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

In the Matter of: Determination of Royalty Rates and Terms for Transmission of Sound Recordings by Satellite Radio and "Preexisting" Subscription Services (SDARS III)	Docket No. 16-CRB-0001 SR/PSSR (2018-2022)

WRITTEN REBUTTAL TESTIMONY OF

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I. Introduction and Assignment

1. My name is Jonathan Orszag. I submitted an Expert Report during the direct phase of this proceeding, wherein I provided my qualifications.[1] I later submitted an amended version of my written direct testimony,[2] and I also provided deposition testimony.[3]

2. I have been asked by counsel for SoundExchange to review and respond to the written direct testimony prepared by Professor Carl Shapiro on behalf of Sirius XM,[4] as well as Professor Shapiro's subsequent deposition testimony.[5] My examination of Professor Shapiro's testimony centers on whether his proposed benchmarking methodologies are economically sound, and relatedly, whether the benchmark rates generated by those methodologies constitute reasonable estimates of the licensing fees that likely would result from unfettered negotiations between individual record labels and Sirius XM, *i.e.*, through negotiations unencumbered by the regulatory regime that governs the determination of rates to be paid by Sirius XM for the right to transmit sound recordings to its subscribers.

II. Summary of Testimony

3. To develop the conclusions summarized below and presented in greater detail in later sections, I relied on my experience with the pricing of access to content across several industries, the relevant economic literature, and my knowledge of the music industry. In addition, I reviewed written direct testimony submitted on behalf of Sirius XM (specifically Messrs. White, Blatter, Lenski, and Meyer and Ms. Neville), as well as data and other materials produced by Sirius XM. A complete list of materials I considered since the filing of my written direct testimony is attached as Appendix A.

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[1] Written Direct Testimony of Jonathan Orszag (Oct. 19, 2016) ("Orszag WDT").

[2] Amended Written Direct Testimony of Jonathan Orszag (Jan. 5, 2017) ("Orszag Amended WDT").

[3] Deposition of Jonathan Orszag (Jan. 17, 2017) ("Orszag Dep.").

[4] Written Direct Testimony of Carl Shapiro (Oct. 19, 2016) ("Shapiro WDT").

[5] Deposition of Carl Shapiro (Dec. 16, 2016) ("Shapiro Dep.").

4. In response to Professor Shapiro's testimony, I offer two primary observations: First, Professor Shapiro's report does not lead me to alter my conclusion that the licensing rates voluntarily negotiated between interactive subscription services and record labels represent the most appropriate benchmark for the determination of the rates to be paid by Sirius XM. Professor Shapiro dismisses the utility of these rates based on his assertion that the underlying negotiations are tainted by the supposed absence of effective competition. I view this assertion as substantially unfounded insofar as it does not account for the marketplace developments that have taken place since the *Web IV* proceeding. However, even if one assumes that Professor Shapiro's contention has some validity, the rejection of interactive subscription services as a benchmark is economically inappropriate because we have at our disposal a straightforward method adopted by the Judges in *Web IV* by which to account for a putative absence of effective competition.

5. Second, none of Professor Shapiro's three benchmark methodologies represents an economically reasonable basis on which to establish the licensing rates that Sirius XM should pay to transmit sound recordings to its subscriber population.

6. Before summarizing the flaws specific to each of Professor Shapiro's benchmarks, I note that all three suffer from the same overarching problem: They are not based on rates negotiated between willing buyers and willing sellers in the absence of a compulsory license. Rather, Professor Shapiro's proposed benchmarks based on the *SDARS II* and *Web IV* rates expressly rest on *regulated* rates. Generally speaking, economists – myself certainly included – believe that rates determined *via* the regulatory process should not be used as proxies (*i.e.*, benchmarks) for the outcomes that likely would arise between willing buyers and willing sellers in an unregulated marketplace, at least where a suitable marketplace benchmark is available. Indeed, Sirius XM's own experts in past cases have provided testimony consistent with this view. In *SDARS II*, for example, Roger Noll testified that "[T]he regulated rate is not a market-determined rate, so using it as a market-determined benchmark would be inappropriate."[6] Contrary to Professor Shapiro, who proposes using the *Web IV* rates to establish the rates in this

6 *In re* Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services (SDARS II), Volume II, Tr. 388:1-3 (June 6, 2012).

case, Dr. Noll rejected any suggestion that the *Web III* rates might be useful in the *SDARS II* case. Dr. Noll reasoned that the *Web III* rates were of no probative value because "they were determined by a regulatory process. They didn't meet the willing buyer/willing seller test."[7]

7. On this issue, at least, I am in accord with Dr. Noll. Where, as here, the objective is to predict the outcome of negotiations between willing buyers and willing sellers in an unregulated market, it is appropriate to begin, whenever possible, with information pertaining to agreements actually reached between willing buyers and willing sellers in an unregulated market. Only if such suitable market-based outcomes are not available should regulated rates be considered. In this case, of course, the market for the licensing of sound recordings to interactive subscription services provides a sound and reasonable source for benchmark rates (following appropriate adjustments), just as it has in past proceedings.

8. Professor Shapiro's reliance on direct licenses negotiated by Sirius XM suffers a similar flaw. Those licenses cannot be regarded as "willing buyer/willing seller" agreements for the simple reason that the licensors are compelled by statute to license their sound recording catalogs to Sirius XM. As a general proposition, when a seller (licensor) is stripped of the ability to refuse to license its intellectual property to a buyer (licensee), its negotiating posture will differ materially *vis-à-vis* a scenario in which it credibly can threaten to walk away. It thus follows that the outcome of negotiations that occur in the shadow of regulation cannot be reliably used to predict the outcome of hypothetical voluntary negotiations in an unfettered market environment.

9. Turning specifically to Professor Shapiro's first benchmarking approach, he advocates that the rates for the upcoming term should deviate from the extant 2017 percentage-of-revenue rate of 11% only if changes in pertinent marketplace conditions so justify. Professor Shapiro incorrectly concludes that the current 11% rate should serve as the upper bound of the range of reasonable rates in this proceeding. Conceptually, it makes little sense to push forward rates that were calculated using marketplace data that are now many years out of date, rather than starting afresh with current marketplace data. That is particularly true here because the rates set

[7] *Id.* 386:17-19.

in *SDARS II* were based to a material degree on the rates set in *SDARS I,* which in turn were based on the royalty rates and consumer prices that existed ten years ago in music distribution channels.[8] Importantly, pertinent marketplace conditions have shifted and evolved dramatically in the decade since the trial in the *SDARS I* case took place, rendering Professor Shapiro's first approach ill-advised. Even since the *SDARS II* proceeding, the digital music marketplace has proven highly dynamic, in particular with respect to the rapid and widespread consumer acceptance of interactive subscription services, as well as Sirius XM's continued growth and profitability.

10. Professor Shapiro's second approach suggests a rate based on the direct licenses entered into between Sirius XM and certain independent record labels. Professor Shapiro offers the direct licenses as a possible benchmark even though the central justification underlying his selection of the direct licenses as a benchmark – namely that the rate discounts supposedly reflect, to a material degree, steering or price competition – is not borne out by the evidence. The analysis prepared by Thomas Lys on behalf of SoundExchange demonstrates that a variety of non-statutory benefits unrelated to steering largely explain the rate discounts seen in the direct licenses.[9] It is also noteworthy that Professor Shapiro advances the direct licenses as a benchmark despite his inability to conclude that they are representative of the recording industry more generally. His reluctance in this regard is understandable, because a substantial number of the direct licensors are small labels that have minuscule or no presence on Sirius XM playlists. None offer the spectrum of the most popular hits that are important to Sirius XM's service. Under these circumstances, Professor Shapiro's use of the direct licenses as a potential source of benchmark rates is economically inappropriate.

11. In his third approach, Professor Shapiro uses the per-performance rate for non-interactive subscription services determined by the Judges in the *Web IV* proceeding to calculate

[8] Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services, 78 Fed. Reg. 23054, 23068 (2013) [hereinafter *SDARS II*]; *see also* Written Direct Testimony of Michael L. Katz 61, *In re* Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings (*Web IV*) [hereinafter *Katz Web IV* WDT] ("The figure reached in the SDARS II Decision was based on the SDARS I analysis").

