Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of: **Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022)**

Written Direct Statement of Google Inc.

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Volume 1

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Introductory Memorandum to the
Written Direct Statement of Google Inc.

Over the past fifteen years, digital music services have competed for listeners and have invested in new, innovative product features designed to attract and engage users. These innovations have attracted millions of new subscribers, and the services' payments to publishers and other rights holders have skyrocketed. Despite these advancements, no streaming music service has achieved profitability.

Digital music services have modeled their businesses under the rate structure first established in the industry-wide *Phonorecords I* settlement nearly a decade ago. That settlement embodied two core bargains. First, digital music services agreed to pay mechanical royalties for interactive streaming in exchange for copyright owners' agreement that the Section 115 compulsory license would cover uses such as on-demand streams and conditional downloads. Second, the parties agreed that a standard $10-per-month subscription streaming service would pay 10.5% of its revenue to music publishers "all in" for both mechanical rights and separately licensed public performance rights; a complex series of floor fees and minima kept the all-in payment to publishers from dropping too low. The

Phonorecords II settlement, [redacted], carried forward this general rate structure.

But recent upheaval and rate increases for digital music services in the public performance rights marketplace now threaten to trigger this complex series of floor fees. Rather than protect the publishers from artificially low payments, if left in place, the existing floor fees promise a sharp upward ratchet to the historical all-in rate. The digital music industry's tenuous gains are at risk.

Nevertheless, the "Copyright Owners" — collectively, the National Music Publishers Association and Nashville Songwriters Association International — seek to impose an even more burdensome rate structure on digital music services. As Google's written direct testimony will establish, there is no economic justification to depart from the existing, percentage-of-revenue rate structure, or the rate of 10.5% of revenue for interactive streaming under Subpart B and 12% of revenue for paid locker services under Subpart C. 37 C.F.R. §§ 385.12, 385.23. Nor would a departure further the policy considerations for setting a rate established in 17 U.S.C. § 801(b). If anything, the current economic conditions facing streaming music services and these policy considerations counsel for an even lower rate.

Royalty Rate Request for 2018–2022

This is a proceeding to set the rates that digital music services will pay for the making and distributing of phonorecords for the period of January 1, 2018 through December 31, 2022. Google's requested rate is substantially consistent with

existing and historical rates, but simplifies the royalty calculations and mitigates against dramatic hikes that would disrupt the digital music industry.

All three major record labels and Copyright Owners reached an agreement for Subpart A that maintains the existing greater-of rate of 9.1 cents or 1.75 cents per minute for permanent digital downloads. That settlement agreement is pending before the Copyright Royalty Board for its adoption. Google does not object to the proposed settlement.

Google proposes the following rate structure for services offering interactive streams and conditional downloads under Subpart B of the Section 115 statutory license: the greater of (i) the topline rate of 10.5% of service revenue and (ii) the lesser of (a) 13.5% of the total amount expensed by the service provider for the right to make interactive streams and limited downloads of sound recordings, and (b) the existing per-subscriber per-month minima set forth in 37 C.F.R. 385.13(a).[1] Google also proposes the following rate structure under Subpart C: the greater of (i) the existing Subpart C topline rates, and (ii) 13.5% of the total amount expensed by the service provider for the right to make interactive streams and limited downloads of sound recordings. For the two service categories under Subpart C that currently contain a "per subscriber" minimum, those minima would also be retained. For both Subpart B and Subpart C, the resulting royalty pool would remain subject to a

[1] Google's proposal to keep the existing per subscriber minimum fees set forth in 37 C.F.R. 385.13 is contingent on such fees remaining part of a royalty formula that allows services to pay the lesser of such fees or a percentage – which Google believes, for the reasons set forth below, should be 13.5% – of the amount paid for sound recording rights. If that structure were altered, then lower per subscriber minima would be appropriate.

deduction for payments made for public performance rights.[2]

In addition to these rate terms, the Board should issue regulations that specifically allow services a deduction to account for any direct licenses of reproduction and distribution rights in musical works. Google also proposes that the definitions of "Service Revenue" in 37 C.F.R. § 385.11 and of "Subpart C Service Revenue" in 37 C.F.R. § 385.21 be amended to allow for deductions of cost of revenue — such as credit card transaction fees, carrier billing fees, and app store commissions — up to a maximum of 15%.

Finally, to the extent the Board adopts any per-subscriber minima, the regulations should clarify how to account for family plans. Google proposes that the per-month minima for family plans should be a graduated rate reflecting how a family plan is priced relative to an individual plan (*e.g.*, if a $10 per subscriber plan has a $0.80 per subscriber minimum, then a $15 per family plan could have a $1.20 per family minimum).[3] Google's proposed changes to the existing regulations are attached as Appendix A.

Summary of Testimony and Argument

This proceeding may be the Copyright Royalty Board's first opportunity to determine a rate for the making and distributing of phonorecords for interactive streaming, paid locker services, and other digital music services under 37 C.F.R. §

[2] Under this proposal, all subscriber based floor fees applicable to Subpart B, which are described in 37 C.F.R. § 385.13, would be eliminated.

[3] If the Board is concerned that such a graduated rate could encourage underpricing family plans, then the minimum per-subscriber payment per each family plan could be set at 1.5 times the prevailing per-subscriber minimum for each service type.

385, Subparts B and C. The prior two *Phonorecords* proceedings settled and, in both proceedings, the Board adopted the parties' agreed rates. Although this may be the Board's first opportunity to determine the rates for services under Subparts B and C, the Board is not in uncharted waters. The Board has previously determined the rate for satellite audio radio services which, like the rates here, must be calculated to achieve the four objectives set out in 17 U.S.C. § 801(b)(1) (the "§ 801(b) factors"). *See, e.g.*, *Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services*, 73 F.R. 4080 (Jan. 24, 2008) ("*SDARS I*").

As the Board explained in *SDARS I*, the Board's rate determination begins by looking at benchmarks agreements to set a "zone of reasonableness" for the royalty rate. Then, it evaluates whether the four § 801(b) factors require any adjustment to that "zone." *SDARS I,* 73 F.R. at 4094. The § 801(b) factors are:

> (A) To maximize the availability of creative works to the public.
> (B) To afford the copyright owner a fair return for his or her creative work and the copyright user a fair income under existing economic conditions.
> (C) To reflect the relative roles of the copyright owner and the copyright user in the product made available to the public with respect to relative creative contribution, technological contribution, capital investment, cost, risk, and contribution to the opening of new markets for creative expression and media for their communication.
> (D) To minimize any disruptive impact on the structure of the industries involved and on generally prevailing industry practices.

As Google's testimony will show, its rate proposal is supported by both marketplace agreements — including Google's agreements with publishers and the proposed settlement for Subpart A — and other evidence bearing on the four § 801(b) factors.

In fact, Google's proposal is conservative in light of the current across-the-board unprofitability of digital music services.

1. History of *Phonorecords* Proceedings

Since the current rate structure evolved from industry-wide settlement, Google will offer fact and expert testimony discussing the history of the *Phonorecords* proceedings.

Under 17 U.S.C. § 115, a music user may obtain a compulsory license for "phonorecords or digital phonorecord deliveries." 17 U.S.C. § 115(a). "Phonorecords" are "material objects in which sounds . . . are fixed," like vinyl records or CDs. 17 U.S.C. § 101. "Digital phonorecord deliveries" are not defined with particularity, and the Copyright Office first initiated a rulemaking proceeding to determine what types of digital services engaged in "digital phonorecord deliveries" subject to a Section 115 compulsory license in 2001. Although digital services agreed that a permanent download — for instance, purchasing a song and downloading it to your computer — constituted a "digital phonorecord delivery," digital services disputed whether interactive and noninteractive streaming results in a digital phonorecord delivery.

In 2006, the *Phonorecords I* proceeding began. During the rebuttal phase of *Phonorecords I*, certain participants reached a settlement covering the rates and terms for the Section 115 license for the period 2008–2012. Despite initiating a rulemaking in 2001, the Copyright Office did not take a position on whether streaming implicated the Section 115 right. Under the terms of the *Phonorecords I*

settlement, online music services agreed that interactive streaming required a mechanical license in exchange, among other things, for the publishers' agreement that no such license was required for non-interactive streaming. The parties also agreed that all mechanical rates, including those for limited and incidental downloads, would be subject to § 115 compulsory licensing and rate-setting.

The *Phonorecords I* settlement established the framework for Section 115 license-fee calculations that remains in place for on-demand streaming services today: the greater of 10.5% of service revenue or the lesser of a percentage of sound-recording payments or a per-subscriber minimum, less public performance royalties, subject to a per-subscriber floor. Under the prevailing rates in 2008, the settlement meant that a $10-per-month subscription service effectively paid 10.5% of revenue for all music publishing rights (including public performance rights) associated with a subscription on-demand service. As Zahavah Levine, the Vice President of Partnerships for Google Play will testify, [redacted] Testimony of Zahavah Levine ¶¶ 35–41. The *Phonorecords I* settlement also established the 9.1-cent rate for downloads and physical sales under Subpart A.

This rate structure was carried forward in the *Phonorecords II* settlement. That settlement continued the 9.1-cent Subpart A rate for downloads and physical sales and adopted the rate structure described above, subject to minor changes, for on-demand streaming services covered by Subpart B. Finally, the settlement created rates and terms for five new digital service categories under Subpart C.

2. Publisher agreements with Google and other digital services confirm that the existing royalty rate structures should be substantially maintained

Google will present testimony from executives and distinguished experts in economics and in the digital music industry about Google's license agreements with publishers, as well as agreements between the publishers and other services. These agreements show that the existing percentage-of-revenue rate structure and topline rates should be maintained.

To start, Google will submit its voluntary agreements with the major publishers for the Google Play Music streaming service as benchmarks. [redacted]

3. Evidence Addressing the § 801(b) Factors

Google will also present testimony from executives for Google Play Music and distinguished experts who will discuss the Google-affiliated music services, Google's music-related innovations, and the challenges faced by Google Play and other music

[4] [redacted]

services to develop a profitable streaming service. This testimony will also discuss the disruption that a rate increase or shift to a per-play rate structure would cause.

In particular, witnesses will testify about Google's creative and technological contributions, and how Google develops new markets and revenue streams for creative works. *See* § 801(b). As just one example, Google's witnesses will testify about the development of a sophisticated music prediction feature for Google Play Music that targets types of music to a user based on her tastes. Google acquired this feature when it purchased Songza in 2014 for [redacted], and it has continued to refine it.

Google's innovations have been paramount to its efforts to attract new subscribers. In fact, Google Play Music's subscribers have increased from [redacted] in June 2013 to [redacted] subscribers as of June 2016. And Google Play's payments to publishers have similarly increased. From Google Play Music's launch in June 2013 to June 2016, Google paid [redacted] to publishers in the United States related to Google Play Music subscription revenues alone.

But as Google's witnesses and experts will testify, Google and all other streaming music services have been unable to achieve profitability under the existing mechanical rate structure. While Google Play Music has made many different efforts since the service has launched to improve profitability, the United States service lost [redacted] in the first half of 2016.

Finally, Google's witnesses will address the disruption that would result from an increase in rates or a shift from a percentage-of-revenue to a per-play rate

structure. An appropriate rate structure rewards services that effectively engage users. A per-play rate would punish services with higher, unpredictable royalties and create perverse incentives for music services to discourage use of the service.

The following section summarizes the testimony offered to support Google's rate request.

Fact Witnesses

In support of its royalty rate request, Google will present in its Direct Case the testimony of the following fact witnesses:

1. **Zahavah Levine, Vice President of Partnerships for Google Play**

Zahavah Levine is the Vice President of Partnerships for the Google Play division of Google. Ms. Levine will testify about the business of music streaming, Google's rate proposal, Google Play Music's services, and Google's licenses with publishers and record labels.

Ms. Levine has fifteen years of experience in digital music. In that period, Ms. Levine has observed the streaming ecosphere evolve as many digital music services emerged, all competing to attract users and develop innovative services. But digital music services have struggled even under the current royalty rate structure. As Ms. Levine will explain, content acquisition costs, primarily in the form of music royalties, are the largest impediment to profitability for streaming music services. She will testify about the struggles faced by streaming services: within the last two years, Rdio has filed for bankruptcy, Rara.com closed, etc. Other

services — such as SoundCloud and Slacker — struggle to overcome their unprofitability.

Ms. Levine will explain why a per-play rate is an inappropriate rate for a mechanical license. [redacted] with a per-play rate, the royalties payable for active, engaged users is uncertain and can exceed the revenue received from such users. Ms. Levine will discuss how per-play rates incentivize services to discourage usage and engagement by subscribers, rather than encourage it. But usage and engagement are the primary indicators of retention, and growth of the service requires active, engaged users.

Ms. Levine will also testify about past negotiations between Copyright Owners' and digital music services for the rates paid to publishers. As Ms. Levine will explain, the *Phonorecords I* settlement established the general framework for Section 115 license-fee calculations, which was carried over in *Phonorecords II*. The settlement meant that a ten-dollar-per-month subscription service effectively paid a 10.5% of revenue all-in fee for music publishing rights (including public performance rights) associated with a subscription on-demand service. [redacted]

As Ms. Levine will also explain, Google has entered into direct deals with music publishers that cover the on-demand streaming functionalities of Google Play Music. [redacted]

[redacted]

Finally, Ms. Levine will discuss Google Play's streaming service and locker service.

2. Paul Joyce, Director of Product Management at Google Play Music

Paul Joyce is the Director of Product Management of Google Play Music. He will provide an overview of Google's music-related services, discuss the impact of music royalties on Google Play Music's effort to attain profitability, and discuss the structure of its license fees.

Mr. Joyce will first testify about Google's streaming services. Google operates three services: Google Play Music, an audio service; YouTube, a streaming video service; and the YouTube Music app, which focuses on audiovisual content but includes audio-only functionality. As Mr. Joyce will discuss, Google Play Music offers both a streaming service and a locker service. The streaming service has a free tier which allows users to upload their own music collection to a locker and listen to those tracks through Google Play Music and to listen to streaming radio. Google Play monetizes the free portion by selling audio, pre-roll video, and banner advertisements. The paid streaming service, on the other hand, offers on-demand streaming capability that enables listeners to choose any song in Google Play's catalog of over 40 million songs. Mr. Joyce will explain that Google Play Music has [redacted], who pay either $9.99 a month for an individual subscription or pay as part of a $14.99 per month family plan.

