all.

1247. None of the research cited by Professor Hauser suggests that such an approach is justified here, nor does it support his use of a consider-many-then-choose-*one* framework. *See* Ex. 2151 ¶¶ 101-106 (Hauser WDT) (citing research articles not in evidence); Ex. 5607 ¶ 73 (Zauberman WRT); 8/27/20 Tr. 4338:7-20 (Hauser) (discussing research not in evidence); *id.* at 4353:13-15 (Hauser) (claiming there is other unidentified research that he "could have cited"); *id.* at 4303:20-4304:24 (Simonson). And, as Professors Zauberman and Simonson explain, the concept of "consideration sets" and this overall approach to decision-making is irrelevant to the question that the Hauser Survey sets out to answer. Ex. 5607 ¶ 73 (Zauberman WRT); Ex. 5608 ¶ 109 (Simonson CWRT); 8/27/20 Tr. 4210:18-4211:23 (Zauberman).

1248. That respondents would choose just one replacement option in the absence of the Hauser Survey's artificial constraint is belied by both his own testimony and other survey evidence in this proceeding. Contrary to his requirement that respondents choose only one option in Q5, Professor Hauser acknowledges that it is "not uncommon for individuals to have subscriptions to multiple services, even within the same service type." Some listeners employ multiple services "because different services within the same service type may offer different features for listeners and different libraries of content." Ex. 2151 ¶ 85 (Hauser WDT).

1249. Data from the other surveys bears this observation out: In the Zauberman Survey, respondents said that they would listen to an average of 4.2 music listening options in the event that either free or paid streaming radio services went away. Similarly, in Professor Hanssens' Pandora survey, respondents said that they would increase their listening to an average of 3.9 music listening options. Ex. 5607 ¶ 74 (Zauberman WRT); *see also* Ex. 2151 at 103, App. Q (Hauser

WDT) (showing in Q4 that respondents would consider 12.6 options on average). All of this indicates that the responses to Q5 in the Hauser Survey do not accurately represent what consumers would do in place of listening to simulcasting. Ex. 5607 ¶ 74 (Zauberman WRT).

1250. Professor Hauser attempts to ameliorate this problem by focusing respondents on the last three days and asking what one alternative they would choose in situations similar to their most recent listening session. Ex. 2151 ¶ 13 & n.8, App. D (Hauser WDT); 8/27/20 Tr. 4344:8-24 (Hauser); *see also* Ex. 5608 ¶¶ 103-104 (Simonson CWRT). This approach fails for at least two reasons.

1251. *First*, the hypothetical scenario posed in the Hauser Survey in Q4 and Q5 focuses respondents on how they would replace simulcast listening if it were not available "for the next five years." Ex. 2151 ¶ 52, App. D at D-11 (Hauser WDT). Although the survey mentions the most recent three days earlier in the survey, *see id.* at QS9-11, QINTRO, and Q1-3, the replacement questions themselves do not contain this language, *id.* at Q4-5. Ex. 5607 ¶¶ 74-75 & n.92 (Zauberman WRT) (Hauser's "replacement question is for the next five years, not a single use").

1252. *Second*, the structure of Professor Hauser's replacement questions creates a winner-take-all problem, which biases his results. This is so because second and third place options may be preferred systematically less than the dominant option. The following example illustrates how this pattern creates bias when respondents are allowed to choose only a single option: Suppose that Netflix is the primary streaming video service for consumers, but that many consumers also use Amazon Prime Video to a lesser degree. If asked to name only *one* streaming video service that they use, consumers would choose Netflix. These responses would mask the extent to which the secondary choice, Amazon Prime Video, is used. Ex. 5607 ¶ 75 (Zauberman WRT); 8/27/20 Tr. 4210:1-4211:23 (Zauberman) (illustrating difficulty of forcing respondents to choose between *e.g.*,

purchasing new CDs and listening to existing CDs; testifying that the winner takes all structure of Professor Hauser's replacement questions "is highly confusing," and "tremendously underplays [the] secondary players").

1253. Professor Hauser counters that his survey generates a "complete and unbiased estimate of the distribution of activities respondents consider as substitutes for Internet simulcasts of terrestrial commercial radio" by sampling a random draw of listening observations. Ex. 2151 ¶ 37 (Hauser WDT); 8/27/20 Tr. 4389:2-14 (Hauser). Professor Hauser is wrong. The heterogeneity of respondent preferences reflected through this sampling technique does not eliminate the bias caused by allowing respondents to choose only *one* replacement. Ex. 5607 ¶ 75 (Zauberman WRT); 8/27/20 Tr. 4210:1-11, 4211:19-23 (Zauberman) (heterogeneity of preferences "cannot fix" this winner-take-all problem "when you have perpetually strong versus weak players, dominant versus non-dominant options"); *see id.* at 4345:7-4346:2 (Hauser). *Cf.* Ex. 5606 ¶ 64 (Zauberman WDT) (correctly employing this type of sampling in allocation questions (Q3/3A), which do not include an artificial "choose one" limitation).

1254. As Professor Zauberman explained at trial: "Nothing in sampling can fix that structural problem. And nothing in reanalysis can actually help here. So – so this is an important, fundamental part of [Professor Hauser's] survey that then cannot be fixed later on." 8/27/20 Tr. 4211:19-23 (Zauberman).

1255. Professor Willig underscored why Professor Hauser's flawed approach creates a substantial downward bias in Dr. Leonard's computation of opportunity costs. Ex. 5601 ¶ 105 (Willig WRT).

> Suppose ten survey respondents would each replace their simulcast listening time by spending 60% of that time listening to broadcast AM/FM radio and 40% of that time listening to a new on-demand subscription service they would purchase . . . . [T]he Hauser Survey

> is constructed to elicit a result where six respondents say they would switch to broadcast AM/FM radio and only four (rather than all ten) respondents say they would acquire a new on-demand subscription service. The application of these survey data in Dr. Leonard's opportunity cost analysis thus fails to measure any opportunity cost associated with new on-demand subscriptions for six of the ten respondents. That is, he assigns his estimate of [[redacted]] per month of royalties for new on-demand subscriptions to four of the ten respondents, when it should actually be applied to all ten.

Id. at ¶¶ 105-106 (noting that this problem is particularly substantial because music distributors (*e.g.*, subscription on-demand streaming services) pay royalties based on subscription revenue, rather than on a per-performance basis).

1256. Professor Willig's conclusion is supported by the Hanssens Survey data. In the Hanssens Survey, 92 of 432 respondents indicated they would purchase a new subscription to an on-demand service if they were not satisfied because their free noninteractive service stopped streaming music by some of their favorite artists and some newly released music. Ex. 4095 at 28, Table 3 (Hanssens CWDT). But only 34 of these 92 respondents (less than 40%) indicated that they would divert more listening time to this new on-demand subscription service than any of the other alternative listening options they also selected. *Id.* at App. 6; Ex. 5601 ¶ 107, App. N (Willig WRT). If Professor Hauser's limitation of only allowing one switching alternative had been implemented on the Hanssens Survey respondents, more than half of the new on-demand subscriptions identified by that survey would never have been identified.

1257. The pattern is similar in the Hanssens Survey for new subscriptions to noninteractive streaming services and new subscriptions to Sirius XM satellite radio. Ex. 5601 ¶ 107, App. N (Willig WRT). Like the flaws discussed above, the Hauser Survey's unnecessary limitation works to artificially decrease the amount of switching to music options. Ex. 5608 ¶ 113 (Simonson CWRT).

1258. *Third*, although it substantially depresses diversion, Professor Hauser's consider-many-then-choose-one structure is not at all necessary to his assignment. *Id.* at ¶ 109; *see* Ex. 2151 ¶ 6 (Hauser WDT). Thus, Professor Hauser's "consider" question serves *only* to bias the subsequent survey answers. Ex. 5608 ¶ 109 (Simonson CWRT). As survey experts on both sides of this proceeding have testified, interposing irrelevant and unnecessary questions is contrary to best survey practices. 8/26/20 Tr. 4114:6-23 (Hanssens) (discussing principle of parsimony); 8/27/20 Tr. 4191:7-4197:1 (Zauberman).

1259. *Finally*, for the first time at trial, Professor Hauser advanced a new argument intended to support his flawed approach: He claimed that limiting respondents to just one alternative works to counter the risk of "cheap talk." 8/27/20 Tr. 4344:25-4352:1 (Hauser). Professor Hauser does not so much as mention the concept of "cheap talk" in his written testimony. *See generally* Ex. 2151 (Hauser WDT); Ex. 2161 (Hauser WRT). Moreover, none of the literature that Professor Hauser cites in his written testimony supports his claim about "cheap talk," including as this concept relates to willingness to pay. *See* 8/27/20 Tr. 4345:20-22 (Hauser) (in response to question from J. Strickler, misleadingly stating that his position is "highly supported by academic research"); *id*. at 4348:12-4349:14 (Hauser) (incorrectly suggesting that written testimony includes citations supporting cheap talk argument); *id.* at 4402:20-4403:4 (same).

1260. Nor does the Miller paper, which Professor Hauser referenced for the first time in his trial testimony, relate Professor Hauser's "cheap talk" argument. *See* 8/27/20 Tr. 4348:18-4349:10 (Hauser).[29]

[29] Rather, the Miller article relates to an argument (again, not mentioned in Professor Hauser's written testimony) that respondents who are not incentive-aligned may be less price sensitive. *See* Hauser Trial Demonstrative, Slide 10 (citing Klaus M. Miller et al., *How Should Consumers' Willingness to Pay Be Measured? An Empirical Comparison of State-of-the-Art Approaches*, 48 J. Marketing Research at 172-184 (February 2011)).

1261. Because Professor Hauser was the last survey expert to testify, however, neither SoundExchange's experts nor Pandora's had any opportunity to respond to his newly manufactured claims. *See generally* 8/26-8/27/20 Tr. 4085:20-4405:2 (testimony of Hanssens, Zauberman, Simonson, and Hauser).

iv. Professor Hauser's Poorly Designed Time Estimation Question Does Not Generate Reliable Data

1262. Professor Hauser's poorly designed time estimation question highlights the unreliability of his survey and biases the key questions that follow it. At the beginning of the main questionnaire, the Hauser Survey asks respondents to estimate "how many total hours [they spent] listening to live AM/FM radio broadcasts from commercial radio stations over the Internet." Ex. 2151, App. D at D-9 (Hauser WDT) (Q1a; emphasis omitted).

1263. Professor Hauser found that, on average, respondents estimated that they spent 5.3 hours listening to AM/FM radio broadcasts from commercial radio stations over the Internet in the past three days (or approximately 1.75 hours per day). *Id.* at ¶ 94.

1264. This time estimate does not at all match reality: Professor Hauser's time estimates, if accurate, would mean that AM/FM streamed over the Internet accounts for more than 70% of *all* online audio listening time, on average. Ex. 5041 at 16; Ex. 5607 ¶¶ 76-77 (Zauberman WRT). By contrast, industry data shows [[redacted]]. Ex. 2072 at 26 ([[redacted]]).

1265. This mismatch highlights a bias in Professor Hauser's survey population. As Dr. Leonard admits, because the Hauser Survey draws on a population respondents who have listened to simulcasts in the last three days, it reflects "heavier users of simulcast than the average user who

listens to simulcast within a month." Ex. 2150 ¶ 107 n.134 (Leonard CWDT); Ex. 5601 ¶ 111 (Willig WRT).

1266. Professor Hauser's reference to a "pretest" cannot shore up the reliability of these responses. Ex. 5607 ¶ 77 (Zauberman WRT); *see* Ex. 2151 ¶ 28 (Hauser WDT) (stating only that Hauser "asked respondents to report their listening over the prior three days because the pretests . . . assured that three days is a reasonable amount of time over which people can remember their behavior"). As explained in Part VII.I, qualitative pretests are used to assure that survey language is not confusing; they cannot assure that this type of timing question is reliable or that the right timeframe is being used. Ex. 5607 ¶ 77 (Zauberman WRT); *see* 8/26/20 Tr. 4102:17-4104:7 (Hanssens) (purpose of pretesting is to uncover issues of miscomprehension or ambiguity of terms); 8/27/20 Tr. 4181:13-4182:19 (Zauberman) (a pretest is "where you test for confusion," not an instrument for "parameteriz[ing] your elements of your survey," like time); *id.* at 4291:20-4292:2, 4293:2-4294:17 (Simonson) (same).

1267. Moreover, because Q1 is the first question in the main questionnaire, it has the potential to influence responses to all subsequent questions. Starting with a difficult-to-estimate question can impact the way that respondents answer the rest of the questions, especially when the rest of the survey is complex and difficult to understand, as is the case with the Hauser Survey. Ex. 5607 ¶ 78 (Zauberman WRT).

1268. Even though the Hauser Survey asks respondents to estimate their past listening time (and introduces all of the complexity that comes with this type of question), it does not ask respondents to estimate listening time in the future. This is a key omission. Because the Hauser Survey does not ask about future usage, any inferences based on the switching data must rely on an assumption about the extent to which change in the marketplace (*i.e.*, the unavailability of

AM/FM streaming) would alter the amount of time respondents spend listening to music in total, and for each of the options they would replace it with. This is a strong assumption to make without empirical support. *Id.* at ¶ 79.

1269. The inclusion of a question regarding listening time (1) is not necessary to answering the question of interest (what users would do in place of listening to simulcasts for the next five years); (2) works to bias the Hauser Survey; and (3) highlights the lack of reliability of the Hauser Survey. *See, e.g.,* Ex. 5601 ¶¶ 104-111 (Willig WRT); Ex. 5607 ¶¶ 76-79 (Zauberman WRT); Ex. 5608 ¶¶ 102-109 (Simonson CWRT).

2. Dr. Leonard Miscalculates Royalty Rates Associated with Relevant Forms of Music Distribution

1270. Dr. Leonard's opportunity cost calculations also require estimates of the royalties record companies would earn from alternative sources of music distribution if simulcasting were not available. Dr. Leonard applied a variety of incorrect assumptions and data, causing him to understate opportunity costs. Ex. 5601 ¶ 108 (Willig WRT).

i. Dr. Leonard Significantly Overestimates the Average Plays per Month for Simulcast Users

1271. To convert royalties generated from newly-acquired subscription services (*i.e.*, on-demand streaming and satellite radio subscriptions) into per-play royalty rates, Dr. Leonard required an estimate of the average number of plays per month listened to by simulcast users. Ex. 2150 ¶ 107 n.134 (Leonard CWDT); Ex. 5601 ¶ 109 (Willig WRT); 8/6/20 Tr. 646:4-7 (Willig) ([[redacted]]). For this estimate, Dr. Leonard assumed the typical simulcast user listens to 441 plays per month. Ex. 5601 ¶ 109 (Willig WRT); 8/6/20 Tr. 646:8-14 (Willig).

1272. Dr. Leonard started with Professor Willig's estimate in *SDARS III* of 601 average plays per month for a Sirius XM radio listener on a satellite receiver. Ex. 5601 ¶ 109 (Willig WRT);

Ex. 2150 ¶ 107 n.134 & App. B1 (Leonard CWDT). Dr. Leonard then adjusted this number downwards to account for the non-music content on simulcast based on a ratio of 11 plays per hour for terrestrial radio listeners to 15 plays per hour for Pandora listeners (*i.e.*, 441 = 601 x 11 / 15). Ex. 2150 ¶ 107 n.134 & App. B1 (Leonard CWDT); Ex. 5601 ¶ 109 (Willig WRT); 8/6/20 Tr. 647:4-17 (Willig); 8/24/20 Tr. 3535:16-3536:5 (Leonard).

1273. Dr. Leonard presents no reason why it is logical to adjust Sirius XM plays-per-month by a ratio comprised of terrestrial radio and Pandora plays-per-month. Ex. 5601 ¶ 110 (Willig WRT). Sirius XM is a subscription service, while simulcasting is ad-supported. Dr. Leonard acknowledged that there is a "pretty big difference in the number of plays per-user per-month" on subscription as compared to ad-supported services. 8/24/20 Tr. 3582:11-15 (Leonard). He agreed that for a service like Pandora there is a "way higher average listening for the subscription service than there is for the ad-supported service." *Id.* at 3584:12-21 (Leonard).

1274. Dr. Leonard testified that part of the reason he used Sirius XM as a proxy was because, like simulcast and unlike other ad-supported services, it features non-music content; he believes that non-music content has a higher level of listener engagement and therefore generates more listening time. *Id.* at 3582:15-3583:16 (Leonard). "Dr. Leonard's computation makes no sense." Ex. 5601 ¶ 110 (Willig WRT); *see also* 8/6/20 Tr. 645:20-23, 646:22-647:2 (Willig).

1275. First, Dr. Leonard makes no effort to justify his assumption that the mix of music and non-music content on simulcasts is comparable to the mix of music and non-music content on Sirius XM. *Cf,* Ex. 2157 ¶ 13 (Wheeler CWDT) (describing the "mix of news, entertainment, and music" on his broadcast and simulcast stations). That is dubious, given that Sirius XM differentiates its channels between music and non-music content, rather than commingling the two within the same channel. *See* Ex. 4000 at 2-3 (Sirius XM channel lineup, grouping channels into various music and

non-music categories); Ex. 4092 ¶¶ 23-27 (Witz WDT) (discussing Sirius XM's different music and non-music channels).

1276. Second, there is "no sound basis" for Dr. Leonard's assumption that people who listen to simulcasts do so for the same amount of time per month as people who listen to Sirius XM on satellite receivers. Ex. 5601 ¶ 110 (Willig WRT). As Professor Willig explained, Sirius XM listening on satellite receivers primarily occurs in the car whereas simulcasting primarily is experienced on a computer or mobile device—reason enough to find this assumption completely unreliable. *Id.*; *see also* 8/6/20 Tr. 647:22-25 (Willig) ([ ]); 8/24/20 Tr. 3584:22-24 (Leonard). Dr. Leonard did not look for any data or statistics about the degree to which simulcast is used in the car, despite being aware that Sirius XM is mostly used in the car. 8/24/20 Tr. 3584:22-3485:3, 3585:23-3586:2 (Leonard). And he agreed that listening patterns in the car differ from listening elsewhere. *Id.* at 3585:6-22 (Leonard).

1277. Dr. Leonard's purported confirmatory calculation for estimating plays-per-month of simulcast listens fares no better. *See* Ex. 2150 ¶ 107 n.134 (Leonard CWDT). Dr. Leonard relies on data from the Hauser Survey, *id.*, which indicate that respondents listened on average to 5.3 hours of simulcasts in the previous three days. Ex. 2151 ¶ 11 (Hauser WDT). But Dr. Leonard does not appear to have provided specific calculations of this purported confirmatory evidence anywhere in his testimony. *See* Ex. 5601 ¶ 111 (Willig WRT) (attempting to back into Dr. Leonard's calculation and coming up with 591 plays per month). Moreover, Dr. Leonard acknowledged that a problem with his estimate is that the Hauser Survey respondent population is biased, as it included only people that listened to simulcasts in the last three days, which are "heavier users of simulcast than the average user who listens to simulcast within a month." Ex.

2150 ¶ 107 n.134 (Leonard CWDT); Ex. 5601 ¶ 111 (Willig WRT). Dr. Leonard did nothing to adjust for this problem. Ex. 5601 ¶ 111 (Willig WRT).

1278. Dr. Leonard's own backup data do not support his estimated plays per month per simulcast user. *See* 8/6/20 Tr. 648:5-13 (Willig); Ex. 5601 ¶ 112 (Willig WRT). Appendix D of his Corrected Written Direct Testimony utilizes iHeart data that identify listening hours and unique listeners on seven different iHeart-owned stations. *See* Ex. 2150, App. D (Leonard CWDT). Appendix C1 presents the weighted average number of songs played per hour on these stations. *See id.* at App. C1. Professor Willig combined these data to show that listeners to these simulcast stations listened to between [[redacted]] plays per month in 2018. *See* Ex. 5601 ¶ 112 & Fig. 17 (Willig WRT); 8/6/20 Tr. 654:24-656:7 (Willig).

1279. Professor Willig examined data from another simulcaster, [[redacted]], which also do not support Dr. Leonard's estimate of 441 plays per month per simulcast user. Ex. 5601 ¶ 113 (Willig WRT). Looking at royalty data from SoundExchange and internal data from [[redacted]], Professor Willig concluded that [[redacted]]'s stations together simulcast a monthly average of [[redacted]] plays per user in 2018. *Id.*; Ex. 5178; Ex. 5179; 8/6/20 Tr. 649:9-653:8 (Willig). Professor Willig computed average monthly plays of [[redacted]] using the 2018 billed royalty figure in Ex. 5178, dividing by the statutory per-performance rate in 2018 of $0.0018, and dividing by 12 months. Ex. 5601 ¶ 113 n.189 (Willig WRT); Ex. 5178. Professor Willig took average monthly users of [[redacted]] from Ex. 5179 by averaging data from the column "Unique Listeners" for the four available months of data in 2018. Ex. 5601 ¶ 113 n.189 (Willig WRT); Ex. 5179.

1280. Finally, Dr. Leonard failed to consider the average number of plays per month consumed by Pandora Free users. Ex. 5601 ¶ 114 (Willig WRT). Pandora Free is a better proxy

than Sirius XM satellite radio for the number of plays per month per simulcast user—as it is a noninteractive ad-supported service that is primarily listened to on a computer or mobile device. *Id*. Professor Willig examined Pandora data which indicated that the average Pandora Free user currently listens to approximately [ ] plays per month. *Id.* ¶ 114, Ex. 5600 App. E at Fig. E-1 (Willig WDT). Applying Dr. Leonard's 11/15 plays per hour adjustment ratio (which uses Pandora plays as the denominator) yields an estimate of [ ] simulcast plays per user per month. Ex. 5601 . ¶ 114 (Willig WRT). This is [ ] of Dr. Leonard's estimate of 441 plays. *Id.* Using this data would [ ] Dr. Leonard's estimate of the per-play royalties that record companies earn from diversion of simulcast listening to new subscriptions to on-demand streaming or Sirius XM satellite radio. *Id.* ¶ 114 & nn.191, 192.

ii. Dr. Leonard Assumes that the Current Statutory Royalty Rates Apply

1281. Dr. Leonard assumes that the royalties record companies would earn on simulcast plays that divert to other noninteractive services are equal to current statutory royalty rates of $0.0018 per play for ad-supported and $0.0023 per play for subscription services. Ex. 2150, App. B1 n.4 & n.5 (Leonard CWDT). But "the logic of using current statutory webcasting rates as an input to determining new statutory webcasting rates is circular." *Id.* ¶ 115; *see also* 8/6/20 Tr. 656:23-659:1 (Willig); *supra* at Part VII.B.2 (addressing this endogeneity issue with respect to Professor Shapiro's computations). Dr. Leonard should instead have solved simultaneously for all such royalties to be determined in this proceeding, as Professor Willig did in his modeling. Ex. 5601 ¶ 115 (Willig WRT); 8/6/20 Tr. 656:23-659:1 (Willig).

iii. Dr. Leonard Then Ignores the Statutory Royalty Rate Structure for Subscription Services

1282. Professor Willig explained how Dr. Leonard's approach to determining royalties paid by statutory subscription noninteractive services is internally inconsistent. Ex. 5601 ¶ 116

(Willig WRT). Dr. Leonard assumes record companies would earn zero royalties on simulcast plays that divert to existing subscriptions on paid noninteractive services. Ex. 2150, App. B1 (Leonard CWDT). But as Professor Willig explained, current statutory rates for subscription noninteractive services are assessed on a per-play basis, not on a subscription basis, and all parties here propose per-play commercial rates. Ex. 5601 ¶ 116 (Willig WRT). And Dr. Leonard himself seems to assume that will continue to be the case when he assigns current per-play statutory rates to new subscriptions to statutory subscription noninteractive services. *See* Ex. 2150, App. B1 (Leonard CWDT); Ex. 5601 ¶ 116 (Willig WRT).

1283. Dr. Leonard cannot have it both ways. As Professor Willig explained, if Dr. Leonard believes the current $0.0024 per play rate for statutory subscription noninteractive services is the appropriate royalty rate for diversion to *new* noninteractive subscriptions, it must also be the appropriate rate to apply to diversion to *existing* noninteractive subscriptions. Ex. 5601 ¶ 116 (Willig WRT).

iv. Dr. Leonard Uses Outdated Estimates that Understate Royalties for Physical Products and Downloads

1284. Dr. Leonard's computation of physical and digital royalty rates uses outdated estimates of royalties as a percentage of retail revenue. *Id.* ¶ 117. Dr. Leonard took Professor Willig's numbers from *SDARS III* and assumed royalties make up 70% of retail revenue for digital downloads and 35% of retail revenue for physical recordings. Ex. 2150, App. B8 (Leonard CWDT); Ex. 5601 ¶ 117 (Willig WRT). Professor Willig explained that correcting this computational flaw using the current data reported in his Written Direct Testimony would increase the royalty rate on physical music purchases and digital downloads from [[redacted]] per play. Ex. 5601 ¶ 117 & n.197, App. D at Ex. D.3 (Willig WRT); *see also id.* ¶ 52 (reporting that

"royalties now make up [ ]% of retail revenue for digital downloads, [ ]% of retail revenue for CD purchases, and [ ]% of retail revenue for vinyl purchases").

v. Dr. Leonard's Royalty Rates for Ad-Supported On-Demand Services Are Lower than Calculated by Professor Shapiro

1285. Dr. Leonard computed royalty rates generated by ad-supported on-demand services, such as ad-supported Spotify, of [ ] per play and on music video services, such as ad-supported YouTube, of [ ] per play. Ex. 2150, App. B1 (Leonard CWDT); Ex. 5601 ¶ 117 n.197 (Willig WRT). But Professor Shapiro's opportunity cost analysis applies *higher* per play rates for ad-supported Spotify and YouTube of [ ] and [ ] per play, respectively. Ex. 5601 ¶¶ 51 n.99, 117 n.197 (Willig WRT); *see also* Ex. 4094, App. D at 2, 4-5 (Shapiro CWDT). Similarly, Professor Shapiro used a higher amount of Sirius XM royalty payments in computing his Sirius XM royalty rates than does Dr. Leonard. Ex. 5601 ¶ 117 n.197 (Willig WRT). Dr. Leonard's opportunity cost figures would increase if he had used Professor Shapiro's higher royalty rate inputs. *Id.*

D. Dr. Leonard Inappropriately Assumed that the Willing Buyer/Willing Seller Rate Would be Equal to Record Company Opportunity Cost

1286. [ ]. 8/6/20 Tr. 680:9-13 (Willig). This is tantamount to an *ipse dixit*. [ ] 8/6/20 Tr. 681:17-22 (Willig).

1287. Dr. Leonard acknowledged that there are simulcasters who are willing to pay the statutory rate ($0.0018), and thus are willing to pay more than the record companies' opportunity cost that he calculated ($0.00085). 8/24/20 Tr. 3564:12-25 (Leonard). *Compare* 37 C.F.R. § 380.10(a)(1), *with* Ex. 2150 ¶ 115 (Leonard CWDT). Despite this evidence that simulcasters are willing to pay more than the opportunity cost that he calculated, Dr. Leonard did not run any kind of bargaining model to determine a willing buyer/willing seller rate above record company opportunity cost. 8/24/20 Tr. 3562:21-3563:3 (Leonard); *see also* Part VII.B.2.

E. Dr. Leonard's Adjustment for Complementary Oligopoly Power Is Unnecessary and Should Be Disregarded

1288. As a final step in his analysis, Dr. Leonard adjusted the results of his opportunity cost calculation downwards by 12%, which is the amount of the steering discount applied by the Judges in the *Web IV* proceeding. Ex. 2150 ¶ 115 (Leonard CWDT); Ex. 5601 ¶ 118 (Willig WRT); 8/6/20 Tr. 682:1-3, 682:20-683:3 (Willig). He claims this adjustment is necessary to push the opportunity cost rate "toward the rate that would prevail under effective competition." Ex. 5601 ¶ 118 (Willig WRT).

1289. Dr. Leonard's adjustment is inappropriate. 8/6/20 Tr. 683:6-7, 685:25-686:6 (Willig). *First*, [ ]. *Id.* at 683:7-13 (Willig). [ ] *Id*. at 683:10-16 (Willig); *see supra* at Part VII.B. Dr. Leonard did not put together a bargaining model. 8/24/20 Tr. 3567:24-3568:2 (Leonard).

1290. *Second*, [ ] 8/6/20 Tr. 683:23-25 (Willig). Dr. Leonard has not presented any logical or economic connection [ ] *Id.* at 683: 19-25 (Willig).

1291. *Third*, any adjustment to particular elements of opportunity cost (to account for potential complementary oligopoly power in markets *outside* of the noninteractive distributor marketplace) is not necessary when following the "fork in the road" approach adopted by the Judges in *SDARS III*. 8/6/20 Tr. 684:1-19 (Willig); *see supra* at Part VII.C.1.v. That approach takes the actual royalty rates paid by other forms of music distribution as given (including broadcast AM/FM radio and its zero royalty rate), and therefore "account[s] for such 'must have'/complementary inefficiencies." *SDARS III*, 83 Fed. Reg. at 65231; 8/6/20 Tr. 685:6 (Willig). Dr. Leonard should have followed this "fork in the road" approach, eliminating the need for any additional downward adjustment to his opportunity cost results. *See also* Part V.H.

X. To the Extent It Is Relevant Under the Willing Buyer/Willing Seller Standard, Noninteractive Webcasters Are Well Positioned to Pay Higher Rates

A. Ability to Pay Is Not the Standard

1292. In the words of NAB's counsel, [ ] 9/9/20 Tr. 6037:18-6037:21. SoundExchange wholeheartedly agrees. 17 U.S.C. § 114(f)(2)(B) states that the Judges "shall establish rates and terms that most clearly represent the rates and terms that would have been negotiated in the marketplace between a willing buyer and a willing seller." 17 U.S.C. § 114(f)(2)(B). It does not state that rates should be based on a service's ability to pay. Professor Tucker testified that ability to pay is completely separate from the willing buyer/willing seller inquiry. 8/17/20 Tr. 2343:4-9 (Tucker).

1293. In fact, in *Web III*, the Judges rejected a request to set rates based on a service's ability to pay. *See, e.g.*, *Web III Remand*, 79 Fed. Reg. at 23123; *see also Web IV*, 81 Fed. Reg. at 26318. And in *Web IV*, the Judges observed that "the statute neither requires nor permits the Judges to protect any given business model proposed or adopted by a market participant." *Web IV*, 81 Fed. Reg. at 26329.***

1294. Given the Services' own admission that ability to pay is not the relevant standard, the Judges should disregard the voluminous evidence and testimony offered by the Services purporting to establish their inability to pay a higher royalty rate. *See, e.g.*, Ex. 2154 ¶ 33 (Williams CWDT); Ex. 2155 ¶¶ 27, 25-27 (Newberry WDT); Ex. 2156 ¶ 23 (Gille WDT); Ex. 2157 p. 8 & ¶¶ 15, 24-25, 27-31 (Wheeler CWDT); Ex. 1102 ¶¶ 11-12, 14 (Agrawal WDT); Ex. 4090 ¶¶ 44, 43-47 (Phillips WDT); Ex. 4109 ¶¶ 50, 50-53 (Ryan WRT). By the Services' own admission, this written testimony is irrelevant. 9/9/20 Tr. 6037:18-21 (Pittman). So is any related oral testimony by these witnesses [[redacted]]. *See, e.g.*, 8/27/20 Tr. 4449:4-13, 4457:2-21 (Newberry); 9/1/20 Tr. 4884:3-4485:21 (Diab).

