

TRANSCRIPT OF PROCEEDINGS

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IN THE MATTER OF:)
)
DETERMINATION OF RATES AND TERMS) Docket No.
FOR DIGITAL PERFORMANCE OF SOUND) 19-CRB-0005-WR
RECORDINGS AND MAKING OF) (2021-2025)
EPHEMERAL COPIES TO FACILITATE)
THOSE PERFORMANCES (WEB V))
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OPEN SESSIONS

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10 THOSE PERFORMANCES (WEB V))
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12 BEFORE: THE HONORABLE JESSE M. FEDER
13 THE HONORABLE DAVID R. STRICKLER
14 THE HONORABLE STEVE RUWE

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25 Reported by: Karen Brynteson, RMR, CRR, FAPR

1 A P P E A R A N C E S:

2 ** All Appearances by Zoom Webinar **

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4 of Musicians of the United States and Canada, Screen
5 Actors Guild and American Federation of Television
6 and Radio Artists (SAG-AFTER), American Association
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11 ** Index appears at end of transcript.

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1 P R O C E E D I N G S

2 (10:30 a.m.)

3 THE CLERK: Let's lift the curtain.

4 MR. SACK: The curtain is raised at 10:30
5 a.m.

6 CHIEF JUDGE FEDER: Thank you. I hear
7 something in the background. And I'm also getting an
8 echo of my own voice. So if we could remedy that
9 before we begin, that would be helpful.

10 Okay. I'm no longer hearing an echo, so
11 let's get started.

12 Good morning, everyone. Are there any
13 housekeeping matters before we continue with the
14 examination of Professor Willig?

15 Mr. Warren, you're muted.

16 MR. URBAN: Your Honor, this is Tom Urban of
17 NRBNMLC, and it's my understanding that Mr. Warren
18 has agreed to the entry into evidence of
19 Exhibit 3065.

20 CHIEF JUDGE FEDER: So are you moving that?

21 MR. WARREN: Yes, we have no objection.

22 CHIEF JUDGE FEDER: Okay. So without
23 objection, Exhibit 3065 is admitted.

24 (NRBNMLC Exhibit Number 3065 was received
25 into evidence.)

1 MR. URBAN: Thank you, Your Honor.

2 CHIEF JUDGE FEDER: Anything further?

3 MR. WARREN: Your Honor, before we begin, I
4 just wanted to remind the witness to please just
5 close out of any e-mail applications or anything like
6 that.

7 CHIEF JUDGE FEDER: Okay. Also, I will note
8 that we received this morning a joint motion to amend
9 order admitting exhibits identified in Appendix A of
10 joint motion for en masse admission.

11 The Judges have not had an opportunity to
12 discuss that among themselves. Once we have had an
13 opportunity to do that, we will rule on it from the
14 bench.

15 Professor Willig, you remain under oath.
16 Whereupon--

17 ROBERT WILLIG,
18 a witness, called for examination, having previously
19 been duly sworn, was examined and testified further
20 as follows:

21 CHIEF JUDGE FEDER: Mr. Warren, are we
22 beginning in open session?

23 MR. WARREN: Your Honor, we will begin in
24 closed session.

25 CHIEF JUDGE FEDER: Okay. So we are going

1 to enter restricted session. Will the host please
2 clear the virtual hearing room.

3 MR. SACK: Your Honors, we are beginning to
4 clear the room now. If you are an attendee in the
5 Zoom meeting who is not allowed to attend restricted
6 session, please leave the session by clicking the red
7 Leave button on the bottom right hand of your screen
8 or click the X at the top right-hand of your screen.
9 Counsel will inform you when you are allowed to
10 return to the proceeding.

11 Please stand by, Your Honors and counsel,
12 while we work to clear the room.

13 MR. TOTH: The room has been cleared and the
14 session is locked and the public feed is in
15 restricted session.

16 (Whereupon, the trial proceeded in
17 confidential session.)

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1 O P E N S E S S I O N

2 CHIEF JUDGE FEDER: Okay. We are returning
3 to open session but only for five to seven minutes.
4 And then we will have to go back into restricted
5 session.

6 Mr. Warren, please proceed.

7 MR. WARREN: Thank you, Your Honor.

8 BY MR. WARREN:

9 Q. So, Professor, now we've gone through how
10 many plays are lost. We've gone through how many
11 lost plays are retained. Let's talk about disputes
12 you might have with the services around diversion
13 where the lost plays would go.

14 I take it from a previous slide that you
15 discussed, that there are not significant
16 disagreements between you and the Pandora survey
17 experts, but can you just kind of clarify that point
18 for us?

19 A. Yes. The three pertinent surveys, Zauberman
20 and Professor Hanssens' and the modified Hanssens,
21 all agree that there is substantial diversion and
22 that there is substantial heterogeneity among the
23 various modes to which there would be diversion.

24 Some of the numbers are somewhat different
25 from each other, one survey to the next, but they all

1 agree that there is very substantial diversion to
2 some important services that are particularly salient
3 in terms of generating opportunity cost.

4 So in terms of the impact on opportunity
5 cost, an impact on the bottom line use of opportunity
6 cost when it comes to valuation for the purpose of
7 establishing appropriate royalties, this is really
8 not a battle among those three surveys.

9 Q. Very well. And so then let's talk about the
10 fourth survey, which was conducted by Professor
11 Hauser for the NAB.

12 Did you rely on that survey?

13 A. On Professor Hauser's survey, no. It's
14 unreliable for this purpose, and it's really not
15 comparable to the other three surveys that I just
16 mentioned.

17 Q. And why is that?

18 A. Well, first, it's not comparable because
19 Professor Hauser only surveyed simulcast listeners
20 for his purpose, but the surveys by Professors
21 Zauberman and Simonson and Hanssens were geared to
22 users, listeners generally to the non-interactive
23 services, not specializing on simulcast listeners.

24 So that's the first element of a deliberate
25 non-comparability, deliberate on the part of

1 Professor Hauser, because that was his purpose, but
2 that means it's -- it's a different sort of an
3 inquiry that that survey is addressing.

4 Second of all, according to Professors
5 Zauberman and Simonson, from the point of view of the
6 perspective of survey experts, they find that
7 Professor Hauser's survey is biased and, of course,
8 that's in their testimony and I understand that
9 testimony and I've written about it some in my WRT,
10 but this is their view as -- as survey experts.

11 One of the points that they make that I
12 particularly well understand from the economic
13 perspective is a source of very important bias when
14 it comes to the computation of opportunity cost. And
15 that's the second sub-bullet toward the bottom of the
16 slide.

17 And that focuses on the fact that the survey
18 by its design only allows respondents to choose one
19 switching option, switching if music is not available
20 to them from -- in this case, from the simulcast
21 distribution option that they are a user of.

22 In fact, I should mention that these users
23 of simulcast distribution who make their way to
24 become analyzed respondents for Professor Hauser are
25 those who have listened to simulcast music in the

1 last three days. And that's the stipulation for
2 qualifying respondents' data to be included in his
3 analysis. And as Professors Zauberman and Simonson
4 point out, that's a source of bias, and, in fact,
5 Professor Leonard seems to agree with that, because
6 that means the respondents are all very dedicated
7 users of simulcast for their music.

8 Last three days is a very brief window. So
9 these are folks who are using simulcast for their
10 music very frequently, and that's not at all
11 necessarily a representative sample as Professor --
12 as Dr. Leonard himself points out.

13 But back to the main theme of this bullet.
14 So these respondents who are frequent users, as I
15 point out, are being confined in their answers on the
16 survey to delineating one switching option. And
17 that's just not right. I mean, we know from the
18 record and we know from the other surveys that a wide
19 variety of different switching options are available
20 and utilized by the listeners and by the respondents
21 to the survey correspondingly.

22 And so confining the choice set that is
23 actually conveyed through the survey to only one
24 option really closes down the ambit of diversion.
25 And what it's apt to do -- and I discuss this in my

1 WRT -- is it's apt to thereby understate the number
2 of new subscriptions to subscription-based services
3 like a subscription interactive service, where the
4 extra royalties, the incremental royalties that would
5 accrue to the labels is at its maximum.

6 And so, as a result, this element of survey
7 design is apt to understate opportunity cost in a
8 substantial way.

9 Q. Professor, even though you didn't rely on
10 Professor Hauser's survey, do you agree with the
11 charge that you have abandoned the field of
12 simulcasting?

13 A. No, I wouldn't agree with that at all.

14 Q. Why is that?

15 A. Well, simulcasts, in my modeling and in the
16 surveys on which I rely and in my Shapley Value and
17 in my opportunity cost, all of those elements of
18 analysis on which I rely and that I have generated
19 include simulcasting as part of the category of
20 ad-supported non-interactive services.

21 They're in there to the full extent that
22 they are in terms of the proportion of their plays
23 and the proportion of the people who are respondents
24 to the surveys who are simulcast listeners.

25 Q. All right. Professor, let's move to the

1 next slide, and at this time, I would also ask if we
2 can reenter restricted session.

3 CHIEF JUDGE FEDER: Okay. We will be
4 reentering restricted session. Will the host please
5 clear the virtual hearing room.

6 MR. SACK: Thank you, Your Honors. We are
7 beginning to clear the room now. If you are an
8 attendee in the Zoom meeting who is not allowed to
9 attend restricted session, please leave the session
10 by clicking the right -- the red Leave button on the
11 bottom right-hand of your screen or click the X at
12 the top right-hand side of your screen. Your counsel
13 will inform you when you are allowed to return to the
14 proceeding. Please stand by, Your Honors and
15 counsel, while we clear the room.

16 (Whereupon, the trial proceeded in
17 confidential session.)

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1 O P E N S E S S I O N

2 CHIEF JUDGE FEDER: Okay. Mr. Toth, please
3 put us back in public session.

4 MR. TOTH: We are in public session.

5 CHIEF JUDGE FEDER: Okay. We will continue.
6 We received a joint motion this morning to make
7 modifications to our earlier ruling admitting a
8 number of documents.

9 Is there somebody who can please read into
10 the record which documents are being withdrawn from
11 the stipulated admission and which are being added?

12 MR. WARREN: Yes, Your Honor. I will hand
13 the mic to my colleague, attorney Sarah Clark, with
14 Jenner & Block.

15 CHIEF JUDGE FEDER: Thank you.

16 MS. CLARK: This is Sarah Clark, if you can
17 hear me, from Jenner & Block.

18 CHIEF JUDGE FEDER: I can hear you. Please
19 go ahead.

20 MS. CLARK: Great. Thank you, Your Honors.

21 The exhibits that should be added to the
22 Motion to Admit En Masse are Exhibits 5144, 5606, and
23 5614.

24 And then the exhibits that will be removed
25 from the Motion to Admit En Masse, so they are not

1 being withdrawn as proposed exhibits. It's a longer
2 list. And that is Exhibit 1100, 1101, 1103, 1104,
3 1105, 2053, 2063, 2067, 2150, and then 2152 through
4 2157, 2160, 2162, 3060 through 3062, 3064, 4090
5 through 94, 4096, 4108 through 4110, 5150, 5318, and
6 5386. Thank you.

7 CHIEF JUDGE FEDER: Thank you, Ms. Clark.
8 Okay. So the motion is hereby granted. And if I can
9 scroll this back a little bit, Exhibits 5144, 5604
10 and 5614 are admitted as part of the en masse
11 admission. And --

12 MS. CLARK: Excuse me, Your Honor.

13 CHIEF JUDGE FEDER: Yes.

14 MS. CLARK: I think I meant to say 5606. My
15 apologies if I misspoke, instead of 5604.

16 CHIEF JUDGE FEDER: Sorry. Repeat that?
17 5606?

18 MS. CLARK: Instead of 5604.

19 CHIEF JUDGE FEDER: Okay. I think I misread
20 that. I apologize.

21 5144, 5604 and 5614 are admitted.

22 THE REPORTER: I'm sorry, Your Honor, you
23 said 5604 again.

24 CHIEF JUDGE FEDER: All right. Let's try
25 this one more time. 5144, 5606, 5614, those

1 documents are admitted.

2 (SoundExchange Exhibit Numbers 5144, 5606,
3 5614 were received into evidence.)

4 CHIEF JUDGE FEDER: 1100, 1101, 1103, 1104,
5 1105, 2053, 2063, 2067, 2150, 2152 through 2157,
6 2160, 2162, 3060 through 3062, 3064, 4090 through
7 4094, 4096, 4108 through 4110, 5150, 5318, and 5386,
8 those documents are no longer admitted. They are
9 merely proposed exhibits.

10 (Google Exhibit Numbers 1100, 1101, 1103,
11 1104, 1105 were withdrawn from admission.)

12 (NAB Exhibit Numbers 2053, 2063, 2067, 2150,
13 2152 through 2157, 2160, 2162 were withdrawn from
14 admission.)

15 (NRBNMLC Exhibit Numbers 3060 through 3062,
16 3064 were withdrawn from admission.)

17 (SXM/PAN Exhibit Numbers 4090 through 4094,
18 4096, 4108 through 4110 were withdrawn from
19 admission.)

20 (SoundExchange Exhibit Numbers 5150, 5318,
21 and 5386 were withdrawn from admission.)

22 MR. WARREN: Thank you, Your Honor.

23 CHIEF JUDGE FEDER: Okay. So are we going
24 back into restricted session?

25 MR. WARREN: Yes, Your Honor.

1 CHIEF JUDGE FEDER: All right. Then I ask
2 the host to please clear the virtual hearing room.

3 MR. SACK: Your Honors, stand by. We are
4 beginning to clear the room now. If you are an
5 attendee in the Zoom meeting who is not allowed to
6 attend restricted session, please leave the session
7 by clicking the red button on the bottom right-hand
8 side of your screen or click the X at the top of the
9 screen. Your counsel will inform you when you are
10 allowed to return to the proceeding. Please stand
11 by, Your Honors, and counsel while we work to clear
12 the room.

13 The room is locked and clear.

14 CHIEF JUDGE FEDER: Thank you, Mr. Sack. We
15 are now in restricted session.

16 (Whereupon, the trial proceeded in
17 confidential session.)

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1 O P E N S E S S I O N

2 CHIEF JUDGE FEDER: Thank you. We are
3 returning to the public session. Mr. Warren, please
4 continue with your questioning.

5 MR. WARREN: Thank you so much, Your Honor.

6 BY MR. WARREN:

7 Q. Let's start with Professor Shapiro's
8 modeling approach. I believe you mentioned
9 previously that he deployed something called
10 Nash-in-Nash, but it has been a while and I am not
11 sure you had a chance to really explicate that.

12 So I would like you to help us understand
13 what his bargaining model is. I take it to do that
14 we have to start with something called the Nash
15 Bargaining Solution. So what is that?

16 A. The Nash Bargaining Solution is something
17 created by John Nash, and certainly part of the
18 foundation for the award of the Nobel Prize to him,
19 and much used by economic theorists and practical
20 economics and litigation economics ever since.

21 And let me describe how it actually works.
22 It applies to a bilateral bargaining situation.
23 There's two parties, and they might come to an
24 agreement, and, as a result of their coming to an
25 agreement, value may be created by their working

1 together under that agreement.

2 And the issue addressed by the Nash
3 Bargaining Solution is, if there is value created,
4 who gets what part of it and how does one even figure
5 what is that value created?

6 And all of that is addressed by the Nash
7 Bargaining Solution. It begins with what we've
8 already talked about to some extent yesterday,
9 namely, the fall-back value of each of the parties.

10 And that's really simple in this context.
11 The fall-back value is what one of those two
12 bargaining parties could attain without this
13 agreement being reached.

14 If the parties don't come to terms and they
15 don't wind up cooperating on an enterprise, through
16 their agreement, what sort of return would each of
17 the parties earn on its own outside of that
18 agreement? And that's called the fall-back value for
19 each of those parties.

20 The fall-back values are without the
21 agreement, but what would happen with the agreement?
22 If the agreement is reached, then there's a total
23 amount of return created by the enterprise sustained
24 by the agreement. The surplus value is the total
25 value created by the agreement less the sum total of

1 the parties' fall-back values. That's how much extra
2 in total was enabled by the creation of the
3 enterprise through the agreement.

4 The Nash Bargaining Solution imposes this
5 logical framework on the understanding of a
6 negotiation or a bargaining circumstance. And then
7 the Nash Bargaining Solution goes further and says:
8 Well, take that surplus value and divide it equally
9 between the two parties, and so each party is going
10 to wind up, if there is an agreement, with its
11 fall-back value plus one-half of the surplus value
12 that's created by the agreement.

13 And that is what is conventionally called
14 the Nash Bargaining Solution.

15 Q. Okay. How does the Nash Bargaining Solution
16 relate, if, indeed, it does relate, to the Shapley
17 Value?

18 A. The Shapley Value addresses that same kind
19 of underlying problem, how to allocate the returns of
20 the surplus value from a complex of agreements, but
21 the Shapley Value extends that idea beyond just two
22 parties to a bilateral negotiation.

23 So it's a multi-party bargaining solution
24 that generalizes the Nash Bargaining Solution to the
25 multi-party context.

1 The two of them agree, if there's only two
2 players. The Shapley Value for a bilateral bargain
3 is the same as the Nash Bargaining Solution.

4 Q. Okay. Now, I suspect this is going to get
5 quite complex, but help us break this down. Take it
6 step-by-step.

7 What is the Nash-in-Nash solution concept?

8 A. The Nash-in-Nash bargaining solution concept
9 contemplates that all the parties, multi-parties,
10 there are more than two now, that each pair of them
11 faces off in a bargaining situation bilaterally. And
12 the Nash-in-Nash solution contemplates that each pair
13 bargains in accordance with the Nash Bargaining
14 Solution because that applies to a bilateral deal.

15 So we have all these different pairs of
16 players. And each of them goes into a bilateral
17 negotiation with its bargaining partner.

18 And each of them comes to a Nash Bargaining
19 Solution between the two of them. But this is going
20 on simultaneously among all the different pairs of
21 bargaining parties.

22 The Nash-in-Nash solution links together all
23 of those Nash Bargaining Solutions to all the
24 different pairs because each of them depends upon the
25 others. And what's called the Nash-in-Nash

1 equilibrium or the Nash-in-Nash total solution asks
2 for what is the simultaneous conclusion of all of
3 those Nash Bargaining situations when they all
4 interrelate but solve for all of them simultaneously.
5 And that is the overall Nash-in-Nash equilibrium
6 concept.

7 Q. Okay. Let's try to just understand this
8 maybe in layman's terms. So let's say you have a set
9 of parties, A, B, C, D, E, F.

10 Is what you are saying that the Nash-in-Nash
11 solution concept looks at each possible pair of that
12 arrangement and sees what they would do?

13 MR. MARKS: Objection, leading.

14 CHIEF JUDGE FEDER: Please rephrase your
15 question.

16 MR. WARREN: Very well.

17 BY MR. WARREN:

18 Q. Let's look at the pair of A and B in the
19 illustration I just imagined.

20 What are those two parties assuming about
21 what else happens outside of the deal?

22 A. So the Nash Bargaining Solution applied to
23 the bilateral, that's imagined, between A and B, as I
24 tried to explain, I think I did, it's going to depend
25 upon what is the view of the parties of their

1 fall-backs.

2 So A and B are imagined to be in a bilateral
3 negotiation. And how that negotiation comes out
4 depends on A's fall-back value and also on B's
5 fall-back value and also on the view of what can they
6 do if they come to an agreement, how valuable will
7 that be.

8 And the issue, which is so interesting, and
9 which makes this be Nash-in-Nash, is that the
10 fall-back values in that bilateral situation depend
11 upon what else is going on. What A can do in the
12 fall-back depends upon what's going on with C and D's
13 negotiation.

14 It even depends upon what's going on with
15 the negotiation between B, with whom it's imagined to
16 be bargaining right now, and the negotiation then
17 between B and, say, party F, because A's fall-back
18 depends upon that.

19 And also B's fall-back, when it's
20 negotiating with A, depends upon what's going to
21 happen or is viewed as having been set already in
22 terms of the bilateral between B and F. And that is
23 influential on what's going to happen between A and
24 B.

25 And that's true about all of the different

1 bilateral combinations, of which there are many, if
2 there's a bunch of parties, like six in my model, any
3 way.

4 So there's all this relationship,
5 interrelationship among the bilaterals. And the
6 Nash-in-Nash concept says: Well, let's find out an
7 equilibrium across all of them so that they all are
8 internally consistent with each other and we will
9 call that the Nash-in-Nash solution.

10 Q. So when the Nash-in-Nash solution looks at
11 this bargain between A and B, how does it model how A
12 and B imagine what else has happened or is happening
13 with parties C, D, E, and F?

14 A. This is really the key to what is
15 Nash-in-Nash. When A and B are doing their bilateral
16 negotiation, they each have a view of what all the
17 other negotiations are and how they are coming out.

18 And both A and B assume, according to the
19 model, that those results of the other bilaterals are
20 fixed, that they are what they are, and they would
21 not be altered if A and B failed to come to an
22 agreement between the two of them.

23 Q. Okay. So if all the other deals are viewed
24 as consummated, how does, let's say D is the
25 distributor in this example, if all the other deals

1 are viewed as consummated, how does D view A, which I
2 take it is the last label that hasn't reached a deal?

3 A. So in that example, say D is the
4 distributor, and A, B, C, F, whatever, are different
5 record companies, and in the Nash-in-Nash world, when
6 D and A are doing their bargaining, and if part of
7 the Nash-in-Nash equilibrium is that everybody is
8 going to make a deal, I want to just correct or
9 change the wording of your question a bit.

10 If they were all already happened, then that
11 would be kind of consistent, but they can't all
12 happen simultaneously, literally simultaneously,
13 because D, for example, is bargaining with A, B, and
14 C, and so how can those results all be literally
15 simultaneous? They can't be.

16 So the idea of this Nash-in-Nash equilibrium
17 is that the parties view what they think is going to
18 happen in all these other negotiations as fixed and
19 unchanged by what happens in their own individual
20 negotiations. And it's kind of in their minds that
21 it's a commitment, but it's not an actual result,
22 because the actual result would just be physically
23 often impossible.

24 But the idea of the belief in the commitment
25 of others to their other deals is really the way to

1 understand the concept of Nash-in-Nash solution.

