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**Before the
COPYRIGHT ROYALTY BOARD
LIBRARY OF CONGRESS
Washington, D.C.**

In the Matter of:

**Digital Performance Right in Sound
Recordings and Ephemeral Recordings**

**Docket No. 2009-1
CRB Webcasting III**

**AMENDED TESTIMONY OF
GREGORY ROSSTON**

February 16, 2010

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

In the Matter of:

Digital Performance Right in Sound
Recordings and Ephemeral Recordings

Docket No. 2009-1
CRB Webcasting III

NOTICE OF AMENDED TESTIMONY OF GREGORY ROSSTON

RealNetworks, Inc. (“RealNetworks”), by its attorneys, respectfully submits the accompanying amended testimony of Gregory Rosston (and exhibits) in support of its requested rates and terms for the statutory license authorizing digital public performances of sound recordings under 17 U.S.C. §§ 114(d)(2) and 114(f)(2) and ephemeral copies in the furtherance of such performances under 17 U.S.C. § 112(e) for the term beginning January 1, 2011, and ending December 31, 2015.¹

RealNetworks filed its Written Direct Statement with the Copyright Royalty Judges on September 29, 2009. Discovery in this proceeding concluded on January 29, 2010. Pursuant to 37 C.F.R. § 351.4(c), RealNetworks hereby amends its Written Direct Statement by submitting the amended testimony of its expert witness, Dr. Rosston. As required by § 351.4(c), and as explained below, this amended report is “based on new information received during the discovery process” – specifically, documents produced in discovery by SoundExchange, Inc.

¹ RealNetworks’ submission of Dr. Rosston’s Amended Written Direct Testimony has two components: (1) an original and the requisite number of copies of a complete **unredacted** version, and (2) the requisite number of copies of a complete **public** version.

("SoundExchange") and the deposition testimony of SoundExchange's expert witness, Michael Pelcovits.

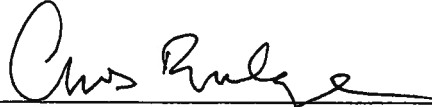
In his initial report, Dr. Rosston noted several times that he hoped to gain additional information through discovery to incorporate into his analysis. Dr. Rosston has removed such references from his amended statement, and he has also incorporated information he has learned through agreements, data, and deposition testimony produced by SoundExchange in discovery. In particular, Dr. Rosston has updated his discussion of agreements waiving the performance complement restrictions in Sections I.C and IV.D of his statement; updated his description (in footnote 17) of the agreements under which Slacker webcasts; added a footnote to Section IV.B (in which he adjusts the NAB Agreement to derive proposed rates for this proceeding) to discuss adjustments that would result from using the demand elasticity figures that Dr. Pelcovits described in his deposition; and employed updated data in the regression analysis in Section V, which he describes in greater detail in a new Exhibit 3.

None of the information Dr. Rosston reviewed in connection with his amended report alters any of the central conclusions of his initial report. Indeed, the information from SoundExchange that Dr. Rosston reviewed reinforces the conclusions he reached in his initial report.

The amended report filed today replaces Dr. Rosston's initial report that RealNetworks included in its initial Written Direct Statement. In all other respects, RealNetworks's initial Written Direct Statement remains unchanged.

Dated: February 16, 2010

Respectfully submitted,



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AMENDED TESTIMONY OF GREGORY ROSSTON

February 16, 2010

I. Introduction

A. Statement of the Problem

I have been retained by counsel for RealNetworks, Inc. (“Real”) to study the marketplace for the non-interactive performance of sound recordings on the Internet. The goal of the analysis is to determine a reasonable rate for the compulsory license for digital audio recordings under the statutory licenses set forth in 17 U.S.C. § 114(d)(2) and (f)(2) for the period beginning January 1, 2011, and ending December 31, 2015. My understanding is that the Copyright Royalty Board (“CRB”) is required to determine a rate (or set of rates) that “most clearly represent[s] the rates and terms that would have been negotiated in the marketplace between a willing buyer and willing seller.”¹

B. Qualifications

I am Deputy Director of the Stanford Institute for Economic Policy Research (“SIEPR”) and Deputy Director of the Public Policy program at Stanford University. I am also a Lecturer in the Economics Department at Stanford University. I received my Ph.D. and my M.A. in economics from Stanford University and my A.B. with Honors in economics from the University of California, Berkeley. My specialties include industrial organization, antitrust and regulation with an emphasis on telecommunications. I served at the Federal Communications Commission (“FCC”) for three and one-half years as Deputy Chief Economist, as Acting Chief Economist of the Common Carrier Bureau and as a Senior Economist in the Office of Plans and Policy. In

¹ 17 U.S.C. § 114(f)(2)(B).

these positions, I had significant involvement with, among other things, the FCC's implementation of areas of competition and Internet policy.

Since returning to Stanford from the FCC, I have regularly taught courses that involve telecommunications and competition policy. Several times I have taught a course entitled "Antitrust and Regulation" and I have also taught "Economics of the Internet" and "Economic Policy Analysis" that have focused on telecommunications, regulation, and antitrust issues. I have been the author or co-author of a number of articles relating to Internet and telecommunications competition policy. I have also co-edited two books on telecommunications, helped organize several telecommunications conferences, and serve as an associate editor of *Information Economics and Policy*, a leading field journal in the economics of communication.

I have testified as an independent academic expert on competition and telecommunications matters in hearings at the FCC, the United States Senate Commerce Committee, the California State Senate Committee on Banking, Commerce and International Trade, and the National Telecommunications and Information Agency of the Department of Commerce. I have also advised companies and organizations on antitrust matters and served as an expert witness on competition issues, including testifying before the Copyright Arbitration Review Panel with regard to the allocation of distant signal copyright royalties. My curriculum vitae is attached as Exhibit 1.

C. Approach and Conclusions

In my analysis, I use the commercially negotiated SoundExchange agreement with the National Association of Broadcasters (“NAB”)² as the starting point for appropriate sound recording royalty rates. However, several factors—including SoundExchange’s asymmetric market power as the monopoly seller of statutory non-interactive webcasting rights—make it impossible to treat this particular agreement as a reliable indicator of what a willing buyer and willing seller would accept in an effectively competitive market. Consequently, I adjust the rates from the NAB Agreement in several ways to derive a range of rates that would prevail in an effectively competitive market. This benchmark analysis demonstrates that the rate for 2011 to which a willing buyer and willing seller would agree in an effectively competitive marketplace would fall between \$0.00103 and \$0.00154 per play.

In order to check the reasonableness of this benchmark analysis, I then use the Webcasting II CRB rate determination methodology proposed by SoundExchange’s economist, Dr. Michael Pelcovits, and largely adopted by the CRB in Webcasting II.³ My application of the Pelcovits analysis from Webcasting II fully supports the reasonableness of the range of royalty rates I derive from the NAB Agreement benchmark.

My adjustments based on the NAB Agreement are summarized in Table 1, below. Column A in Table 1 takes the 2009 rate from that agreement and projects it forward based on

² 74 Fed. Reg. at 9299 (the “NAB Agreement”).

³ Testimony of Michael Pelcovits (Public Version) from the Webcasting II proceeding, 10/31/05.

expected inflation; column B adjusts the rates from the NAB Agreement downward to correct for SoundExchange’s monopoly power; and column C makes both of these adjustments together.⁴

Table 1

Year	NAB 2009 [A]	NAB Schedule, Monopoly Adjusted [B]	NAB 2009, Monopoly Adjusted [C]
2011	\$0.00154	\$0.00114	\$0.00103
2012	\$0.00156	\$0.00134	\$0.00105
2013	\$0.00159	\$0.00147	\$0.00106
2014	\$0.00161	\$0.00154	\$0.00108
2015	\$0.00163	\$0.00168	\$0.00109

Note: Changes from year to year in columns [A] and [C] reflect an assumed annual inflation rate of 1.4%. This is the market's current annualized expected inflation over the next five years, as judged by the spread between 5-year US Treasuries and 5-year Inflation-indexed US Treasuries as of 9/23/09.

Section IV of this report describes in detail the figures contained in Table 1. At this point, however, it is useful to summarize the information. Again, column A, labeled “NAB 2009” calculates rates based on the rate for 2009 in the NAB Agreement, adjusted for inflation. It ignores the rates in the NAB Agreement for later years because, as explained in Sections III.B and IV, the rates for those later years are unreliable. The rates jump sharply in 2012 without explanation, and there are good reasons to think the much higher rates in later years reflect factors other than the value of the underlying rights. For example, both parties to the NAB Agreement have an incentive to present high rates that might serve as a benchmark in this proceeding. For these reasons, I believe that the rates in the NAB Agreement for later years do not represent a rate to which a willing buyer and a willing seller would agree in an effectively competitive market. Column A shows the rates that would result from using the NAB

⁴ The use of expected inflation in these tables is meant for illustration and is based on the implicit expected inflation derived from the difference between yields on standard Treasury securities and inflation-indexed Treasury securities. I understand that Real has proposed the use of actual inflation to adjust the rates each year.

Agreement's 2009 rate as a benchmark and simply adjusting for inflation in later years go from \$0.00154 to \$0.00163 from 2011 to 2015. (If actual inflation rates differ from the expected inflation rate that I have used, the rates in later years will vary.)

Column B, labeled "NAB Schedule, Monopoly Adjusted," in Table 1 does not correct for the unreliability of the rates in the NAB Agreement for the later years of that agreement. It corrects only for SoundExchange's market power, because SoundExchange effectively operates as a monopoly seller. In Section IV, I estimate that the rates charged in an effectively competitive market, such as one in which each of the four major labels negotiated independently with webcasters, would be 33% lower than the rates in the NAB Agreement. Column B shows the rates that result by taking the rate in the NAB Agreement for each year from 2011 to 2015 and reducing it by 33%. The resulting rates go from \$0.00114 to \$0.00168 from 2011 to 2015.

Column C in Table 1 adjusts for both the unreliability of the rates in the later years of the NAB Agreement and the market power exercised by SoundExchange. Making both adjustments results in a rate that stays between \$0.0010 and \$0.0011 for the entire period from 2011 to 2015.