[9] Written Rebuttal Testimony of Thomas Lys § II(C) (Feb. 17, 2017) ("Lys WRT").

a percentage-of-revenue rate for Sirius XM. While I view the *methodology* underlying the rate determination in *Web IV* as useful, I consider the *Web IV* rate itself to be of little probative value given that it was derived from marketplace information and data that have become increasingly obsolete since the *Web IV* proceeding. In particular, the Pandora-Merlin agreement that featured prominently in *Web IV* no longer exists, and has been replaced by a new market-determined agreement with substantially different terms.[10] More generally, the marketplace data and information that formed the basis for the rate determination in *Web IV* do not capture accurately the marketplace conditions of today. Here again, given the rapidly changing marketplace dynamics observed across music distribution channels, it makes little economic sense to eschew a rate determination methodology based on current marketplace data and information, and instead rely on a rate set in an earlier regulatory proceeding.

12. Another critical shortcoming of Professor Shapiro's third approach is its disconnection from marketplace realities. Despite his professed goal to offer a percentage-of-revenue rate for Sirius XM, calculated based on what he determines to be an appropriate per-subscriber rate for Sirius XM, Professor Shapiro's third benchmarking approach begins with per-performance rates.[11] Professor Shapiro's use of the per-performance rates as a starting point is, in several respects, highly problematic. First, it fails to account for recent marketplace agreements that provide direct evidence of the percentage-of-revenue and per-subscriber rates paid by services such as Pandora. Second, it necessarily rests on the assumption that per-performance rates have a meaningful role in the marketplace as far as determining the royalties paid by subscription services. That assumption is incorrect. The majority of agreements between subscription services and the major labels do not contain a per-performance royalty compensation mechanism, and even in those cases where a per-performance metric is present in

[10] *See* SoundExchange Ex. 164.

[11] One should immediately question the utility of Professor Shapiro's approach insofar as Sirius XM is unable to track the number of sound recordings to which its subscribers listen. Indeed, because he begins with a per-performance rate, Professor Shapiro is forced to employ an exceptionally labyrinthine sequence of calculations to generate a percentage-of-revenue rate for Sirius XM, including an estimate of Sirius XM plays per-subscriber that introduces needless imprecision into the exercise.

the contractual agreement, it is exceedingly rare for the service's royalty obligation to be determined using that metric.

13. In the remainder of this report, I present a detailed assessment of each of Professor Shapiro's three benchmark methodologies.

III. Assessment of Professor Shapiro's First Benchmark: Current Statutory Rates for Satellite Radio

A. Introduction

14. The initial benchmarking approach advanced by Professor Shapiro is based on the notion that the existing statutory rate – 11% of revenues for 2017 – should be left undisturbed, at least as an upper bound on a range of reasonable rates, unless changes in relevant marketplace conditions since the *SDARS II* proceeding have been sufficiently material to justify a higher rate beginning in 2018.[12] The three changes deemed relevant by Professor Shapiro concern (1) the growth in music streaming services; (2) Sirius XM's growth; and (3) purported developments in the upstream markets for the licensing of digital sound recording rights.[13] Based on his assessment of these changes, Professor Shapiro concludes that the 2017 rate of 11% properly is viewed as an upper bound on the reasonable royalty rate that should apply to Sirius XM in the upcoming 2018 to 2022 rate period.[14]

B. Analysis and Critiques

15. When juxtaposed with the rapid pace at which the digital music industry changes and evolves, Professor Shapiro's support for the *SDARS II* rate must be viewed with a healthy dose of skepticism. Professor Shapiro offers no defensible explanation why, as a matter of economics, a prior analysis of now stale marketplace agreements should be used to determine rates for the 2018 to 2022 period. Simply put, relative to older marketplace information that grows increasingly outdated with the passage of time, data and marketplace information from today will be far more informative about a reasonable royalty rate for Sirius XM to pay for the

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[12] Shapiro WDT 27; Shapiro Dep. 7.

[13] Shapiro WDT 28-31.

[14] *Id.* at 34.

2018 to 2022 period. This is especially so given that the *SDARS II* rate largely was derived from the rates determined in the *SDARS I* proceeding roughly a decade ago. In particular, the *SDARS II* Judges concluded that the "most likely upper ceiling" of the zone of reasonable rates was 12 to 13 percent;[15] the 13 percent figure was derived from the *SDARS I* decision.[16] In the decade since the *SDARS I* trial, the digital distribution of sound recordings has undergone rapid and material change along numerous dimensions, including the terms of royalty compensation found in license agreements, how consumers overall allocate their spending across available distribution channels, the entry and exit of services, and consumer prices. In such a dynamic environment, it defies economic reason to suggest, as Professor Shapiro effectively does, that information from a decade ago should undergird the determination of rates for Sirius XM over the five-year period beginning in 2018.

16. Beyond the fundamental disconnect between the highly dynamic nature of the digital music industry and Professor Shapiro's support for a licensing rate rooted in decade-old information, his first benchmarking approach should be rejected because of his flawed assessment of the marketplace changes he asserts are relevant.

17. With respect to streaming services, Professor Shapiro correctly notes their substantially greater consumer acceptance – and much greater importance to record industry revenues – today relative to 2012 when the *SDARS II* proceeding took place.[17] Nevertheless, he concludes that the increasing importance of streaming in terms of record company revenues does not suggest a change to the current statutory rate under the 801(b)(1) objectives.[18] As demonstrated by Professor Willig, however, both in his written rebuttal testimony and his written direct testimony, the opportunity costs associated with distribution through satellite radio, and by extension any changes in those costs, would impact directly the licensing rate negotiated by a record label and Sirius XM in an unregulated marketplace, *i.e.*, in the absence of the compulsory

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[15] *SDARS II* at 23,071.

[16] *SDARS II* at 23,068. *See also* Katz *Web IV* WDT 61 ("The figure reached in the SDARS II Decision was based on the SDARS I analysis").

[17] Shapiro WDT 28.

[18] Shapiro WDT 29.

licensing regime. The growth of streaming (and the accompanying decline in product sales), in short, has increased the record company opportunity costs associated with Sirius XM.

18. The second marketplace change identified as relevant by Professor Shapiro is the growth of Sirius XM. According to Professor Shapiro, Sirius XM's growth, and the more general improvement in its financial condition since the *SDARS II* proceeding, do not warrant a change to the extant statutory rate because the company's basic service has not changed and copyright holders earn greater royalties as Sirius XM's revenues grow due to the percentage-of-revenue rate that governs the determination of royalties.[19] Professor Shapiro's conclusion is misguided in two important respects. First, the rates determined in *SDARS I* and *SDARS II* were reduced downward by the Judges to account for Sirius XM's financial instability and future satellite platform investments.[20] From an economic standpoint, Sirius XM's more recent growth and profitability, and its optimistic forecasts of continued success, would be consistent with the removal from the current statutory rate of the downward adjustments imposed by the Judges in the first two SDARS proceedings.[21] Simply stated, Sirius XM's financial success alters the calculus on the Section 801(b)(1) objectives: a reduction in Sirius XM's royalty obligations to account for a few hundred million dollars in capital costs lacks a basis in sound economics when Sirius XM has the wherewithal and the willingness to distribute more than $7 billion to its shareholders.[22]

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[19] Shapiro WDT 29-30.

[20] *See* Determination of Rates and Terms for Preexisting Subscription Services and Satellite Audio Digital Radio Services, 73 Fed. Reg. 4080, 4097-98 (2008) [hereinafter *SDARS I*]; *SDARS II* at 23,069 ("In light of the substantial evidence in the record of the unique and substantial financial costs that Sirius XM has incurred and anticipates incurring over the license period to maintain and upgrade its distribution system, the Judges find that the most appropriate rate for the current license period will be somewhat below the 12% - 13%, which the Judges are reasonably confident represents the top of the zone of reasonableness.").

[21] Indeed, given that the record companies effectively subsidized Sirius XM's business for a number of years, the record companies reasonably can be viewed as investors in Sirius XM that now should share in the company's success. In other words, it would not be unreasonable to include in the royalty rate applied to Sirius XM revenues a normal rate of return on the record companies' earlier "investments" in Sirius XM. See Professor Lys' written direct testimony for a more complete discussion of Sirius XM's financial state. Written Direct Testimony of Thomas S. Lys Section II.B.2 (Oct. 19, 2016) [hereinafter Lys WDT].