B. The Services' Claimed Inability to Pay Higher Royalties Does Not Withstand Scrutiny

1. Mr. Wheeler's Testimony that His Company Does Not Have the Ability to Pay Higher SoundExchange Royalties Is Not Accurate

1295. In his written testimony, Leonard Wheeler, the President and owner of Mel Wheeler, Inc. ("Wheeler"), claimed that SoundExchange royalties are an "exorbitant" expense. Ex. 2157 ¶¶ 1, 23 (Wheeler CWDT).

1296. [[redacted]]. 9/1/20 Tr. 5024:13-20, 5025:11-15 (Wheeler). During cross-examination, [[redacted]]. *Id.* at 5025:18-20 (Wheeler). Indeed, he acknowledged that, [[redacted]

[redacted] *Id.* at 4028:10-25, 5031:21-24 (Wheeler). SoundExchange's rate increase would not double the current statutory rates. *See* SoundExchange Proposed Rates and Terms at 2.

1297. [redacted] and, in fact, pale in comparison to other expense categories for the company. Consider Wheeler's R&B station, WVBE. 9/1/20 Tr. 4998:21-23 (Wheeler). Mr. Wheeler's written testimony claimed that he delayed simulcasting this station solely because SoundExchange royalties were a barrier to entry. *Id.* at 4999:7-11 (Wheeler); Ex. 2157 ¶ 25 (Wheeler CWDT). But [redacted]. 9/1/20 Tr. 5002:10-19 (Wheeler). [redacted]. *Id.* at 5003:14-22 (Wheeler). Not surprisingly, [redacted]. *See id.* at 5006:1-4, 5007:14-18 (Wheeler); Ex. 5367 at 1 ([redacted]). Indeed, [redacted]. 9/1/20 Tr. 5004:7-17 (Wheeler); Ex. 5367 at 1 ([redacted]).

1298. [redacted]. *See* 9/1/20 Tr. 5011:25-5012:1 (Wheeler). In 2018, [redacted]. 9/1/20 Tr. 5019:3-6 (Wheeler). [redacted] Ex. 5366 at 1. [redacted]

[redacted]]. 9/1/20 Tr. 5012:2-14, 5019:7-11 (Wheeler). [[redacted]]. *Id.* at 5013:11-13 (Wheeler). It is further notable that [[redacted]]. *Id.* at 5038:15-5039:3 (Wheeler); Ex. 5366 at 1 ([[redacted]]).

1299. Mr. Wheeler suggests that simulcasting is an unprofitable exercise because some advertisers ask that their ads be removed from simulcast and only played on broadcast. Ex. 2157 ¶ 33 (Wheeler CWDT). [[redacted]]. *Id.* at ¶¶ 33-34. And Mr. Wheeler acknowledged that [[redacted]]. 9/1/20 Tr. 5059:8-13 (Wheeler). [[redacted]]. *Id.* at 5060:8-5060:18.

1300. The reality is that interest from advertisers is not a barrier to simulcasters generating profits from that service. [[redacted]]. *Id.* at 5065:2-16 (Wheeler).

1301. [[redacted]]. *Id.* at 5033:19-5034:1, 5038:6-10 (Wheeler) ([[redacted]]).

He admitted that [ ]. 9/1/20 Tr. 5036:19-5038:5 (Wheeler).

2. Mr. Newberry's Testimony that Commonwealth Does Not Have the Ability to Pay Higher SoundExchange Royalties Is Not Accurate

1302. NAB provided testimony from Steven W. Newberry. *See generally* Ex. 2158 (Newberry WDT). That testimony is based on his "decades of experience in the radio broadcasting business" at Commonwealth Broadcasting Corp. ("Commonwealth"). *Id.* at ¶¶ 1, 4; 8/27/20 Tr. 4456:19-23 (Newberry). Mr. Newberry claimed that "the largest expense that broadcasters incur in connection with streaming is SoundExchange royalties." Ex. 2158 ¶ 25 (Newberry WDT). But Mr. Newberry presents no data backing up this claim, and it is implausible with respect to his own company's stations. In 2018, Commonwealth paid SoundExchange statutory royalties for [ ], totaling [ ]. Ex. 5625 ¶ 82 (Ploeger WRT). Notably, broadcast stations operating in the smallest markets earn on average $416,000 in revenue per station in revenue. Ex. 5472 at 24, 35 (NAB filing before FCC presenting 2017 data); 8/27/20 Tr. 4468:18-21 (Newberry).

3. Mr. Ryan's Testimony that Pandora Does Not Have the Ability to Pay Higher SoundExchange Royalties Is Incomplete and Therefore Misleading

1303. In an effort to rebut "Professor Tucker's glib suggestion that Pandora can pay higher royalties," Ex. 4109 ¶ 48 (Ryan WRT), Mr. Ryan [ ], *id.* at ¶¶ 43-58, [ ] *Id.* at ¶ 50; 8/31/20 Tr. 4725:9-14 (Ryan).

1304. [ ]

[redacted]e]. 8/31/20 Tr. 4725:15-1726:8 (Ryan); *see* 8/24/20 Tr. 2344:3-9 (Tucker) (describing the counterfactuals in Mr. Ryan's model as not "particularly meaningful"). Notably, [redacted]. 8/31/20 Tr. 4727:20-4728:8 (Ryan). He admitted [redacted]. *Id.* at 4725:15-1726:8 (Ryan).

C. If the Services' Financial Positions Are Considered, Artists' Financial Positions and Record Company Investment Should Be Considered as Well

1305. To the extent the Judges consider any testimony from the Services claiming that they would be unable to pay higher royalty rates, the Judges should also consider testimony from artist witnesses about the increasing importance of statutory royalties to their livelihoods. *See, e.g.*, Ex. 5621 ¶ 13 (Hair WDT); Ex. 5618 ¶ 26 (Gallien WDT) ("[O]ur industry has shifted from a model focused primarily on the sale of physical and digital albums, to dependence on subscription and streaming revenue streams [redacted]."); Ex. 5623 ¶¶ 21-25 (Gauthier WDT); 9/9/20 Tr. 5977:16-5979:12 (Gauthier); *see generally* Ex. 5604 ¶¶ 15-16 & App. 1 (Tucker WDT) (describing the shifts in the U.S. music industry, including the decline of physical sales); 8/17/20 Tr. 2113:6-18 (Tucker) (discussing the success of digitization in convincing customers to be willing to pay for music); *Phonorecords III*, 84 Fed. Reg. at 1920.

1306. For example, Mary Gauthier, an award-winning professional musician, recording artist, and songwriter, explained that the amount of passion, time, and energy that goes into her music has not changed, but her compensation has, as streaming revenues have not replaced the revenues that she used to receive from CD sales. Ex. 5623 ¶¶ 21, 23 (Gauthier WDT). Ms. Gauthier testified that SoundExchange royalties are "core revenue" for her, and their importance will continue to grow as streaming becomes more dominant. *Id.* at ¶ 22; 9/9/20 Tr. 5978:5-10

(Gauthier) ("SoundExchange royalties are a consistent, predictable, reliable source of my income. They are paying me monthly. And I can count on that money every month. And it has been particularly important since I can't be on the road right now.").

1307. Ray Hair, a professional musician and the International President of the American Federation of Musicians of the United States and Canada, likewise testified that "statutory performance royalties are especially important as music fans have largely changed the way they consume recorded music, from purchasing CDs and downloads to listening to music on digital music services." Ex. 5621 ¶ 11 (Hair WDT); *see also* Ex. 5618 ¶ 27 (Gallien WDT). Mr. Hair observed that "[d]igital streaming royalties are now the primary source of revenue to the recording industry, and to many artists and musicians," and pointed out that performers received about $560 million from SoundExchange in 2018. Ex. 5621 ¶ 13 (Hair WDT). Mr. Hair also explained that SoundExchange royalties are "incredibly meaningful" for session musicians and vocalists, as digital performance royalties now exceed payments that session musicians and vocalists receive out of the Special Payments Fund for sound recording sales. *Id.* at ¶ 14.

1308. Record companies and artists make substantial investments and take risks in creating, marketing, and distributing sound recordings. *See* Ex. 5618 ¶¶ 18-45 (Gallien WDT); Ex. 5622 ¶¶ 13-28 (Strohm WDT); Ex. 5623 ¶¶ 11-19 (Gauthier WDT). Even as the industry has shifted, these investments include substantial digital distribution costs. *See* Ex. 5618 ¶¶ 42-45 (Gallien WDT) (expounding on various costs and investments by UMG, including over [ ] since the early 2000s in "digital distribution IT infrastructure, system operating costs, and the professional staff that enables the digital distribution of music recordings, music videos, and the associated metadata required by our digital streaming partners around the globe").

1309. Webcasting services, like those that operate under the statutory license, directly benefit from record company investments in artists because they can pick and choose from among the most popular recordings to build an audience for their services, but suffer no financial exposure or loss if an artist's music is not commercially successful. *Id.* at ¶ 25.

D. Economic Trends Underlying the Digital Music Business Have Evolved in Recent Years and Enable Noninteractive Webcasters to Pay Higher Rates

1310. If the Judges decide to take into account any of the Services' evidence as detailed above, then the following evidence of the changing economic trends in the digital music industry should also be considered. These trends indicate that the ability of noninteractive services to pay higher royalties is "not going to be a constraint" during the coming rate period. 8/17/20 Tr. 2139:19-25, 2343:14-23 (Tucker).

1. Increasing Adoption of Smart Devices Points to Growing Reach of Streaming Services

1311. Since 2014, the "widespread adoption of smartphones, tablets, smart speakers such as the Amazon Echo and Google Home, and in-car entertainment systems have reinforced the growth of music streaming services." Ex. 5604 ¶¶ 16, 43 & App. 1 (Tucker WDT).

1312. [[redacted]]. Ex. 2072 at 19; Ex. 5016 at 7 ([[redacted]]); Ex. 5058 at 76 ([[redacted]]). Many smart speaker owners use their devices to listen to music. *See* Ex. 5604 ¶ 44 (Tucker WDT); *see also* Ex. 5139 at 62 ([[redacted]]); Ex. 5299 at 33

(document relied on by Professor Tucker showing that [ ]).

1313. The recent and quick diffusion of smart speakers has been accompanied by the continued adoption and improvement of other smart devices, such as smartphones and in-car streaming systems like Apple Car Play and Android Auto. *See* Ex. 5604 ¶ 45 (Tucker WDT). That trend has further increased the availability and potential value of streaming music to many consumers relative to five years ago. *Id.* For instance, data in the record demonstrates that [ ]. Ex. 2072 at 32. Likewise, a 2019 Music Watch study conducted on internet users in the United States found that [ ] Ex. 5066 at 52.

2. Ongoing Technological Innovation and Reduced Costs Have Allowed Streaming Services to Better Monetize at a User Level

1314. As discussed below, Professor Tucker detailed trends in the economics of digitization, which have intensified over the past five years and led to a renaissance in digital business models designed to monetize online content. Ex. 5604 ¶¶ 21, 23 (Tucker WDT). It is reasonable to expect noninteractive services to take advantage of these trends, leaving them well-positioned to afford higher rates. 8/17/20 Tr. 2094:9-15 (Tucker).

i. Trend 1: Increasing Ability to Focus on User-Level Economics, Due to Reduced Data Storage Costs and Improvements in Tracking Capabilities

1315. Professor Tucker explained how streaming services have been increasingly able to analyze and maximize profitability at the individual customer level, which she described as unit economics. Ex. 5604 ¶¶ 29-32 (Tucker WDT); 8/17/20 Tr. 2135:11-22 (Tucker). Professor Tucker testified that focusing on unit economics allows the identification of customers whose acquisition

costs are very favorable relative to their future profitability streams, allowing firms to optimize the types of customers they target and acquire. Ex. 5604 ¶ 30 (Tucker WDT). Unit economics is prevalent in the digital music industry. 8/17/20 Tr. 2136:3-2136:16 (Tucker). Spotify focuses on unit economic metrics, such as monthly active users and average revenue per user ("ARPU"), in its financials. Ex. 5604 ¶ 32 (Tucker WDT). Similarly, in its financials for Pandora, Sirius XM has included customer-level metrics such as ARPU and licensing costs per paid subscriber. *Id.* Professor Tucker considers unit economics to be the best measure of a streaming service's performance. 8/17/20 Tr. 2135:23-2136:2 (Tucker).

1316. Professor Tucker explained that "[n]oninteractive webcasters are now able to improve the profitability of their operations by optimizing acquisition costs for each customer." Ex. 5604 ¶ 32 (Tucker WDT). This is so due to technological innovations that have dramatically decreased the time, effort, money, and other costs associated with data storage and data analytics. *See id.* at ¶ 24.

1317. In the past five years, the cost of cloud computing has declined between 11% and 64% year-over-year in each year between 2013 and 2018. Ex. 5604 ¶ 25 (Tucker WDT). As a consequence, firms have moved towards storing data in the cloud. 8/17/20 Tr. 2103:21-2104:13, 2132:9-2133:2 (Tucker). For instance, Pandora moved its data to the cloud in 2018. Ex. 5604 ¶ 26 (Tucker WDT). This, in turn, removed a bottleneck for Pandora's data analysts and dramatically decreasing Pandora's data-processing time for certain tasks. *Id.*; 8/31/20 Tr. 4722:12-25 (Ryan) ([ ]).

1318. In addition to reduced data storage costs, firms have also benefitted from improved data analytics capabilities. Professor Tucker explained how developments in cross-device tracking

technology have allowed digital firms to better understand how the same consumer interacts with their service across computers, smartphones, tablets, and other smart devices. Ex. 5604 ¶ 27 (Tucker WDT). This has allowed firms to better track users' interactions with a product or service and optimize on the basis of that data. *Id.* Again, this speaks to the ability of noninteractive services to improve profitability at the level of unit economics. 8/17/20 Tr. 2135:11-22 (Tucker).

ii. Trend 2: Improvements in Machine Learning, Leading to More Personalized Services

1319. Recent improvements in machine learning, such as the improving accuracy of algorithms and declining costs of prediction, have contributed to significant improvements in firms' ability to provide individually personalized products and features. Ex. 5604 ¶ 34 (Tucker WDT). Machine learning is an empirical technique that automates the analysis of data, and is based on the concept that systems can learn from data, identify patterns, and make predictions with minimal human intervention and facilitates accurate predictions using large amounts of data. *Id.* at ¶ 35.

1320. Professor Tucker explained that since 2014, "leading digital music firms have launched features that use advances in machine learning and prediction to improve the user experience with their interactive products." *Id.* at ¶ 39. Pandora has taken advantage of this trend on both its noninteractive and interactive services. *Id.* at ¶¶ 40-41. In 2019, Pandora introduced a new personalized feature called "Pandora Modes" that allows users to switch between different types of content curation, prioritizing songs that receive the most "thumbs-ups" from other listeners, less well-known songs, and newer songs. *Id.* at ¶ 41.

iii. Trend 3: Advances in Targeted and Programmatic Advertising

1321. Ad-supported services are increasingly able to take advantage of developments in digital advertising that offer promising implications for future profitability. *Id.* at ¶ 46.

1322. First, "programmatic advertising" solutions allow advertisers to place ads on multiple platforms in an automated, real-time manner. *Id.* at ¶ 47; 8/17/20 Tr. 2134:7-18 (Tucker). This promotes enhanced targeting, the ability of advertisers to be more selective in choosing their audience. Ex. 5604 ¶ 48 (Tucker WDT). Programmatic advertising provides more value for potential advertising clients and increases the broad attractiveness of digital music services as an additional advertising channel. *Id.* At the same time, it helps streaming services identify enough ads to fill up their air space. 8/17/20 Tr. 2134:25-2135:6 (Tucker). Another advantage of programmatic advertising is that it reduces the need for expensive salesforces that would otherwise be needed to sell inventory to potential advertisers. Ex. 5604 ¶ 50 (Tucker WDT); *cf.* 8/31/20 Tr. 4723:14-4723:3 (Ryan). Many digital music firms have adopted and/or expanded their use of programmatic advertising. For example, in 2016, iHeartMedia launched the first programmatic private marketplace for digital radio in the U.S., powered by AdsWizz (a programmatic audio ad tech company). Ex. 5604 ¶ 49 (Tucker WDT); 8/17/20 Tr. 2192:17-2193:2 (Tucker). In 2018, Pandora acquired AdsWizz, in part to expand its programmatic offering and between 2015 and 2018, Pandora increased the number of targeting segments available to advertisers from over 300 to over 2,000. Ex. 5604 ¶¶ 48-49 (Tucker WDT).

1323. Second, self-service platforms enable small advertisers to place advertising orders without needing to talk to a sales representative. *Id.* at ¶ 51. This allows digital firms to sell ad space to smaller advertisers that are too expensive to serve individually, and thereby increase their advertising inventory. *Id.* at ¶¶ 51-52. Self-service platforms can help digital music services increase their advertising inventory. Pandora, through AdsWizz, started testing a self-service platform in early 2019. *Id.* at ¶ 52.

3. Statutory Webcasting Increasingly Serves as a Contributor to Firms' Larger Digital Ecosystems

1324. The Judges have previously explained that many music streaming services "are part of wider economic 'ecosystems,' in which a music service is one part of a multi-product, multi-service aggregation of activities, including some that are also related to the provision of a retail distribution channel for music." *Phonorecords III*, 84 Fed. Reg. at 1921; *see also id.* at 1927 (noting that "[t]he Services might also use music as a 'loss leader,' displacing streaming revenue to encourage consumers to enter into the so-called economic 'ecosystem' of the streaming services"); Ex. 5604 ¶ 53 (Tucker WDT). Professor Tucker has likewise concluded that firms increasingly understand music streaming services as part of their larger digital ecosystems. Ex. 5604 ¶ 79 (Tucker WDT); 8/17/20 Tr. 2239:9-25 (Tucker).

1325. [redacted]. 9/1/20 Tr. 4854:21-4855:18 (T. Fowler); *see also* Ex. 1102 ¶ 12 (Agrawal WDT) ("Google has knowingly operated [Google Play Music's noninteractive radio streaming service] at a loss in hopes that it will help increase revenue gained by upselling users to paid subscriptions."). It is likewise the case for the many simulcasters represented by NAB, who use their simulcasting streams to promote and protect their core business, terrestrial broadcast. *See* Ex. 2157 ¶ 26 (Wheeler CWDT) ("Wheeler has no choice but to make our stations available digitally, to guard against the possibility that our traditional radio audience begins to tune-in, not from traditional AM/FM radios, but rather from their desktop computers, cell phones and smart speakers."); 9/1/20 Tr. 5066:4-10 (Wheeler) ([redacted]); *cf.* 8/17/20 Tr. 2239:9-25 (Tucker). And it is equally true for Sirius XM, for which "streaming audio has historically played an ancillary role in

our business, supplementing and enhancing the value of our core satellite radio offerings." Ex. 4092 ¶ 7 (Witz WDT); *see also* 8/31/20 Tr. 4513:7-4514:1 (Witz).

1326. Like their competitors, Pandora and iHeart are also increasingly integrating their services into a broader ecosystem of offerings. *See* Ex. 5604 ¶¶ 78, 103-04 (Tucker WDT); Ex. 5604 ¶¶ 103-04 (Tucker WDT); Ex. 4090 ¶¶ 18-22 (Phillips WDT). Since *Web IV*, Pandora and iHeart have introduced premium tiers of service, and have adopted strategies to funnel consumers to those tiers. Ex. 5604 ¶¶ 53, 71-74 (Tucker WDT). [ ]. 8/17/20 Tr. 2127:3-10 (Tucker). For instance, [ ]. 8/31/20 Tr. 4682:6-12, 4682:22-4683:2 (Ryan). But Mr. Ryan testified that [ ]. *Id.* at 4683:2-12 (Ryan). Indeed, Mr. Phillips testified that despite Pandora's efforts to convert users from its ad-supported service to its subscription services, the conversion rate "is low." Ex. 4090 ¶ 28 (Phillips WDT). With that said, at least one service fact witness acknowledged that a higher statutory rate likely would provide additional incentives for the Services to improve their upsell capabilities. *See* 8/31/20 Tr. 4727:20-4728:8 (Ryan) ([ ]).

E. Commercial Webcasters Are Well Positioned to Pay Higher Statutory Rates Than They Currently Are Paying

1327. Because they make up a large percentage of total noninteractive webcasting, examining the economics of Pandora and iHeart provides valuable information about the services

that will pay the majority of royalties to SoundExchange. Ex. 5604 ¶ 87 (Tucker WDT); 8/17/20 Tr. 2140:8-16 (Tucker) ([ ]).

1. Pandora Is Well Positioned to Pay Higher Royalty Rates for 2021-2025

1328. Recent changes imply that Pandora is now well positioned to pay higher royalty rates than those determined in *Web IV*. Ex. 5604 ¶ 88 (Tucker WDT).

1329. First, Sirius XM acquired Pandora in 2018, improving Pandora's financial position and resulting in positive adjusted EBITDA. *Id.* at ¶¶ 90-93 & App. 4. [ ]. 8/31/20 Tr. 4721:6-12 (Ryan).

1330. Second, the merger was motivated by and will facilitate cross-promotion opportunities across the listener bases of both Sirius XM and Pandora. *See* Ex. 5604 ¶¶ 96-101 & App. 9 & Fig. 14 (Tucker WDT); 8/17/20 Tr. 2147:9-2148:12 (Tucker); *see also* Ex. 4068 at 5, 21 ([ ]); Ex. 5142 at 12-13; Ex. 5143 at 2 ([ ]); Ex. 5144 at 36 ([ ]); Ex. 4092 ¶¶ 34-36 (Witz WDT) (testifying that the merger has created co-marketing opportunities, provided a source of new content for Sirius XM subscribers, and has given Sirius XM access to Pandora's user data). Indeed, one of the reasons Sirius XM acquired Pandora was to gain access to a free-to-the-consumer offering, so that listening would stay within the company's ecosystem rather than migrating to ad-supported platforms such as YouTube or AM/FM radio. 8/31/20 Tr. 4513:7-4514:1 (Witz); Ex. 4092 ¶ 33 (Witz WDT).

1331. Third, Pandora has recently taken steps to improve its customer acquisition and engagement strategies, leading to more efficient monetization at the individual customer level. Ex. 5604 ¶¶ 113-18, 120-21 (Tucker WDT); 8/17/20 Tr. 2162:2-24 (Tucker). According to Pandora data, Pandora's number of active listeners declined from 2015 to 2019, and growth in aggregate listener hours slowed in 2015 and 2016, and began declining in 2017. Ex. 5604 ¶ 119 & App. 11 (Tucker WDT). However, when analyzed at the user level, Professor Tucker found that listener hours per active user have increased over this period, suggesting that current users are more loyal or are using the service more intensively than when the company was rapidly expanding its user base. *Id.* at ¶ 119 & App. 11 & Fig. 15.

1332. Fourth, Pandora has revamped its approach to advertising since *Web IV*. Professor Tucker testified that in 2013, Pandora accounted for over 7% of total U.S. radio listening, but captured less than 1% of total broadcast advertising dollars—but by 2017, Pandora improved both numbers to 10% and 5%, respectively. Ex. 5604 ¶ 123 (Tucker WDT). Professor Tucker testified that Pandora's adoption of programmatic and targeted advertising, including its acquisition of AdsWizz, and its launch of self-service advertising program AudioGo put it in a position to monetize its unused advertising space. Ex. 5604 ¶¶ 124-136 (Tucker WDT). Mr. Ryan acknowledged that [ ]. 8/31/20 Tr. 4723:14-4723:3 (Ryan). This "shift in advertising strategy and improvement in the ad quality and access to the ad product allows Pandora to better monetize its user hours spent listening." 8/17/20 Tr. 2171:23-2172:3 (Tucker).

1333. These many developments are borne out in Pandora's actual and projected financials. Pandora's Q2 2019 gross profits were 40% higher relative to Q2 2018, generating a positive adjusted EBITDA for the quarter. Ex. 5604 ¶ 137 (Tucker WDT). In addition, Pandora's

Q2 2019 revenues grew by 15% compared to Q2 2018, driven by a 17% increase in advertising revenue per thousand listening hours ("RPM") and a 16% increase in subscribers. *Id.* at ¶ 138.

1334. Likewise, Pandora projects [[redacted]] that it will continue to be EBITDA positive, and that it will continue to improve its operational efficiency and significantly reduce operating costs as a result of the merger. *See id.* at ¶¶ 94-95 & Apps. 5, 7, 12 & 13; 8/17/20 Tr. 2176:10-2177:13 (Tucker); 8/31/20 Tr. 4512:4-17, 4513:13-16 (Witz) (acknowledging that Pandora was contributing positively to the combined EBITDA of Sirius XM and Pandora according to the company's CEO); *see also id.* 4512:4-17 (acknowledging that a Sirius XM merger proxy statement stated, "We are moving very quickly at Pandora. We have already achieved significant cost efficiencies and accelerated the pace of product innovation. Pandora is now contributing to EBITDA."); 8/31/20 Tr. 4720:19-4721:1 (Ryan) ([[redacted]]). [[redacted]]. 8/31/20 Tr. 4721:22-4722:9 (Ryan).

2. iHeartMedia Is Well Positioned to Pay Higher Royalty Rates for 2021-2025

1335. iHeart owns over 840 domestic radio stations, making it the largest owner of terrestrial radio stations nationwide. Ex. 5604 ¶ 143 (Tucker WDT). In addition, iHeartRadio's three tiers of streaming service are available on more than 250 platforms and 2,000 different connected devices, including smart speakers, digital auto dashes, tablets, wearables, smartphones, and TVs. *Id.* Recent changes imply that iHeart is now well positioned to pay royalty rates higher than those determined in *Web IV*.

1336. In June 2016, iHeartMedia launched the first programmatic private marketplace for digital radio in the U.S. Ex. 5604 ¶ 155 (Tucker WDT). iHeart has been able to leverage its multiplatform strategy to capture additional advertising revenue and run targeted advertising campaigns. *Id.* at ¶¶ 156-60 & App. 15 & Fig. 18; 8/17/20 Tr. 2192:17-2193:15 (Tucker).

1337. In January 2017, iHeartMedia launched two subscription streaming services, iHeartRadio Plus and iHeartRadio All Access, both of which incorporate some on-demand functionality. Ex. 5604 ¶ 151 (Tucker WDT). According to iHeartMedia's financial filings, these on-demand subscription services contributed to digital revenue growth of $41.6 million in 2017 and $36.2 million in 2018. *Id.* at ¶ 154. [ ]. *Id.* at ¶ 153 & App. 15 & Fig. 17. [ ]. *See* 8/31/20 Tr. 4614:11-24 (Williams) ([ ]). [ ]. *See id.* at 4614:25-4615:18 (Williams) ([ ]).

1338. [ ]. Ex. 5480 ("Summary" tab). That is [ ] what it paid out in executive bonuses that same year, notwithstanding that iHeart was in the middle of a bankruptcy. *See In re iHeartMedia, Inc.*, No. 18-31274 (MI), ECF No. 606, at 3 (S.D. Tex. Bankr., filed May 8, 2018); *id.*, ECF No. 917, at 1-4 (S.D. Tex. Bankr., filed June 7, 2018); *id.*, ECF No. 971, at 1-4 (S.D. Tex. Bankr., filed June 19, 2018).

1339. In 2019, iHeart emerged from bankruptcy with a reduced debt load. Ex. 5604 ¶¶ 142, 144 (Tucker WDT). Since then, iHeartMedia has consistently generated positive operating income, adjusted EBITDA, and revenue, and its digital business has continued to grow. *Id.* at ¶¶ 145-50 & App. 14 (Tucker WDT); 8/17/20 Tr. 2193:16-2194:8 (Tucker). [ ]. *See* Ex. 5604 ¶ 147 & App. 15 (Tucker WDT).

F. Under-Monetized Services Should Not Be Subsidized by Record Companies and Artists

1340. In *Web IV*, the Judges rejected the Services' argument that "the rates set in this proceeding must be sufficiently low to permit their business models to be profitable." 81 Fed. Reg. at 26329. The Judges recognized that "neither the D.C. Circuit, nor the Judges (or any of their predecessors) have so held" that the statutory standard permits the Judges to consider "ROI and business model issues." *Id.****

1341. In keeping with that ruling, the Judges should not prop up the business models of small and inefficient services by setting an artificially low statutory rate in this proceeding. 8/17/20 Tr. 2140:17-2141:1 (Tucker). Put differently, record companies and artists should not be required to subsidize under-performing noninteractive services. *Id.* at 2141:8-22 (Tucker).

1342. In any event, the evidence in the record from smaller services shows that no subsidy is justified from even a financial perspective, as SoundExchange royalties are only a small part of these services' expenses. *See supra* Part X.B.1 (citing 9/1/20 Tr. 4028:10-25, 5031:21-24 (Wheeler) ([ ])); Exs. 5198-5200, 5364-5372.

NONCOMMERCIAL SERVICES; MINIMUM FEE; EPHEMERALS; TERMS

XI. Noncommercial Webcasters

1343. The Judges have been clear that when they apply the willing buyer/willing seller rate standard in Section 114(f)(1)(B), their goal is to identify the rate that a service operating under the statutory license would pay a record company for a blanket license of the "record company's complete repertoire of sound recordings" in a "hypothetical marketplace that was not constrained by a statutory license." *Web II*, 72 Fed. Reg. at 24091.***

1344. However, there is no market for bilateral full-catalog licenses to noncommercial services, and therefore there are no voluntary agreements negotiated in unregulated markets that could serve as potential benchmarks specific to such services. Ex. 5602 ¶ 184 (Orszag WDT).

1345. From a consumer or end-user's perspective, there is no real difference between a noncommercial and a commercial webcaster. *Id.* at ¶ 185. Therefore, in an unregulated market, there is no reason why commercial and noncommercial webcasters would be treated differently with respect to the rates they pay. *Id.* Specifically, there is no empirical evidence to suggest, and no reason based in economic theory to think, that individual record companies would license large noncommercial webcasters that compete meaningfully with commercial webcasters at a fraction of the commercial rate. *Id.* at ¶ 187.

1346. Nonetheless, in a statutory license context, there has long been acceptance of the current royalty rate structure for noncommercial webcasters, where webcasters with monthly usage below 159,140 aggregate tuning hours ("ATH") per month per channel or station pay only the minimum fee, and noncommercial webcasters with usage over that threshold pay the commercial rate for their excess usage. *See, e.g.*, 37 C.F.R. §§ 380.10(a)(2), 380.22; Ex. 5602 ¶¶ 186-87 (Orszag WDT); *Web II*, 72 Fed. Reg. at 24100.

1347. While this structure is purely a creation of the statutory license, it makes sense, because at the low end of the usage spectrum, the potential for competition may be so *de minimis* as to not raise material concerns, while it is reasonable to expect that noncommercial webcasters that exceed a certain threshold would be more directly competing with commercial webcasters, and therefore should pay rates established for commercial webcasters. Ex. 5602 ¶ 187 (Orszag WDT); Ex. 5603 ¶ 162 (Orszag WRT).