I also conclude that a single rate for all willing buyers of non-interactive webcasting rights would fail to reflect important differences among the webcasters and the uses they make of sound recording performance rights.⁵ Two distinctions are of particular importance. First, as discussed below, webcasters such as the members of NAB, who simulcast their terrestrial radio programming, have low marginal costs for webcasting and rely on an established base of local advertising revenue not practically available to other webcasters. Moreover, materials produced in discovery confirm that, in conjunction with the NAB agreement, the major record labels

⁵ The statute says that the rates and terms determined by the CRB "shall distinguish among the different types of eligible nonsubscription transmission services then in operation." 17 U.S.C. § 114(f)(2)(B).

granted waivers to broadcasters opting into the agreement that release those broadcasters from certain statutory restrictions (e.g., the “performance complement” in section 114(j)(13)). Since it is difficult for many broadcasters to simulcast in compliance with the performance complement (as confirmed through information produced in discovery), these waivers are valuable to broadcasters. The CRB should therefore treat simulcasters differently from other webcasters because a simulcaster would be willing to pay more per performance than a typical webcaster that does not operate a terrestrial radio station.

I also conclude that the per-play rate for plays by non-subscribers should be lower than the rate for plays by subscriber listeners (focusing only on commercial, non-simulcasting services). Many non-simulcaster webcasters use non-interactive sound recording performances in ways that generate little or no webcasting revenue for the service, but promote more interactive plays and phonorecord sales, to the benefit of the rights holders. Because sales promotion is specifically mentioned in the statute,⁶ and because privately negotiated agreements in a wide variety of areas frequently make a pricing allowance for such promotional uses of a valuable input, a two-tier rate structure is likely to reflect the economic realities of this industry better than the existing single-tier rate structure. Specifically, it would be economically reasonable for the CRB to distinguish between performances made to webcasters’ subscribers (to which the rates in Table 1 would apply) and performances made to their non-subscriber listeners (to which a lower rate would apply, reflecting a lower willingness to pay and higher promotional value). I do not have the data necessary to estimate the amount of the discount that a reasonable seller would offer webcasters for performances to non-subscribers. However, such a discount would likely be offered in an effectively competitive market and, indeed, is reflected in

⁶ 17 U.S.C. § 114(f)(2)(B).

numerous agreements negotiated between Real and the record labels for sound recording rights for interactive performances. In my communications with the company's employees, I have learned that, for Real, the effective non-subscription per-play royalty rate for interactive performances is [REDACTED] of the subscription rate, and a similar discount for non-subscription, non-interactive performances may be appropriate.

D. Outline of Report

The remainder of my report proceeds as follows. Section II discusses the “Willing Buyer/Willing Seller” standard and the economic approach to evaluating such hypothetical transactions. Section III provides an analysis of the SoundExchange agreements for non-interactive sound recording performance rights, with special attention to the strategic bargaining incentives that practically guarantee that the CRB will only see a subset of agreements with the highest rates. Section IV corrects for the distortions in the NAB Agreement by filtering out the relatively unreliable rates for later years and by quantifying the extent to which the agreed-upon rates reflect SoundExchange's asymmetric market power. Section V performs an analysis similar to the SoundExchange analysis presented in the previous CRB proceeding. This analysis is done to provide a check on the results in Section IV. Section VI provides conclusions.

II. The Hypothetical Bargain Between A “Willing Buyer” and “Willing Seller”

In past proceedings, the CRB has made clear that it is setting a rate that would prevail in a hypothetical market, rather than ratifying a rate that has in fact resulted from any particular bargain. More specifically, section 114 directs the CRB to “establish rates and terms that most clearly represent the rates and fees that would have been negotiated in the marketplace between a

willing buyer and a willing seller.”⁷ In the effectively competitive hypothetical market, we would expect the voluntary transactions of numerous willing buyers and willing sellers to establish a prevailing price or range of prices. In such a market, it would be a simple matter for the CRB to establish a statutory royalty rate that reflected the market outcome by simply endorsing negotiated rates. But, of course, in such a market the CRB process would not be necessary.

The compulsory statutory license and accompanying oversight by the CRB help to correct for the lack of an effectively competitive market. The agreements presented to the CRB reflect the distorting influences of a market that is not effectively competitive, and it is therefore necessary to adjust the rates adopted in these real-world agreements to derive the rate or rates that would prevail in the hypothetical market. I believe multiple rates are likely to be appropriate here because of potentially efficiency-enhancing price discrimination. Different kinds of buyers often have different willingness to pay for goods and services depending on the value of those products to different kinds of consumers, and rational providers in an effectively competitive market will set prices that take account of the differential willingness of high-value and low-value consumers to pay.

A. Market Failure

In effect, the law directs the CRB to determine the rates and terms that would result in a hypothetical marketplace transaction without attendant market failures. Two important market failures that might arise in the process of negotiating sound recording performance contracts are

⁷ 17 U.S.C. § 114(f)(2)(B).

excessive transactions costs and market power, and in particular different levels of market power enjoyed by buyers and seller(s) (“asymmetric market power”).

Excessive transactions costs would arise if each performer or record label had to negotiate with and monitor each webcaster. To address transactions costs and post-agreement monitoring costs in connection with similar copyrights, organizations like ASCAP and BMI have been formed to negotiate on behalf of rights holders in the public performance context. In the case of sound recording rights for non-interactive webcasting, a similar function is being performed by SoundExchange, which is the only collective representing sound recording performance rights holders for the rights at issue in this proceeding.

ASCAP and BMI each has a degree of market power, because, for instance, no radio station can effectively compete without the right to play compositions from both of the two rights organizations’ catalogs. These rights organizations do not, however, have carte blanche to set rates. There has been substantial litigation about their ability to set prices for decades. Under the current system, in the event of a market failure the parties submit rate proposals to a federal court for resolution. This fall-back mechanism constrains ASCAP and BMI’s ability to set high prices through the exercise of their asymmetric market power.

From an economic perspective, SoundExchange fulfills a role similar to ASCAP’s and BMI’s for non-interactive sound recording performances. However, it appears that the transactions costs for sound recording rights for Internet transmissions are not extraordinarily high, as evidenced by the ability of the four major record companies and many smaller record labels to come to agreements with webcasters for interactive sound recording rights. As a result, the major adjustment to any agreement should focus on the other key market failure—

asymmetric market power—not on the transaction and monitoring costs that would arise without a compulsory right.

In Webcasting II, the parties disagreed as to whether the appropriate rate should be one set in the context of perfect competition or in the context of a monopoly seller's market. The CRB characterized the disagreement as whether the CRB should determine the rates that would be set in a hypothetical marketplace "characterized by perfect competition" or one "characterized by monopoly power on the seller's side."⁸ The CRB found that "these extreme characterizations miss the mark."⁹ The CRB noted that the appropriate benchmark should reflect an agreement reached in an "effectively competitive" market. Citing the Copyright Arbitration Royalty Panel's earlier decision in Webcasting I, the CRB stated that "[a]n effectively competitive market is one in which super-competitive prices or below-market prices cannot be extracted by sellers or buyers, because both bring 'comparable resources, sophistication, and market power to the negotiating table.'"¹⁰ As an economist, I interpret the CRB to be looking for a rate that would be agreed upon by a willing buyer and a willing seller who have symmetric market power. I agree that neither perfectly competitive markets nor monopoly markets should be the standard, especially in an industry with high fixed costs.

In an "effectively competitive" market, while it is likely that prices will be above marginal cost because of fixed costs, there will not be monopoly markups. By contrast, in markets in which observed transactions reflect asymmetric market power (and are hence not effectively competitive), observed transactions between willing buyers and willing seller(s) can

⁸ 72 Fed. Reg. at 24091

⁹ Id.

¹⁰ Id. quoting 67 Fed. Reg. at 45245.

form the basis for benchmark prices only if adjustments are made to offset the effects of the asymmetric market power.

B. Price Discrimination

Buyers have different willingness to pay for goods and services. If a provider is forced to set a single price, she might charge a price high enough that low-value consumers would decline to purchase; on the other hand, a low price would mean that high value customers could get the product for a price lower than they would otherwise be willing to pay.

To increase profits in these situations where there are heterogeneous buyers, sellers often engage in what economists call “price discrimination.” This means setting different prices for different customers. Sometimes it is for individual customers (think of a car dealer haggling with each customer) and sometimes for different groups of customers (think of senior citizen discounts or early bird specials).

Despite its pejorative sounding name, price discrimination enhances efficiency if it allows a seller to set low prices for low-value buyers who would not otherwise buy under the single price that would prevail absent price discrimination. Note that effective price discrimination requires that high-value customers cannot purchase at the prices enjoyed by low-value customers. For example, resale among customers must be thwarted.

There are four major conditions for successful price discrimination: buyers with differential willingness to pay; ability for the seller to distinguish between the groups; enforceability; and an absence of incentive or ability for competitors (if they exist) to undercut the price discrimination strategy.

In the case of sound recording rights, SoundExchange has a strong incentive and ability to price discriminate—it can increase profits by charging different prices to different groups of customers. Given its position as the sole seller of the complete catalog of sound recording performance rights for the transmissions at issue here, it would be perfectly rational for SoundExchange to try to extract high prices from high-value customers and to prevent them from getting access to the low prices of lower-value customers. In this case, all four conditions for successful price discrimination are satisfied.

In addition, sellers have an incentive to charge a different price if they receive something different from a buyer, such as enhanced promotion. The different business models and promotion lead to differential willingness to pay and differential willingness to sell between sellers and different buyers.

1. Business Models

From an economic perspective, business models for distribution of non-interactive music on the Internet fall into three primary categories: simulcast of alternative broadcasts, subscription-supported services, and non-subscription services.

The typical examples of simulcast are terrestrial broadcasters who take their over-the-air feed and simulcast it over the Internet. Generally, terrestrial broadcasters generate their revenues from over-the-air advertising and use their existing advertising and programming operations to provide the Internet services at low incremental cost.¹¹ Satellite digital audio radio services also

¹¹ I assume that broadcasters that simulcast under the statutory license must comply with the “performance complement” restrictions of the license, such as playing no more than four selections from any one featured artist in any three-hour period if no more than three are transmitted consecutively. 17 U.S.C. § 114(j)(13). Adhering to this set of restrictions might mean changing certain practices at some radio stations—or alternatively, bargaining and paying for the right to ignore the performance complement while simulcasting.

simulcast when they retransmit their satellite programming over the Internet. SDARS providers typically generate most of their revenue from subscriptions to their satellite broadcasts.

The second model is a subscription-based webcasting model. Real uses this model by charging a monthly fee for access to its music services. Real's subscription service includes access to its interactive services and its own set of non-interactive "radio" channels. A subscription service may also offer non-subscription listening as a promotional tool.

The final model is a non-subscription webcasting model. In this model, advertising and sales of MP3 tracks generally provide the revenues for the service. In contrast to simulcasting a terrestrial over-the-air station, the costs of non-subscription webcasters are not incremental to another business and revenue per listener may also be much lower.