[22] Lys WDT ¶ 55.

19. Second, the Judges have recognized that the buyer's willingness-to-pay is a factor in the rate-setting analysis.[23] Despite Professor Shapiro's acknowledgement that Sirius XM's financial performance has improved dramatically since *SDARS II*, he does not address the resulting implication that the company's willingness-to-pay has increased, likely by a substantial degree, over the last five or ten years.[24]

20. The final change identified by Professor Shapiro concerns developments in the licensing of digital sound recording rights. Here, Professor Shapiro focuses on the role played by steering in licensing negotiations across different digital music distribution channels. He concludes, erroneously in my view, that purported differences in steering across channels necessitate no increase to the current statutory rate, and indeed, if anything, support a downward adjustment. Two missteps in particular bear mention.

21. First, Professor Shapiro points to the direct licenses negotiated by Sirius XM as evidence of steering, and thus support for a lowering of the current statutory rate.[25] His argument is undermined convincingly by the evidence showing that steering was, at most, a minor factor in the Sirius XM direct deals.

22. Second, Professor Shapiro concludes incorrectly that steering is entirely absent in the interactive subscription marketplace. As discussed in my written direct testimony, there is evidence to support the proposition that interactive services have the ability to guide subscribers' listening behavior, including through service-generated playlists, merchandising of artists and musical works, and music recommendations.[26] In addition, the licensing agreements between interactive services and the major labels routinely contain provisions [[redacted]

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[23] *See* Determination of Royalty Rates and Terms for Ephemeral Recordings and Webcasting Digital Performance of Sound Recordings, 84 Fed. Reg. 26,316, 26,335 (May 2, 2016) [hereinafter *Web IV*] (addressing market segmentation by willingness-to-pay).

[24] Lys WDT ¶ 84 (showing that Sirius XM's gross margins have increased from 40 percent to 60 percent over ten years).

[25] Shapiro WDT 30.

[26] Orszag WDT ¶¶ 74-79.

[redacted].[27] While all such provisions place limits on the degree to which interactive services can steer, they reasonably would not be negotiated, and ultimately included in the agreements, if the interactive streaming services lacked the ability to steer.[28]

23. As a final point before moving on to Professor Shapiro's second benchmarking approach, I begin by setting aside the foregoing conceptual critiques of his first approach and confine my discussion to problems concerning its implementation. Specifically, even if a rate from prior proceedings is entertained as a reasonable upper bound on rates in this proceeding, the 11% rate for 2017 is not the appropriate starting point. Instead, the proper starting point is the per-subscriber rate calculated by the Judges in *SDARS I.*

24. As is evident from the *SDARS I* decision itself,[29] the Judges used marketplace agreements first to calculate a monthly per-subscriber rate of $1.40, which they then converted into a percentage-of-revenue rate by dividing the calculated per-subscriber rate by Sirius XM's average revenue per user ("ARPU"). This series of calculations yielded a percentage-of-revenue rate of 13 percent.[30] Because neither Sirius nor XM (which then were separate companies) had

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[27] *See, e.g.*, SoundX_000039149-321, at 198 [redacted]; SoundX_000107021-116, at 105 [[redacted]]; SoundX_000032113-138, at 123 [[redacted]]; SoundX_000035977-6024, at 5982, 5999 [[redacted]]; SoundX_000107198-286, at 217 [[redacted]].

[28] Even if the Judges conclude in this proceeding that the interactive services' ability to steer is limited or entirely lacking, that view does not support adoption of the *SDARS II* rate as an effective cap on rates going forward. As discussed later in this report, Professor Shapiro has not yet put forward any reliable evidence that Sirius XM has engaged in a significant degree of steering. Thus, insofar as the applicable steering adjustment is based on the difference in steering between the benchmark and target markets, no adjustment is warranted. On the other hand, if the Judges believe they are impelled to apply a steering adjustment, I believe a reasonable (and conservative) figure can be calculated using Sirius XM's direct licenses or, if necessary, the adjustment employed in *Web IV*. *See* ¶¶ 65-69 *infra*.

[29] *See SDARS I* at 4093.

[30] Such an analytical process is obvious from a reading of the *SDARS I* decision, as Sirius XM in other contexts has acknowledged: "In *Satellite I*, the Judges determined the top end of their reasonable rate range (13%) by taking the adjusted monthly per subscriber fee from interactive music services ($1.40) and dividing it by Sirius XM's average

achieved financial stability, the Judges found it appropriate under the fourth Section 801(b)(1) objective to "adopt a rate from the zone of reasonableness that is lower than the upper boundary most strongly indicated by marketplace data."[31] Now that Sirius XM is highly and consistently profitable across numerous relevant measures, the justification for such a deduction no longer exists.[32] Nor, as I explained above, is there any reason under the third Section 801(b)(1) objective to reduce rates to account for Sirius XM's anticipated satellite costs. Consequently, insofar as the determination of rates in *SDARS I* and *SDARS II* might inform the setting of rates in this proceeding, the appropriate starting point is the $1.40 per-subscriber rate from *SDARS I*.

25. If the *SDARS I* rate of $1.40 per subscriber is to be used in this case, two adjustments would be required in order to generate a current percentage-of-revenue rate for Sirius XM. The first is to account for increases in cost of living over the past decade, which can be accomplished in straightforward fashion by increasing the $1.40 per-subscriber figure by annual inflation figures. The second is to divide the resulting per subscriber rate into the relevant current ARPU figure for Sirius XM.[33] These calculations were performed by Thomas Lys in his written direct testimony in this case, and produced a percentage-of-revenue rate of 15.7%.[34]

26. To be clear, nothing in the foregoing discussion should be interpreted as an endorsement of Professor Shapiro's first benchmarking approach. I find that approach flawed as a conceptual matter and recommend its rejection. Nevertheless, in the event the Judges elect to consider its implementation, needless to say it should be implemented correctly.

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monthly subscription revenue (then $11.25)." Written Merits Rebuttal Submission of Sirius XM Radio Inc. 7, *SDARS I*.

[31] *SDARS I* at 4097.

[32] *See* Lys WDT ¶¶ 7, 55 (showing, among other things, that in 2015 Sirius XM earned net after tax income of $510 million and free cash flow of $1.32 billion).

[33] As explained in my written direct testimony, the relevant ARPU figure is derived using the pool of Sirius XM revenues against which the statutory rate will be applied.

[34] Lys WDT ¶¶ 18, 148, 151.

IV. Assessment of Professor Shapiro's Second Benchmark: Sirius XM Direct Licenses

A. Introduction

27. According to Professor Shapiro, the direct licenses between Sirius XM and certain independent record labels are "a natural first place to look for benchmarks."[35] Whether Professor Shapiro ultimately would conclude that the direct licenses are probative as benchmarks hinges on the role played by steering in the discounted rates.[36] If the discounted rates were driven in large measure by steering, then Professor Shapiro would deem the direct licenses useful for purposes of determining a reasonable royalty rate in this proceeding. Conversely, as Professor Shapiro concedes, the less important was steering's role in the discounted rates, the less informative are the direct licenses for purposes of setting a rate for Sirius XM.[37] In addition, Professor Shapiro expresses the opinion that the utility of the direct licenses for purposes of setting a rate for Sirius XM depends on the extent to which they are representative of the record companies overall. In the end, he is unable to conclude that the direct licenses are representative.[38]

B. Analysis and Critiques

28. Even if one accepts Professor Shapiro's proposed analytical framework (and I do not for reasons explained below), the Sirius XM direct licenses should be discarded as possible benchmarks. This is so because most of the relevant direct licenses were entered into for reasons other than steering. Even for those directly licensed labels for which the hope of steering may have been a factor in motivating consummation of a deal, steering likely accounted for only a modest portion of the rate discounts found in the direct licenses. In addition, there is no sound basis on which to conclude that the directly licensed labels are representative of the recording industry. This is especially the case when one limits consideration of this issue to those labels that signed direct deals perhaps in part due to the expectation of steering.

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[35] Shapiro WDT 34.

[36] Shapiro WDT 38; Shapiro Dep. 120:3-122:13.

[37] Shapiro WDT 38.