In addition to this testimony, Mr. Joyce will explain the impact of music royalties on Google Play Music's profitability. Google Play Music [redacted] subscribers in just a few years, and now has [redacted] U.S. subscribers. Yet Google Play Music has consistently operated at a loss. The losses have continued even as Google Play Music has built a continually increasing base of subscribers paying $9.99 per month for the streaming service. Most of Google Play Music's expenses come from music royalty payments, which are [redacted] of its revenue (and sometimes more). Mr. Joyce will also discuss the [redacted] costs that Google incurs to develop Google Play Music and YouTube Red to attract new users.

Finally, Mr. Joyce will testify about the structure of Google Play Music's license fees. [redacted] Mr. Joyce will testify that though the rates already are too high to permit a service to be profitable, the rates are structured in a way that allows payment amounts to be predictable and scale with the growth of the business.

3. Elliot Alyeshmerni, Finance Manager at Google Play Music

Elliot Alyeshmerni is the Finance Manager at Google Play Music. Mr. Alyeshmerni will testify about the challenges Google Play faces to develop a profitable music service. Google Play Music generates [redacted] revenue from the sale of music downloads ([redacted]) and subscription

payments ([redacted]). Google Play Music also generates revenue through advertisements. But as Mr. Alyeshmerni will discuss, Google Play Music has incurred significant costs constructing the service's infrastructure and has enormous variable costs associated with running the service. One of Google Play Music's most significant costs, music royalties, alone consumes [redacted] of the service's revenue. Mr. Alyeshmerni will testify that between Google's licenses obligating [redacted] be paid to record labels [redacted], Google Play Music is consistently paying [redacted] of revenue (and often more) towards content costs. Even though Google has made significant gains in attracting new subscribers, Mr. Alyeshmerni will testify that Google Play Music is still not profitable.

Expert Witnesses

Google will present the testimony of the following expert witnesses:

1. **Dr. Gregory K. Leonard, Economist**

Dr. Gregory K. Leonard, an economist and partner at Edgeworth Economics, will evaluate Google's rate proposal for the services covered under Section 385, Subparts B and C, in light of the existing rate structure, Google's and others' deals with music publishers, and the § 801(b) factors.

For the rates for interactive streaming and limited downloads under 37 C.F.R. § 385, Subpart B, Dr. Leonard will testify that Google's proposed 10.5% rate is within the reasonable range of all-in topline rates for services covered by Subpart B, which are from 10% to 11% of service revenue as defined in Google's proposal. Dr.

Leonard arrived at this range by calculating the weighted average Section 385, Subpart A royalty rate applicable to Google's download sales during a recent sample period. He then compared that figure to the 2006 and 2015 weighted average retail prices of a permanent digital download. Dr. Leonard will testify that [redacted]

In addition, Dr. Leonard will testify that Google's existing agreements [redacted] To reflect a true all-in royalty rate for license fees covering both mechanical and public performance rights for musical works, the application of mechanical-only per-subscriber royalty floors should be removed from the Section 385, Subpart B royalty calculation. This best preserves the intended economics of the first two *Phonorecords* settlements.

As Universal Music Publishing Group's then-Chairman and CEO testified in a 2014 rate-setting trial between Pandora and ASCAP:

> THE COURT: So are you talking about ASCAP's public performance fee for an on-demand service?
>
> [Zach Horowitz]: In my mind I blur it, I merge it. It doesn't make any difference to me how Spotify's income to the publishers are designated. It doesn't matter to me if they're called digital royalties or performance royalties. It's a service that offers value to the consumers and a certain amount of money is paid to the publishers as a result. And so I looked at it in a holistic way in terms of the total amounts paid.

Trial Tr. 1255:15–23, *Pandora Media, Inc. v. Am. Soc'y of Composers, Authors & Publishers*, No. 12-cv-8035 (S.D.N.Y. 2014). Dr. Leonard will testify that Mr. Horowitz's view, which corresponds to how the services view their publishing

royalty obligations, supports the elimination of floor fees from the existing Subpart B and C rate structures.

For the rates under Subpart C, Dr. Leonard will testify that the appropriate all-in topline royalty rates should remain the same as the current rates. Consistent with Dr. Leonard's analysis for Subpart B, Dr. Leonard also will testify that the minimum based on the service's percentage of payments to record companies should be set at 13.5% of the service's total expenses to record companies for the use of sound recordings.

2. David Pakman, Industry Expert

David Pakman, partner at the venture capital firm Venrock, has extensive experience in the digital music industry. Mr. Pakman founded a digital music service company, served as the CEO and employee of others, and invests in and helps build early-stage consumer and enterprise internet companies. Mr. Pakman will testify that, based on the challenges faced by digital music services and the § 801(b) factors, royalty rates should be lowered to ensure a healthy market for streaming music.

Mr. Pakman will discuss the challenge for survival faced by digital music service companies. As he will explain, the digital music service industry has fared poorly due to high music royalty rates, which constitute the majority of digital music services' costs. In fact, no stand-alone digital music service has achieved sustained profitability to date.

In addition, Mr. Pakman will testify that excessive music royalty costs have contributed to the failure of many digital music services and that high music royalty rates dissuade venture capital firms from investing in digital music services. As compared to many internet companies, digital music companies are often less attractive investments because of their much lower gross margins.

Finally, Mr. Pakman will testify that the low level of investment in digital music services has stifled growth and innovation in the industry. This has depressed music service revenues and the total dollar amount of payments to music rightsholders. Mr. Pakman expects that rights holders would receive more in payments if a lower royalty structure were adopted.

Conclusion

The Board should reject the Copyright Owners' efforts to hike rates applied to digital music services like Google's. By agreeing to continue the longstanding 9.1-cent Subpart A rate structure, Copyright Owners acknowledge that the relative value of their rights to Section 115 licensees is no greater today than it has been for the past decade. In fact, it has declined. And other relevant benchmarks, including Google's own licenses with music publishers, suggest rate structures that preserve the concept of maximum all-in payments for publishing rights. The § 801(b) factors require that the revenue definitions and percentage-of-sound-recording minima in these Google benchmarks be amended to bring the agreements in line with the economics of the Subpart A royalty structure. Only then can an economically viable digital music marketplace develop.

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Google Inc.'s Proposed Terms

Google proposes the following changes to the current regulations set forth in 37 C.F.R. § 385, Subparts B and C. Google's proposed changes are in redline.

Subpart B—Interactive Streaming and Limited Downloads

§ 385.10 General.

(a) *Scope.* This subpart establishes rates and terms of royalty payments for interactive streams and limited downloads of musical works by subscription and nonsubscription digital music services in accordance with the provisions of 17 U.S.C. 115.

(b) *Legal compliance.* A licensee that, pursuant to 17 U.S.C. 115, makes or authorizes interactive streams or limited downloads of musical works through subscription or nonsubscription digital music services shall comply with the requirements of that section, the rates and terms of this subpart, and any other applicable regulations, with respect to such musical works and uses licensed pursuant to 17 U.S.C. 115.

(c) *Interpretation.* This subpart is intended only to set rates and terms for situations in which the exclusive rights of a copyright owner are implicated and a compulsory license pursuant to 17 U.S.C. 115 is obtained. Neither this subpart nor the act of obtaining a license under 17 U.S.C. 115 is intended to express or imply any conclusion as to the circumstances in which any of the exclusive rights of a copyright owner are implicated or a license, including a compulsory license pursuant to 17 U.S.C. 115, must be obtained.

(d) *Relationship to voluntary agreements.* Notwithstanding the royalty rates and terms established in this subpart, the rates and terms of any license agreements entered into by copyright owners and Licensees (as defined below) concerning rights within the scope of 17 U.S.C. § 115, shall apply in lieu of the rates and terms of this subpart to the use of musical works within the scope of such agreements.

§385.11 Definitions.

For purposes of this subpart, the following definitions shall apply:

Affiliate means an entity controlling, controlled by, or under common control with another entity, except that an affiliate of a record company shall not include a copyright owner of musical works to the extent it is engaging in business as to musical works.

Applicable consideration means anything of value given for the identified rights to undertake the licensed activity, including, without limitation, ownership equity, monetary advances, barter or any other monetary and/or nonmonetary consideration, whether such consideration is conveyed via a single agreement, multiple agreements and/or agreements that do not themselves authorize the licensed activity but nevertheless provide consideration for the identified rights to undertake the licensed activity, and including any such value given to an affiliate of a record company for such rights to undertake the licensed activity. For the avoidance of doubt, value given to a copyright owner of musical works that is controlling, controlled by, or under common control with a record company for rights to undertake the licensed activity shall not be considered value given to the record company. Notwithstanding the foregoing, applicable consideration shall not include in-kind promotional consideration given to a record company (or affiliate thereof) that is used to promote the sale or paid use of sound recordings embodying musical works or the paid use of music services through which sound recordings embodying musical works are available where such in-kind promotional consideration is given in connection with a use that qualifies for licensing under 17 U.S.C. 115.

Family Plan means a single subscription account that authorizes access to a digital music service for multiple end users for a single discounted fee payable via one form of payment.

GAAP means U.S. Generally Accepted Accounting Principles, except that if the U.S. Securities and Exchange Commission permits or requires entities with securities that are publicly traded in the U.S. to employ International Financial Reporting Standards, as issued by the International Accounting Standards Board, or as accepted by the Securities and Exchange Commission if different from that issued by the International Accounting Standards Board, in lieu of Generally Accepted

Accounting Principles, then an entity may employ International Financial Reporting Standards as "GAAP" for purposes of this subpart.

Interactive stream means a stream of a sound recording of a musical work, where the performance of the sound recording by means of the stream is not exempt under 17 U.S.C. 114(d)(1) and does not in itself or as a result of a program in which it is included qualify for statutory licensing under 17 U.S.C. 114(d)(2).

Licensee means a person that has obtained a compulsory license under 17 U.S.C. 115 and its implementing regulations.

Licensed activity means interactive streams or limited downloads of musical works, as applicable.

Limited download means a digital transmission of a sound recording of a musical work to an end user, other than a stream, that results in a specifically identifiable reproduction of that sound recording that is only accessible for listening for—

(1) An amount of time not to exceed 1 month from the time of the transmission (unless the service provider, in lieu of retransmitting the same sound recording as another limited download, separately and upon specific request of the end user made through a live network connection, reauthorizes use for another time period not to exceed 1 month), or in the case of a subscription transmission, a period of time following the end of the applicable subscription no longer than a subscription renewal period or 3 months, whichever is shorter; or

(2) A specified number of times not to exceed 12 (unless the service provider, in lieu of retransmitting the same sound recording as another limited download, separately and upon specific request of the end user made through a live network connection, reauthorizes use of another series of 12 or fewer plays), or in the case of a subscription transmission, 12 times after the end of the applicable subscription.

(3) A limited download is a general digital phonorecord delivery under 17 U.S.C. 115(c)(3)(C) and (D).

Offering means a service provider's offering of licensed activity that is subject to a particular rate set forth in § 385.13(a) (e.g., a particular subscription plan available through the service provider).

Promotional royalty rate means the statutory royalty rate of zero in the case of certain promotional interactive streams and certain promotional limited downloads, as provided in § 385.14.

Record company means a person or entity that

(1) Is a copyright owner of a sound recording of a musical work;

(2) In the case of a sound recording of a musical work fixed before February 15, 1972, has rights to the sound recording, under the common law or statutes of any State, that are equivalent to the rights of a copyright owner of a sound recording of a musical work under title 17, United States Code;

(3) Is an exclusive licensee of the rights to reproduce and distribute a sound recording of a musical work; or

(4) Performs the functions of marketing and authorizing the distribution of a sound recording of a musical work under its own label, under the authority of the copyright owner of the sound recording.

Relevant page means a page (including a Web page, screen or display) from which licensed activity offered by a service provider is directly available to end users, but only where the offering of licensed activity and content that directly relates to the offering of licensed activity (e.g., an image of the artist or artwork closely associated with such offering, artist or album information, reviews of such offering, credits and music player controls) comprises 75% or more of the space on that page, excluding any space occupied by advertising. A licensed activity is directly available to end users from a page if sound recordings of musical works can be accessed by end users for licensed activity from such page (in most cases this will be the page where the limited download or interactive stream takes place).

Service provider means that entity (which may or may not be the licensee) that, with respect to the licensed activity,

(1) Contracts with or has a direct relationship with end users in a case where a contract or relationship exists, or otherwise controls the content made available to end users;

(2) Is able to report fully on service revenue from the provision of the licensed activity to the public, and to the extent applicable, verify service revenue through an audit; and

(3) Is able to report fully on usage of musical works by the service, or procure such reporting, and to the extent applicable, verify usage through an audit.

Service revenue. (1) Subject to paragraphs (2) through (5) of the definition of "Service revenue," and subject to GAAP, *service revenue* shall mean the following:

(i) All revenue recognized by the service provider from end users from the provision of licensed activity;

(ii) All revenue recognized by the service provider by way of sponsorship and commissions as a result of the inclusion of third-party "in-stream" or "in-download" advertising as part of licensed activity (*i.e.*, advertising placed immediately at the start, end or during the actual delivery, by way of interactive streaming or limited downloads, as applicable, of a musical work); and

(iii) All revenue recognized by the service provider, including by way of sponsorship and commissions, as a result of the placement of third-party advertising on a relevant page of the service or on any page that directly follows such relevant page leading up to and including the limited download or interactive streaming, as applicable, of a musical work; provided that, in the case where more than one service is actually available to end users from a relevant page, any advertising revenue shall be allocated between such services on the basis of the relative amounts of the page they occupy.

(2) In each of the cases identified in paragraph (1) of the definition of "Service revenue," such revenue shall, for the avoidance of doubt,

(i) Include any such revenue recognized by the service provider, or if not recognized by the service provider, by any associate, affiliate, agent or representative of such service provider in lieu of its being recognized by the service provider;

(ii) Include the value of any barter or other nonmonetary consideration; and

~~(iii) Not be reduced by credit card commissions or similar payment process charges; and~~

(iii~~v~~) Except as expressly set forth in this subpart, not be subject to any other deduction or set-off other than refunds to end users for licensed activity that they were unable to use due to technical faults in the licensed activity or other bona fide refunds or credits issued to end users in the ordinary course of business.

(3) In each of the cases identified in paragraph (1) of the definition of "Service revenue," such revenue shall, for the avoidance of doubt, exclude revenue derived solely in connection with services and activities other than licensed activity, provided that advertising or sponsorship revenue shall be treated as provided in paragraphs (2) and (4) of the definition of "Service revenue." By way of example, the following kinds of revenue shall be excluded:

(i) Revenue derived from predominantly non-music voice, content and text services such as, by way of example and not limitation, news, talk, sports, weather, traffic, and comedy programming or podcasts of any of the foregoing;

(ii) Revenue derived from other non-music products and services (including search services, sponsored searches and click-through commissions); and

(iii) Revenue derived from music or music-related products and services that are not or do not include licensed activity.