1348. SoundExchange proposes continuing this time-tested royalty rate structure, albeit with increases to the minimum fee and commercial rates addressed in detail elsewhere. *See supra* Parts V (benchmarking of commercial rates), VII (modeling of commercial rates), XII (minimum fee); SoundExchange Proposed Rates and Terms at 3, 21; Ex. 5625, App. A ¶ 36 (Bender WDT). NRBNMLC offers two alternative rate proposals, each of which would dramatically reduce the already-low royalty rates currently paid by noncommercial webcasters. NRBNMLC Amended Proposed Rates and Terms, Ex. A at 9, 11. The Judges should adopt SoundExchange's proposal and continue the current rate structure for noncommercial webcasters.

A. The Judges Should Adopt SoundExchange's Proposed Rates for Noncommercial Webcasters

1. SoundExchange's Proposed Rates for Noncommercial Webcasters Continue a Longstanding Rate Structure with Wide Acceptance

i. *Web II*

1349. The current royalty rate structure for noncommercial webcasters originated in the first proceeding the Judges conducted to set royalty rates for webcasting—*Web II*. There, noncommercial religious broadcasters represented by NRBNMLC identified "a myriad of characteristics that they claim set them apart from commercial broadcasters," including a "mission . . . to provide educational, cultural, religious and social programming" and "different sources of

funding than ad-supported commercial webcasters—such as listener donations." *Web II*, 72 Fed. Reg. at 24098.***

1350. The Judges ultimately found that "up to a point, certain 'noncommercial' webcasters *may* constitute a distinct segment of the noninteractive webcasting market that in a willing buyer/willing seller hypothetical marketplace would produce different, lower rates than we have determined hereinabove for Commercial Webcasters." *Web II*, 72 Fed. Reg. at 24097 (emphasis added).***

1351. However, the Judges noted that webcasting allowed noncommercial radio stations to expand their geographic reach, and that "[m]usic programming found on noncommercial stations competes with similar music programming found on commercial stations." *Web II*, 72 Fed. Reg. at 24098.***

1352. Thus, the Judges stressed that if there were to be a regime of differentiated prices for commercial and noncommercial webcasters, the "economic rationale" of the willing buyer/willing seller standard would require "safeguards to assure that, as the submarket for noncommercial webcasters that can be distinguished from commercial webcasters evolves, it does not simply converge or overlap with the submarket for commercial webcasters and their indistinguishable noncommercial counterparts." *Web II*, 72 Fed. Reg. at 24097-98.***

1353. The Judges settled on the now-familiar 159,140 ATH per month threshold as a reasonable "proxy for assessing the convergence point between Noncommercial Webcasters and Commercial Webcasters in order to delineate a distinct noncommercial submarket in which willing buyers and willing sellers would have a meeting of the minds that would result in a lower rate than the rate applicable to the general commercial webcasting market." They found that noncommercial

webcasters with usage below that threshold "are not serious competitors with Commercial Webcasters." *Web II*, 72 Fed. Reg. at 24100.***

1354. The Judges based that threshold on an analysis of a 2001 settlement agreement covering webcasting by National Public Radio ("NPR") stations. *Web II*, 72 Fed. Reg. at 24099-100. NRBNMLC proposed using that agreement as a benchmark to generate a per-station rate for noncommercial webcasters. 72 Fed. Reg. at 24099. The Judges rejected such use of the NPR agreement for various reasons, including difficulties connecting lump sum payments to NPR usage in particular years and with NRBNMLC's translation of the benchmark into the target market, including its failure to account for the time value of money. 72 Fed. Reg. at 24098-99.***

ii. *Web III*

1355. In *Web III*, SoundExchange and CBI reached a settlement for webcasting by noncommercial educational webcasters patterned on the rate structure adopted by the Judges in *Web II*. The Judges adopted that settlement. *Web III Remand*, 80 Fed. Reg. at 23120-21.***

1356. SoundExchange proposed continuing the *Web II* rate structure for other noncommercial webcasters, while a representative of noncommercial webcasters proposed creating new categories of "small" and "very small" noncommercial webcasters that would pay lower royalties. *Web III Remand*, 80 Fed. Reg. at 23121. The Judges initially "rejected *in toto* the contentions and claims" of the licensee representative and were "persuaded that the presentation of SoundExchange best represents the rates that would be paid in the willing buyer/willing seller hypothetical marketplace for noncommercial webcasting." *Web III*, 76 Fed. Reg. at 13042. On remand after the D.C. Circuit addressed the constitutionality of the Judges' appointments, the Judges revisited the rates for noncommercial webcasters and again determined "that the evidence in this proceeding strongly supports SoundExchange's rate proposal for noncommercial webcasters." *Web III Remand*, 80 Fed. Reg. at 23124.***

iii. *Web IV*

1357. In *Web IV*, SoundExchange and CBI again reached a settlement for webcasting by noncommercial educational webcasters patterned on the rate structure adopted by the Judges in *Web II* and *Web III*. The Judges adopted that settlement. *Web IV*, 84 Fed. Reg. at 26317.***

1358. SoundExchange also reached another settlement with the Corporation for Public Broadcasting ("CPB") and NPR for webcasting by NPR stations. That settlement "continue[d] the rate structure in place for public radio, while increasing the fee amount." 80 Fed. Reg. 15958, 15959 (Mar. 26, 2015). The Judges adopted that settlement. 80 Fed. Reg. 59588 (Oct. 2, 2015).***

1359. SoundExchange proposed continuing the *Web II* rate structure for other noncommercial webcasters, while NRBNMLC proposed creating a new "tiered and capped flat fee structure." *See Web IV*, 84 Fed. Reg. at 26391.***

1360. As in *Web II*, NRBNMLC pointed to asserted differences between noncommercial and commercial webcasters, such as that "a noncommercial religious broadcaster that streams a simulcast of its broadcasts is prohibited under FCC regulations from selling advertising," *Web IV*, 84 Fed. Reg. at 26319, and the asserted "need of noncommercial webcasters for rates that are affordable and predictable," *id.* at 26394.***

1361. The Judges nonetheless adopted SoundExchange's proposal to continue the *Web II* rate structure for noncommercial webcasters. *Web IV*, 84 Fed. Reg. at 26396. The Judges echoed their *Web II* conclusions concerning noncommercial rates, "stress[ing] that there must be limits to the differential treatment for noncommercials to avoid 'the chance that small noncommercial stations will cannibalize the webcasting market more generally and thereby adversely affect the value of the digital performance right in sound recordings.'" *Id.* at 26392 (quoting *Web II*, 72 Fed. Reg. at 24097). The Judges reaffirmed the 159,140 ATH per month threshold despite its having been based on *Web II* data, noting that it "has resulted, for the vast majority of noncommercial

webcasters, in no additional liability for royalties beyond the minimum fee." *Id*. at 26393. The Judges also found that "the willingness of SoundExchange and CBI to adopt that threshold in their current settlement agreement, after years of experience with the identical threshold under the current rates, demonstrates that it is reasonable and workable." *Id.****

1362. Concerning payment of commercial rates for usage above the threshold, the Judges found that "expert economic testimony supports treating transmissions by noncommercial webcasters above a certain ATH threshold the same as transmissions by commercial webcasters." *Web IV*, 84 Fed. Reg. at 26394.***

1363. NRBNMLC attempted to justify its rate proposal with reliance on the NPR settlement. The Judges rejected reliance on the NPR agreement, finding that it "differs so fundamentally in so many ways from what NRBNMLC is proposing that it cannot serve as a support for that proposal." *Web IV*, 84 Fed. Reg. at 26394. The Judges cited various reasons for this conclusion, including the lump sum payment structure, advance payment, the "range of formats" of NPR stations, including ones "which entail very limited use of recorded music," consolidated reporting of usage with "reduced costs of processing usage data," and "reduced risk of nonpayment." *Id.****

iv. *Web V*

1364. In this proceeding, SoundExchange and CBI again reached a settlement for webcasting by noncommercial educational webcasters patterned on the rate structure adopted by the Judges in *Web II*, *Web III*, and *Web IV*, although that settlement incorporates annual $50 increases in the minimum fee throughout the rate period. 84 Fed. Reg. 58095, 58096 (Oct. 30, 2019). That settlement was adopted by the Judges and has already been published as a final rule. 85 Fed. Reg. 12745 (Mar. 4, 2020).***

1365. Another settlement between SoundExchange and CPB/NPR has also been published as a final rule. 85 Fed. Reg. 11857 (Feb. 28, 2020).***

2. The Vast Majority of Noncommercial Webcasters Have Usage Under 159,140 ATH per Month and Pay Only the Minimum Fee

1366. Under the rate structure for noncommercial webcasters in place since *Web II* and under SoundExchange's rate proposal, the minimum fee covers 159,140 ATH of usage per month per channel or station. Ex. 5625 ¶ 34 (Ploeger WRT); SoundExchange Proposed Rates and Terms at 21. That is a lot of usage—over 1.9 million ATH per channel or station per year, or the equivalent of having about 218 people listen to the channel or station 24 hours a day for 365 days a year. Ex. 5625 ¶ 34 (Ploeger WRT); Ex. 5625, App. A ¶ 38 & n.10 (Bender WDT).

1367. As a result, noncommercial webcasters "overwhelmingly pay only the minimum fee." Ex. 5625 ¶ 9 (Ploeger WRT); *see also id.* at ¶ 33; Ex. 5604 ¶ 165 (Tucker WDT).

1368. In *Web IV*, the Judges confronted questions concerning the reasonableness of the 159,140 ATH per month threshold, and concluded that it was "reasonable and workable" because only about 3% of noncommercial webcasters paid royalties in excess of the minimum fee in 2010-2014. *Web IV*, 84 Fed. Reg. at 26393.***

1369. Five years later, the situation is essentially unchanged. "[I]n 2018, approximately 97% of noncommercial webcasters at the statement of account level (96% at the parent company level) paid only the minimum fee." Ex. 5625 ¶ 33 (Ploeger WRT); Ex. 5604, App. 18 (Tucker WDT).

1370. NRBNMLC's expert, Dr. Steinberg, confirmed that very few stations have excess usage, and just "two of them account for the vast majority of all the reporting that's necessary for excess fees." 8/26/20 Tr. 4027:4-10 (Steinberg).

1371. Under the current rates and SoundExchange's proposed rates, noncommercial webcasters paying only the minimum fee receive up to about a 99% discount from commercial rates. Ex. 5603 ¶ 149 (Orszag WRT); Ex. 5605 ¶ 132 (Tucker CWRT); Ex. 5625 ¶ 34 (Ploeger WRT).

3. In a Free Market, Record Companies Would Not Provide Further Discounts to the 20 Large Noncommercial Webcasters with Usage in Excess of 159,140 ATH per Month

1372. In view of the foregoing, the principal issue before the Judges in setting rates for noncommercial webcasters is what a handful of large noncommercial webcasters should pay for usage in excess of the 159,140 ATH per month threshold. In 2018, there were only 20 noncommercial webcasters that paid royalties for usage in excess of the ATH threshold. Ex. 5625 ¶ 46 (Ploeger WRT); *see also id.*, App. E. Of those 20, 19 are religious broadcasters. *Id.* at ¶ 46. The other is [[redacted]]. *Id.* at ¶ 46 & nn.38-39.

1373. The per-performance royalties those 20 noncommercial webcasters paid for usage in excess of 159,140 ATH per month varied from [[redacted]] to [[redacted]]. *Id.* at ¶ 46. The highest-paying service is [[redacted]]. In 2018, it paid SoundExchange total statutory royalties in the amount of [[redacted]]. *Id.* at ¶¶ 22, 37. Six of the noncommercial webcasters paying per-performance royalties paid less than $1000 in per-performance royalties. *Id.*, App. E.

1374. As the Judges have recognized on multiple occasions, the handful of noncommercial webcasters with the highest usage should not receive deeper discounts than they already get by virtue of the 159,140 ATH per month of usage included with the minimum fee, lest they "cannibalize the webcasting market more generally and thereby adversely affect the value of the digital performance right in sound recordings." *Web II*, 72 Fed. Reg. at 24097 (quoted in *Web IV*, 84 Fed. Reg. at 26392).***

i. Noncommercial Webcasters May Constitute a Distinct Market Segment, but Only to a Point

1375. The Judges have "recognized noncommercial webcasting as a separate submarket in prior decisions only '*up to a point*.'" *Web IV*, 84 Fed. Reg. at 26392 (quoting *Web II*, 72 Fed. Reg. at 24097) (emphasis added). The Judges have repeatedly recognized 159,140 ATH per month as a reasonable "proxy that aims to capture the characteristics that delineate the noncommercial submarket." *Id.* at 26393 (quoting *Web II*, 72 Fed. Reg. at 24099). And they have repeatedly found that usage above that threshold should be treated the same as usage by commercial webcasters." *Id.* at 26394; *Web II*, 72 Fed. Reg. at 24099-100.***

1376. The record in this proceeding provides ample support for reaching these same conclusions again. As Mr. Orszag explained at trial, it is self-evident that "if you play more music [than] play less music, you're more likely to take away share from somebody who is playing the same music." 8/13/20 Tr. 1995:5-8 (Orszag). NRBNMLC's expert, Professor Cordes, acknowledged as much in response to a question from Judge Strickler, agreeing that even if a noncommercial webcaster did not set out to compete with a commercial webcaster, the noncommercial webcaster could compete with a commercial webcaster "simply by growing large because of its popularity." 8/20/20 Tr. 3275:4-3276:16 (Cordes).

1377. As a result, there is no basis to assume that in willing buyer/willing seller negotiations between a record company and a noncommercial webcaster like EMF, the record company would be willing to allow the noncommercial webcaster to make many millions of performances per month at virtually zero cost. Ex. 5603 ¶ 154 (Orszag WRT). To the contrary, it is reasonable to expect that in willing buyer/willing seller negotiations, record companies would be mindful of the potential for competition between commercial webcasters and large noncommercial webcasters, as the Judges have consistently found. *Id.* at ¶ 155.

1378. As Mr. Harrison stated in his written direct testimony, it is not likely that UMG would be interested in pursuing a direct license with a noncommercial webcaster, unless they were willing and able to agree to market rates. Ex. 5609 ¶ 80 (Harrison WDT). When UMG does a deal for UMG's entire catalog, it does not distinguish between noncommercial and commercial webcasters in setting or negotiating rates or terms. Ex. 5610 ¶ 22 (Harrison WRT).

1379. From a consumer or end-user's perspective, there is no real difference between a noncommercial and a commercial webcaster. Ex. 5602 ¶ 185 (Orszag WDT). As relevant to this proceeding, both play music. Ex. 5603 ¶ 156 (Orszag WRT). And both commercial and noncommercial broadcasters have interruptions in their programming to monetize their audience: "[i]nstead of listening to an advertisement for . . . dishwasher soap or . . . cars, they listen to an appeal for money." 8/13/20 Tr. 1967:5-7 (Orszag). The distinction between that for-profit or nonprofit nature of the webcaster simply is not a relevant consideration for the listener. *Id.* at 1989:22-25 (Orszag) ("[I]f a station is playing music, . . . one does not necessarily say I'm going to listen to a nonprofit versus a for-profit before one chooses the station."). Therefore, in an unregulated market, there is no reason why commercial and noncommercial webcasters would be treated differently with respect to the rates they pay. Ex. 5602 ¶ 185 (Orszag WDT).

1380. Notwithstanding the foregoing, NRBNMLC provided expert testimony asserting that there is no significant cross-elasticity between noncommercial and commercial webcasters, and therefore, willing sellers in an unregulated market would price discriminate in favor of noncommercial webcasters with an allegedly lower willingness to pay, with no risk that the noncommercial webcasters will cannibalize the commercial market. Ex. 3060 ¶¶ 47-53 (Steinberg AWDT); Ex. 3061 ¶¶ 25-32 (Cordes CWDT). However, their testimony is all theory grounded in

the nature of nonprofit organizations in general, and the real-world facts involving noncommercial music services are to the contrary.

a. Commercial and Noncommercial Music Stations Both Use Music to Monetize an Audience

1381. The risk of competition between commercial and noncommercial providers of music programming is real. Ex. 5603 ¶ 156 (Orszag WRT). Because this is a proceeding about sound recording royalties, the noncommercial webcasters of interest are ones using a material amount of music. *Id.* Stations broadcasting in news and talk formats that make only incidental uses of music do not need to pay statutory royalties. *See* 37 C.F.R. § 380.7 (definition of "Performance" excludes certain incidental performances). Focusing just on noncommercial music stations, it is clear that music is critical to their programming, and it is important to such stations to provide music that will appeal to their audiences. Ex. 5603 ¶ 156 (Orszag WRT); Ex. 5266; Ex. 5270 at 1; Ex. 5271 at 7, 9, 14, 17.

1382. While the specific funding mechanisms for commercial and noncommercial webcasters differ, they both ultimately depend on generating and monetizing an audience. Ex. 5603 ¶ 157 (Orszag WRT). In the case of commercial services, that relationship is more direct, as advertisements are sold at prices correlated to audience size. *Id.* In the case of noncommercial webcasters, their programming must be sufficiently compelling to convert listeners to fans and ultimately to donors. *Id.*; Ex. 5271 at 15; 8/13/20 Tr. 2051:25-2052:3 (Orszag).

1383. From the perspective of the listener, the experience is similar. Both commercial and noncommercial broadcasters have interruptions in their programming to monetize their audience. *See* 8/13/20 Tr. 1967:5-7 (Orszag).

1384. If a noncommercial webcaster provides unpopular programming, that will negatively affect its listenership and hence its revenues. Ex. 5603 ¶ 157 (Orszag WRT). If it wishes

to increase its audience and donations, it will need to provide more popular programming. *Id.* Thus, the financial viability of both commercial and noncommercial webcasters depends on providing programming that will appeal to and generate an audience that can be monetized. *Id.*; *see also* 8/26/20 Tr. 4048:3-9 (Steinberg) (agreeing that a noncommercial webcaster wants to offer music popular with its target audience).

b. There Are Commercial and Noncommercial Webcasting Services Providing Programming that Is Not Clearly Differentiated

1385. It is not hard to find examples where commercial and noncommercial webcasters compete for listeners with products that are not clearly differentiated. Ex. 5603 ¶ 159 (Orszag WRT).

1386. This is particularly true in the case of contemporary Christian music programming. For example, EMF's main brand is K-LOVE, a nationwide service broadcasting contemporary Christian music on over 500 terrestrial radio stations and also webcasting. Ex. 5625 ¶ 22 (Ploeger WRT). [ ]. *Id.*, App. D; *see also id.*, App. A ¶ 33 (Bender WDT).

1387. There are hundreds of commercial webcasters that also stream popular Christian music, including services like [ ] that offer diverse genres of music. Ex. 5625 ¶¶ 20, 23 (Ploeger WRT); 9/9/20 Tr. 5804:21-24 (Ploeger).

1388. There are also commercial religious broadcasters that webcast programming similar to noncommercial religious broadcasters. Ex. 5625 ¶ 21 (Ploeger WRT). Together,

"Christian broadcasters have quietly amassed thriving broadcast platforms whose audience and revenue readily compete with the likes of iHeartMedia or Entercom." *Id.*

1389. Outside the Christian music context, SomaFM is a noncommercial webcaster providing underground/alternative music programming. *Id.* at ¶ 46 & n.38. It used to be a commercial webcaster, and then became a noncommercial webcaster. 9/9/20 Tr. 5798:5-8 (Ploeger).

1390. It is reasonable that a record company negotiating voluntary licenses with a noncommercial service and a commercial service in an unregulated marketplace would be mindful of the potential for competition between them and limit any discount it might be prepared to provide the noncommercial service accordingly. *See* Ex. 5603 ¶¶ 159, 162 (Orszag WRT).

c. Commercial and Noncommercial Services Use Similar Christian Music

1391. There is substantial overlap between the Christian recordings streamed by noncommercial and commercial webcasters. Ex. 5625 ¶¶ 25-26 (Ploeger WRT).

1392. Various noncommercial religious webcasters, including some with the highest webcast listenership, report to SoundExchange in their reports of use that they stream popular Christian music. *Id.* at ¶ 18.

1393. In a review of SoundExchange royalty statements of top Christian artists of 2018, SoundExchange staff found that their recordings were played by numerous noncommercial webcasters, including major religious broadcasters like [ ], as well as hundreds of commercial webcasters, including services targeting general audiences, commercial broadcasters broadcasting in a Christian music format, and internet-only Christian commercial webcasters. *Id.* at ¶ 23 & App. B.

1394. This is also apparent from the websites and published playlists of noncommercial religious webcasters. *Id.* at ¶ 18. For example, Radio Training Network is a major noncommercial webcaster broadcasting in the southeastern U.S. as JOY FM. *Id.* It's "100% GUARANTEE" promises listeners that they will "hear positive music that uplifts and encourages you." *Id.* Its website advertises that "[y]ou'll hear artist[s] like: Chris Tomlin, Casting Crowns, Mercy Me, tobyMac, Brandon Heath, Steven Curtis Chapman, Jeremy Camp, Natalie Grant, Third Day, Newsboys and many more!" *Id.* It also publishes its daily playlists, which are full of recordings from popular Christian artists. *See, e.g.*, Ex. 5230.

1395. Ms. Burkhiser suggests that Family Radio chooses recordings primarily based on the theology expressed in the lyrics, rather than the artists or recordings involved. Ex. 3062 ¶ 51 (Burkhiser WDT). However, Family Radio publishes playlists on its website, and it is evident that Family Radio uses recordings by popular Christian artists like Natalie Grant, MercyMe, Casting Crowns, Michael W. Smith and Chris Tomlin, as well as Christmas recordings by other artists (*e.g.*, Josh Groban, the London Philharmonic, Andy Williams, and Bing Crosby). Ex. 5231 (playlist from December 9, 2019); Ex. 5232 (playlist from January 2, 2020).

1396. To provide empirical data concerning the extent of the overlap, SoundExchange obtained downloads of playlists from Mediabase, an industry-standard airplay monitoring service database, for a randomly-selected group of ten commercial stations and ten noncommercial stations broadcasting in the Christian contemporary format for the third quarter of 2019. Ex. 5625 ¶ 25 (Ploeger WRT); 9/9/20 Tr. 5805:8-13 (Ploeger).

1397. SoundExchange focused on contemporary Christian music because that is the format that generates the overwhelming majority of noncommercial webcasting royalties. 9/9/20 Tr. 5806:10-15 (Ploeger). EMF's K-LOVE network webcasts contemporary Christian music, [

[redacted]]. Ex. 5625 ¶ 22 & App. D (Ploeger WRT); Ex. 5625, App. A ¶ 33 (Bender WDT).

1398. The third quarter of 2019 was used because it was the most recent complete quarter for which data was available and results would not be affected by holiday music programming. The stations were selected from the group of Christian contemporary stations that Mediabase monitors through a process involving random draws and confirmation of the status of the stations as commercial or noncommercial. The sample included a range of stations in various markets and with varying ownership. Ex. 5625 ¶ 25 n.13 & App. C (Ploeger WRT).

1399. After being downloaded from Mediabase, the playlists were merged into summaries by artist and by recording. The resulting summaries showed that there was an overlapping repertoire of 961 recordings by 259 artists used by both one or more commercial stations and one or more noncommercial stations during the quarter. Those artists represented on both commercial and noncommercial playlists constituted just 49.0% of the artists played on the commercial stations and 74.4% of the artists played on the noncommercial stations, but their recordings were used disproportionately. Thus, plays of recordings by those artists made up 99.0% of the total plays on the commercial stations and 99.4% of the total plays on the noncommercial stations. *Id.* at ¶ 25 & n.14 & App. C.

1400. Similarly, the recordings used on both commercial and noncommercial stations were 52.4% of the recordings played on the commercial stations and 70.5% of the recordings played on the noncommercial stations, but constituted 97.4% of the total plays on the commercial stations and 97.7% of the total plays on the noncommercial stations. Ex. 5625 at ¶ 25 & App. C (Ploeger WRT); 9/9/20 Tr. 5805:14-22 (Ploeger).

1401. The raw playlist data downloaded from Mediabase is in Ex. 3040. Even a cursory examination of the station-by-station data (all the tabs other than the one labeled "Full Data") makes clear that music usage patterns are broadly similar for each of the 20 stations involved, suggesting that contemporary Christian music stations in general are broadly similar. Each station played hundreds of recordings during the quarter, but the extent of usage of each recording varied widely. At the top end of the range, popular recordings were in heavy use. For each station, the top recording was played more than 300 times (an average of more than three times a day during the quarter), and on one station, the top recording was played almost 900 times (an average of more than nine times a day during the quarter). Ex. 3040 ([ ]).

1402. The most-played recording overall was [ ]. *See* Ex. 3040 (Tab "Full Data"). It ranked between first and fifteenth most-played on each of the commercial stations (played between 347 and 664 times on each commercial station) and between first and twenty-fifth most-played on each of the noncommercial stations (played between 220 and 620 times on each noncommercial station). *Id.* ([ ]). At the other end of the spectrum, some recordings were played very few times during the quarter. For most stations, dozens of recordings were played only once during the quarter. Similar groups of popular recordings and top Christian artists were included among the most often played recordings on each station. *See id.* ([ ]).

1403. It is apparent that, looking at a range of stations overall, noncommercial Christian music stations play nearly the same music as commercial Christian music stations, and the recordings most played by the noncommercial stations are also the recordings most played by the commercial stations. Ex. 5625 ¶ 25 (Ploeger WRT).

d. Commercial and Noncommercial Religious Broadcasters Compete Directly

1404. Commercial and noncommercial religious broadcasters both provide programming that spreads the Christian gospel, and they compete with each other. *Id.* at ¶ 26. Commercial religious broadcasters are overtly religious in their marketing and on-air content. For example, commercial radio station KPWJ in Kurten, Texas uses bible verses in marketing its music programming and highlights the Christian beliefs of its on-air talent. *Id.* at ¶ 24; Ex. 5233. Commercial radio station WXOK in Baton Rouge, Louisiana solicits prayer requests to be read on the air. Ex. 5625 ¶ 24 (Ploeger WRT); Ex. 5234.

1405. Salem Media is a for-profit company that describes itself as "America's leading radio broadcaster, Internet content provider, and magazine and book publisher targeting audiences interested in Christian and family-themed content and conservative values." Ex. 5603 ¶ 160 (Orszag WRT); Ex. 5625 ¶ 22 (Ploeger WRT). Its Salem Music Network offers Christian music programming to other broadcasters as well as its own internet streaming. Ex. 5603 ¶ 160 (Orszag WRT); *see also* 9/9/20 Tr. 5804:24-5805:1, 5851:18-21 (Ploeger). One group of Salem contemporary Christian stations is branded as "The Fish." Ex. 5625 ¶ 22 (Ploeger WRT).

1406. Salem's website highlights "a small list" of a dozen "core artists" whose recordings it features. Ex. 5603 ¶ 160 (Orszag WRT). By way of comparison, the website of EMF's K-LOVE network highlights the recording artists featured in its programming. *Id.* As of December 17, 2019, all of Salem's "core artists" were included on EMF's artist list, and several of them (Casting Crowns, for King & Country, and Hillsong Worship) were on EMF's "Top Artists" list. *Id.*

1407. This similarity in the music programming between Salem's music stations and K-LOVE is also apparent from Ex. 3040. The Mediabase playlist data set forth therein includes playlists from both [[redacted]]. Ex.

5625, App. C (Ploeger WRT). In the third quarter of 2019, the top 10 most-played recordings on each station included [ ]. All of the recordings in each of those stations' top 10 lists were played on the other station (generally quite a lot); the rest just didn't make the top 10 on the other station. Ex. 3040 ([ ]).

1408. There is clear evidence of competition between Salem and EMF. Ex. 5603 ¶ 161 (Orszag WRT). WFSH is a Salem Christian music station in Atlanta, Georgia broadcasting as 104.7 The Fish and webcasting at http://thefishatlanta.com. *Id.* WAKL is EMF's K-LOVE affiliate in Atlanta. *Id.* EMF acquired the station from for-profit Cumulus in mid-2019, changed its format from talk to Christian contemporary music, and rebranded it as WAKL. *Id.* In connection with that acquisition, the press has noted that with those two stations and a third broadcasting in the same format, "Atlanta has suddenly become a hotbed of Christian radio competition," and the competition included "[a]ll three stations . . . simultaneously running aggressive billboard campaigns." *Id.* (citation omitted); *see also* Ex. 5261 at 3, 7, 9, 14 ([ ]).

1409. As demonstrated at trial, when The Fish stations are accessed on iHeart at www.iHeart.com, iHeart suggests K-LOVE as a "similar station." 8/24/20 Tr. 3320-3321 (Cordes). The generalities concerning alleged programming differences that Professors Steinberg and Cordes offer do not hold when considering the specific evidence of competition between EMF's and Salem's music programming. Ex. 5603 ¶ 161 (Orszag WRT).

1410. Documents produced in discovery by NRBNMLC also provide evidence of competition between [ ]. *See* Ex. 5269 at 9 ([ ]); Ex.

5271 at 13 ([ ]).

1411. The mere fact that a nonprofit organization has a mission and is subject to different legal constraints than for-profit firms does not preclude competition with for-profit firms. NRBNMLC's expert, Professor Cordes, acknowledged as much in response to a question from Judge Strickler, agreeing that even if a noncommercial webcaster did not set out to compete with a commercial webcaster, the noncommercial webcaster could compete with a commercial webcaster "simply by growing large because of its popularity." 8/20/20 Tr. 3275:4-3276:16 (Cordes).

1412. One of the articles that Dr. Steinberg highlights in his testimony provides various examples of just that. Ex. 3060 ¶ 3 (Steinberg AWDT) (citing Richard Steinberg, *"Unfair" Competition by Nonprofits and Tax Policy*, Nat'l Tax J., 44 (1991) (sale of insurance by organizations such as Blue Cross, YMCAs competing with health clubs, hospitals, childcare centers)). Ex. 5603 ¶ 155 & n.304 (Orszag WRT).

1413. Articles written by Dr. Cordes speak to the same. As Dr. Cordes acknowledged during his cross examination, in an article he authored titled "Tax Treatment of Nonprofit Organizations, a Two-Edged Sword" it states, "Tax exemption confers financial advantages on nonprofit organizations that other providers of goods and services do not enjoy," and that "income tax exemption can cause nonprofit organizations to become more commercial." 8/24/20 Tr. 3301:23-3302:3, 3303:22-3304:1, 3305:24-3306:6 (Cordes); *see also id.* at 3307:9-20 (Cordes) (acknowledging that property tax exemption conferred on nonprofits can encourage them to become more commercial in nature); *id.* at 3313:19-3314:19 (Cordes) (acknowledging that "many

nonprofits are effectively tax-exempt from most, if not all, income earned from commercial undertakings").

1414. It is reasonable to expect that in willing buyer/willing seller negotiations, record companies would be mindful of the potential for competition between commercial webcasters and large noncommercial webcasters, as the Judges have consistently found. *See Web IV*, 81 Fed. Reg. at 26392-94; *Web III Remand*, 79 Fed. Reg. at 23122; *Web II*, 72 Fed. Reg. at 24098. Neither Dr. Steinberg nor Dr. Cordes provide a sound economic basis for the Judges to reverse their long-held recognition of the possibility of such competition. Ex. 5603 ¶ 155 (Orszag WRT).

e. In an Unregulated Market, Commercial and Noncommercial Services with Similar Music Programming Would Not Pay Dramatically Different Rates for Music

1415. When commercial and noncommercial webcasters provide similar programming, they compete for the same listeners. *Id.* at ¶ 162. In an unregulated market, a record company licensing popular musical recordings used by both commercial and noncommercial webcasters to generate their audiences would be motivated to support the webcaster that would generate more revenue for the record company, and thus would be reluctant to offer a noncommercial webcaster a discounted rate that would provide it an advantage against a competitive commercial webcaster. *Id.* A willing seller simply would not want to cannibalize its business of licensing to commercial webcasters by selling its product at a lower price to a competitor that would take market share from commercial webcasters. *Id.*

1416. At the low end of the usage spectrum, the potential for competition may be so *de minimis* as to not raise material concerns, so a copyright owner might be prepared to engage in the kind of price discrimination that Drs. Steinberg and Cordes hypothesize. *Id.* (citing Ex. 3060 ¶ 44 (Steinberg AWDT); Ex. 3061 ¶ 22 (Cordes CWDT)).