[38] Shapiro WDT 45-46; Shapiro Dep. 160:3-162:6.

29. Professor Shapiro's endorsement of the direct licenses as a valid benchmark hinges critically on his assertion that steering was a significant factor in the decision of labels to transact directly with Sirius XM. That assertion does not hold up under scrutiny. To begin with, as reported by Professor Lys, [[redacted]].[39] As Professor Shapiro correctly acknowledges, the rate discount potentially is explained by steering and a number of other factors. One factor besides steering that applies to all direct licenses is the administrative fee collected by SoundExchange from record labels operating under the statutory license. The SoundExchange administrative fee in 2015 was 4.6% of royalty revenues.[40] By virtue of entering into direct licenses, record companies avoid this fee, *i.e.*, they save the 4.6% of revenues that would be paid to SoundExchange pursuant to the statutory license. Thus, accounting only for the SoundExchange administrative fee, steering, on average, could account for a rate discount of no more than approximately [[redacted]].[41]

30. In terms of other non-steering benefits (which across the direct licenses include an improved ability to recoup artist-related expenses, upfront payments, royalty compensation for pre-1972 recordings, and differences in how a label's pro-rata share of performances is calculated), it is not possible from the available evidence to measure precisely their value. Nevertheless, as a first order approximation, it is reasonable to conclude that the portion of the average discount from the statutory rate that reasonably can be attributed to steering shrinks to a number substantially smaller than [[redacted]] once all non-steering benefits are considered.

31. To summarize my discussion thus far, [[redacted]] represents the absolute maximum average rate discount for which steering can account, and given the numerous other

[39] For 2016, Professor Lys reports an average direct license royalty rate of [[redacted]]. Lys WRT at Figure 7. This rate represents a roughly [[redacted]] discount from the 2016 statutory rate of 10.5%.

[40] Shapiro WDT 42.

[41] Calculated as follows: [[redacted]]. Note the term [[redacted]] represents the average rate discount across the direct licenses and the term "0.046" represents the SoundExchange administrative fee of 4.6% that directly licensed labels avoid paying.

non-steering benefits available from Sirius XM's direct licenses, the actual average rate discount accounted for by steering likely is far smaller.

32. I now briefly summarize an analysis of Sirius XM direct licenses prepared by Professor Lys, and discuss the economic implications of his findings with respect to the utility of the direct licenses as a benchmark in this proceeding. Professor Lys's analysis focuses on the 30 largest directly licensed labels, as measured by the royalties paid out by Sirius XM.[42] In my view, because these 30 labels account for all but a small percentage of directly licensed plays on Sirius XM, they are an appropriate focus of an assessment of the degree to which steering factored into the consummation of direct licenses. The evidence described by Professor Lys supports the proposition that the largest directly licensed labels entered into such agreements for reasons separate and apart from steering, including the following:

a. A substantial number of the top 30 directly licensed labels benefitted from Sirius XM's methodology of calculating royalties, which differs from the methodology that federal regulations require SoundExchange to use. As explained by Professor Lys, for any given number of plays, Sirius XM's royalty calculation methodology generated [[redacted]][43]

b. Another non-statutory (and non-steering) benefit delivered by the direct licenses relates to the fact that directly licensed labels receive 100% of the royalty payments from Sirius XM (as compared to the statutory license, under which 50% of the royalty payments are distributed to artists). [[redacted]

[42] [[redacted]]

[43] For those record companies that were disadvantaged by Sirius XM's payment methodology, Professor Shapiro infers that the payment methodology reduced the rate discount to which they were willing to agree. His inference depends on the assumption that a disadvantaged label would understand how Sirius XM's methodology would impact its royalty payment. [[redacted]]

[redacted]]

c. In his rebuttal testimony, Professor Lys notes a number of other factors unrelated to steering that led certain labels to reach direct deals with Sirius XM, including [[redacted]]

33. In sum, contrary to Professor Shapiro's assertion that steering is [redacted],[44] Professor Lys's analysis shows that, for most of the top 30 directly licensed labels, the prospect of being steered had limited influence on their decisions to reach direct licensing deals with Sirius XM.

34. Professor Lys's findings are consistent with the fact that Sirius XM's direct licenses contain no express provision related to steering. Rather, the purported steering that Professor Shapiro relies on for the utility of the direct licenses as benchmarks relates to the notion that record labels signing direct licenses with Sirius XM agreed to discounted rates in exchange for the hope or expectation that as a direct licensor the label might have greater access to Sirius XM programmers, which in turn might increase spins of the label's repertoire. That a label would extend a substantial discount to Sirius XM as *quid pro quo* for the uncertain prospect of greater airplay must be met with a healthy dose of skepticism. Furthermore, it should be clear that this particular variation of steering – improved access to Sirius XM programmers – credibly cannot be promised to all labels, for the simple reason that the amount of time Sirius XM programmers have available to speak with label representatives and listen to new sound recordings is finite. It likewise should be clear that this type of steering is not of equal value to all labels. In particular, because the majors and certain indies already enjoy a certain level of

[44] Shapiro Dep. 115:14.

access to Sirius XM programmers, the values they assign to additional access would differ from the valuations of smaller indies with no access prior to signing a direct license.[45]

35. Further support for Professor Lys's findings can be inferred from the absence of quantitative evidence from Sirius XM that it actually has engaged in steering. Sirius XM's silence in this regard stands in sharp contrast to the *Web IV* case, where Pandora presented testimony through Professor Shapiro and others that it had tested and confirmed its ability to steer, and later quantified the amount of steering actually implemented. The absence of such evidence in this proceeding is significant because in order for steering to induce labels to offer lower rates, the threat (or promise) of steering must be viewed by record labels as credible. Suffice to say the required credibility cannot be sustained (if it ever exists in the first place) without the buyer at some point demonstrating an actual ability and willingness to steer.

36. As noted at the outset of this section, the direct licenses properly cannot serve as benchmarks for the additional reason that the directly licensed labels are not representative of the recording industry overall. The Judges in *SDARS II* expressed concerns that the record companies with which Sirius XM had signed direct licenses were not representative of the music industry overall.[46] Professor Shapiro contends that such concerns in the present proceeding are attenuated by the increase in the number of direct licensors.[47] In service of this point, Professor Shapiro relies on Sirius XM witness testimony that directly licensed labels account for approximately 6.4% of the spins on Sirius XM.[48]

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[45] In support of this point is [[redacted]] SoundExchange Ex. 133, [[redacted]].

[46] Shapiro WDT 45.

[47] *Id.* at 45-46.

[48] *Id.* at 35. As Professor Shapiro notes, this percentage has more than doubled since *SDARS II*. Nevertheless, 6.4% is only a modest share of spins. Moreover, it is worth pointing out that while the direct licensor share of spins has

37. This 6.4% figure cited by Professor Shapiro actually overstates the importance of directly licensed sound recordings. First of all, it is calculated from a single month of spin data that is not representative of Sirius XM's use of directly licensed sound recordings more generally.[49] Second, it masks the fact that only around one percent of directly licensed sound recordings are ever played on Sirius XM.[50] Third, the importance (*i.e.*, value) of directly licensed sound recordings to Sirius XM's service, and ultimately to its subscribers, is better captured by the percentage of Sirius XM listenership accounted for by directly licensed content. The best measure of listenership currently available seems to be performances on Sirius XM's internet webcasting service.[51] For the most recent twelve months for which SoundExchange has data, directly licensed content accounted for [[redacted]] of such performances.[52] And finally, as discussed above, inasmuch as steering was not a demonstrable factor in the decisions of certain labels to sign direct licenses, they should be excluded from an assessment of whether the direct licensors are representative of the recording industry overall. Needless to say, as the group of direct licensors shrinks, a finding that they are representative becomes ever more difficult to sustain.

38. Use of the direct licenses as a benchmark is highly problematic for the additional reason that they reasonably cannot be considered the outcome of voluntary negotiations between a willing buyer and a willing seller. Professor Shapiro claims otherwise, seizing upon the notion that because no record label is obligated to sign a direct license with Sirius XM, the direct deals are, *per force*, the product of voluntary negotiations.[53] From an economic standpoint, his argument is untenable. Fundamentally, the presence of a compulsory licensing regime disqualifies the direct licenses from being considered the products of a negotiation between a

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more than doubled since *SDARS II*, the number of direct licensors has increased [[redacted]]. This indicates that the success of Sirius XM's direct licensing initiative increasingly is confined to very small and insignificant labels.