(4) For purposes of paragraph (1) of the definition of "Service revenue," advertising, ~~or~~ sponsorship, and subscription revenue shall be reduced by the actual cost of obtaining such revenue (including carrier billing costs, credit card commissions, app store commissions, and similar payment process charges), not to exceed 15%.

(5) Where the licensed activity is provided to end users as part of the same transaction with one or more other products or services that are not a music service engaged in licensed activity, then the revenue deemed to be recognized from end users for the service for the purpose of the definition in paragraph (1) of the definition of "Service revenue" shall be the revenue recognized from end users for the bundle less the standalone published price for end users for each of the other component(s) of the bundle; provided that, if there is no such standalone published price for a component of the bundle, then the average standalone published price for end users for the most closely comparable product or service in the U.S. shall be used or, if more than one such comparable exists, the average of such standalone prices for such comparables shall be used.

Stream means the digital transmission of a sound recording of a musical work to an end user—

(1) To allow the end user to listen to the sound recording, while maintaining a live network connection to the transmitting service, substantially at the time of transmission, except to the extent that the sound recording remains accessible for future listening from a streaming cache reproduction;

(2) Using technology that is designed such that the sound recording does not remain accessible for future listening, except to the extent that the sound recording remains accessible for future listening from a streaming cache reproduction; and

(3) That is also subject to licensing as a public performance of the musical work.

Streaming cache reproduction means a reproduction of a sound recording of a musical work made on a computer or other receiving device by a service solely for the purpose of permitting an end user who has previously received a stream of such sound recording to play such sound recording again from local storage on such computer or other device rather than by means of a transmission; provided that the user is only able to do so while maintaining a live network connection to the service,

and such reproduction is encrypted or otherwise protected consistent with prevailing industry standards to prevent it from being played in any other manner or on any device other than the computer or other device on which it was originally made.

Subscription service means a digital music service for which end users are required to pay a fee to access the service for defined subscription periods of 3 years or less (in contrast to, for example, a service where the basic charge to users is a payment per download or per play), whether such payment is made for access to the service on a standalone basis or as part of a bundle with one or more other products or services, and including any use of such a service on a trial basis without charge as described in §385.14(b).

[74 FR 4529, Jan. 26, 2009, as amended at 74 FR 6834, Feb. 11, 2009; 78 FR 67942, Nov. 13, 2013]

§385.12 Calculation of royalty payments in general.

(a) *Applicable royalty.* Licensees that make or authorize licensed activity pursuant to 17 U.S.C. 115 shall pay royalties therefor that are calculated as provided in this section, subject to the minimum royalties ~~and subscriber-based royalty floors~~ for specific types of services provided in §385.13, except as provided under §385.10(d) and for certain promotional uses in §385.14.

(b) *Rate calculation methodology.* Royalty payments for licensed activity shall be calculated as provided in paragraph (b) of this section. If a service includes different offerings, royalties must be separately calculated with respect to each such offering taking into consideration service revenue and expenses associated with such offering. Uses subject to the promotional royalty rate shall be excluded from the calculation of royalties due, as further described in this section and the following §385.13.

(1) *Step 1:* Calculate the All-In Royalty for the Offering. For each accounting period, the all-in royalty for each offering of the service provider is the greater of

(i) The applicable percentage of service revenue associated with the relevant offering as set forth in paragraph (c) of this section (excluding any service revenue derived solely from licensed activity uses subject to the promotional royalty rate), and

(ii) The minimum specified in §385.13 of the offering involved.

(2) *Step 2:* Determine the Payable Royalty Pool by Subtracting Applicable Performance Royalties. From the amount determined in step 1 in paragraph (b)(1) of this section, for each offering of the service provider, subtract the total amount of

royalties for public performance of musical works that has been or will be expensed pursuant to public performance licenses in connection with uses of musical works through such offering during the accounting period that constitute licensed activity (other than licensed activity subject to the promotional royalty rate). Although this amount may be the total of the service's payments for that offering for the accounting period, it will be less than the total of such public performance payments if the service is also engaging in public performance of musical works that does not constitute licensed activity. In the case where the service is also engaging in the public performance of musical works that does not constitute licensed activity, the amount to be subtracted for public performance payments shall be the amount of such payments allocable to licensed activity uses (other than promotional royalty rate uses) through the relevant offering, as determined in relation to all uses of musical works for which the public performance payments are made for the accounting period. Such allocation shall be made on the basis of plays of musical works or, where per-play information is unavailable due to bona fide technical limitations as described in step 34 in paragraph (b)(34) of this section, using the same alternative methodology as provided in step 34.

(3) *Step 3:* ~~Determine the Payable Royalty Pool. The payable royalty pool is the amount payable for the reproduction and distribution of all musical works used by the service provider by virtue of its licensed activity for a particular offering during the accounting period. This amount is the greater of~~

~~(i) The result determined in step 2 in paragraph (b)(2) of this section, and~~

~~(ii) The subscriber-based royalty floor resulting from the calculations described in §385.13.~~

~~(4) *Step 4:*~~ Calculate the Per-Work Royalty Allocation for Each Relevant Work. This is the amount payable for the reproduction and distribution of each musical work used by the service provider by virtue of its licensed activity through a particular offering during the accounting period. To determine this amount, the result determined in step 23 in paragraph (b)(23) of this section must be allocated to each musical work used through the offering. The allocation shall be accomplished by dividing the payable royalty pool determined in step 23 for such offering by the total number of plays of all musical works through such offering during the accounting period (other than promotional royalty rate plays) to yield a per-play allocation, and multiplying that result by the number of plays of each musical work (other than promotional royalty rate plays) through the offering during the accounting period. For purposes of determining the per-work royalty allocation in all calculations under this step 34 only (*i.e.*, after the payable royalty pool has been determined), for sound recordings of musical works with a playing time of over 5 minutes, each play shall be counted as provided in paragraph (d) of this section. Notwithstanding the foregoing, if the service provider is not capable of tracking play information due to bona fide limitations of the available technology for services of that nature or of

devices useable with the service, the per-work royalty allocation may instead be accomplished in a manner consistent with the methodology used by the service provider for making royalty payment allocations for the use of individual sound recordings.

(c) *Percentage of service revenue.* The percentage of service revenue applicable under paragraph (b) of this section is 10.5%.

(d) *Overtime adjustment.* For purposes of the calculations in step 3~~4~~ in paragraph (b)(3~~4~~) of this section only, for sound recordings of musical works with a playing time of over 5 minutes, adjust the number of plays as follows:

(1) 5:01 to 6:00 minutes—Each play = 1.2 plays

(2) 6:01 to 7:00 minutes—Each play = 1.4 plays

(3) 7:01 to 8:00 minutes—Each play = 1.6 plays

(4) 8:01 to 9:00 minutes—Each play = 1.8 plays

(5) 9:01 to 10:00 minutes—Each play = 2.0 plays

(6) For playing times of greater than 10 minutes, continue to add .2 for each additional minute or fraction thereof.

(e) *Accounting.* The calculations required by paragraph (b) of this section shall be made in good faith and on the basis of the best knowledge, information and belief of the licensee at the time payment is due, and subject to the additional accounting and certification requirements of 17 U.S.C. 115(c)(5) and §201.19 of this title. Without limitation, a licensee's statements of account shall set forth each step of its calculations with sufficient information to allow the copyright owner to assess the accuracy and manner in which the licensee determined the payable royalty pool and per-play allocations (including information sufficient to demonstrate whether and how a minimum royalty ~~or subscriber-based royalty floor~~ pursuant to §385.13 does or does not apply) and, for each offering reported, also indicate the type of licensed activity involved and the number of plays of each musical work (including an indication of any overtime adjustment applied) that is the basis of the per-work royalty allocation being paid.

§385.13 Minimum royalty rates ~~and subscriber-based royalty floors~~ for specific types of services.

(a) *In general.* The following minimum royalty rates ~~and subscriber-based royalty floors~~ shall apply to the following types of licensed activity:

(1) *Standalone non-portable subscription—streaming only.* Except as provided in paragraph (a)(4) of this section, in the case of a subscription service through which an end user can listen to sound recordings only in the form of interactive streams and only from a non-portable device to which such streams are originally transmitted while the device has a live network connection, the minimum for use in step 1 of §385.12(b)(1)(ii) is the lesser of subminimum II as described in paragraph (c) of this section for the accounting period and the aggregate amount of 50 cents per subscriber per month. ~~The subscriber-based royalty floor for use in step 3 of §385.12(b)(3)(ii) is the aggregate amount of 15 cents per subscriber per month.~~

(2) *Standalone non-portable subscription—mixed.* Except as provided in paragraph (a)(4) of this section, in the case of a subscription service through which an end user can listen to sound recordings either in the form of interactive streams or limited downloads but only from a non-portable device to which such streams or downloads are originally transmitted, the minimum for use in step 1 of §385.12(b)(1)(ii) is the lesser of the subminimum I as described in paragraph (b) of this section for the accounting period and the aggregate amount of 50 cents per subscriber per month. ~~The subscriber-based royalty floor for use in step 3 of §385.12(b)(3)(ii) is the aggregate amount of 30 cents per subscriber per month.~~

(3) *Standalone portable subscription service.* Except as provided in paragraph (a)(4) of this section, in the case of a subscription service through which an end user can listen to sound recordings in the form of interactive streams or limited downloads from a portable device, the minimum for use in step 1 of § 385.12(b)(1)(ii) is the lesser of subminimum I as described in paragraph (b) of this section for the accounting period and the aggregate amount of 80 cents per subscriber per month. ~~The subscriber-based royalty floor for use in step 3 of §385.12(b)(3)(ii) is the aggregate amount of 50 cents per subscriber per month.~~

(4) *Bundled subscription services.* In the case of a subscription service providing licensed activity that is made available to end users with one or more other products or services (including products or services subject to other subparts) as part of a single transaction without pricing for the subscription service providing licensed activity separate from the product(s) or service(s) with which it is made available (e.g., a case in which a user can buy a portable device and one-year access to a subscription service providing licensed activity for a single price), the minimum for use in step 1 of §385.12(b)(1)(ii) is subminimum I as described in paragraph (b) of this section for the accounting period. ~~The subscriber-based royalty floor for use in step 3 of §385.12(b)(3)(ii) is the aggregate amount of 25 cents per month for each end user who has made at least one play of a licensed work during such month (each such end user to be considered an "active subscriber").~~

(5) *Free nonsubscription/ad-supported services.* In the case of a service offering licensed activity free of any charge to the end user, the minimum for use in step 1 of §385.12(b)(1)(ii) is subminimum II described in paragraph (c) of this

section for the accounting period. ~~There is no subscriber-based royalty floor for use in step 3 of §385.12(b)(3)(ii).~~

(b) *Computation of subminimum I.* For purposes of paragraphs (a)(2), (3), and (4) of this section, subminimum I for an accounting period means the aggregate of the following with respect to all sound recordings of musical works used in the relevant offering of the service provider during the accounting period—

(1) In cases in which the record company is the licensee under 17 U.S.C. 115 and the record company has granted the rights to make interactive streams or limited downloads of a sound recording through the third-party service together with the right to reproduce and distribute the musical work embodied therein, ~~17.36~~11.9% of the total amount expensed by the service provider or any of its affiliates in accordance with GAAP for such rights for the accounting period, which amount shall equal the applicable consideration for such rights at the time such applicable consideration is properly recognized as an expense under GAAP.

(2) In cases in which the record company is not the licensee under 17 U.S.C. 115 and the record company has granted the rights to make interactive streams or limited downloads of a sound recording through the third-party service without the right to reproduce and distribute the musical work embodied therein, ~~21~~13.5% of the total amount expensed by the service provider or any of its affiliates in accordance with GAAP for such rights for the accounting period, which amount shall equal the applicable consideration for such rights at the time such applicable consideration is properly recognized as an expense under GAAP.

(c) *Computation of subminimum II.* For purposes of paragraphs (a)(1) and (5) of this section, subminimum II for an accounting period means the aggregate of the following with respect to all sound recordings of musical works used in the relevant offering of the service provider during the accounting period—

(1) In cases in which the record company is the licensee under 17 U.S.C. 115 and the record company has granted the rights to make interactive streams and limited downloads of a sound recording through the third-party service together with the right to reproduce and distribute the musical work embodied therein, ~~18~~11.9% of the total amount expensed by the service provider or any of its affiliates in accordance with GAAP for such rights for the accounting period, which amount shall equal the applicable consideration for such rights at the time such applicable consideration is properly recognized as an expense under GAAP.

(2) In cases in which the record company is not the licensee under 17 U.S.C. 115 and the record company has granted the rights to make interactive streams or limited downloads of a sound recording through the third-party service without the right to reproduce and distribute the musical work embodied therein, ~~22~~13.5% of the total amount expensed by the service provider or any of its affiliates in

accordance with GAAP for such rights for the accounting period, which amount shall equal the applicable consideration for such rights at the time such applicable consideration is properly recognized as an expense under GAAP.

(d) *Payments made by third parties.* If a record company providing sound recording rights to the service provider for a licensed activity—

(1) Recognizes revenue (in accordance with GAAP, and including for the avoidance of doubt all applicable consideration with respect to such rights for the accounting period, regardless of the form or timing of payment) from a person or entity other than the service provider providing the licensed activity and its affiliates, and

(2) Such revenue is received, in the context of the transactions involved, as applicable consideration for such rights,

(3) Then such revenue shall be added to the amounts expensed by the service provider solely for purposes of paragraphs(b)(1), (b)(2), (c)(1), or (c)(2) of this section, as applicable, if not already included in such expensed amounts. Where the service provider is the licensee, if the service provider provides the record company all information necessary for the record company to determine whether additional royalties are payable by the service provider hereunder as a result of revenue recognized from a person or entity other than the service provider as described in the immediately preceding sentence, then the record company shall provide such further information as necessary for the service provider to calculate the additional royalties and indemnify the service provider for such additional royalties. The sole obligation of the record company shall be to pay the licensee such additional royalties if actually payable as royalties hereunder; provided, however, that this shall not affect any otherwise existing right or remedy of the copyright owner nor diminish the licensee's obligations to the copyright owner.