2. Promotional Value

One important feature of many industries, especially those trying to attract repeat or long-term buyers, is to get potential customers interested in the product. To do so, many firms offer trial memberships, discounts for the first few months, free samples, and other upfront promotional offers. These promotions are essentially discounts to entice potential buyers to try a service.

Real offers two different types of non-interactive music services. Its main revenue-generating service is Rhapsody, a combination interactive/non-interactive service with a \$12.99 "Rhapsody Unlimited" plan and \$14.99 "Rhapsody To Go" plan. Subscribers to these plans use interactive plays for the vast majority (more than 91%, for the year ending August 31, 2009) of

their listening.¹² Real also offers a free non-subscription service, “Rhapsody 25”, primarily to attract listeners to its paid services and to generate sales of MP3s. Rhapsody 25 generates no subscription revenue and only negligible advertising revenue, but it generates sales of MP3s at a higher rate than the subscription services do. While Real’s non-subscriber listeners account for only about 10% of total plays and about 38% of non-interactive plays, they account for nearly 45% of the tracks purchased as MP3s from Rhapsody in August 2009.¹³ Non-subscribers also generate royalty revenue for labels through interactive plays on Rhapsody 25.

As a general matter, upstream suppliers often offer discounts that the downstream entity passes on to consumers to induce more sales. Subscribers are worth more to Real than the non-subscribers who use the Rhapsody 25 service. It is plausible that performance rights holders might see a benefit in offering Real and other subscription webcasters a lower rate for promotional non-interactive plays, like those on the Rhapsody 25 service. In fact, Real has entered into numerous interactive license agreements with the labels under which the standard effective per-play rate for non-subscribers is [REDACTED] of the effective rate for subscribers.

C. Conclusions

Asymmetric market power and price discrimination are both key elements for the CRB to consider in making its rate decision. The CRB should not rely on rates in contracts where there is asymmetric market power because prices will be either too high or too low if they are not adjusted. Because of the incentive and ability to engage in price discrimination, the CRB should examine precedential agreements to see if they are representative of the typical “willing buyer”

¹² RealNetworks internal document “Monthly_UAC_by_Tier_2008-09_2009-08.xls”.

¹³ *Id.*

or are the result of the seller choosing the buyer(s) with the highest willingness to pay and negotiating an agreement with those buyers.

Any analysis that tries to estimate prices for a willing buyer and willing seller should take into account that a particular agreement could be with a high-value or low-value customer and that prices for other specific groups with different demand characteristics might lead to different prices.

III. Real-World Agreements with SoundExchange

SoundExchange has negotiated a number of agreements that extend beyond the end of the Webcasting II royalty timeframe. Some of these agreements are eligible for consideration by the CRB; others have been deemed ineligible by the contracting parties. For purposes of this report, I focus on the commercially negotiated SoundExchange agreements (with NAB, college webcasters, and Sirius XM) where both the buyer and seller consented to have the agreement considered by the CRB in its deliberations for future royalty rates. However, both the terms of the “admissible” agreements and the mere existence of other agreements deemed inadmissible provide important information about what a willing buyer and a willing seller would agree to in an effectively competitive market.

A. SoundExchange is a Monopoly Seller

As discussed above, in this analysis I am following the CRB’s decision in Webcasting II that the model for determining reasonable royalty rates should be the rates to which a willing buyer and willing seller would agree in the absence of asymmetric market power. The CRB explained that such an “effectively competitive market” would be one in which “super-

competitive prices or below-market prices cannot be extracted by sellers or buyers.”¹⁴ The CRB further found that the interactive market with *four* major labels and associated other competitors had sufficient competition on the seller side.¹⁵

However, in the case of precedential agreements for non-interactive sound recording rights, there is only a *single* seller, SoundExchange. In the negotiations for non-interactive sound royalties, Congress gave SoundExchange an antitrust exemption so that it could serve as the negotiating agent for all of the record labels without fear of violating the antitrust laws.¹⁶ Because SoundExchange is the sole seller and has that position mandated and protected by law, there may be a presumption of market power.

In addition, there is little evidence of consumer switching on the demand side or of entry by a competitor to SoundExchange on the supply side.¹⁷ For example, while Real has negotiated deals for interactive rights with individual labels, it has not done so for non-interactive rights. Beyond avoiding the statutory obligation to remit a portion of royalty receipts directly to artists, the labels do not have a clear incentive to try to circumvent SoundExchange for non-interactive

¹⁴ 72 Fed. Reg. at 24091.

¹⁵ *Id.* While there is some dispute about the competitiveness of the interactive rights market and to what extent the four major labels compete with each other as opposed to being complements, I ignore that issue for the purposes here. That way the CRB does not have to tackle that competition issue at this point.

¹⁶ 17 U.S.C. § 114(e)(1) “Notwithstanding any provision of the antitrust laws, ... any copyright owners of sound recordings and any entities performing sound recordings ... may designate common agents on a nonexclusive basis to negotiate, agree to, pay, or receive payments.”

¹⁷ Apparently, Slacker has negotiated deals for its service with individual record labels, in part because it sought to give its subscribers an untethered listening opportunity that I understand may be outside of the standard non-interactive license. A Slacker press release stated, “As part of the agreement, Slacker listeners can transfer their personalized stations to Slacker Portable Players with a single click and automatically refresh them via Wi-Fi or over USB.” http://www.slacker.com/dwls/092007_majors_labels_deal.pdf. Information obtained through discovery confirms that Slacker also subsequently opted into one of the “non-precedential” voluntary agreements that SoundExchange negotiated with industry participants. It is not clear when a “play” on Slacker’s service results in a royalty payment under Slacker’s direct deals with the labels and when it results in payment to SoundExchange under the voluntary agreement. Slacker’s actions suggest that services’ direct agreements with labels for interactive streaming are not perfect substitutes for services’ agreements with SoundExchange for non-interactive streaming.

rights—SoundExchange acts as a legal cartel enforcer. If a label tried to enter into its own deal with a webcaster, other labels would be able to react with their own agreements or encourage SoundExchange to lower its price so as to eliminate any competitive advantage from deviating from the cartel. As a result, no major label would be likely to negotiate its own deal to lower its price for the full bundle of rights that would compensate artists as well as labels. That in turn means that there is no effectively competitive alternative to negotiating with SoundExchange. As a result, SoundExchange holds monopoly power as the effective cartel leader for the record labels.

Thus, any agreement that SoundExchange has entered into presumably reflects asymmetric market power and commands some degree of monopoly pricing.

B. Effect of this Proceeding on Bargaining Behavior

It is important to consider that all agreements between parties in this case take place in the shadow of the Webcasting II decision and with a view to the expected outcome of the Webcasting III decision. No buyer would agree to terms of a settlement if it were sure that statutory rates would be lower following a royalty proceeding, unless the cost of participating in the proceeding was prohibitively high or there were other strategic considerations.

In addition, SoundExchange would also be expected to bargain with a view to the likely effect of any agreement on the rate or rates to be set in this Webcasting III proceeding, and the agreements negotiated so far seem to reflect this strategy.¹⁸ SoundExchange has an incentive to

¹⁸ In this analysis, while they have incentives similar to NAB's, it is not appropriate to include the college radio stations. In contrast to the commercial broadcaster agreements, the College Broadcaster agreement has two parts. For stations with up to 159,140 ATH per month, there is an annual \$500 fee. If a station exceeds 159,140 ATH in a month, it then pays at the same rate as the commercial broadcasters for the excess transmissions. A station can also pay \$100 in lieu of providing detailed reports on usage if it meets certain requirements. As a result, the effective college price is likely to be substantially lower than the list price in the agreement. For example, if a college

bargain for a high rate in at least one agreement that can be considered by the CRB. At the same time broadcasters, while not wanting to pay high rates themselves, would benefit from a strategy of “raising rivals’ costs” by agreeing to a relatively high rate, knowing their ability to pay the high rate is greater than that of their webcaster rivals, and knowing that their absolute cost is lower because broadcasters play less music per hour and hence their costs are increased less by a high rate.

Table 2 shows how the rates in the NAB Agreement compare with the rates set in Webcasting II, and how they change over time:

Table 2

Year	CRB Webcasting II [A]	NAB Agreement	
		NAB Schedule [B]	Annual % Increase [C]
2009	\$0.0018	\$0.0015	
2010	\$0.0019	\$0.0016	6.7%
2011		\$0.0017	6.3%
2012		\$0.0020	17.6%
2013		\$0.0022	10.0%
2014		\$0.0023	4.5%
2015		\$0.0025	8.7%

A side-by-side comparison of the CRB rates and the NAB rates shows that, in the first three years of the NAB Agreement, the rates are lower than the CRB Webcasting II rates. Notably, in 2012, the NAB rates increase by more than 17% and then increase an additional 10% in 2013. These increases are far greater than expected inflation over that period.

broadcaster plays five times the threshold ATH, its average per-performance price under this formula would be approximately \$0.0014 in 2011 compared with \$0.0017 for broadcasters. Therefore, college radio stations may have been more concerned with the threshold level than with the rates paid for any overage. This agreement provides support for the discussion of price discrimination above and also the fact that the NAB rates should be an upper bound. 74 Fed. Reg. at 40614. The Satellite radio webcast royalty agreement provides a similar rate pattern (slightly higher at the start and slightly lower at the end) as the agreement covering the terrestrial broadcasters. For the remainder of this paper, I focus on the terrestrial broadcasters (i.e., NAB), but similar analysis applies directly to the negotiated rates and terms applicable to satellite digital audio radio service providers.

The published agreement provides no justification for such a jump. Economic theory suggests some possible explanations. For example, broadcasters might want to “back-load” the rates if they think that the quantity of their competitors’ performances will rise faster than their own.

However, the reason for the higher rates in 2011 and beyond might be more strategic than internally business justified. Specifically, such a rate structure might reflect a desire to influence the rates set in this proceeding, which could benefit both SoundExchange and NAB members. High rates for 2009 or 2010 would not yield any such strategic benefit, because the statutory rate for those years has already been set (and besides, the current-year rates would actually have to be paid). In contrast, SoundExchange could benefit substantially from the precedential value of a contract showing high rates for 2011 and beyond, as this might lead the CRB to adopt high statutory rates for those years. Furthermore, NAB might never feel the pain of the higher rates, because it could always enter into a new agreement with SoundExchange and/or the record labels (after this proceeding) that would negate any of the large increases. As I discuss below, given the fact that a contracted price that will not take effect until a few years in the future can be renegotiated, it is not as reliable as a current price at which transactions are happening today. This is especially true where, as here, the parties recognize that their agreement could impact the CRB decision and both parties have an incentive for the CRB to pick higher rates.