[49] Lys WRT ¶ 43.

[50] According to George White, Sirius XM direct licenses cover more than five million tracks. But of those, only 50,490 have been played by Sirius XM in the past. Written Direct Testimony of George White ¶ 5 (Oct. 19, 2016).

[51] As noted in my written direct testimony, a "spin" is one transmission of a song. A "performance" is one listen to one spin by one user.

[52] Lys WRT ¶ 43.

[53] Shapiro Dep. 187:15-188:16.

willing buyer and a willing seller. What a direct license reveals is that the record label licensor determined that it was better off under the terms of the direct license – with its discounted rate and non-statutory benefits – relative to the terms of the statutory license. The direct license does not establish that the label would have agreed to the same deal – including the licensing rate – in the absence of the prevailing regulatory backstop, *i.e.*, the statutory license.[54]

39. To conclude, it merits mention that because the rates in Sirius XM's direct licenses are linked closely to the statutory rate, Professor Shapiro's second approach mimics his first approach insofar as both seek to establish rates for the coming term based on the rates determined in *SDARS II*, and earlier in *SDARS I*. Viewed through this lens, the direct licenses are infected indirectly with the problems that render the existing statutory rate unsuitable as a benchmark in this proceeding.

V. Assessment of Professor Shapiro's Third Benchmark: *Web IV* Per-Performance Rate

A. Introduction

40. In his third benchmarking approach, Professor Shapiro uses the per-performance rate set for non-interactive subscription services in the *Web IV* proceeding as the basis for determining a percentage-of-revenue rate that should apply to Sirius XM for the five year period beginning in 2018. His calculation follows four steps, summarized as follows:

a) First, he uses Sirius XM listener survey results and performance data from Sirius XM's webcasting service to estimate the average monthly number of performances per Sirius XM subscription. He obtains an estimate of 469 performances.[55]

b) Second, he multiplies the performance estimate from step one (469) by the *Web IV* per-performance rate ($0.0022). He concludes that the resulting product, $1.032, represents Sirius XM's monthly per-subscriber royalty

[54] Generally speaking, because a record label does not have the ability to walk away from its negotiations with Sirius XM, i.e., it cannot refuse to license its sound recordings to Sirius XM, the direct licenses are not economically meaningful in terms of revealing the licensor's (seller's) bargaining position, and hence the terms the licensor willingly would accept in an unfettered marketplace.

[55] Shapiro WDT 51-54.

payment, were Sirius XM's royalty obligation determined using the *Web IV* per-performance rate.[56]

c) Third, he adopts a figure of $12.80 for Sirius XM's average monthly revenue per-subscriber, or ARPU.[57] This figure comes from "a Sirius XM financial document."[58]

d) Fourth, he divides the monthly per-subscriber royalty from step two ($1.032) by the ARPU figure obtained in step three ($12.80) to generate a percentage-of-revenue rate of 8.1% for Sirius XM.

B. Analysis and Critiques

41. Professor Shapiro's adoption of the *Web IV* per-performance rate is fundamentally flawed for a variety of reasons.

42. First, it is a mistake to rely on the *Web IV* rate, as distinguished from the *Web IV* methodology. The rate was derived from marketplace data and information that, with the passage of time, has grown increasingly disconnected from current marketplace realities. The *Web IV* methodology, on the other hand, remains sound and will continue to generate reasonable and reliable results so long as current market data are used.

43. Second, Professor Shapiro assumes that Sirius XM and subscription non-interactive webcasters each would pay the same per-performance rates in an unregulated marketplace. In reality, per-performance rates rarely determine the royalties paid by unregulated subscription services. Instead, consistent with the fact that the service's valuation of licensed music derives from the monthly fee subscribers are willing to pay to hear that music, percentage-

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[56] *Id.* at 54.

[57] I will note here in passing that Professor Shapiro uses an incorrect measure of ARPU. As discussed in my written direct testimony, for purposes of determining a rate for Sirius XM, ARPU should be calculated using the revenues on which Sirius XM will be assessed royalties under the statute. At his deposition, Professor Shapiro points out that, [[redacted]]. Shapiro Dep. at 102:4-14. This is true *only* so long as the revenue base used to calculate ARPU and, in the end, a percentage-of-revenue rate, is the same revenue base against which that percentage-of-revenue rate is applied. To ensure that the revenue base remains consistent, the optimal approach is to calculate the rate using the revenue base against which royalties will be assessed. In other words, Professor Shapiro's ARPU figure of $12.80 should be rejected.

[58] Shapiro WDT 54.

of-revenue or per-subscriber rates are typically the basis on which royalties are paid. Thus, even if one assumes there should be some equivalence in the royalties paid by Sirius XM and subscription non-interactive webcasters (an assumption I do not support for reasons described below), it is the per-subscriber or percentage of revenue rates that should be equivalent, not the per-performance rates. Professor Shapiro's calculations, based on the *Web IV* per-performance rates yield a per-subscriber payment of $1.03 for Sirius XM. This figure is exposed as lacking any sound economic basis when compared to [[redacted]]. This is especially so given that Sirius XM's per-subscriber revenues attributable to music are higher than [[redacted]].

44. Finally, the evidence suggests that in an unregulated market the record companies would be able to price discriminate and obtain higher royalties from Sirius XM compared to the royalties paid by non-interactive subscription webcasters. The reason is straightforward: Sirius XM earns higher margins than the non-interactive subscription webcasters, and in the absence of regulation, the record labels would be able to negotiate for some portion of those higher margins. I now consider in more detail each of the three principal flaws in Professor Shapiro's *Web IV* benchmark.

45. In *Web IV*, the Judges set a rate for non-interactive subscription services based on market data pertaining to interactive subscription services, and on the then-current licensing agreement between Pandora and Merlin. Contrary to Professor Shapiro's view that relevant marketplace conditions have been reasonably static since the *Web IV* proceeding, the evidence reveals material marketplace developments that substantially undermine the probative value of the *Web IV* rate (again, as distinct from the *Web IV* methodology) in determining a rate for Sirius XM.

46. The first material development to address is the recent licensing agreement between Pandora and Merlin that replaces the agreement that prevailed at the time of the *Web IV* proceeding. Unlike the old agreement, [[redacted]

[redacted].]

47. In any event, the Merlin/Pandora agreement whose per-performance rates were used by the Judges in setting the *Web IV* rates no longer exists. In its place is an agreement under which [[redacted].] Both of these rates are far removed from the $1.03 per subscriber and 8.1 percent of revenue that Professor Shapiro calculates for Sirius XM.

48. In addition to the then-current Pandora/Merlin per-performance rates, the Judges in *Web IV* used as a marketplace benchmark a set of agreements between the major record companies and interactive streaming services. As discussed in my written direct testimony, I also used such agreements (albeit a more current set relative to the materials available in *Web IV*) as a benchmark to develop an appropriate rate. Here, the utility of maintaining the methodology accepted by the Judges in *Web IV* without similarly carrying forward the *Web IV* rates becomes clear. In short, the *Web IV* methodology remains economically sound, but it will fail to generate reliable results if it is applied to outdated marketplace information. As discussed in my written direct testimony, my analysis of current marketplace information pertaining to the benchmark interactive services shows that the services pay royalties equal to roughly [[redacted]] of revenues.[59] From the actual royalties paid by the benchmark services, I derived for Sirius XM a percentage-of-revenue rate of between roughly 22% and 24%.[60] Compared to the 8.1% rate recommended

[59] Orszag WDT ¶ 54, n.51.

[60] Orszag WDT ¶ 67.

by Professor Shapiro, the only defensible conclusion to draw is that his rate is untethered from current market data.[61]

49. Turning to my second criticism of Professor Shapiro's *Web IV* benchmark, his approach mistakenly relies on an assumption that Sirius XM should – and in an unregulated market would – pay the same effective per-performance rates as those paid by subscription non-interactive services. Such an assumption is contrary to marketplace evidence.