1417. However, it is self-evident that "if you play more music [than] play less music, you're more likely to take away share from somebody who is playing the same music." 8/13/20 Tr. 1995:5-8 (Orszag). Thus, at the opposite end of the usage spectrum, it is difficult to imagine that in an unregulated market, a Christian record label would offer a well-resourced webcaster like EMF a larger discount than it already receives given the potential for competition between EMF and a commercial webcaster like Salem. Ex. 5603 ¶ 162 (Orszag WRT).

1418. Drs. Steinberg and Cordes do not point to any current marketplace evidence to suggest that the discount that noncommercial webcasters enjoy should not diminish as a noncommercial webcaster becomes larger and has more usage. *Id.* at ¶ 154.

ii. Large Noncommercial Webcasters Benefit from Steep Discounts Despite Paying Commercial Rates for Usage Over 159,140 ATH per Month

1419. While pleading lack of resources on behalf of noncommercial webcasters, neither Dr. Steinberg nor Dr. Cordes appears to appreciate the degree to which such webcasters *already* pay lower royalties than commercial services under the current statutory payment structure. *Id.* at ¶ 148.

1420. In 2018, about 97% of noncommercial webcasters at the statement of account level paid only the minimum fee, or equivalently $41.67 per month, for webcasts totaling less than 159,140 ATH in a month. *Id.* at ¶ 149; Ex. 5604, App. 18 (Tucker WDT); Ex. 5625 ¶ 33 (Ploeger WRT). Such webcasters pay an effective per-performance rate reflecting an overall discount of up to about 99% off of commercial rates. Ex. 5603 ¶ 149 (Orszag WRT); Ex. 5625 ¶ 34 & n.21 (Ploeger WRT).

1421. As to the others, the current statutory payment structure for noncommercial webcasters *always* results in a discount relative to the commercial per-performance rate of $0.0018. Ex. 5603 ¶ 150 (Orszag WRT); Ex. 5605 ¶ 129 (Tucker CWRT). This is due to the flat-

fee $500 per year (or $41.67 per month) that noncommercial webcasters pay for usage on a given station up to 159,140 ATH per month. Ex. 5603 ¶ 150 (Orszag WRT); *Web IV*, 81 Fed. Reg. at 26392 n.208 (the discount on the first 159,140 ATH of monthly usage "results in noncommercial webcasters paying a lower average per-play rate than a commercial webcaster (that pays at the commercial rate for every performance).").

1422. The discount declines as the noncommercial webcaster transmits more performances, and pays for the performances in excess of 159,140 ATH per month at the commercial rate, but even at 10 million performances per month for a given hypothetical station, a noncommercial webcaster enjoys a 27% discount on a per-performance basis compared to commercial webcasters. Ex. 5603 ¶ 150 (Orszag WRT). (This illustrative example models a single channel or station streaming music only and assumes a recording length of 3.52 minutes as of 2018, meaning that 159,140 ATH amounts to 2.7 million performances in a month for a noncommercial webcaster. *Id.* at ¶ 150 n.298.

1423. Because SoundExchange's rate proposal preserves the same structure as currently in effect (albeit with higher rates), a similar level of discounting would apply under SoundExchange's rate proposal. Thus, for example, for a hypothetical noncommercial webcasting station operating at the 159,140 ATH per month threshold, the discount would still be up to about 99%. Ex. 5625 ¶ 34 & n.22 (Ploeger WRT); *see also* Ex. 5605 ¶ 117 (Tucker CWRT).

1424. We can see this in practice. In 2018, Family Radio operated two channels or stations, which it referred to as "West" and "East." Ex. 3062 ¶ 24 (Burkhiser WDT). It paid [redacted] in statutory royalties for 2018, consisting of [redacted] in minimum fees and [redacted] in royalties for excess usage. Ex. 5625 ¶ 35 (Ploeger WRT). [redacted]

[redacted]]. *Id.* According to its reports of use, it transmitted [redacted] performances on the West channel or station and [redacted] performances on the East channel or station, for a total of [redacted] performances. *Id.* If it had been required to pay royalties for those transmissions at commercial rates from the first transmission, its statutory royalty payment would have been [redacted]. *Id.* at ¶ 35 & n.23. Its actual statutory royalty payment of [redacted] represented a discount of [redacted] or [redacted]. *Id.* at ¶ 35.

1425. Family Radio would receive a similar, significant discount under SoundExchange's proposed rates. *Id.* at ¶ 36. Assuming 2021 usage the same as its 2018 usage, its 2021 minimum fee payment under SoundExchange's rate proposal would be [redacted], and its royalties for excess usage would be [redacted], for a total payment of [redacted]. *Id.* at ¶ 36 & n.24. If it were required to pay royalties for its 2018 transmissions at SoundExchange's proposed 2021 commercial rates from the first transmission, its statutory royalty payment would be [redacted]. *Id.* at ¶ 36 & n.25. Thus, SoundExchange proposes that Family Radio receive a discount of [redacted] off of SoundExchange's proposed commercial rates or approximately the same [redacted] discount it receives under the current rates. *Id.* at ¶ 36.

1426. [redacted] EMF, receives a significant discount off of commercial rates under the current rate structure. In 2018, it transmitted an estimated total of [redacted] performances and paid [redacted] in total statutory royalties ([redacted]). *Id.* at ¶ 37. Had EMF been required to pay the current $0.0018 commercial rate from its very first transmission, its royalty bill would have been [redacted]. *Id.* at ¶ 37 & n.28. Thus, in 2018, EMF received a discount of [redacted], or [redacted]. *Id.* at ¶ 37.

1427. EMF would still receive a significant discount under SoundExchange's proposed rates. *Id.* at ¶ 38. Assuming 2021 usage is the same as its 2018 usage, its 2021 minimum fee payment under SoundExchange's rate proposal would be [[redacted]], and its royalties for excess usage would be [[redacted]]. *Id.* at ¶ 38 & n.29. That yields a total payment of [[redacted]]. *Id.* at ¶ 38. If EMF were required to pay royalties for an estimated total of [[redacted]] performances at SoundExchange's proposed commercial rates, its statutory royalty payment would be [[redacted]]. *Id.* at ¶ 38 & n.30. Thus, SoundExchange proposes that EMF receive a discount of [[redacted]] off of SoundExchange's proposed commercial rates, or approximately the same [[redacted]] discount it receives under the current rates. *Id.* at ¶ 38.

iii. NRBNMLC Has Not Established that Large Noncommercial Webcasters Have a Willingness and Ability to Pay for High Usage of Sound Recordings Less than that of Commercial Services

a. Large Noncommercial Webcasters Are Well-Resourced Organizations with the Willingness and Ability to Pay Royalties at Commercial Rates for Usage in Excess of 159,140 ATH per Month

1428. On behalf of NRBNMLC, Professor Steinberg contends that noncommercial webcasters are donative nonprofit organizations that have "different objectives, constraints, and revenue sources than for-profit enterprises" which affects their willingness to pay. Ex. 3060 ¶¶ 13-19 (Steinberg AWDT). Similar arguments are made by Professor Cordes. *See* Ex. 3061 ¶¶ 14-20 (Cordes CWDT).

1429. However, Professor Steinberg offers no comprehensive data concerning the finances of noncommercial religious webcasters. Ex. 5603 ¶ 146 (Orszag WRT). And in 2018, 903 noncommercial webcasters (excluding college broadcasters and public radio stations, but including a significant number of religious broadcasters) availed themselves of the statutory

license at the rate for noncommercial webcasters in effect at the time, an increase from 869 in 2017. Ex. 5625 ¶ 6 (Ploeger WRT); Ex. 5625, App. A ¶ 33 (Bender WDT).

1430. Family Radio has made a strategic decision to migrate away from its aging and expensive terrestrial broadcasting infrastructure and use webcasting to reach its audience instead. 8/31/20 Tr. 4758:14-4759:2, 4773:18-23, 4775:13-15, 4776:4-7 (Burkhiser). While broadcasters do not have to pay for sound recordings used in their terrestrial broadcasting, broadcasting has other costs. For example, a broadcaster must pay to operate and maintain stations and transmitters, for engineering costs, and to obtain and maintain broadcast licenses. 8/13/20 Tr. 1988:12-1989:3 (Orszag). Family Radio has made a carefully-considered and voluntary decision to incur webcasting costs to avoid broadcasting costs and free up money that it previously had tied up in its broadcast infrastructure. 8/31/20 Tr. 4773:15-23, 4776:24-25, 4777:5-10 (Burkhiser).

1431. It is apparent from publicly available financial statements that the noncommercial webcasters paying a material amount of royalties are far from the "bare-bones operations" that Dr. Steinberg describes. Ex. 5603 ¶ 146 (Orszag WRT) (quoting Ex. 3060 ¶ 17 (Steinberg AWDT)). They include well-resourced organizations with many millions of dollars in assets and annual revenue, such as EMF, [ ] and had revenues of $184.4 million against total expenses of $130 million. Ex. 5238 at 6; Ex. 5603 ¶ 146 (Orszag WRT); Ex. 5605 ¶ 120 & App. 3 (Tucker CWRT); Ex. 5625 ¶¶ 22, 37, 47 (Ploeger WRT).

1432. Thus, it is true that noncommercial religious webcasters earn revenue in ways that differ from commercial webcasters, but at least as to the large ones paying more than the minimum fee, there is no necessary reason why they would earn less. Ex. 5603 ¶ 147 (Orszag WRT); 8/13/20 Tr. 1973:11-1974:4 (Orszag).

1433. Statutory royalties are simply not material to the finances of the large noncommercial webcasters that pay the vast majority of noncommercial statutory royalties. Appendix 3 to Professor Tucker's written rebuttal testimony summarizes selected financial information for the five largest noncommercial webcasters in terms of statutory royalties in 2018. Ex. 5605, App. 3 (Tucker CWRT). Statutory royalties accounted for [redacted] of their total expenses, [redacted] of their program expenses, and [redacted] of their revenue. *Id.* at ¶ 125.

1434. Furthermore, these firms, which would be most affected by a change in royalties, are well-positioned to pay increased statutory royalties. *Id.* at ¶ 126; 8/17/20 Tr. 2094:15-18 (Tucker). SoundExchange's proposal to increase minimum fees to $1,000 per channel or station and the commercial rates payable for performances in excess of 159,140 ATH per month to $0.0028 per performance would raise the statutory royalties paid by the five largest noncommercial webcasters to at most [redacted] of total expenses, [redacted] of program expenses, and [redacted] of revenues. Ex. 5605 ¶ 126 & App. 4 (Tucker CWRT). This comparison undermines Dr. Steinberg's conclusion that statutory royalties force noncommercial webcasters to divert a meaningful amount of donations away from other mission-related expenses. *Id.* at ¶ 126.

b. Family Radio's Financial Condition Is Not Representative of Other Large Noncommercial Webcasters

1435. In the introductory memo to its written direct statement, NRBNMLC pointed to Family Radio as an example of a large, nonprofit webcaster for which "the increase in streaming rates and current onerous license reporting requirements have substantially harmed its ability to reach as many listeners as it has in the past." Introductory Memorandum to the Written Direct Statement of NRBNMLC, Including EMF at 5-6 (filed Sept. 23, 2019). Ms. Burkhiser, Family Radio's Director of Broadcast Regulatory Compliance and Issue Programming, described Family

Radio's recent financial struggles, noting that "Family Radio has experienced severe financial hardship in recent years—made worse by increased streaming rates—that has forced it to make difficult decisions to enable it to continue to offer its radio ministry to its listeners." Ex. 3062 ¶ 33 (Burkhiser WDT).

1436. However, Family Radio is not representative of the broader population of noncommercial webcasters, or even other large religious broadcasters, and does not provide a valid basis to draw economic conclusions about noncommercial webcasters in general. In addition, Family Radio's recent financial struggles appear largely related to unique, strategic programming decisions, and unrelated to streaming rates. Ex. 5605 ¶ 118 (Tucker CWRT).

1437. *First*, as a large noncommercial religious broadcaster, Family Radio is not representative of noncommercial webcasters in general. *Id.* at ¶ 119; Ex. 5625 ¶¶ 44-46 (Ploeger WRT). In 2018, there were over 900 noncommercial webcasters (at the statement of account level). Ex. 5605 ¶ 119 (Tucker CWRT); Ex. 5625, App. A ¶ 13 (Bender WDT).

1438. This is a diverse group of services, including many that do not offer religious programming or are not FCC-licensed broadcasters. Ex. 5625 ¶ 44 (Ploeger WRT). These include music-only services and services with an express purpose of supporting artists. *Id.* at ¶¶ 44-45. Any inferences about an appropriate statutory royalty determined by examining the business and finances of Family Radio, a large religious broadcaster, would not necessarily generalize to noncommercial webcasters more broadly. Ex. 5605 ¶ 119 (Tucker CWRT).

1439. *Second*, Family Radio is not representative of other large noncommercial religious broadcasters. [

[redacted] *Id.* at ¶ 120. [redacted] *Id.* [redacted] *Id.*

1440. The largest noncommercial broadcasters in terms of excess royalties owed in 2018 are well-resourced organizations with millions of dollars in revenues. Ex. 5603 ¶ 146 (Orszag WRT); Ex. 5605 ¶ 120 & App. 3 (Tucker CWRT); Ex. 5625 ¶ 47 (Ploeger WRT). Family Radio had over $5 million in revenue in 2018, but it operated at a substantial loss. Ex. 5605, App. 3 (Tucker CWRT); Ex. 5237 at 1. In contrast, other large noncommercial webcasters generated millions of dollars more in revenue than they incurred in expenses in 2018. Ex. 5605, App. 3 (Tucker CWRT). EMF generated a surplus of [redacted]. *Id.* at ¶ 120 & App. 3.

1441. *Third*, Family Radio's current situation is a result of unique circumstances that have been well documented in the popular media and include failed doomsday predictions accompanied by expensive advertising campaigns, as well as programming antagonistic to the organized church. *Id.* at ¶ 121.

1442. In connection with predictions that the world would end in 2011, Family Radio engaged in a national advertising campaign possibly costing as much as $100 million, including advertisements on thousands of billboards, while donations fell sharply. *Id.* (citations omitted); *see also* Ex. 5465 (Family Radio caravan); Ex. 5466 (Family Radio billboard); Ex. 5503 at 9 (Family Radio full-page ad in *USA Today*).

1443. As Ms. Burkhiser acknowledged at trial, Family Radio spent over $5 million on billboard messaging in 2011. 8/31/20 4785:3-6 (Burkhiser); *see also* Ex. 5504 at 11, Line 24b. By the end of 2011, Family Radio's net income was negative $21,775,190. *Id.* at 22, Part XI, Line 3.

1444. Family Radio's co-founder and President preached that listeners should leave the organized church. *See* 8/31/20 4782:11-4783:1 (Burkhiser). This was apparently not a popular

message for an audience of Christian listeners, since Family Radio's donations decreased from over $17 million in 2011 to only $6.2 million in 2012. Ex. 5506 at 2, Line 8. It has been receiving about $5 million in donations per year since that time. 8/31/20 4795:14-17 (Burkhiser).

1445. Family Radio has been selling off broadcast stations in recent years to address its revenue shortfall. *Id.* at 4775:6-4776:7, 4779:20-25 (Burkhiser).

1446. These unique circumstances make Family Radio a poor example for drawing any conclusions about noncommercial webcasters in general. Ex. 5605 ¶ 121 (Tucker CWRT).

1447. *Fourth*, even with Family Radio's unique circumstances, statutory royalties do not appear material to the finances of Family Radio. *Id.* at ¶ 122 & App. 3. Family Radio's IRS Form 990 for 2018 shows that Family Radio generated overall revenues of $5,422,789 in 2018 and provides a webcasting service with an average of 150,000 to 200,000 unique monthly streamers. Ex. 5237 at 1-2, 12; *see also* Ex. 5605 ¶ 122 & App. 3 (Tucker CWRT). In 2018, Family Radio paid only [[redacted]] in statutory royalties. Ex. 5605, App. 3 (Tucker CWRT). Statutory royalties constituted only [[redacted]] of its 2018 revenues and [[redacted]] of its 2018 program expenses. *Id.* Family Radio spent more on travel expenses ($68,840) and accounting fees ($60,000) than it did on statutory royalties. Ex. 5237 at 10.

1448. As a result, the situation of Family Radio should not be generalized to the overall noncommercial webcaster population. Ex. 5605 ¶ 123 (Tucker CWRT). In fact, neither Dr. Steinberg nor Dr. Cordes appears to have relied on Ms. Burkhiser's testimony in formulating their opinions on behalf of NRBNMLC. Ex. 3060, at 37-38 (Steinberg AWDT) (listing works consulted, but omitting Ms. Burkhiser's testimony); Ex. 3061, App. B (Cordes CWDT) (same).

c. The Argument that Royalties on Excess Usage Are Too Unpredictable to Finance with Donations Is Not Based on Data or Economics

1449. In his written direct testimony on behalf of NRBNMLC, Professor Steinberg argued that noncommercial webcasters should pay lower statutory rates because noncommercial webcasters cannot afford large and "unpredictable" royalty payment obligations. Ex. 3060 ¶¶ 26, 56 (Steinberg AWDT).

1450. However, the costs of noncommercial webcaster statutory royalties under the current rate structure are both predictable and controllable. Ex. 5605 ¶ 135 (Tucker CWRT).

1451. The minimum fee is a fixed price per channel or station. 37 C.F.R. § 380.10(b).***

1452. The per-performance royalties that apply to usage over the 159,140 ATH per month threshold covered by the minimum fee are simply a function of the number of performances transmitted, which are easily tracked over time. Ex. 5605 ¶ 135 (Tucker CWRT). Noncommercial webcasters can monitor their current listenership and spending on excess royalties, presumably predict future usage based on annual trends and seasonal variations in previous years, and if they choose, influence spending levels by choosing to play more or less music, playing longer recordings, Ex. 2159 ¶ 13 (Des. WDT of Cutler, Web IV), and managing access to streams. Ex. 3060 ¶¶ 26-27 (Steinberg AWDT) (discussing potential for limiting access); Ex. 2157 ¶¶ 23-25 (Wheeler WDT) (describing station group's process of deciding which stations to webcast); *id*. at ¶¶ 27-28 (describing promotion strategy for webcasts).

1453. Dr. Steinberg describes such management of access as a "harmful" problem, because it constrains a webcaster's ability to pursue its mission. Ex. 3060 ¶¶ 26-27 (Steinberg AWDT). However, that is not an economic conclusion, and does not imply that the price of sound recordings should be lower than their fair market value. Ex. 5605 ¶ 135 (Tucker CWRT).

iv. NRBNMLC's Evidence of Discounting Practices in Other Sectors Is Unpersuasive

1454. NRBNMLC's written direct statement also makes much of the discounts provided to certain nonprofit organizations by a handful of vendors. *E.g.*, Ex. 3060 ¶¶ 40-41 (Steinberg AWDT); Ex. 3061 ¶ 24 (Cordes CWDT); Ex. 3062 ¶¶ 59-61 (Burkhiser WDT).

1455. However, NRBNMLC's witnesses admit that they have not made "systematic studies of . . . discounting practices." Ex. 3060 ¶ 41 (Steinberg AWDT); Ex. 3061 ¶ 24 (Cordes CWDT) ("I do not present empirical estimates").

1456. The discounts cited primarily apply to technology products and services. *See* Ex. 3060 ¶ 40 (Steinberg AWDT) (among others mentioning Google, Microsoft, Dropbox and LinkedIn); Ex. 3061 ¶ 24 (Cordes CWDT) (LinkedIn, Google and Dell); Ex. 3062 ¶¶ 59-61 (Burkhiser WDT) (Microsoft and Tech Soup, along with remodeling services, trade association memberships, and the donation of a piano).

1457. The Judges have repeatedly observed that comparability is critical in assessing any proffered benchmark. *E.g.*, *SDARS III*, 83 Fed. Reg. at 65214 ("A key component of a marketplace benchmark is that the market it purports to represent is comparable to the hypothetical target market in the proceeding."); *SDARS II*, 78 Fed. Reg. at 23058 ("the key characteristic of a good benchmark"). An arbitrary selection of cherry-picked discounts mostly relating to technology products and services does not constitute a comparable and reliable benchmark for discounts in a hypothetical market for sound recording licenses.***

1458. The discounts also may be targeted to smaller non-profit organizations or may not be proportionally extended to large non-profits or religious organizations. Ex. 5605 ¶ 127 (Tucker CWRT); Ex. 3067 at 2 (excluding religious organizations and ones that "[p]romote a particular religious affiliation" as ineligible for Slack discount plans).

1459. For example, Ms. Burkhiser talks about Microsoft's discount program for Office 365. Ex. 3062 ¶ 59 (Burkhiser WDT). That program offers discounts for nonprofit organizations that vary with the size of the organization, with larger discounts for smaller organizations. Ex. 5605 ¶ 128 (Tucker CWRT).

1460. Microsoft also offers $3,500 credits per year for its Azure cloud services regardless of nonprofit size, representing a larger proportional discount for smaller nonprofits than larger nonprofits. *Id.* Similarly, Google offers "$10,000 USD of in-kind advertising every month for text ads" through its Google AdGrants program, representing a larger proportional discount for nonprofit organizations with smaller expenditures. *Id.*

1461. As another example, Slack offers nonprofit organizations with 250 or fewer members a free upgrade to its Standard Plan, while organizations larger than that merely receive a discount. *Id.*; Ex. 3067 at 1.

1462. Other examples include Aplos Accounting, which offers additional discounts for organizations with less than $50,000 in annual revenues, and Salesforce, which offers 10 free subscriptions to its Lightning Enterprise Edition regardless of organization size. *Id.*

1463. The discounts also vary widely. Ms. Burkhiser also mentions nonprofit pricing provided by a company called Tech Soup. Ex. 3062 ¶ 59 (Burkhiser WDT). Tech Soup is a nonprofit organization that provides technical support and products to other nonprofits. Ex. 5625 ¶ 32 (Ploeger WRT). By consolidating the buying power of multiple nonprofit organizations (a condition that would not exist in a market negotiation between a noncommercial webcaster and a record company), Tech Soup has been able to arrange discounts for its members from various software and hardware vendors. Some of them are better than others. *Id.* For example, a nonprofit organization would pay Tech Soup a $15 administrative fee to get a $125 discount on the initial

year of a subscription to Little Green Light cloud-based donor management software (for organizations with annual operating budgets greater than $100,000). *Id.* The organization would then have to pay Little Green Light $296.20 for the discounted subscription, and potentially additional fees based on the number of donor records, plus non-discounted fees for subsequent subscription years. *Id.* The effective discount ($110 on the first year nominal subscription fee of $421.20) seems like good marketing for Little Green Light if customers become long-term subscribers. *Id.*

1464. As a further example, Tech Soup offers a Cisco Meraki MR20 wireless access point for $247. *Id.* As of January 6, 2020, Amazon was selling that product for $293.43, but CDW had the product on sale for $199.99. *Id.* That Tech Soup provides pricing near the midpoint of that range is hardly compelling proof of significant discounting to nonprofits. *Id.*

1465. NRBNMLC's witnesses made no effort to compare the discounts they cite to the discounts that noncommercial webcasters already receive under the statutory rate structure, which are substantial. *E.g.*, Ex. 5603 ¶ 149 (Orszag WRT); Ex. 5625 ¶¶ 34-35, 37 (Ploeger WRT). All noncommercial webcasters receive a discount under the existing royalty rate system and, consistent with the examples above, smaller noncommercial webcasters receive greater average effective discounts than larger non-commercial webcasters. Ex. 5605 ¶ 129 (Tucker CWRT).

1466. Finally, these cited discounts may be immaterial to the nonprofit organizations receiving them. For example, Family Radio has only 40 employees. Ex. 3062 ¶ 33 (Burkhiser WDT). That means that if Family Radio bought an annual subscription to Office 365 E3 for all its employees, the Microsoft discount would amount to $620. Ex. 5625 ¶ 31 (Ploeger WRT). If Family Radio bought an annual subscription to Office 365 E5 for all its employees, the Microsoft discount would amount to $840. *Id.* By contrast, Family Radio had 2018 total revenue of $5,422,789 and

total expenses of $9,776,918. *Id.* The Microsoft discount is less than about 0.015% of Family Radio's 2018 revenue and less than about 0.0086% of Family Radio's 2017 total expenses. *Id.* The discount is thus inconsequential to the overall financials of Family Radio, and far less than the statutory royalty discount Family Radio currently receives. *Id.*

B. The Judges Should Not Adopt Any of NRBNMLC's Rate Proposals

1467. NRBNMLC initially proposed a new royalty rate structure for noncommercial webcasters consisting of a series of flat-fee tiers, rather than payment of a per-performance royalty for usage beyond the monthly 159,140 ATH threshold. NRBNMLC Proposed Rates and Terms at 8 (filed Sept. 23, 2019). This proposal was similar to NRBNMLC's proposal in *Web IV*, which the Judges rejected. *See Web IV*, 84 Fed. Reg. at 26391.

1468. There is no sound economic basis for NRBNMLC's original proposal. Ex. 5603 ¶ 9 (Orszag WRT); *see also* Ex. 5625 ¶¶ 39-43, 49-52 (Ploeger WRT). However, it appears that NRBNMLC has abandoned this proposal. On July 31, 2020, NRBNMLC filed a rate request proposing two new alternative rate structures. NRBNMLC Amended Proposed Rates and Terms at 1 (filed July 31, 2020); 8/4/20 Tr. 240:7-12 (NRBNMLC Opening Statement). Accordingly, it does not seem necessary to address the original proposal further.

1469. Under Alternative 1 of NRBNMLC's new rate proposal, payment of a $500 minimum fee would cover a noncommercial webcaster's first 1,909,680 in annual ATH, which is 159,140 ATH per month multiplied by 12. For usage in excess of 1,909,680 ATH per year, per-performance royalties would be paid at a rate that is one-third of the applicable per-performance royalty for commercial webcasters. NRBNMLC Amended Proposed Rates and Terms, Ex. A at 9.

1470. Under Alternative 2 of NRBNMLC's new rate proposal, NRBNMLC would pay $1.2 million per year to cover a large block of annual music ATH (between 540 million and 600

million depending on the year) to be used by up to 795 noncommercial broadcasters named by NRBNMLC. NRBNMLC Amended Proposed Rates and Terms, Ex. A at 10-13.

1471. Coming as it did almost on the eve of trial, NRBNMLC has provided scant evidence for the Judges' evaluation of the new proposals. Its expert, Professor Cordes, advocated for a different rate structure—NRBNMLC's abandoned original rate proposal. Ex. 3061 ¶¶ 33-37 (Cordes CWDT); 8/20/20 Tr. 3281:6-3282:10 (Cordes). Professor Steinberg addressed certain issues relevant to NRBNMLC's new proposals in his written testimony, but did not advocate for those proposals until trial.

1. There Is No Sound Basis for NRBNMLC's New Alternative 1

1472. NRBNMLC's Alternative 1 modifies the current rate structure for noncommercial webcasters in two major respects: (1) cutting the royalty for usage in excess of the ATH threshold from its current level—the full commercial rate—to one-third of the commercial rate; and (2) measuring the ATH threshold on an annual basis rather than a monthly basis. NRBNMLC Amended Proposed Rates and Terms, Ex. A at 9. Neither of these modifications is warranted.

i. *Web I* Rates Do Not Provide Support for NRBNMLC's New Alternative 1

1473. In his written direct testimony, Professor Steinberg advocated against NRBNMLC's new Alternative 1 rate structure, saying that "Flat Fees or Tiered Flat Fees Should be Employed." Ex. 3060 at 27 (Steinberg AWDT). He nonetheless addressed possible per-performance royalty structures as "a fallback position relevant if the Judges accept some but not all of my arguments as valid." *Id.* at ¶ 59. He suggested one-third of commercial rates as a "reasonable starting point" because a one-third rate was part of a different rate structure in a *Web I* rate proposal. *Id.* at ¶ 61; *see Web I*, 67 Fed. Reg. at 45259.

1474. Professor Steinberg abandoned this *Web I* rationale in his written rebuttal testimony when he believed he found support for the previously-identified one-third rate in SoundExchange's settlement agreements with CPB and NPR, and it is that rationale he relied on at trial. Ex. 3064 ¶ 1 (Steinberg CWRT); 8/26/20 Tr. 3995:10-20, 4035:7-9 (Steinberg).

1475. However, for the sake of completeness, Dr. Steinberg's reliance on *Web I* is not persuasive. Ex. 5603 ¶ 167 (Orszag WRT). *Web I* was a litigated regulatory proceeding, which was commenced in 1998, tried in 2001, and resulted in a decision from the Copyright Arbitration Royalty Panel ("CARP") in early 2002. *Web I*, 67 Fed. Reg. at 45240-41. The record of that proceeding reflected no valid marketplace benchmarks for noncommercial webcaster rates. *In re Digital Performance Right in Sound Recordings and Ephemeral Recordings*, Report of the CARP at 89 (February 20, 2002) (hereinafter "*Web I* CARP Report"). Instead, both the religious broadcasters' representative NRBMLC and the Recording Industry Association of America ("RIAA") relied on dubious analogies to regulated rates for musical work licensing. Ex. 5603 ¶ 167 (Orszag WRT). NRBMLC looked primarily to flat fees payable under nonprecedential agreements for licensing musical works for over-the-air broadcasting, an approach that the CARP rejected. *Web I* CARP Report at 90-92. In the absence of meaningful evidence, "RIAA 'borrowed a ratio'" from a previous CARP decision involving musical work licensing, where the rate set under the Section 118 statutory license was set at a rate one-third of that applicable to commercial services. *Id.* at 92; *see also Web I*, 67 Fed. Reg. at 45258. The CARP was unhappy with the "infirmities" of RIAA's approach, but adopted it nonetheless. *Web I* CARP Report at 92-93. The Register accepted this approach, but adjusted the final rate for a change in the final commercial rate. *Web I,* 67 Fed. Reg. at 45259.

1476. There are many problems with adopting the one-third rate from *Web I* in the very different current rate structure as advocated in Professor Steinberg's written direct testimony. Ex. 5603 ¶ 167 (Orszag WRT).

1477. *First,* RIAA's *Web I* proposal is not a valid benchmark. It is a 20-year-old litigation position based on an even older regulated rate. The CARP was properly dismissive of the economic validity of the approach 20 years ago, and it has not improved with age. *Id.*

1478. *Second*, the one-third ratio derived from regulated rates involving musical works, which are different works with different copyright owners and different licensing markets than sound recordings. The Judges have repeatedly and consistently rejected efforts to set sound recording statutory royalty rates based on musical works rates. *SDARS II*, 78 Fed. Reg. at 23055, 23058; *SDARS I*, 73 Fed. Reg. at 4089-90; *Web II*, 72 Fed. Reg. at 24094-95; *see also Web I,* 67 Fed. Reg. at 45246-47 (rejecting use of musical works rates to set rate for commercial webcasters); Ex. 5603 ¶ 167 (Orszag WRT).