2 So to go back to your question, here is the
3 distributor, and the distributor is sitting down with
4 label A, and because of this feature of Nash-in-Nash,
5 D is acting toward A as if D already has committed
6 deals with B and C and F.

7 Moreover, A in bargaining with D is thinking
8 the same thing. A is thinking: Yeah, well, part of
9 the Nash-in-Nash equilibrium is D is making deals
10 with everybody. And so A's view of its fall-back and
11 its view of D's fall-back includes that D is going to
12 be or is committed to deals with everybody else.

13 And that's an intrinsic part of
14 Nash-in-Nash.

15 Q. So is this model then sensitive to whether
16 the last remaining label, A in this illustration, is
17 or is not a must-have?

18 A. It's very sensitive to what would happen to
19 D if D had deals with everybody else, all the other
20 record companies, but it did not have a deal with A,
21 for example.

22 So if A makes a relatively small
23 contribution to the operations of D, given that D has
24 all the other companies under license, that will be
25 extremely influential on the bilateral negotiation

1 between D and A.

2 D is thinking: Hey, you know, if A doesn't
3 add that much, given that I have license agreements
4 with all the other record companies, then my
5 fall-back is pretty good. If I don't make a deal
6 with A, I'll be pretty, pretty good, because I will
7 have everybody else.

8 And A knows that. And so the bargaining
9 position of D in its bilateral with A is very strong.
10 There's very little surplus value that seems to be
11 created by the D and A deal. Sorry?

12 JUDGE STRICKLER: Professor Willig, this is
13 Judge Strickler.

14 That relatively stronger bilateral position
15 that D has with A, as you just posited, wouldn't that
16 apply in its bilateral relationships with the other
17 two majors as well, if they have -- if D has not yet
18 entered into an agreement with any of those three, A,
19 B, or C?

20 THE WITNESS: I think if I catch your
21 question, I think the answer is yes, that what I just
22 said about the relationship and the bargaining
23 between D and A applies also in Nash-in-Nash to the
24 bargaining between D and B, for example, because
25 under Nash-in-Nash, in that bilateral bargain, once

1 again, D has the belief that it will be or it already
2 has commitments to license from everybody else, not
3 B, but A and C and F as well, and B believes that
4 also when it's sitting down with D under
5 Nash-in-Nash.

6 And that applies to every one of the record
7 companies which enter into the entire Nash-in-Nash
8 framework. Each one of them thinks that it is being
9 viewed by the distributor as the last one to appear
10 at the negotiating table because everybody else
11 already has their deals made. So everybody thinks
12 that under Nash-in-Nash.

13 BY MR. WARREN:

14 Q. So let's say that instead of -- let's say
15 that looking at the bilateral between A and D --

16 CHIEF JUDGE FEDER: One moment, Mr. Warren.

17 Were you finished, Judge Strickler?

18 JUDGE STRICKLER: Yes, I was. Thank you,
19 Judge Feder.

20 CHIEF JUDGE FEDER: Okay. Please proceed.

21 MR. WARREN: My apologies. Thank you, Your
22 Honors.

23 BY MR. WARREN:

24 Q. Let's look at that bilateral negotiation
25 between A and D. Let's say A is a must-have to D.

1 How does that change D's perspective on the
2 negotiation?

3 A. If A is a must-have, then whether or not B
4 is committed to or believes that it has commitments
5 from the other must-have labels, the other majors,
6 has relatively little, maybe no significance, to its
7 bilateral with A because, if it doesn't make a deal
8 with A, and A is a must-have, there won't be any
9 sustainable operation of D.

10 And so the full value that A brings to the
11 table is there evidently in the bilateral between A
12 and D quite opposite from the circumstance under
13 Nash-in-Nash, under an assumption, like Professor
14 Shapiro's, where the value that A brings to a
15 distributor is relatively small, given that everybody
16 else is already going to be part of the enterprise.

17 Q. Now, Professor, is your Shapley Value model
18 similarly sensitive to this question of whether A is
19 a must-have or D can easily do without the catalogue
20 of A?

21 A. So look at my little red, orange, and green
22 picture on the slide. And look at the row of it
23 labeled Shapley. My sensitivity tests show -- and
24 it's very logical, it's not just the math, though the
25 logic is there -- that under Shapley Value, if one

1 compares the Shapley Values where the model or the
2 attitude assumes that each of the majors is a
3 must-have, and one compares that to an alternative
4 circumstance where two majors are must-haves, but the
5 third major not that important.

6 And quantitatively when I show my
7 sensitivity tests, what I am going to do is assume
8 that two must-haves exist, any two of the majors, but
9 that the third is not necessary, and that Professor
10 Shapiro's so-called LSE results for his power ratio,
11 what the impact would be if the third major doesn't
12 be part of the arrangement, I apply Professor
13 Shapiro's LSE results to the third major.

14 So not much is lost under that view if two
15 majors are aboard but the third major is not. So
16 that's really honoring for the sake of the comparison
17 Professor Shapiro's use of his LSE, even though, as
18 you know, my views are that his calculation and his
19 use of the empirical results from his LSE are not
20 reliable for this purpose.

21 But still, for the sake of the comparison,
22 consider that case, the LSE applies to the last
23 major, given that the other majors are going to be
24 part of the service.

25 Under Shapley Value, it doesn't make that

1 much of a difference between those two scenarios, the
2 scenario that says only two majors are must-haves and
3 LSE applies to the third major, and my lead case
4 where all three majors are viewed as must-haves
5 between one and the other under the Shapley Value
6 framework, not a very substantial, somewhat of a
7 difference, but not a very substantial difference in
8 the Shapley Value royalties that result.

9 JUDGE STRICKLER: Professor Willig, I wanted
10 to get back to your Nash-in-Nash and Nash model for a
11 moment. You -- you stated, sort of in summary
12 fashion, that the -- the surplus that exists there
13 would be split 50/50 in each bilateral agreement.

14 And I know you have some language in your --
15 in your written testimony as to -- as to why. And
16 you are probably aware that in previous
17 determinations the Judges, and their predecessors,
18 have questioned the assumption of the 50/50 split.

19 Why do you say that we can safely assume a
20 50/50 split of the surplus for purposes of
21 calculating royalties under the Nash-in-Nash
22 approach?

23 THE WITNESS: Thank you. Let me try to be
24 clearer than I think I have been about that. The
25 50/50 split does not apply to the total value created

1 by the joint operation of the parties under their
2 agreements. That's not it.

3 The amount of money, profits, that each of
4 the parties comes away with depends, first of all, on
5 their fall-backs. And if their fall-backs are
6 different, they're going to wind up with different
7 amounts of money at the end of the day.

8 JUDGE STRICKLER: I don't think you and I
9 are saying anything different. I thought I had made
10 that clear as an assumption in my question.

11 I was asking about the split 50/50 of the
12 surplus after they receive their fall-back value.

13 THE WITNESS: Absolutely. And I am going to
14 agree totally. But just to point out that that does
15 not in my view and not in Nash's view mean an equal
16 division of the total proceeds. And I see your
17 question thoroughly understands that.

18 The reason that I think, and I think Nash
19 originally had the view, that the surplus makes sense
20 to be split 50/50 is that really, by definition, that
21 agreement finds both of those parties necessary.
22 There is no agreement unless both parties agree to
23 it. Neither has a different degree of bargaining
24 power over whether or not they are going to make an
25 agreement. That's a perfectly balanced symmetric

1 situation.

2 JUDGE STRICKLER: Well, Professor, one of
3 the things I wanted to ask you about is, isn't there
4 much literature in the Nash-in-Nash approach that
5 talks about reasons why the split would not be 50/50,
6 that the parties who are bargaining might have
7 different utility preferences and, in particular,
8 they may have different positions with regard to
9 liquidity, risk tolerance, more generically patience?
10 Are you familiar with literature in that regard?

11 THE WITNESS: Yes, and even more than you
12 just exemplified. There are all kinds of other
13 reasons that are thrown into the mix.

14 JUDGE STRICKLER: Well, do you discuss those
15 other reasons in your written direct or rebuttal
16 testimonies?

17 THE WITNESS: I don't for a few reasons.
18 First of all, Professor Shapiro's own development of
19 his bargaining model begins with Nash-in-Nash, which
20 is built up from the Nash Bargaining Solution, and
21 the Nash Bargaining Solution has this 50/50 property
22 to it.

23 JUDGE STRICKLER: Well, I understand that
24 Professor Shapiro is similar to you in that regard --

25 THE WITNESS: Right.

1 JUDGE STRICKLER: -- in positing the 50/50.
2 But if it were to turn out that both of you were
3 wrong, the ancient maxim, two wrongs don't make a
4 right might apply here, too.

5 So I'm asking you why, you were about to
6 explain why you didn't go into any greater detail
7 with regard to other reasons why 50/50 might not be
8 appropriate?

9 THE WITNESS: Right. So lots of those other
10 considerations that you were mentioning, different
11 utilities, different degrees of risk tolerance,
12 properly viewed within the context of a bargaining
13 situation, those can be incorporated in the elements
14 of the Nash Bargaining Solution.

15 So, for example, if one party's fall-back is
16 very risky, then that means that, from the point of
17 view of that party, its valuation of its fall-back is
18 depressed if it's risk averse by the extent of that
19 risk.

20 So it's not an additional factor, viewed
21 properly, beyond the Nash Bargaining Solution. But
22 those other kinds of circumstances, liquidity
23 constraints, risk aversion, different time
24 preferences, different utility functions, all of
25 those things can be viewed as impacting the fall-back

1 values to the parties and also the total value
2 created. For example, if -- sorry.

3 JUDGE STRICKLER: Excuse me. Professor,
4 when you -- just so I don't lose the train of
5 thought. I apologize for interrupting.

6 These other items that you say would,
7 therefore, implicitly affect the fall-back position,
8 when you calculated fall-back positions in your
9 Nash-in-Nash modeling, did you have any inputs that
10 told you or informed you as to whether their
11 fall-back positions needed to be adjusted for any of
12 these factors?

13 THE WITNESS: No, I didn't do that. I used
14 the data available on royalty flows and on diversion
15 and on retention to assess what the basic financial
16 implications would be for the parties if they were
17 able to come to an agreement over the licenses or
18 not, without in some way applying some view that one
19 party or another had a different degree of risk
20 aversion with respect to this part of their overall
21 operations.

22 JUDGE STRICKLER: Well, for example, just
23 using -- relying on some of the evidence or testimony
24 that's in this case, Professor -- Mr. Orszag posits
25 that Spotify and Apple have newly-found power over

1 the record labels because the record labels would not
2 want to go dark on Spotify or Apple.

3 So if that was so, that would affect --
4 wouldn't that affect, at least hypothetically, their
5 -- their risk tolerance for the absence of a deal and
6 allow Spotify, all other things being equal, allow
7 Spotify or Apple to push for more than 50 percent of
8 the surplus so that the record companies don't incur
9 that fate that Mr. Orszag posited?

10 THE WITNESS: Well, not to put words in John
11 Orszag's mouth, my viewpoint on that, if I were to
12 take that on, which I did not directly, but I am
13 happy to speak to it, is that the important role that
14 subscription interactive services play today in terms
15 of the finances of the record companies very much
16 affects the fall-back values.

17 If one is doing a bargaining model that
18 would apply to a major record company and an
19 important subscription supported interactive service,
20 first and foremost, the importance of the role of the
21 service to the finances of the record label would
22 show up in a simple non-risk adjusted view of the
23 fall-back value because, if an agreement were not
24 reached between them, it would be a very strong
25 depression of the revenues earned by the record label

1 given today's circumstances.

2 So that would --

3 JUDGE STRICKLER: So to rephrase the
4 question, sir, I apologize, that I asked you before,
5 did you do a risk adjusted fall-back modeling for
6 either the licensors or the licensees in this
7 proceeding?

8 THE WITNESS: I did not bring a separate
9 assessment of the degree of reaction to risk, apart
10 from quantifying what the actual underpinnings of
11 that risk would be, i.e., the dollar loss.

12 And I think what you are alluding to is that
13 dollar loss can be worse because it would have
14 terrible consequences for the state of well-being,
15 but the first and foremost element of that is the
16 dollar loss itself.

17 And that has a ready place in the Nash
18 Bargaining because it goes right to the fall-back
19 value. But I totally agree with you that, if there
20 were some reason to go beyond the dollar loss and say
21 that that would, say, harm investors' view of the
22 company, so that would be an impact beyond just the
23 dollar loss, that would be something that could be
24 adjusted for in the fall-back value, something in
25 addition to the dollar loss, like the fall-off in the

1 ability of the company to access capital or the
2 resulting rise in its bond rate, the amount it has to
3 pay for debt, because the market would think of it as
4 a riskier property.

5 That -- that could be quantified and could
6 be added into the framework as part of the
7 implications for the fall-back value. That's not
8 something that I did. But within the framework it's
9 doable if those are the facts.

10 JUDGE STRICKLER: Thank you, Professor
11 Willig.

12 BY MR. WARREN:

13 Q. Professor, just to follow up --

14 CHIEF JUDGE FEDER: Mr. Warren, before your
15 follow-up, about how much more time do you have?

16 MR. WARREN: Well, it does not look like my
17 ambition will be fulfilled and we will be able to
18 sort out the direct before lunch. I will concede
19 that.

20 CHIEF JUDGE FEDER: Okay. So why don't you
21 do your follow-up question and then we will break for
22 lunch.

23 MR. WARREN: That is -- that's very well.

24 BY MR. WARREN:

25 Q. So, Professor, just to follow up on Judge

1 Strickler's thought, if I may attempt to do so, if
2 you wanted to adjust fall-back value based on impacts
3 that aren't just dollar impacts, such as loss of
4 investor confidence and whatnot, would you have to do
5 that for each element of opportunity cost in order
6 for your model to stay consistent?

7 A. Yes. If adjustments are going to be made
8 because of the prominence of some effect that had
9 been omitted, one has to follow through the impact of
10 that added factor on all of the different moving
11 parts that go into the determination of here, in my
12 framework in the Shapley Value or in the Nash-in-Nash
13 solution concept, you can't just validly change one
14 thing without thinking about the implications
15 underlying that change for the other pieces of the
16 overall framework.

17 Q. And would you have to make that adjustment
18 with respect to both the licensors and the licensees?

19 A. That would be appropriate, absolutely.

20 Q. And maybe just a last question before we
21 break for lunch as it was implicit to Judge
22 Strickler's questions, but I take it you did run a
23 Nash-in-Nash solution concept in your own written
24 testimony; is that correct?

25 A. Oh, yes, I did.

1 Q. Are you advancing that as your principal
2 approach?

3 A. I am not.

4 Q. To what extent are you advancing it?

5 A. Oh, well, so I ran it in a few circumstances
6 as a robustness check on my Shapley Value primary
7 model. And what I found were consistent results.

8 So, for example, under the circumstance that
9 there are three must-haves, the Nash-in-Nash solution
10 comes out very, very close to my Shapley Value
11 solution for the level of the royalties.

12 And that's why I look at this as green and
13 green under Shapley, whereas under Nash-in-Nash
14 there's a world of difference between the three
15 must-haves circumstance and the circumstance where
16 only two must-haves but LSE applies to the left out
17 major. That makes a very substantial difference as
18 between the resulting royalties from those
19 frameworks.

20 Q. Just a couple very quick questions before we
21 break.

22 Just to be clear, does the Nash-in-Nash
23 solution concept necessarily yield low rates?

24 A. No, it doesn't yield rates lower than my
25 primary case under the view that all the majors are a

1 must-have.

2 Q. And do the LSEs necessarily yield low rates?

3 A. No. When I look at the top row, using LSEs,
4 and these -- I should point out, and I am not sure I
5 did when I defined that column, here the LSE I am
6 taking to apply to one missing record company, one
7 missing major, but that's exactly the way Professor
8 Shapiro ran his LSEs.

9 They didn't remove the music of two majors
10 or even of any two record companies at once. It was
11 always one record company at a time. And that's what
12 I'm doing in that first column, the colored column of
13 this table.

14 I'm saying, okay, we'll apply the LSE,
15 Professor Shapiro's numbers, when one label is
16 blacked out, but let's go further and say, well, what
17 would happen if two majors were left out, and using
18 the must-have idea for that situation, that one of
19 these mainline services couldn't sustainably operate
20 having only one major signed up.

21 So that's the column that's titled Two
22 Must-Haves and LSE For the Third Major, exactly
23 really the way Professor Shapiro defines his LSE,
24 missing only one major.

25 And under Shapley that just doesn't make

1 much of a difference to the royalties that the model
2 calculates, but it makes a world of difference under
3 Nash-in-Nash for reasons that should be clear but, if
4 they are not yet, we should probably talk about it
5 some more.

6 JUDGE STRICKLER: One quick question for
7 you, Professor Willig, if you recall.

8 In Dr. Peterson's modeling, does he not
9 agree with you that with two must-haves, you would
10 have the same result under the Shapley Value as if
11 you had three must-haves?

12 THE WITNESS: I don't recall that
13 specifically, but I wouldn't be surprised.

14 JUDGE STRICKLER: Okay. Well --

15 MR. WARREN: And, Your Honor, we will be
16 discussing -- we will be discussing Dr. Peterson's
17 approach after the lunch break so we can take up that
18 issue then.

19 JUDGE STRICKLER: Okay. Thank you.

20 MR. WARREN: Thank you. All right. Your
21 Honor, this would be a good time for the lunch break.
22 Thank you so much for your patience.

23 CHIEF JUDGE FEDER: Okay. We will take a
24 one-hour recess for lunch and return to open session
25 at 2:57.

1 (Whereupon, at 1:57 p.m. EST, a lunch recess
2 was taken.)

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1 A F T E R N O O N S E S S I O N

2 (2:59 p.m. EST)

3 CHIEF JUDGE FEDER: We are ready. The host
4 may establish the connection.

5 MR. TOTH: We are in public session.

6 CHIEF JUDGE FEDER: Thank you. And welcome
7 back. Mr. Warren, you may proceed and complete your
8 direct examination.

9 MR. WARREN: Thank you, Your Honor.

10 BY MR. WARREN:

11 Q. Now, just to remind everyone, including the
12 witness, where we are, we were talking about your
13 differences in viewpoint about these bargaining model
14 approaches taken by the other economists in this
15 proceeding.

16 So I just have a couple more slides for the
17 day. I'm going to ask you about Dr. Peterson's
18 approach, next we will talk about the Myerson value,
19 and then we'll close out talking about your sensitive
20 tests.

21 So here on Dr. Peterson, did you review his
22 testimony filed in connection with this proceeding?

23 A. I did.

24 Q. And did he offer any criticisms about the
25 Shapley Value approach?

1 A. He did seem to indicate his view that, in
2 general, the Shapley Value models collusion, and he
3 takes that as a weakness of that framework where it
4 ought to be the case that what we're imagining is an
5 effectively competitive market in the absence of
6 regulation.

7 Q. And do you agree with that criticism?

8 A. It's really -- it's not true about the
9 Shapley Value in general, and it's particularly not
10 true about the Shapley Value model that I pursue to
11 estimate appropriate royalties in this case.

12 Q. And I see you have your patent example back
13 up on the screen. Can you help us understand why
14 there is no collusion utilizing this example?

15 A. This is just an example, but take a look at
16 the first row. And here A arrives with nobody having
17 been there before A. And the characteristic function
18 value, the value created by A alone, is the \$5 that
19 you may remember, I remember, from outside sources.

20 And then a few rows down is the case where B
21 arrives before A. And the question for that row is
22 what value does A's joining B add to the totality of
23 the value. So when B arrives first and A joins B, B
24 alone contributes a \$5 value, again, from outside
25 royalties, and when A arrives and joins B, the total

1 value they create is N, which is just the sum of the
2 5 and the 5. And, of course, that's modeling the
3 absence of collusion between A and B. Their
4 standalone values are just being added up, because in
5 this model A and B can't accomplish anything as a duo
6 without D also being aboard.

7 And that's essentially what goes on in my
8 Shapley Value model. When different record labels
9 arrive to the bargaining table in whatever order,
10 they don't clued with each other. Their values that
11 they can earn alone on a standalone basis add
12 together in the assessment of the characteristic
13 function, and there's really a change in that only
14 when a distributor is aboard, so that the labels
15 together with a distributor can create extra value,
16 but there's no adjustment or indication in my
17 characteristic function, in my Shapley Value model,
18 for collusion.

19 Q. All right. Now, Professor Willig, are you
20 familiar with Professor Shapiro's discussion in his
21 written rebuttal testimony about something he terms
22 Myerson Value?

23 A. I am.

24 Q. What is your understanding as to why
25 Professor Shapiro proposes what he terms a Myerson

1 Value alternative?

2 A. What he says is the rationale is that what
3 he terms the Myerson Value -- and I think I mentioned
4 yesterday that I put quotes on Myerson Value as a
5 term because what Professor Shapiro terms the Myerson
6 Value, in fact, Professor Roger Myerson himself
7 doesn't term that concept the Myerson Value and terms
8 something else the Myerson Value. So this is really
9 a misnomer.

10 But what Professor Shapiro says is that he
11 introduces the Myerson Value and thinks it's superior
12 to the Shapley Value because, he says, it accounts
13 for negative contracting externalities.

14 Q. Okay. And have you attempted to work
15 through what he calls the Myerson Value? What are
16 your thoughts about it?

17 A. I have. And there's an appendix to
18 Professor Shapiro's --

19 CHIEF JUDGE FEDER: One moment. Were you
20 about to --

21 MR. MARKS: Sorry.

22 CHIEF JUDGE FEDER: -- say something in
23 response?

24 MR. MARKS: I was about to, but it sounded
25 like the Professor was not yet getting to the part

1 I'm expecting to object to. So I'm sorry for the
2 interruption. Let me -- let me just preview it so we
3 don't have to interrupt in the middle of a question.

4 MR. WARREN: Thank you.

5 MR. MARKS: This -- this slide, the bottom
6 bullet on this slide and then slide 69 refer to a
7 brand-new analysis that Professor Willig has done
8 that is improper surrebuttal. We don't object and we
9 think it's fair game for him to respond as he has in
10 the first two bullets to points made for the first
11 time or that he saw for the first time in Professor
12 Shapiro's rebuttal, but what we think is foreclosed
13 by the procedures of this forum is for him to then do
14 his own new analysis using an analytical tool he
15 hasn't done in his written testimony, either on
16 direct or on rebuttal. And that's where our
17 objection lies.