50. Given Professor Shapiro's stated goal of developing a percentage-of-revenue rate for Sirius XM, he first needed to calculate a per-subscriber rate for Sirius XM. He did so by estimating the number of performances per-Sirius XM subscriber, and then multiplying that figure by the per-performance rates established in *Web IV*. Professor Shapiro did not present any calculations of Pandora's royalty payments on a per-subscriber basis. The process he followed effectively assumes that each performance on Pandora's subscription service should bear the same royalty as a performance on Sirius XM. Or stated differently, if the average number of performances per subscriber are different as between Sirius XM and Pandora, then their effective per-subscriber rates likewise will be different.

51. Professor Shapiro's approach implicitly assumes that in the unregulated marketplace royalties for subscription services are determined by the average number of performances per-subscriber. Such an assumption is simply not correct. In fact, per-performance rates almost never determine royalty payments. The agreements between the benchmark interactive services and the three major labels calculate royalties [[redacted]].[62] The

[61] In response, I would expect Professor Shapiro to assert that interactive services properly cannot serve as a benchmark due to a putative absence of effective competition. As discussed herein (*see supra* ¶ 22), and in my written direct testimony (Orszag WDT ¶¶ 74-79), there is available evidence that casts doubt on this opinion. However, even if one accepts (erroneously in my view) the proposition that the licensing of digital sound recording rights to the interactive services is not workably competitive, a straightforward method of adjustment is available, using as a benchmark either the level of steering found to exist as a result of the Sirius XM direct licenses, or the 12% steering adjustment employed by the Judges in *Web IV*. In other words, there is no sound reason to jettison the interactive services as a benchmark.

[62] [[redacted].]

majority of these agreements do not include a per-performance rate.[63] Similarly, the new agreements between [[redacted]].

52. In the minority of cases where subscription services agreements [[redacted]].[64]

53. The fact that [[redacted]].[65] In the case of ad-supported services, it is logical to think that the

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[63] Specifically, [[redacted].]

[64] The average is weighted by actual royalty payments made by the services.

[65] In my written direct testimony, I assessed the value of sound recordings to Sirius XM subscribers, compared to the value of non-music content. *See also* SoundExchange Ex. 163 (SXM_DIR_00027532-00027580). Sirius XM may argue, as it has in the past, that its network also has a separate and quantifiable value. It is clear, however, that subscribers would assign a value of zero to Sirius XM's network but for the availability of music and non-music content. The notion that Sirius XM's satellite-based delivery platform does not provide value separate and apart from the content itself is supported by the fact that Sirius XM charges the same price for its Sirius Select and Internet Radio packages. *See* Sirius XM, Our Packages, http://www.siriusxm.com/ourmostpopularpackages?intcmp=2016HPGetStartedNow-v1-Tab-2 (last visited Feb. 16, 2017). Were the company to view its satellite network as offering incremental value to its service over and above the content itself, such pricing would seem irrational. In fact, there is evidence that Sirius XM does not view its satellite network as offering value independent of the content it distributes to subscribers. As explained by David Frear, Sirius XM's CFO, [redacted] *See* Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services (SDARS II), Volume II, Tr. 666:5-11 (June 7, 2012). Second, there is no marketplace evidence that

revenue generated would be directly related to the number of performances, because more performances results in more ad impressions. But that connection between the number of performances and revenues arguably is not as tight for subscription services. Sirius XM, for example, is used primarily in the car. The fact that most listening occurs in-vehicle plausibly limits the average number of performances per-subscriber, for the straightforward reason that time spent in-vehicle is, itself, limited. However, in-vehicle listening (performances) conceivably is particularly valuable because a driver's entertainment options are limited to audio content, and music is the audio content Sirius XM subscribers prefer. Subscription non-interactive streaming services, on the other hand, arc used at home, in the office, and *via* various mobile applications, which plausibly would facilitate a subscriber's ability to use the service. Sirius XM surveys indicate [[redacted]].[66] Thus, each individual performance may be relatively less valuable to the subscriber, compared to Sirius XM plays.

54. In short, the value of a subscription service to subscribers may not be linked in any direct and linear way to the number of performances per-subscriber. In addition, marketplace agreements leave no doubt royalties paid to record companies by subscription services are determined [[redacted]]. The conclusion that follows from this analysis is that if Sirius XM and subscription webcasters should pay equivalent royalties, as Professor Shapiro suggests, the equivalency should obtain on a per-subscriber or percentage of revenue basis, not on a per-performance basis.

55. Under recently negotiated deals with the three majors and Merlin, Pandora and iHeart Radio now pay [[redacted]]

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a service provider's investments in its delivery platform (including its user interface, recommendation algorithms, and so on) are carved out of its revenue base before the royalties owed to copyright holders are calculated. Rather, insofar as these investments result in an offering more highly valued by consumers, as reflected ultimately in the service's price and demand, both copyright holders, through higher royalties, and the service, through higher revenues, will benefit.

[66] *See* SXM_DIR_00024168-24198, at 24183.

[redacted].[67] Insofar as the mid-tier services of iHeart and Pandora reasonably can be characterized as offering greater interactivity relative to Sirius XM, I consider it implausible that the differential would have a significant impact on consumer valuations that would, in turn, have a significant impact on per-subscriber rates.[68] In any case, it is clear that modest additional interactivity could not possibly account for [[redacted]] and the per-subscriber amount proposed for Sirius XM by Professor Shapiro ($1.03).

56. To sum up, in the marketplace, neither per-performance rates nor performance counts are used to determine royalty obligations for subscription services. For that reason, it makes no economic sense to determine a rate for Sirius XM using a benchmarking approach

[67] At my deposition in this case, [[redacted].] Since then, I and staff working under my direction reviewed documents pertaining to negotiations between the major record labels, Pandora, and iHeart. That review yielded no evidence to support this thesis. Moreover, Merlin [[redacted]].

[68] Importantly, Sirius XM offers some level of customization. Sirius XM subscribers cannot seed their own stations, but they do have the ability to control their listening experience in ways not available from non-interactive subscription services. For example, Sirius XM offers a number of artist-centric stations whose programming centers around, or in some cases, is confined to, the musical works of a single artist. Examples include the Grateful Dead Channel, Elvis Radio, Pearl Jam Radio, Radio Margaritaville, and Tom Petty Radio. *See* Sirius XM, Program Schedules, http://www.siriusxm.com/programschedules?hpid=01050006 (last visited Feb. 16, 2017). How this compares to the functionality now offered by Pandora and iHeart is difficult to measure with precision. Perhaps the best way to assess this issue is simply to look at the subscription prices that consumers are willing to pay. Pandora and iHeart are priced at $4.99 per month, whereas I estimated in my written direct testimony that the value of music content on Sirius XM, even under a highly conservative assumption regarding the portion of service value accounted for by music content, is $5.61. Any differences in functionality between Sirius XM and the current Pandora and iHeart mid-tier services do not appear to cause a substantial difference in the way consumers value the services.

based on per-performance rates.[69] Simply stated, such an approach is disconnected entirely from marketplace realities.

57. My third criticism of Professor Shapiro's *Web IV* benchmark relates to the likelihood that record companies, in an unregulated market, would price discriminate such that they would charge more to Sirius XM compared to non-interactive webcasters. As economic textbooks discuss, a fundamental concept for pricing in differentiated product industries, such as the music industry, is the direct inverse relationship between a firm's profit margin and its elasticity of demand. This concept is called either the Lerner Index or Lerner Equation. The testimony of Professor Lys demonstrates that Sirius XM earns substantially higher margins than Pandora's non-interactive subscription service.[70] It follows that the elasticity of demand is lower for Sirius XM relative to subscription non-interactive webcasters – and there is support for that conclusion.[71] The key takeaway from the perspective of unfettered licensing negotiations is that Sirius XM's higher margins likely would result in a greater royalty obligation *vis-à-vis* subscription webcasters because the record labels would be able to negotiate a split of those higher margins.

58. In addition, as discussed previously, the degree of steering engaged in by Sirius XM is considerably less than that found by the Judges in *Web IV* with regard to non-interactive streaming services. The combination of these factors likely would cause the record companies to charge Sirius XM royalties that were higher than the royalties charged to subscription webcasters. I have made no effort to quantify these effects, but directionally they suggest a higher royalty than those determined by the Judges in *Web IV* for non-interactive subscription services, and indeed higher relative to the rates observed in the recent Pandora and iHeart deals.