(e) *Computation of subscriber-based royalty rates.* For purposes of paragraph (a) of this section, to determine the minimum ~~or subscriber-based royalty floor, as~~ applicable to any particular offering, the total number of subscriber-months for the accounting period, shall be calculated taking into account all end users who were subscribers for complete calendar months, prorating in the case of end users who were subscribers for only part of a calendar month, and deducting on a prorated basis for end users covered by a free trial period subject to the promotional royalty rate as described in §385.14(b)(2), except that in the case of a bundled subscription service, subscriber-months shall instead be determined with respect to active subscribers as defined in paragraph (a)(4) of this section. The product of the total number of subscriber-months for the accounting period and the specified number of cents per subscriber (or active subscriber, as the case may be) shall be used as the subscriber-based component of the minimum or subscriber-based royalty floor, as applicable, for the accounting period. [The per-subscriber minima applicable to~~A~~

Family Plans shall be calculated by multiplying the applicable minimum by the ratio of the Family Plan price to the individual subscription price.] OR [A family plan shall be treated as 1.5 subscribers per month, prorated in the case of a family plan end user who subscribed for only part of a calendar month.]

§385.14 Promotional royalty rate.

(a) *General provisions.* (1) This section establishes a royalty rate of zero in the case of certain promotional interactive streaming activities, and of certain promotional limited downloads offered in the context of a free trial period for a digital music subscription service under a license pursuant to 17 U.S.C. 115. Subject to the requirements of 17 U.S.C. 115 and the additional provisions of paragraphs (b) through (e) of this section, the promotional royalty rate shall apply to a musical work when a record company transmits or authorizes the transmission of interactive streams or limited downloads of a sound recording that embodies such musical work, only if—

(i) The primary purpose of the record company in making or authorizing the interactive streams or limited downloads is to promote the sale or other paid use of sound recordings by the relevant artists, including such sound recording, through established retail channels or the paid use of one or more established retail music services through which the sound recording is available, and not to promote any other good or service;

(ii) Either—

(A) The sound recording (or a different version of the sound recording embodying the same musical work) is being lawfully distributed and offered to consumers through the established retail channels or services described in paragraph (a)(1)(i) of this section; or

(B) In the case of a sound recording of a musical work being prepared for commercial release but not yet released, the record company has a good faith intention of lawfully distributing and offering to consumers the sound recording (or a different version of the sound recording embodying the same musical work) through the established retail channels or services described in paragraph (a)(1)(i) of this section within 90 days after the commencement of the first promotional use authorized under this section (and in fact does so, unless it can demonstrate that notwithstanding its bona fide intention, it unexpectedly did not meet the scheduled release date);

(iii) In connection with authorizing the promotional interactive streams or limited downloads, the record company has obtained from the service provider it authorizes a written representation that—

(A) In the case of a promotional use other than interactive streaming subject to paragraph (d) of this section, the service provider agrees to maintain for a period of no less than 5 years from the conclusion of the promotional activity complete and accurate records of the relevant authorization and dates on which the promotion was conducted, and identifying each sound recording of a musical work made available through the promotion, the licensed activity involved, and the number of plays of such recording;

(B) The service provider is in all material respects operating with appropriate license authority with respect to the musical works it is using for promotional and other purposes; and

(C) The representation is signed by a person authorized to make the representation on behalf of the service provider;

(iv) Upon receipt by the record company of written notice from the copyright owner of a musical work or agent of the copyright owner stating in good faith that a particular service is in a material manner operating without appropriate license authority from such copyright owner, the record company shall within 5 business days withdraw by written notice its authorization of such uses of such copyright owner's musical works under the promotional royalty rate by that service;

(v) The interactive streams or limited downloads are offered free of any charge to the end user and, except in the case of interactive streaming subject to paragraph (d) of this section in the case of a free trial period for a digital music subscription service, no more than 5 sound recordings at a time are streamed in response to any individual request of an end user;

(vi) The interactive streams and limited downloads are offered in a manner such that the user is at the same time (e.g., on the same Web page) presented with a purchase opportunity for the relevant sound recording or an opportunity to subscribe to a paid service offering the sound recording, or a link to such a purchase or subscription opportunity, except—

(A) In the case of interactive streaming of a sound recording being prepared for commercial release but not yet released, certain mobile applications or other circumstances in which the foregoing is impracticable in view of the current state of the relevant technology; and

(B) In the case of a free trial period for a digital music subscription service, if end users are periodically offered an opportunity to subscribe to the service during such free trial period; and

(vii) The interactive streams and limited downloads are not provided in a manner that is likely to cause mistake, to confuse or to deceive, reasonable end

users as to the endorsement or association of the author of the musical work with any product, service or activity other than the sale or paid use of sound recordings or paid use of a music service through which sound recordings are available. Without limiting the foregoing, upon receipt of written notice from the copyright owner of a musical work or agent of the copyright owner stating in good faith that a particular use of such work under this section violates the limitation set forth in this paragraph (a)(1)(vii), the record company shall promptly cease such use of that work, and within 5 business days withdraw by written notice its authorization of such use by all relevant third parties it has authorized under this section.

(2) To rely upon the promotional royalty rate, a record company making or authorizing interactive streams or limited downloads shall keep complete and accurate contemporaneous written records of such uses, including the sound recordings and musical works involved, the artists, the release dates of the sound recordings, a brief statement of the promotional activities authorized, the identity of the service or services where each promotion is authorized (including the Internet address if applicable), the beginning and end date of each period of promotional activity authorized, and the representation required by paragraph (a)(1)(iii) of this section; provided that, in the case of trial subscription uses, such records shall instead consist of the contractual terms that bear upon promotional uses by the particular digital music subscription services it authorizes; and further provided that, if the record company itself is conducting the promotion, it shall also maintain any additional records described in paragraph (a)(1)(iii)(A) of this section. The records required by this paragraph (a)(2) shall be maintained for no less time than the record company maintains records of usage of royalty-bearing uses involving the same type of licensed activity in the ordinary course of business, but in no event for less than 5 years from the conclusion of the promotional activity to which they pertain. If the copyright owner of a musical work or its agent requests a copy of the information to be maintained under this paragraph (a)(2) with respect to a specific promotion or relating to a particular sound recording of a musical work, the record company shall provide complete and accurate documentation within 10 business days, except for any information required under paragraph (a)(1)(iii)(A) of this section, which shall be provided within 20 business days, and provided that if the copyright owner or agent requests information concerning a large volume of promotions or sound recordings, the record company shall have a reasonable time, in view of the amount of information requested, to respond to any request of such copyright owner or agent. If the record company does not provide required information within the required time, and upon receipt of written notice citing such failure does not provide such information within a further 10 business days, the uses will be considered not to be subject to the promotional royalty rate and the record company (but not any third-party service it has authorized) shall be liable for any payment due for such uses; provided, however, that all rights and remedies of the copyright owner with respect to unauthorized uses shall be preserved.

(3) If the copyright owner of a musical work or its agent requests a copy of the information to be maintained under paragraph (a)(1)(iii)(A) of this section by a service authorized by a record company with respect to a specific promotion, the service provider shall provide complete and accurate documentation within 20 business days, provided that if the copyright owner or agent requests information concerning a large volume of promotions or sound recordings, the service provider shall have a reasonable time, in view of the amount of information requested, to respond to any request of such copyright owner or agent. If the service provider does not provide required information within the required time, and upon receipt of written notice citing such failure does not provide such information within a further 10 business days, the uses will be considered not to be subject to the promotional royalty rate and the service provider (but not the record company) will be liable for any payment due for such uses; provided, however, that all rights and remedies of the copyright owner with respect to unauthorized uses shall be preserved.

(4) The promotional royalty rate is exclusively for audio-only interactive streaming and limited downloads of musical works subject to licensing under 17 U.S.C. 115. The promotional royalty rate does not apply to any other use under 17 U.S.C. 115; nor does it apply to public performances, audiovisual works, lyrics or other uses outside the scope of 17 U.S.C. 115. Without limitation, uses subject to licensing under 17 U.S.C. 115 that do not qualify for the promotional royalty rate (including without limitation interactive streaming or limited downloads of a musical work beyond the time limitations applicable to the promotional royalty rate) require payment of applicable royalties. This section is based on an understanding of industry practices and market conditions at the time of its development, among other things. The terms of this section shall be subject to de novo review and consideration (or elimination altogether) in future proceedings before the Copyright Royalty Judges. Nothing in this section shall be interpreted or construed in such a manner as to nullify or diminish any limitation, requirement or obligation of 17 U.S.C. 115 or other protection for musical works afforded by the Copyright Act, 17 U.S.C. 101 *et seq*.

(b) *Interactive streaming and limited downloads of full-length musical works through third-party services.* In addition to those of paragraph (a) of this section, the provisions of this paragraph (b) apply to interactive streaming, and limited downloads (in the context of a free trial period for a digital music subscription service), authorized by record companies under the promotional royalty rate through third-party services (including Web sites) that is not subject to paragraphs (c) or (d) of this section. Such interactive streams and limited downloads may be made or authorized by a record company under the promotional royalty rate only if—

(1) No applicable consideration for making or authorizing the relevant interactive streams or limited downloads is received by the record company, any of its affiliates, or any other person or entity acting on behalf of or in lieu of the record

company, except for in-kind promotional consideration given to a record company (or affiliate thereof) that is used to promote the sale or paid use of sound recordings or the paid use of music services through which sound recordings are available;

(2) In the case of interactive streaming and limited downloads offered in the context of a free trial period for a digital music subscription service, the free trial period does not exceed 30 consecutive days per subscriber per two-year period; and

(3) In contexts other than a free trial period for a digital music subscription service, interactive streaming subject to paragraph (b) of this section of a particular sound recording is authorized by the record company on no more than 60 days total for all services (*i.e.*, interactive streaming under paragraph (b) of this section of a particular sound recording may be authorized on no more than a total of 60 days, which need not be consecutive, and on any one such day, interactive streams may be offered on one or more services); provided, however, that an additional 60 days shall be available each time the sound recording is re-released by the record company in a remastered form or as a part of a compilation with a different set of sound recordings than the original release or any prior compilation including such sound recording.

(4) In the event that a record company authorizes promotional uses in excess of the time limitations of paragraph (b) of this section, the record company, and not the third-party service it has authorized, shall be liable for any payment due for such uses; provided, however, that all rights and remedies of the copyright owner with respect to unauthorized uses shall be preserved. In the event that a third-party service exceeds the scope of any authorization by a record company, the service provider, and not the record company, shall be liable for any payment due for such uses; provided, however, that all rights and remedies of the copyright owner with respect to unauthorized uses shall be preserved.

(c) *Interactive streaming of full-length musical works through record company and artist services.* In addition to those of paragraph (a) of this section, the provisions of this paragraph (c) apply to interactive streaming conducted or authorized by record companies under the promotional royalty rate through a service (e.g., a Web site) directly owned or operated by the record company, or directly owned or operated by a recording artist under the authorization of the record company, and that is not subject to paragraph (d) of this section. For the avoidance of doubt and without limitation, an artist page or site on a third-party service (e.g., a social networking service) shall not be considered a service operated by the record company or artist. Such interactive streams may be made or authorized by a record company under the promotional royalty rate only if—

(1) The interactive streaming subject to this paragraph (c) of a particular sound recording is offered or authorized by the record company on no more than 90 days total for all services (*i.e.*, interactive streaming under this paragraph (c) of a

particular sound recording may be authorized on no more than a total of 90 days, which need not be consecutive, and on any such day, interactive streams may be offered on one or more services operated by the record company or artist, subject to the provisions of paragraph (b)(2) of this section); provided, however, that an additional 90 days shall be available each time the sound recording is re-released by the record company in a remastered form or as part of a compilation with a different set of sound recordings than prior compilations that include that sound recording;

(2) In the case of interactive streaming through a service devoted to one featured artist, the interactive streams subject to this paragraph (c) of this section of a particular sound recording are made or authorized by the record company on no more than one official artist site per artist and are recordings of that artist; and

(3) In the case of interactive streaming through a service that is not limited to a single featured artist, all interactive streaming on such service (whether eligible for the promotional royalty rate or not) is limited to sound recordings of a single record company and its affiliates and the service would not reasonably be considered to be a meaningful substitute for a paid music service.

(d) *Interactive streaming of clips.* In addition to those in paragraph (a) of this section, the provisions of this paragraph (d) apply to interactive streaming conducted or authorized by record companies under the promotional royalty rate of segments of sound recordings of musical works with a playing time that does not exceed 90 seconds. Such interactive streams may be made or authorized by a record company under the promotional royalty rate without any of the temporal limitations set forth in paragraphs (b) and (c) of this section (but subject to the other conditions of paragraphs (b) and (c) of this section, as applicable). For clarity, this paragraph (d) is strictly limited to the uses described herein and shall not be construed as permitting the creation or use of an excerpt of a musical work in violation of 17 U.S.C. 106(2) or 115(a)(2) or any other right of a musical work owner.

[74 FR 4529, Jan. 26, 2009, as amended at 74 FR 6834, Feb. 11, 2009; 78 FR 67944, Nov. 13, 2013]

§385.15 [Reserved]

§385.16 Reproduction and distribution rights covered.

A compulsory license under 17 U.S.C. 115 extends to all reproduction and distribution rights that may be necessary for the provision of the licensed activity, solely for the purpose of providing such licensed activity (and no other purpose).

§385.17 Effect of rates.

In any future proceedings under 17 U.S.C. 115(c)(3)(C) and (D), the royalty rates payable for a compulsory license shall be established de novo.

Subpart C—Limited Offerings, Mixed Service Bundles, Music Bundles, Paid Locker Services and Purchased Content Locker Services

§385.20 General.

(a) *Scope.* This subpart establishes rates and terms of royalty payments for certain reproductions or distributions of musical works through limited offerings, mixed service bundles, music bundles, paid locker services and purchased content locker services provided in accordance with the provisions of 17 U.S.C. 115. For the avoidance of doubt, to the extent that product configurations for which rates are specified in subpart A of this part are included within licensed subpart C activity, as defined in §385.21, the rates specified in subpart A of this part shall not apply, except that in the case of a music bundle the compulsory licensee may elect to pay royalties for the music bundle pursuant to subpart C of this part or for the components of the bundle pursuant to subpart A of this part.

(b) *Legal compliance.* A licensee that, pursuant to 17 U.S.C. 115, makes or authorizes reproduction or distribution of musical works in limited offerings, mixed service bundles, music bundles, paid locker services or purchased content locker services shall comply with the requirements of that section, the rates and terms of this subpart, and any other applicable regulations, with respect to such musical works and uses licensed pursuant to 17 U.S.C. 115.

(c) *Interpretation.* This subpart is intended only to set rates and terms for situations in which the exclusive rights of a copyright owner are implicated and a compulsory license pursuant to 17 U.S.C. 115 is obtained. Neither this subpart nor the act of obtaining a license under 17 U.S.C. 115 is intended to express or imply any conclusion as to the circumstances in which any of the exclusive rights of a copyright owner are implicated or a license, including a compulsory license pursuant to 17 U.S.C. 115, must be obtained.