1479. *Third*, to the extent that a previous litigated rate, or a litigation position leading to a previous litigated rate, might be somehow informative (and again, even a five-year-old litigation decision is not a valid benchmark), the litigation to look to is the most recent one, not one that is 20 years old and predates the modern music marketplace. *Web IV* provided the current rates, including the 159,140 ATH threshold with full commercial rates payable for usage above that threshold, not the one-third proportion. *Id.*

1480. *Finally*, Professor Steinberg suggests his one-third ratio for usage above a threshold, where the usage below that usage is even more deeply discounted, as in the current rate structure. Ex. 3060 ¶ 61 (Steinberg AWDT). However, the *Web I* rate proposal from which the one-third ratio derives had no ATH threshold comparable to the current 159,140 ATH threshold.

Ex. 5603 ¶ 168 (Orszag WRT). That was a creation of *Web II*. *Web II,* 72 Fed. Reg. at 24099-100. The ratio proposed by RIAA in *Web I*, and the rate finally based thereon, applied from the first performance (subject to a minimum fee credited toward the per-performance rate). Ex. 5603 ¶ 168 (Orszag WRT). Dr. Steinberg's proposal thus mixes favored elements of both the *Web I* rate structure (the one-third ratio) and the rate structure from subsequent proceedings (the 159,140 ATH threshold). *Id.*

1481. There is no sound basis for that combination. *Id.* A proper analogy to *Web I* would look at the ratio between commercial and noncommercial rates without the 159,140 ATH threshold. *Id.* As previously discussed in depth in Part XI.A.3.ii, when taking into account all usage (not just usage above 159,140 ATH per month), all but the very largest noncommercial webcasters pay rates that are about one-third of commercial rates or less (subject to the minimum fee). Focusing just on the largest noncommercial webcasters that pay more than about one-third of commercial rates overall, Dr. Steinberg provides no evidence that they could not or would not pay more than about one-third of commercial rates in an unregulated market. *Id.*

ii. The NPR Agreement Is Not an Appropriate Benchmark in Support of NRBNMLC's New Alternative 1

1482. Professor Steinberg's more recent purported justification for cutting the royalty rate for usage in excess of the ATH threshold to the one-third of commercial rates level that he identified as a "fallback" in his written direct testimony is his belief that SoundExchange's settlement with CPB and NPR supports "usage fees equal to one-third the commercial broadcaster rate on excess usage." 8/26/20 Tr. 3995:21-23 (Steinberg).

1483. Professor Steinberg's embrace of the CPB/NPR agreement as a benchmark has developed over the course of this proceeding. In his written direct testimony, Professor Steinberg opined that *either* the CPB/NPR agreement or SoundExchange's settlement with CBI would

provide "a starting point for developing Web V fee structures." Ex. 3060 ¶ 30 (Steinberg AWDT). The CBI agreement is not mentioned in Professor Steinberg's written rebuttal testimony, and he barely mentioned it at trial. *See* 8/26/20 Tr. 4042:17-21, 4059:6-7 (Steinberg).

1484. SoundExchange and its predecessor have a history of settlements with CPB/NPR going back to 2001. 80 Fed. Reg. at 15959 (*Web IV* settlement "continue[d] the rate structure in place for public radio, while increasing the fee amount"); *Web II*, 72 Fed. Reg. at 24099-100; Ex. 3020 at 2; 9/9/20 Tr. 5882:12-23 (Ploeger).

1485. On September 23, 2019, SoundExchange, NPR, and CPB announced that they had reached a settlement for the period 2021-2025. Ex. 3020 at 1-3. Like its predecessor, the new agreement "continue[d] the structure of previous settlements while increasing the payment to be made." *Id.* 3020 at 2; *see also* 9/9/20 Tr. 5882:16-17 (Ploeger) ("[T]he current one was just essentially a re-up of . . . previous ones."). The current agreement permits up to 530 public radio stations identified by CPB to collectively stream an annual block of music ATH ranging from 360 million in 2021 to 400 million in 2025 in exchange for up-front annual payments by CPB in the amount of $800,000. Ex. 3020 at 6-9.

1486. Professor Steinberg has called the CPB/NPR agreement "a very good, reasonable non-commercial benchmark." 8/26/20 Tr. 4024:9-10 (Steinberg).

1487. However, in embracing the CPB/NPR agreement as a benchmark, Professor Steinberg has utterly failed to do a proper benchmarking analysis. "[B]enchmarking is a process that uses rates freely negotiated in unregulated markets as a benchmark to set rates in a similar, regulated market." Ex. 5602 ¶ 43 (Orszag WDT). The CPB/NPR agreement, by contrast, is a settlement of a regulatory proceeding. Ex. 3020 at 1. Thus, it is not a proper benchmark. *See*

SDARS III, 83 Fed. Reg. at 65220 (noting that settlement of prior rate proceeding was not a marketplace benchmark).

1488. Even if the Judges viewed a rate proceeding settlement as somehow informative, they have repeatedly held that comparability is critical in assessing any proffered benchmark. *E.g.*, *SDARS III*, 83 Fed. Reg. at 65214 ("A key component of a marketplace benchmark is that the market it purports to represent is comparable to the hypothetical target market in the proceeding."); *SDARS II*, 78 Fed. Reg. at 23058 ("the key characteristic of a good benchmark"). The Judges recently described their "foundational analysis" for benchmarking:

> In choosing a benchmark and determining how it should be adjusted, a rate court must determine [1] the degree of comparability of the negotiating parties to the parties contending in the rate proceeding, [2] the comparability of the rights in question, and [3] the similarity of the economic circumstances affecting the earlier negotiators and the current litigants, as well as [4] the degree to which the assertedly analogous market under examination reflects an adequate degree of competition to justify reliance on agreements that it has spawned.

Distribution of Cable Royalty Funds, 84 Fed. Reg. 3602, 3552 (Feb. 12, 2019) (quoting *In re Pandora Media*, 6 F. Supp. 3d 317, 354 (S.D.N.Y. 2014), *aff'd sub nom.*, *Pandora Media, Inc. v. ASCAP*, 785 F.3d 73 (2d Cir. 2015)).***

1489. Professor Steinberg does not expressly address comparability at all. The word "comparability" does not appear in his written testimony. To the extent that Professor Steinberg arguably might be considered to address comparability in other words, his analysis is at best superficial. In his written direct testimony, he merely identifies the CPB/NPR and CBI agreements as "examples of the types of agreements that noncommercial organizations negotiate." Ex. 3060 ¶ 30 (Steinberg AWDT). In his written rebuttal testimony, the closest Professor Steinberg gets to an analysis of comparability is a description that the CPB/NPR agreement was entered into by

SoundExchange and covers "a large group of [noncommercial] broadcasters." Ex. 3064 ¶ 3 (Steinberg CWRT).

1490. This superficial treatment of comparability is inadequate as a matter of law. NRBNMLC has a long history of trying to rely on agreements between SoundExchange and CPB/NPR in proceedings like this one. Just as the Judges have found CPB/NPR agreements to be non-comparable in the past, they should do so here. *See Web IV*, 84 Fed. Reg. at 26394 (CPB/NPR agreement "differs so fundamentally in so many ways from what NRBNMLC is proposing that it cannot serve as a support for that proposal"); *Web II*, 72 Fed. Reg. at 24098-100 (difficulties connecting lump sum payments to NPR usage in particular years and with NRBNMLC's translation of the benchmark into the target market).***

1491. Professor Steinberg does not provide any reason to believe that the new CPB/NPR agreement is any more informative than its predecessors. Ex. 5605 ¶ 144 (Tucker CWRT); 8/17/20 Tr. 2234:7-9 (Tucker) ("[I]t's not clear that this is an appropriate benchmark.").

1492. The hypothetical target market to be used in benchmarking in a proceeding like this one is a market in which a single service obtains from a single record company a blanket license of the "record company's complete repertoire of sound recordings" in a "hypothetical marketplace that was not constrained by a statutory license." *Web II*, 72 Fed. Reg. at 24091; *see also SDARS III*, 83 Fed. Reg. at 65214 (buyers are the services and "the sellers are the copyright owners of the sound recordings that are being transmitted (which most often means record companies)").***

1493. However, the CPB/NPR agreement is between a statutory licensing collective and a consortium of licensee parties represented by CPB/NPR (with CPB paying). Ex. 3020 at 1-2. Thus, the CPB/NPR agreement has a different seller than in the hypothetical target market—SoundExchange rather than a record company. *See SDARS III*, 83 Fed. Reg. at 65219 (describing

Music Choice argument that a SoundExchange rate proceeding settlement involved a different seller than the hypothetical target market). It also has different buyers—CPB, or perhaps NPR or a consortium of stations, rather than an individual noncommercial webcaster. Unlike NRBNMLC's Alternative 1, the entity paying the royalties, CPB, is not the service provider. Ex. 3020 at 9. Public radio thus presents a "very different organizational structure and set of concerns." 8/17/20 Tr. 2226:25-2227-1 (Tucker). And the CPB/NPR agreement involves different rights—all commercial sound recordings rather than a particular record company's catalog, and the right to transmit a large block of music ATH for a fixed fee rather than the à la carte usage (above the 159,140 ATH threshold) in NRBNMLC's proposed Alternative 1.

1494. In *SDARS III*, the Judges were extremely skeptical of an effort by SoundExchange to use a settlement of new subscription service rates as a benchmark for preexisting subscription services rates, despite the similarities in the service offerings, ultimately finding the settlement "not sufficiently comparable." *SDARS III*, 83 Fed. Reg. at 6520-21. Because Professor Steinberg does not meaningfully address comparability, he provides no reason why the Judges should not reach the same conclusion here.***

1495. The parties' notice to the Judges concerning the CPB/NPR agreement highlights various differences between NPR stations and the noncommercial religious broadcasters that pay the vast majority of the noncommercial royalties to be set by the Judges:

> Public radio consists of a unique set of entities, and has a unique history, organizational structure and funding model. Among other things, public radio receives substantial funding from CPB. Through CPB, the federal government has always paid sound recording royalties for public radio. As a result, public radio presents unique business, economic and political circumstances unlike other participants in this Proceeding or the marketplace.

Ex. 3020 at 2.

1496. The agreed-upon regulatory language also notes an important difference between the structure of the CPB/NPR agreement and NRBNMLC's proposed Alternative 1—specifically, that the lump sum fee under the agreement includes "[a] discount that reflects the administrative convenience to the Collective of receiving annual lump sum payments that cover a large number of separate entities, as well as the protection from bad debt that arises from being paid in advance." *Id.* at 8; *see also* Ex. 5605 ¶ 143 (Tucker CWRT).

1497. Witnesses highlighted differences between public radio and other noncommercial webcasters, particularly noncommercial religious webcasters. Because CPB pays the royalties for public radio with federally-appropriated funds, as noted in the agreement, Professor Tucker explained that the funding is subject to congressional review. Ex. 5605 ¶ 143 (Tucker CWRT). As a result it is "not as stable as Dr. Steinberg was saying." 8/18/20 Tr. 2518:17 (Tucker). It is also "subject to the political climate of the day." *Id.* at 2519:15-17 (Tucker). Professor Steinberg agreed that "CPB's use of taxpayer money can be a political issue" and that it is "subject to federal budget debates." 8/26/20 Tr. 4066:14-19 (Steinberg).

1498. Based on her experience with government negotiations, Professor Tucker also explained that record companies likely would not "get[] favorable rates" in a negotiation over use of government funding to pay royalties. 8/17/20 Tr. 2232:2-11 (Tucker).

1499. The CPB/NPR agreement covers stations with a wide variation in music use, including some that make only limited use of music. 8/18/20 Tr. 2474:22-2475:5 (Tucker); Ex. 3022 (Tab "Comments") ([ ]); *see also Web IV*, 84 Fed. Reg. at 26394 (agreement covers stations "which entail very limited use of recorded music"). While there may be some variation in the amount of music use among

noncommercial webcasters in general, stations broadcasting in news and talk formats that make only incidental uses of music do not need to pay statutory royalties. *See* 37 C.F.R. § 380.7 (definition of "Performance" excludes certain incidental performances). The noncommercial webcasters paying the vast majority of statutory royalties "are music-intensive." 8/18/20 Tr. 2476:10-13 (Tucker).

1500. EMF, [ ], Ex. 5625 ¶ 22 (Ploeger WRT), [ ]. As of 2015, [ ]. Ex. 3022 (Tab "Estimations," line 37; Tab "Comments," line 14). [ ]. *Id.* (Tab "Estimations," line 32). [ ]. *Id.* (Tab "Estimations," line 40). [ ]. In 2018, EMF alone had excess ATH estimated at [ ]. Ex. 5625, App. D (Ploeger WRT). That translates into roughly [ ] music ATH (calculated as [ ] × 14 performances per hour on noncommercial Christian AC broadcast stations ÷ 15 performances per hour on an all-music channel). *See id.* at ¶ 40 n.31. While usage by NPR stations may have grown between 2015 and 2018, it nonetheless seems likely that [ ]. One would not necessarily expect discounts to be extended proportionally to larger users. Ex. 5605 ¶ 127 (Tucker CWRT).

1501. Use of music by public radio stations is also "very broad and diffuse," with music from many different genres and artists, while Christian music performed by popular Christian

artists is "definitely integral" to noncommercial religious webcasters. 8/17/20 Tr. 2226:17-2227:10, 2230:12-2231:16 (Tucker); *see also* Ex. 5625 ¶ 28 (Ploeger WRT). There are artists who dedicate their careers to performing Christian music, and record labels that devote their business to producing and distributing Christian music. Ex. 5625 ¶ 28 (Ploeger WRT). Noncommercial religious broadcasters are "a primary outlet for their music." *Id.* Because noncommercial religious broadcasters dominate the payment of noncommercial webcasters, the target market is focused, while the effects of discounting in the proffered benchmark market are diffuse.

1502. Further, the record reflects significant potential for diversion of listenership from commercial religious broadcasters to noncommercial religious broadcasters playing contemporary Christian music. *See* Ex. 5603 ¶¶ 155-62 (Orszag WRT); Ex. 5625 ¶¶ 21-26 (Ploeger WRT); *see supra* Part XI.A.3.i.b-d. The record does not provide any indication that that NPR stations are similarly substitutional for commercial stations in the music formats for which NPR is perhaps most well-known, such as classical and jazz. 9/9/20 Tr. 5842:14-17 (Ploeger).

1503. Professor Steinberg did not make any effort to compare use of music by public radio stations with music use by noncommercial webcasters in general or religious broadcasters in particular. 8/17/20 Tr. 2233:19-22 (Tucker); 8/26/20 Tr. 4064:13-19, 4065:15-19 (Steinberg). In his own listening, Professor Steinberg has "found only a sort of minor amount of overlap between what non-commercial religious broadcasters play and what NPR plays." 8/26/20 Tr. 4064:23-4065:2 (Steinberg).

1504. Witnesses also highlighted the importance of the consolidated reporting that SoundExchange receives under the CPB/NPR Agreement, which it would not get under NRBNMLC's Alternative 1. 8/17/20 Tr. 2232:18-25, 2233:1-15 (Tucker) (a "major benefit that was coming out of the negotiation for SoundExchange"). Under the CBP/NPR agreement NPR

"collects together the messy data of the individual stations and reports it as part of the agreement." *Id.* at 2232:12-17 (Tucker). Rather than SoundExchange, someone else does the work necessary to collect the data from individual stations, and the data "has already had some quality assurance" before it gets to SoundExchange. 9/9/20 Tr. 5803:14-19, 5822:16-24 (Ploeger). Professor Steinberg conceded that this consolidated reporting provides cost savings for SoundExchange, and that those savings are not reflected in NRBNMLC's proposed Alternative 1. 8/26/20 Tr. 4068:7-13, 4068:23-4069:4 (Steinberg); *see also* 9/9/20 Tr. 5803:22-23 (Ploeger).

1505. The up-front lump-sum payment structure in the CPB/NPR agreement also reduces SoundExchange's costs of processing multiple payments in a way that NRBNMLC's Alternative 1 does not. 8/26/20 Tr. 4066:24-4067:4 (Steinberg).

iii. Exhibit 3022 Does Not Support Professor Steinberg's Translation of the CPB/NPR Agreement into NRBNMLC's New Alternative 1

1506. Professor Steinberg says that he embraced the CPB/NPR agreement as a benchmark because he believes that Ex. 3022 shows that the lump sum payment called for by the CPB/NPR agreement for 2016-2020 "incorporates royalty rates for webcasting [[redacted]] when the analysis was prepared." Ex. 3064 ¶ 3 (Steinberg CWRT). However, Professor Steinberg's reliance on Exhibit 3022 is misplaced.

1507. As an initial matter, Exhibit 3022 is an old and backward-looking document. It reports [[redacted]]. Ex. 3022 (Tab "Estimations," lines 2-4 & cell E4). Thus, it is reasonable to expect that the document was created [[redacted]]. *See* Ex. 3064 ¶ 1 (Steinberg CWRT) ([[redacted]]); 80 Fed. Reg. at 15958 (*Web*

IV CPB/NPR settlement was submitted to the Judges on Feb. 24, 2015). Professor Steinberg did not rely on any more recent data. 8/26/20 Tr. 4070:10-15 (Steinberg).

1508. What Exhibit 3022 does is [ ] Ex. 3022 (Tab "Estimations," lines 21, 24, 27, 30, 43-45, 48); *see* 9/9/20 Tr. 5829:16-21 (Ploeger) (referring to noncommercial webcaster litigated rates as "NCW-CRB").

1509. The *Web III* era CPB/NPR agreement was a non-precedential agreement under the Webcaster Settlement Act, 17 U.S.C. § 114(f)(4). *Notification of Agreements under the Webcaster Settlement Act of 2009*, 74 Fed. Reg. 40614, 40621 (Aug. 12, 2009). The agreement for noncommercial webcasters was also a non-precedential agreement under the Webcaster Settlement Act. 74 Fed. Reg. at 40627. The Judges are prohibited by statute from taking the rates of either agreement into account in this proceeding. 17 U.S.C. § 114(f)(4)(c).***

1510. Exhibit 3022 does not purport to construct a forward-looking rate for public radio stations. Instead, it shows that [ ]. For example, the CPB/NPR agreement covered between 490 and 530 stations depending on the year. Ex. 3022 (Tab "Estimations," line 26); 8/26/20 Tr. 4070:20-24 (Steinberg). [ ]. Ex. 3022 (Tab "Estimations," line 13); 8/26/20 Tr. 4074:2-11 (Steinberg). Likewise, the CPB/NPR agreement covered between about 280 million and 285 million music ATH depending on the year. 74 Fed. Reg. at 40622. [ ]

1511. Professor Steinberg did not take any of this into account in his effort to translate his proffered CPB/NPR benchmark into the hypothetical target market. 8/26/20 Tr. 4069:19-4070:6 (Steinberg). [ ]. *Id.* at 4076:8-12 (Steinberg).

iv. There Is No Sound Basis for Annualizing the ATH Threshold

1512. NRBNMLC's proposed Alternative 1 would annualize the ATH threshold. NRBNMLC Amended Proposed Rates and Terms, Ex. A at 9. Thus, a noncommercial webcaster could exceed the familiar 159,140 ATH per month threshold in any particular month without having to pay per-performance royalties, so long as it did not exceed 1,909,680 ATH per year. Dr. Steinberg recommended this approach. Ex. 3060 ¶¶ 62-63 (Steinberg AWDT).

1513. The change from monthly to annual measurement of included usage could be very significant. Ex. 5625 ¶ 49 (Ploeger WRT). This is clear in the case of seasonal programming. 9/9/20 Tr. 5802:18-5803:5 (Ploeger). For example, [ ]. Ex. 5625, App. D (Ploeger WRT). It is reasonable to expect that listening to a Christmas music channel is seasonal and weighted toward the holidays. This proposal would allow the provider of such a channel to cover with the minimum fee a potentially significant amount of holiday season usage that would currently be compensable. *See* 9/9/20 Tr. 5802:22-5803:5 (Ploeger). [ ].

1514. Having a noncommercial webcaster provide a high-usage seasonal channel for payment of only the minimum fee would be inconsistent with the Judges' original theory in

adopting a heavily discounted rate for noncommercial webcasters. Ex. 5625 ¶ 49 (Ploeger WRT). When the Judges originally adopted the 159,140 ATH per month threshold, the idea was that services with usage under 159,140 ATH per month per channel or station, among other characteristics, "are not serious competitors with Commercial Webcasters." *Web II*, 72 Fed. Reg. at 24100. The Judges have repeatedly recognized that there is a risk noncommercial webcasters with higher usage will "cannibalize the webcasting market more generally and thereby adversely affect the value of the digital performance right in sound recordings." *Web IV*, 84 Fed. Reg. at 26392 (quoting *Web II*, 72 Fed. Reg. at 24097). A service with much higher per-channel or station usage packed into a short period of time, rather than being spread out over the course of a year, obviously presents a greater competitive risk. Ex. 5625 ¶ 52 (Ploeger WRT). The Judges should not change the noncommercial webcaster rate structure to measure included usage on an annual basis. *Id.*

2. There Is No Sound Basis for NRBNMLC's New Alternative 2

1515. Under Alternative 2 of NRBNMLC's new rate proposal, NRBNMLC would pay $1.2 million per year to cover a large block of annual music ATH (between 540 million and 600 million depending on the year) to be used by up to 795 noncommercial broadcasters named by NRBNMLC. NRBNMLC Amended Proposed Rates and Terms, Ex. A at 10-13.

1516. These numbers are simply 1.5 times the key financial parameters of the *Web V* CPB/NPR settlement. *See* Ex. 3020 at 7-9 ($800,000 × 1.5 = $1.2 million; 360 million ATH × 1.5 = 540 million ATH; 400 million ATH × 1.5 = 600 million ATH; 530 stations × 1.5 = 795 stations).

1517. NRBNMLC bases this proportional adjustment on Professor Steinberg's written direct testimony. Ex. 3060 ¶¶ 34-37 (Steinberg AWDT).

1518. As an initial matter, the Judges do not have the statutory authority to adopt this proposed rate structure apart from a settlement. Section 114(f)(1) directs the Judges to determine

in proceedings like this one a "schedule of reasonable rates and terms . . . binding on all copyright owners of sound recordings and entities performing sound recordings." 17 U.S.C. § 114(f)(1)(B).***

1519. NRBNMLC is not an entity performing sound recordings, nor apparently a legal entity at all; it is a committee of a trade association. Ex. 5625, App. A ¶ 35 (Bender WDT).

1520. While Section 801(b)(7) has special provisions that permit adoption of the CPB/NPR agreement as a settlement, there is no obvious statutory basis for adopting in a litigated proceeding a royalty to be paid by a committee of a trade association. The mismatch between NRBNMLC's proposed Alternative 2 and the Judges' mission in this proceeding is illustrated by the Judges' repeated articulations of the hypothetical target market to be used in benchmarking in a proceeding like this one. That is a market in which a single service obtains from a single record company a blanket license of the record company's recordings. *Web II*, 72 Fed. Reg. at 24091; *SDARS III*, 83 Fed. Reg. at 65214 (buyers are the services and the sellers are the copyright owners). It simply is not possible to square NRBNMLC's proposed Alternative 2 with what the Judges have always said they are to do in a proceeding like this.***

1521. If the Judges did have authority to adopt a rate structure such as proposed Alternative 2 (and they do not), the CPB/NPR agreement is an inappropriate benchmark to support Alternative 2 for almost all the same reasons that it is an inappropriate benchmark to support Alternative 1, including that the CPB/NPR agreement is a settlement of a regulatory proceeding rather than a marketplace benchmark, *see* Ex. 5602 ¶ 43 (Orszag WDT), and that it involves a different seller, different buyer and different rights than in the hypothetical target market. It is not a comparable benchmark, and so it is not informative of willing buyer/willing seller rates for noncommercial religious broadcasters. Ex. 5605 ¶ 144 (Tucker CWRT); *see supra* Part XI.B.1.ii.

1522. Alternative 2 differs from Alternative 1 in that it is structured similarly to the CPB/NPR agreement, making Alternative 2 more analogous to the CPB/NPR agreement in that respect only. The Alternative 2 structure does nothing to address the significant differences between public broadcasting and religious broadcasting, such as [ ], and which one would not necessarily expect to receive the kind of proportional discount proposed by Professor Steinberg. Ex. 5605 ¶¶ 127, 142 & n.302 (Tucker CWRT); *see supra* Part XI.B.1.ii.

1523. Moreover, proposed Alternative 2 would deny SoundExchange one of its most important benefits under the CPB/NPR agreement, consolidated reporting. 8/17/20 Tr. 2232:18-25, 2233:1-15 (Tucker) (a "major benefit that was coming out of the negotiation for SoundExchange").

1524. SoundExchange and CBP/NPR have a nearly 20 year history of consolidated reporting. *See Web II*, 72 Fed. Reg. at 24099-100 (describing 2001 agreement); Ex. 3021 at 3 (describing *Web IV* CPB/NPR agreement as "continu[ing] their prior reporting arrangements with certain changes in detail"); 9/9/20 Tr. 5883:13-5884:22 (Ploeger) (no more than small changes in reporting details over time).

1525. Under the CBP/NPR agreement, NPR "collects together the messy data of the individual stations and reports it as part of the agreement." 8/17/20 Tr. 2232:12-17 (Tucker). Rather than SoundExchange, someone else does the work necessary to collect the data from individual stations, and the data "has already had some quality assurance" before it gets to SoundExchange. 9/9/20 Tr. 5803:14-19, 5822:16-24 (Ploeger). Professor Steinberg conceded that this consolidated reporting provides cost savings for SoundExchange, and that those savings are

not reflected in NRBNMLC's proposed Alternative 1. 8/26/20 Tr. 4068:7-13, 4068:23-4069:4 (Steinberg); *see also* 9/9/20 Tr. 5803:22-23 (Ploeger).

1526. The details of reporting by CPB/NPR under the CPB/NPR agreement are not set forth in the Code of Federal Regulations. Ex. 2020 at 9. That reflects "the Judges' statements that SoundExchange and licensees may agree among themselves to vary the reporting requirements under applicable regulations and that the Judges do not wish to codify in the Code of Federal Regulations arrangements pertinent only to specific licensees." Ex. 3021 at 3 (footnotes omitted). The requirement for consolidated reporting is nonetheless reflected in the Code of Federal Regulations. 37 C.F.R. § 380.32(b).

1527. NRBNMLC's proposed alternative adds to Section 380.32(b) a new sentence stating that in the absence of an agreement between SoundExchange and NRBNMLC concerning reporting, "Noncommercial Religious Radio Stations shall submit reports of use in accordance with then-applicable regulations in 37 C.F.R. Part 370." NRBNMLC Amended Proposed Rates and Terms, Ex. A at 14. This is asking SoundExchange and the Judges to buy a "pig in a poke." No reporting arrangement between SoundExchange and NRBNMLC exists today. 9/9/20 Tr. 5884:23-5885:1 (Ploeger). There is no assurance that NRBNMLC and SoundExchange could or would reach agreement on consolidated reporting if the Judges were to adopt Alternative 2, so there is a substantial risk that SoundExchange would not get consolidated reporting at all. And even if an agreement could be reached, there is no assurance that NRBNMLC could or would do the hard work that NPR has spent 20 years doing to improve the quality of reporting by public radio stations. *Id.* at 5885:2-5, 5886:18-5887:7 (Ploeger).

1528. Finally, NRBNMLC's new Alternative 2 would not fully address the Judges' task of setting noncommercial webcaster rates in this proceeding. It applies only to noncommercial

religious radio stations named by NRBNMLC. NRBNMLC Amended Proposed Rates and Terms, Ex. A at 10.

1529. There are many noncommercial webcasters that are not religious broadcasters. *E.g.*, Ex. 5625 ¶¶ 44, 46 n.38 (Ploeger WRT). Thus, the Judges would need to adopt a separate set of rates for noncommercial webcasters not covered by Alternative 2.

XII. Minimum Fee

1530. SoundExchange proposes to increase the minimum fee to $1,000 per channel or station, subject to a cap of $100,000 for commercial webcasters, and with 159,140 ATH of included usage per month for noncommercial webcasters. SoundExchange Proposed Rates and Terms at 2-3, 21; Ex. 5625 ¶ 9 (Ploeger WRT); Ex. 5625, App. A ¶¶ 37-38 (Bender WDT). The Services have all proposed retaining the current $500 minimum fee. Sirius XM and Pandora First Amended Proposed Rates and Terms at 1 (filed Jan. 10, 2020) (proposing that current provisions continue except as otherwise indicated); Google Proposed Rates and Terms at 2 (filed Sept. 23, 2019) (same); NAB Proposed Rates and Terms at 8 (filed Sept. 23, 2019); NRBNMLC Amended Proposed Rates and Terms, Ex. A at 9.