18 So fine for him to comment on what Professor
19 Shapiro has said, but we don't think it's fair game
20 for him to do a brand-new analysis and alter
21 different assumptions and put in new data.

22 MR. WARREN: So, Your Honors, if I may
23 quickly respond to that, you know, at the end of the
24 day, we will defer to you all on what you would like
25 to hear in terms of surrebuttal or not hear in terms

1 of surrebuttal. The only thing I would add is that
2 the sensitivity test in question, which the -- the
3 professor will describe, it was produced to the other
4 side well in advance of Professor Willig's
5 deposition. So this is not something that's new in
6 the sense that the other side has had no opportunity
7 to consider it or ask Professor Willig questions
8 about it.

9 With that understanding, I understand if you
10 -- if Your Honors don't want to hear the numbers that
11 arise from Professor Willig's attempt to rerun
12 Professor Shapiro's calculation using this Myerson
13 thing, I -- I obviously will honor that and we will
14 prevent the witness from, you know, stating what
15 those numbers are, but at the same time, I do believe
16 this is useful information to Your Honors, and I also
17 think there's no prejudice to the other side, given
18 that they had an opportunity to ask Professor Willig
19 all about it.

20 MR. MARKS: If I may just respond to the
21 prejudice point, Your Honor, the -- the test is not
22 whether or not they produced the analysis on
23 surrebuttal in advance of the witness' deposition.
24 If that were the rule, everybody could do brand-new
25 analyses on surrebuttal and just dump them in, in the

1 days before the deposition. That's not the test and
2 that's not where the prejudice comes from.

3 The prejudice comes from is, we understood
4 the rules of the road to be, as they always have
5 been, that you can't do a new analysis; you can
6 merely respond to what the other side has said. And
7 as I have indicated, we don't object, and we think
8 it's fair game for experts to respond to what another
9 expert has said, but we do object to a brand-new
10 analysis where he's changing assumptions and using
11 analytical tools and running numbers that didn't
12 appear in either his written direct or his written
13 rebuttal.

14 MR. WARREN: Your Honors, if I may
15 respectfully request that we put the issue in
16 abeyance, so that I can let the witness at least
17 testify about the -- the issues as to which there is
18 no objection, which are conceptual in nature, and
19 then actually the -- the -- essentially the very end
20 of my direct is where this would come up and -- and
21 perhaps we can at that point take a quick recess so
22 Your Honors can reach a ruling on that.

23 CHIEF JUDGE FEDER: Okay. We will proceed
24 in that manner.

25 MR. WARREN: Thank you, Your Honor.

1 BY MR. WARREN:

2 Q. Now, Professor, you know, understanding the
3 colloquy that just happened, we're not asking you for
4 any numbers, but can you describe at a conceptual
5 level, the economic level, your understanding of
6 Professor Shapiro's Myerson Value and whether you
7 agree with that?

8 A. Fine. Professor Shapiro quite explicitly,
9 in an appendix to his rebuttal report in an attempt
10 to explain what he means by Myerson Value, shows some
11 equations to calculate portions of the Myerson Value
12 making use of an example kind of like the patent
13 example that I introduced to explain what Shapley
14 Value means.

15 And that example within Professor Shapiro's
16 own report makes it very clear on its face, without
17 any additional manipulation whatsoever, that
18 Professor Shapiro's version of the Myerson Value
19 reflects transfers among the parties that in our kind
20 of context here would be anticompetitive and, I dare
21 say, illegal, not being a lawyer, but I used to work
22 with prosecutors every day at the Justice Department,
23 as an endemic part of the assessment of what would be
24 the Myerson Value.

25 And Professor Shapiro said that that example

1 is a simplified version of what he was applying to
2 the overall framework in this case, and that would
3 mean, and I believe it's true, that his version of
4 the Myerson Value would be incorporating such
5 anticompetitive and illegal side payments.

6 For example, in -- in his own appendix,
7 Professor Shapiro was reflecting a Myerson Value
8 which has one of the record companies paying off the
9 other record companies and paying off the distributor
10 to desist from forming a service that would be in
11 competition with the label who was offering these --
12 these anticompetitive payments.

13 The model doesn't say those payments would
14 be made. The model is silent on the actual cash
15 flows. But the model reflects the possibility, the
16 contemplation, of those kinds of side payments that
17 just could never occur with any degree of legitimacy
18 in markets like the ones that we are working with
19 here.

20 So for that -- so for that reason, I really
21 reject Professor Shapiro's version of the Myerson
22 Value. However, I don't reject the idea that there
23 might be negative contracting externalities, not
24 handled through what Professor Shapiro calls the
25 Myerson Value because of that problem with it, but

1 there's other ways to introduce those kinds of
2 contracting externalities into the model by just
3 assuming that when there's a label standing alone,
4 its value might be affected by the service and the
5 other labels forming an operating service that might
6 take away from the standalone value of a major label.

7 That does not involve these kinds of illicit
8 side payments. And it's not what Professor Shapiro
9 calls the Myerson Value, but one could redo the
10 Shapley Value model with that alteration to what the
11 standalone value, the value that a party, a record
12 company, can achieve on its own, and see if that
13 makes a difference to the overall Shapley Value
14 calculation.

15 And that would take into account contracting
16 externalities without doing it through the lens of
17 this particular version of the so-called Myerson
18 Value that involves the side payments that really
19 shouldn't be considered.

20 Q. Okay. And is that -- without, again,
21 disclosing numbers, is that the analysis that you
22 ran?

23 A. I did run such an analysis, yeah.

24 Q. All right. Now let's turn to the last
25 module, which was your sensitive --

1 JUDGE STRICKLER: Before you do that --

2 MR. WARREN: Yes.

3 JUDGE STRICKLER: Before you do that,
4 Mr. Warren -- Professor Willig, if we could just go
5 back, I guess it's one page, to slide 66. I don't
6 know, maybe it's -- yeah, 66, two pages from what we
7 have on the -- on the board there. Yeah. One more.
8 Thank you.

9 In your first bullet point in the second
10 sentence, you write, "Thus, in this model A and B do
11 not create additional value for themselves through
12 collusion."

13 Do you see where I am there?

14 THE WITNESS: Yes.

15 JUDGE STRICKLER: Would it also be accurate
16 to say, thus in this model, A and B cannot create
17 additional value for themselves through collusion?

18 THE WITNESS: The model doesn't allow them
19 to. The model --

20 JUDGE STRICKLER: Well, let --

21 THE WITNESS: Sorry?

22 JUDGE STRICKLER: I'm sorry. Please, go
23 ahead.

24 THE WITNESS: No, the model is specified so
25 that when A and B are together in the subset, all

1 they're doing is adding one's standalone value to the
2 other's standalone value.

3 And if one wanted to assume collusion, one
4 could change the model, but my model is not changed
5 that way. My model assumes no collusion.

6 JUDGE STRICKLER: What if we had, instead of
7 just A and B, we had A, B, and C, along with D.
8 Would there then be the potential for collusion
9 amongst the first two arriving among A, B, and C?

10 THE WITNESS: I'm not totally understanding
11 what you have in mind. If there's a subset of A, B,
12 C, say, all the majors and the distributor --

13 JUDGE STRICKLER: Well, in any -- in any of
14 the subsets that would arise, if you had three majors
15 and the distributor, is there the potential for
16 collusion among two of the three of the majors?

17 THE WITNESS: Not in the characteristic
18 function because the characteristic value is the
19 total amount of value that all those parties together
20 could attain. And the characteristic function itself
21 doesn't speak to the allocation of those gains among
22 the parties. That awaits the full Shapley Value,
23 which would compare that characteristic function
24 value to what the value would be if one of those
25 parties were missing from the --

1 JUDGE STRICKLER: Well, if each one of those
2 parties is a must-have and A and B are together in
3 the characteristic function, don't they have the
4 hypothetical ability to -- to agree to work together
5 to say each one will -- will refuse to license to
6 D?

7 (Dogs barking.)

8 JUDGE STRICKLER: That wasn't -- that wasn't
9 me.

10 THE WITNESS: And that wasn't me either.
11 The Shapley -- the Shapley Value looks at the -- the
12 increment to the value one party at a time, just by
13 -- by its definition. And so within the Shapley
14 Value framework, there's no room for, and certainly
15 not in my modeling of it, for A's withdrawal to
16 somehow trigger some attitude adjustment by party B,
17 who was still in the subset.

18 It's just not allowed in the model in
19 general and it's certainly not allowed in my
20 formulation of the model.

21 JUDGE STRICKLER: Thank you, Professor.

22 MR. WARREN: Thank you, Your Honor.

23 BY MR. WARREN:

24 Q. So let's talk about your sensitivity test.
25 And I take it you've alluded to these a number of

1 times, actually, in the course of your testimony
2 today.

3 But if you can just walk us through these
4 four scenarios as they appear in your Figure 16, I
5 would appreciate that.

6 A. Yes. So each row here is a different
7 scenario, a different one of my sensitivity tests.
8 And as you can see, in each row various assumptions
9 are altered. And the consequences of those changes
10 are drawn out in terms of their impact on what the
11 model says would be the royalty rates based on the
12 particular model.

13 The first scenario goes ahead with Shapley
14 Value as the bargaining framework, like my primary
15 model, but now instead of saying that there would be
16 three must-haves, this particular sensitivity test
17 assumes only two majors are essential for the
18 operation of the service. The service can go forward
19 without the third one.

20 And the model has to address the question,
21 well, what happens in the absence of one of the
22 majors? And for Scenario 1, the assumption that I
23 make is Shapiro's assumption. That's the power
24 ratio. And the power ratio in that sensitivity test
25 derives from Shapiro's use of his LSEs.

1 So this -- and I alluded to this before
2 lunch. This is the kind of run that allows the LSEs
3 to apply to the last label, which is the way the LSEs
4 actually operated, and it asks what are the
5 consequences for the royalties? And --

6 BY MR. WARREN:

7 Q. Professor, before you -- before you go on,
8 if I may interrupt you. I'm sorry. We are remaining
9 in public session, so I would ask that you not read
10 the numbers on the chart.

11 A. Okay. Thank you.

12 Q. So that we can stay in public session at
13 this time, but please proceed otherwise.

14 A. Okay. Another assumption, as we've been
15 talking over these days, is the retention ratio, what
16 happens to a party's plays and how many of them are
17 there when that party is blacked out from the
18 service. And here in Scenario 1, I make use of
19 Professor Shapiro's assumption about retention. And
20 I won't repeat what it is because we've talked about
21 it and there it is.

22 So all of the assumptions here are much like
23 Professor Shapiro's, retention, power ratio, the
24 treatment of the music, one major who was blacked
25 out, but Shapley Value. And the answer from that --

1 from that scenario is one much like, not exactly the
2 same, a little bit less, but only a little bit less
3 than, the royalties that I derived and we've talked
4 about from my primary model, which is much like
5 Scenario 1 but all three majors are must-haves.

6 So the only difference here from Professor
7 Shapiro is using Shapley instead of Nash-in-Nash
8 under the LSE circumstance. And this is sort of what
9 I was trying to picture with those orange and green
10 cells of the table a few slides ago.

11 Q. Okay.

12 A. Scenarios 2, 3, and 4, again for the sake of
13 sensitivity testing, adopt the Nash-in-Nash
14 perspective. So no more Shapley; Professor Shapiro's
15 choice of bargaining model. Scenario 2 says: All
16 right, no must-haves and, moreover, let's employ
17 Professor Shapiro's power ratio, i.e., his LSE view
18 of the world, but now instead of the retention ratio
19 that appears in Professor Shapiro's model, let's use
20 mine, 100 percent, a blacked-out label is going to
21 recover its plays elsewhere if there's enough
22 diversion, and if there isn't enough diversion, well,
23 then it gets what it can out of the plays that are
24 diverted.

25 Also backing off from that to 90 percent,

1 not 100 percent, just to see, again, another
2 sensitivity. And, again, with this selection of
3 choices for the model, the royalties are somewhat
4 less than what I calculated but nowhere near the
5 very, very low levels that Professor Shapiro
6 calculated.

7 So then we can go to Scenario 3. Again,
8 Nash-in-Nash. Again, I don't need any of the majors,
9 but the power ratio is more substantial than the
10 LSEs. Power ratio of 2 means that the service loses
11 the market share of the label that's blacked out
12 times two, so double that market share is gone, but
13 now back to Professor Shapiro's retention ratio, not
14 like in the prior row where I'm moving to retention
15 more like in my model, going back to Professor
16 Shapiro's, and, again, the royalties are somewhat
17 less than my main case, but only somewhat less, not
18 crashing down to the level of Professor Shapiro's.

19 And then in the fourth row, Nash-in-Nash,
20 Professor Shapiro using the assumption of Professor
21 Shapiro, no must-haves, power ratio more moderate
22 than in Scenario 3. Now the amount of plays that are
23 lost to the service is equal to the market share of
24 the blacked-out label. So just that music is gone.
25 And that's a net loss of exactly that number of plays

1 to -- to the service. And retention is a compromise
2 between Professor Shapiro's level and the level that
3 I use in my own preferred model, 50/50 in between.

4 And, once again, the royalties are somewhat
5 less than in my primary case, but nowhere near
6 Professor Shapiro's, despite the adherence to so much
7 of the assumptions that he makes.

8 So my conclusion from this, we'll get to on
9 the next slide, but I should point out what's in the
10 notes here, and that is that all of these
11 computations use the profit rate information from my
12 own Appendix L. And that makes use of the merger
13 proxy statement and the updated information from
14 Pandora as reflected in my rebuttal testimony.

15 I'm using the diversion ratios from the
16 Zauberman Survey, which, as I've said a few times
17 now, are on the conservative side compared to the
18 diversion ratios from Professor Hanssens or modified
19 Hanssens Survey. And so this is the conservative
20 version, just, again, because these are benchmarks
21 for sensitivity and they make the point that one can
22 vary the assumptions in my primary case without in
23 any way crashing the resulting royalties anywhere
24 near down to Professor Shapiro's level.

25 And the outside royalty rates are as in my

1 direct testimony, and the royalty rates are adjusted
2 to 2021 using the inflation rate. So, again, as we
3 looked at before, the model itself calculates the
4 average over '21 to '25 but now I apply the discount
5 factor to bring it back to 2021. So I should
6 disclose that and make clear that all these numbers,
7 which I haven't said out loud, are based on those
8 parts of the overall framework.

9 Q. Thank you, Professor.

10 MR. WARREN: Your Honors, at this time I
11 would like to reveal the last row of the slide, which
12 corresponds to Professor Willig's attempt at
13 computing how the royalties would come out under the
14 -- the proposed Myerson framework from Professor
15 Shapiro.

16 The only thing I'd add to the discussion
17 that Mr. Marks and I were having is that there is an
18 element of prejudice that flows in the direction of
19 SoundExchange. Professor Shapiro did not even
20 mention the word "Myerson" in his written direct
21 testimony. He proposed it for the first time in his
22 rebuttal testimony, even though it's not clear what
23 that brand-new model would be rebutting. And so we
24 have not had any opportunity to respond to that in
25 any kind of quantitative way.

1 We attempted to do so, frankly, in haste so
2 that we could provide the model and information to
3 the other side in advance of Professor Willig's
4 deposition, give them an opportunity to consider it
5 and respond to it. So we just feel like, in the
6 event Professor Willig is not able to testify to this
7 material, we're not even sure that the Myerson Value
8 approach that Professor Shapiro has proffered should
9 even come into the record, because at that point, we
10 would have had no chance to quantitatively respond to
11 it.

12 JUDGE STRICKLER: Apropos to your last
13 point, Mr. Warren, is there a motion pending by
14 SoundExchange to strike the Myerson analysis done by
15 Professor Shapiro in his written rebuttal testimony?

16 MR. WARREN: Your Honor, there's no written
17 motion. And the reason for that is we think a fair
18 compromise to address this would simply be to allow
19 Professor Willig to introduce the testimony that we'd
20 like to introduce now, but I suppose I'm proposing
21 now the alternative. If -- if SiriusXM and Pandora
22 maintain their objection that Professor Willig can't
23 offer this testimony, we think the only fair
24 alternative would be to strike the Myerson Value
25 discussion from Professor Shapiro's testimony, at

1 which point, of course, we would also be willing to
2 strike Professor Willig's testimony about the Myerson
3 Value as well.

4 CHIEF JUDGE FEDER: Mr. Marks?

5 MR. MARKS: There is absolutely no
6 comparison and no basis for that. The Myerson Value
7 testimony was clear rebuttal to Professor Willig's
8 proffer of a Shapley Value analysis.

9 There was no reason for Professor Shapiro to
10 have anticipated that Professor Willig would offer a
11 Shapley Value analysis and, therefore, no need to
12 raise it on direct. He's not proffering it as his
13 primary model. He's only proffering it in rebuttal
14 to the Shapley Value methodology because as he --
15 because, as he will testify, if you're even going to
16 go down that path, it's inappropriate because it
17 doesn't take account of the negative contracting
18 externalities and you would have to do a Myerson
19 Value to -- to capture that correctly.

20 All of that testimony will be offered in
21 rebuttal to Professor Willig's Shapley Value
22 analysis. It's not his primary model at all. This
23 is completely different. This is new analysis done
24 after the exchange of written rebuttal testimony,
25 altering assumptions, using a new technique never

1 done. The difference is we did it within the time
2 frame permitted. They did not.

3 And there -- it's night and day.

4 JUDGE STRICKLER: Mr. Marks, if I understand
5 you correctly, Pandora and SiriusXM are not seeking
6 to introduce any royalty values or any other values
7 arising from the Myerson analysis by Professor
8 Shapiro?

9 MR. MARKS: No, that -- that's not what I'm
10 saying, Your Honor. I'm saying that -- that what he
11 -- what -- what Professor Shapiro did as part of his
12 written rebuttal testimony is he took the model that
13 Professor Willig offered on his direct testimony. He
14 said that's not the right way to do it. When you
15 make the adjustments that need to be made for it and
16 do the Myerson Value instead, this is what you get.

17 And that's -- it's offered directly in
18 rebuttal, but he does offer the analysis. And it was
19 disclosed in timely fashion as part of proper
20 rebuttal and submitted as part of his written
21 rebuttal testimony. If he --

22 JUDGE STRICKLER: Maybe I didn't -- maybe I
23 didn't make my question clear. So let me just try it
24 -- try it again.

25 MR. MARKS: Yes.

1 JUDGE STRICKLER: You're offering the
2 results of Professor Shapiro's Myerson analysis to
3 show, allegedly, the inadequacy of Professor Willig's
4 Shapley approach, and you're not asking the Judges to
5 utilize the -- the royalty results that arise from
6 the Myerson analysis in their determination of
7 royalties?

8 MR. MARKS: It's certainly not his primary
9 model. His primary testimony is based on his
10 Nash-in-Nash model, and that's what he thinks the
11 right approach for the Judges to follow is. Again,
12 he's offering a Myerson --

13 MR. WARREN: Your Honors, if --

14 MR. MARKS: He's only offering the Myerson
15 analysis to rebut the testimony from Professor Willig
16 on the Shapley Value.

17 MR. WARREN: Your Honors --

18 MR. MARKS: If Professor Willig -- I'll say
19 it this way: If Professor Willig had never offered
20 testimony about the Shapley Value, there would not
21 have been testimony from Professor -- sorry -- if
22 Professor Willig had never testified about Shapley
23 Value on his direct, Professor Shapiro would not have
24 testified about Myerson Value on rebuttal.

25 MR. WARREN: Your Honors, I think this

1 colloquy is quite illuminating, actually. I think
2 Mr. Marks is unwilling to commit to the position that
3 Professor Shapiro will not be utilizing the royalty
4 rates derived from his Myerson Value in the course of
5 his presentation.

6 We don't think those Myerson Value derived
7 rates should come into Professor Shapiro's testimony
8 at all, if Professor Willig is unable to rebut them
9 quantitatively. Now, Professor Shapiro absolutely
10 could have included in his rebuttal testimony
11 conceptual discussion of the Myerson Value, how that
12 modifies the Shapley Value, the economics around
13 that. That's not what happened.

14 Professor Shapiro instead ran a completely
15 new model. And he's now saying, well, this is
16 offered in rebuttal to Shapley. But, of course, you
17 can offer a new model of anything and say that it's
18 in rebuttal to something else. The relationship is
19 tenuous at best, and I'm happy to lay some foundation
20 from Professor Willig explaining why that's the case.
21 As he has already explained, the Myerson Value isn't
22 even really a thing in the economics literature.

23 So, to me, I just think there should be
24 consistency here in how we deal with the quantitative
25 outcomes arising from this whole Myerson discussion.

1 If Professor Shapiro's quantitative results are
2 admitted into -- or allowed into the record,
3 Professor Willig's quantitative results should be
4 allowed as well.

5 If neither is allowed, that's also a
6 permissible path forward, but we do think it's unduly
7 prejudicial --

8 CHIEF JUDGE FEDER: Okay, Mr. Warren, you --
9 you --

10 MR. WARREN: -- for Professor Shapiro to
11 have it both ways. Thank you.

12 CHIEF JUDGE FEDER: Mr. Warren, you've made
13 -- you've made your point and your position is clear.

14 MR. WARREN: Thank you.

15 CHIEF JUDGE FEDER: We will take a brief
16 recess to confer.

17 MR. WARREN: Thank you.

18 (Off the record discussion between the
19 Judges, 3:30 p.m.-3:43 p.m.)

20 CHIEF JUDGE FEDER: Okay. If everybody will
21 please take their places, we will be able to resume.

22 Okay. The host will please reestablish the
23 public feed.

24 MR. TOTH: We are live.

25 CHIEF JUDGE FEDER: We are back in open

1 session.

2 The objection is sustained. We will not
3 take additional quantitative analysis. At this
4 point, that would be impermissible surrebuttal. As
5 we've said in the past, we do accept a certain amount
6 of surrebuttal in expert testimony. It's limited
7 surrebuttal and this crosses a line into a new
8 analysis, which we will not permit at this time.