C. Selection Bias in the Agreements Deemed Precedential

1. The existence of other agreements

In this proceeding, rate agreements between the parties for non-interactive performance rights are by default “non-precedential” but can, by joint agreement of the parties to the

agreement, be deemed “precedential.” I assume that the rates and terms of non-precedential agreements cannot be used by the CRB to inform its rate setting.¹⁹ The CRB is only allowed to take account of the provisions in the precedential agreements. Either party (buyer or seller) has a veto right to prevent any agreement from becoming precedential. Each agreement has two parties: SoundExchange and some provider (or group of providers) of non-interactive webcasting. Thus, SoundExchange is a party to each and every agreement potentially considered “precedential” whereas any single webcaster is party to no more than one, meaning that SoundExchange alone has effective veto power with respect to the precedential effect of every agreement. Also, most webcasters who have an agreement with SoundExchange will not be concerned about the direct impact of the precedent their agreement sets, but SoundExchange is very concerned with this effect.²⁰

SoundExchange’s veto power introduces a selection bias on precedential agreements. Suppose the CRB were presented with a single precedential non-interactive rights agreement. We know that in reality there are a number of non-precedential non-interactive rights agreements. Even without knowing the specific rates and terms of those non-precedential agreements, we know that there are three possibilities: they can have higher, lower, or the same effective rates as the precedential agreement.²¹ The existence of other agreements has direct bearing on the CRB’s decision, as explained below.

(1) If the rates in another agreement were higher, SoundExchange would want the CRB

¹⁹ I understand that the CRB can consider the existence of non-precedential agreements but assume for the purposes of this report that the CRB cannot consider the rates and terms of non-precedential agreements. Non-precedential agreements in the public record include SoundExchange’s agreements with “public radio webcasters,” “small webcasters,” and “pureplay webcasters.”

²⁰ As discussed below, there is some concern with the prices charged to rivals that may lead to higher rates in precedential agreements.

²¹ I am abstracting from different structures for the purposes of this analysis, but those could be considered as well.

to consider that agreement. The service would likely also want it considered, as its consideration would not affect that service's prices, but would increase the prices its rivals pay. So, it is fairly safe to conclude that non-precedential agreements do not have higher effective royalty rates.

(2) SoundExchange might or might not block the precedential impact of agreements with rates at the same level, but their existence would not change the analysis substantially. The parties would likely want an agreement with identical rates to be precedential if only to reinforce the relevance of the prior precedential agreement.²²

(3) This leaves agreements with lower effective rates. SoundExchange would want to ensure that such agreements are not precedential. The existence of a second precedential rate that is lower than the first would, if it had any effect on the CRB, only serve to lower the rate the CRB sets going forward. SoundExchange's incentives and its veto power mean that other non-precedential agreements are likely lower-priced because SoundExchange would not allow lower-priced agreements to be considered precedential. Services that are able to negotiate a lower rate themselves would also have an incentive to keep their competitors from getting a lower rate so they would also want to block consideration of lower rate deals.

As a result, the CRB should understand the precedential agreements to be those with the highest rates among all of the negotiated agreements. Non-precedential agreements, if any exist, would likely involve lower rates and terms. Given that there are other agreements, the expected value of the rates and terms in the average agreement should be lower than the terms of the precedential agreements that the CRB can consider. The high-priced precedential agreements,

²² Since having more precedential agreements might add to their persuasiveness, SoundExchange should also favor having a number of precedential agreements with tiny differences in terms. Thus, SoundExchange, in its veto decisions, could increase the number of precedential agreements by agreeing to small differences in terms to make it look less like a single take-it-or-leave-it offer by a monopoly provider for purposes of this proceeding.

then, should not—by themselves and without adjustment—set the standard for a rate that is to apply to other groups of buyers. This is especially true if the buyers covered by precedential agreements have different incentives and willingness to pay than other groups of buyers.

For example, commercial broadcasters have different incentives about rates in this matter than webcasters. Commercial broadcasters make the vast majority of their revenues from advertising on over-the-air broadcasts. Webcasting, with a virtually limitless number of channels, provides a competitive threat to these radio stations. As a result, commercial broadcasters would have an incentive to try to raise licensing costs for webcasters. This is especially true given the different formats of webcasters and commercial broadcasters.

Webcasters typically play 15.4 tracks per hour whereas a commercial broadcaster would only play 11.5 tracks per hour on a typical music station and significantly fewer on other stations.²³ This seemingly small difference in the number of plays increases licensing costs per hour to 33% more for webcasters than for online broadcasters. This means that a higher fee imposes a greater burden on a webcaster than it does on a broadcaster.

Commercial broadcasters may have a higher willingness to pay for sound recording performance rights because of their incremental profitability and business model. A more profitable business is likely to be willing to pay a higher price than a less profitable business, and a profit-maximizing firm with the ability to price discriminate will take advantage of the differential willingness to pay by charging higher prices to those with a higher willingness to pay and a lower rate to other groups of customers.

²³ The tracks per hour figures are implicit in note 55 of the Webcasting II Final Determination, as is the 33% figure in the following sentence.

Finally, the broadcasters were willing to allow their rates to be used for the CRB. There is no reason why the broadcasters should be willing to do so unless they think that it will cause higher prices for their competitors than would occur without their consent, or because they think they got a better deal in exchange for being willing to allow their rates to be used in this way. Allowing agreements to be used for comparison by rivals is not a frequent market occurrence in typical, effectively competitive marketplaces.

2. Real Could Have Opted for “Admissible” Rates

Since Real and possibly some of the other parties to this proceeding could already have opted for rates deemed “admissible” by SoundExchange but have not done so, there is no reason to adopt rates that are any higher than those. The market evidence is that there is a willing seller at those rates, but that there are buyers who are not willing to pay such a high price. In addition, there is evidence that SoundExchange has been willing and able to engage in price discrimination—charging lower prices to buyers with lower willingness to pay. For example, College Broadcasters get a lower price than commercial broadcasters, and there are non-precedential agreements presumably with lower rates as discussed above.²⁴ As a result, the broadcaster prices are at or above the upper bound of what the parties would agree to in any negotiated agreement in which the seller did not have asymmetric market power.

IV. Using the NAB Agreement as a Starting Point

As noted above, SoundExchange’s monopoly position makes it impossible for the CRB to treat *any* voluntary agreement with SoundExchange as an accurate indicator of what a willing buyer and a willing seller would agree to under conditions of effective competition. However, it

²⁴ 74 Fed. Reg. at 40614.

is reasonable to use the NAB Agreement as a starting point for analysis as long as the need for significant adjustment is understood. The rights are the same non-interactive rights that are being considered in this proceeding (with the caveat discussed herein that the broadcasters were able to negotiate valuable simultaneous side agreements with the labels).

One way to adjust the NAB rates is for the CRB to use the commercially negotiated rate for 2009 and project that rate forward, but not to include the higher rates from later years in the contract—a correction that would be justified by the potential exercise of market power, the potential that those rates may have in part been set to influence the decision in this proceeding, and the potential for renegotiation. A second method for the CRB is to adjust the NAB rates for monopoly power held by SoundExchange. Third, the CRB could make both adjustments—start with the initial rate, adjust it for market power, and then increase the rate year-to-year for inflation. In addition to these adjustments, the CRB should also consider the differential willingness to pay, the promotional value when adjusting down from the negotiated NAB rate, and the value NAB got through its side agreements with the labels. I have not accounted for these final three factors in my calculations discussed below, but I believe they are relevant to the CRB’s ultimate determination.

A. Starting with the NAB 2009 rate

One simple and straightforward way to adjust the broadcaster rates would be to take the starting rate of \$0.0015 for 2009 and adjust it going forward to reflect inflation. This method does not completely correct for SoundExchange’s asymmetric market power or the value NAB received in its side agreements, but it at least provides a rate negotiated by unrelated parties for non-interactive performance rights. Furthermore, because the rate for 2009 is actually in use,

and is less likely to have been adopted as part of strategy to influence the Webcasting III determination, it represents a more reliable indicator of market value than the rates specified for 2011 and beyond. Accordingly, I believe this NAB 2009 rate should serve as an upper bound on the initial rights fee, and is appropriate to use as a starting point for further analysis.

This series of rates is labeled “NAB 2009” in Table 3. I have also calculated a series of rates using the 2010 rate in the NAB agreement (which is equal to the first year of the SDARS rate) as the base. This series is labeled “NAB 2010” in Table 3. These series (based on the rate in actual use in 2009 or imminent use in 2010) do not suffer from the problem of potential future renegotiation discussed above.

Table 3

Year	NAB 2009 [A]	NAB 2010 [B]
2009	\$0.00150	
2010	\$0.00152	\$0.00160
2011	\$0.00154	\$0.00162
2012	\$0.00156	\$0.00165
2013	\$0.00159	\$0.00167
2014	\$0.00161	\$0.00169
2015	\$0.00163	\$0.00172

Note: Changes from year to year reflect an assumed annual inflation rate of 1.4%. This is the market's current annualized expected inflation over the next five years, as judged by the spread between 5-year US Treasuries and 5-year Inflation-indexed US Treasuries as of 9/23/09.

B. Eliminate the Monopoly Markup

A second adjustment for the broadcaster rates would be to estimate and correct for the effect of SoundExchange’s monopoly power. As discussed above, any SoundExchange agreement is likely to exhibit supracompetitive pricing because of SoundExchange’s monopoly position. I should note that the initial SoundExchange/NAB rates are below the Webcasting II

rates for 2009 and 2010, but that shows that the Webcasting II rates may in retrospect have turned out to be too high, even above monopoly levels.

To correct for this, it is standard in economics to measure price-cost margins as part of a “Lerner” index formula. This formula looks at the percentage markup—higher markups tend to come about because of higher market power. Using the standard Cournot model for homogeneous goods, the standard markup formula can be written as

$$\frac{P-c}{P} = \frac{1}{\eta N}$$

where P is the price, c is the marginal cost, η is the elasticity of demand and N is the number of sellers. We can use this formula to adjust for asymmetric market power by changing N , the number of sellers.

To do this requires an estimate of the elasticity of demand, although I do not have sufficient information to determine the elasticity of demand accurately for sound recording rights. For purposes of this report, therefore, I am using a published estimate of the demand elasticity for sound recordings of -1.4 .²⁵ To estimate price effects, I will assume that the trend towards higher elasticity (noted in the study) has continued and use an elasticity of -2.0 . (Using the published figure of -1.4 would lead to a greater estimated markup and hence greater necessary reduction to the NAB rates to correct for the effect of SoundExchange’s market power.)