A. The Minimum Fee Has Been $500 Since the Beginning of the Statutory License for Webcasting, and the Judges Have Recognized that an Increase Is Warranted

1531. Since the creation of the statutory license for webcasting in 1998, the Copyright Act has required that the statutory license royalty rate structure include a minimum fee. 17 U.S.C. § 114(f)(1)(B); Pub. L. No. 105-304 § 405(a), 112 Stat. 2860, 2895-96 (1998).***

1532. In *Web I*, the Copyright Arbitration Royalty Panel ("CARP") adopted a $500 minimum fee for ad-supported webcasters for the period between 1998 and 2002, recognizing that such fee should "protect against a situation in which the licensee's performances are such that it

costs the license administrator more to administer the license than it would receive in royalties." *Web I CARP Report* at 95.***

1533. The $500 fee adopted by the Panel was simply the lowest minimum fee in any agreement in the record of that proceeding with a per-performance royalty rate structure. *Id.* Its adoption was "premised upon one fundamental assumption—that a sophisticated and experienced negotiator, such as RIAA, would not negotiate a minimum fee that would expose it to a loss." *Id*. While the Panel said it was "comfortable with this assumption," it did not cite any evidence of anyone's actual costs of administering the statutory license. *Id*. Indeed, there could not have been any meaningful estimation of the costs of administering the statutory license for webcasting at that time, since it was a disputed question who would perform that role, *id*. at 132-34, and webcasters did not start delivering reports of use under the statutory license until almost five years later, after the Judges adopted regulations for their delivery. *Notice and Recordkeeping for Use of Sound Recordings Under Statutory License*, 71 Fed. Reg. 59010 (Oct. 6, 2006). The panel also noted that the minimum fee was "generally comparable to the combined minimum fees set by other collection agencies such as the PROs." *Web I CARP Report*, at 95 n.68.***

1534. The Librarian accepted the Panel's decision, but said that "[i]f anything, the fee may be viewed as too low," given that the musical work performance rights organizations cited by the Panel actually charged a total minimum fee of $673. *Web I*, 67 Fed. Reg. at 45262-63.***

1535. Settlements of a CARP proceeding for the 2003-2004 rate period (for ad-supported webcasters) and 1998-2004 period (for subscription webcasters) incorporated a minimum fee for commercial webcasters of $500 per channel or station (subject to a cap of $2,500 or a fee of $5,000 for certain services), and a $500 minimum fee for noncommercial webcasters. *In re Digital*

Performance Right in Sound Recordings and Ephemeral Recordings, 69 Fed. Reg. 5693, 5698, 5702 (Feb. 6, 2004).***

1536. In *Web II*, SoundExchange proposed a minimum fee of $500 per channel or station. *Web II*, 72 Fed. Reg. at 24096. The Judges found this proposal "low," given "that the royalty collection and distribution operations performed by SoundExchange consist of substantial work." *Id.* at 24096 & n. 37. Nonetheless, the Judges figured that "SoundExchange must anticipate that it will cover its administrative costs." *Id.* at 24096. The Judges further explained that "it would be reasonable to add . . . payment for usage to the $500 minimum fee for administration." *Id*. at 24099. By way of comparison, the Judges noted that even for noncommercial webcasters, "the minimal amount that a webcaster paid to cover the combined [musical] works administered by the three PROs was $636 for college stations in 2006 and $1,135 for other public broadcasting entities." *Id*. at 24099 n.45. In the end, the Judges adopted the proposed $500 minimum fee. *Id.* at 24096-97, 24100.***

1537. Licensees appealed on various grounds, including to seek a cap on minimum fees for commercial webcasters and lower minimum fees for noncommercial webcasters, and the D.C. Circuit remanded on both those issues. *Intercollegiate Broad. Sys., Inc. v. Copyright Royalty Bd.*, 574 F.3d 748, 761-62, 766-67 (D.C. Cir. 2009).***

1538. On remand, the commercial webcaster minimum fee issue was resolved by a settlement adopting the now-familiar 100-channel cap, and the Judges conducted a further evidentiary proceeding concerning the minimum fee for noncommercial webcasters. *Digital Performance Right in Sound Recordings and Ephemeral Recordings*, 75 Fed. Reg. 56873 (Sept. 17, 2010) (hereinafter "*Web II Remand*"). SoundExchange estimated that its average per channel or station administrative cost for webcasters for 2008 was $803. *Id.* at 56874. With that showing,

the Judges found that "[t]he evidence presented in the remand proceeding supports a minimum fee of at least the same [$500] fee as adopted in the Final Determination." *Id*.***

1539. After a second appeal of the noncommercial webcaster minimum fee, the Judges again credited SoundExchange's evidence concerning its average per channel or station administrative cost, and noted that "[i]t is reasonable and appropriate for the minimum fee at least to cover SoundExchange's administrative cost." *In re Digital Performance Right in Sound Recordings and Ephemeral Recordings*, 79 Fed. Reg. 64669, 64672 (Oct. 31, 2014). Thus, they found the $500 minimum fee "clearly appropriate and eminently reasonable." *Id*.***

1540. In *Web III*, there were various settlements that continued the $500 minimum fee structure, including settlements of the minimum fee for all commercial webcasters. *Web III*, 76 Fed. Reg. at 13027. For non-settling noncommercial webcasters, SoundExchange also proposed continuing the $500 minimum fee. *Id.* at 13040. In support, SoundExchange provided evidence that its average per channel or station administrative cost was about $825. *Id*. Based on this evidence, the Judges were persuaded that the $500 minimum fee was reasonable. *Id.* at 13042.***

1541. The noncommercial webcasters appealed the minimum fee again, also alleging that the Judges had been unconstitutionally appointed, and the D.C. Circuit remanded based on the constitutional issue. *Intercollegiate Broad. Sys. v. Copyright Royalty Bd*., 684 F.3d 1332, 1342 (D.C. Cir. 2012). On remand, the Judges reiterated that "it is reasonable and appropriate for the minimum fee to at least cover SoundExchange's administrative cost." *Web III Remand*, 79 Fed. Reg. at 23124. "With the average administrative cost exceeding $800, the Judges [found] a $500 minimum fee to be eminently reasonable and appropriate." *Id*.***

1542. In *Web IV*, SoundExchange again proposed continuing the familiar $500 minimum fee structure, and again provided evidence of its average administrative costs. *Web IV*, 81 Fed.

Reg. at 26396. The Judges found that webcasters "should have to pay a minimum fee that at least defrays a portion of SoundExchange's costs to administer the statutory licenses." Finding that "SoundExchange's average administrative cost per licensee is substantially higher than the minimum fee it proposes," the Judges continued the $500 minimum fee, noting that "a higher minimum fee could be justified on this record." *Id.* at 26396-97.

B. SoundExchange's Average Administrative Costs per Webcaster Channel or Station Have More than Doubled Since *Web IV*, Warranting an Increase in the Minimum Fee

1543. As described above, it is not clear that the minimum fee has *ever* been sufficient to cover SoundExchange's administrative costs, let alone provide market compensation to recording artists and copyright owners for the use of their recordings by services paying only the minimum fee. Ex. 5625 ¶ 12 (Ploeger WRT); *id.*, App. A. at ¶ 46 (Bender WDT). It certainly is not the case today. *Id.* at ¶¶ 12-14 (Ploeger WRT); *id.*, App. A. at ¶¶ 48-50 (Bender WDT).

1544. In *Web IV*, SoundExchange estimated that in 2013, SoundExchange's average per channel or station cost for webcasters was approximately $1,900. *Id.* at ¶ 13 (Ploeger WRT). By contrast, SoundExchange's average per channel or station cost for webcasters in 2018 was approximately $4,448. *Id.*, App. A at ¶ 50 (Bender WDT). Given the long history of litigation over the minimum fee described above—including several appeals to the D.C. Circuit by webcaster licensees seeking lower minimum fees—SoundExchange has been in no hurry to fight over an increase in the minimum fee. Nonetheless, this more-than-doubling in SoundExchange's average per channel or station cost since *Web IV* warrants doubling the minimum fee at this time. *Id.* at ¶ 14 (Ploeger WRT); Ex. 5602 ¶ 188 (Orszag WDT).

1545. The calculation of SoundExchange's average per channel or station cost for webcasters is described in Mr. Bender's written testimony. Briefly stated, SoundExchange began with its total 2018 operating administrative expenses of approximately $55 million, divided that

by 3,637 licensees of all types to yield a per-licensee cost of approximately $15,122, and then divided that result by an estimated average of about 3.4 channels or stations per webcaster licensee to yield an average per channel or station cost for webcasters in 2018 of approximately $4,448. Ex. 5625, App. A. ¶¶ 48-50 (Bender WDT); *see also* Ex. 3023 at 43 (SoundExchange financial data showing operating administrative expenses of approximately $55 million).

1546. This calculation was done in the same way, and for the same reasons, as in prior proceedings where SoundExchange provided evidence of its administrative costs that was accepted by the Judges. *Compare* Ex. 5625, App. A ¶¶ 47-50 (Bender WDT), *with Web IV*, 81 Fed. Reg. at 26396; *Web III*, 76 Fed. Reg. at 13040; *Web II Remand*, 75 Fed. Reg. at 56874.

1547. Importantly, the increase in SoundExchange's average per channel or station cost for webcasters was *not* due to a wild spending spree by SoundExchange. Ex. 5625 ¶ 14 (Ploeger WRT). The growth in SoundExchange's overall administrative costs has been somewhat slower than growth in SoundExchange's royalty receipts. Ex. 5603 ¶ 173 (Orszag WRT). In 2018, SoundExchange's administrative rate (SoundExchange's costs expressed as a percentage of receipts) was only 4%, which is quite low relative to other performing rights organizations. *See, e.g.*, Ex. 5625, App. A. ¶ 8 (Bender WDT). Further, SoundExchange's average per-licensee administrative cost increased only about 5% per year between 2013 and 2018, from $11,778 in 2013 to $15,122 in 2018. *Id.* at ¶ 14 (Ploeger WRT); *see also Web IV*, 81 Fed. Reg. at 26396.

1548. The main driver of the increase in SoundExchange's average per channel or station cost is a long-term decrease in the average number of channels or stations per webcaster licensee. At the time of *Web III*, SoundExchange calculated that number at seven channels per webcaster. *Web III*, 76 Fed. Reg. at 13040. By 2013, at the time of *Web IV*, it estimated about six channels

per webcaster. Between 2013 and 2018, the average decreased to 3.4 in the estimate provided by Mr. Bender in this proceeding. Ex. 5625 ¶ 14 (Ploeger WRT); *id.*, App. A. at ¶ 50 (Bender WDT).

1549. This decrease in the average number of channels or stations per webcaster licensee is due to growth in the population of webcaster licensees. *Id.* at ¶ 14 (Ploeger WRT). More than 3,500 webcasters paid royalties to SoundExchange for 2018. *Id.*, App. A at ¶ 32 (Bender WDT). Five years earlier, in 2013, only about 2,500 webcasting licensees paid statutory royalties. *Id.* Five years before that, at the time of *Web III* in 2008, there were only 610 webcaster licensees. Ex. 5603 ¶ 173 (Orszag WRT). The growth has come disproportionately from licensees providing only a small number of channels or stations, including many simulcasters, which has reduced the average number of channels or stations per webcaster licensee. Ex. 5625 ¶ 14 (Ploeger WRT); *see also id.*, App. A at ¶ 49 (Bender WDT) (about 3,174 licensees operated only one station or channel).

1550. The largest webcasters, such as the participants in this proceeding, have been webcasting for a long time. *E.g.*, *id.*, App. A at ¶¶ 95, 102 (Bender WDT) (describing audits of iHeart for 2011 and of Pandora for 2010); Ex. 4092 ¶ 7 (Witz WDT) (describing Sirius XM streaming since 2001). Many of the newer licensees have a low level of usage. Ex. 5625 ¶ 14 (Ploeger WRT). For 2018, approximately 50% of commercial webcasters, and approximately 97% of noncommercial webcasters, paid only the minimum fee. *Id.*, App. A at ¶ 34 (Bender WDT).

1551. SoundExchange incurs substantial costs to handle the payments and reporting provided by even small webcasters. *Id.* at ¶ 14 (Ploeger WRT); *see also* Ex. 5603 ¶ 173 (Orszag WRT) (growth in licensees significantly increased SoundExchange's workload and costs); *Web IV*, 81 Fed. Reg. at 26396 ("costs to SoundExchange vary depending on such factors as the quality of the data a service submits"). Contrary to Professor Steinberg's suggestion, Ex. 3060 ¶ 57 (Steinberg AWDT), these costs are not "fixed." Ex. 5625 ¶ 11 (Ploeger WRT). Every licensee

requires handling by SoundExchange to set it up in its systems when it becomes a licensee; to match, validate, and process its periodic payments, statements of account and reports of use (as applicable); to chase after missing items; and to address issues arising from its reporting (*e.g.*, reported usage that cannot be matched to known repertoire). *Id.*; *see generally id.*, App. A ¶¶ 10-29 (Bender WDT) (describing the flow of royalties through SoundExchange). As the Judges have observed, that is "substantial work." *Web II*, 72 Fed. Reg. at 24096 & n. 37; *see also* 9/9/20 Tr. 5791:3, 5791:14 (Ploeger) ("effort-intensive").

1552. Mr. Orszag explained that from an economic perspective, it is important to have a minimum fee set at a level consistent with the cost of administering the license to address the transaction costs associated with the minimal usage by the majority of webcasters. 8/13/20 Tr. 2055:7-20 (Orszag). The large and growing number of webcaster licensees paying only the minimum fee has meant that "money that could be going out as royalties to artists and Rights Owners [is] instead being sucked out of that system and being used to process statutory licensing." 9/9/20 Tr. 5796:6-9 (Ploeger); *see also* Ex. 5625 ¶ 14 (Ploeger WRT) ("The money to pay the costs incurred due to all those additional licensees has to come from somewhere."). As Mr. Ploeger explained, "[i]f you add the minimum fees together of what those minimum fee stations are giving us, it's a little more than a million bucks, and the process that I've described . . . costs considerably more than that." 9/9/20 Tr. 5796:1-6 (Ploeger).

1553. SoundExchange has never sought to collect *all* of its costs from minimum fee payments. Ex. 5625, App. A ¶ 51 (Bender WDT). It does not need to do so, because its administrative costs are actually paid through a small "administrative fee" deducted from all royalties distributed. *Id.*, App. A at ¶¶ 8, 16 (Bender WDT). Thus, the point of the minimum fee from SoundExchange's perspective is simply to ensure that every licensee makes a reasonable

contribution to the costs of administering the statutory license. Ex. 5625 ¶ 13 (Ploeger WRT); *id.*, App. A at ¶ 51 (Bender WDT). The minimum fee should double so that each channel or station's contribution to the costs of administering the statutory license will at least come close to maintaining parity with the pre-*Web IV* level of contribution. *Id.* at ¶ 14 (Ploeger WRT); *id.*, App. A at ¶ 51 (Bender WDT).

C. The Need for an Increase in the Minimum Fee Is Reflected in SoundExchange's Settlement with CBI

1554. The need for an increase in the minimum fee is recognized in SoundExchange's settlement with CBI in this proceeding. Ex. 5625 ¶ 15 (Ploeger WRT). That settlement provides that the minimum fee paid by the webcasters subject to it will increase in $50 steps to $750 in 2025. 85 Fed. Reg. 12745, 12746.

1555. SoundExchange was willing to agree to that more limited increase for two reasons. Ex. 5625 ¶ 15 (Ploeger WRT). *First*, it avoided the complexities and incremental costs of litigating with a group of webcasters that collectively paid only $336,800 in statutory royalties (including reporting waiver fees) in 2018. *Id.*; *see also id.*, App. A. at ¶ 33 (Bender WDT). It was worth it to SoundExchange to accept a smaller increase in the minimum fee to avoid that. *Id.* at ¶ 15 (Ploeger WRT).

1556. *Second*, as a group, the noncommercial educational webcasters covered by the settlement impose lower costs on SoundExchange than other webcasters. *Id.* In 2018, there were 572 noncommercial educational webcaster licensees, and 558 of them (98%) elected the reporting waiver option described in current 37 C.F.R. § 380.23(g)(1) (and paid the additional $100 proxy fee associated with that waiver). *Id.* As a result, for noncommercial educational webcasters, SoundExchange incurs very substantially diminished costs of chasing after late reports of use, reconciling and loading reports of use, matching reports of use to known repertoire, and dealing

with bad data on reports of use. *Id.* While SoundExchange does not track any of those expenses specifically or on a per-licensee basis, they are for other webcasters a significant part of SoundExchange's per-licensee cost. *Id.* The reporting waiver and proxy fee carry forward under SoundExchange's settlement with CBI. *Id.* Thus, in settling with a group for which SoundExchange mostly does not incur costs associated with reports of use, and that instead mostly pays $100 more than the base minimum fee, it was reasonable for SoundExchange to accept a lower minimum fee than it would from other categories of webcasters that impose higher costs on SoundExchange. *Id.*

D. Other Indicators Also Support a Substantial Increase in the Minimum Fee at This Time

1557. It is apparent that statutory licensees have gotten a bargain with a nominal minimum fee that was always on the low side and has been part of the statutory rate structure for over twenty years. Ex. 5625, App. A ¶ 42 (Bender WDT); *see also Web IV*, 81 Fed. Reg. at 26397 ("a higher minimum fee could be justified"); *Web II*, 72 Fed. Reg. at 24096 ("proposed minimum fee is low"); *Web I*, 67 Fed. Reg. at 45262 ("[i]f anything, the fee may be viewed as too low"). As a result, multiple other indicators all suggest that an increase is warranted. *See* Ex. 5602 ¶ 188 (Orszag WDT) ("[i]t is reasonable to expect it would go up eventually").

1558. The Consumer Price Index is a reasonable reference point for considering trends in SoundExchange's costs over time, because it takes into account different types of costs. 8/11/20 Tr. 1470:21-1471:11, 1473:13-1474:4 (Orszag). According to the Bureau of Labor Statistics' Consumer Price Index inflation calculator, $500 in October 1998 was equivalent to $782.19 in August 2019. Ex. 5625, App. A ¶ 43 (Bender WDT). By the beginning of the next rate period in January 2021, that can reasonably be expected to be about $818, and of course it will continue growing during the coming rate period. Ex. 5603 ¶ 174 (Orszag WRT); Ex. 5625, App. A ¶ 43

(Bender WDT). The minimum fee should increase substantially just to restore it to the equivalent purchasing power of what it was when it first went into effect. Ex. 5602 ¶ 188 (Orszag WDT); Ex. 5625, App. A ¶ 43 (Bender WDT); 8/11/20 Tr. 1467:6-20 (Orszag).

1559. Prices of services have gone up more rapidly than consumer prices generally. As a result, one would expect SoundExchange's administrative costs to have gone up more rapidly than the increase in the Consumer Price Index. Thus, an increase in the minimum fee to $1,000 would be consistent with the transaction costs associated with administering the statutory licenses. 8/11/20 Tr. at 1467:21-1468:4, 1469:13-17, 1469:24-1470:2 (Orszag).

1560. Per-performance statutory royalty rates have also increased significantly over the last 20 years. Ex. 5625, App. A ¶ 44 (Bender WDT). The Librarian determined in *Web I* that for the period October 28, 1998, through December 31, 2002, ad-supported commercial webcasters should pay a royalty of $0.0007 per performance, plus an additional 8.8% for ephemeral recordings, for a total rate of $0.0007616. *Web I*, 67 Fed. Reg. at 45273. In 2019 and 2020, the corresponding rate is $0.0018 per performance, 2.36 times the 1998-2002 rate. *See* 37 C.F.R. § 380.10(a)(1). If the minimum fee today were set to cover the same number of performances as contemplated by the Librarian in *Web I*, it would be over $1180. Ex. 5625, App. A ¶ 44 (Bender WDT); 9/9/20 Tr. at 5796:17-24 (Ploeger).

1561. Similarly, when the Judges first considered webcasting royalties in *Web II*, they determined that for 2006, subscription and ad-supported commercial webcasters should pay a royalty of $0.0008 per performance. *Web II*, 72 Fed. Reg. at 24111. That compares to 2020 rates of $0.0024 per performance for subscription services and $0.0018 per performance for ad-supported services, increases of 3 times and 2.25 times, respectively. *See* 37 C.F.R. § 380.10(a)(1). If the minimum fee today were set to cover the same number of performances as contemplated by

the Judges for 2006, it would be $1,500 for subscription services and $1,125 for ad-supported services. *See* Ex. 5625, App. A ¶ 45 (Bender WDT).

1562. An increase in the minimum fee is also justified by a generally increasing level of usage. Ex. 5602 ¶ 188 (Orszag WDT); Ex. 5625, App. A ¶ 52 (Bender WDT). The Judges have observed that "[b]ecause this minimum fee of $500 is meant to cover administrative costs, it does not address actual usage." *Web II*, 72 Fed. Reg. at 24099. As a result, they explained that "it would be reasonable to add at least the bare minimum suggested by the Services' proposals as payment for usage to the $500 minimum fee for administration." *Id.* at 24099. The amount of usage per minimum fee payment has been going up.

1563. Digital streaming is an increasingly important way that consumers enjoy music. Ex. 5625, App. A ¶ 52 (Bender WDT). Streaming was a novelty back when the $500 minimum fee was first set. *Id.* Now, music streaming in general constitutes about 75% of total U.S. recording industry revenue, and SoundExchange distributions constitute about 14% of total U.S. recording industry revenue. *Id.*; *see also* Ex. 1081 at 1; Ex. 5604 at 90, App. 1 (Tucker WDT). Consistent with that trend, SoundExchange has observed a marked increase in the average number of performances across all webcasters whose royalties are administered by SoundExchange. Ex. 5625, App. A ¶ 52 (Bender WDT). However, there has not been a corresponding increase in the average number of channels per webcaster, implying an increase in per channel or station usage. *Id.* Growth in per channel or station usage means that if minimum fees are to both cover usage and ensure a contribution to the costs of administering the statutory license, minimum fees should go up. *Id.*

1564. The Judges and the Librarian before them have also looked to fees for the performance of musical works as a check on the reasonableness of the minimum fee under the

statutory license. *Id.*, App. A at ¶ 53 (Bender WDT); *see also Web II*, 72 Fed. Reg. at 24099 n.45; *Web I*, 67 Fed. Reg. at 45262-63. While the use of musical work rates to set sound recording rates has otherwise been thoroughly rejected, which SoundExchange believes is proper, such data further confirms the reasonableness of SoundExchange's $1,000 minimum fee proposal in this proceeding. Ex. 5625, App. A ¶ 53 (Bender WDT).

1565. Pursuant to the Judges' regulations under Section 118 of the Copyright Act, in 2021, the smallest college broadcasting stations will pay $746 just for use of ASCAP and BMI musical works, plus more if they license musical works through SESAC and Global Music Rights. *Id.* (citing 37 C.F.R. § 381.5(c)(1)(i) & (2)(i) (calculated as $373 + $373 = $746)). College broadcasting stations affiliated with large schools will pay $1,928 for use of ASCAP and BMI musical works. *Id.* (citing 37 C.F.R. § 381.5(c)(1)(i) & (2)(i) (calculated as $964 + $964 = $1,928)). In the case of public broadcasting entities, music format stations in even the smallest markets will pay $1,639 for use of ASCAP, BMI and SESAC musical works. *Id.* (citing 37 C.F.R. § 381.6(d)(1)(i), (2)(i) & (3)(i) (calculated as $739 + $739 + $161 = $1,639)). In large markets the number is $14,532. *Id.* (citing 37 C.F.R. § 381.6(d)(1)(i), (2)(i) & (3)(i) (calculated as $6,594 + $6,594 + $1,344 = $14,532)). As the Judges are well aware, "sound recording rights are paid multiple times the amounts paid for musical works rights" in unregulated markets. *Web II*, 72 Fed. Reg. at 24094. A sound recording minimum fee that is less than the musical works royalties paid by all but the smallest broadcasters is certainly reasonable. Ex. 5625, App. A ¶ 53 (Bender WDT).

1566. Lastly, SoundExchange's proposed $100,000 annual minimum fee cap for large commercial webcasters with 100 or more channels or stations is consistent with the minimum fees paid by PSS and SDARS (37 C.F.R. § 382.3(b)) and by new subscription services transmitted

through cable and satellite television networks (37 C.F.R. § 383.3(b)). Ex. 5625, App. A ¶ 54 (Bender WDT).

XIII. Ephemerals

1567. In this proceeding, the Judges not only must determine performance royalties under Section 114, but also ephemeral recording royalties under Section 112(e). 17 U.S.C. § 112(e)(3)-(4). Currently, the Judges' regulations provide that licensees are to pay to SoundExchange a bundled Section 112/114 royalty, and that SoundExchange is to allocate 5% of the bundled royalty as Section 112 royalties and the remaining 95% as Section 114 royalties. 37 C.F.R. § 380.10(d).***

1568. There is no substantive disagreement among the participants about continuing this basic arrangement. The Services generally propose keeping the current regulatory language. Sirius XM and Pandora First Amended Proposed Rates and Terms at 1 (proposing that the current terms continue except as otherwise indicated); Google Proposed Rates and Terms at 1; NAB Proposed Rates and Terms at 9; NRBNMLC Amended Proposed Rates and Terms Ex. A at 9 (Alternative 1). SoundExchange proposes only some clarifying editorial changes to Section 380.10(d). SoundExchange Proposed Rates and Terms at 3, 22; Ex. 5625, App. A ¶ 55 (Bender WDT). NRBNMLC has incorporated SoundExchange's proposed editorial changes into its proposed Alternative 2. NRBNMLC Amended Proposed Rates and Terms Ex. A at 12. The Judges should continue the current allocation between Section 112 and Section 114 royalties while making the editorial changes to the regulation proposed by SoundExchange and embraced by NRBNMLC. Ex. 5625 ¶ 76 (Ploeger WRT).

A. The Ephemeral License Has Economic Value, and It Is Appropriate to Express the Value of Ephemeral Copies as a Fixed Percentage of a Bundled Royalty

1569. The designated *Web III* testimony of Dr. George Ford supports continuing the current structure of a bundled Section 112/114 royalty allocated 5% to Section 112 and 95% to Section 114. Ex. 5616 (Des. WDT of Ford, Web III); *see also Web IV*, 81 Fed. Reg. at 26397-98.

1570. "[W]ebcasters must have both the ephemeral copy right as well as the performance right in order to operate their services." Ex. 5616 at 11 (Des. WDT of Ford, Web III). Accordingly, "ephemeral copies have economic value to services that publicly perform sound recordings because these services cannot, as a practical matter, properly function without those copies." *Id*.

1571. Historically, in marketplace agreements between record companies and music services for non-statutory forms of licenses, "it is typical for ephemeral copy rights to be expressly included among the grant of rights provided" to the services. *Id.* "Most of these agreements do not set a distinct rate for those ephemeral copies, incorporating them instead into the overall rate that the [music services] pay[] for the combined ephemeral copy rights and performance rights." *Id.* at 11-12.

1572. The same remains true today, as evidenced by agreements in the record of this proceeding. *E.g.*, Ex. 4035 at 11-12, 16-19 ([ ]); Ex. 5037 at 3-4, 5-9 ([ ]); *see also* Ex. 5625, App. A ¶ 56 (Bender WDT).

1573. To the extent that voluntary agreements for sound recording licensing directly establish a royalty rate for ephemeral copies, it is almost always expressed as a percentage of an overall bundled royalty rate. Ex. 5616 at 12-14 (Des. WDT of Ford, Web III). Thus, the available

evidence suggests that as a structural matter, setting the ephemeral rate as a percentage of an overall payment is consistent with marketplace negotiation. *Id.* at 14.

B. The Best Benchmark for the Allocation Is the Agreement Between Artists and Record Companies

1574. Because allocation of the overall royalty pool between Section 112(e) and Section 114 has no effect on the Services, the "best indication of the proper allocation of royalties" is an "agreement between the record companies and the artists." *Id.* at 15. The evidence shows that "recording artists and the record companies have reached an agreement that five percent (5%) of the payments for activities under Section 112(e) and 114 should be allocated to Section 112(e) activities." *Id.* at 16; *see also* Ex. 5625, App. A ¶ 56 (Bender WDT).

1575. As a result, a 95%-5% split "credibly represents the result that would in fact obtain in a hypothetical marketplace negotiation between a willing buyer and the interested willing sellers under the relevant constraints." Ex. 5616 at 16 (Des. WDT of Ford, Web III). In *Web IV*, the Judges accepted this split "to continue the current bundling of the Section 112 and 114 rates." *Web IV*, 81 Fed. Reg. at 26398. The record in this proceeding provides every reason to follow that same approach here and no reason to deviate from it.

C. The Judges Should Make the Editorial Changes Proposed by SoundExchange and Embraced by NRBNMLC

1576. SoundExchange has generally proposed conforming the webcasting regulations to the rate regulations for PSS and SDARS. Ex. 5625, App. A ¶¶ 57, 59-62 (Bender WDT). However, the PSS/SDARS regulations divide the treatment of the ephemeral/performance fee split between 37 C.F.R. § 382.3(b), which addresses the split of the annual minimum fee, and 37 C.F.R. §§ 382.10(b)/382.21(b), which address the split of running royalties for PSS and SDARS. Ex. 5625, App. A ¶ 57 (Bender WDT). Addressing this issue in the regulations only once is sufficient and less likely to produce confusion for users of the regulations. *Id.* Thus, SoundExchange

proposes amending 37 C.F.R. § 380.10(d) to use language more like 37 C.F.R. § 382.3(b), which clearly states the effect of the 95%-5% split. This change will not have any effect other than making the current rule clearer. *Id*.

1577. SoundExchange's proposed editorial changes are consistent with the NPR and CBI settlements that the Judges have already adopted in this proceeding. *See* 85 Fed. Reg. at 12746 (CBI); 85 Fed. Reg. at 11858 (NPR).

XIV. Terms and Other Regulatory Language

A. Standards for the Adoption of Terms and Other Regulatory Language

1578. Sections 112(e) and 114 require that the Judges adopt *terms* for the statutory license, as well as rates. 17 U.S.C. §§ 112(e)(3), 114(f)(1)(A); *see also Web IV*, 81 Fed. Reg. at 26398. Terms include matters such as "how payments are to be made, when, and other accounting matters." S. Rep. No. 104-128, at 30 (1995). In adopting terms, the Judges are to be guided by the same willing buyer/willing seller standard that governs the establishment of rates. 17 U.S.C. § 114(f)(1)(B); *Web II*, 72 Fed. Reg. at 24102. The Judges also have an obligation to adopt "terms that will facilitate an efficient collection, distribution and administration of the statutory royalties." *Web II*, 72 Fed. Reg. at 24102; *see also SDARS II*, 78 Fed. Reg. at 23073 ("adopt[ing] terms that are practical and efficient").***

B. Consistency with PSS/SDARS Regulations

1579. SoundExchange proposes that the Judges generally conform the webcasting regulations to the PSS/SDARS regulations in Part 382, except where there is a good reason not to. Ex. 5625 ¶ 56 (Ploeger WRT); *Id.*, App. A at ¶ 59 (Bender WDT). Its proposed regulations include drafting notes that explain the proposed changes from the current webcasting regulations, including the numerous changes that simply reflect conformance to the current PSS/SDARS

regulations. *Id.*, App. A at ¶ 62 (Bender WDT); SoundExchange Proposed Rates and Terms at 7-22.

1580. By contrast, the Services have proposed continuing all but a few selected parts of the regulatory language currently in Subparts A and B of 37 C.F.R. Part 380. As a result, the Services are implicitly proposing to allow the webcasting regulations to fall out of step with the PSS/SDARS regulations. Ex. 5625 ¶¶ 7, 53 (Ploeger WRT). That would introduce complexity and confusion for both licensees and SoundExchange staff. *Id.* at ¶ 53 (Ploeger WRT); *id.*, App. A at ¶ 61 (Bender WDT).

1581. The Judges have long emphasized the importance of consistency of terms across statutory license rate categories. *SDARS II*, 78 Fed. Reg. at 23073-74 ("[T]he Judges seek, where possible, consistency across licenses to promote efficiency and minimize costs in administering the licenses."); *see also Web III*, 76 Fed. Reg. at 13042; *SDARS I*, 73 Fed. Reg. at 4098-99.***

1582. There are significant operational advantages for both SoundExchange and licensees in having regulatory provisions that are relatively consistent across rate categories, absent good reason for inconsistency. Ex. 5625 ¶¶ 53, 56-57 (Ploeger WRT); *id.*, App. A at ¶¶ 60-61 (Bender WDT). Differences in the regulations for different types of services require extra work by SoundExchange staff, because SoundExchange needs to consider whether answers to questions and implications of the regulations for its processes vary among service types, and in some cases may need to proceed differently depending on the type of service involved. Providers of PSS and SDARS services may face similar considerations as well, since they both webcast and provide services subject to the PSS/SDARS regulations. *Id.*, App. A at ¶ 61 (Bender WDT); 9/9/20 Tr. 5807:14-18 (Ploeger).

1583. Even minor differences in the regulations for different types of services can require extra work by SoundExchange staff. For example, the definitions in the webcasting regulations are in Section 380.7, at the end of Subpart A, while the PSS/SDARS definitions are in Section 382.1, at the beginning of Subpart A. In *SDARS III*, the Judges found the placement of the webcasting definitions "counterintuitive." 83 Fed. Reg. at 65261. It is confusing and inconvenient to have them in different places, because that means that SoundExchange staff, and potentially licensee staff as well, need to spend unnecessary time flipping through the regulations trying to find where the definitions relevant to a particular issue are located. Ex. 5625 ¶ 57 (Ploeger WRT).