9 So with that, you may proceed, Mr. Warren.

10 MR. WARREN: Thank you, Your Honor. I --

11 CHIEF JUDGE FEDER: And wrap up your direct.

12 MR. WARREN: Thank you, Your Honor. I would
13 just ask for a ruling on our motion to strike the
14 portion of Professor Shapiro's Myerson Value analysis
15 that includes quantitative results. And if Your
16 Honors would prefer to defer that ruling until
17 Professor Shapiro takes the stand, that would also --

18 CHIEF JUDGE FEDER: We're not going to --

19 MR. WARREN: -- be fine with us.

20 CHIEF JUDGE FEDER: We're not going to
21 entertain a speaking motion on that question at this
22 time. You can either file a written motion or raise
23 it when Professor Shapiro comes to testify.

24 MR. WARREN: Thank you, Your Honor.

25 BY MR. WARREN:

1 Q. All right. Professor, I'm going to try to
2 hop over this last row without anyone seeing it. If
3 I have -- do I have control over the demonstrative?
4 All right.

5 Now, Professor, just on the last slide here,
6 we've covered a lot of ground today. Our time
7 together is coming to a close. At least with me.
8 And if you can just take a couple minutes to take a
9 big step back, we've covered a tremendous amount of
10 ground and just tell the Judges what your bottom-line
11 conclusions are, I would be grateful for that.

12 A. Sure. And are these numbers okay for this
13 kind of session?

14 Q. Yes. These are, because these are your
15 bottom-line results. And I think these are public
16 numbers.

17 A. Okay, great.

18 So as a reminder, my Shapley Value analysis,
19 my primary case yields the rates for 2021 of .0030
20 per play for ad-supported and .0031 dollars per play
21 for subscription. These are non-interactive
22 services.

23 And this is based on the Shapley Value
24 framework and all of the assumptions that I've been
25 explaining over this time. These involve, of course,

1 a substantial increase. I say "of course" because
2 you all know the numbers are roughly for what today's
3 statutory rates are. And so this conclusion would
4 say that a substantial increase in those rates is
5 warranted based on my primary model.

6 In addition, I think it's very important for
7 me to point out that my sensitivity tests show that
8 the substantial increase over and above the current
9 rates is still warranted, even if one were not to go
10 with all of the features of my primary model but,
11 rather, to alter any one of them.

12 This is not a very insensitive model. It's
13 not a very sensitive model in the sense that all
14 kinds of different assumptions can be altered and
15 still the conclusion comes out pretty close to the
16 rates that my primary model finds for the appropriate
17 royalties.

18 And -- although sensitivity tests show that
19 appropriate rates will still involve substantial
20 increases over the current statutory rates. I would
21 like to point out specifically, because this was a
22 major point of controversy between my written work
23 and Professor Shapiro's on the must-have issue versus
24 the LSEs, even if I say all the majors are not
25 must-haves inside the model and say that only two out

1 of the three are must-haves, in other words, the kind
2 of service that we're talking about cannot dispense
3 with two out of the three majors, and it just doesn't
4 seem very controversial to me at all, that's not even
5 in conflict with what Professor Shapiro is said to
6 have found in his LSEs, even with that change and
7 other reasonable assumptions of the model, the
8 resulting rates viewed through Shapley Value or
9 through Nash-in-Nash for that matter -- and I can't
10 say whether that's true about Myerson or not at the
11 moment -- nevertheless, the resulting rates from
12 those modeling exercises still have the property of
13 being substantial increases over the current rates
14 and substantially more than Professor Shapiro found
15 through his modeling.

16 Another way to look at that is that
17 Professor Shapiro's modeling is extremely sensitive
18 to the range of his assumptions. If one takes his
19 modeling, as I have done, and just changes one of the
20 assumptions or another one of the assumptions or
21 leaving those alone and change another one of the
22 assumptions, those kinds of changes, kind of one
23 assumption at a time, make very big differences to
24 the bottom line from Professor Shapiro's modeling.

25 And so I find that his modeling is very

1 sensitive to the full panoply of unrealistic
2 assumptions that he builds in, but at the same time,
3 as my model is quite robust to reasonable alterations
4 in the various assumptions.

5 Q. All right. Thank you, Professor. I
6 appreciate your time today.

7 MR. WARREN: Your Honors, that concludes my
8 direct examination of this witness. I would just
9 request a very short recess of maybe a minute or two,
10 so we can change up our tech during the changing of
11 the guard.

12 CHIEF JUDGE FEDER: Okay. We will take a
13 brief recess in order to switch up and commence with
14 cross-examination.

15 MR. WARREN: Thank you, Your Honor.

16 (A recess was taken at 3:50 p.m., after
17 which the deposition resumed at 3:55 p.m.)

18 CHIEF JUDGE FEDER: So the host will please
19 establish the public feed.

20 MR. TOTH: Okay, we are live.

21 CHIEF JUDGE FEDER: All right. We are now
22 ready to proceed with your cross-examination,
23 Mr. Marks.

24 MR. MARKS: Thank you, Your Honor.

25 //

1 CROSS-EXAMINATION

2 BY MR. MARKS:

3 Q. Good afternoon, Dr. Willig.

4 A. How do you do, Mr. Marks? I've been
5 watching you on the screen --

6 Q. It's nice to see you again.

7 A. -- but we haven't had a chance to say hello
8 to each other.

9 Q. Hello. Dr. Willig, you did not express a
10 view in your written testimony as to whether the
11 licensing market for on-demand services is
12 effectively competitive, correct?

13 A. I'm thinking. I don't remember addressing
14 that specifically. I do recall in my testimony
15 making reference to various viewpoints from the
16 Judges and from other parties to this proceeding, and
17 perhaps other sources of -- of industry analysis
18 saying that record labels who are the majors are all
19 must-haves for the on-demand services, not precisely
20 in the same body of opinions on that subject as for
21 the non-interactives but in a related way. And
22 that's how I was talking about it.

23 Q. And just to sharpen my question, then, you
24 haven't done your own independent economic analysis
25 in connection with this proceeding as to whether or

1 not the licensing market for on- -- on-demand
2 services is effectively competitive, have you?

3 A. I think that's fair. I've collected
4 viewpoints and, most importantly, those of the Judges
5 from past decisions.

6 Q. And you have not done any independent
7 analysis as an economic expert in this proceeding as
8 to whether Spotify is a must-have distributor for a
9 record label, correct?

10 MR. WARREN: Objection, Your Honor. I think
11 it's almost built into the structure of the
12 questions, but this is all outside the scope of the
13 witness' direct examination.

14 MR. MARKS: I'm not going to be asking him
15 questions about things that are outside of his
16 written testimony. I'm just clarifying the subject
17 matter that he has not considered in connection with
18 his testimony, and we'll relate it later on when I
19 talk to him about the things he has considered. So,
20 again, if he says it wasn't in his testimony, I won't
21 ask any follow-up questions.

22 CHIEF JUDGE FEDER: Overruled. Please
23 continue.

24 BY MR. MARKS:

25 Q. Dr. Willig, you have not done any

1 independent analysis as an economic expert in this
2 proceeding as to whether Apple is a must-have
3 distributor for a record label, correct?

4 A. That is correct.

5 Q. And I -- I apologize, I'm not sure if we got
6 an answer because I may have rushed into my next
7 question, rather than let you answer. You did not do
8 a -- an independent analysis with regard to Spotify
9 being a must-have distributor, correct?

10 A. That is right.

11 Q. And you're not aware of any instance in
12 which a record company offered a lower royalty rate
13 to an on-demand service in order to gain market share
14 at the expense of its competitors, correct?

15 A. I'm aware of instances, and I think some of
16 them have come up, where record companies will
17 provide benefits to distributors for added attention
18 paid to the music of the record company. Whether
19 that took the form specifically of a change in the
20 royalty, as I sit here, I can't think of a particular
21 example of that, but I can remember examples of
22 benefits conferred.

23 Q. And -- and -- but just to be clear, you're
24 not aware of an instance in which a major record
25 company offered a lower rate to an on-demand service

1 in order to gain market share at the expense of -- of
2 another major record company, correct?

3 A. I answered you as best as I could a moment
4 ago. I don't recall a specific example where the
5 benefit that was provided was in the form of a lower
6 royalty rate, but, nevertheless, where there was a
7 relationship which worked in both directions in terms
8 of promotional value to the label.

9 Q. And in connection with your testimony in
10 this proceeding, you did not conduct any analysis of
11 the ability of on-demand services to steer
12 performances to or away from the repertoire of any
13 particular record company, correct?

14 MR. WARREN: Objection, Your Honor. I --
15 I've allowed this to continue, but I believe at the
16 outset of this examination, Professor Willig
17 addressed the question of whether his testimony
18 encompassed an analysis of whether the licensing
19 market for on-demand services is effectively
20 competitive. All of these questions about steering
21 just seem like gilding the lily regarding things that
22 Professor Willig didn't do and didn't purport to do,
23 so they seem like they should be outside the scope of
24 cross.

25 CHIEF JUDGE FEDER: Mr. Marks?

1 MR. MARKS: Again, I'm just -- I'm just
2 establishing with some introductory questions the
3 things that he did not do so that when we get in
4 later to what his testimony is and what he did,
5 whether or not those things -- how those -- how the
6 scope of his analysis affects the conclusions he has
7 drawn. Again, when he says he didn't consider it,
8 I'm not asking any follow-ups or asking him for
9 opinions outside the scope of his testimony.

10 All I'm doing is establishing the metes and
11 bounds of his testimony.

12 CHIEF JUDGE FEDER: I think we've
13 established that he did not do an independent
14 analysis on whether the market is effectively
15 competitive. And these seem to be all subsets of
16 that same question.

17 So I think you've established that there's
18 no independent analysis of whether it's an
19 effectively competitive market and we can move on.

20 MR. MARKS: That's fine. I'll move on from
21 the on-demand services, then.

22 BY MR. MARKS:

23 Q. And turn it to Pandora. Dr. Willig, in
24 connection with your testimony in this proceeding,
25 you did not conduct any analysis of Pandora's ability

1 to steer performances on its ad-supported service to
2 or away from the repertoire of any particular
3 company, right?

4 A. I spent a great deal of time, as you know,
5 modeling what the implications would be for Pandora
6 and also for the record labels themselves on the
7 proviso that they are either included in the service
8 or not included in the service, which you could view
9 as an extreme form of steering, steering so far away
10 that the label is no longer in a licensing
11 relationship with -- with Pandora. So that really
12 was quite central to my analyses.

13 Q. But -- but you didn't consider the change in
14 the bargaining dynamics that would happen if Pandora
15 steered a very significant portion of performances to
16 or away from a record label without it being a
17 blackout scenario, correct?

18 A. I did examine the blackout scenarios. I did
19 not separately examine a halfway or partial blackout.
20 And there's a good reason for that in the Shapley
21 Value formulation.

22 Q. And your analysis did not involve
23 considering whether Pandora's ad-supported service is
24 a must-have distributor for a major record company to
25 remain commercially viable, correct?

1 A. That was not the way that I posed any of my
2 analyses, but within the modeling that I did do, it
3 comes into play through the lens of opportunity cost,
4 and the diversion and the retention elements, as well
5 as the compensatory elements that go into the
6 opportunity cost.

7 So, for example, if the opportunity cost to
8 a label is quite substantial relative to leaving the
9 enterprise of Pandora's ad-supported service, that
10 certainly means, as an implication to the question as
11 you pose it, that Pandora is not particularly
12 essential to that label, if it can do almost as well
13 in terms of its opportunities elsewhere.

14 Q. And just to be clear, your model involved
15 distributors, neither of which were considered
16 must-haves for the service, such that in your
17 bargaining analyses, the failure to consummate a deal
18 with a distributor would cause the label to go out of
19 business, right?

20 MR. WARREN: Objection, Your Honor. This
21 line of questioning is assuming facts and analysis
22 that are not in evidence. I don't believe any
23 economist in this proceeding has ever posited a model
24 where non-interactive distributors are considered
25 must-have to the major record companies.

1 MR. MARKS: I -- I don't understand the
2 objection. I don't understand why I can't ask about
3 the assumptions that went into the construction of
4 his model.

5 MR. WARREN: Your Honors, it's a -- it's a
6 purely hypothetical. Again, it's outside the scope
7 of the witness' direct examination and testimony,
8 and, frankly, it's outside the scope of anything in
9 the proceeding.

10 So I -- I mean, if Mr. Marks wants to eat up
11 his time asking about pure hypotheticals, I suppose
12 that's his right, but we think that it's
13 objectionable.

14 MR. MARKS: I'll just offer the final
15 comment which is that he testified this morning that
16 his -- he -- that in his model, neither of the
17 distributors were considered must-haves for the
18 record labels, and I'm simply trying to establish
19 whether or not he did any analysis of whether or not
20 Pandora or SiriusXM are must-haves for labels before
21 making that assumption in his model.

22 MR. WARREN: Well, I don't believe that was
23 the question that was posed to the witness, Your
24 Honors.

25 CHIEF JUDGE FEDER: Overruled. You may

1 continue, but let's get to the point. You do seem to
2 be beginning to stray from the issues in this
3 proceeding. Mr. Marks?

4 MR. MARKS: I'm sorry, I thought I had a
5 question pending to the witness.

6 CHIEF JUDGE FEDER: Can you repeat it for
7 him?

8 BY MR. MARKS:

9 Q. Sure. You didn't consider whether or not
10 Pandora or SiriusXM or do any analysis of whether
11 Pandora and SiriusXM are must-have distributors for
12 record labels, did you?

13 A. What I did consider that, in your language,
14 might go to that question is the opportunity cost to
15 one of the labels from not participating with Pandora
16 or with Sirius, and what difference that would make
17 to the overall profitability of the record label.

18 And so that's not exactly posed the way
19 you've just posed the question, but it really goes to
20 the core of those -- those questions of what
21 difference would it make to the record company if it
22 did not have an agreement with one of those
23 distribution services.

24 Q. And turning to your -- you testified on
25 direct examination about the analysis in footnote 33

1 of your corrected written direct testimony about
2 whether or not Pandora's ad-supported service serves
3 as a funnel to its subscription services.

4 Do you recall that?

5 A. Yes, I do.

6 Q. And in preparing -- and that was the extent
7 of your analysis of whether or not listening to
8 Pandora's ad-supported service has -- promotes
9 listening to other forms or to other sources of music
10 for the record labels, right?

11 MR. WARREN: Objection, vague.

12 MR. MARKS: I'll withdraw the question and
13 I'll ask it this way to address Mr. Warren's concern.

14 BY MR. MARKS:

15 Q. Other than with respect to potential
16 upselling of subscriptions to Pandora Plus or Pandora
17 Premium, you did not evaluate whether or to what
18 extent spins of particular recordings on Pandora's
19 ad-supported service are promotional of any other
20 forms of listening to those recordings, right?

21 A. Not on a work-by-work basis, but in terms of
22 the entire portfolio of a record company's music,
23 absolutely, because my model is representing and
24 working through the consequences of whether or not a
25 label is being distributed by a Pandora, for example,

1 and the other side of the coin of opportunity cost is
2 how much extra in the way of business will a record
3 label get if it does join in with a Pandora, in
4 contrast to not making a license deal with Pandora.

5 So the contrast between in and out is very
6 much a quantification and the elements that go into
7 it of the question of, well, how was the bottom line
8 promoted by distribution of its music through, say,
9 the Pandora service.

10 Q. If listening on Pandora causes listeners to
11 purchase downloads of songs that they have discovered
12 on Pandora, that promotional effect is not captured
13 in your model, is it?

14 A. That's correct, although the opposite is in
15 the model. If there's an impact from one on the
16 other, that's all part of opportunity cost.

17 Q. So fair to say that you've captured the
18 substitutional effects that listening on Pandora may
19 have on record purchases but you didn't capture or
20 analyze any promotional effects listening on Pandora
21 may have for record purchasing?

22 A. Perhaps. It's just the other side of
23 substitution is if a record company withdraws from
24 Pandora, that's going to pump up -- in my model and,
25 I presume, in reality, because that's what the

1 surveys show -- additional plays of that record
2 company's music elsewhere or even additional sales of
3 CDs, vinyl, and digital downloads.

4 Q. And if listening on Pandora causes listeners
5 from time to time to switch over to an ad-supported
6 on-demand service so that she can replay a song she
7 just heard or to listen to more songs by a specific
8 artist that she just heard, your model does not
9 capture that promotional benefit, does it?

10 A. I think I missed the predicate, but let me
11 try. I did not model this on an artist-by-artist
12 basis or a particular hit basis in terms of what
13 might be stimulated by additional exposure to a
14 particular artist or a particular hit in terms of
15 another mode of distributions being impacted by the
16 availability of that particular artist, that
17 particular hit on a different service.

18 I did not do that on a hit-by-hit or
19 artist-by-artist basis.

20 Q. Well -- and let's then take it at a
21 label-by-label basis. Assume with me for a moment
22 that if a label has its works on Pandora, every day
23 100 people who listen to Pandora are inspired by
24 listening to a song they've heard on Pandora from
25 that label to go over to an ad-supported service and

1 play that song again, thereby generating incremental
2 royalties from the ad-supported service back to the
3 label.

4 You didn't capture that promotional benefit
5 as part of your analysis?

6 A. I think that's right.

7 MR. WARREN: Objection, incomplete
8 hypothetical and assumes facts not in evidence.

9 CHIEF JUDGE FEDER: Mr. Marks?

10 MR. MARKS: Day two of the trial.

11 CHIEF JUDGE FEDER: I'll allow it.
12 Overruled. Could you repeat the question for the
13 witness, please?

14 BY MR. MARKS:

15 Q. Sure. I'm just -- if there are promotional
16 benefits to a record label of listening -- of being
17 spun on Pandora because that listenership or that --
18 those plays cause Pandora listeners to then also
19 listen to those recordings on an ad-supported
20 on-demand service, thereby generating additional
21 royalties for the label, your model and your analysis
22 don't capture that promotional benefit, right?

23 A. So in what your asking me, if I understand
24 right, it's not moving plays, say, from Pandora to a
25 different service. In your hypothetical, the

1 listeners would continue to listen to the extent they
2 would have listened anyway on Pandora, but now they
3 are, in addition, going to go to some other form of
4 distribution and enhance their overall listening,
5 which would include those particular tracks.

6 Q. Correct. They -- they're listening on
7 Pandora, they cannot replay the song, they can't pick
8 it on demand, but they've heard it, they love it,
9 they stop what they're doing on Pandora. They go
10 over to YouTube or Spotify ad-supported, and they
11 play the song again. That type of consumer activity
12 is not captured in your model, correct?

13 A. Well, now the way you asked that question,
14 Mr. Marks, involves substitution, which is really
15 what I was trying to clarify in the way you asked the
16 question. So they're going to --

17 Q. Let me withdraw it --

18 A. -- go away from Pandora -- go away from
19 Pandora --

20 Q. Let me withdraw the question, because I --
21 I'm not trying to ask about substitution. So I
22 apologize if my question wasn't clear.

23 I'm suggesting that the -- the number of
24 plays on Pandora doesn't change, the label is on
25 Pandora the whole time, but because listeners are

1 exposed to the label's music on Pandora, they are
2 also then consuming that music on ad-supported
3 on-demand services. They've learned about it on
4 Pandora, so they also then play it on ad-supported
5 services. That's --

6 A. And they play it more than they would have
7 otherwise or would have otherwise listened to
8 Pandora, so it's a --

9 Q. Correct.

10 A. -- a net accretion to total listening?

11 Q. Exactly.

12 A. I think it's fair to say I did not include
13 that, not having evidence to that sort of an effect.

14 Q. And -- and you didn't analyze that sort of
15 promotional effect on ancillary revenue streams for
16 Google's ad -- Google's non-interactive service or
17 SiriusXM's Internet service, correct?

18 A. I'm sorry, by -- you mean the same sort of
19 accretion of total listening to music because --

20 Q. Exactly.

21 A. -- of some instance of listening to music on
22 Pandora? Regardless of whether --

23 Q. On interactive or non-interactive webcaster,
24 correct.

25 A. Yeah, even if it's on a different sort of

1 service than the ad-supported Pandora, that's your
2 question?

3 Q. Yes.

4 A. No, I did not consider the possibility of an
5 accretion of overall listening due to some portion of
6 listening on Pandora itself.

7 Q. And you were aware that sometimes artists
8 move from one record label to another record label,
9 correct?

10 A. Oh, yes.

11 Q. And you're aware that sometimes an artist
12 who ordinarily records with one record label will
13 collaborate with an artist from another label and
14 then will be available in collaboration -- on a
15 collaborated song on the second label, correct?

16 A. I believe I've seen instances of that
17 occurring, yes.

18 Q. And you haven't done any independent
19 empirical analysis of the extent to which recordings
20 by popular artists are available on more than one
21 record label, correct?

22 A. I don't think that plays a specific role in
23 my model. To the extent that that circumstance is
24 built in to the market shares of the labels, then it
25 certainly is reflected in my view of the industry and

1 in my modeling, but the market share, the way I use
2 it, doesn't need to be broken down into categories of
3 market share arising from an artist who is exclusive
4 to a particular label versus artists who do and have
5 the right, therefore, or vice versa, to be issuing
6 their works through several different sources of
7 distribution on the record label side.

8 I don't break it down that way.

9 Q. And you have not done any study of whether
10 consumers associate sound recordings with particular
11 record companies, correct?

12 A. By "associate," you mean something beyond
13 actually listening?

14 Q. I mean that people don't know which artists
15 are associated with which particular record label.

16 A. They might not. Whether they do or not is
17 really not a feature of the modeling that I've done.

18 Q. In order to assess the record company's
19 opportunity cost of entering into the license, you
20 needed to estimate the number of performances that
21 would be diverted from the service to other forms of
22 listening in the absence of a license from the record
23 company, correct?

24 A. I think that's fair.

25 Q. And for your written direct testimony, or I

1 should say your corrected written direct testimony,
2 you did not rely on any empirical study or survey
3 evidence about how much listening would be diverted,
4 correct?

5 A. The Zauberman Survey, which I utilized in my
6 direct, corrected written direct testimony, never
7 asked the question how much, rather, where, where
8 would the diverted listens go, without quantifying
9 the total bucket of those extra or de minimus
10 listens, that's correct.