(d) *Relationship to voluntary agreements.* Notwithstanding the royalty rates and terms established in this subpart, the rates and terms of any license agreements entered into by copyright owners and Licensees (as defined below) concerning rights within the scope of section 115 of the Copyright Act, 17 U.S.C. § 115, shall apply in lieu of the rates and terms of this subpart to the use of musical works within the scope of such agreements.

§385.21 Definitions.

For purposes of this subpart, the following definitions shall apply:

Affiliate shall have the meaning given in §385.11.

Applicable consideration shall have the meaning given in §385.11, except that for purposes of this subpart C, references in the definition of "Applicable consideration" in §385.11 to licensed activity shall mean licensed subpart C activity, as defined in this section.

Free trial royalty rate means the statutory royalty rate of zero in the case of certain free trial periods, as provided in §385.24.

GAAP shall have the meaning given in §385.11.

Interactive stream shall have the meaning given in §385.11.

Family Plan shall have the meaning given in §385.11.

Licensee shall have the meaning given in §385.11.

Licensed subpart C activity means, referring to subpart C of this part—

(1) In the case of a limited offering, the applicable interactive streams or limited downloads;

(2) In the case of a locker service, the applicable interactive streams, permanent digital downloads, restricted downloads or ringtones;

(3) In the case of a music bundle, the applicable reproduction or distribution of a physical phonorecord, permanent digital download or ringtone; and

(4) In the case of a mixed service bundle, the applicable—

(i) Permanent digital downloads;

(ii) Ringtones;

(iii) To the extent a limited offering is included in a mixed service bundle, interactive streams or limited downloads; or

(iv) To the extent a locker service is included in a mixed service bundle, interactive streams, permanent digital downloads, restricted downloads or ringtones.

Limited download shall have the meaning given in §385.11.

Limited offering means a subscription service providing interactive streams or limited downloads where—

(1) An end user is not provided the opportunity to listen to a particular sound recording chosen by the end user at a time chosen by the end user (i.e., the service does not provide interactive streams of individual recordings that are on-demand, and any limited downloads are rendered only as part of programs rather than as individual recordings that are on-demand); or

(2) The particular sound recordings available to the end user over a period of time are substantially limited relative to services in the marketplace providing access to a comprehensive catalog of recordings (e.g., a service limited to a particular genre, or permitting interactive streaming only from a monthly playlist consisting of a limited set of recordings).

Locker service means a service providing access to sound recordings of musical works in the form of interactive streams, permanent digital downloads, restricted downloads or ringtones, where the service has reasonably determined that phonorecords of the applicable sound recordings have been purchased by the end user or are otherwise in the possession of the end user prior to the end user's first request to access such sound recordings by means of the service. The term locker service does not extend to any part of a service otherwise meeting this definition as to which a license is not obtained for the applicable reproductions and distributions of musical works.

Mixed service bundle means an offering of one or more of permanent digital downloads, ringtones, locker services or limited offerings, together with one or more of non-music services (e.g., Internet access service, mobile phone service) or non-music products (e.g., a device such as a phone) of more than token value, that is provided to users as part of one transaction without pricing for the music services or music products separate from the whole offering.

Music bundle means an offering of two or more of physical phonorecords, permanent digital downloads or ringtones provided to users as part of one transaction (e.g., download plus ringtone, CD plus downloads). A music bundle must contain at least two different product configurations and cannot be combined with any other offering containing licensed activity under subpart B of this part or subpart C of this part.

(1) In the case of music bundles containing one or more physical phonorecords, the physical phonorecord component of the music bundle must be sold under a single catalog number, and the musical works embodied in the digital phonorecord delivery configurations in the music bundle must be the same as, or a subset of, the musical works embodied in the physical phonorecords; provided that when the music bundle contains a set of digital phonorecord deliveries sold by the

same record company under substantially the same title as the physical phonorecord (e.g., a corresponding digital album), up to 5 sound recordings of musical works that are included in the stand-alone version of such set of digital phonorecord deliveries but are not included on the physical phonorecord may be included among the digital phonorecord deliveries in the music bundle. In addition, the seller must permanently part with possession of the physical phonorecord or phonorecords sold as part of the music bundle.

(2) In the case of music bundles composed solely of digital phonorecord deliveries, the number of digital phonorecord deliveries in either configuration cannot exceed 20, and the musical works embodied in each configuration in the music bundle must be the same as, or a subset of, the musical works embodied in the configuration containing the most musical works.

Paid locker service means a locker service that is a subscription service.

Permanent digital download shall have the meaning given in §385.2.

Purchased content locker service means a locker service made available to end-user purchasers of permanent digital downloads, ringtones or physical phonorecords at no incremental charge above the otherwise applicable purchase price of the permanent digital downloads, ringtones or physical phonorecords, with respect to the sound recordings embodied in permanent digital downloads or ringtones or physical phonorecords purchased from a qualifying seller as described in paragraph (1) of this definition of "Purchased content locker service," whereby the locker service enables the purchaser to engage in one or both of the qualifying activities identified in paragraph (2) of this definition of "Purchased content locker service." In addition, in the case of a locker service made available to end-user purchasers of physical phonorecords, the seller must permanently part with possession of the physical phonorecords.

(1) A qualifying seller for purposes of this definition of "purchased content locker service" is the same entity operating such locker service, one of its affiliates or predecessors, or—

(i) In the case of permanent digital downloads or ringtones, a seller having another legitimate connection to the locker service provider set forth in one or more written agreements (including that the locker service and permanent digital downloads or ringtones are offered through the same third party); or

(ii) In the case of physical phonorecords, a seller having an agreement with—

(A) The locker service provider whereby such parties establish an integrated offer that creates a consumer experience commensurate with having the same service both sell the physical phonorecord and offer the locker service; or

(B) A service provider that also has an agreement with the entity offering the locker service, where pursuant to those agreements the service provider has established an integrated offer that creates a consumer experience commensurate with having the same service both sell the physical phonorecord and offer the locker service.

(2) Qualifying activity for purposes of this definition of "purchased content locker service" is enabling the purchaser to—

(i) Receive one or more additional phonorecords of such purchased sound recordings of musical works in the form of permanent digital downloads or ringtones at the time of purchase, or

(ii) Subsequently access such purchased sound recordings of musical works in the form of interactive streams, additional permanent digital downloads, restricted downloads or ringtones.

Record company shall have the meaning given in §385.11.

Restricted download means a digital phonorecord delivery distributed in the form of a download that may not be retained and played on a permanent basis. The term restricted download includes a limited download.

Ringtone shall have the meaning given in §385.2.

Service provider shall have the meaning given in §385.11, except that for purposes of this subpart references in the definition of "Service provider" in §385.11 to licensed activity and service revenue shall mean licensed subpart C activity, as defined in this section, and subpart C service revenue, as defined in this section, respectively.

Subpart C offering means, referring to subpart C of this part, a service provider's offering of licensed subpart C activity, as defined in this section, that is subject to a particular rate set forth in §385.23(a) (e.g., a particular subscription plan available through the service provider).

Subpart C relevant page means, referring to subpart C of this part, a page (including a Web page, screen or display) from which licensed subpart C activity, as defined in this section, offered by a service provider is directly available to end users, but only where the offering of licensed subpart C activity, as defined in this section, and content that directly relates to the offering of licensed subpart C

activity, as defined in this section, (e.g., an image of the artist or artwork closely associated with such offering, artist or album information, reviews of such offering, credits and music player controls) comprises 75% or more of the space on that page, excluding any space occupied by advertising. A licensed subpart C activity, as defined in this section, is directly available to end users from a page if sound recordings of musical works can be accessed by end users for licensed subpart C activity, as defined in this section, from such page (in most cases this will be the page where the transmission takes place).

Subpart C service revenue. (1) Subject to paragraphs (2) through (6) of the definition of "Subpart C service revenue," as defined in this section, and subject to GAAP, subpart C service revenue shall mean, referring to subpart C of this part, the following:

(i) All revenue recognized by the service provider from end users from the provision of licensed subpart C activity, as defined in this section;

(ii) All revenue recognized by the service provider by way of sponsorship and commissions as a result of the inclusion of third-party "in-stream" or "in-download" advertising as part of licensed subpart C activity, as defined in this section, (i.e., advertising placed immediately at the start, end or during the actual delivery, by way of transmissions of a musical work that constitute licensed subpart C activity, as defined in this section); and

(iii) All revenue recognized by the service provider, including by way of sponsorship and commissions, as a result of the placement of third-party advertising on a subpart C relevant page, as defined in this section, of the service or on any page that directly follows such subpart C relevant page, as defined in this section, leading up to and including the transmission of a musical work that constitutes licensed subpart C activity, as defined in this section; provided that, in the case where more than one service is actually available to end users from a subpart C relevant page, as defined in this section, any advertising revenue shall be allocated between such services on the basis of the relative amounts of the page they occupy.

(2) In each of the cases identified in paragraph (1) of the definition of "Subpart C service revenue," of this section such revenue shall, for the avoidance of doubt,

(i) Include any such revenue recognized by the service provider, or if not recognized by the service provider, by any associate, affiliate, agent or representative of such service provider in lieu of its being recognized by the service provider;

(ii) Include the value of any barter or other nonmonetary consideration; and

~~(iii) Not be reduced by credit card commissions or similar payment process charges; and~~

(iii~~v~~) Except as expressly set forth in this subpart, not be subject to any other deduction or set-off other than refunds to end users for licensed subpart C activity, as defined in this section, that they were unable to use due to technical faults in the licensed subpart C activity, as defined in this section, or other bona fide refunds or credits issued to end users in the ordinary course of business.

(3) In each of the cases identified in paragraph (1) of the definition of "Subpart C service revenue" of this section, such revenue shall, for the avoidance of doubt, exclude revenue derived solely in connection with services and activities other than licensed subpart C activity, as defined in this section, provided that advertising or sponsorship revenue shall be treated as provided in paragraphs (2) and (4) of the definition of "Subpart C service revenue" of this section. By way of example, the following kinds of revenue shall be excluded:

(i) Revenue derived from predominantly non-music voice, content and text services, such as, by way of example and not limitation, news, talk, sports, weather, traffic and comedy programming, or podcasts of any of the foregoing;

(ii) Revenue derived from other non-music products and services (including search services, sponsored searches and click-through commissions);

(iii) Revenue generated from the sale of actual locker service storage space to the extent that such storage space is sold at a separate retail price;

(iv) In the case of a locker service, revenue derived from the sale of permanent digital downloads or ringtones; and

(v) Revenue derived from other music or music-related products and services that are not or do not include licensed subpart C activity, as defined in this section.

(4) For purposes of paragraph (1) of the definition of "Subpart C service revenue" of this section, advertising, ~~or~~ sponsorship, subscription, and other end user revenue shall be reduced by the actual cost of obtaining such revenue (including carrier billing costs, credit card commissions, app store commissions, and similar payment process charges), not to exceed 15%.

(5) In the case of a mixed service bundle, the revenue deemed to be recognized from end users for the service for the purpose of the definition in paragraph (1) of the definition of "Subpart C service revenue" of this section shall be the greater of—

(i) The revenue recognized from end users for the mixed service bundle less the standalone published price for end users for each of the non-music product or non-music service components of the bundle; provided that, if there is no such standalone published price for a non-music component of the bundle, then the average standalone published price for end users for the most closely comparable non-music product or non-music service in the U.S. shall be used or, if more than one such comparable exists, the average of such standalone prices for such comparables shall be used; and

(ii) Either—

(A) In the case of a mixed service bundle that either has 750,000 subscribers or other registered users, or is reasonably expected to have 750,000 subscribers or other registered users within 1 year after commencement of the mixed service bundle, 40% of the standalone published price of the licensed music component of the bundle (i.e., the permanent digital downloads, ringtones, locker service or limited offering); provided that, if there is no such standalone published price for the licensed music component of the bundle, then the average standalone published price for end users for the most closely comparable licensed music component in the U.S. shall be used or, if more than one such comparable exists, the average of such standalone prices for such comparables shall be used; and further provided that in any case in which royalties were paid based on this paragraph due to a reasonable expectation of reaching 750,000 subscribers or other registered users within 1 year after commencement of the mixed service bundle and that does not actually happen, applicable payments shall, in the accounting period next following the end of such 1-year period, retroactively be adjusted as if paragraph (5)(ii)(B) of the definition of "Subpart C service revenue" of this section applied; or

(B) Otherwise, 50% of the standalone published price of the licensed music component of the bundle (i.e., the permanent digital downloads, ringtones, locker service or limited offering); provided that, if there is no such standalone published price for the licensed music component of the bundle, then the average standalone published price for end users for the most closely comparable licensed music component in the U.S. shall be used or, if more than one such comparable exists, the average of such standalone prices for such comparables shall be used.

(6) In the case of a music bundle containing a physical phonorecord, where the music bundle is distributed by a record company for resale and the record company is the compulsory licensee—

(i) Service revenue shall be 150% of the record company's wholesale revenue from the music bundle; and

(ii) The times at which distribution and revenue recognition are deemed to occur shall be in accordance with §201.19 of this title.

Subscription service means a digital music service for which end users are required to pay a fee to access the service for defined subscription periods of 3 years or less (in contrast to, for example, a service where the basic charge to users is a payment per download or per play), whether such payment is made for access to the service on a standalone basis or as part of a bundle with one or more other products or services, and including any use of such a service on a trial basis without charge as described in §385.24.

§385.22 Calculation of royalty payments in general.

(a) *Applicable royalty.* Licensees that make or authorize licensed subpart C activity, as defined in §385.21, pursuant to 17 U.S.C. 115 shall pay royalties therefor that are calculated as provided in this section, subject to the royalty rates and subscriber-based royalty floors for specific types of services provided in §385.23, except as provided for under §385.20(d) and certain free trial periods in §385.24.

(b) *Rate calculation methodology.* Royalty payments for licensed subpart C activity, as defined in §385.21, shall be calculated as provided in this paragraph (b). If a service provides different subpart C offerings, as defined in §385.21, royalties must be separately calculated with respect to each such subpart C offering, as defined in §385.21, taking into consideration service revenue and expenses associated with such offering. Uses subject to the free trial royalty rate shall be excluded from the calculation of royalties due, as further described in this section and §385.23.

(1) *Step 1:* Calculate the All-In Royalty for the Subpart C Offering, as Defined in §385.21. For each accounting period, the all-in royalty for each subpart C offering, as defined in §385.21, of the service provider is the greater of:

(i) The applicable percentage of subpart C service revenue, as defined in §385.21, associated with the relevant offering as set forth in §385.23(a) (excluding any subpart C service revenue, as defined in §385.21, derived solely from licensed subpart C activity, as defined in §385.21, uses subject to the free trial royalty rate); and

(ii) The minimum specified in §385.23(a) for the subpart C offering, as defined in §385.21, involved.