C. Designating SoundExchange as the Collective

1584. All participants in this proceeding have proposed that SoundExchange continue as the Collective designated by the Judges to collect and distribute statutory royalties. SoundExchange Proposed Rates and Terms at 12, 16; Sirius XM and Pandora First Amended Proposed Rates and Terms at 1 (proposing that the current terms continue except as otherwise indicated); Google Proposed Rates and Terms at 2 (same); NAB Proposed Rates and Terms at 1, 3, 6; NRBNMLC Amended Proposed Rates and Terms Ex. A at 2, 4, 7. The Judges should again designate SoundExchange as the Collective.

1585. As the Judges found in *Web IV*, SoundExchange has developed an "administrative and technological knowledge base . . . over its years of service as the Collective." *Web IV*, 81 Fed. Reg. at 26400. This includes sophisticated systems, specialized business processes, an authoritative repertoire database, and a wealth of talent, all specifically oriented toward the effective and efficient collection and distribution of statutory royalties. Ex. 5625 ¶ 75 (Ploeger WRT); *id.*, App. A at ¶¶ 9-31 (Bender WDT).

1586. SoundExchange has also earned the support and trust of both performers and copyright owners. Ex. 5621 ¶¶ 16-21 (Hair WDT). With a large membership and base of other

registered payees, SoundExchange is able to pay artists and copyright owners on a current basis for the vast majority of reported usage that can be matched to known repertoire. Ex. 5625 ¶ 75 (Ploeger WRT); *id.*, App. A at ¶¶ 6, 23 (Bender WDT).

1587. SoundExchange also operates very efficiently, with administrative costs that are only about 4% of royalties distributed. *Id.*, App. A at ¶ 8 (Bender WDT). Any change in the Collective would be highly disruptive to the orderly flow of royalties to the artists and copyright owners that earn them. *Id.*, App. A at ¶ 31 (Bender WDT).

D. Audit Terms

1588. The statutory license operates on the honor system. Only licensees—not SoundExchange—have visibility into the use of recordings on their services, the extent of their reliance on the statutory license, and the number of performances transmitted. *Id.*, App. A at ¶ 89 (Bender WDT). The verification procedures provided by the Judges' regulations (what are colloquially and in the regulations referred to as "audits") are supposed to provide transparency into such matters. 9/9/20 Tr. 5808:3-5 (Ploeger); Ex. 5625, App. A ¶ 88 (Bender WDT).

1589. The Copyright Office has stated on multiple occasions that such "transparency is critical where copyright owners are compelled by law to license their works." *Music Modernization Act Notices of License, Notices of Nonblanket Activity, Data Collection and Delivery Efforts, and Reports of Usage and Payment*, 85 Fed. Reg. 22518, 22526 (Apr. 22, 2020) (quoting *Mechanical and Digital Phonorecord Delivery Compulsory License*, 79 Fed. Reg. 56190, 56201 (Sept. 18, 2014)). The Judges have likewise recognized the importance of "accuracy and transparency" in statutory royalty accounting. *SDARS II*, 78 Fed. Reg. at 23073, 23080.***

1590. Unfortunately, as the Judges heard from Mr. Ploeger at trial, the statutory license "audit system is broken." 9/9/20 Tr. 5808:5, 5808:19 (Ploeger); *see also* Ex. 5625 ¶ 77 (Ploeger WRT) (noting that the system "is not working well"). SoundExchange's experience has been that

licensees increasingly are delaying and stonewalling audits to prevent meaningful scrutiny of their activities. Ex. 5625 ¶ 77 (Ploeger WRT); *id.*, App. A ¶ 89 (Bender WDT). Section 380.7 of SoundExchange's proposed regulations incorporates a number of interrelated proposals that are intended to work together, make it practicable for SoundExchange to discover underpayments through audits, and thereby maintain appropriate incentives for webcasters to comply with their payment obligations under the Judges' regulations. *Id.*, App. A at ¶ 88 (Bender WDT); SoundExchange Proposed Rates and Terms at 18-20.

1. Late Fee for Late Payments Discovered in Audits

1591. The current webcasting regulations specify that underpayments discovered during the course of audits are to be paid with interest at the rate applicable to late payments of statutory royalties in general (1.5% per month). 37 C.F.R. §§ 380.2(d), 380.6(g). The Judges specifically added language to this effect in *Web IV*, finding that "[t]he 1.5% rate is an accepted rate in the market," *Web IV*, 81 Fed. Reg. at 26399, and that in an audit context "[a]s with any untimely payment, a Licensee that is obligated to remedy an underpayment is liable to pay reasonable interest thereon," *id.* at 26402. *Compare id.* at 26408, *with Web III Remand*, 80 Fed. Reg. at 23130.***

1592. This arrangement is similar to the late fee under Section 115 of the Copyright Act. There, the Judges have set a late fee of 1.5% per month "for any payment owed to a Copyright Owner and remaining unpaid after the due date." 37 C.F.R. § 385.3. There is no exception for late payments that are not discovered until an audit, and the Copyright Act specifies that "[l]ate fees for past due royalty payments shall accrue from the due date for payment until payment is received by the mechanical licensing collective." 17 U.S.C. § 115(d)(8)(B)(i).***

1593. However, in *SDARS III*, the Judges determined that the federal post-judgment rate in 28 U.S.C. § 1961, rather than the 1.5% per month late fee, should apply to late payments discovered in audits of SDARS and PSS. *SDARS III*, 83 Fed. Reg. at 65262.***

1594. In Section 380.7(g) of its proposed regulations, SoundExchange proposes that the Judges stick with the approach they adopted in *Web IV*, rather than adopting the change made in *SDARS III*. *Compare* SoundExchange Proposed Rates and Terms at 19, *with* Sirius XM and Pandora First Amended Proposed Rates and Terms at 2; Google Proposed Rates and Terms at 3; NAB Proposed Rates and Terms at 6; NRBNMLC Amended Proposed Rates and Terms Ex. A at 6.

1595. As of late August 2020, the federal post-judgment rate in 28 U.S.C. § 1961 was 0.13% per year. That is because the federal post-judgment rate is the "weekly average 1-year constant maturity Treasury yield, as published by the Board of Governors of the Federal Reserve System." 28 U.S.C. § 1961(a). That rate is reported by the Board of Governors of the Federal Reserve System on a daily basis at https://www.federalreserve.gov/releases/h15. Ex. 5625 ¶ 63 (Ploeger WRT); *id.*, App. A at ¶ 109 (Bender WDT). Ex. 5511 is the Federal Reserve's interest rate report for the week preceding August 28, 2020, which shows the 1-year constant maturity Treasury yield fluctuating between 0.12% and 0.14%, with an average of 0.13%. Ex. 5511 at 1; *see also* 8/31/20 Tr. 4525:1-7 (Barry) (agreeing that Sirius XM is proposing to reduce the late fee for underpayments discovered in audits to "less than .15 percent per year").

1596. For the reasons set forth below, 0.13% per year is not an appropriate interest rate for late payments discovered during the course of audits of webcasters. The Judges should continue to apply the generally-applicable 1.5% per month late fee. *See generally* Ex. 5625 ¶¶ 58-66 (Ploeger WRT); *id.*, App. A at ¶¶ 107-11 (Bender WDT).

i. The Webcasting Context Is Different from the PSS/SDARS Context

1597. Even though the Judges adopted a near-zero late fee for underpayments by PSS and SDARS that are discovered in audits, the Judges should not do so here, because the webcasting context is quite different. *Id.*, App. A at ¶ 90 (Bender WDT).

1598. First, there are only three services subject to the PSS/SDARS regulations: Sirius XM, Music Choice, and Muzak. This small, closed set of licensees consists of established companies that are well known to SoundExchange and pay sufficiently large amounts of royalties that it is feasible for SoundExchange to audit all of them periodically. *Id.*; 9/9/20 Tr. 5814:10-18 (Ploeger). By contrast, there are about 3,500 webcaster licensees. Beyond a handful of the largest webcasters, most of them will not be audited for any particular year. Ex. 5625, App. A ¶ 90 (Bender WDT); *see* 9/9/20 Tr. 5812:6-20 (Ploeger) (describing considerations in selecting licensees for audit).

1599. For example, since the beginning of 2018, SoundExchange has commenced audits of only the following 13 webcasters: Alpha Media, Google and Music Choice (*Notice of Intent to Audit*, 83 Fed. Reg. 3032 (Jan. 22, 2018)), Educational Media Foundation (*Notice of Intent to Audit*, 84 Fed. Reg. 1234 (Feb. 1, 2019)), Entercom and iHeart (*Notice of Intent to Audit*, 84 Fed. Reg. 1235 (Feb. 1, 2019)), AccuRadio (*Notice of Intent to Audit*, 84 Fed. Reg. 1235 (Feb. 1, 2019)), TuneIn (*Notice of Intent to Audit*, 84 Fed. Reg. 26,706 (June 7, 2019)), Sirius XM (*Notice of Intent to Audit*, 84 Fed. Reg. 45,175 (Aug. 28, 2019)), Slacker (*Notice of Intent to Audit*, 85 Fed. Reg. 3427 (Jan. 21, 2020)), Spanish Broadcasting System (*Notice of Intent to Audit*, 85 Fed. Reg. 3427 (Jan. 21, 2020)), Deseret Management Corporation (*Notice of Intent to Audit*, 85 Fed. Reg. 3428 (Jan. 21, 2020)), and Mood Media (*Notice of Intent to Audit*, 85 Fed. Reg. 12031 (Feb. 28, 2020)).

See also Ex. 5625, App. A ¶ 29 (Bender WDT). This means that over 99.5% of webcasters relying on the statutory license were *not* selected for auditing by SoundExchange over the past three years.

1600. As a result, webcasting licensees face a moral hazard different from PSS and SDARS. Because most webcasters are unlikely to be audited, underpayments are unlikely to be caught, creating an incentive to underpay statutory royalties. *Id.*, App. A at ¶¶ 90, 108 (Bender WDT). The *Web IV* regulations counterbalance that incentive with a late fee high enough to encourage compliance. *Id.*, App. A at ¶ 108 (Bender WDT). Adopting a near-zero late fee would exacerbate that hazard. *Id.*, App. A at ¶ 90 (Bender WDT).

1601. Second, the webcasting rate structure is simpler than the rate structure for PSS and SDARS. Webcasters need only count their performances. Computers are very good at counting. *Id.*, App. A at ¶ 91 (Bender). Thus, there is less opportunity for underpayments occasioned by "good-faith" differences of opinion than in the PSS and SDARS context, Ex. 4092 ¶ 46 (Witz WDT), where the percentage-of-revenue structure can and has given rise to complex interpretive disputes. Ex. 5625, App. A ¶ 91 (Bender WDT); *see generally Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services*, 82 Fed. Reg. 56725 (Nov. 30, 2017).

ii. Webcasters Pay Interest at Much Higher Rates on General Corporate Borrowing

1602. The federal post-judgment rate is very low relative to the costs of borrowing by webcasters. For example, the prime rate is the interest rate at which banks lend to their best customers. Ex. 5625 ¶ 63 (Ploeger WRT). During the same August 2020 timeframe when the federal post-judgment rate in 28 U.S.C. § 1961 was 0.13% per year, the prime rate was 3.25%—25 times higher. Ex. 5511 at 1. As of August-September 2019, the prime rate was 5.25%. Ex. 5002 at 1; Ex. 5625, App. A ¶ 110 (Bender WDT).

1603. Further, the current prime rate is not necessarily indicative of the rates that webcasters would pay on their borrowing. Cumulus has term loans bearing interest at various rates up to prime + 3.5% and LIBOR + 4.5%, as well as senior notes bearing interest at 6.75%. Ex. 3042 at 40-43. iHeart recently issued senior secured notes bearing an interest rate of 5.25%. Ex. 5006 at 1; Ex. 5625, App. A ¶ 110 (Bender WDT). Sirius XM has outstanding debt bearing interest at rates ranging from 3.875% to 6% (excluding debt convertible into equity). Ex. 5175 at 25; Ex. 5625, App. A ¶ 110 (Bender WDT). Educational Media Foundation has outstanding debt bearing interest at rates ranging from 4.01% to 7.3%. Ex. 5238 at 18.

1604. Setting a late fee for underpayments that is substantially lower than the Services' cost of borrowing risks creating perverse incentives for webcasters, in particular smaller webcasters that are thinly capitalized, less creditworthy, or lack easy access to the capital markets. *See, e.g.*, Ex. 3061 ¶ 17 (Cordes CWDT). It would be economically rational for such webcasters to treat underpayments to SoundExchange as their cheapest available source of capital, effectively using royalties earned by artists and copyright owners as a revolving line of credit. *See* Ex. 5625 ¶ 61 (Ploeger WRT); *id.*, App. A at ¶ 108 (Bender WDT). It would be especially rational for webcasters to adopt this unscrupulous approach given the low likelihood of getting caught (given the low incidence of SoundExchange audits discussed above). *Id.*, App. A ¶ 90 (Bender WDT); *see* 9/9/20 Tr. 5812:6-20 (Ploeger). Moreover, cutting the late fee for underpayments discovered in audits would create an incentive for the very few licensees who *are* audited to delay that process for as long as possible. Ex. 5625 ¶ 65 (Ploeger WRT). All of this would be plainly contrary to the intent of the Copyright Act and is an outcome that the Judges should avoid.

iii. Record Evidence Suggests a Substantial Risk of Underpayments by Webcasters that Are Not the Result of Good Faith Errors

1605. The asserted justification for the Services' proposal to cut the late fee is that 1.5% per month is too high for "good-faith underpayments." Ex. 4092 ¶ 46 (Witz WDT). However, licensees should and do have quality assurance processes to catch those kinds of errors promptly. Ex. 5625 ¶ 59 (Ploeger WRT); Ex. 2162 ¶ 7 (Ritz WRT). When errors are promptly reported to SoundExchange, SoundExchange sometimes waives late fees. Ex. 5625 ¶ 59 (Ploeger WRT).

1606. Moreover, the Services' proposal is not limited to good-faith, inadvertent errors. Sirius XM and Pandora First Amended Proposed Rates and Terms at 2; Google Proposed Rates and Terms at 3; NAB Proposed Rates and Terms at 6; NRBNMLC Amended Proposed Rates and Terms Ex. A at 6. Their proposal would reduce to near-zero the late fee on late payments discovered in audits even where the underpayment is the result of a deliberate policy decision or even outright fraud, neither of which SoundExchange could discover absent an audit. Ex. 5625 ¶ 60 (Ploeger WRT); 9/9/20 Tr. 5808:10-12 (Ploeger) ("[W]hen we do perform audits, we often find underpayments, sometimes systemic ones based on their practices and their behavior.").

1607. For example, the Judges have on multiple occasions declined to exclude performances of short duration from statutory royalty payment calculations. *Web IV*, 81 Fed. Reg. at 26403; *Web III Remand*, 79 Fed. Reg. at 23124-25. The *Web I* Copyright Arbitration Royalty Panel also declined to provide such an exclusion. *Report of the CARP in Docket No. 2000-9*, CARP DTRA 1 & 2, at 105-07 (Feb. 20, 2002), *aff'd in part and rev'd in part*, 67 Fed. Reg. 45240, 45259-60 (July 8, 2002).***

1608. Nonetheless, auditors have reported to SoundExchange that some webcasters have excluded performances of short duration from their statutory royalty payment calculations. 9/9/20 Tr. 5815:2-12 (Ploeger) Three examples from completed audits are as follows:

- The auditor auditing [ ]. Ex. 5242 at 10-11; Ex. 5625 ¶ 61 (Ploeger WRT). The auditor estimated that this resulted in an underpayment of [ ]. Ex. 5242 at 10.
- The auditor auditing [ ] Ex. 5243 at 8-9, 16-17; Ex. 5625 ¶ 61 (Ploeger WRT). The auditor estimated that this resulted in an underpayment of [ ]. Ex. 5243 at 10.
- The auditor auditing [ ]. Ex. 5244 at 14. The auditor estimated that this resulted in an underpayment of [ ]. *Id*. at 14, 62.

1609. In addition, [ ] Ex. 5625, App. A ¶ 114 (Bender WDT). Triton markets its reporting services as excluding streaming sessions of less than one minute, internally-generated streams, and certain data from sessions of greater than 24 hours. Ex. 5003 at 12-13; Ex. 5625, App. A ¶ 114 (Bender WDT). This has raised questions for SoundExchange and auditors as to whether reporting of performances by Triton's many customers is consistent with the requirements of the Judges' regulations. Ex. 5625, App. A ¶ 114 (Bender WDT).

iv. Willing Buyers and Willing Sellers Would Not Agree to a Near-Zero Late Fee

1610. Adopting the federal post-judgment rate as a late fee would not meet the willing buyer/willing seller standard under Section 114(f)(1)(B). Mr. Bender's written testimony, affirmed by Mr. Ploeger, states that "I have never heard of an agreement in the music industry providing a special low late fee for underpayments discovered in audits, nor any late fee of under 2% per year."

Ex. 5625, App. A ¶ 110 (Bender WDT). Instead, late fees in music industry agreements are most often 1.5% per month, with no special discount for underpayments discovered in audits. *Id.*

1611. Agreements in the record show [ ] *See, e.g.*, Ex. 4035 at 20, 28 ([ ]); Ex. 5111 at 24, 34 ([ ]).

1612. [ ]. *See, e.g.*, Ex. 5012 at 13, 15 ([ ]); Ex. 5103 at 21, 28 ([ ]).

1613. [ ] For instance, a [ ]. Ex. 5013 at 38, 80; *see also, e.g.*, Ex. 5037 at 68-69 ([ ]); Ex. 5011 at 2, 4 ([

[redacted]]);

Ex. 4031 at 27, 35-36 ([redacted]).

v. The Services Provided No Evidence of Hardship Due to the Current Late Fee on Late Payments Discovered in Audits

1614. In *Web IV*, the Judges rejected a proposal to reduce the late fee in part because "the services produced no evidence of actual hardship from the current rate of 1.5%" per month. *Web IV*, 81 Fed. Reg. at 26399.***

1615. The same is true in this proceeding. Despite the Services' complaints about the late fee, the evidence shows that when audits discover underpayments that are not disputed, licensees are in no hurry to pay up. Ex. 5625 ¶ 62 (Ploeger WRT). For example, SoundExchange's audit of [redacted]. Over [redacted] of underpayments were not disputed. Ex. 5244 at 124-126, 131; Ex. 5625 ¶ 62 (Ploeger WRT). The auditor provided [redacted] a draft report in [redacted], and [redacted] acknowledged the underpayments in [redacted]). Ex. 5244 at 120. However, SoundExchange did not receive this money until the parties reached a general settlement in [redacted]. Ex. 5625 ¶ 62 (Ploeger WRT). If a service is willing to incur [redacted] of late fees on an undisputed debt, the late fees cannot be as punishing as the Services claim. *Id*.

1616. This experience leaves SoundExchange concerned that if the late fee were near zero, it would never be able to collect even undisputed amounts, except perhaps by suing the licensee and litigating to a final judgment. *Id.*

vi. The Late Fee Should Motivate Compliance and Prevent Irreparable Injury to Artists and Rights Owners

1617. SoundExchange agrees with Ms. Witz of Sirius XM that the 1.5% per month late fee is intended "to motivate licensees to submit timely payments." Ex. 4092 ¶ 46 (Witz WDT). However, the need for such motivation does not end when a licensee makes a partial payment of what it owes. A meaningful late fee, applicable at all times until full payment is received, is critically important to motivate webcaster compliance with statutory license requirements. Ex. 5625 ¶ 66 (Ploeger WRT).

1618. Cutting the late fee for underpayments discovered in audits would harm artists and copyright owners even when the underpayment is eventually discovered and late fees paid. *Id.* at ¶ 64 (Ploeger WRT). When services underpay, they are in effect borrowing the money from artists and copyright owners. In many cases the payees need that money to make ends meet. *Id.*; Ex. 5621 ¶¶ 11, 13 (Hair WDT); *see also* Ex. 5623 ¶ 22 (Gauthier WDT); 9/9/20 Tr. 5978:5-10 (Gauthier) ("I can count on that money every month. And it has been particularly important since I can't be on the road right now."). In other cases, if artists and copyright owners received the money on a timely basis, they could invest it for a much higher rate of return than the post-judgment rate. Thus, the late fees proposed by the Services would not make artists and copyright owners whole for the lost time value of money that was paid late, even though SoundExchange distributes the late fees it collects to artists and copyright owners. Ex. 5625 ¶ 64 (Ploeger WRT).

2. Frequency of Audits

1619. SoundExchange proposes a change in Section 380.7(b) of its proposed regulations to reflect the reality that it may occasionally need to conduct multiple audits of a licensee in parallel, with each audit covering a different period of time. Specifically, SoundExchange proposes a change to reflect that the Payor's payments for a particular year may be audited only once, rather

than that a licensee may be audited "only once a year." SoundExchange Proposed Rates and Terms at 18. (Consistent with the *SDARS III* regulations, SoundExchange proposes using the defined term "Payor" to refer to an audited party and the defined term "Verifying Entity" to refer to an auditing party. *See* 37 C.F.R. § 382.1.)

1620. SoundExchange wishes that audits could be completed more quickly than they are, because SoundExchange is more often than not the Verifying Entity seeking to be paid, and it would like to discover and be paid for any underpayments sooner rather than later. Ex. 5625, App. A ¶ 94 (Bender WDT). However, the speed of an audit is mostly not in SoundExchange's control. The Judges have designed a process where the audit is driven by an independent auditor. 37 C.F.R. 380.6(d). And there are plenty of opportunities for a licensee to delay the audit process. Ex. 5625, App. A ¶¶ 96, 98-100 (Bender WDT). For example, Mr. Barry of Sirius XM argues that it is impracticable to make progress on audits between approximately Thanksgiving and April 15, because of holidays, year-end financial procedures and tax season. Ex. 4110 ¶¶ 9-10 (Barry WRT). If no progress can be made on audits during almost five months of the year, it is no surprise that they frequently take several years to conclude. That, in turn, means audits can back up—meaning that an audit of one period may not have been completed by the time to audit the next three years of payments as contemplated by 37 C.F.R. § 380.6(b). Ex. 5625, App. A ¶ 94 (Bender WDT).

1621. This is not a theoretical problem for SoundExchange. SoundExchange currently has pending an audit of iHeart for the period 2011-2013. *Id.*, App. A at ¶ 95 (Bender WDT); Ex. 2162 ¶ 15 (Ritz WRT); 8/31/20 Tr. 4615:23-24 (Williams). That audit has been delayed for various reasons, including [[redacted]]. While that audit remains pending, iHeart has indicated that [[redacted]

[redacted]. Ex. 5625, App. A ¶ 95 (Bender WDT). [redacted] even though a Verifying Entity is only allowed to look back for a three year period. 37 C.F.R. § 380.6(b). A Verifying Entity should not be precluded from commencing a new audit simply because the Payor has managed to drag out a previous audit. Instead, the provision should state a rule that the Payor's payments for a particular period may be audited only once. Ex. 5625, App. A ¶¶ 96 (Bender WDT).

1622. SoundExchange's proposal is similar in effect to the statutory provision concerning audits of services licensed under the Section 115 blanket license. That provision allows the Mechanical Licensing Collective to "*commence* an audit of a digital music provider not more frequently than once in any 3-calendar-year period to cover a verification period of not more than the 3 full calendar years preceding the date of commencement of the audit." 17 U.S.C. § 115(d)(4)(D)(i)(I) (emphasis added). That provision does not prohibit the concurrent *conduct* of audits governing different periods.***

3. Response Deadlines

1623. In Section 380.7(d) and (f) of its proposed regulations, SoundExchange proposes timing provisions to move the audit process along. If the auditor requests dates to conduct field work at the Payor's facility, the Payor would have to try to schedule that field work within 30 days, and in any event schedule it within 60 days. Requests for information reasonably related to the audit would also need to be responded to in 60 days, with a consultation process for cases in which the Payor believes that the auditor's request is unreasonable. SoundExchange Proposed Rates and Terms at 18-19; Ex. 5625, App. A ¶¶ 97 (Bender WDT).

1624. Audits are a multi-step, iterative process. Initially, there is usually a kickoff meeting to schedule and conduct, a nondisclosure agreement to negotiate, and some initial document requests. As auditors ask questions and hopefully get answers, the answers frequently lead to more

questions as the auditor tries to understand what it is seeing in the data provided. Ex. 5625, App. A ¶¶ 98-100 (Bender WDT); Ex. 2162 ¶ 14 (Ritz WRT) (describing "back-and-forth with the auditor"); Ex. 5242 at 5 ([ ]); Ex. 5243 at 5-6 (same); 8/31/20 Tr. 4522:20-4523:3 (Barry); 9/9/20 Tr. 5816:5-11 (Ploeger). Ensuring that the response time for any particular step does not extend beyond a couple months would hopefully avoid the backing up of audits addressed in the preceding paragraphs. Ex. 5625, App. A ¶¶ 96, 100 (Bender WDT).

1625. The record reflects audits that were completed in a manner consistent with SoundExchange's proposed deadlines. For example, the audit of [ ]. Ex. 5242 at 5. [ ]. *Id.* at 5-6. [ ]. *Id.* at 2, 6.

1626. Similarly, the audit of [ ]. Ex. 5243 at 6. [ ]. *Id.* at 6-7. [ ]. *Id.* at 2, 7.

1627. However, audits frequently move at a slower pace than in these examples, and SoundExchange is hamstrung in its inability to compel action by licensees. 9/9/20 Tr. 5816:4-16 (Ploeger) ("[T]hey can drag on."). For example, SoundExchange currently has pending an audit of Greater Media for the period 2012-2014. Ex. 5625, App. A ¶ 99 (Bender WDT). That audit was initially delayed for various reasons, including [ ]. *Id.* Greater Media

was acquired by Beasley Broadcast Group in 2016. [ ]. *Id.* On December 20, 2018, SoundExchange noticed an audit of Entercom for the period 2015-2017. 84 Fed. Reg. 1235. The auditor issued initial document requests in [ ]. Ex. 5625, App. A ¶ 98 (Bender WDT).

1628. SoundExchange has had three pending audits of Pandora, collectively covering the period 2010-2016. *Id.*, App. A at ¶ 102 (Bender WDT). The auditor sent Pandora [ ]. *Id.*

1629. SoundExchange recognizes that the Payor should have a reasonable time to respond at each step in the audit process. *Id.*, App. A at ¶ 100 (Bender WDT). However, Mr. Barry of Sirius XM argues that it is impracticable to make progress on audits between approximately Thanksgiving and April 15, because of holidays, year-end financial procedures and tax season. Ex.

4110 ¶¶ 9-10 (Barry WRT). The desire to make no progress on audits during almost five months of the year illustrates the need for some reasonable deadlines to keep the process moving.

1630. In addition to providing interim deadlines to govern the audit process, SoundExchange proposes timing provisions related to the auditor's report. Under current Section 380.6(f), auditors are generally required to consult with Payors concerning tentative findings. Under SoundExchange's proposal, the Payor would need to try to provide comments on tentative findings within 30 days, and in any event within 60 days. SoundExchange Proposed Rates and Terms at 19; Ex. 5625, App. A ¶¶ 97 (Bender WDT). Notably, Sirius XM/Pandora agrees that two months is an appropriate period for a party under audit to respond to the auditor's draft report. Sirius XM and Pandora First Amended Proposed Rates and Terms at 2 (Section 380.6(b)).

4. Fee Shifting If Requested Information Is Not Provided on a Timely Basis

1631. In Section 380.7(h) of its proposed regulations, SoundExchange has proposed new language shifting the costs of an audit to the Payor if the Payor does not provide the auditor requested information that is in the possession of the Payor or its contractor within 60 days after a written request therefor. SoundExchange Proposed Rates and Terms at 20.

1632. It is feasible for webcaster licensees to respond to information requests from auditors in less than 60 days, often much less. Ex. 5242 at 5-6 ([ ]); Ex. 5243 at 6-7 (same).

1633. However, and as described in the preceding part, it often takes auditors much longer to obtain requested information—if they can obtain it at all. Ex. 5625, App. A ¶¶ 98-99 (Bender WDT); Ex. 5242 at 6 ([ ]). Meanwhile, artists and copyright owners (through SoundExchange) must pay the costs of having auditors seek data that

they may never be able to get. Ex. 5625, App. A ¶ 112 (Bender WDT); 9/9/20 Tr. 5816:15-16 (Ploeger) ("[T]he clock is on and we're . . . paying for the audit.").

1634. Obtaining data held by contractors of licensees has been a particular problem. As noted above, [ ]. Ex. 5625, App. A ¶ 114 (Bender WDT). It has marketed its data filtering methodology as excluding certain streaming sessions, including those of less than a minute, raising questions as to whether Triton's reporting is consistent with the Judges' regulations. *Id.*; *see also* Ex. 5003 at 12-13.

1635. The Judges' regulations require a party under audit to "use commercially reasonable efforts to obtain or to provide access to any relevant books and records maintained by third parties for the purpose of the audit." 37 C.F.R. § 380.6(e).***

1636. However, [ ] Ex. 5625, App. A ¶ 114 (Bender WDT). Apparently [ ]. Ex. 5004 at 1.

1637. Exhibit 5004 is [ ]. *Id.* at 2; Ex. 5625, App. A ¶ 114 (Bender WDT).

1638. SoundExchange currently has pending an audit of CBS Radio for the period 2011-2013. Ex. 5625, App. A ¶ 113 (Bender WDT). [

[redacted]. *Id.*

1639. SoundExchange currently has pending an audit of Greater Media for the period 2012-2014. [redacted]. *Id.*, App. A at ¶ 99 (Bender WDT).

1640. [redacted]. *Id.*, App. A at ¶ 114 (Bender WDT); Ex. 5244 at 5 ([redacted]).

1641. [redacted]. Ex. 5625, App. A ¶ 114 (Bender WDT).

1642. Absent a meaningful late fee, there is very little incentive for a webcaster to cooperate in an audit. Ex. 5625 ¶ 77 (Ploeger WRT); *id.*, App. A at ¶ 112 (Bender WDT). And if a webcaster hires a contractor that will refuse to provide the information necessary for an audit to proceed, SoundExchange currently has to keep paying the auditor to try to obtain information the auditor views as material. *See id.*, App. A at ¶ 112 (Bender WDT). Artists and copyright owners should not have to bear the costs of having auditors seek data that licensees and their contractors refuse to provide. *Id.*, App. A at ¶¶ 112, 115 (Bender WDT); 9/9/20 Tr. 5816:15-16 (Ploeger).

5. Auditor's Right to Consult Its Client

1643. In Section 380.7(f) of its proposed regulations, SoundExchange has proposed adding a new sentence clarifying that the auditor may consult with the Verifying Entity—its client—throughout the audit process, including to advise it concerning the status of the audit, request information relevant to the audit, and request the Verifying Entity's views concerning tentative findings and other issues. SoundExchange Proposed Rates and Terms at 19.

1644. Webcasters have often tried to impede audits by insisting on limits to such consultation. Ex. 5625, App. A ¶ 101 (Bender WDT); 9/9/20 Tr. 5817:6-8 (Ploeger). For example, SoundExchange has had three pending audits of Pandora. Ex. 5625, App. A ¶ 102 (Bender WDT). The auditor sent Pandora [ ]. *Id.*

1645. A similar issue arose in SoundExchange's pending audit of TuneIn. *Id.*, App. A at ¶ 103 (Bender WDT). That audit pertains to 2018 and was noticed on May 7, 2019. *June 2019 Notice*, 84 Fed. Reg. at 26706. [ ], this experience suggests that the issue should be addressed by the Judges. Ex. 5625, App. A ¶ 103 (Bender WDT).