11 Q. Your model had assumptions about what would
12 happen in the event of a label blackout, about how
13 much listening would be lost depending on which label
14 or bucket of labels was blacked out, correct?

15 A. Well, my primary model is based on the view
16 that each of the majors is a must-have for the
17 services at issue, and by definition, that means that
18 the amount of loss arising from the cessation of
19 operation by that distributor is total because the
20 distributor is no longer in operation when it's
21 missing the requisite license arrangement with one of
22 the majors.

23 So that's why the Zauberman modeling, the
24 survey construction didn't ask the "how much"
25 question because it was obvious from the setup that

1 with a must-have relationship, all of the plays are
2 going to be missing from the service that's no longer
3 in operation. The remaining question is, okay, where
4 did they go? And that's what the Zauberman Survey
5 focuses on.

6 Q. Okay. And so you -- you made the must-have
7 assumption for the three major labels, and in your
8 model, as I believe you explained earlier, you
9 treated all of the record companies, other than the
10 three majors, as part of a single amalgam referred to
11 as the Indies, correct?

12 A. Yes.

13 Q. And you made a different assumption for the
14 extent of diversion that would result from a
15 webcaster losing access to the collective repertoires
16 of all of the Indies than the assumption that you
17 made for the majors, correct?

18 A. Yes, I did not assume that the Indies as a
19 totality constituted a must-have for the service.

20 Q. You assumed that the decrease in the number
21 of plays on the service in the absence of a license
22 from the Indies would be proportional to the Indies'
23 collective share of the market generally, right?

24 A. Yes, that's fair.

25 Q. Okay. And that's a power ratio of one or

1 100 percent as you -- as Professor Shapiro and you
2 are using the term "power ratio" in the context of
3 this proceeding, right?

4 A. Yes.

5 Q. And there was no experimental study or
6 survey evidence undergirding your assumption of a
7 power ratio of one for the Indies, correct?

8 A. That's correct. The Zauberman Survey did
9 not distinguish between a loss of the music of the
10 Indies together versus the loss of a major. Rather,
11 the Zauberman Survey asked the question what if all
12 of the ad-supported non-interactive services were no
13 longer available?

14 This is the must-have or the disappearing
15 distribution option scenario. What would you do?
16 Where would you go? Where would you move your
17 listens? Or maybe not listen at all was certainly a
18 possibility.

19 Q. And why, in your view, was it a reasonable
20 assumption to use a power ratio of one in that
21 instance?

22 A. Because people will be seeking out the music
23 that they are missing and if it's not going to make
24 the service unsustainable, then it's going to be a
25 diminution in the listening to those Indies because

1 the music is no longer available on that service. So
2 a reasonable assumption, without getting into
3 specific survey results, which actually nobody put
4 forward, none of the survey experts, the idea that,
5 okay, those same plays that are not available on the
6 service that blacked out the Indies in this scenario,
7 those same plays are going to be diverted to other
8 sources of music distribution, perhaps minus a slice
9 because people won't always just be substituting
10 music for music; rather, they might be doing
11 something else with their time.

12 MR. MARKS: And now, Your Honor, we would
13 need to go in restricted session, although I think
14 the information that I'd like to share doesn't
15 actually need to be restricted, and with Your Honor's
16 indulgence, maybe I could just ask the other counsel
17 participating if they have an objection. And if they
18 do, I'm happy to do it in restricted session.

19 But the -- the -- Dr. Willig in his -- in
20 his testimony assigns or reports his analysis of the
21 market shares of each of the labels. I'm not sure
22 that the market share numbers he derives need to be
23 on -- in closed session. I'm asking the question.
24 We can do it in closed session, but if I'm not
25 talking about where the -- they're derived from

1 restricted documents, but I'm not talking about the
2 sources or anything else about it, other than the
3 shares themselves. So I don't know if we need to
4 close the courtroom. It's a question for the other
5 counsel.

6 CHIEF JUDGE FEDER: Mr. Warren?

7 MR. WARREN: Mr. Marks, I -- I think we
8 would prefer to be in restricted session for that.

9 MR. MARKS: Okay.

10 CHIEF JUDGE FEDER: Very well. We will go
11 into restricted session. The host will please clear
12 the virtual courtroom.

13 MR. SACK: Your Honor, please stand by. We
14 are beginning to clear the room now. If you are
15 an attendee in this Zoom meeting who is not allowed to
16 attend restricted session, please leave the session
17 by clicking the red Leave button on the bottom
18 right-hand side of your screen or click the X at the
19 top right-hand side. Your counsel will inform you
20 when you are allowed to return to the proceeding.

21 Please stand by, Your Honors and counsel,
22 while we work to clear the room. The room is locked
23 and live stream is in restricted session.

24 (Whereupon, the trial proceeded in
25 confidential session.)

1 O P E N S E S S I O N

2 MR. TOTH: We are back in public session.

3 CHIEF JUDGE FEDER: Thank you, Mr. Toth. We
4 are back in public session. You may proceed,
5 Mr. Marks.

6 BY MR. MARKS:

7 Q. Dr. Willig, to allocate the plays -- and I
8 believe you just mentioned this a moment ago but just
9 so we have a clear record, to allocate the plays
10 diverted from the service in the absence of a license
11 to other forms of listening, you relied in your
12 direct testimony on the survey by Dr. Zauberaman,
13 correct?

14 A. Yes.

15 Q. And you did not get involved in the actual
16 design of the Zauberaman Survey; is that right?

17 A. Not at the level of the nuts and bolts of
18 how the questions ought to be phrased or the -- the
19 rhythm of how the questions would be posed to the
20 respondent. That was not my role. That belongs to
21 the survey experts.

22 Q. Okay. And Dr. Zauberaman's survey did not
23 address the question of how plays might be diverted
24 to other forms of listening if consumers just
25 listened to the service less, but the service

1 remained viable, right?

2 A. Yeah, Dr. Zauberman's survey, Professor
3 Zauberman's survey poses the question what if there
4 were no longer any access to ad-supported,
5 non-interactive services, all of them, not just
6 Pandora, but the whole panoply of them, what would
7 you do instead?

8 Q. And then he also asked the same question
9 about subscription non-interactive services, right?

10 A. Yes.

11 Q. And respondents to the Zauberman Survey
12 could select multiple options as alternatives to
13 listening to a non-interactive webcaster, correct?

14 A. Yes.

15 Q. And some survey respondents reported that
16 they would use more than one royalty bearing
17 alternative to listening to the non-interactive
18 webcaster, correct?

19 A. More than one royalty-bearing alternative
20 sources of distribution, yes, indeed.

21 Q. And in the Zauberman Survey, Dr. Zauberman
22 assumed that if a respondent had not listened to a
23 paid subscription service within the previous 30
24 days, she was not a preexisting subscriber to that
25 service, right?

1 A. Yes and no.

2 Q. What's the yes and what's the no?

3 A. The yes is that if somebody had not reported
4 listening in the past 30 days, and then they reported
5 that they would listen on the specific day that were
6 the subject of what you would be doing in the absence
7 of the non-interactive service, then that listener
8 would be considered to be someone who was a new
9 subscriber to the service.

10 Q. All right. And did the Zauberman Survey
11 list unauthorized file sharing or any other form of
12 record piracy as an alternative to listening to a
13 non-interactive webcaster?

14 A. There was not a specific alternative in the
15 category of piracy, no. There was a category about
16 listening to currently owned or newly purchased file
17 downloads, for example, or CDs or vinyl, but a piracy
18 question was not phrased that way as unauthorized.

19 Q. And so your analysis did not explicitly take
20 into account the possibility that diversion from a
21 non-interactive webcaster would result in additional
22 record piracy, correct?

23 A. As a standalone alternative just by itself,
24 it was not considered because that question was not
25 asked as a specific subcategory of divergent plays.

1 MR. MARKS: Your Honor, I've reached a
2 natural break point. If -- I can do another module
3 or we could break now, whatever Your Honors prefer.

4 CHIEF JUDGE FEDER: Let's break now for 15
5 minutes. We will resume in public session? Yes?
6 Mr. Marks?

7 MR. MARKS: We will -- I will use the 15
8 minutes to see if I can reconstruct it so that we can
9 stay in open session.

10 CHIEF JUDGE FEDER: Okay.

11 MR. MARKS: I may ask to put a slide up on
12 the screen and have him point to the numbers again.
13 The only -- the only numbers I'm going to need in the
14 next bit relate to -- to shares. So if we have the
15 figure on the screen, and people -- if Your Honors
16 are fine with me pointing to the numbers with
17 reference on the screen without saying them out loud,
18 we can stay in public or we can briefly close the
19 courtroom again. Whatever Your Honors prefer.

20 CHIEF JUDGE FEDER: If you could put them up
21 on the screen and point to them without reading them
22 aloud, I would prefer to stay in public session.

23 MR. MARKS: We'll do that, Your Honor.

24 CHIEF JUDGE FEDER: All right. Thank you.

25 MR. WARREN: Your Honors, if I may just ask

1 for clarification since this is our first time at the
2 rodeo on a virtual cross-examination here.

3 I just wanted to make sure that we were all
4 aligned on the ground rules for what happens during
5 recesses and breaks such as this. It's my
6 understanding that all the exhibits have been
7 uploaded to Exhibit Share.

8 I just want to know if the witness should be
9 treated as if he were on the stand with that stack of
10 documents in front of him or not, or if there are any
11 rules that we ought to observe and make sure that we
12 apply these consistently beginning with this witness
13 and -- and moving throughout the proceeding. And I
14 don't believe this is something we've previously
15 addressed.

16 CHIEF JUDGE FEDER: And this is not in the
17 protocols?

18 MR. WARREN: I don't believe it is, Your
19 Honor. If it is, I'm not aware of it being addressed
20 and would appreciate a reminder from opposing counsel
21 on it.

22 MR. MARKS: I can't speak to whether or not
23 it's addressed in the protocols. I don't have that
24 at my fingertips. I would say that our
25 understanding, speaking again for Pandora and

1 SiriusXM, would be that we are trying to mimic a live
2 experience as much as possible and so the witness is
3 sequestered and can't have conversations with anybody
4 and should not be accessing documents that have not
5 been shown to the witness yet.

6 And I think that -- I agree with Mr. Warren
7 that it -- it should be a consistent standard. But
8 that -- that would be our understanding of what the
9 rules are.

10 MR. WARREN: Well, we certainly agree with
11 the sequestration issue. I actually do think that
12 issue is taken up in the Judges' June 10th order, and
13 the witness has been instructed, and I'll remind him
14 now, that he is not to communicate with anyone about
15 his testimony during the duration of the
16 cross-examination, including recesses and including
17 over the weekend.

18 I just wasn't sure whether the document
19 issue had been addressed because, you know, if -- if
20 they're there, and if he's seen as effectively being
21 on the witness stand with the stack of documents in
22 front of him, he would be able to look. So I don't
23 have a preference on what the rules should be. I'm
24 just flagging the issue and -- and asking for your
25 Judges' guidance on it.

1 CHIEF JUDGE FEDER: Ordinarily in a hearing
2 in our hearing room, the witness would have the
3 witness binder, in this case, the cross binder in
4 front of him. I think it's fair game for the witness
5 to look at the cross binder, but not beyond that.
6 And that should be the rule for all witnesses.

7 MR. WARREN: Thank you, Your Honor.

8 MR. MARKS: That's fine, Your Honor. Thank
9 you.

10 CHIEF JUDGE FEDER: Okay. And with that, we
11 will break for 15 minutes and then return to open
12 session.

13 (A recess was taken at 4:33 p.m. EST, after
14 which the hearing resumed at 4:48 p.m. EST)

15 CHIEF JUDGE FEDER: Will the host please
16 reestablish the public feed.

17 MR. SACK: Your Honor, please stand by. The
18 feed is live, Your Honor.

19 CHIEF JUDGE FEDER: Thank you, Mr. Sack.

20 Mr. Marks, you may continue your
21 cross-examination.

22 MR. MARKS: Yes, I am just going to ask if
23 we could put -- we're in public session, but I am
24 going to put a restricted slide up on the board,
25 which is Figure 7 from Dr. Willig's corrected written

1 direct testimony, just so that he has it as a
2 reference to my questions, and so everybody else can
3 follow along as we all do our best not to say the
4 numbers but to indicate where they can be found in
5 your Figure 7, Dr. Willig, if that's okay with you.

6 THE WITNESS: Yes.

7 MR. MARKS: Okay.

8 BY MR. MARKS:

9 Q. Okay. So after you made your assumptions --
10 and this is with reference to your corrected written
11 direct testimony.

12 After you made your assumptions that the
13 service would shut down if it lost a major and would
14 lose the Indies' share of the market as reflected on
15 the right-hand column of Figure 7, if the service
16 lost access to the Indies and you used the Zauberman
17 Survey to estimate where the diverted plays would go,
18 you had to make an assumption about what percentage
19 of the diverted plays would be of recordings owned by
20 the label that was blacked out, right?

21 A. Yes.

22 Q. And that's what we called the -- that's what
23 we have been calling the retention ratio?

24 A. Correct.

25 Q. Okay. And for each of the majors, you

1 assumed that, in the event of a shutdown of the
2 service, they would receive their natural spin rate
3 of all of the plays diverted to the other forms of
4 listening; and by natural spin rate, you used the
5 estimated play shares in your Figure 7, right?

6 A. Yes. I'm not sure you were excluding in
7 your question the possibility, and the survey, I
8 think, says there is some evidence to the effect
9 that, if the service shuts down, not all of the plays
10 on -- that had been on that service will reappear
11 elsewhere because there may be some diminution in
12 overall music listening. And --

13 Q. Fair enough. Let me amend my question.

14 A. I'm sorry?

15 Q. I didn't mean to interrupt you. I was going
16 to amend my question in light of your -- your
17 clarification.

18 Of the plays that got diverted from the
19 service, you assumed that of those plays the majors
20 would receive their natural spin rate, correct?

21 A. Yes.

22 Q. And you made a different assumption for the
23 Indies, right?

24 A. Yes, because of the different circumstances,
25 as between the shutting down of the service versus

1 the blacking out of the totality of the Indies.

2 JUDGE STRICKLER: Professor Willig, a
3 question for you. Counsel used the phrase "natural
4 spin rate." What do you understand natural spin rate
5 to be?

6 THE WITNESS: Yeah, I don't love the word
7 natural, to tell you the truth. It's certainly not
8 coming from the heavens or from the earth. It's the
9 market share that is in evidence from the totality of
10 the market as far as the data are concerned.

11 And it doesn't have to do with which
12 particular service those plays are occurring on, so I
13 guess that's where the word natural comes from, is
14 that regardless of the particular form of
15 distribution in the model, the same shares obtain.

16 JUDGE STRICKLER: Do you understand --

17 THE WITNESS: Unless there's some distortion
18 because of blackout or retention or something of that
19 sort.

20 JUDGE STRICKLER: Have you also heard of a
21 spin rate identified as the historic or historical
22 spin rate?

23 THE WITNESS: Not particularly, but it's the
24 actual spin rate at the time of the data that were
25 available to me.

1 JUDGE STRICKLER: Do you understand the
2 natural spin rate such as you have explained it to be
3 constant over time or no?

4 THE WITNESS: Actually, I have done studies
5 in my past showing that the market shares of the
6 major labels are quite volatile in terms of the give
7 and take, when you look at short durations of time.

8 It depends upon which label happens to have
9 the current biggest hit and that's going to enlarge
10 its share for some spell of time, and then a few
11 months later another one of the major labels will
12 have the latest, hottest hit and then some share will
13 shift like that.

14 So viewed in a granular way, the shares tend
15 to be quite volatile. But over the longer run, they
16 are relatively more stable.

17 JUDGE STRICKLER: Thank you, sir.

18 BY MR. MARKS:

19 Q. All right. Let me ask a question that
20 doesn't use the offending phrase of natural spin
21 rate.

22 Dr. Willig, in the analysis presented in
23 your written, corrected written direct testimony, the
24 retention ratio that you used for each major was
25 equal to that major's estimated market share as

1 depicted in Figure 7, correct?

2 A. Yes.

3 Q. Okay. And in the event of a loss of the
4 Indies, you assumed that every single play diverted
5 to another form of listening would be of a recording
6 owned by the Indies, correct?

7 A. Yes.

8 Q. That's a retention ratio of 100 percent?

9 A. The term retention ratio is a difficult
10 term, but all of the music is retained except for the
11 possibility that there is some loss of the overall
12 listening. But all of the plays of the Indies are
13 going to reappear, except inasmuch as people decide
14 not to listen to music on other forums.

15 And that's because these, the original
16 distributor, the Pandora Free, for example, in the
17 event that the Indies are blacked out as a totality,
18 the Pandora Free service persists in operation,
19 whereas when one of the majors leaves, the entire
20 service goes down.

21 So these are totally different
22 circumstances, and my treatment is actually a natural
23 concomitant of what the underlying circumstance is
24 for the use of that statistic.

25 Q. And you applied that -- the assumption that

1 all of the plays that got diverted to different -- to
2 other forms of distribution, you made that assumption
3 with regard to every form of alternative distribution
4 that went into your opportunity cost analysis, right?

5 A. I made the assumption that the totality of
6 those plays that were diverted would show up
7 elsewhere in total.

8 JUDGE STRICKLER: Why did you make that
9 assumption; what was your basis for it?

10 THE WITNESS: It seemed like an assumption
11 that needed to be made in some sort of a concrete
12 way. And it really, if you think about it in a very
13 granular way, it kind of depends upon whether people
14 are going to be leaving the service, which is still
15 persisting in its operation, and they are going to
16 take their full range of listens elsewhere or
17 whether, instead, the people are going to stay with
18 the service but just diminish how much they listen to
19 the service.

20 And inasmuch as that's the case, those
21 people are going to be seeking out the music that
22 they had been otherwise listening to that was from
23 the Indies.

24 JUDGE STRICKLER: Well, the problem I have
25 that raises -- that leads me to the question is this:

1 We're talking about the non-interactive services
2 here. And after a station is seeded, the songs
3 that -- the sound recordings that come up for a
4 listener are not the ones that they have selected.
5 They're the ones that the algorithm or the human
6 curator has decided makes sense in terms of what the
7 listener would prefer.

8 So assuming the curation, algorithmic or
9 human, as the case may be, is doing its job, how can
10 you assume that the songs that they don't hear, which
11 they never knew they were going to hear in the first
12 place, just like in the steering situation, how can
13 you assume that it's going to cause the listeners to
14 migrate to find the songs that they couldn't hear
15 when they never knew they were going to hear them in
16 the first place because that's the very nature of
17 non-interactive services?

18 THE WITNESS: The non-interactive word, as I
19 know you know, Your Honor, has become blurred these
20 days. And Pandora prides itself on individualization
21 of its offerings based on what it knows about the
22 listeners.

23 And of course that's not perfect. It is not
24 a fully interactive service, but it is not a blind
25 service either. So this is a simplified assumption.

1 There is no doubt about it. And because it is a
2 simplified assumption, I don't live and breathe on
3 it.

4 Among my sensitivity tests, I vary that
5 assumption from 100 percent retention to Professor
6 Shapiro's market share retention to an assumption
7 that lies halfway in between this assumption and
8 Professor Shapiro's assumption.

9 And it's just one of the elements of the
10 modeling which, as long as the other dimensions are
11 relatively reasonable in their assumptions, together
12 yield royalty rates that are very close to the ones
13 that come out of my primary case.

14 So I certainly am not in the position of
15 swearing that this is absolutely going to be
16 accurately true. It seems like a reasonable
17 assumption for a primary case. But, again, the model
18 is not overly sensitive to this particular
19 assumption.

20 JUDGE STRICKLER: Thank you, Professor.

21 BY MR. MARKS:

22 Q. If we could put up on the screen Trial
23 Exhibit 5606, which is the Zauberman written
24 testimony, Figure 10 on page 34.

25 Dr. Willig, do you recognize this as the

1 results of the Zauberman Survey that you used in
2 constructing your opportunity cost model for
3 ad-supported non-interactive webcasters?

4 A. Generally speaking, but I haven't looked at
5 this in a while, so let me stare at it.

6 Q. If it would help for you to see the full
7 page, so you see it in context, by all means just ask
8 and we can scroll to any part of it that you like.

9 JUDGE STRICKLER: Mr. Marks, what exhibit
10 was this from again, Zauberman's direct or rebuttal?

11 MR. MARKS: This is Zauberman's direct
12 testimony, Figure 10. And it is page 34 of the trial
13 exhibit, page 38 in the -- at the bottom of the page
14 of the original report.

15 JUDGE STRICKLER: Thank you.

16 THE WITNESS: Okay. I may want to scroll
17 down but let me hear your question and see if I can
18 respond without seeing more.

19 BY MR. MARKS:

20 Q. Sure. I just want to follow up on some of
21 the questions that Judge Strickler was just asking
22 you, which is about the reasonableness of your
23 assumption to use a retention ratio of 100 percent
24 for the Indie labels.

25 Dr. Zauberman in his analysis reported that

1 in the event of a blackout of Indie labels on -- I
2 should say it differently.

3 Dr. Zauberman reported that if listening
4 were no longer available on an ad-supported
5 non-interactive webcaster, that 19 percent of the
6 time would be allocated to listening to SiriusXM
7 satellite. Correct?

8 A. Yes.

9 Q. And so your -- your assumption was that none
10 of the listening time would go to non-music content
11 on SiriusXM, right? If all of the time that is no
12 longer being spent listening to Indie labels on the
13 non-interactive webcaster is now going to SiriusXM,
14 you're assuming all of that time goes to the Indie
15 labels, right?

16 A. Well, this is the allocation of time to
17 replace the free streaming radio distribution. And
18 so it's focused on replacing music content.

19 And, of course, there's channels available
20 on SiriusXM, we don't think of it as fully
21 interactive, and yet there is certainly opportunities
22 for a listener choice and discretion over how to use
23 the service.

24 Q. There are not any channels on SiriusXM
25 satellite radio that only play recordings from Indie

1 labels, are there?

2 A. I'm not sure they use the word Indie, but
3 there's a wide variety of channels that have to do
4 with big hits versus relatively undiscovered songs
5 versus -- there's lots of categories, many of which
6 may line up with the kinds of music that are
7 associated with Indies when it comes to Pandora Free.