59. To conclude my assessment of Professor Shapiro's *Web IV* benchmark, I note that his application of the *Web IV* per-performance rate is needlessly complex and convoluted. Given

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[69] Professor Shapiro's embrace of per-performance rates is puzzling given his testimony at the *Web IV* hearing that a percentage-of-revenue rate is preferable (relative to per-performance or per-subscriber) when dealing with an established service, and that a per-performance rate would be "transitional" at most. Shapiro *Web IV* WDT 20-22.

[70] *See* Lys WDT ¶¶ 119-123.

[71] Willig WDT ¶¶ 34, 44.

Sirius XM's inability to track performances,[72] a benchmarking approach that relies on a per-performance metric requires estimations of subscribers' listening habits that may or may not correspond closely to reality. For this reason, as well as the reasons previously discussed, it makes little sense to derive a rate for Sirius XM based on a per-performance rate when it is straightforward to begin the calculation with a percentage-of-revenue rate, as I do in my written direct testimony.[73]

VI. Sirius XM Free Trials

60. Professor Shapiro's written direct testimony, in my opinion, is incomplete because it fails to assess whether Sirius XM's ability to offer free trials without compensating copyright holders is consistent with sound economics.[74] As articulated in my prior written testimony, consistent with current market information regarding the benchmark interactive subscription services, Sirius XM should pay royalties on its free trial subscribers. In terms of how specifically Sirius XM's royalty obligation should be structured, there are three elements to contemplate: when royalty payments begin, the unit of payment, and the payment amount. The first two items are resolved in my earlier testimony. Sirius XM should be required to pay royalties after the first 30 days of free trials,[75] and royalties should be assessed on a per-subscriber basis.[76]

61. With respect to the payment amount, it is appropriate to adjust the headline rate to account for differences in the willingness-to-pay as between free trial subscribers and self-pay

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[72] Because Sirius XM is unable to track performances, Professor Shapiro is forced to estimate monthly performances per-subscriber using survey data and data pertaining to listening behavior on the company's internet service. This estimate, rendered necessary only by Professor Shapiro's computational approach, introduces imprecision that readily could be avoided.

[73] As noted earlier, under the current Merlin-Pandora deal, [[redacted]].

[74] Asked at his deposition about Sirius XM possibly paying royalties on free trials, Professor Shapiro indicated that this was [redacted]] Shapiro Dep. 96:7-8.

[75] Orszag Amended WDT ¶¶ 87-88.

[76] *Id.* at ¶¶ 89-90.

subscribers (*i.e.*, subscribers who pay for the service).[77] Such differences clearly exist insofar as all self-pay subscribers, by definition, are willing to pay for the service at prevailing prices, while only some portion of free trial subscribers ultimately demonstrate a willingness-to-pay for the service at prevailing prices. In other words, free trial subscribers, on average, have a lower willingness-to-pay for satellite radio, relative to self-pay subscribers, and Sirius XM's royalty obligation for free trials arguably should reflect the differential.

62. Consistent with the principle of ratio equivalency, the difference in consumers' average willingness-to-pay between two services should track reasonably well with the difference between effective royalty rates. This is the case because the royalty terms to which a service is willing to agree in the upstream market for sound recording rights are a function of the demand for the service in the downstream market, as reflected in consumers' willingness-to-pay for the service.[78] With this framework in mind, I used royalty payment data for Slacker and Spotify[79] to estimate a reasonable differential in willingness-to-pay as between Sirius XM self-pay subscribers and Sirius XM free trial subscribers. For Slacker, I calculated the weighted average effective per-performance rates for the ad-supported and non-interactive subscription

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77 [[redacted].] *See* Shapiro Dep. 96:1-19.

78 I understand that the Judges set different rates for subscription and ad-supported non-interactive services to account for differences in consumers' willingness-to-pay for the two services, thereby adhering to the principles of ratio equivalency. *See Web IV* 67-71.

79 Slacker data taken from SoundX_000044685; SoundX_000044687; SoundX_000044689; SoundX_000044691; SoundX_000044693; SoundX_000044695; SoundX_000046145; SoundX_000046160; SoundX_000046182; SoundX_000046203; SoundX_000046225; and SoundX_000046244. Spotify data taken from SoundX_000044766; SoundX_000044767; SoundX_000044768; SoundX_000044769; SoundX_000044771; SoundX_000044772; SoundX_000047424; SoundX_000047425; SoundX_000047426; SoundX_000047427; SoundX_000047428; SoundX_000047429; SoundX_000062117; SoundX_000062119; SoundX_000062121; SoundX_000062123; SoundX_000062125; SoundX_000062127; and SoundX_000062129. For both services the data cover the first six months of 2016. Spotify data capture royalty payments to the three major labels. Slacker data capture royalty payments to Sony and UMG; the Warner statements do not include royalty information for Slacker's non-interactive subscription service. (Note the service identified as "Tier 1a" on the Slacker/Warner royalty statements is not Slacker's non-interactive subscription service; Tier 1a refers to cached performances on Slacker's basic radio (ad-supported) service.)

tiers[80] and obtained a ratio of [redacted].[81] For Spotify, I ran the same calculation using royalty payment data pertaining to its ad-supported and premium on-demand tiers and obtained a ratio of [redacted].

63. In terms of how Sirius XM's royalty obligation would be calculated under my framework, I offer the following quick illustration. For the fourth quarter of 2016, Sirius XM reported a free trial conversion rate of [redacted].[82] It is reasonable to assume that this [redacted] has, on average, the same willingness-to-pay as do Sirius XM's self-pay subscribers, on average. I use the results of my analysis of Slacker's royalty payment data[83] to estimate that the remaining [redacted]. From here, the headline per-subscriber rates, which range from [redacted][84] in order to derive the per-subscriber rates that appropriately should be applied to Sirius XM free trials beginning in their second month. Those rates range from [$[redacted]] to [$[redacted]]. I should note that using Spotify's data would yield higher per-subscriber rates, specifically [$[redacted]] to [$[redacted]].[85]

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[80] The ad-supported and non-interactive subscription tiers of service are reasonable comparables for Sirius XM's self-pay and free trial subscribers. Just as the ad-supported tier of Slacker is a free-to-the-consumer version of the non-interactive subscription tier, so too is a Sirius XM free trial a free-to-the-consumer version of the Sirius XM service. Admittedly, the comparison is imperfect. While the service obtained with a free trial to Sirius XM is identical to the service available with a self-pay subscription, there are differences between subscription and ad-supported versions of non-interactive services. Likewise, I am not aware of any time limits on a consumer's use of an ad-supported non-interactive service, while Sirius XM free trials are of finite durations. Nevertheless, I view my methodology as providing a reasonable means by which to account for differences in willingness-to-pay when calculating Sirius XM's free trial royalty obligation.

[81] In other words, the weighted average effective per-performance rate for the ad-supported service was [redacted] of the weighted average effective per-performance rate for the non-interactive subscription service.

[82] http://investor.siriusxm.com/investor-overview/press-releases/press-release-details/2017/SiriusXM-Reports-Fourth-Quarter-and-Full-Year-2016-Results/default.aspx.

[83] I use the results obtained from Slacker's data to be conservative.

[84] Calculated as follows: [redacted].

[85] Using Spotify's data, my headline per-subscriber rates of [$[redacted]]. That figure is calculated as follows: [redacted].

64. To conclude, confronted with a royalty obligation for free-trial subscribers, Sirius XM might elect to recalibrate its free trial program in ways designed to lower its royalty burden (for example, by shortening the average free trial period), and to increase its conversion rates (for example, by requiring free trial subscribers to provide credit card information). Relatedly, because Sirius XM can change the parameters and requirements of its free trial program, it would be appropriate to allow for the calculation to change on either a quarterly or annual basis with the changing nature of Sirius XM's free trial program (*e.g.*, if its conversion rate rises or falls, the rate could change accordingly). Insofar as Sirius XM considers my proposal uneconomical, there are multiple levers the company can use to reduce its royalty obligation. Indeed, under my proposal, Sirius XM can avoid paying royalties altogether simply by aligning its practices with the benchmark interactive subscription services and limiting its free trials to no more than 30 days.