1646. The Judges have repeatedly held that statutory royalty audits must be conducted by a Certified Public Accountant. *See, e.g.*, 37 C.F.R. §§ 380.6(d), 380.7 (definition of qualified auditor). That conclusion has been based on the ethical standards to which CPAs are subject, including standards of independence. *E.g.*, *SDARS III*, 83 Fed. Reg. at 65261; *Web IV*, 81 Fed. Reg. at 26403-04. The Judges have reached that conclusion even though CPAs do not necessarily have relevant technical skills or industry-specific expertise. *Web II*, 72 Fed. Reg. at 24109; *Web IV*, 81 Fed. Reg. at 26403-04.***

1647. The Verifying Entity is the auditor's client for purposes of the applicable ethical standards. Among other things, it is the Verifying Entity that commences the audit process (37 C.F.R. § 380.6(a)) and pays the costs of the audit in the first instance (37 C.F.R. § 380.6(h)). *See* Ex. 5001 § 0.400.07 (American Institute of Certified Public Accountants ("AICPA") Code of Professional Conduct) (defining "Client" as a "person or entity . . . that engages a member or member's firm to perform professional services" (italics omitted)).***

1648. The concept of auditor independence does not free auditors from professional responsibilities to their clients; both independence and client obligations are integral to the applicable rules. *See id.* § 0.300.010.02 (AICPA Code of Professional Conduct) (recognizing that CPAs have duties to their clients); *id.* § 0.300.060.05 (requiring "diligen[ce] in discharging responsibilities to clients"). Among other things, a CPA must "discharge professional responsibilities with competence and diligence" and with "concern for the best interest of those for whom the services are performed, and consistent with the profession's responsibility to the public." *Id*. § 0.300.060.02.***

1649. As a practical matter, these professional obligations mean that an auditor performing a statutory royalty audit needs to consult with its client, so that the Verifying Entity

understands the status of the auditor's work, can make judgments about the budget for an audit, and can determine whether to call off an audit if it does not seem likely to reveal a material underpayment. Ex. 5625, App. A ¶ 105 (Bender WDT); 9/9/20 Tr. 5817:12-18 (Ploeger).

1650. Auditors also need to understand the specialized statutory license environment and the Payor's past interactions with the Verifying Entity, and the obvious way for them to get that information is to ask their client. Ex. 5625, App. A ¶ 105 (Bender WDT); 9/9/20 Tr. 5817:10-11 (Ploeger) ("Auditors often have questions for us and we should be able to answer them."); Ex. 5243 at 8 ([ ]). Such questions are to be expected given the Judges' conclusion that it is preferable to have audits be conducted by CPAs even if they lack relevant technical skills or industry-specific expertise. *Web II*, 72 Fed. Reg. at 24109; *Web IV*, 81 Fed. Reg. at 26403-04.

1651. Likewise, licensees would like auditors to take consistent positions in audits, and the way to make that happen is for the Verifying Entity to be able to communicate to an auditor how issues have been viewed by other auditors before them. Ex. 5625, App. A ¶ 105 (Bender WDT).

1652. Moreover, just as the Payor may have views concerning the correctness of the auditor's tentative findings, as recognized by 37 C.F.R. § 380.6(f), so too may the Verifying Entity. Ex. 5625, App. A ¶ 106 (Bender WDT). The auditor may believe it has a professional obligation to solicit those views, which is why the auditor auditing Pandora [ ]. *Id.*, App. A at ¶ 102 (Bender WDT).

1653. An audit can be a contentious adversarial process. Increasingly, licensees under audit "lawyer up." *See id.*, App. A at ¶¶ 98, 103 (Bender WDT); 8/31/20 Tr. 4615:25-4616:11 (Williams).

1654. When services suggest that they and their counsel should be able to influence the auditor's view of the law and the facts, but the auditor should not be able to consult with its client, they are advocating for a system contrary to the professional obligations of auditors and contrary to the general disposition against *ex parte* proceedings in the American legal system. *See, e.g.*, *United States v. Boender*, 649 F.3d 650, 657 (7th Cir. 2011) ("*[E]x parte* proceedings are generally disfavored in our adversarial system.").***

1655. It is not reasonable for sophisticated and well-represented Payors uniquely to be able to influence the auditor's findings, while depriving the auditor of the Verifying Entity's input. Ex. 5625, App. A ¶ 106 (Bender WDT). Just as the Judges do not decide cases *ex parte*, auditors should not be required to do so. To ensure a workable and fair audit process, it is important that the Judges clarify that auditors may consult with the Verifying Entity. *Id*.

6. The Possibility of Overpayments

1656. Sirius XM/Pandora and NAB propose changing the language of current Section 380.6(g) to specify that if an overpayment was discovered in an audit, it would reduce the service's next statutory royalty payment. Sirius XM and Pandora First Amended Proposed Rates and Terms at 2; NAB Proposed Rates and Terms at 6. Section 380.7(f) of SoundExchange's proposed regulations does not make any substantive change to the current provision concerning an overpayment discovered in an audit. SoundExchange Proposed Rates and Terms at 19-20. Google and NRBNMLC also propose no change to the existing language. Google Proposed Rates and Terms at 3; NRBNMLC Amended Proposed Rates and Terms Ex. A at 6.

1657. The change proposed by Sirius XM/Pandora and NAB is "a solution looking for a problem." 9/9/20 Tr. 5817:21-22 (Ploeger). Discovering even isolated overpayments in an audit is rare. More importantly, any such isolated overpayments have been offset by larger underpayments, so no audit commenced by SoundExchange has ever found a *net* overpayment. Ex. 5625 ¶ 68 (Ploeger WRT); 9/9/20 Tr. 5817:22-23 (Ploeger).

1658. The current language in Section 380.6(g) is the result of the Judges' recognition in *Web IV* that, once SoundExchange has distributed statutory royalty payments, it is not practicable for SoundExchange to adjust accounts to address overpayments. *Web IV*, 84 Fed. Reg. at 26399, 26402; *see also* 37 C.F.R. § 382.7(g) (adopting same principle for PSS and SDARS).***

1659. The royalties that SoundExchange receives are earmarked for distribution to the particular artists and copyright owners whose recordings were used by a licensee in a particular month, as identified in the licensee's reports of use. 37 C.F.R. § 380.4(a)(1). SoundExchange distributes the vast majority of statutory royalties to those artists and copyright owners in the next monthly distribution cycle after it receives a payment and the associated statement of account and report of use. Ex. 5625 ¶ 69 (Ploeger WRT). At that point, that money is gone, and future payments by the service to SoundExchange will be earmarked to different sets of artists and rights owners that vary with the popularity of recordings in use. *Id.* at ¶ 70 (Ploeger WRT); 9/9/20 Tr. 5817:25-5818:2 (Ploeger).

1660. If an audit were to reveal a net overpayment (which has never happened), SoundExchange would therefore not have that money, and would be faced with the burdensome and potentially impossible task of trying to claw back royalties that were already distributed to potentially tens of thousands of artists and copyright owners. Ex. 5625 ¶ 70 (Ploeger WRT). To the extent the Services suggest that any refund or credit be taken out of royalties earned by *different*

artists and copyright owners in a *different* period, that would lead to inappropriate and inequitable results, because the artists and rights owners in the later period would receive less than earned merely because different artists and rights owners received more than earned in an earlier period. *Id.* at ¶¶ 69-70 (Ploeger WRT); 9/9/20 Tr. 5817:24-5818:8 (Ploeger).

7. Deadline for Audit Completion

1661. With its written rebuttal case, Sirius XM/Pandora proposed changing the language of current Section 380.6(b) to specify that an auditor must deliver its written report within 10 months after commencement of the audit, and the Payor must respond within 12 months after commencement. *Compare* Sirius XM and Pandora First Amended Proposed Rates and Terms at 2, *with* Sirius XM and Pandora Proposed Rates and Terms at 1-2 (filed Sept. 23, 2019).

1662. This proposal is similar to a proposal that NAB and NRBNMLC made in *Web IV*, which would have required that audits be completed in six months. The Judges rejected that proposal. *Web IV*, 81 Fed. Reg. at 26402.***

1663. Audits are a multi-step, iterative process. Ex. 5625, App. A ¶¶ 98-100 (Bender WDT); *see also* Ex. 5242 at 5-6 ([ ]); Ex. 5243 at 6-7 (same); 9/9/20 Tr. 5816:5-11 (Ploeger). It is not reasonable to expect that all the steps necessary to completion of an audit could be packed into 10 months—particularly if the party under audit takes months to respond at each turn, withholds important data, takes positions that cause the auditor to believe it cannot continue to work while carrying out professional obligations, or insists that progress cannot be made for five months out of the year. *See, e.g.*, Ex. 4110 ¶¶ 9-10 (Barry WRT); *supra* Parts XIV.D.4-5. Parties under audit should not be rewarded for slowing down the audit process by having audits terminate at an arbitrary date.

E. Statements of Account Showing Recoupment of Minimum Fees

1664. SoundExchange proposes new language in Section 380.4(a) of its proposed regulations that would require a licensee that has made a minimum fee payment for a year to provide statements of account throughout the year at the same time as the licensee's reports of use. SoundExchange Proposed Rates and Terms at 13. In periods in which no further payment is due, these statements of account would confirm that fact and show the application of the minimum fee to the licensee's sound recording usage in the relevant month. Ex. 5625, App. A ¶ 69 (Bender WDT).

1665. Such reporting would promote timely and accurate calculation of minimum fee recoupment and avoid unnecessary follow-up by SoundExchange. *Id.*, App. A at ¶ 71 (Bender WDT). In the absence of statements of account showing recoupment of minimum fees, SoundExchange frequently finds itself inquiring of licensees concerning missing statements of account, only to be told that the licensee's usage to date is covered by a minimum fee payment. *Id.*; Ex. 5625 ¶ 77 (Ploeger WRT).

1666. Providing such statements of account would not be burdensome for licensees. Approximately 77% of webcaster licensees regularly upload their reports of use through SoundExchange's Licensee Direct portal. They would simply need to enter their usage for the period covered and submit it as a statement of account at the same time. Licensees submitting the reports of use by other means could likewise enter their usage as a statement of account through Licensee Direct or they could submit a statement of account form on paper or by email. Ex. 5625, App. A ¶ 70 & n.23 (Bender WDT).

F. Account Numbers

1667. SoundExchange proposes new Sections 380.3(e) and 380.4(a)(3) that would require a licensee to use a SoundExchange-provided account number on or with its payments, statements

of account, and reports of use, if SoundExchange has notified the licensee of such an account number. SoundExchange Proposed Rates and Terms at 13-14.

1668. This proposal would not have any effect at all on the many licensees that use SoundExchange's Licensee Direct portal to submit their payments, statements of account, and reports of use, because the portal automatically matches these submissions to the licensee's account. Ex. 5625, App. A ¶ 64 (Bender WDT).

1669. However, some webcasting licensees still pay SoundExchange by paper check or electronic transfer outside Licensee Direct, provide paper or emailed statements of account, or send reports of use by email or Secure File Transfer Protocol transmission. When that happens, SoundExchange's License Management Department needs to manually log and link the payments, statements of account and reports of use. Doing that is not always straightforward, because licensees sometimes use ambiguous or inconsistent names on those items or report and pay for different scopes of activity. As a result, SoundExchange's License Management Department has a backlog of approximately 940 cases where matching of a payment, statement of account or report of use is pending due to ambiguous identification of the payor and usage involved. *Id.* at ¶ 77 (Ploeger WRT); *id.*, App. A at ¶ 65 (Bender WDT).

1670. Use of account numbers to identify payments, statements of account and reports of use would enable faster and more accurate matching and make operation of the statutory license much more practical and efficient. *Id.* at ¶ 77 (Ploeger WRT); *id.*, App. A at ¶¶ 63, 66 (Bender WDT).

G. Reporting of ISRCs

1671. SoundExchange included in Section 380.8 of its proposed regulations a new provision requiring licensees to use International Standard Recording Codes ("ISRCs") in their

reports of use, where available and feasible, notwithstanding 37 C.F.R. § 370.4(d)(2)(v). SoundExchange Proposed Rates and Terms at 20.

1672. Under 37 C.F.R. § 370.4(d)(2)(v), webcasters are permitted to report an album title and marketing label as an alternative to the ISRC. 37 C.F.R. § 370.4(d)(2)(v).***

1673. This is not sufficient for the unambiguous identification of the recordings used by a service. There are tens of millions of recordings in commercial use today. Those include many instances of multiple distinct recordings of one artist's performance of one song, such as different remixes and edits and live and studio versions, for which there may be different royalty participants. For example, SoundExchange's repertoire database identifies 27 different recordings of the song "Just Dance" featuring performances by Lady Gaga. With so many recordings in existence, there is also considerable ambiguity in each identifying field relied upon by the notice and recordkeeping regulations. For example, SoundExchange has 15 different registered artists with the name "Flame," 14 with the name "Plan B," and 13 with the name "Karma." Given the numbers involved, simple text string matching of featured artist, track title, album title, and label is not sufficient to identify unambiguously which recordings a service used. That problem is amplified when licensees provide incomplete or erroneous data (as they often do). And the scale of the problem is large given that SoundExchange receives thousands of reports of use a month. On those reports, some large webcasters report to SoundExchange use of around a million recordings in a month, and even small webcasters often report use of several hundred thousand recordings in a month. Ex. 5625, App. A ¶ 117 (Bender WDT).

1674. SoundExchange has designed its systems and business processes to allow it to distribute statutory royalties whenever it has enough information to make a reasonable judgment about which recording a licensee probably used. However, in 2018, only about half of the raw lines

of data (by count) in the reports ingested by SoundExchange could be matched automatically to known repertoire. As a result, SoundExchange has a queue of over 72 million lines of data for manual review and matching. While it has a team specifically devoted to this process, ambiguities in track identification result in delays distributing over $100,000 in statutory royalty payments monthly. *Id.*, App. A at ¶ 118 (Bender WDT).

1675. The solution is clear: licensees should report their usage using ISRCs whenever available and feasible. ISRC is an identifier created specifically for the unambiguous identification of recordings. ISRCs are routinely assigned to recordings in commercial use, and all of the 30 million tracks in SoundExchange's repertoire database have ISRCs. *Id.*, App. A at ¶ 120 (Bender WDT). Increased use of ISRCs in reporting by webcasters would greatly enhance the efficiency and accuracy of statutory royalty distributions. *Id.* at ¶ 77 (Ploeger WRT); *id.*, App. A at ¶¶ 116, 119, 122 (Bender WDT). Indeed, more frequent reporting of ISRCs is the one single thing that is most likely to increase matching, and hence proper and prompt payment of artists and copyright owners entitled to royalties. *Id.*, App. A at ¶ 119 (Bender WDT).

1676. "[L]icensees typically will have the [ISRCs] available for sound recordings the licensee uses." Ex. 1104 ¶ 19 (Pifer WRT). Indeed, use of ISRCs is standard in reporting under direct license relationships. Ex. 5625, App. A ¶ 119 (Bender WDT); *see also, e.g.*, Ex. 4035 at 45; Ex. 5011 at 71; Ex. 5013 at 83; Ex. 5037 at 57, 150. Large providers of services relying on the statutory license are already using ISRCs for their reporting under direct licenses. *See, e.g.*, Ex. 5013 at 83 ([redacted]); Ex. 5106 at 85 ([redacted]); Ex. 5116 at 96 ([redacted]).

1677. Moreover, PSS have used ISRCs in their reporting since 1998. *See* 37 C.F.R. § 370.3(d)(8). Under Section 115, services licensed under the blanket license are required by statute to use ISRCs in their reporting when available. 17 U.S.C. § 115(d)(4)(A)(ii)(I)(aa).***

1678. Finally, SoundExchange provides several methods for licensees to learn the ISRCs of the recordings they use, including a public ISRC search site available at https://isrc.soundexchange.com/#!/search, an application program interface to access ISRC records, and augmented reports of use available to each licensee through Licensee Direct. Ex. 5625, App. A ¶¶ 9-10 & n.6, 121-122 (Bender WDT); 8/31/20 Tr. 4529:8-10 (Barry).

H. Reporting Usage of Directly Licensed Tracks

1679. SoundExchange included in its proposed regulations a new Section 380.10(e) that would require a webcaster licensee to report to SoundExchange recordings it has excluded from its royalty calculations because the licensee believes they are directly licensed. SoundExchange Proposed Rates and Terms at 22.

1680. By statute, services licensed under the Section 115 blanket license are required to provide the Mechanical Licensing Collective information about their usage of works under direct licenses. 17 U.S.C. § 115(d)(4)(A)(ii)(II), (6)(A)(ii).***

1681. A similar requirement also already applies to SDARS relying on the Section 112/114 statutory license. 37 C.F.R. § 382.23(a)(1)(ii). When the Judges originally adopted such a provision in *SDARS II*, they observed Sirius XM's difficulty providing accurate data concerning directly licensed recordings and determined that monthly reporting of excluded recordings would promote "accuracy and transparency." *SDARS II*, 78 Fed. Reg. at 23073, 23080.***

1682. The potential for misclassification of tracks as directly licensed is very real. Ownership or control of recordings changes frequently as record company catalogs are bought and sold and exclusive licenses and distribution arrangements are entered into or end. Ex. 5625 ¶ 77 (Ploeger WRT); *id.*, App. A at ¶ 18 (Bender WDT). The requirement that an SDARS identify the recordings it uses that it believes are directly licensed has proven helpful for identifying potential payment errors and disputes relating to the classification of recordings as directly licensed and

addressing inquiries SoundExchange receives from artists and copyright owners. *Id.* at ¶ 77 (Ploeger WRT); *id.*, App. A at ¶¶ 123, 125 (Bender WDT).

1683. Some webcasters are well-known to rely on direct licenses, and others might be doing so without SoundExchange having any way to know about that. *Id.*, App. A at ¶¶ 35, 126 (Bender WDT); *see also* Ex. 2150 ¶ 63 (Leonard CWDT). Thus, the same potential for incorrect classification and disputes concerning which tracks are directly licensed exists with webcaster licensees as with SDARS. Ex. 5625, App. A ¶¶ 123, 126 (Bender WDT).

1684. The same principles of accuracy and transparency that warranted the inclusion of a reporting provision for excluded tracks in the SDARS regulations warrant the inclusion of such a provision in the webcasting regulations. *Id.*

I. Unclaimed Funds

1685. In Section 380.5(b) of its proposed regulations, SoundExchange proposes a treatment of unclaimed funds based on pre-*Web IV* regulations. SoundExchange Proposed Rates and Terms at 15.

1686. Prior to *Web IV*, the Judges' regulations provided SoundExchange clear direction that royalties unpayable after three years should be used to offset its deductible costs under 17 U.S.C. § 114(g)(3) "notwithstanding the common law or statutes of any State." *Web III Remand*, 79 Fed. Reg. at 23130.***

1687. In *Web IV*, the Judges replaced that direction with a reference to "handl[ing] unclaimed funds in accordance with applicable federal, state, or common law." 37 C.F.R. § 380.4(b). They did so "in abundance of caution" based on Pandora's suggestion that the terms of the federal statutory license must or should defer to state escheat law. *Web IV*, 81 Fed. Reg. at 26400.***

1688. Since then, Congress has spoken concerning the treatment of undistributable royalties paid to a collective under a statutory license. Pursuant to amendments made by the Orrin G. Hatch-Bob Goodlatte Music Modernization Act, P.L. No. 115-264, 132 Stat. 3676 (2018), undistributable royalties are not to be paid over to states to use to balance their budgets, but instead are to be used for the federal purposes of the statutory license. Under Section 115, mechanical royalties that the Mechanical Licensing Collective is unable to associate with a known musical work or copyright owner are to be distributed to copyright owners based on usage data, in accordance with policies the collective establishes. 17 U.S.C. § 115(d)(3)(J)(i), (ii). Under Sections 112(e) and 114, the holding and disposition of royalties is left to the collective and the Judges' regulations. *See id.* § 114(g)(7). Under all the statutory licenses, these federal arrangements "supersede and preempt any State law (including common law) concerning escheatment or abandoned property, or any analogous provision, that might otherwise apply." *Id.* §§ 114(g)(7), 115(d)(11)(E). In view of this clear direction from Congress, it would be improper to retain in the webcasting regulations any reference to state law, including common law. Thus, a departure from the *Web IV* regulatory language is necessary.***

1689. That leaves the question of how Section 112(e) and 114 statutory royalties that are not distributable should best be used to benefit recording artists and copyright owners. SoundExchange believes the best answer is the one the Copyright Office and the Judges embraced before *Web IV*: using these royalties to pay costs of statutory license administration that artists and copyright owners otherwise have to bear. Ex. 5625, App. A ¶ 83 (Bender WDT).

1690. Artists and copyright owners bear the costs of SoundExchange's operations. 17 U.S.C. § 114(g)(3).***

1691. Those costs are paid through deduction of an "administrative fee" from all royalty distributions. Ex. 5625, App. A ¶ 16 (Bender WDT).

1692. When unclaimed statutory royalties are applied to reduce SoundExchange's administrative expenses, as the pre-*Web IV* regulations specifically directed, that reduces the administrative expense deductions taken from royalties distributed to artists and copyright owners. Because administrative expense deductions are taken in a manner that matches revenue and expenses from the same year, consistent with general principles of accrual accounting, a reduction of administrative expenses for a past year results in a pro-rata distribution to all artists and copyright owners who were paid royalties for the year. Thus, use of unclaimed funds to reduce administrative expenses benefits artists and copyright owners as a whole in proportion to use of their recordings in the relevant year. Ex. 5625 ¶ 77 (Ploeger WRT); *id.*, App. A at ¶ 86 (Bender WDT).

1693. To be clear, SoundExchange's proposal for the use of unclaimed funds would *not* benefit SoundExchange as a corporate entity. *Id.* at ¶ 77 (Ploeger WRT); *id.*, App. A at ¶ 86 (Bender WDT). SoundExchange is a nonprofit organization with the mission of ensuring prompt, fair and efficient collection and distribution of statutory royalties to artists and copyright owners. *Id.*, App. A at ¶ 4 (Bender WDT). As such, it is "mission-, rather than profit-driven." Ex. 3060 ¶ 15 (Steinberg AWDT); *see also* Ex. 3061 ¶ 14 (Cordes CWDT). Its costs of carrying out that mission are paid out of statutory royalties, 17 U.S.C. § 114(g)(3), but any financial surplus derived from its operations would need to be used for its mission. Ex. 3060 ¶¶ 14-15 (Steinberg AWDT).

1694. SoundExchange's process of using unclaimed funds to reduce administrative expenses is completely transparent. When SoundExchange uses unclaimed funds to reduce its administrative expenses, that is reported to all artists and copyright owners who received royalty

distributions (and thus had administrative expense deductions taken) for the relevant year. The next royalty statements they receive from SoundExchange clearly show a credit to their accounts based on a partial refund of administrative fee payments they made for the year in question, and they receive a corresponding payment. Ex. 5625, App. A ¶ 87 (Bender WDT).

J. Proxy Distribution for Missing Reports of Use

1695. In Section 380.5(a)(1) of its proposed regulations, SoundExchange proposes that it be allowed to use proxy data to distribute royalties for which it cannot obtain a usable report of use from the licensee. SoundExchange Proposed Rates and Terms at 15. A similar issue for the period 2010-2018 is currently pending before the Judges in Docket No. 20-CRB-0007-RM. *Regulation Concerning Proxy Distributions for Unmatched Royalties Deposited During 2010–2018*, 85 Fed. Reg. 32323 (May 29, 2020).

1696. The current webcasting regulations require SoundExchange to distribute statutory royalties to artists and copyright owners "based upon the information provided under the Reports of Use requirements for Licensees pursuant to § 370.4." 37 C.F.R. § 380.4(a)(1).***

1697. SoundExchange makes extensive efforts to obtain missing reports of use, including corrected versions of unusable reports of use. Ex. 5625, App. A ¶¶ 12, 28 (Bender WDT); 9/9/20 Tr. 5791:15-19, 5898:24-5901:9 (Ploeger).

1698. However, there has always been a small percentage of statutory royalty payments for which SoundExchange is never able to obtain a report of use enabling distribution in accordance with those regulations. Ex. 5625, App. A ¶ 73 (Bender WDT). This has recently amounted to less than 1% of total statutory royalties. SoundExchange wishes that it could obtain the data necessary to distribute this money based on actual usage. However, that sometimes is simply not possible, such as where the licensee did not retain playlist information in the first place, subsequently discarded its playlist information without reporting it to SoundExchange, refuses to

report its playlist information to SoundExchange despite SoundExchange's repeated efforts to obtain a report of use, or has gone out of business. *Id.* at ¶ 77 (Ploeger WRT); *id.*, App. A at ¶¶ 74-75, 78 (Bender WDT); 9/9/20 Tr. 5898:24-5901:9 (Ploeger) (describing SoundExchange efforts to obtain useful reports of use).

1699. In such situations, SoundExchange should not be forced to continue to hold the royalties indefinitely, but should instead be permitted to distribute them to artists and copyright owners using other "proxy" usage data that is likely to be statistically representative of the repertoire probably used by the non-reporting services to the best extent practicable. Ex. 5625, App. A ¶¶ 76, 78 (Bender WDT).

1700. SoundExchange has twice been authorized to use proxy data to distribute royalties for which reports of use were not provided. The first of instance was in 2004, when the Copyright Office authorized SoundExchange to use data reported by PSS to distribute royalties for other types of services for the period from 1998 through 2004. *See Notice and Recordkeeping for Use of Sound Recordings under Statutory License*, 69 Fed. Reg. 58261 (Sept. 30, 2004). The second was in 2011, when the Judges authorized SoundExchange to use proxy data to distribute statutory royalties that were paid for the 2004-2009 period by licensees that had not provided reports of use. *See Notice and Recordkeeping for Use of Sound Recordings under Statutory License*, 76 Fed. Reg. 45695 (Aug. 1, 2011); 37 C.F.R. §§ 370.3(i), 370.4(f).***

1701. SoundExchange expects that if it were given the proxy distribution authority it requests in this proceeding, it generally would use the proxy distribution methodology it used for the 2004-2009 distribution (what it refers to as the "annual/license type methodology"). That methodology involved distributing the otherwise undistributable royalties held by SoundExchange based on reports of use for the relevant year provided by other services of the same type. Ex. 5625,

App. A ¶ 79 (Bender WDT); 37 C.F.R. §§ 370.3(i), 370.4(f); 9/9/20 Tr. 5901:21-5902:14 (Ploeger).

1702. However, in any particular case, there could be technical reasons not to use that methodology. For example, if the missing reports of use were concentrated in a particular part of the year, it may be appropriate to use proxy data from that part of the year only, to more accurately reflect seasonal variations in usage and the release schedule of popular recordings. For missing reports of use from a webcaster that offers other types of services as well (*e.g.*, SDARS, PSS), and that has provided reports of use for the other services, it may be most appropriate to use that particular licensee's reports from another type of service for the same time period, to reflect that licensee's unique playlist. In other cases, the amount of money involved may be so small that significant operational efficiencies could be achieved without materially affecting the outcome by combining pools of undistributable royalties and using a proxy data set broadly applicable to the usage involved. These are the sort of decisions that should be made after consideration of what available proxy is most likely to be statistically representative of the missing data. Ex. 5625, App. A ¶ 79 (Bender WDT).

1703. SoundExchange proposes that the details of the methodology be approved by its Board of Directors. That Board includes a balanced representation of all parts of the recording industry, including major and independent labels, recording artists, artist representatives and music organizations. As such, it is broadly representative of the constituencies affected by the decision to make a proxy distribution and well-situated to make a determination of when a proxy distribution is justified and of what precise methodology should be employed. *Id.*, App. A at ¶¶ 5, 80 (Bender WDT).

1704. At trial, Judge Ruwe asked about the possibility of treating royalty payments associated with missing reports of use like unclaimed funds and using them to reduce administrative costs. 9/9/20 Tr. 5904:4-9 (Ploeger). That approach would be less tailored to the likely actual usage associated with these royalties, as compared to the annual/license type methodology used for the 2004-2009 distribution. *See* Ex. 5625, App. A ¶¶ 7 & n.2, 33 (Bender WDT); 9/9/20 Tr. 5905:18-5907:5 (Ploeger).

1705. When unclaimed funds are applied to reduce administrative costs, they are necessarily rebated to licensees of all types (because administrative fees are paid by licensees of all types, and not just by webcasters). *See* Ex. 5625, App. A ¶¶ 16, 86 (Bender WDT); 17 U.S.C. § 114(g)(3). In 2018, webcasting statutory royalties constituted only $119 million out of $711 million in ordinary-course statutory royalty collections. Ex. 5625, App. A ¶¶ 7 & n.2, 33 (Bender WDT). Therefore, handling royalties associated with missing reports of use in the same manner as unclaimed funds would result in a distribution heavily weighted by non-webcasting royalties. By contrast, SoundExchange's proposal would allow it to use a more tailored methodology where that is feasible. *Id.*, App. A at ¶ 79 (Bender WDT).

K. Definition of Performance

1706. Google proposed deleting from the definition of "performance" in Section 380.7 the parenthetical clarifying that an example of a performance is "the delivery of any portion of a single track from a compact disc to one listener." Google Proposed Rates and Terms at 3. SoundExchange did not propose any changes to the definition of performance. SoundExchange Proposed Rates and Terms at 9-10.

1707. The Judges should not make Google's proposed change, because the parenthetical Google proposes to delete serves an important role in the operation of the statutory license. Counting performances is the essence of the webcasting statutory royalty rate calculation. To count

performances, one needs to know what the sound recording unit is that must be counted, and that is not always obvious from the other words of the definition. Ex. 5625, App. A ¶ 72 (Bender WDT).

1708. This has particularly been an issue for classical recordings, where the musical works involved are often divided into parts, and recordings of popular parts are regularly played outside the context of the overall work. For example, Antonio Vivaldi's *Four Seasons* is a group of four violin concerti that have been recorded many times and are among the most popular classical recordings. Each of the concerti is divided into three movements. The 12 movements are typically presented as separate tracks on compact discs; on-demand music services permit access to each movement separately; and noninteractive webcasters may use either the concerti or the movements separately. *Id.*, App. A at ¶ 73 (Bender WDT).

1709. The parenthetical that Google proposes deleting has generally been accepted as clarifying that recordings of parts of classical compositions commonly distributed as separate tracks are to be counted separately for royalty accounting purposes, meaning that a webcaster that plays the *Four Seasons* in its entirety has made 12 performances, not four or one. That result is important to artists and copyright owners of classical recordings, because it means that they are paid at a level more comparable to artists and copyright owners in other genres of music. Deleting the parenthetical would risk disputes concerning the counting of performances of classical recordings. *Id.*, App. A at ¶ 74 (Bender WDT).

Dated: October 16, 2020

Respectfully submitted,

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Proof of Delivery

I hereby certify that on Friday, October 23, 2020, I provided a true and correct copy of the SoundExchange's Second Corrected Proposed Findings of Fact and Conclusions of Law to the following:

National Association of Broadcasters, represented by Sarang V Damle, served via ESERVICE at sy.damle@lw.com

Sirius XM Radio Inc., represented by Benjamin E. Marks, served via ESERVICE at benjamin.marks@weil.com

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Signed: /s/ David A. Handzo