8 Q. But users, when they tune to a particular
9 channel on SiriusXM, don't know whether they are
10 going to get Indie recordings, major label
11 recordings, or in all events a mixture of recordings
12 from various labels, right?

13 A. That depends upon what channel they choose.
14 And, of course, people get accustomed to what the
15 nature of the music offerings are on the different
16 channels.

17 So there is some degree of knowledgeable
18 choice on the part of the listeners who are using
19 SiriusXM satellite service.

20 Q. And SiriusXM satellite service doesn't tell
21 listeners what's coming next in the playlist, right?

22 A. I don't know that.

23 Q. And so -- well, assume with me that they
24 don't get advance warning of what's coming next in
25 the playlist.

1 Users would not, if they were listening to a
2 channel that had a mix of independent -- of
3 recordings from Indie labels and major labels,
4 wouldn't be able to click off in advance because they
5 were about to hear a major record label, right?

6 A. Well, if you say, and I am positing with you
7 that there is no disclosure in advance
8 track-by-track, and yet of course the listener knows
9 what channel she has tuned into, and if that channel
10 is not satisfying to that listener at that time, then
11 the listener, of course, has the opportunity to hop
12 to a different channel. But there's going to be
13 surprises.

14 Q. And in connection with your analysis on your
15 written direct testimony and the assumption that all
16 of the plays would go to Indie labels, you assumed
17 that, if the users were diverted to purchasing music,
18 you assumed that all new purchases would be
19 exclusively of recordings from Indie labels, right?

20 A. The portion of diversion that would go to
21 new purchases would be, according to the 100 percent
22 retention ratio, certainly moved in the direction of
23 focusing on the music that had been blacked out on
24 the Pandora service.

25 As to whether that needs to be true

1 mode-by-mode is not specifically the case when it
2 comes to the opportunity cost because the opportunity
3 cost blends together that same amount of music that
4 was blacked out when the case is of the Indies, but
5 it doesn't need to be true for every one of the
6 alternative sources of listening across all the other
7 distribution modes.

8 It only needs to be true in the entire
9 bucket of them, weighted by the relative amount of
10 compensation to the record companies.

11 Q. And --

12 A. And, in fact, buying new digital downloads
13 might readily be one of the alternatives, of course,
14 where the listener has a great deal of ability to
15 focus exactly on what music she is missing from
16 Pandora, and likewise YouTube, as we saw in a
17 document that I presented during my direct.

18 Q. But -- but that stands in contrast, wouldn't
19 you agree, to switching from a free non-interactive
20 webcaster to a subscription non-interactive webcaster
21 where they would have no ability to control what
22 percentage of recordings they listened to are of
23 independent, or distributed by independent labels,
24 right?

25 A. No. I mean, what we were just talking about

1 was that frequently those services do have
2 differentiated channels within them that enable some
3 exercise of choice by the listener in terms of style
4 of the music.

5 So it's certainly not universally the case
6 that it's impossible for the listener to pick and
7 choose the way to listen to the service in a way that
8 will satisfy the desire, the demand, of that listener
9 to hear the music that became unavailable on Pandora.

10 Q. And Pandora doesn't allow you to select that
11 you're only going to listen to recordings of a
12 particular label or particular group of labels,
13 correct?

14 A. Not by label, but by style of music.

15 Q. And which styles of music are outside the
16 repertoires of the major labels?

17 A. Less common, less usual forms of music would
18 tend to be more weighted toward the Indie form of
19 ownership of the rights than the majors, although
20 none of this is absolute, of course, and Indies are
21 known to have big hits that are mainstream.

22 But on average I think the styles of music
23 are more diverse among the Indies than you will find
24 on a typical major.

25 MR. WARREN: Your Honors, I just would like

1 to -- if I may, Mr. Marks -- I would just like to
2 lodge an objection as to this line of questions being
3 particularly misleading given SiriusXM's offerings.

4 I hope if Mr. Marks has a proffer of
5 evidence that he will do that, but I think the
6 questions are very misleading given SiriusXM's
7 channel lineup.

8 CHIEF JUDGE FEDER: Mr. Marks?

9 MR. MARKS: I don't have any pending
10 questions about SiriusXM's channel lineup. I am
11 perfectly happy to move on to the next. I was
12 talking -- we were talking about non-interactive
13 webcasters generally in the last several questions.

14 MR. WARREN: I understand. But the
15 questions that -- the exact same set of questions
16 came up about SiriusXM.

17 MR. MARKS: I was just asking --

18 CHIEF JUDGE FEDER: Overruled.

19 MR. MARKS: -- whether the witness was aware
20 of it. I'm sorry, Your Honor.

21 CHIEF JUDGE FEDER: Please proceed.

22 MR. MARKS: And, again, just to close out --

23 MR. WARREN: Well, Your Honors, I just want
24 to -- I'm sorry, I just want to -- I do have an
25 objection lodged about this line of questions because

1 Mr. Marks is asking the witness a question, but he is
2 assuming a fact that's a predicate to the question
3 that -- that is not in evidence and, in fact, isn't
4 true.

5 So I'm just, you know, I'm asking and
6 perhaps we need a sidebar to establish this. But I
7 -- I have an objection to the line of questions as
8 misleading.

9 CHIEF JUDGE FEDER: The objection that you
10 just articulated is that Mr. Marks is assuming facts
11 that are not in evidence.

12 There is no pending question. So what
13 questions are you referring to?

14 MR. WARREN: Well, I would ask that the Q
15 and A colloquy between Mr. Marks and the witness
16 concerning whether those Indie channels or an Indie
17 lineup on SiriusXM be stricken, subject to my
18 objection.

19 CHIEF JUDGE FEDER: Mr. Marks?

20 MR. MARKS: I asked the witness whether or
21 not he knew of any channels on SiriusXM played only
22 Indie recordings. And if he's aware of a single
23 SiriusXM channel that plays only Indie recordings, he
24 can testify to it.

25 I didn't assume anything. I asked him the

1 question and I didn't hear an answer that he knew of
2 any.

3 MR. WARREN: Well, that's why I believe the
4 question is misleading in nature.

5 CHIEF JUDGE FEDER: Overruled.

6 BY MR. MARKS:

7 Q. And let's just move on to on-demand
8 streaming services where the user does exercise
9 considerable control; wouldn't you agree, Dr. Willig?

10 A. That on-demand streaming services permits
11 control --

12 Q. Yeah.

13 A. -- on the part of the listener.

14 Q. Yes.

15 A. That's what on-demand means, of course.

16 Q. And, again, just to round out the way your
17 model worked and the way it was constructed is, for
18 Indie recordings, you assumed that when listeners
19 were diverted to on-demand streaming services, the
20 only thing they listened to on that service with the
21 diverted time was a recording by an independent
22 label, correct?

23 A. No, I don't think that is the case because
24 when it comes to that element of the opportunity
25 cost, if we're talking about a subscription-based

1 on-demand streaming service, then the increment to
2 the royalties, some of which flow to the independent
3 labels, have to do with the increase in subscriber
4 revenue and, correspondingly, an increase in the
5 amount of royalties paid to the industry, to the
6 record companies in total, and the independent record
7 companies get their share of those added royalties.

8 And so it's not about how many plays are
9 literally diverted of their music to a subscription
10 on-demand service. It's about the extra subscription
11 revenue that that causes.

12 Q. How about free on-demand service, which I
13 believe is the largest category in terms of
14 allocation of time?

15 A. Yes. So what about that? Sorry.

16 Q. On a free ad-supported, they do get paid on
17 the basis of plays, correct?

18 A. Yes.

19 Q. And so the -- your model assumed that every
20 play on on-demand, on the free on-demand service,
21 would be of an independent recording, correct, every
22 single play?

23 A. Well, as I mentioned, what the assumption is
24 applies to the totality of the different elements of
25 opportunity cost. And the 100 percent does not need

1 to apply in any precise way to each one. It just has
2 to apply to the totality of them. So there is more
3 leeway for some differences from element of
4 opportunity cost to element of opportunity cost.

5 But when it's on-demand, then the idea that
6 those listeners to Pandora Free, again, for example,
7 who no longer have access through Pandora Free to the
8 independent music from the Indie labels, will be
9 inclined, if they are going to stay with Pandora but
10 just diminish their listening, are going to be
11 looking for ways to hear that same music elsewhere,
12 and an ad-supported on-demand service is a very apt
13 way to be able to exercise that continuing desire to
14 hear that music.

15 And we saw that earlier today when it came
16 to the YouTube document, which was speaking exactly
17 to this effect.

18 Q. Let me turn to Zauberman Figure 11.
19 Dr. Willig, do you recognize this as the analysis by
20 Dr. Zauberman about diversion to other forms of
21 listening that you used in connection with your
22 corrected written direct testimony?

23 A. Yes, but let me stare at this for a while.

24 Q. And, I'm sorry, my question was incomplete.
25 This is the analysis that you used for your -- this

1 is the analysis by Dr. Zauberman that you used for
2 your analysis of diversion from subscription
3 non-interactive webcasters, right?

4 A. Right. The middle column is allocation of
5 time to replace paid streaming radio, and I recall
6 that was at Figure 9. It had a different middle
7 column that referred to ad-supported.

8 Q. Figure 10, I believe. We can put it back
9 up.

10 A. Figure 10.

11 Q. You were just shown Figure 10.

12 A. Yeah.

13 Q. Okay. And it's the same assumptions were
14 applied with regard to the majors and the Indies with
15 respect to the retention ratio in the event of
16 diversion from a subscription webcaster to other
17 forms of listening, correct?

18 A. Right, but in the context of possibly
19 different diversion percentage numbers because
20 Zauberman asked different collections of respondents
21 these -- these diversion questions, and the answers
22 are somewhat different when it comes to the listeners
23 to the ad-supported non-interactive services and
24 those who are listening to the paid non-interactive
25 services, but the idea of diversion is the same.

1 And my assumption about, in my primary
2 model, the must-have status of the majors is the
3 same. And my assumption about the retention of the
4 plays of the Indies, should they be blacked out on
5 one or the other, was, indeed, much the same.

6 Q. And am I right that you haven't done any
7 empirical study that examines what percentage of
8 plays are retained when someone leaves a
9 non-interactive webcaster to go to an on-demand
10 environment?

11 A. The particular retention of a particular
12 label is not something that the surveys address. The
13 amount of diversion is addressed by the surveys and
14 that's what I squarely take into account from the
15 surveys themselves.

16 Q. And I'm talking now about your retention
17 ratios, which over the course of your corrected
18 written direct testimony and your written rebuttal
19 testimony you varied your assumptions about retention
20 ratios in various ways, right?

21 A. In at least two different ways. One way
22 depends upon whether the service is becoming
23 unavailable or not, the must-have case, versus the
24 case where the blacked-out label is not a must-have.

25 And then I also varied the retention

1 assumption among my various sensitivity tests, trying
2 out Professor Shapiro's view of what the retention is
3 versus the 100 percent versus a compromise halfway
4 between those two viewpoints on retention.

5 Q. And in each case you were just simply making
6 assumptions about different levels of retention ratio
7 rather than relying on any empirical evidence about
8 what the retention ratio would be, correct?

9 A. That is correct, but I don't think there is
10 any empirical evidence that goes to that particular
11 facet of the impact of a blackout in this record from
12 any of the parties that I have seen.

13 Q. When calculating the royalties that a record
14 company would earn from the plays diverted to other
15 forms of listening, you used current rates, current
16 royalty rates or, I should say, a recent period of
17 royalty rates from the record evidence for those
18 other forms of listening, rather than using
19 projections of what the royalty rates would be over
20 the 21 -- 2021 to 2025 rate period, correct?

21 A. That's not true about the other form of
22 non-interactive service. So when I'm studying the
23 applicable royalties for an ad-supported interactive
24 service, there is going to be diversion. The surveys
25 all show some degree of diversion to the subscription

1 supported non-interactive service.

2 And there the royalties for those diverted
3 plays, I solve for them within the same Shapley Value
4 or Nash-in-Nash for my sensitivity tests model. So I
5 am not taking them as they are today under the
6 statutory framework, but, rather, solving for them
7 along with solving for what the model says would be,
8 under these appropriate viewpoints of valuation, what
9 would be the royalties for the other kind of
10 non-interactive service.

11 So those are not taken as they are or as
12 they have been. But the other ones are taken as they
13 are in the data.

14 Q. And taken as they are today, rather than
15 using projections, correct?

16 A. Yes.

17 Q. And you and your team didn't think there was
18 anything sufficiently reliable about trends and
19 projected rates for those other forms of listening to
20 warrant using projections instead of currently
21 available data, correct?

22 A. I think that's fair, along with other
23 elements that might go along with any possibility of
24 changes in those royalties, apart from the ones at
25 issue here.

1 JUDGE STRICKLER: Professor Willig, I wanted
2 to ask you a question, and maybe it's because it's
3 late in the afternoon and I'm missing something
4 that's obvious.

5 But looking at Figure 11, the percentages
6 add up to, if I am doing the math correctly, more
7 than 100 percent. So I am thinking we're not
8 supposed to be adding them up. Is that correct?

9 THE WITNESS: Good question. I am trying to
10 add now as fast as I can at this hour.

11 JUDGE STRICKLER: You will get there. I
12 have faith in you. I get 131 percent, but check my
13 math.

14 THE WITNESS: As I sit here, my memory is
15 just not connecting with exactly why that's the case
16 and what the subsequent steps do with that or whether
17 the labeling of that middle column with the
18 percentage numbers is not quite mathematically
19 precise.

20 JUDGE STRICKLER: Well, if you go back to
21 Figure 10, I think, if we can still get the previous
22 slide back up, I think the problem was even more
23 pronounced in terms of being over 100 percent. If we
24 can enlarge that. Thank you.

25 You can eyeball that one even more easily, I

1 think, given the numbers.

2 THE WITNESS: Um-hum, yeah. So, I mean, of
3 course these respondents are using the time spent
4 listening to music, they are allocating that in a
5 variety of ways across a variety of distribution
6 modes.

7 JUDGE STRICKLER: But this is the average
8 time per listener, and no average listener could have
9 more than 100 percent of the average listener's time.

10 And I'm -- I thought earlier you said that
11 you understood the Zauberman Survey to indicate how
12 many of these alternatives were selected, in which
13 case you could certainly have more than 100 percent,
14 I think, but it doesn't tell you how much of these --
15 how much time was spent with each of these
16 alternatives.

17 Isn't that what you testified to before?

18 THE WITNESS: Yeah.

19 JUDGE STRICKLER: So if that's the case, it
20 would mean this isn't an allocation of time but it
21 would be an allocation -- a selection of alternatives
22 that you would utilize, maybe only 1 percent of the
23 time, maybe 99 percent of the time, or anywhere in
24 between, I mean, but I don't know that that's what it
25 means.

1 I just know -- and maybe, again, I think --
2 perhaps I'm missing something, it would be impossible
3 for the average listener to spend more than
4 100 percent of the average listener's time? Even the
5 dog is troubled by that.

6 CHIEF JUDGE FEDER: Yeah, the dog agrees.

7 THE WITNESS: Sorry about that. They live
8 here, too. I just don't recall precisely enough what
9 the connection of this set of reported numbers is to
10 the survey answers by the respondents and whether
11 this is about or construed by the respondents as
12 about places they would go, so as to replace the
13 music listening which is no longer available on the
14 service, which is out of availability for them
15 because, of course, if that's, in part, what these
16 numbers relate to, then it makes sense that they add
17 up to more than 100, because so many of these
18 respondents will be using a variety of different
19 modes of distribution more in reaction to the
20 disappearance of their non-interactive service.

21 JUDGE STRICKLER: Well, I -- I agree with
22 you, Professor, that that, as I said before, that
23 would explain it, but I did take a look while we had
24 this on looking at the full document and, for
25 example, paragraph 77 of Professor Zauberman's

1 written direct testimony seems to say that he is
2 referring to percentages of time spent on these
3 alternatives, not percentage of individuals who would
4 have considered or did, in fact, use these or would
5 have used these alternatives.

6 So I'm perplexed as to why they add up to
7 100 percent, but maybe it's not fair to belabor this
8 point with you at all because you didn't do this.
9 You -- you've relied on this, but maybe the questions
10 had best be posed to Professor Zauberman.

11 THE WITNESS: Well, if there were more time,
12 and there will be by the time Monday rolls around, I
13 will take a closer look and refresh my memory of this
14 use or this generation of the numbers in these
15 figures and I will be better apprised to discuss this
16 with you or with Mr. Marks.

17 JUDGE STRICKLER: Thank you, Professor.

18 BY MR. MARKS:

19 Q. Dr. Willig, I apologize. I have lost the
20 thread of where my last question was, so I will
21 apologize in advance if I ask you a question I have
22 already asked you.

23 But we were talking about the fact that
24 other than the other form of non-interactive
25 webcaster, you used currently available data about

1 royalty rates for other forms of listening.

2 Do you recall that?

3 A. Yes, I do. And I said yes.

4 Q. Good. And I asked about whether or not you
5 and your -- your team thought there was any
6 sufficiently reliable information about trends or
7 what projected rates for royalties would be during
8 the rate period that would warrant using projections
9 instead of currently available data?

10 A. I think that's fair, together with -- and I
11 think I tried to articulate this last time you asked
12 this question -- I'm not criticizing you, I'm just
13 recalling -- that what stopped us, me, from doing
14 this and trying to find projections was the
15 unevenness of what information or what opinions might
16 be available about particular services and about
17 where those royalties might be going, along with
18 other features of the marketplace that might be
19 associated with those views of whomever it is that
20 has some individualized projections of where certain
21 royalties are going over time.

22 And the model shouldn't be making individual
23 changes and leaving out other elements of the
24 background that might be concomitant with those
25 changes and that would unbalance the forces that the

1 model is representing.

2 So I thought the best thing to do in this
3 area was go with the best current information toward
4 these royalty rates.

5 Q. Is it fair to say that, if you thought that
6 you did have reliable projections of the royalty
7 rates during the '21 to '25 rate period for these
8 other forms of music listening, you would have used
9 the projections rather than the current data?

10 A. No, I wouldn't say that. It's a fair
11 question, Mr. Marks, and I don't mean to say it's
12 not, but, first of all, that would require having
13 similarly reliable projections for all of the royalty
14 rates. And part of what's going on in the
15 marketplace or might be thought to be going on that
16 might be thought to be changing the royalty rates
17 over time would also have to do with the popularity
18 of the various modes and their importance to the
19 record companies.

20 And that would be going along with in the
21 model changes in the diversion rates. And the
22 diversion rates are coming out of the current
23 viewpoints of listeners about their current
24 preferences, it's asking a hypothetical question of
25 them but, nevertheless, it's a hypothetical question

1 set in the current time frame.

2 So from my economic point of view, it would
3 really make no sense at all to accept some
4 projections about some of these royalty rates without
5 also taking into account, let's say through the
6 diversion element of the modeling changes in
7 diversion rates that might be a cause of or an effect
8 of the changes in the royalties.

9 But it wouldn't make sense to make changes
10 on that one part of the model, the royalty rates,
11 without also considering concomitant changes in the
12 other important elements of the model.

13 And we have -- I have no ability to put the
14 respondents into a time machine. We just can't do
15 that. So we have the current views of diversion
16 rates. And it makes sense to use the current royalty
17 rates that go along with those together in the
18 modeling.

19 Q. Do I understand you to say that it's better
20 to stick with one set of current data than to use
21 some projections and some current data?

22 A. Not specifically, no, but when they clearly
23 interact with each other, as per viewpoints on the
24 relative desirability of different modes of
25 distribution over time, and only taking some part of

1 those views into account, without also taking other
2 concomitants of those views into account, would be a
3 source of, I think, dramatic unreliability of the
4 overall answers obtained by such a model.

5 Q. Respondents to the Zauberman Survey could
6 select multiple options as alternatives to listening
7 to a non-interactive webcaster, right? We talked
8 about that a minute ago.

9 A. Yes.

10 Q. Okay. And some survey respondents reported
11 that they would use more than one royalty-bearing
12 alternative, correct?

13 A. Yes.

14 Q. So, for example, a respondent might indicate
15 that she would switch from non-interactive webcasting
16 on an ad-supported service to both paid on-demand
17 streaming and to SiriusXM satellite radio, correct?

18 A. Yes.

19 Q. And in calculating opportunity cost, you
20 assumed that each respondent that indicated she would
21 switch to more than one royalty-bearing alternative,
22 for each respondent that indicated she would switch
23 to more than one royalty-bearing alternative, you
24 calculated the additional royalties that the record
25 company would earn from each of the multiple options

1 indicated, right?

2 A. Yes.

3 Q. So if a respondent indicated that she would
4 switch to a paid on-demand service to SiriusXM
5 satellite radio and to CDs, vinyl, and digital
6 downloads, if the non-interactive webcaster were no
7 longer available, you included in your estimate of
8 opportunity cost the royalties from a subscription to
9 an on-demand service, plus the royalties from a
10 subscription to satellite radio, plus the royalties
11 earned from the average purchaser of CDs, vinyl, and
12 downloads, correct?

13 A. Yes. The attitude of the calculation of
14 opportunity cost is to take seriously what it is that
15 the respondents say they're going to do, as long as
16 they are coherent in the view of the survey designer
17 because the survey design knocks out the responses of
18 some people who say they don't know or they don't
19 understand. And so those respondents' choices are
20 just generally taken out of the sample that is
21 analyzed.

22 But otherwise the respondents' answers are
23 taken at their word. But I would note that those
24 possibilities that a single respondent would say, oh,
25 yes, I'm going to take up a new subscription to my

1 subscription-based interactive service and I'm also
2 going to take up a new subscription to
3 satellite-delivered SiriusXM service and I'm also
4 going to take the plunge and start applying CDs and
5 digital downloads and vinyl, all three is an
6 exceptionally rare circumstance in the data.

7 I think it's like two, maybe three, I think
8 it's two respondents out of the thousand respondents
9 overall actually responded that all three would be
10 caused to that respondent by the loss of the
11 ad-supported or the subscription-supported
12 non-interactive service.