(2) *Step 2:* Subtract applicable performance royalties to determine the payable royalty pool, which is the amount payable for the reproduction and distribution of all musical works used by the service provider by virtue of its licensed subpart C activity, as defined in §385.21, for a particular subpart C offering, as defined in §385.21, during the accounting period. From the amount determined in step 1 in paragraph (b)(1) of this section, for each subpart C offering, as defined in §385.21, of the service provider, subtract the total amount of royalties for public performance of musical works that has been or will be expensed pursuant to public performance licenses in connection with uses of musical works through such subpart C offering, as defined in §385.21, during the accounting period that constitute licensed subpart C activity, as defined in §385.21, (other than licensed subpart C activity, as defined in §385.21, subject to the free trial royalty rate), or in connection with previewing of such subpart C offering, as defined in §385.21, during the accounting period. Although this amount may be the total of the payments with respect to the service for that subpart C offering, as defined in §385.21, for the accounting period, it will be less than the total of such public performance payments if the service is also engaging in public performance of musical works that does not constitute licensed subpart C activity, as defined in §385.21, or previewing of such licensed subpart C activity, as defined in §385.21. In the case where the service is also engaging in the public performance of musical works that does not constitute licensed subpart C activity, as defined in §385.21, the amount to be subtracted for public performance payments shall be the amount of such payments allocable to licensed subpart C activity, as defined in §385.21, uses (other than free trial royalty rate uses), and previewing of such uses, in connection with the relevant subpart C offering, as defined in §385.21, as determined in relation to all uses of musical works for which the public performance payments are made for the accounting period. Such allocation shall be made on the basis of plays of musical works or, where per-play information is unavailable due to bona fide technical limitations as described in step 3 in paragraph (b)(3) of this section, using the same alternative methodology as provided in step 3 in paragraph (b)(3) of this section.

(3) *Step 3:* Calculate the Per-Work Royalty Allocation for Each Relevant Work. This is the amount payable for the reproduction and distribution of each musical work used by the service provider by virtue of its licensed subpart C activity, as defined in §385.21, through a particular subpart C offering, as defined in §385.21, during the accounting period. To determine this amount, the result determined in step 2 in paragraph (b)(2) of this section must be allocated to each musical work used through the subpart C offering, as defined in §385.21. The allocation shall be accomplished as follows:

(i) In the case of limited offerings (but not limited offerings that are part of mixed service bundles), by dividing the payable royalty pool determined in step 2 in paragraph (b)(2) of this section for such offering by the total number of plays of all musical works through such offering during the accounting period (other

than free trial royalty rate plays) to yield a per-play allocation, and multiplying that result by the number of plays of each musical work (other than free trial royalty rate plays) through the offering during the accounting period. For purposes of determining the per-work royalty allocation in all calculations under this step 3 only (i.e., after the payable royalty pool has been determined), for sound recordings of musical works with a playing time of over 5 minutes, each play shall be counted as provided in paragraph (c) of this section. Notwithstanding the foregoing, if the service provider is not capable of tracking play information due to bona fide limitations of the available technology for services of that nature or of devices usable with the service, the per-work royalty allocation may instead be accomplished in a manner consistent with the methodology used by the service provider for making royalty payment allocations for the use of individual sound recordings.

(ii) In the case of mixed service bundles and locker services, by—

(A) Determining a constructive number of plays of all licensed musical works that is the sum of the total number of interactive streams of all licensed musical works made through such offering during the accounting period (other than free trial royalty rate interactive streams), plus the total number of plays of restricted downloads of all licensed musical works made through such offering during the accounting period as to which the service provider tracks plays (other than free trial royalty rate restricted downloads), plus 5 times the total number of downloads of all licensed musical works made through such offering during the accounting period as to which the service provider does not track plays (other than free trial royalty rate downloads);

(B) Determining a constructive per-play allocation that is the payable royalty pool determined in step 2 of paragraph (b)(2) of this section for such offering divided by the constructive number of plays of all licensed musical works determined in paragraph (b)(3)(ii)(A) of this section;

(C) For each licensed musical work, determining a constructive number of plays of that musical work that is the sum of the total number of interactive streams of such licensed musical work made through such offering during the accounting period (other than free trial royalty rate interactive streams), plus the total number of plays of restricted downloads of such licensed musical work made through such offering during the accounting period as to which the service provider tracks plays (other than free trial royalty rate restricted downloads), plus 5 times the total number of downloads of such licensed musical work made through such offering during the accounting period as to which the service provider does not track plays (other than free trial royalty rate downloads); and

(D) For each licensed musical work, determining the per-work royalty allocation by multiplying the constructive per-play allocation determined in

paragraph (b)(3)(ii)(B) of this section by the constructive number of plays of that musical work determined in paragraph (b)(3)(ii)(C) of this section.

(E) Notwithstanding the foregoing, if a service provider offers both a paid locker service and a purchased content locker service, and with respect to the purchased content locker service there is no subpart C service revenue, as defined in §385.21, and the applicable subminimum is zero dollars, then the service provider shall be permitted to include within the calculation of constructive plays under paragraphs (b)(3)(ii)(A) and (C) of this section for the paid locker service, the licensed subpart C activity, as defined in §385.21, made through the purchased content locker service (i.e., the total number of interactive streams of all licensed musical works made through the purchased content locker service during the accounting period (other than free trial royalty rate interactive streams), plus the total number of plays of restricted downloads of all licensed musical works made through the purchased content locker service during the accounting period as to which the service provider tracks plays (other than free trial royalty rate restricted downloads), plus 5 times the total number of downloads of all licensed musical works made through the purchased content locker service during the accounting period as to which the service provider does not track plays (other than free trial royalty rate downloads)); provided that the relevant licensed subpart C activity, as defined in §385.21, made through the purchased content locker service is similarly included within the play calculation for the paid locker service for the corresponding sound recording rights.

(iii) In the case of music bundles, by—

(A) Allocating the payable royalty pool determined in step 2 of paragraph (b)(2) of this section to separate pools for each type of product configuration included in the music bundle (e.g., CD, permanent digital download, ringtone) in accordance with the ratios that the standalone published prices of the products that are included in the music bundle bear to each other; provided that, if there is no such standalone published price for such a product, then the average standalone published price for end users for the most closely comparable product in the U.S. shall be used or, if more than one such comparable exists, the average of such standalone prices for such comparables shall be used; and

(B) Allocating the product configuration pools determined in paragraph (b)(3)(iii)(A) of this section to individual musical works by dividing each such pool by the total number of sound recordings of musical works included in products of that configuration in the music bundle.

(c) *Overtime adjustment.* For purposes of the calculations in step 3 of paragraph (b)(3)(i) of this section only, for sound recordings of musical works with a playing time of over 5 minutes, adjust the number of plays as follows:

(1) 5:01 to 6:00 minutes—Each play = 1.2 plays

(2) 6:01 to 7:00 minutes—Each play = 1.4 plays

(3) 7:01 to 8:00 minutes—Each play = 1.6 plays

(4) 8:01 to 9:00 minutes—Each play = 1.8 plays

(5) 9:01 to 10:00 minutes—Each play = 2.0 plays

(6) For playing times of greater than 10 minutes, continue to add .2 plays for each additional minute or fraction thereof.

§385.23 Royalty rates and subscriber-based royalty floors for specific types of services.

(a) *In general.* The following royalty rates and subscriber-based royalty floors shall apply to the following types of licensed subpart C activity, as defined in §385.21:

(1) *Mixed service bundle.* In the case of a mixed service bundle, the percentage of subpart C service revenue, as defined in §385.21, applicable in step 1 of §385.22(b)(1)(i) is 11.35%. The minimum for use in step 1 of §385.22(b)(1)(ii) is the appropriate subminimum as described in paragraph (b) of this section for the accounting period, where the all-in percentage applicable to §385.23(b)(1) is ~~17.36~~11.9%, and the sound recording-only percentage applicable to §385.23(b)(2) is ~~21~~13.5%.

(2) *Music bundle.* In the case of a music bundle, the percentage of subpart C service revenue, as defined in §385.21, applicable in step 1 of §385.22(b)(1)(i) is 11.35%. The minimum for use in step 1 of §385.22(b)(1)(ii) is the appropriate subminimum as described in paragraph (b) of this section for the accounting period, where the all-in percentage applicable to §385.23(b)(1) and (3) is ~~17.36~~11.9%, and the sound recording-only percentage applicable to §385.23(b)(2) is ~~21~~13.5%.

(3) *Limited offering.* In the case of a limited offering, the percentage of subpart C service revenue, as defined in §385.21, applicable in step 1 of §385.22(b)(1)(i) is 10.5%. The minimum for use in step 1 of §385.22(b)(1)(ii) is the greater of—

(i) The appropriate subminimum as described in paragraph (b) of this section for the accounting period, where the all-in percentage applicable to §385.23(b)(1) is ~~17.36~~11.9%, and the sound recording-only percentage applicable to §385.23(b)(2) is ~~21~~13.5%; and

(ii) The aggregate amount of 18 cents per subscriber per month.

(4) *Paid locker service.* In the case of a paid locker service, the percentage of subpart C service revenue, as defined in §385.21, applicable in step 1 of §385.22(b)(1)(i) is 12%. The minimum for use in step 1 of §385.22(b)(1)(ii) is the greater of—

(i) The appropriate subminimum as described in paragraph (b) of this section for the accounting period, where the all-in percentage applicable to §385.23(b)(1) is ~~17.11~~11.9%, and the sound recording-only percentage applicable to §385.23(b)(2) is ~~20.65~~13.5%; and

(ii) The aggregate amount of 17 cents per subscriber per month.

(5) *Purchased content locker service.* In the case of a purchased content locker service, the percentage of subpart C service revenue, as defined in §385.21, applicable in step 1 of §385.22(b)(1)(i) is 12%. For the avoidance of doubt, paragraph (1)(i) of the definition of "Subpart C service revenue," as defined in §385.21, shall not apply. The minimum for use in step 1 in §385.22(b)(1)(ii) is the appropriate subminimum as described in paragraph (b) of this section for the accounting period, where the all-in percentage applicable to §385.23(b)(1) is ~~18~~11.9%, and the sound recording-only percentage applicable to §385.23(b)(2) is ~~22~~13.5%, except that for purposes of paragraph (b) of this section the applicable consideration expensed by the service for the relevant rights shall consist only of applicable consideration expensed by the service, if any, that is incremental to the applicable consideration expensed for the rights to make the relevant permanent digital downloads and ringtones.

(b) *Computation of subminima.* For purposes of paragraph (a) of this section, the subminimum for an accounting period is the aggregate of the following with respect to all sound recordings of musical works used in the relevant subpart C offering, as defined in §385.21, of the service provider during the accounting period—

(1) Except as provided in paragraph (b)(3) of this section, in cases in which the record company is the licensee under 17 U.S.C. 115 and the record company has granted the rights to engage in licensed subpart C activity, as defined in §385.21, with respect to a sound recording through the third-party service together with the right to reproduce and distribute the musical work embodied therein, the appropriate all-in percentage from paragraph (a) of this section of the total amount expensed by the service provider or any of its affiliates in accordance with GAAP for such rights for the accounting period, which amount shall equal the applicable consideration for such rights at the time such applicable consideration is properly recognized as an expense under GAAP.

(2) In cases in which the record company is not the licensee under 17 U.S.C. 115 and the record company has granted the rights to engage in licensed subpart C activity, as defined in §385.21, with respect to a sound recording through the third-party service without the right to reproduce and distribute the musical work embodied therein, the appropriate sound recording-only percentage from paragraph (a) of this section of the total amount expensed by the service provider or any of its affiliates in accordance with GAAP for such rights for the accounting period, which amount shall equal the applicable consideration for such rights at the time such applicable consideration is properly recognized as an expense under GAAP.

(3) In the case of a music bundle containing a physical phonorecord, where the music bundle is distributed by a record company for resale and the record company is the compulsory licensee, the appropriate all-in percentage from paragraph (a) of this section of the record company's total wholesale revenue from the music bundle in accordance with GAAP for the accounting period, which amount shall equal the applicable consideration for such music bundle at the time such applicable consideration is properly recognized as revenue under GAAP, subject to the provisions of §201.19 of this title concerning the times at which distribution and revenue recognition are deemed to occur.

(4) If a record company providing sound recording rights to the service provider for a licensed subpart C activity, as defined in §385.21—

(i) Recognizes revenue (in accordance with GAAP, and including for the avoidance of doubt all applicable consideration with respect to such rights for the accounting period, regardless of the form or timing of payment) from a person or entity other than the service provider providing the licensed subpart C activity, as defined in §385.21, and its affiliates, and

(ii) Such revenue is received, in the context of the transactions involved, as applicable consideration for such rights,

(iii) Then such revenue shall be added to the amounts expensed by the service provider solely for purposes of paragraph (b)(1) or (2) of this section, as applicable, if not already included in such expensed amounts. Where the service provider is the licensee, if the service provider provides the record company all information necessary for the record company to determine whether additional royalties are payable by the service provider hereunder as a result of revenue recognized from a person or entity other than the service provider as described in the immediately preceding sentence, then the record company shall provide such further information as necessary for the service provider to calculate the additional royalties and indemnify the service provider for such additional royalties. The sole obligation of the record company shall be to pay the licensee such additional royalties if actually payable as royalties hereunder; provided, however, that this

shall not affect any otherwise existing right or remedy of the copyright owner nor diminish the licensee's obligations to the copyright owner.

(c) *Computation of subscriber-based royalty rates.* For purposes of paragraphs (a)(3) and (4) of this section, to determine the subscriber-based minimum applicable to any particular subpart C offering, as defined in §385.21, the total number of subscriber-months for the accounting period shall be calculated, taking into account all end users who were subscribers for complete calendar months, prorating in the case of end users who were subscribers for only part of a calendar month, and deducting on a prorated basis for end users covered by a free trial period subject to the free trial royalty rate as described in §385.24. The product of the total number of subscriber-months for the accounting period and the specified number of cents per subscriber shall be used as the subscriber-based component of the minimum for the accounting period. [The per-subscriber minima applicable to Family Plans shall be calculated by multiplying the applicable minimum by the ratio of the Family Plan price to the individual subscription price.] OR [A family plan shall be treated as 1.5 subscribers per month, prorated in the case of a family plan end user who subscribed for only part of a calendar month.]

§385.24 Free trial periods.