VII. Possible Steering Adjustments to Benchmark Rate Calculations

65. In my written direct testimony, I reduced my headline royalty rates by [[redacted]] to account for the potential effect of steering on interactive subscription service benchmark rates. That [[redacted]] figure, as I explained, represented a reasonable upper bound estimate because it was equal to the weighted average rate discount found in Sirius XM's direct licenses. In other words, it assumed that the entire discount observed in Sirius XM direct deals was attributable to steering (even though there was substantial evidence that the portion of the total discount resulting from steering was, in fact, considerably lower). I now consider [[redacted]] to be in excess of any reasonable upper bound steering adjustment. I present several alternative steering adjustments in the remainder of this section.

66. Strictly as a matter of sound economics, the appropriate steering adjustment for this proceeding should be driven by a comparison of the relative steering capabilities of the target and benchmark services.[86] If the evidence demonstrates that Sirius XM has a greater ability and incentive to steer, then benchmark rates drawn from the interactive services realm should receive a downward adjustment corresponding to the magnitude of the steering

[86] This is consistent with the approach taken by the Judges in assessing whether differences in promotion and substitution effects between the target and benchmark services mandate an adjustment to benchmark rates.

difference. On the other hand, if the difference in steering capabilities and incentives tilts in favor of the interactive services, or is equivalent (or nearly so) across the two service types, then a steering adjustment is not needed.

67. Based on my analysis of steering to date, I see no compelling reason to conclude that Sirius XM enjoys a greater ability or incentive to steer relative to the benchmark interactive services. While Professor Shapiro offers a stylized example purporting to show that Sirius XM's steering capabilities are significant,[87] he presents no analysis of the extent to which Sirius XM actually has engaged in steering. Similarly, Professor Shapiro is of the opinion that Sirius XM's direct licenses provide evidence of a significant ability to steer, and also evidence of material price competition related to steering. As discussed above, however, the analysis prepared by Professor Lys demonstrates that steering by and large was a minor to nonexistent factor in the consummation of the direct licenses. Moreover, Sirius XM's ability to steer was insufficient to convince a substantial number of record labels, including the three majors, to sign direct licenses.[88] All in all, there simply is no sound basis to conclude that Sirius XM's steering capabilities or incentives are significant, or that Sirius XM has been able to use steering to engender significant price competition below the level of the current statutory license rate.

68. With respect to the interactive services, I discussed earlier (*see* ¶ 22 *supra*) the evidence pertaining to their steering capabilities. Such evidence does not allow for a quantitative assessment of the interactive services' steering capabilities, but it does, in my view, support the proposition that those capabilities are at least roughly equivalent to the capabilities of Sirius XM. Consequently, my overarching conclusion with regard to steering is that no adjustment is required.

[87] Shapiro WDT 39-40.

[88] Steering's status as a minor factor in Sirius XM's direct licenses plausibly is due in part to the difficulties associated with its measurement. Unlike with Pandora, which used a control group of subscribers (*i.e.*, the Pandora algorithm was applied without adjustments) to measure the magnitude of steering undertaken with respect to all other subscribers, Sirius XM does not seem to have at its disposal a reliable method with which to measure the amount of steering that occurs. Indeed, it is not even clear from Sirius XM's filings in this case how it would define steering in a way that enjoys quantitative properties. Needless to say, the possibility of improved access to programmers does not suffice.

69. With that said, if the Judges decide that a comparison of the steering abilities of Sirius XM and the interactive services is not the appropriate rubric, then I consider Sirius XM's direct licenses as offering the next best alternative. As explained above (*see* ¶¶ 29-31 *supra*), based on Sirius XM's direct licenses the maximum possible rate discount attributable to steering is around [[redacted]]. In Table One below, I present my two benchmark rates without any adjustment for steering, and with a six percent steering adjustment. I also provide rates that reflect a 12% steering adjustment, in case the Judges decide that their approach to steering in the *Web IV* proceeding should be used here as well.

Table One: Summary of Royalty Rates for Sirius XM

	Approach One		Approach Two	
Steering Adjustment	Pct of Revenue	Per-Subscriber	Pct of Revenue	Per-Subscriber
None	28.0%	$3.00	25.7%	$2.76
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
12%	24.6%	$2.64	22.7%	$2.43

VIII. Concluding Remarks

70. Having reviewed carefully the written direct testimony and deposition testimony of Professor Shapiro, I maintain my opinion that interactive subscription services represent the most appropriate benchmark for purposes of setting a rate in this proceeding. The three benchmarking methodologies proposed by Professor Shapiro are deeply flawed and thus incapable of generating a royalty rate for Sirius XM that falls within a reasonable range.

Appendix A - List of Materials Relied Upon

Testimony of Jonathan Orszag, February 17, 2017

<u>Expert Materials</u>

Written Direct Testimony of Jonathan Orszag, October 19, 2016

Amended Written Direct Testimony of Jonathan Orszag, January 5, 2017

Written Direct Testimony of Carl Shapiro, October 19, 2016

Written Direct Testimony of George White, October 19, 2016

Written Direct Testimony of Robert Willig, October 19, 2016

Written Direct Testimony of Thomas S. Lys, October 19, 2016

Written Rebuttal Testimony of Thomas S. Lys, February 17, 2017

Written Direct Testimony of Michael L. Katz, on behalf of the National Association of Broadcasters, *In re Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings* (Web IV), Docket No. 14-CRB-0001-WR (2016-2020), October 7, 2014

Written Direct Testimony of Carl Shapiro, on behalf of Pandora Media, Inc., *In re Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings* (Web IV), Docket No. 14-CRB-0001-WR (2016-2020), October 7, 2014

Written Merits Rebuttal Submission of Sirius XM Radio Inc., *In the Matter of Adjustment of Rates and Terms for Preexisting Subscription and Satellite Digital Audio Radio Services*, Docket No. 2006-1 CRB DSTRA, July 27, 2007

<u>Depositions</u>

Deposition of Jonathan Orszag, January 17, 2017

Deposition of Carl Shapiro, December 16, 2016

<u>Legal</u>

Determination of Rates and Terms for Preexisting Subscription Services and Satellite Audio Digital Radio Services (SDARS I), 73 Fed. Reg. 4080, 4097-98 (2008)

Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services (SDARS II), 78 Fed. Reg. 23054, 23071 (2013)

Determination of Royalty Rates and Terms for Ephemeral Recordings and Webcasting Digital Performance of Sound Recordings (Web IV), 84 Fed. Reg. 26316

In re Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings (Web IV), Docket No. 14-CRB-0001-WR (2016-2020)

Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services (SDARS II), Transcript, June 6, 2012

Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services (SDARS II), Transcript, June 7, 2012

Websites

"Our Packages," Sirius XM Radio Inc., 2017, available at <http://www.siriusxm.com/ourmostpopularpackages?intcmp=2016HPGetStartedNow-v1-Tab-2>, accessed February 15, 2017

"Program Schedules," Sirius XM Radio Inc., 2017, available at <http://www.siriusxm.com/programschedules?hpid=01050006>, accessed February 15, 2017

"SiriusXM Reports Fourth Quarter and Full-Year 2016 Results," Sirius XM Radio Inc., 2017, available at <http://investor.siriusxm.com/investor-overview/press-releases/press-release-details/2017/SiriusXM-Reports-Fourth-Quarter-and-Full-Year-2016-Results/default.aspx>, accessed February 15, 2017

Bates-Numbered Documents and Data

SXM_DIR_00024168–2419	SoundX_000044691	SoundX_000044772
SXM_DIR_00099544	SoundX_000044693	SoundX_000046145
SoundX_000032113	SoundX_000044695	SoundX_000046160
SoundX_000035977	SoundX_000044766	SoundX_000046182
SoundX_000039149	SoundX_000044767	SoundX_000046203
SoundX_000044685	SoundX_000044768	SoundX_000046225
SoundX_000044687	SoundX_000044769	SoundX_000046244
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Per-Performance Fees
Comparison 2017-02-16.xls

I declare under penalty of perjury that the foregoing testimony is true and correct.

Date: 2/17/17

Jonathan Orszag

Exhibits Sponsored by Jonathan Orszag

Exhibit No.	Description	Designation
SX Ex. 163	[Redacted]	Restricted
SX Ex. 164	[Redacted]	Restricted