13 Q. How many respondents --

14 A. Because you use those people but they are
15 very rare.

16 Q. And how many -- how many respondents
17 indicated that they would -- they would initiate two
18 new paid forms of distribution?

19 A. I don't have that count.

20 JUDGE STRICKLER: Professor Willig, do you
21 think as an economist it would have been more helpful
22 for you if, when these options were presented to the
23 survey respondents, they were given prices so that
24 they would actually understand how much they would
25 have to pay?

1 In other words, if it was a paid on-demand
2 streaming service, it said at \$9.99 a month, and a
3 Sirius, say whatever it was, \$180 a year or what have
4 you, do you think that was -- or CDs and vinyls and
5 listing price -- or MP3s, listing those prices the
6 way certain hedonistic-type models are done with
7 prices attached?

8 THE WITNESS: I am trying to recall that
9 specific element of the survey design. And I am
10 recalling that at some part of the overall
11 presentation of the survey, these different
12 categories of music distribution are defined, and
13 hopefully in an accessible way for a typical
14 respondent, with examples, and I think, quite
15 possibly, along with an example price point. But as
16 I sit here, I am not totally sure of my memory in
17 that regard.

18 JUDGE STRICKLER: But whether it was or was
19 not included, you think it would have been
20 preferable -- and the record will speak for itself,
21 of course, whether that information is contained
22 elsewhere in the survey -- but do you think it would
23 be better from an economic point of view to let the
24 respondents know how much each one of these options
25 would cost them?

1 THE WITNESS: The most important thing from
2 the point of view of survey design, I understand from
3 conversations with the survey experts here and
4 elsewhere, is to make a presentation of the question
5 and the alternatives in a way that will be thoroughly
6 understandable by the respondent.

7 They should actually know what it is they
8 are being asked about and be able to give their
9 predicted choices in a knowledgeable way.

10 Now, what exactly is the form of the
11 information presented to the respondent with that aim
12 in mind is really up to the survey designer in terms
13 of the psychology and consumer research in which they
14 are expert.

15 And it may be that some forms of description
16 are viewed as not understandable or as too detailed
17 to hold the attention of the respondent. There is
18 some sort of a middle ground, I understand, which is
19 granular enough and evocative enough so the
20 respondent has full marketplace understanding of what
21 it is that the respondent is being asked about, but
22 not too much as to have the respondent shut down and
23 not read the description, and not too little so the
24 respondent doesn't actually know which choice is
25 which.

1 So the view is an important element of
2 survey design.

3 JUDGE STRICKLER: So for your purposes of
4 being able to convert these music listening options
5 into opportunity cost values, you would defer to the
6 survey expert as to whether or not it made sense to
7 add pricing together with each of these alternative
8 options?

9 THE WITNESS: I do defer to the survey
10 experts who have created a survey with a design and a
11 choice of words and the structure of the questions so
12 as to adduce the most reliable information possible
13 from a survey in a given stretch of time to which the
14 respondent would be exposed to the survey to get the
15 most accurate information. And that is an element of
16 survey design.

17 JUDGE STRICKLER: And I take it you were not
18 involved in the construction of this survey?

19 THE WITNESS: Well, as you can hear, I heard
20 conversations on this general subject about what are
21 the elements of design that would lead to the most
22 accurate, reliable results, but I was not involved in
23 making those choices about what the actual design
24 would be.

25 JUDGE STRICKLER: Did you make

1 recommendations as to what the design should be?

2 THE WITNESS: If I did, somebody was
3 laughing at me, it was a life-long constructor of
4 surveys saying no, no, I'm the survey expert.

5 I'm imagining that conversation. I'm sure
6 it didn't literally happen, but it was not my role to
7 say: Hey, you know, survey respondents aren't really
8 going to understand unless you tell them price. The
9 survey expert is the one who has the job and the
10 professional expertise to put in enough information
11 and the right degree of information and the right
12 elements of information so that the answers to the
13 survey will be the most reliable.

14 JUDGE STRICKLER: Well, whether you were
15 laughed at it or not, and I doubt you would have been
16 laughed at, but that's speculative, did you have
17 conversations with any of the experts who created
18 this survey about the construction of the survey
19 before it was completed?

20 THE WITNESS: The conversations that I had
21 with Professor Zauberman, for example, had to do with
22 what purpose am I going to use the results for. Why
23 do I need this? Do I need that?

24 And so I had to explain what I meant by
25 diversion and what are the circumstances that I am

1 seeking a respondent to imagine so that the
2 respondent can give answers in a knowledgeable way
3 about what the scenario is into which the respondent
4 is asked to imagine herself so that she can give
5 reliable answers, and the whole idea of diversions.

6 So what are the panoply of new options, and
7 which ones are most important? Issues like that were
8 the subject of the conversations, the few that I had
9 with Professor Zauberman, to help him understand what
10 the aims of the survey were for my utilization.

11 JUDGE STRICKLER: Did you discuss with Mr.
12 Zauberman -- Professor Zauberman or anyone who worked
13 on the survey the pros and cons of including the
14 prices for these music listening options?

15 THE WITNESS: I don't know about the pros
16 and cons, but it wouldn't surprise me if I had asked
17 early on how shall we be or how should you be
18 describing the services so that the respondent has a
19 clear understanding of what the choices are that
20 we're asking them to predict about themselves.

21 JUDGE STRICKLER: Well, let me now --

22 THE WITNESS: I'm not in a dictatorial role
23 about that, because that is clearly a decision that
24 needs to be made on the basis of survey design and
25 how to do it to get the most reliable result.

1 JUDGE STRICKLER: I certainly understand
2 that you weren't necessarily in a dictatorial role.
3 And let me change what I asked you.

4 I said pros and cons, and you answered my
5 question quite literally.

6 So let me rephrase it. Did you discuss the
7 subject matter of adding prices into these music
8 listening options with Professor Zauberman or anyone
9 else on his staff?

10 THE WITNESS: I -- I don't recall whether
11 that was an explicit element of the conversation. It
12 might have been and it might not have been. I just
13 don't remember.

14 It wouldn't be an unusual thing for me to
15 mention, but I really wasn't being hurried in a
16 detailed way about how I would suggest or advocate
17 for a description of the different services so that
18 the respondents would know what it is that they are
19 being asked about.

20 JUDGE STRICKLER: Thank you, Professor.

21 BY MR. MARKS:

22 Q. Dr. Willig, if a respondent to
23 Dr. Zauberman's survey indicated that she would
24 listen to purchased music as an alternative if a
25 non-interactive webcaster were no longer available,

1 you assumed that she would purchase music at the same
2 rate as the average purchaser of music, correct?

3 A. For somebody who was designated as being a
4 new purchaser by the way of the information in the
5 survey was utilized for that purpose.

6 Q. The Zauberman Survey responses did not
7 distinguish between the listener listening to
8 newly-purchased music and the listener diverting to
9 purchased music that the survey respondent already
10 owned, did it?

11 A. The survey asked people how do you listen to
12 music now or in the last 30 days. And then it asked
13 how would you be listening in a way that would be
14 replacing the role of the interactive service that's
15 no longer going to be available.

16 And so the comparison of those two answers
17 is what led me and the survey folks to decide on how
18 to designate a respondent as a new purchaser of the
19 physical forms and the digital downloads.

20 Q. But if somebody had a large collection of
21 downloads or CDs that they had put in the closet or
22 in the virtual closet because they were happy with
23 the non-interactive webcaster, and the
24 non-interactive webcaster went away, they then
25 returned to using their CDs or downloads, they were

1 still counted as a new purchaser of music, correct?

2 A. They were, and that would be an inaccuracy.
3 But also there's another concomitant inaccuracy that
4 goes in the other direction, which seems fairly
5 important quantitatively, although there's no way to
6 tell exactly what the correction ought to be, and
7 that is people who said yes, I have listened to my
8 own personal collection in the last 30 days, and they
9 also answered, yes, I would be listening more, maybe
10 purchasing, maybe just listening more in reaction to
11 the, say, ad-supported or the subscription-supported
12 non-interactive services going away.

13 And the way the survey data were led into
14 their use for diversion that would go into
15 opportunity cost, those people are not counted at all
16 as having contributed new royalties to the music
17 companies as a result of buying more of the physical
18 forms or the digital files because they already said
19 that they were listening to that form of distribution
20 in the last 30 days.

21 And yet they might very well have sometimes
22 been using their personal collection, but in the
23 absence of Pandora say they were compelled to buy
24 more, buy more of one of those forms. And there is a
25 lot of people like that.

1 I recall there's more than half, slightly
2 more than half, I think, of respondents were in that
3 category. Respondents --

4 Q. You --

5 JUDGE STRICKLER: Excuse me, Mr. Marks.
6 Professor Willig, I appreciate your point that you
7 have two inaccuracies that arguably could have
8 pointed in opposite directions because you could have
9 had people who were listening to their own
10 collections but may have bought more within the last
11 30 days, and then there were people who were going to
12 just continue to listen to their existing collections
13 versus buying new.

14 But having two inaccuracies pointing in
15 different directions doesn't make the survey result
16 more accurate. It just makes the survey results
17 inaccurate overall.

18 So this is sort of reminiscent of the
19 problem or at least somewhat analogous to the problem
20 you criticized Professor Shapiro about, by trying to
21 fix the label suppression evidence by just making
22 some ad hoc adjustments.

23 If you have inaccuracies on both sides, they
24 don't balance out. Don't they just sort of make a
25 mess or hash of the survey results?

1 THE WITNESS: Well, the quantitative
2 question is what is the degree of inaccuracy in these
3 two different contrasting directions. And what I was
4 about to say is that the conservative bias that
5 arises from the possibility that somebody was buying
6 new in reaction to losing access to Pandora, there is
7 so many of those people. It's literally more than
8 half.

9 And they are not counted at all in terms of
10 the construction of the opportunity cost. They are
11 not counted at all as providing additional royalties
12 through what might be their additional purchases.
13 They are just knocked out.

14 And that's more than half of all the
15 respondents. So it seems quite likely that the
16 balance of these two forces is on the conservative
17 side.

18 And that makes me feel like the construction
19 of this question about vinyl and CDs and digital
20 downloads, I mean the exact construction of the
21 question was in the hands of the survey designers,
22 again, but it seems like it's a conservative choice
23 at the end of the day.

24 And that's okay from the point of view of my
25 purpose.

1 JUDGE STRICKLER: If they were knocked out,
2 they were knocked out because of the survey design.
3 They weren't knocked -- the survey could have tried
4 to capture those people who would have bought new
5 physical product who were -- who were no longer
6 listening to a non-interactive service; the survey
7 just didn't pick them up?

8 THE WITNESS: The way the survey was
9 designed, the survey would not pick those people up.
10 But the decision to word that question the way it
11 was, which would leave those gaps, was in the hands
12 of the survey designers.

13 JUDGE STRICKLER: Understood. Thank you,
14 Professor.

15 BY MR. MARKS:

16 Q. And, Dr. Willig, you have not done any
17 analysis of whether, as a group, users of free
18 non-interactive services would likely spend more or
19 less than the average purchaser of music if they
20 turned to purchasing CDs, vinyls, or MP3 files,
21 correct?

22 A. More or less than the average, average
23 seemed like the best available estimate under the
24 circumstances of the question, which doesn't ask
25 them, well, exactly how much more would you be

1 spending. That was not a question that was viewed as
2 leading to reliable results by the service
3 designers -- by the survey designers. It is getting
4 late. Excuse me.

5 Q. And we saw earlier that the respondents to
6 the Zauberman Survey who selected multiple
7 alternatives to listening to a non-interactive
8 webcaster were asked how they would allocate their
9 listening time among those alternatives, correct?

10 A. Yeah.

11 Q. And if a survey respondent indicated that
12 they would subscribe to a paid on-demand service but
13 then also indicated that they would allocate
14 zero percent of their future listening time to that
15 option, did you still treat that person as a new
16 subscriber for purposes of calculating opportunity
17 cost to the record label?

18 A. Well, let me correct your question, if I
19 might, or at least ask you to rephrase because the
20 question in the survey is not constructed that way.
21 It doesn't say, well, would you ever use it.

22 The question that asked the respondents
23 about their new use of a distribution mode, or just
24 their use of a distribution mode, is quite specific
25 to a particular day and a particular day of the week,

1 and it's a particular day, I think, of the week after
2 the respondent was given the survey.

3 So if a respondent was given the survey on
4 Tuesday, I think the question is worded, well, what
5 would you do next Tuesday for your music listening
6 that would replace the loss of the ad-supported
7 non-interactive services being available to you?
8 Very narrow, very specific, not at all the way you
9 asked the question.

10 And, again, doing it that way was a decision
11 of the survey designers who, as I recall, thought
12 that people have a more reliable sense of what they
13 are going to do, if it's very specific rather than
14 open-ended and interminable and over anything -- over
15 a broader span of time.

16 The best answers would come from this sort
17 of very narrow construction of the question. And as
18 a result, somebody might say, yeah, well, next
19 Tuesday, I don't think I will be listening to my paid
20 Spotify, but I'm going to buy a new paid Spotify
21 subscription, but I don't think I'm going to use it
22 next Tuesday. It seems perfectly plausible, not
23 paradoxical, not inconsistent.

24 And, as a result, in my use of those data, I
25 did take into account the new subscription that the

1 respondent said she or he was going to acquire as a
2 result of the loss of the non-interactive service
3 availability.

4 Q. And you did that even if for the specific
5 day, where they were asked about what they would use
6 and not use, if they said they wouldn't use the new
7 subscription, you -- you treated them as having
8 purchased a new subscription anyway?

9 A. It seemed perfectly consistent and not at
10 all inconsistent.

11 Q. I'm just asking what you did. I'm just
12 trying to understand what you did.

13 A. Sure.

14 MR. WARREN: Objection. The question has
15 been asked and it has been answered.

16 CHIEF JUDGE FEDER: Let me take a look at
17 the transcript. Sustained. Let's move along.

18 BY MR. MARKS:

19 Q. Another input, Dr. Willig, to your Shapley
20 Value analysis is audience size for the distributor,
21 correct?

22 A. Yes.

23 Q. And you used a set of the projections of
24 Pandora's audience prepared by Pandora before its
25 merger with SiriusXM to project what the audience for

1 Pandora's ad-supported service would be during the
2 2021 to 2025 rate period, correct?

3 A. Yes.

4 Q. All right. Let me put up on the screen, and
5 these are -- this is restricted. I will see if I can
6 do this without having to go into restricted session,
7 if that's all right with Your Honors. So I will
8 assume that's the preference.

9 CHIEF JUDGE FEDER: That is correct.

10 BY MR. MARKS:

11 Q. Can we get Trial Exhibit 5600 at 101, which
12 is Exhibit D-6 to your corrected written direct
13 testimony. I don't know if we can -- I am going to
14 ask you about that portion at the top, so maybe we
15 can blow that up for you.

16 Do you recognize this as an excerpt of
17 Exhibit D-6 from your corrected written direct
18 testimony?

19 A. Let me take a close look.

20 MR. WARREN: And if I can just interject, if
21 I may. And, again, this is just by virtue of the
22 fact that it's our first time doing a virtual
23 cross-examination like this.

24 I think it would be helpful to remind, if
25 Mr. Marks is so willing or if the Judges are so

1 willing, to remind the witness how he can access the
2 full document so that he is not limited to just the
3 -- the blowup selection that Mr. Marks chooses, but
4 so that he has an opportunity to see the context,
5 such as the footnotes, if he so chooses.

6 MR. MARKS: I agree with that. And that
7 seems fair and like an appropriate way to treat the
8 use of documents with witnesses in this virtual
9 environment.

10 MR. MARKS: All right --

11 CHIEF JUDGE FEDER: Professor Willig, are
12 you --

13 MR. MARKS: I'm sorry, Your Honor.

14 CHIEF JUDGE FEDER: Are you familiar with
15 the document share and how to use it?

16 THE WITNESS: It's the first time that I
17 have done it for real, but I have been prepped a
18 little bit. And so now on my laptop I see a screen
19 that says: Veritext, Expert Witnesses, Willig,
20 Robert. And that assumes something.

21 CHIEF JUDGE FEDER: Let's -- why don't we
22 take a five-minute recess and your counsel can walk
23 you through that process and get you into the -- into
24 the document.

25 THE WITNESS: Great. Thank you.

1 CHIEF JUDGE FEDER: All right.

2 MR. MARKS: Your Honor, the other thing I
3 might suggest if it's more convenient for the witness
4 and he has a copy of his -- a paper copy of his
5 testimony, I'm happy to put it up on the screen for
6 everybody else and walk him through the paper version
7 if that's more comfortable for him.

8 MR. WARREN: I think, Mr. Marks, just in the
9 interest of making sure the witness is comfortable
10 with this, because it is going to come up again, we
11 ought to take the recess and just remind him about
12 how the document share platform works.

13 MR. MARKS: Fine.

14 CHIEF JUDGE FEDER: Okay. We are at recess
15 for five minutes.

16 (A recess was taken at 5:56 p.m., after
17 which the hearing resumed at 6:07 p.m..)

18 CHIEF JUDGE FEDER: Okay. Would the host
19 reestablish the public feed.

20 MR. SACK: Thank you, Your Honor. Please
21 stand by.

22 MR. TOTH: We are back live.

23 CHIEF JUDGE FEDER: Okay. We are back in
24 open session. Please continue, Mr. Marks.

25 BY MR. MARKS:

1 Q. Yes. So we have blown up on the screen that
2 top row. And, again, I just want to make sure that
3 we have a clear record on how you constructed the
4 audience size for the non-interactive webcaster in
5 your model.

6 Am I correct -- and I'm not going to read
7 the numbers because this is a restricted slide, but
8 am I correct that the top row in the highlighted box
9 that says Pandora Free, and then has numbers for each
10 of the five years, those are the projected monthly --
11 monthly active users, the average for the year, years
12 2021 to '25, that you used in constructing your
13 model?

14 A. That's the number set that I used at the
15 time of my corrected WDT.

16 Q. And you took those, the five numbers, the
17 one number for each year from 2021 to 2025, and you
18 averaged those five numbers and you came up with the
19 five-year average number that's in the far right
20 column of the box. Is that correct?

21 A. Yes. Yes.

22 Q. Okay. All right. And then the next part of
23 your audience size analysis was to take Pandora's
24 share of the ad-supported non-interactive webcasting
25 market between April 2018 and March 2019, and you

1 assumed that Pandora's share of that market would
2 stay constant over the 2021 to 2025 period, correct?

3 A. On average, yeah, because I used that same
4 number to relate to the relationship of the size,
5 given by this metric, and others of Pandora on
6 average as per the numbers that we didn't read
7 together from the five-year average column, and then
8 applied that 80 some odd percent number to blow it up
9 to be the entire category, again, on average, over
10 those five years.

11 Q. And to do that you took the current snapshot
12 of Pandora's share of the non-interactive
13 ad-supported market and applied that current snapshot
14 to the five-year projections of what Pandora's
15 monthly active users would be for the free service,
16 right?

17 A. I think that's right, yes.

18 Q. And by using that share and the five-year
19 average -- sorry, using the share from the April 2018
20 to March 2019 data set, you grossed up the five-year
21 average from your -- from the projections that you
22 used to estimate the total size of the audience for
23 all ad-supported web -- non-interactive webcasters,
24 right?

25 A. Yes.

1 Q. Okay. And you used the same process and
2 data about Pandora Plus to estimate the total size of
3 the audience for all subscription non-interactive,
4 correct?

5 A. Well, there was a problem at the time of the
6 submission of my CWDT because the projection, the
7 merger proxy statement projections, as I remember it,
8 didn't have the full detail about the breakdown
9 between Plus and Premium at that time.

10 It's one of those issues, as I recall, and I
11 am not finding this in the footnotes to my WRT
12 because that would take me too much time right now,
13 clearly, but I think this is one of the elements of
14 the data for which more granular information came to
15 me in between the submission of my direct and my
16 rebuttal reports.

17 And more information was available then from
18 the update, as I recall, and I am not 100 percent
19 sure of this memory, but this is my memory, as
20 between Plus and Premium. And so here I think these
21 numbers result from an approximate breakdown of the
22 subscription category, whereas later on I had more
23 granular data from Pandora itself.

24 Q. Let me -- I'm going to try to do this in a
25 way so we can stay in public session. Let me -- let

1 me show you a chart that we have prepared that I will
2 refer to as Willig Demonstrative 1.

3 And, Dr. Willig, this is a chart that on the
4 left-hand side the blue columns reflect the actual
5 monthly advertiser -- monthly active users on
6 Pandora's ad-supported service and the right-hand
7 side is the projections of monthly active users on
8 Pandora's ad-supported service, and I just ask you to
9 look at the Exhibit D-6 from your report and just --
10 I just want to confirm that we have accurately
11 depicted what is going on in your projections and --
12 and the numbers that you used?

13 MR. WARREN: Your Honors, I have an
14 objection to this effort to take data in the record,
15 put it into a demonstrative that was never disclosed,
16 and then have the witness attempt to reconstruct its
17 accuracy when he doesn't have the spreadsheet that
18 was actually utilized to create this graph.

19 It's -- I am not sure how the witness could
20 do that, nor is it clear the providence of this
21 graph. So the line of questions just seems to me to
22 be inappropriate. The data at issue is already there
23 in front of the witness and Mr. Marks is free to
24 question the witness about that, as he has been
25 doing.

1 This seems more like something that would be
2 used in a closing argument.

3 CHIEF JUDGE FEDER: Mr. Marks?

4 MR. MARKS: My question is just about how
5 his projections compare to his understanding of
6 actual monthly active users on Pandora's ad-supported
7 service. If Mr. Warren objects to the chart, I can
8 ask him that question without the chart.

9 MR. WARREN: I have no problem with the
10 question.

11 MR. MARKS: I was actually just trying to
12 put the information in front of him so he could make
13 the comparison. If he wants to try to do the
14 comparison from memory, that's fine with me.

15 MR. WARREN: Well, I think if he --

16 CHIEF JUDGE FEDER: Excuse me.

17 MR. WARREN: I think if he -- yeah, please.

18 CHIEF JUDGE FEDER: Can you put up the table
19 from Professor Willig side-by-side with the table
20 from Professor -- well, from wherever -- where did
21 you get this information?