²⁵ Stevans, L. and D. Sessions, “An Empirical Investigation Into the Effect of Music Downloading on the Consumer Expenditure of Recorded Music: A Time Series Approach,” *Journal of Consumer Policy* (2005) 28:311–324. In this paper, the authors estimate an elasticity for recorded music, including tapes, LPs, and CDs, of -1.4 . While this estimate is not directly for the sound recording rights at issue here, it does provide a proxy for a similar good. The authors also show that the -1.4 elasticity (estimated over 2000–2004) had increased from the pre-2000 period as downloading became more prevalent, that is, as competition increased.

Taking the CRB Webcasting II decision as a precedent, one could look at the effect of moving from a single monopoly seller (SoundExchange), $N=1$, to four competing sellers (e.g., the four major labels using the logic from the Webcasting II decision), $N=4$, and calculate the change in the prices. In this connection, it should be noted that four competing sellers do not constitute a “perfectly competitive” market, but a market with four sellers may generally be considered to be “effectively competitive” for these purposes.

For example, if the elasticity is assumed to be -2.0 , changing N from 1 to 4 to reflect a more competitive market would reduce prices by about 43%. In other words, had NAB been able to negotiate with each of the four major labels independently (rather than negotiating only with SoundExchange on behalf of all the labels) and if all of the recordings were homogeneous substitutes, the Lerner index predicts the difference in rates between a monopoly market and an effectively competitive market to be 43%.

However, it is important to note that the music from one label is not a perfect substitute for another label. As a result, the competition and the resulting price decrease from negotiating with the labels separately would likely not be as stark as if the labels provided homogeneous products. To adjust for heterogeneity, I assume for purposes of this exercise that each label’s music is half substitutable and half not. The more heterogeneous the music, the more individual market power each label would have. To implement this adjustment, I change N from 4 to 2 in the above equation, leading to an adjusted markup of 33% above the effectively competitive level.²⁶

²⁶ In his deposition in this proceeding, Dr. Pelcovits stated that he believes demand elasticity is somewhere “between negative 2 and negative 3” for licenses that comprise “30 to 50 percent of revenue” for the licensee. The 33% markup adjustment described in the text is based on a demand elasticity of -2 . If demand elasticity is actually -3

Table 4 below shows the effect of taking the SoundExchange/NAB contract rates and applying the 33% rate reduction.

Table 4

Year	NAB Schedule, Monopoly Adjusted
2011	\$0.00114
2012	\$0.00134
2013	\$0.00147
2014	\$0.00154
2015	\$0.00168

C. Adjusting for Market Power and Unreliability of Future Rates

The previous two subsections have shown how to adjust the NAB rates to account for the unreliability of the future rates and to account for SoundExchange's market power. These two considerations are separate – the initial rates in the contract are reliable because there are transactions occurring at those rates, but they could still reflect monopoly prices. Transactions occur between willing buyers and willing sellers at monopoly rates. As a result, in Table 5 below, I present rates that show the effect of using only the 2009 NAB rate, adjusting that for monopoly power and carrying that forward at the expected rate of inflation.

(the other end of Dr. Pelcovits' range), the markup adjustment percentage would be 20%, and the resulting rate in 2011 would be \$0.00136.

Table 5

Year	NAB 2009, Monopoly Adjusted
2009	\$0.00101
2010	\$0.00102
2011	\$0.00103
2012	\$0.00105
2013	\$0.00106
2014	\$0.00108
2015	\$0.00109

Note: Changes from year to year reflect an assumed annual inflation rate of 1.4%. This is the market's current annualized expected inflation over the next five years, as judged by the spread between 5-year US Treasuries and 5-year Inflation-indexed US Treasuries as of 9/23/09.

D. Differential Willingness to Pay, Side Agreements, and Promotional Value

An additional adjustment should be made to take account of the differential willingness to pay of different groups of customers. As discussed above, the existence of multiple non-precedential agreements shows that the rates in precedential agreements are an upper bound of likely rates between buyers and sellers. Below that upper bound, it may be efficient, for the reasons discussed in Part II above, for a seller to charge lower prices to other firms as it exercises its ability to price discriminate. Commercial webcasters like Real rely primarily on subscription revenues, whereas NAB's members are simulcasting a stream of programming that is generally supported through the sale of on-air advertising. As discussed above, broadcasters can leverage their existing business and advertising teams to provide the same services for their web-based offerings, whereas a webcaster cannot provide those services incrementally. As a result, it would be reasonable to adjust for the differential willingness to pay of companies like Real and the broadcasters. Because they have different business models, their willingness to pay is different.

Of course, license differences would need to be considered. For example, if—as widely reported—NAB has reached side agreements with record labels releasing the broadcasters from the standard “performance complement” restrictions in Section 114(j)(13), the broadcasters’ license is different than the statutory licenses the CRB is trying to value in this proceeding.²⁷ Broadcasters might have to modify their over-the-air broadcasting practices considerably to abide by the statutory non-interactive sound recording performance license restrictions.

Relaxing the restrictions would be valuable to broadcasters. Consequently, the license rates broadcasters agreed to, which reflect relaxation of restrictions, would be higher than what they would have agreed to without the relaxation of restrictions. To be a useful benchmark for the statutory webcaster license, the value to broadcasters of lifting the performance complement restrictions must be taken into account. Addressing the effect of these side agreements on the observed broadcaster license price would require information from broadcasters and SoundExchange not currently available to me.

Finally, whatever rate structure the CRB adopts should make adequate provision for promotional use of sound performance rights since this benefits upstream suppliers, webcasters, and consumers alike. Sales promotion is specifically mentioned in the statute,²⁸ and privately negotiated agreements in a wide variety of areas frequently make a pricing allowance for such promotional uses of a valuable input. As discussed above, for Real, the effective per-play rate for non-subscribers is [REDACTED] of the effective rate for subscribers. This appears to

²⁷ Information produced in discovery confirms that NAB’s waiver agreements with the major labels waive limits on the number of songs from a single phonorecord that can be played in a three-hour period, and waive restrictions on the pre-announcements of when songs will be played.

²⁸ 17 U.S.C. 114(f)(2)(B).

be real-world confirmation of a pricing phenomenon that economic theory predicts and the statute seems to anticipate.

I have not been able to quantify the effect of the differential willingness to pay of different “willing buyers,” for the value of the NAB side agreements, or for the discount appropriate for promotional or advertising-based webcaster offerings. If these factors could be quantified, they would require further downward adjustments to the NAB rates that I use as a benchmark, but because I cannot quantify them based on the information available to me at this stage in the proceeding, the range of rates I propose here does not reflect these factors.

E. Conclusion about the NAB Agreement

In this section, I have shown that it is important not to rely on future years of the NAB Agreement, that SoundExchange has asymmetric monopoly power, that there is a differential willingness to pay among different types of webcasters, that promotional offerings are important, and that there is a different, more valuable license at issue between SoundExchange and NAB (because of the side agreements reached with the labels) than is at issue here. Table 6 below provides a summary of the calculations presented in the subsections above as to which I could reasonably quantify the effects.

Table 6

Year	NAB 2009 [A]	NAB 2010 [B]	NAB Schedule, Monopoly Adjusted [C]	NAB 2009, Monopoly Adjusted [D]
2011	\$0.00154	\$0.00162	\$0.00114	\$0.00103
2012	\$0.00156	\$0.00165	\$0.00134	\$0.00105
2013	\$0.00159	\$0.00167	\$0.00147	\$0.00106
2014	\$0.00161	\$0.00169	\$0.00154	\$0.00108
2015	\$0.00163	\$0.00172	\$0.00168	\$0.00109

Note: Changes from year to year in columns [A], [B], and [D] reflect an assumed annual inflation rate of 1.4%. This is the market's current annualized expected inflation over the next five years, as judged by the spread between 5-year US Treasuries and 5-year Inflation-indexed US Treasuries as of 9/23/09.

V. Interactive Agreements

In its Webcasting II decision, the CRB used Dr. Pelcovits' analysis of transactions between record labels and webcasters for interactive sound recording performances as a basis for its rate determination.²⁹ In this section, I use that methodology to provide a check on the reasonableness of the rates derived in the previous section.

While there may be some controversy about the competitiveness of the interactive sound recording royalty negotiations, I do not address that in my calculations here to avoid debate about that issue. Instead, I focus on updating Dr. Pelcovits' methodology to incorporate more recent data and to incorporate the full set of available data on non-interactive services to validate the results of the previous section.

A. What Dr. Pelcovits Did

In Webcasting II, Dr. Pelcovits proposed a rate of 0.197 cents per play (Pelcovits Report, p. 54). The steps he took to derive that rate follow:

²⁹ Dr. Pelcovits' written direct testimony was submitted as an exhibit during the hearings in Webcasting II. My references are to the public version of his written testimony.

- (a) Dr. Pelcovits calculated an average license fee per subscriber for interactive services of \$2.97.³⁰
- (b) Dr. Pelcovits determined a subscriber price ratio of non-interactive services to interactive services of 0.55. Dr. Pelcovits used two methods to calculate three different price ratios. All three figures considered only for-pay services; free services, which made up the bulk of listening hours for non-interactive services, were ignored.
1. The first method used a hedonic regression with 30 observations. Using his 0.60 coefficient on interactivity, Dr. Pelcovits claimed that the interactivity “feature” added 60% to the price of a similar quality non-interactive service.³¹ This implies that the ratio of non-interactive subscriber prices to interactive subscriber price was 0.63. (Pelcovits Report, p. 39).
 2. In Dr. Pelcovits’ second method, he calculated the ratios of subscription prices of Internet radio to on-demand services across four pairs of services, each from the same provider. The average of those ratios was 0.60 for monthly subscriptions and 0.53 for annual subscriptions. (Pelcovits Report, Table 6.2 p. 40).
 3. Having calculated ratios of 0.53, 0.60, and 0.63, Dr. Pelcovits decided to use 0.55. (Pelcovits Report, p. 40).
- (c) Dr. Pelcovits’ proposed per-subscriber fee for non-interactive services was \$1.63, the product of his average interactive license fee (\$2.97) times the interactive-to-non-interactive subscription price ratio (0.55). (Pelcovits Report, p. 62.).
- (d) To determine his per-play fee of \$0.00243, Dr. Pelcovits divided the per-subscriber fee of \$1.63 by 697.5, his estimate of the number of plays a subscriber to Internet radio would listen to in a month. His figure of 697.5 came from multiplying 45 listener-hours per month times 15.5 songs per listener hour. (Pelcovits Report, p. 45).