(a) *General provisions.* This section establishes a royalty rate of zero in the case of certain free trial periods for mixed service bundles, paid locker services and limited offerings under a license pursuant to 17 U.S.C. 115. Subject to the requirements of 17 U.S.C. 115 and the additional provisions of paragraphs (b) through (e) of this section, the free trial royalty rate shall apply to a musical work when a record company transmits or authorizes the transmission, as part of a mixed service bundle, paid locker service or limited offering, of a sound recording that embodies such musical work, only if—

(1) The primary purpose of the record company in providing or authorizing the free trial period is to promote the applicable subpart C offering, as defined in §385.21;

(2) No applicable consideration for making or authorizing the transmissions is received by the record company, or any other person or entity acting on behalf of or in lieu of the record company, except for in-kind promotional consideration used to promote the sale or paid use of sound recordings or audiovisual works embodying musical works or the paid use of music services through which sound recordings or audiovisual works embodying musical works are available;

(3) The free trial period does not exceed 30 consecutive days per subscriber per two-year period;

(4) In connection with authorizing the transmissions, the record company has obtained from the service provider it authorizes a written representation that—

(i) The service provider agrees to maintain for a period of no less than 5 years from the end of each relevant accounting period complete and accurate records of the relevant authorization, and identifying each sound recording of a musical work made available through the free trial period, the licensed subpart C activity, as defined in §385.21, involved, and the number of plays or downloads, as applicable, of such recording;

(ii) The service is in all material respects operating with appropriate license authority with respect to the musical works it is using; and

(iii) The representation is signed by a person authorized to make the representation on behalf of the service provider;

(5) Upon receipt by the record company of written notice from the copyright owner of a musical work or agent of the copyright owner stating in good faith that a particular service is in a material manner operating without appropriate license authority from such copyright owner, the record company shall within 5 business days withdraw by written notice its authorization of such uses of such copyright owner's musical works under the free trial royalty rate by that service;

(6) The free trial period is offered free of any charge to the end user; and

(7) End users are periodically offered an opportunity to subscribe to the service during such free trial period.

(b) *Recordkeeping by record companies.* To rely upon the free trial royalty rate for a free trial period, a record company making or authorizing the free trial period shall keep complete and accurate contemporaneous written records of the contractual terms that bear upon the free trial period; and further provided that, if the record company itself is conducting the free trial period, it shall also maintain any additional records described in paragraph (a)(4)(i) of this section. The records required by this paragraph (b) shall be maintained for no less time than the record company maintains records of usage of royalty-bearing uses involving the same type of licensed subpart C activity, as defined in §385.21, in the ordinary course of business, but in no event for less than 5 years from the conclusion of the licensed subpart C activity, as defined in §385.21, to which they pertain. If the copyright owner of a musical work or its agent requests a copy of the information to be maintained under this paragraph (b) with respect to a specific free trial period, the record company shall provide complete and accurate documentation within 10 business days, except for any information required under paragraph (a)(4)(i) of this section, which shall be provided within 20 business days, and provided that if the copyright owner or agent requests information concerning a large volume of free

trial periods or sound recordings, the record company shall have a reasonable time, in view of the amount of information requested, to respond to any request of such copyright owner or agent. If the record company does not provide required information within the required time, and upon receipt of written notice citing such failure does not provide such information within a further 10 business days, the uses will be considered not to be subject to the free trial royalty rate and the record company (but not any third-party service it has authorized) shall be liable for any payment due for such uses; provided, however, that all rights and remedies of the copyright owner with respect to unauthorized uses shall be preserved.

(c) *Recordkeeping by services.* If the copyright owner of a musical work or its agent requests a copy of the information to be maintained under paragraph (a)(4)(i) of this section by a service authorized by a record company with respect to a specific promotion, the service provider shall provide complete and accurate documentation within 20 business days, provided that if the copyright owner or agent requests information concerning a large volume of free trial periods or sound recordings, the service provider shall have a reasonable time, in view of the amount of information requested, to respond to any request of such copyright owner or agent. If the service provider does not provide required information within the required time, and upon receipt of written notice citing such failure does not provide such information within a further 10 business days, the uses will be considered not to be subject to the free trial royalty rate and the service provider (but not the record company) will be liable for any payment due for such uses; provided, however, that all rights and remedies of the copyright owner with respect to unauthorized uses shall be preserved.

(d) *Interpretation.* The free trial royalty rate is exclusively for audio-only licensed subpart C activity, as defined in §385.21, involving musical works subject to licensing under 17 U.S.C. 115. The free trial royalty rate does not apply to any other use under 17 U.S.C. 115; nor does it apply to public performances, audiovisual works, lyrics or other uses outside the scope of 17 U.S.C. 115. Without limitation, uses subject to licensing under 17 U.S.C. 115 that do not qualify for the free trial royalty rate (including without limitation licensed subpart C activity, as defined in §385.21, beyond the time limitations applicable to the free trial royalty rate) require payment of applicable royalties. This section is based on an understanding of industry practices and market conditions at the time of its development, among other things. The terms of this section shall be subject to de novo review and consideration (or elimination altogether) in future proceedings before the Copyright Royalty Judges. Nothing in this section shall be interpreted or construed in such a manner as to nullify or diminish any limitation, requirement or obligation of 17 U.S.C. 115 or other protection for musical works afforded by the Copyright Act, 17 U.S.C. 101, *et seq.*

§385.25 Reproduction and distribution rights covered.

A compulsory license under 17 U.S.C. 115 extends to all reproduction and distribution rights that may be necessary for the provision of the licensed subpart C activity, as defined in §385.21, solely for the purpose of providing such licensed subpart C activity, as defined in §385.21 (and no other purpose).

§385.26 Effect of rates.

In any future proceedings under 17 U.S.C. 115(c)(3)(C) and (D), the royalty rates payable for a compulsory license shall be established de novo.

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of:	
Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)	**Docket No. 16-CRB-0003-PR (2018-2022)**

Index of Witness Testimony

Witness	Title
Zahavah Levine	Vice President of Partnerships for Google Play
Paul Joyce	Director of Product Management at Google Play Music
Elliot Alyeshmerni	Finance Manager at Google Play Music
Dr. Gregory K. Leonard	Partner, Edgeworth Economics
David Pakman	Partner, Venrock

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of:	
Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)	**Docket No. 16-CRB-0003-PR (2018-2022)**

Index of Google's Exhibits

Exhibit	Sponsoring Witness	Description	Bates Beg
Google Dir. Ex. 001	Zahavah Levine	Google license with [redacted].	GOOG-PHONOIII-00001818
Google Dir. Ex. 002	Zahavah Levine	Google license with [redacted]	GOOG-PHONOIII-00000272
Google Dir. Ex. 003	Zahavah Levine	Google license with [redacted]	GOOG-PHONOIII-00000379
Google Dir. Ex. 004	Zahavah Levine	Summary of terms for Google Play Music Store, scan & match locker service, and music subscription service	GOOG-PHONOIII-0002560
Google Dir. Ex. 005	Paul Joyce	Google license with [redacted]	GOOG-PHONOIII-00000197
Google Dir. Ex. 006	Paul Joyce	Google form publishing license agreement	GOOG-PHONOIII-00002538
Google Dir. Ex. 007	Paul Joyce	Spreadsheet with pricing and launch information for Google Play Music's subscription service	GOOG-PHONOIII-00003275
Google Dir. Ex. 008	Paul Joyce	Spreadsheet showing subscriber, streaming, and permanent and limited download data	GOOG-PHONOIII-00003330

Exhibit	Sponsoring Witness	Description	Bates Beg
Google Dir. Ex. 009	Paul Joyce	Spreadsheet showing inventory spent to promote Google Play	GOOG-PHONOIII-00003274
Google Dir. Ex. 010	Paul Joyce	Spreadsheet showing inventory spent to promote Google Play	GOOG-PHONOIII-00003276
Google Dir. Ex. 011	Paul Joyce Elliot Alyeshmerni	Spreadsheet showing how Google arrives at why rate to pay for mechanical royalties	GOOG-PHONOIII-00003189
Google Dir. Ex. 012	Elliot Alyeshmerni	Spreadsheet showing Google Play Music's revenue and costs	GOOG-PHONOIII-00003186
Google Dir. Ex. 013	Elliot Alyeshmerni	Spreadsheet showing Google Play's sales of digital music track and album downloads	GOOG-PHONOIII-00003327
Google Dir. Ex. 014	Elliot Alyeshmerni	Spreadsheet showing Google Play's payroll, marketing, and other expenses	GOOG-PHONOIII-00003188

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of: **Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022)**

Redaction Log for the Written Direct Statement of Google Inc.

Google submits the following list of redactions from its Written Direct Statement filed November 1, 2016. The undersigned certify that, in compliance with 37 C.F.R. § 350.4(e)(1), and based on the Declaration and Certification of David P. Mattern, the listed redacted materials meet the definition of "Restricted" contained in the Protective Order.

Document	Page/Para./ Ex. No.	General Description
Introductory Memorandum to the Written Direct Statement of Google Inc.	Page 2	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 7	Contains material, nonpublic analysis of Google's understanding of royalty rates
	Page 8	Contains material, nonpublic analysis of Google's understanding of royalty rates
	Page 9	Contains material, nonpublic information concerning Google's purchase of Songza, Google's subscribers, and Google's payments for music royalties

Document	Page/Para./ Ex. No.	General Description
	Page 11	Contains material, nonpublic analysis of Google's understanding of royalty rates
	Page 11–12	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 12	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 13	Contains material, nonpublic information about Google's subscribers, revenue, and license terms and royalty obligations
	Page 14	Contains material, nonpublic information about Google's revenue, and license terms and royalty obligations
	Page 15	Contains material, nonpublic information concerning Google's license terms and royalty obligations
Written Direct Testimony of Zahavah Levine	Page 5, ¶ 16 n.1	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 12, ¶ 35	Contains material, nonpublic analysis of Google's understanding of royalty rates
	Page 14, ¶ 40	Contains material, nonpublic information concerning Google's license terms and royalty obligations

Document	Page/Para./ Ex. No.	General Description
	Page 14, ¶ 41	Contains material, nonpublic analysis of Google's understanding of royalty rates
	Page 16, ¶ 49	Contains material, nonpublic information concerning Google's license terms and license negotiations
	Pages 16–17, ¶¶ 51–54	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 17–18, ¶ 55	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 18, ¶ 56	Contains material, nonpublic analysis of Google's business strategy
	Google Dir. Ex. 001	Contains material, nonpublic information regarding Google's license terms and royalty obligations; subject to confidentiality obligations
	Google Dir. Ex. 002	Contains material, nonpublic information regarding Google's license terms and royalty obligations; subject to confidentiality obligations
	Google Dir. Ex. 003	Contains material, nonpublic information regarding Google's license terms and royalty obligations; subject to confidentiality obligations

Document	Page/Para./ Ex. No.	General Description
	Google Dir. Ex. 004	Contains material, nonpublic information regarding Google's license terms and royalty obligations
Written Direct Testimony of Paul Joyce	Page 2, ¶ 3 & n.1	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 4, ¶ 7	Contains material, nonpublic information concerning Google's purchase of Songza
	Page 6, ¶ 11 & n.4	Contains material, nonpublic analysis of Google's business strategy and Google's costs to operate Google Play Music
	Page 6, ¶ 12	Contains material, nonpublic analysis of Google Play Music's financial performance and Google's royalty obligations
	Page 8, ¶ 14	Contains material, nonpublic information concerning Google's license terms and royalty obligations for YouTube
	Page 8, ¶ 15	Contains material, nonpublic information concerning Google's number of subscribers and analysis of Google's royalty obligations
	Page 8, ¶ 16	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 9, ¶ 18	Contains material, nonpublic analysis of Google's business strategy and Google's costs

Document	Page/Para./ Ex. No.	General Description
	Page 10, ¶ 19 & n.6	Contains material, nonpublic information regarding a participant's rate proposal and analysis of the impact of that proposal on Google's royalty obligations
	Pages 10–12, ¶¶ 20–22 & n.7, 8	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 12, ¶ 23 & n.9	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 12, ¶ 24	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Google Dir. Ex. 005	Contains material, nonpublic information regarding Google's license terms and royalty obligations and subject to confidentiality obligations
	Google Dir. Ex. 006	Contains material, nonpublic information regarding Google's license terms and royalty obligations and subject to confidentiality obligations
	Google Dir. Ex. 007	Contains material, nonpublic information regarding Google pricing strategy
	Google Dir. Ex. 008	Contains material, nonpublic information regarding Google's subscriber, streaming, and permanent and limited download data

Document	Page/Para./ Ex. No.	General Description
	Google Dir. Ex. 009	Contains material, nonpublic information regarding Google's investment in Google Play
	Google Dir. Ex. 010	Contains material, nonpublic information regarding Google's investment in Google Play
Written Direct Testimony of Elliot Alyeshmerni	Page 3, ¶ 8	Contains material, nonpublic information concerning Google's sales and revenue
	Page 3, ¶ 9	Contains material, nonpublic information concerning Google's revenue and subscribers
	Pages 3–4, ¶ 10	Contains material, nonpublic information concerning Google's revenue and business strategies
	Page 4, ¶ 11	Contains material, nonpublic analysis of Google's business strategy and Google's costs to operate Google Play Music
	Page 4, ¶ 12	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Pages 4–5, ¶¶ 13–15	Contains material, nonpublic information concerning Google's revenue, subscribers, and royalty obligations
	Page 6, ¶ 16	Contains material, nonpublic analysis of Google's business strategies
	Page 6, ¶ 17	Contains material, nonpublic analysis of Google's business strategy and Google's costs to operate Google Play Music

Document	Page/Para./ Ex. No.	General Description
	Page 6, ¶ 18	Contains material, nonpublic analysis of Google's business strategy, royalty obligations, and Google's other costs to operate Google Play Music
	Google Dir. Ex. 011	Contains material, nonpublic information regarding Google's royalty obligations
	Google Dir. Ex. 012	Contains material, nonpublic information regarding Google's royalty obligations and costs
	Google Dir. Ex. 013	Contains material, nonpublic information regarding Google's sales of digital music track and album downloads
	Google Dir. Ex. 014	Contains material, nonpublic information regarding Google's payroll, marketing, and other expenses for Google Play
Written Direct Testimony of Gregory K. Leonard	Pages 5–6, ¶ 12	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 6, ¶ 12 & n.5	Contains material, nonpublic information concerning license terms and royalty obligations with performing rights organizations
	Page 7, ¶ 12	Contains material, nonpublic information concerning Google's license terms and royalty obligations