22 MR. MARKS: These -- these -- you mean so
23 the right-hand column is on the right and the
24 left-hand column is from the public financials of
25 Pandora.

1 MR. WARREN: But which --

2 CHIEF JUDGE FEDER: Are we able to put the
3 actual data up on the screen rather than this chart?

4 MR. MARKS: Excuse me?

5 CHIEF JUDGE FEDER: Are you able to --

6 MR. MARKS: We can take this chart down.
7 I'm happy -- I was trying to do this as a visual aid,
8 just to help the witness. I am happy to take the
9 chart down. I can try to ask the questions without
10 it.

11 CHIEF JUDGE FEDER: Please proceed without
12 the chart.

13 BY MR. MARKS:

14 Q. Dr. Willig, do you have an understanding of
15 what the trend line in the number of monthly active
16 users on Pandora's ad-supported service has been
17 since 2015?

18 A. I don't have that sharply in mind. I don't
19 think I show those data in my report, unless you have
20 a particular reference to them. In fact --

21 Q. Do you have any under --

22 A. I'm sorry. I was just fishing around on the
23 table from my report, I think it's D-6, looking for
24 those data in this table. It's hard to find them.

25 Are you representing that there are those

1 data here in my table?

2 Q. No, I am not representing that. I am asking
3 whether or not you know -- I will jump to the next
4 question.

5 Do you know how your projections for the
6 2021 -- to 2021 period compare to the current level
7 of monthly active users on Pandora's service?

8 A. I don't think I know that. But by current,
9 if you mean very current, I have read and understand
10 that Pandora has not had a very prosperous first and
11 second quarter of this year, at least for pandemic
12 reasons like so much in the economy generally, and
13 certainly the part of the economy that is based on
14 advertising revenues. Ads are way down in the
15 economy generally.

16 Q. And you know that -- do you have an
17 understanding as to whether or not the decline in
18 monthly active users on Pandora's ad-supported
19 service actually started a number of years ago?

20 A. It might have. I am not denying it. But I
21 don't have a clear vision of that set of numbers that
22 you are asking me about as I sit here, unless it's in
23 my report and I can find it, although my screen is
24 difficult on that -- on that chart. Is it -- are you
25 saying it's in D-6?

1 Q. No, that -- the historic numbers I don't
2 believe are in. I am just asking -- I am trying to
3 get a sense of when you made the judgment to use the
4 projections, of whether or not you did any comparison
5 either to Pandora's recent level of monthly active
6 users or long-term trends in the number of monthly
7 active users?

8 A. I made use of the projections that Pandora
9 itself created about the course of its own business
10 over those years, and I didn't second-guess their
11 thought process, except through, as you heard me
12 testify to today, that it had better be a very
13 seriously constructed and believed in set of
14 projections by Pandora, since it is so public and
15 used for such large money and vulnerable purposes.

16 And so understanding those origins for the
17 efforts that Pandora put in to create those
18 projections, I went ahead and used Pandora's own
19 projections without second-guessing my reference to
20 some trends in historic data.

21 Q. And do you have any understanding of what
22 assumptions were made about where those new monthly
23 active users would come from for Pandora in the
24 projections that you relied on?

25 A. In the merger proxies.

1 Q. Correct.

2 A. I don't recall if there was language in the
3 merger proxies statement editorializing about the
4 trends that were in those projections. I just don't
5 recall that one way or the other.

6 Q. Is it fair to say that whatever the cause
7 was, whatever was causing Pandora to project
8 significant increases in monthly active users over
9 then current levels, the causes for the increase or
10 the projected increase didn't factor into your
11 analysis, correct?

12 A. No, I took the projections for what --

13 MR. WARREN: Objection. Excuse me. Sorry,
14 Professor. Please just give me a chance to lodge an
15 objection before you answer.

16 I object to the question to the extent it is
17 using the phrase "significant increases in monthly
18 active users." I don't believe that that is in
19 evidence or that the witness testified to that
20 effect.

21 CHIEF JUDGE FEDER: Mr. Marks, can you
22 rephrase the question without characterizing the
23 change in monthly active users?

24 MR. MARKS: Sure.

25 BY MR. MARKS:

1 Q. Can we pull Exhibit D-6 up on the slide.
2 Yeah, that top box, please.

3 I am just, Dr. Willig, I just would like to
4 understand. To the extent that the projections that
5 you show for 2021 to 2025 were higher than the then
6 current level of monthly active users on the Pandora
7 service, your analysis did not factor in in any way
8 whatever was causing Pandora to project higher
9 monthly active users over time, correct?

10 A. In terms of these projections, and we're
11 looking at Pandora Free here?

12 Q. Correct.

13 A. Yeah. I -- I didn't second-guess what
14 Pandora put forward in its merger proxy statement
15 but, rather, took it at face value in terms of the
16 numbers, given my understanding of the seriousness
17 and the amount of effort that went into -- should
18 have gone into, and I'm not saying wasn't put into by
19 Pandora, in creating these projections and making
20 them public and submitting them to the government.

21 Q. And, again, and you don't -- you don't have
22 any understanding of the cause -- of what was causing
23 the approximately 20 percent increase from 2021 to
24 2025 in the number of monthly active users, right?

25 A. As I said, I don't recall if there was a

1 particular explanation of that in the merger proxy
2 statement, as I sit here right now.

3 Q. Do you know, do you recall when the merger
4 proxies were created, approximately what point in
5 time?

6 A. Maybe 2018. I don't recall right now.

7 Q. Have you compared whether or not the merger
8 proxy statements -- excuse me -- the merger proxy
9 statement projections of Pandora's financials were
10 accurate for 2019 and 2020 to date?

11 A. Well, again, 2020 is certainly a special
12 case, unfortunately, so far. We all hope for
13 recovery, but probably not soon.

14 For 2019 it was -- it depends upon which of
15 the various elements of actual versus projections
16 you're asking about, because a variety of things were
17 going on in Pandora's numbers in 2019 as compared to
18 what the projections have to say.

19 JUDGE STRICKLER: Professor Willig, you
20 pointed out that the projections for 2020 would not
21 be accurate given the tremendous upheaval that we
22 have suffered in our society, let alone the economy.

23 But doesn't that point underscore the
24 problem of using projections, because one of the
25 inherent problems about projecting into the future is

1 the future is unknowable and there is uncertainty and
2 then, as some economists have recently emphasized,
3 there is radical uncertainty, problems, black swans,
4 what have you, that arise that we cannot know about,
5 and doesn't that make the use of projections as
6 opposed to the most recent data less compelling
7 simply because we can't really know with any great
8 sense of certainty where we're going to be several
9 years out?

10 THE WITNESS: And that same issue, of
11 course, attends the decisions of you, Your Honor, and
12 your colleague Judges about what royalty rates to
13 establish in this hearing, knowing that they will be
14 applicable to 2021 out to 2025, albeit perhaps with
15 inflation adjustment as part of the mechanism on
16 which you decide.

17 But in the face of the same uncertainties
18 that you folks face in doing your work, and of course
19 there is going to be inaccuracies in your own
20 viewpoints about what's going to happen during those
21 years, the responsibility for the production of
22 information to help you and to undergird your
23 decision similarly will have to have that same degree
24 of uncertainty.

25 So its an apt match of having the best

1 available projection for the rate setting that you
2 folks have to come up with based on the same notion
3 of, well, you know, these are years that are in the
4 future, and so projections are not apt to be
5 absolutely accurate, but certainly current actuals
6 are not necessarily to be applicable to the future
7 either.

8 So what we should be using is, my viewpoint,
9 the most reliable projections of the data that will
10 be applicable to the decision about that time frame,
11 and that's what I did.

12 JUDGE STRICKLER: Well, first of all,
13 touche. That was well played. I think you're
14 certainly right about that, that we have the same
15 issue that I've referred to.

16 But my question was whether or not it is
17 more reasonable to rely on events that have happened
18 in the most recent past, rather than events that are
19 projected into a future that is full of radical
20 uncertainty?

21 THE WITNESS: Right. And if you are making
22 reference to 2020, there is hopes, aspirations,
23 prayers for some folks, about the temporary status of
24 the present disruptions.

25 And it seems to me that, although we don't

1 know exactly when the current crisis is going to
2 abate, it's reasonable to go ahead on the basis of
3 the view that it will abate sometime before,
4 certainly before 2025, hopefully before 2021 is
5 ended.

6 And so I would not advise, if you are asking
7 -- you're probably not -- but I won't put myself in
8 the position of advising the Judges to use
9 projections for the rate period that are heavily
10 influenced by the crisis conditions in the first half
11 of 2020.

12 Better to go forward under the expectation
13 and the hope that the current pandemic conditions
14 will pass in due course and soon enough for the
15 normal use of projections for the rate period to be
16 the best reliable source of information.

17 JUDGE STRICKLER: Thank you, Professor.

18 CHIEF JUDGE FEDER: Mr. Marks, we are
19 approaching the 6:30 hour, so if you can reach a
20 logical stopping point.

21 MR. MARKS: I think we are -- I think we are
22 at a logical stopping point. I am happy to do
23 another module if we want to make use of the last
24 four or five minutes, but this is a logical stopping
25 point if you would like to stop now.

1 CHIEF JUDGE FEDER: How long would the
2 additional module take? Will it be about four or
3 five minutes?

4 MR. MARKS: Why don't I try to do one more,
5 just so that we can get through as much as we can. I
6 don't think it will take -- if we go over, it won't
7 be by much.

8 CHIEF JUDGE FEDER: Okay. That's fine.

9 BY MR. MARKS:

10 Q. Dr. Willig, in measuring webcaster
11 willingness to pay, you used Pandora's ad-supported
12 service as a proxy for all ad-supported webcasters,
13 correct?

14 A. Yeah, as you described, counsel.

15 Q. Correct. And you used Pandora Plus as a
16 proxy for all subscription webcasters, correct?

17 A. That's correct, but similarly blown up so
18 that the size that it is representing is as accurate
19 as I can make it.

20 Q. And you understand that Pandora Plus has
21 interactive features that make it ineligible for the
22 statutory license at present, correct?

23 A. At present, yes.

24 Q. And you didn't conduct any analysis of that
25 extra statutory functionality when using Pandora Plus

1 as a proxy for a statutory non-interactive webcaster,
2 right?

3 A. Well, I wondered what information would be
4 available to me on that subject, and I -- I did not
5 do independent research on that subject, but I did
6 see what Mr. Ryan had to say on that subject in his
7 deposition.

8 And it wasn't dispositive. He wasn't being
9 -- absolutely offering a definite conclusion, but it
10 did give me information about what degree of
11 influence I should think ought to be placed by me on
12 that added functionality and on the appropriateness
13 of using Pandora Plus as a proxy for that whole
14 category of services.

15 Q. And following the analysis that you just
16 described, you determined not to make any adjustments
17 on account of the extra statutory functionality
18 employed in connection with Pandora Plus, correct?

19 A. Very much following what I understood to be
20 the implication of Mr. Ryan's testimony and his
21 deposition on that subject.

22 JUDGE STRICKLER: Briefly, Professor, what
23 was the gist of Professor -- of Mr. Ryan's testimony
24 on that subject?

25 THE WITNESS: He had a couple of telling

1 things to say. One was that a number of times the
2 businesspeople at Pandora had considered changing the
3 status of Pandora Plus back to the statutory
4 compliance.

5 And it seemed from what he had to say that
6 it wasn't obvious that they should not do that.

7 It was more like: Well, it's a close call
8 and we will think about that. So that was
9 interesting.

10 The second element, which is more specific
11 and maybe more telling to an economist, is that he
12 was asked when -- I am trying to remember who did --
13 I think it was Mr. Frear who had asked him his
14 studies of that possibility a number of times over
15 the preceding few years, before his deposition, and
16 he said: Well, the question that I asked my
17 colleagues, the businesspeople, in such an
18 assessment, what should I assume about the retail
19 price for the service?

20 Because here, while I am trying to project,
21 what I am being asked to project is what would the
22 implications be of removing the extra functionality
23 that makes the service ineligible for statutory
24 treatment, and so he asked: Well, if that's what
25 we're doing, what impact shall I presume there would

1 be on the price that customers actually pay?

2 And he testified that the answer -- and it
3 came back, I think, twice or three times, he said,
4 over the twice or three times that he was asked to do
5 this assessment, no, don't change the price, leave
6 the actual pricing in place even as you are being
7 asked to take away that added functionality.

8 And he said it at his deposition: Well,
9 that was sort of indicative that maybe -- again, he
10 wasn't being particularly conclusive, but he was
11 certainly saying things that were consistent with the
12 idea that in the view of the company or at least the
13 colleagues who were providing him with the
14 information that he needed, that the added
15 functionality didn't add a lot of per unit value to
16 the retail customers of the service.

17 And so that makes me feel more comfortable
18 in saying, yeah, well, it does have more
19 functionality, but it seems, according to the
20 company, that to the extent to which that makes it
21 different than what it would be if it were altered to
22 be statutory, the company doesn't seem to think that
23 that's a major revision.

24 And so that leaves me comfortable thinking:
25 Well, in that case it's not going to be a bad proxy

1 for the entire category of subscription
2 non-interactive services.

3 JUDGE STRICKLER: And without getting into
4 any numbers, because I don't think we're in
5 restricted session right now, did Mr. Ryan express
6 any opinion as to how royalties might change if the
7 service reverted back to a statutory service, that is
8 to say, Pandora Plus reverted back to a statutory
9 service instead of one with more functionality?

10 THE WITNESS: I can't say that he didn't get
11 questioned about that. I don't really recall because
12 that wasn't what I was thinking in terms of
13 information from his deposition transcript, but I
14 have the general impression, which I think is right,
15 that the royalties that Pandora Plus is paying now
16 under its direct licenses are higher than the
17 statutory level.

18 I think that's true. I think that the
19 record has taught me that. And so what that means,
20 of course, just directionally, is that if they were
21 to fall back, change functionality enough so that
22 they could be a statutory service again, they would
23 be saving money on their royalties.

24 JUDGE STRICKLER: Thank you.

25 BY MR. MARKS:

1 Q. Just to follow up on that point, Dr. Willig,
2 it's your view that the difference between the
3 royalty rate paid by Pandora to the major record
4 companies for performances of sound recordings on
5 Pandora Plus, reflects the value that the parties to
6 the licenses placed on the extra statutory features
7 and consideration of royalties --

8 MR. WARREN: Objection.

9 CHIEF JUDGE FEDER: Mr. Warren?

10 MR. MARKS: I'm sorry. Did somebody object?

11 CHIEF JUDGE FEDER: Yes.

12 MR. WARREN: Yes. But I -- but I wanted to
13 give Mr. Marks the benefit of finishing his question.
14 So I apologize for interjecting. Go ahead, Mr.
15 Marks.

16 BY MR. MARKS:

17 Q. Okay. I will start over just so it's clear.
18 It's your view that the difference between
19 the royalty rate paid by Pandora to the major record
20 companies for performances of sound recordings on
21 Pandora Plus reflects the value that the parties to
22 the licenses placed on the extra statutory features
23 and consideration of royalties for all three tiers of
24 service offered by Pandora being negotiated
25 simultaneously; isn't that true?

1 MR. WARREN: And I was going to object that
2 this is outside the scope of the witness' testimony
3 and certainly a topic that will come up during the
4 examination of other economists, but I don't believe
5 anything about Mr. Willig's testimony touches on that
6 specific issue.

7 This is not a question about whether Pandora
8 Plus is an appropriate proxy for that, this part of
9 the market.

10 MR. MARKS: It's a natural follow-up to the
11 testimony he just gave in response to Judge
12 Strickler's question. He was just explaining the --
13 the answer he gave was all about the royalty rates
14 and what would happen if they didn't offer the extra
15 functionality and they fall back to a different rate.

16 And I was just getting his understanding as
17 an economist of why Pandora is paying a higher rate.
18 It seems direct to the testimony.

19 MR. WARREN: Sure. I think the witness is
20 simply expressing a descriptive notion that, if you
21 pay less royalty rates when you fall back to a
22 statutory license, you save money.

23 I don't believe the witness at any point has
24 offered any testimony opining as to why the higher
25 royalty rate is being paid in the first instance.

1 There is no testimony he has reviewed any of the
2 negotiation files that would expound on that topic.

3 CHIEF JUDGE FEDER: The objection is
4 sustained.

5 BY MR. MARKS:

6 Q. Dr. Willig, I think this is clear from this
7 morning's testimony, but I just want to make sure
8 that we're all on the same page as we head into the
9 weekend.

10 You would agree that the financial data that
11 went into your corrected written direct testimony and
12 underlie your corrected written direct testimony are
13 obsolete from the point of view of the record
14 information and your knowledge of the record
15 information gained following the submission of that
16 testimony, right?

17 A. That was a mouthful. I'm sorry. I'm sure
18 what I said earlier today, if that answers your
19 question, I stand on what I said earlier. I did
20 receive updated information. That updated
21 information did lead to changes in the data that I
22 was using for the projections about Pandora in my
23 CWDT.

24 The numbers have changed due to the added
25 information. And those updated numbers are what I

1 used in my rebuttal testimony. So those at the time
2 that I wrote my rebuttal testimony were the most
3 accurate that I had available to me.

4 Some information arrived after the filing of
5 my rebuttal testimony. And so that added information
6 is not reflected in my rebuttal testimony. But my
7 understanding is that generally, even though it
8 changes a few numbers here and there, the added
9 information doesn't change the bottom line for what
10 my models, all of them, have to say about appropriate
11 royalties.

12 Q. I'm asking what I think is a simpler and
13 more, I hope, more straightforward question, which is
14 just to try to narrow the scope of financial
15 information that the parties and the Judges need to
16 be looking at.

17 I understand that you have corrected the
18 information that you provided on direct testimony in
19 your written rebuttal testimony, and I am asking
20 should we all assume that the corrected written
21 direct testimony on Pandora's financials is obsolete
22 and we should instead look at your rebuttal testimony
23 for your current views as to Pandora's financials?

24 A. Yes, with that small caveat that I just
25 added about yet more information coming in after the

1 time of the filing of my rebuttal statement.

2 MR. MARKS: Your Honors, I think we have
3 reached a convenient stopping point for the day.

4 CHIEF JUDGE FEDER: Okay. I have been
5 informed by the clerk that Ms. Clark has a
6 housekeeping matter to bring up. Is that correct?

7 MS. CLARK: That is correct. Thank you,
8 Your Honors. This is Sarah Clark for SoundExchange.

9 I just have one correction to the topic of
10 exhibits admitted en masse, and that is that
11 Exhibit 5436 should not be admitted as part of the en
12 masse motion. The parties have not fully resolved
13 their objection to that exhibit.

14 And that is the only housekeeping point that
15 I have.

16 CHIEF JUDGE FEDER: Are the services in
17 agreement with that? I assume so.

18 MR. MARKS: Yes.

19 CHIEF JUDGE FEDER: So Exhibit 5436 should
20 be reverted to a proposed exhibit. I must note a
21 disturbing trend here that fewer and fewer exhibits
22 are part of the en masse admission and more moving
23 out.

24 I really much prefer to see more agreement
25 than less, but I hope we are now set with that list

1 and can move forward with proceeding on that basis.

2 (SoundExchange Exhibit Number 5436 was
3 withdrawn from admission.)

4 CHIEF JUDGE FEDER: Mr. Marks, you wanted to
5 interject something?

6 MR. MARKS: Not interject. But before you
7 close for the day I had one other housekeeping
8 matter. So I will wait if there are others ahead of
9 me in line, but otherwise I just want to make sure I
10 said one more thing.

11 CHIEF JUDGE FEDER: That's the only one that
12 I was aware of.

13 MR. MARKS: I just wanted to make sure --
14 I'm not sure since this is the first witness what the
15 protocol is. I know that the order provides for
16 sequestration of witnesses while they are on cross.
17 I don't know how that has been communicated. But if
18 there is an instruction to be made, I would just
19 request instruction to the witness about
20 sequestration.

21 I am just not sure what protocol we're using
22 to make sure witnesses know about that part of the
23 order.

24 CHIEF JUDGE FEDER: Professor Willig, are
25 you aware of that?

1 THE WITNESS: I certainly am after today.
2 I've heard about it two or three times.

3 CHIEF JUDGE FEDER: Okay. So just for the
4 record, you are cautioned that you should not be
5 discussing any -- any of the -- any of your
6 testimony, any of the evidence, with counsel during
7 the duration of your cross-examination and that
8 includes during the break over the weekend.

9 THE WITNESS: Thank you.

10 CHIEF JUDGE FEDER: Any other housekeeping
11 matters? All right. Thank you. We are adjourned
12 until Monday morning at 10:30 a.m.

13 MR. WARREN: Thank you, Your Honor.

14 MR. MARKS: Thank you.

15 (Whereupon, at 6:42 p.m. EST, the trial
16 recessed, to reconvene on Monday, August 10, 2020 at
17 10:30 a.m. EST.)

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1	C O N T E N T S		
2	EXAMINATION	DIRECT	CROSS
3	ROBERT WILLIG		
4	By Mr. Warren	609	
5	By Mr. Marks		773

6 AFTERNOON SESSION: 743

7

8 CONFIDENTIAL SESSIONS:

9 609-620, 627-675, 680-716, 795-796

10

11 E X H I B I T S

12	EXHIBIT NO:	MARKED/RECEIVED	WITHDRAWN
13	Google		
14	1100		678
15	1101		678
16	1103		678
17	1104		678
18	1105		678
19	NAB		
20	2053		678
21	2063		678
22	2067		678
23	2150		678
24	2152 through 2157		678
25	2160		678

1	EXHIBIT NO:	MARKED/RECEIVED	WITHDRAWN
2	NAB		
3	2162		678
4	NRBNMLC		
5	3065	606	
6	3060 through 3062		678
7	3064		678
8	SXM/PAN		
9	4090 through 4094		678
10	4096		678
11	4108 through 4110		678
12	SoundExchange		
13	5169	618	
14	5179	654	
15	5144	678	
16	5606	678	
17	5614	678	
18	5150		678
19	5318		678
20	5386		678
21	5436		878
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CERTIFICATE

I certify that the foregoing is a true and accurate transcript, to the best of my skill and ability, from my stenographic notes of this proceeding.

8/6/20



Date

Signature of the Court Reporter

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