³⁰ I have calculated this figure from figures in the public Pelcovits Report. Dr. Pelcovits’ non-interactive per user fee (before the substitution adjustment) of \$1.63 (Pelcovits Report, p. 62) divided by his 0.55 ratio of non-interactive to interactive subscriber prices yields \$2.96 per interactive subscriber. Alternatively, Dr. Pelcovits’ average price for interactive services of \$8.29 (Pelcovits Report, Appendix A, Table 2) times his 36% recommended percent-of-revenue figure (before the substitution adjustment) (Pelcovits Report, p. 62) yields \$2.98 per interactive subscriber. When I use \$2.97 (i.e., the average of \$2.96 and \$2.98) and work through Dr. Pelcovits’ other calculations, I am able to replicate his resulting figures.

³¹ I note that Dr. Pelcovits made an error in interpreting the coefficient of interactivity in his regression and thus his figure of 0.63 (\$1.00 divided by \$1.60) is incorrect. Because his regression used log of price as the dependent variable, the correct interpretation of the interactivity coefficient is that $\log(\text{interactive price}) - \log(\text{non-interactive price}) = 0.6$. Thus, the ratio of non-interactive price to interactive price is $e^{-0.6}$, or 0.55, not 0.63.

- (e) Dr. Pelcovits made a further adjustment to reflect the difference in CD-purchase substitution between non-interactive and interactive webcasting services. He calculated that this differential should reduce his \$2.97 monthly subscriber license fee by \$0.47, a 16% reduction (Pelcovits Report, p. 53). When this 16% reduction is applied to the per-play fee of \$0.00243 mentioned above, Dr. Pelcovits' recommended fee becomes \$0.00197 (Pelcovits Report, p. 62), which SoundExchange rounded to 0.0019 in its proposal to the CRB.

B. Updating Dr. Pelcovits' Price Ratio Method

I have attempted to update Dr. Pelcovits' analysis with current data, given what I was able to gather at this stage of the process, including information obtained via discovery. Like Dr. Pelcovits in Webcasting II, I reduce the price of an interactive license by \$0.47 per subscriber per month to account for the different impacts that interactive streaming and non-interactive streaming have on CD sales (which today would more accurately be MP3 track sales). Relying on more current data obtained via discovery, I have updated the \$2.97 interactive-service license fee per subscriber used by Dr. Pelcovits in Webcasting II to \$4.30.³² I have also updated the 697.5 non-interactive plays per subscriber per month used by Dr. Pelcovits in Webcasting II to 630.28, which is the median number of non-interactive plays per subscriber per month from November 2007 to February 2009.

For subscription price data, I gathered current subscription prices and service characteristics, including information related to subscription, free or ad-supported non-simulcaster services listed in several different sources.³³ Exhibit 2 describes the data gathering process in detail and provides a summary of the data. Again, as noted in point (b), above, Dr.

³² Exhibit 3 explains the data and assumptions used to calculate the updated figures described in this paragraph. The \$4.30 figure I use for the interactive-service license fee per subscriber is the highest of the 16 calculations described in Exhibit 3. I use the highest figure as it results in the highest range of rates for non-interactive streaming.

³³ DiMA Member List; JPMorgan Internet Radio Scorecard reports; Accustream iMedia Research reports; Final Determination of Rates and Terms, United States Copyright Royalty Judges, 4/23/07; Testimony of Michael Pelcovits from the Webcasting II proceeding, 10/31/05; NPD Group Presentation: The Music Landscape Jan 07 – Mar 08.

Pelcovits did not include free services, which made up the bulk of listening hours for non-interactive services, in his analysis. That methodological error substantially skewed his analysis, and the data that I gathered (which include rates for both subscription and free or ad-supported services) correct for that error. The Pelcovits figures, and their implications under his methodology, are compared to the current data in Table 7 below (which has been revised to reflect information received in discovery).

Revised Table 7

	Ignoring Free Services		Including Free Services	
	Pelcovits-II	Updated ^[1]	Pelcovits-II	Updated ^[1]
	[A]	[B]	[C]	[D]
** Interactive License Per Subscriber ^[2]	\$2.97	\$4.30	N/A	\$4.30
** Less: Pelcovits CD discount per Subscriber	\$0.47	\$0.47	N/A	\$0.47
** Interactive License Per Sub Net of CD discount	\$2.50	\$3.83	N/A	\$3.83
Non-interactive Average Price (x)	\$4.56	\$4.50	N/A	\$1.06
Interactive Average Price (y)	\$8.29	\$12.69	N/A	\$9.87
Ratio (x / y)	0.55	0.35	N/A	0.11
** Non-interactive Plays per Month	697.5	630.28	N/A	630.28
Final Per Play Fee (Net Fee*Ratio/Plays per Month)	\$0.00197	\$0.00215	N/A	\$0.00065

Note: In Webcasting II, SoundExchange proposed a rate of \$0.0019 based on Dr. Pelcovits' \$0.00197.

^[1] Interactive License Per Subscriber figure and Non-interactive Plays per Month figure updated per data produced by Dr. Pelcovits.

^[2] Interactive License Per Subscriber is calculated based on non-portable license fees and non-portable subscriber figures reported in Dr. Pelcovits' production materials.

** These rows have been added to Table 7 to clarify the calculations performed with the updated data. They do not change the methodology of the calculation; they are shown to clarify the inputs to the calculation.

The increase in the average subscription rate for interactive radio combined with the slight decrease in subscription rates for paid non-interactive services leads to a decrease in the ratio from 0.55 to 0.35. Applying that ratio to the interactive license fee and making Dr. Pelcovits' CD adjustment yields a per performance rate of \$0.00215. If instead we use a complete set of prices—including free services that make up a large portion of the relevant market—the ratio is smaller, at 0.11; that ratio implies a lower per performance rate of \$0.00065.

While 0.11 may appear to be a low interactivity adjustment, it is comparable to the interactivity adjustment of 0.19 that the CRB adopted in the SDARS proceeding.³⁴

These results are significant for a number of reasons. First, even the higher of the two numbers—the one that ignores free non-subscription webcasting—tends to corroborate the NAB benchmark analysis in Part IV by yielding a number for 2009 (\$0.00215) that is close to the range of results for 2009 yielded by the benchmark analysis (\$0.00103 - \$0.00150). Second, the significant difference between the updated Pelcovits number that ignores non-subscription services (\$0.00215) and the updated Pelcovits number that considers both subscription and non-subscription services (\$0.00065) emphasizes how significantly those services differ, and at least suggests that rates non-subscription services should be lower than those for subscription services.

C. Updating Dr. Pelcovits' Regression Analysis

In addition to my update of the Pelcovits price ratio method, I have used current data for webcasting services to try to replicate the regressions submitted by Dr. Pelcovits.³⁵ I have estimated analogous hedonic models with current data. Like Dr. Pelcovits, I found that neither sound quality nor number of radio stations had explanatory power for price. Also like Dr. Pelcovits, I found that interactivity and “untetheredness” explain price in the expected direction. Limiting the regression results only to subscription-based services (i.e., prices above \$0.00), as Dr. Pelcovits did, leads to interactivity adding \$6.55 to the subscription price. Considering a more complete data set with subscription and free services, interactivity adds \$6.78 to the

³⁴ United States Copyright Royalty Judges, Final Determination of Rates and Terms, in the Matter of Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services, January 20, 2008, pp. 51–52.

³⁵ Unfortunately, I have not had access to the data used by Dr. Pelcovits or a complete set of updated data to replicate and update his regression analysis.

subscription price. These figures provide an alternative way to calculate the ratio of non-interactive to interactive prices; the regression using current data implies a ratio of 0.41. This is somewhat below the 0.55 ratio that Dr. Pelcovits ultimately used and somewhat above the simple ratio of 0.35 calculated in the section above. Table 8 (which has been revised to reflect information received in discovery) shows that the comparable regression with current data leads to a royalty rate of \$0.00247 when limited to services with subscription fees and a lower rate of \$0.00082 when including data for free services.

Revised Table 8

	Ignoring Free Services		Including Free Services	
	Pelcovits-II	Updated^[1]	Pelcovits-II	Updated^[1]
	[A]	[B]	[C]	[D]
** Interactive License Per Subscriber ^[2]	\$2.97	\$4.30	N/A	\$4.30
** Less: Pelcovits CD discount per sub	\$0.47	\$0.47	N/A	\$0.47
** Interactive License Per Sub Net of CD discount	\$2.50	\$3.83	N/A	\$3.83
Non-interactive Average Price (x)	\$4.56	\$4.50	N/A	\$1.06
Estimated Price Effect of Interactivity (y)	\$3.73	\$6.55	N/A	\$6.78
Ratio (x / (x+y))	0.55	0.41	N/A	0.14
** Non-interactive plays per month	697.5	630.28	N/A	630.28
Final Per Play Fee	\$0.00197	\$0.00247	N/A	\$0.00082

Note: Pelcovits estimated his non-interactive subscription price under the assumption that the other characteristics of non-interactive services are the same (on average) as for interactive services.

^[1] Interactive License Per Subscriber figure and Non-interactive Plays per Month figure updated per data produced by Dr. Pelcovits.

^[2] Interactive License Per Subscriber is calculated based on non-portable license fees and non-portable subscriber figures reported in Dr. Pelcovits' production materials.

** These rows have been added to Table 8 to clarify the calculations performed with the updated data. They do not change the methodology of the calculation; they are shown to clarify the inputs to the calculation.

These regression results correspond closely both to the results of the updated Pelcovits price ratio method and to the benchmark analysis in Part IV.

Again, as discussed above, all of the prices Dr. Pelcovits analyzed were greater than zero; he ignored many, many free service offerings, effectively giving them zero weight in his analysis. But Dr. Pelcovits then used his analysis (based only on subscription services) as the

basis for setting the rate applicable to both subscription services *and* free services. To support this approach, Dr. Pelcovits provided a theoretical argument that the royalty rate should be applied equally to both types of services. The argument is empirically unsound, however, in the context of non-interactive webcasting services. Because service providers place different values on subscription and non-subscription non-interactive services (and because service providers value non-subscribers less because they typically generate less revenue), Dr. Pelcovits' analysis over-estimates the appropriate royalty figure for non-subscription services. When non-subscription services are included in the regression analysis it results in substantially lower implied rates, consistent with the fact that [REDACTED].

In sum, it is reasonable to conclude that the rate ranges calculated above apply to subscription services and that a different, lower rate should apply to non-subscription services. The differentials in Tables 7 and 8 above showing lower rates when non-subscription services are included provide an indication that the non-subscription rates should be lower.

Table 9 below takes the per-performance rates calculated in Tables 7 and 8 using current data and carries them forward in time adjusting for expected inflation. (As with Tables 7 and 8, Table 9 has been revised to reflect information received in discovery.)

Revised Table 9

Year	Ignoring Free Services		Including Free Services	
	Pelcovits Updated ^[1]	Pelcovits Updated ^[1]	Pelcovits Updated ^[1]	Pelcovits Updated ^[1]
	Ratios [A]	Regression [B]	Ratios [C]	Regression [D]
2011	\$0.00221	\$0.00254	\$0.00067	\$0.00084
2012	\$0.00224	\$0.00258	\$0.00068	\$0.00085
2013	\$0.00227	\$0.00261	\$0.00069	\$0.00087
2014	\$0.00230	\$0.00265	\$0.00070	\$0.00088
2015	\$0.00234	\$0.00268	\$0.00071	\$0.00089

Note: Changes from year to year reflect an assumed annual inflation rate of 1.4%. This is the market's current annualized expected inflation over the next five years, as judged by the spread between 5-year US Treasuries and 5-year Inflation-indexed US Treasuries as of 9/23/09.

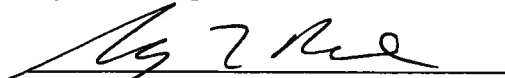
^[1] Figures updated per updated figures in Revised Tables 7 and 8.

VI. Conclusion

As mandated by Congress, the CRB should base its determination on the rates that a willing buyer and willing seller would agree to in an effectively competitive market. My analysis of the commercial agreement between SoundExchange and the NAB achieves this by adjusting the rates from that agreement in several ways to derive a range of rates that would prevail in an effectively competitive market. My analysis demonstrates that the 2011 rate for subscribers should fall somewhere between \$0.00103 and \$0.00154 per play, and the rate for non-subscribers should be adjusted downward from there.

As a corroboration of my analysis based on the terms of the Sound-Exchange-NAB agreement, I have also updated Dr. Pelcovits' analyses of interactive and non-interactive services. The results of this exercise corroborate my conclusions about the range of appropriate royalty rates and the justification for a lower rate for non-subscription services.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information and belief.

A handwritten signature in black ink, appearing to read "G. L. Rosston", is written over a horizontal line.

Gregory L. Rosston

2/16/10

Date

Exhibit 1

Exhibit 1

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Employment

Stanford University, Stanford, CA

Deputy Director, Stanford Institute for Economic Policy Research, 1999-

Deputy Director, Public Policy Program, 2006-

Senior Research Fellow, Stanford Institute for Economic Policy Research, 2004-

Research Fellow, Stanford Institute for Economic Policy Research, 1997-2004

Lecturer in Economics/Public Policy, 1997-

Federal Communications Commission, Washington, DC

Deputy Chief Economist, 1995-1997

Acting Chief Economist, Common Carrier Bureau, 1996

Senior Economist, Office of Plans and Policy, 1994-1995

Law and Economics Consulting Group, Berkeley, CA

Senior Economist, 1990-1994

Economists Incorporated, Washington, DC

Economist/Research Associate, 1986-1988

Education

Stanford University, M.A., Ph.D., in Economics, Specialized in the fields of Industrial Organization and Public Finance. 1986, 1994.

University of California, Berkeley, A.B. in Economics with Honors. 1984.

Papers and Publications

"An Economic Analysis of the Effects of FCC Regulation on Land Mobile Radio," unpublished Ph.D. dissertation, Stanford University. 1994.

"Competition in Local Telecommunications: Implications of Unbundling for Antitrust Policy" in Brock, G., (ed.) Toward a Competitive Telecommunication Industry: Selected Papers from the 1994 Telecommunications Policy Research Conference, LEA Associates, Mahwah, NJ. 1995 (with Harris, R. and Teece, D.).

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“Fixing Detroit’s Bailout Blues” *CBSNews.com*, May 29, 2009

Other Activities

Editorial/Committees

Co-chair, Obama for President, Economy Globalization and Trade Committee, 2008
Member, Obama Presidential Transition Team, 2008
Associate Editor, *Information, Economics and Policy*, 2008-
Referee for *American Economic Review*, *Rand Journal of Economics*, *Industrial and Corporate Change*, *Journal of Industrial Economics*, *Information, Economics and Policy*, *Telecommunications Policy*, *Telecommunication Systems*, *Journal of Economics and Management Science*, *Antitrust Law Journal*.
Telecommunications Policy Research Conference, Program Committee 2002-2004.
Bay Area Economic Profile Academic Review Panel, 2003-2004.
National Research Council Committee on *Wireless Technology Prospects and Policy*, 2003-2007.

Testimony and Submissions

FCC Economist Panel on the Economics of Interconnection, May, 1996.
FCC Economist Panel on the Economics of RBOC Entry under §271, July, 1996.
FCC Economist Panel on Competitive Bidding for USF, March, 1997.
Consultant for the World Bank on Telecommunications Policy in Hungary, 1998.
FCC Academic Expert Panel on “A New FCC for the 21st Century,” June 1999.
FCC Academic Expert Panel on AT&T—MediaOne Merger, February, 2000.
Principal co-author of 37 Concerned Economists submission on “Promoting Efficient use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets,” February 2001
FCC Panel on Wireless Competition, February 2002.
FCC Workshop on Spectrum Policy, July 2002.
San Francisco Telecom Commission on Cable Competition, January 2003.
U.S. Senate Commerce Committee on Spectrum Policy, March 2003.
California State Senate Committee on Banking, Commerce and International Trade on the Economic Effects of Media Consolidation, March 2003.
San Francisco City Board of Supervisors Land Use Committee on Cable Competition,

July 2004.

GAO Panel on Spectrum Allocation and Assignment, August, 2005.

Comments and Reply Comments (with Paul Milgrom) on Auction Rules for Advanced Wireless Services, February 2006

FTC Panel on Network Neutrality, February 2007.

FCC *En Banc* Hearing on Network Management, April 2008.

Co-chair, Economy, Globalization and Trade Committee, Obama for President, 2008

Obama Presidential Transition Team, 2008

Principal co-author of 71 Concerned Economists submission on "Using Procurement Auctions to Allocate Broadband Stimulus Grants" to the National Telecommunications Information Agency (NTIA) and Rural Utilities Service (RUS), April, 2009

FCC Broadband Task Force Workshop on Benchmarks, September, 2009

Other

Sustainable Conservation, Advisory Board, 2007-

Nepalese Youth Opportunity Fund, Advisory Board, 2007-

Boards and Advisory Boards for private companies

Awards

Chairman's Distinguished Service Award, FCC, 1997.

University of California, Brad King Award for Young Alumni Service, 1994.

National Performance Review Hammer Award for Reinventing Government, 1994.

September 2009

Exhibit 2

Exhibit 2

Data Collection and Analysis

Data Collection

For the purposes of updating Dr. Pelcovits' analysis, I identified a set of potential webcasters using the following sources.

1. Final Determination of Rates and Terms from the Webcasting II proceeding, 4/23/07.
2. Testimony of Michael Pelcovits from the Webcasting II proceeding, 10/31/05.
3. RealNetworks Inc. 2008 10-K filed 3/2/09.
4. AccuStream iMedia Research Report, Online Music Radio, 2009.
5. AccuStream iMedia Research Report, Streaming Media Growth and Content Category Share: 2006–2010.
6. JPMorgan Internet Radio Scorecard Reports dated 4/4/07, 12/7/07, 2/5/08, and 4/10/08.
7. Digital Media Association (DiMA) Member Lists as of 9/24/09 and 12/26/07.
8. NPD Group Presentation: The Music Landscape Jan 07 – Mar 08

Firms preliminarily identified as webcasters were excluded from the sample based on the following criteria:

1. Simulcasters that only streamed terrestrial or satellite radio stations online were dropped from the sample.
2. Webcasters that were no longer operational or offering functional webcasting services in the US as of 9/24/09 were dropped from the sample.
3. Webcasters focused solely on a very specific and narrow range of genres of music were dropped from the sample.
4. Webcasters that only streamed talk or news radio were dropped from the sample.
5. Webcasters that only provided access to radio stations or video streams of other webcasters were dropped from the sample.
6. Webcasters that appeared to be primarily in the business of selling music downloads and that offered limited streaming music were dropped from the sample.

For the remaining set of 43 webcasters, I gathered data concerning the price of subscriptions (noting a price of zero for free services), whether the service allowed songs to be played untethered from the internet, the number of channels offered, and the bit rate of play.

Analysis

Prices for the active webcasters are summarized at the end of this exhibit. Per Dr. Pelcovits, I calculated ratios of prices of interactive and non-interactive services.

I studied what information was available to me about Dr. Pelcovits' hedonic regression and estimated analogous models with my updated data.¹ Like Dr. Pelcovits, I found that neither sound quality nor number of radio stations had explanatory power for price. Also like Dr. Pelcovits, I found that interactivity and untetheredness continue to explain price in the expected direction.

Below are the results of the regressions which I used in my rate calculations.

Dependent Variable: Monthly Price Level; All Observations				
Variable	Coefficient	Standard Error	T-Value	p-value
Intercept	0.8603	0.5317	1.62	0.11
Interactivity	6.7798	1.2851	5.28	0.00
Untetheredness	5.2649	1.5088	3.49	0.00
Number of obs	43			
Adjusted R-squared	0.6226			

Dependent Variable: Monthly Price Level; Non-Zero Prices Only				
Variable	Coefficient	Standard Error	T-Value	p-value
Intercept	4.6070	0.7959	5.79	0.00
Interactivity	6.5534	1.2911	5.08	0.00
Untetheredness	2.9243	1.3664	2.14	0.05
Number of obs	15			
Adjusted R-squared	0.7822			

¹ Given that log price cannot be calculated for zero prices and that linear models explained the data better than log models, the linear results are provided.

Interactive and Non-Interactive Webcasting Services

Source: Webcaster Web Sites

No. Interactive Services		Annual Price / 12	Monthly Price
1	Rhapsody To Go	\$14.99	\$14.99
2	Zune Pass	\$14.99	\$14.99
3	Napster To Go	\$14.95	\$14.95
4	FYE Download Zone (Get it to Go)	\$14.95	\$14.95
5	Rhapsody Unlimited	\$12.99	\$12.99
6	FYE Download Zone (Get it for 30)	\$9.95	\$9.95
7	Napster	\$5.00	\$7.00
8	iMeem	\$0.00	\$0.00
9	MySpace Music	\$0.00	\$0.00
Average (all prices)		\$9.76	\$9.98
Average (all prices), Annual Price / 12 and Monthly Price		\$9.87	
Average (non-zero prices)		\$12.55	\$12.83
Average (non-zero prices), Annual Price / 12 and Monthly Price		\$12.69	

No. Non-Interactive services		Annual Price / 12	Monthly Price
1	Live365	\$5.95	\$7.95
2	Digitally Imported Premlum	\$4.95	\$5.95
3	SKY.fm Premium	\$4.95	\$5.95
4	Radioio.com Soundpass	\$4.17	\$4.99
5	Slacker Plus	\$3.99	\$3.99
6	Last.fm Paid	\$3.00	\$3.00
7	Pandora One	\$3.00	\$3.00
8	gotradio.com	\$2.25	\$4.95
9	1.FM	\$0.00	\$0.00
10	181.FM	\$0.00	\$0.00
11	1club.fm	\$0.00	\$0.00
12	202.fm Network	\$0.00	\$0.00
13	977music.com	\$0.00	\$0.00
14	AccuRadio	\$0.00	\$0.00
15	accutunes	\$0.00	\$0.00
16	AOL Radio Powered by CBS Radio	\$0.00	\$0.00
17	Artistdirect	\$0.00	\$0.00
18	Big R Radio Networks	\$0.00	\$0.00
19	BoomerRadio.com	\$0.00	\$0.00
20	BroadcastURBAN.net	\$0.00	\$0.00
21	Digitally Imported (Free)	\$0.00	\$0.00
22	getnetradio.com	\$0.00	\$0.00
23	gotradio.com	\$0.00	\$0.00
24	Last.fm Free	\$0.00	\$0.00
25	Live365	\$0.00	\$0.00
26	LoudCity	\$0.00	\$0.00
27	orsradio.com	\$0.00	\$0.00
28	Pandora Media	\$0.00	\$0.00
29	Radioio.com (free)	\$0.00	\$0.00
30	Rhapsody (free)	\$0.00	\$0.00
31	rock.com	\$0.00	\$0.00
32	SKY.fm	\$0.00	\$0.00
33	Slacker Basic Radio	\$0.00	\$0.00
34	Yahoo! Music Radio Powered by CBS Radio	\$0.00	\$0.00
Average (all prices)		\$0.95	\$1.17
Average (all prices), Annual Price / 12 and Monthly Price		\$1.06	
Average (non-zero prices)		\$4.03	\$4.97
Average (non-zero prices), Annual Price / 12 and Monthly Price		\$4.50	

Exhibit 3

Updating Dr. Pelcovits' Per-Subscriber License Fees and Monthly Plays Per Subscriber

I use information produced by SoundExchange during the discovery phase of this proceeding to update the per-subscriber license fee figure and monthly plays per subscriber figures that were inputs into Dr. Pelcovits' analysis in the Webcasting II proceeding.

I. Updating Dr. Pelcovits' Webcasting II Per-Subscriber License Fee Figure

To calculate an updated interactive license fee per subscriber for non-portable services (*i.e.*, services that do not allow listeners to access cached tracks without an Internet connection), I divide labels' total revenues from non-portable webcasting services by the total number of subscribers to such services. In discovery, SoundExchange produced information for three of the four major record labels that would enable such a straightforward calculation. However, there is no comparable information in disaggregated form for the fourth major label, WMG, or for independent labels in the discovery material. Hence, it is necessary to make assumptions about plays and rates for WMG and for independent labels to derive a basis for the revenue per subscriber.

Although the WMG data are not disaggregated for Napster and Rhapsody, it is possible to use monthly royalty payment statements from Napster and Rhapsody that were produced in discovery to impute the number of plays per month for WMG tracks and the fees paid for non-portable performances on those two services. Similarly, it is also possible to impute the fees paid to the independent record labels. The estimated fees paid to WMG and the independents can be added to the known fees paid to the three other major labels to calculate total fees for Napster and Rhapsody, and then add those totals to the fees paid by other services for which there is disaggregated data to calculate total fees. Dividing this number by the total number of subscribers on the available services leads to a per subscriber license fee.

I have imputed the number of non-portable plays of WMG tracks and fees paid to WMG based on data pertaining to the other labels and on overall WMG plays that was produced in discovery. Similarly, I have imputed fees paid to non-major labels based in part on data related to the major labels.

A. Imputing WMG Fees and Plays

There are at least two different methods to impute the number of monthly portable and non-portable plays per month from WMG's catalog.

WMG Plays Method I: This method starts with the assumption that the major labels' share of non-portable plays is the same as the major labels' share of all plays.

$$\text{Major Label NP Plays} = \left(\frac{\text{All Major Label Plays}}{\text{All Plays}} \right) \times \text{Total NP Plays}$$

Starting from this assumption, I calculate WMG's non-portable plays as follows:

$$\text{WMG NP Plays} = (\text{Major Label NP Plays}) - (\text{All Major Label NP Plays except WMG})$$

WMG Plays Method II: This method assumes that WMG has the same fraction of non-portable plays as the other major labels.

$$\% \text{WMG Non-Portable Plays} = \frac{\text{All Major Label Non-Portable Plays (excluding WMG)}}{\text{All Major Label Plays (excluding WMG)}}$$

Starting from this assumption, I calculate WMG's non-portable plays as follows:

$$\text{WMG NP Plays} = \% \text{WMG NP Plays} \times \text{Total WMG Plays}$$

With these WMG play estimates, one can estimate WMG royalty revenues for plays on non-portable services based on payment data contained in monthly streaming fee reports for Napster and Rhapsody. Napster and Rhapsody appear to have different payment structures, however, which require different calculations to estimate WMG's non-portable (and hence total) revenues.

Napster-WMG Royalty Payment Estimates: The only Napster-WMG statement produced in discovery demonstrates that Napster's payments to WMG [

].

The Napster-WMG statement shows that [

]. I perform these two calculations in concert with Methods I and II above, leading to four different estimates of WMG non-portable revenues from Napster.

Two of those estimates are generated using “calculation (1)”, plugging in data from Method I and Method II separately to generate the different estimates. These two calculations are written as follows:

$$\frac{\text{WMG NP plays (from Method I or II)} \times \text{Total Fees Paid} \times \text{Napster-WMG\%}}{\text{Total NP Plays}}$$

The other two estimates are generated using “calculation (2)”, again plugging in data from Method I and Method II separately to generate two different estimates. Using “calculation (2)” to generate two estimates of WMG’s portable revenue revenues (which are then subtracted from total revenues to estimate non-portable revenues) is written as follows:

$$\frac{\text{WMG portable plays (from Method I or II)} \times \# \text{ Portable Subs} \times \text{Per-user Minimum}}{\text{Total portable plays}}$$

Rhapsody-WMG Revenue Estimates: No Rhapsody - WMG monthly streaming fee statements were produced in discovery. Accordingly, I have used a Rhapsody - Sony statement for the month of July 2008 as a proxy. The Rhapsody – Sony statement reflects [

]. I use [] to estimate non-portable revenues and alternatively to estimate portable revenues and then subtract that estimate from total revenues to get a second estimate of non-portable revenues.

To estimate Rhapsody-WMG non-portable revenues:

$$\frac{\text{WMG NP plays (from Method I or II)} \times \# \text{ NP Subs} \times \text{Per-user Minimum}}{\text{Total NP plays}}$$

To estimate Rhapsody-WMG portable revenues (which are then subtracted from total revenues to get non-portable revenues):

$$\frac{\text{WMG portable plays (from Method I or II)} \times \# \text{ Portable Subs} \times \text{Per-user Minimum}}{\text{Total portable plays}}$$

B. Imputing Independent Labels’ Fees Per-Subscriber

SoundExchange’s data produced in discovery do not include non-major label fees, which are necessary to attempt to calculate a per-subscriber fee reflecting the industry as a whole. I have taken a two-step approach to estimating those fees based on other data

produced in discovery. First, I have estimated non-major labels' non-portable plays by starting with the total number of non-portable plays, and then subtracting Sony BMG, Universal, EMI and estimated WMG non-portable plays. Second, I multiplied the resulting number of non-major plays by an assumed non-major per-play royalty rate of \$0.01 to obtain an estimate of revenues for plays of non-major labels' tracks. Because I used two approaches to estimate total major label non-portable plays (from Methods I and II, above), I have two estimates of non-major label non-portable fees.

C. Calculating an Updated Per-Subscriber Fee

Dividing estimated revenues (as calculated above) by the total number of subscribers produces the average per subscriber rate. The results of the various estimation methods presented above are summarized in the following table:

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In the text of my amended report, I employ the highest of these figures – \$4.30 – as it produces the highest range of rates for non-interactive streaming in the “Interactive Agreements” analysis described in the text.

II. Updating Dr. Pelcovits’ Figure for Monthly Plays per Non-Interactive Subscriber

Using materials produced in discovery in this proceeding, 630.28 is the median non-interactive plays per subscriber per month from November 2007 to February 2009.

Data Adjustments

A number of adjustments have been made to Dr. Pelcovits’ data (which were produced in discovery by SoundExchange) to update per subscriber license fees and monthly plays. These adjustments are listed below:

1. Sony portable and non-portable revenue information for Rhapsody was not among the information Dr. Pelcovits employed that was produced in discovery. Only Sony’s total revenue from Rhapsody was produced as part of Dr. Pelcovits’ data. However, the breakdown between portable and non-portable data was available in other discovery materials, and I updated the dataset to reflect this.
2. UMG portable and non-portable play data for Rhapsody appeared to be reversed in the data produced in discovery for November 2008 – January 2009. This has been corrected.
3. The Napster payments to EMI in December 2007 included in Dr. Pelcovits’ materials produced in discovery did not equal the sum of portable and non-portable revenue for that month as reflected in the corresponding monthly statement. I have adjusted Dr. Pelcovits’ data so that it does.
4. For Altnet/Brilliant Digital, there were instances when calculating non-major label plays (total plays for all labels minus total major label plays) led to negative non-major label plays. In these cases, non-major label fees were estimated to be zero.

CERTIFICATE OF SERVICE

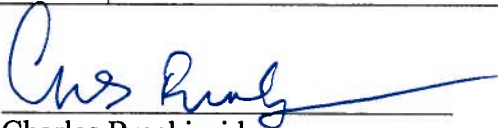
I, Charles Breckinridge, do hereby certify that copies of the foregoing "Notice of Amended Testimony of Gregory Rosston" and "Amended Testimony of Gregory Rosston" (PUBLIC VERSION) were sent via email and first class mail this 16th day of February, 2010, to the following:

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