Document	Page/Para./ Ex. No.	General Description
	Page 13, ¶ 22 n.28	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 18, ¶ 26 n.46	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 18, ¶ 27 n.47	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 19, ¶ 29 n.51 & n.52	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 25, ¶ 40	Contains material, nonpublic information regarding Google's streaming and permanent download data
	Page 27, ¶ 44 & n.83	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Pages 30–31, ¶ 51	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 31, ¶ 51 n.88 & n.89	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 32, ¶ 52 & n.92, 94	Contains material, nonpublic information concerning Google's license terms and royalty obligations

Document	Page/Para./ Ex. No.	General Description
	Page 33, ¶ 53	Contains material, nonpublic information concerning Google's license terms and license negotiations
	Page 34, ¶ 55 & n.95	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 35, ¶ 56 & n.97	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 36, ¶ 57	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Pages 36–37, ¶ 59 & n.99, 100	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 37, ¶ 61 & n.101	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 38, ¶ 62 & n.105, 106	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 39, ¶ 63 & n.107, 108	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 39, ¶ 64 & n.112	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations

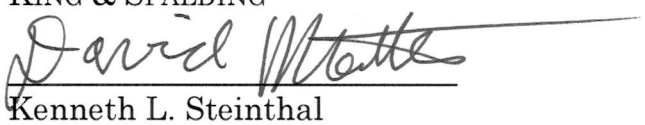
Document	Page/Para./ Ex. No.	General Description
	Page 40, ¶ 65 & n.114, 115	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Pages 40–41, ¶ 66 & n. 117, 118	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 41, ¶ 67 n. 120, 121	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 41, ¶ 68 n.122, 123	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 42, ¶ 68 & n. 124–127	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 43, ¶ 69 & n. 128–130	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 43, ¶ 70	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 44, ¶ 71 & n.130	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 45, ¶ 71	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations

Document	Page/Para./ Ex. No.	General Description
	Page 46, ¶ 71	Contains material, nonpublic information concerning a digital music service's license terms and royalty obligations
	Page 46, ¶ 72	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 47, ¶ 73	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 48, ¶ 75	Contains material, nonpublic information concerning Google's costs to operate its music service
	Page 46, ¶ 96	Contains material, nonpublic information concerning Google's subscribers, revenue, and profitability
	Page 59, ¶ 100	Contains material, nonpublic information concerning Google's subscribers, revenue, and profitability
	Page 65, ¶ 113	Contains material, nonpublic information concerning Google's costs to acquire Songza
Appendices to Written Direct Testimony of Gregory K. Leonard	Pages 29–68, Exhibits 1 & 2	Contains material, nonpublic information concerning Google's license terms and royalty obligations
	Page 69, Ex. 3	Contains material, nonpublic information concerning Google's royalty payments
	Page 71–76, Ex. 6	Contains material, nonpublic financial data for music publishers

Document	Page/Para./ Ex. No.	General Description
	Page 81, Exhibit 8	Contains material, nonpublic information concerning Google's license terms and royalty obligations

DATED: November 3, 2016

KING & SPALDING



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Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of: **Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022)**

DECLARATION AND CERTIFICATION OF DAVID P. MATTERN

1. I am counsel for Google Inc. in the above-captioned case. I submit this declaration and certification pursuant to Rule 350.4(e)(1) of the Copyright Royalty Judges Rules and Procedures, and per the terms of the Protective Order issued July 28, 2016. I am authorized by Google to submit this Declaration.

2. I have reviewed Google's Written Direct Statement, witness statements, and exhibits. I have also reviewed the definitions and terms provided in the Protective Order. After consultation with my client, I have determined that to the best of my knowledge, information, and belief, that portions of Google's Written Direct Statement, witness statements, and accompanying exhibits contain information that is "Restricted" material as defined by the Protective Order.

3. The Restricted materials include testimony and exhibits related to (a) contracts, terms, and contract strategy that are proprietary, not available to the public, highly sensitive, and subject to confidential provisions with third parties; (b) confidential internal business information, financial data, and competitive strategy that are proprietary, not available to the public, and commercially sensitive.

4. If this contractual, strategic, and financial information were to become public, it would place Google at a commercial and competitive disadvantage, unfairly advantage other parties, and jeopardize Google's business interests. Information related to confidential contracts or relationships with third-party content providers could be used by Google competitors, or by other content providers, to formulate rival bids, bid up Google payments, or otherwise unfairly jeopardize Google commercial and competitive interests.

5. With respect to the financial information in the Restricted materials, I understand that Google has not disclosed to the public or the investment community the financial information that it seeks to restrict here (including spending and cost information), specific royalty payment information, and the like). As a result, neither Google's competitors nor the investing public has been privy to that information, which Google has viewed as highly confidential and sensitive, and has guarded closely. In addition, when Google does disclose information about the Company's finances to the market as required by law, the Company provides accompanying analysis and commentary that contextualizes disclosures by its officers. The information that Google seeks to restrict under the Protective Order, while truthful and accurate to the best of each witness's knowledge, was not intended for public release or prepared with that audience in mind, and therefore was not accompanied the type of detailed explanation and context that usually accompanies such disclosures by a company officer. Moreover, the statements and exhibits containing the information have not been approved by Google's directors, as

such sensitive disclosures usually are, or accompanied by the typical disclaimers that usually accompany such disclosures. Google could experience negative market repercussions, competitive disadvantage, and even possible legal exposure were this confidential financial information released publicly without proper context or explanation.

6. The written direct statement of Zahavah Levine, Vice President of Partnerships for Google Play, contains material, non-public information concerning Google's business of music streaming, Google's rate proposal, Google Play Music's services, and Google's licenses with publishers and record labels. None of this information is publicly known or available. Disclosure of the financial details of these contractual arrangements and non-public financial data would, for reasons discussed in paragraphs 4 and 5 above among others, competitively disadvantage Google.

7. The written direct statement of Paul Joyce, Director of Product Management at Google Play Music, contains material, non-public information concerning Google's music-related services, the impact of music royalties on Google Play Music's effort to attain profitability, and Google's license fees. None of this information is publicly known or available. Disclosure of the financial details of these contractual arrangements and non-public financial data would, for reasons discussed in paragraphs 4 and 5 above among others, competitively disadvantage Google.

8. The written direct statement of Elliot Alyeshmerni, the Finance Manager at Google Play Music, contains material, non-public information about Google Play's finances and the challenges Google Play faces to develop a profitable music service. None of this information is publicly known or available. Disclosure of the financial details of these contractual arrangements and non-public financial data would, for reasons discussed in paragraphs 4 and 5 above among others, competitively disadvantage Google.

9. The written direct statement of Gregory K. Leonard contains material, non-public information concerning the particular rates agreed to by specific Google direct licensors, and material non-public internal financial data concerning payments to publishers and record labels, sales and marketing costs, revenue, and similar information for other services that has been designated as "Restricted." None of this information is publicly known or available. Disclosure of this information would, for reasons discussing in paragraphs 4 and 5 above, competitively disadvantage Google.

10. Under Rule 350.4(e)(1), I therefore declare that to the best of my knowledge, information, and belief, the materials described in this declaration that are marked with the "Restricted" label meet the definition in the Protective Order.

11. The information designated as "Restricted" must be treated as restricted "Protected Material" to prevent business and competitive harm that would result from the disclosure of such information while, at the same time,

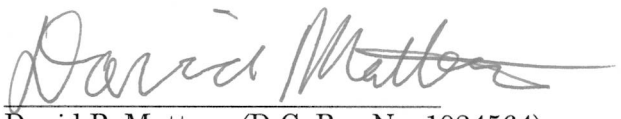
enabling Google to provide the Copyright Royalty Judges with the most complete record possible on which to base their determination in this proceeding.

Pursuant to 28 U.S.C. § 1746 and 37 C.F.R. § 350.4(e)(1), I declare under the penalty of perjury that, to the best of my knowledge, information, and belief, the foregoing is true and correct.

DATED: Washington, DC
November 1, 2016

Respectfully submitted,

KING & SPALDING LLP



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Before the
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In the Matter of: **Determination of Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022)**

Certificate of Service

I, David P. Mattern, hereby certify that on November 3, 2016, a copy of the enclosed materials were served on the following parties:

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Volume 2

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of: **Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022)**

WRITTEN DIRECT TESTIMONY OF ZAHAVAH LEVINE
(On behalf of Google Inc.)

I. Introduction and Witness Background

1. My name is Zahavah Levine. I am Vice President of Partnerships for the Android and Google Play divisions of Google Inc. ("Google"). While at Google, I have developed and directed Google's music licensing strategy at Google Play Music. I submit this testimony in support of Google's direct case.

2. I am deeply familiar with the Google Play Music service and its music licensing structure. While at Google, I have been personally involved in music-licensing negotiations with record labels, music publishers, performing rights organizations, and other rights holders. I have personal knowledge of Google's publishing and sound recording licenses in this proceeding. More broadly, I have over fifteen years of experience working with digital music services.

3. This declaration is based on my personal knowledge and information made available to me in the course of performing my duties while I have been

employed at Google.

4. I have worked for digital music services since the early years of the digital music industry. To summarize my career prior to Google Play, I graduated from Brown University in 1991 with a degree in History and received my law degree from the University of California Berkeley School of Law in 1996. After two years of clerking, I started working at the law firm of Bingham & McCutcheon in 1998.

5. I took a position in 2001 as Senior Counsel at Listen.com, where I worked with a team that secured rights from all major and many independent labels for the Rhapsody music service.

6. The earliest days of digital music were challenging because it was difficult for services to enter into any content deals. Record labels were skeptical of digital music due largely to the proliferation of illegal, peer-to-peer file sharing services such as Napster. Early digital music services struggled to get the record labels to embrace digital streaming and digital downloads as a form of revenue.

7. Rhapsody was able to offer one of the earliest incarnations of the on-demand streaming subscription services and digital music stores that exist today in part because the service demonstrated that paying subscription services offered a new source of revenue for copyright holders and an enhanced experience for consumers.

8. I spent nearly three years at RealNetworks after RealNetworks purchased Listen. In 2006, I moved from RealNetworks to YouTube, where I served as General Counsel and VP of Business Affairs. Less than a year after I moved to

YouTube, we began negotiating with Google for Google to acquire YouTube. The acquisition was finalized in November of 2006, and I began my new role as Chief Counsel of YouTube and Associate General Counsel of Google. During my time at YouTube, both before and after Google's acquisition, my colleagues and I negotiated deals with the major labels to begin monetizing and licensing the user-generated content on YouTube.

9. In October 2010, I switched Google divisions from YouTube to Android and took on a new role in business development as Director of Content Partnerships for Google's Android division.

10. During my years in the Android division, I was responsible for all music licensing strategy and music partnerships for Google's music services developed and launched by the Android and Google Play business units, originally called Google Music and later rebranded as Google Play Music. I led the team that developed the music-licensing strategy and music partnerships for the launch and global expansion of Google Play Music.

11. I had primary responsibility for all of Google's agreements with record companies, music publishers, collection societies and artists relating to the Google Play Music service (previously referred to as "Google Music"). These licenses covered Google Play Music's "scan-and-match" locker service that allows consumers to store copies of already-owned music in the cloud and to access that content from remote devices, its digital music store, its on-demand streaming subscription service (previously referred to as "All Access"), and its Section 114-compliant

non-interactive radio service. Beyond the mechanics of music licensing, I was also intimately involved in the strategic growth and development of Google Play Music.

12. In October of 2014, I was promoted to Vice President of Global Music Partnerships for Google Play Music, and continued to oversee Google Play Music's partnerships with music rights holders and with distribution partners.

13. About a year ago, the music licensing team for Google Play Music was combined with the music licensing team for YouTube and moved to the YouTube business unit. I did not move to YouTube with my team. Instead, I began my current position as Vice President of Partnerships for Google Play, in which I oversee all strategic distribution partnerships for Google Play, including distribution of digital music, magazines, books, movies, television programs, and apps. In this role, I oversee a team that enters partnerships with third-party original equipment manufacturers, carriers, retailers, and others to increase the reach and awareness of Google Play generally. In September, I assumed responsibility for an additional team that manages Android's relationships with wireless carriers in the US and Canada.

II. The Business of Music Streaming

14. In my fifteen years in digital music, I have watched the streaming ecosphere change tremendously . The scope and reach of streaming music services and the aggregate amounts paid to labels, publishers, and other rights holders have certainly grown. But many services have left the market due to unviable royalty rate structures.

15. In the early 2000s, many emerging digital music services competed to attract users and develop innovative services. Since then, I have witnessed the launch of increasingly creative, innovative, and ingenious features and products designed to appeal to a public that was initially slow to accept a post-Napster world of paying for digital music. Today's marketplace includes services offering a wide range of feature sets that were all but unimaginable at the dawn of the digital music era.

16. But despite this growth in consumer adoption, innovation, and revenue-generation, streaming music services generally remain unprofitable businesses. Content acquisition costs, primarily in the form of music royalties, are the biggest barrier to profitability for streaming music services.[1] Indeed, most services in existence when I began working in the digital music business in the early 2000s have gone bankrupt or been absorbed by larger services.

17. Just in the span of last year, Rdio filed for bankruptcy in November of 2015, and Rara.com closed in March, 2015 after Omnifone tried to keep the service afloat and then unsuccessfully sought out a buyer to acquire the struggling company. There are many other examples, as have been reported from time to time in the digital media.[2]

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[1] I will go into more detail below regarding the specific terms of Google's licenses for Google Play Music in Sections VI and VII, but briefly, Google's direct licenses with the record labels covering sound recording rights typically require payments of [redacted] of service revenue and Google's licenses with music publishers for composition rights [redacted] of service revenues. Only a small handful of companies have proven able to tolerate such rates to build meaningful subscriber bases, and even those companies are losing money every quarter on streaming music services.

[2] *See, e.g.*, Glenn Peoples, *In Memoriam: The Music Services, Brands, and Companies That Left Us In 2015*, Billboard (Jan. 4, 2016), available at http://www.billboard.com/articles/business/6828956/in-memoriam-music-companies-2015-obit.

III. Google's Interest in this Proceeding

18. Google is participating in this proceeding for two reasons. First, Google is interested in setting sustainable rates for Google Play Music that will allow fair compensation for rights holders while also allowing the Google Play Music service to innovate and operate profitably.

19. Second, and more broadly, Google wants online businesses to thrive. Its ad sales and cloud services businesses, for example, benefit from a healthy internet ecosystem. The rates proposed in this proceeding by Copyright Owners pose a significant threat to innovation, consumer access to music, consumer choice, and the viability of new entrants into the music streaming space.

20. In particular, Copyright Owners' proposal of a per-play rate is problematic. It is problematic because it creates a cost structure for on-demand subscription services that is not proportionate with revenue. On-demand services are marketed to consumers largely by offering access to vast catalogs of music enabling the consumer to listen to those catalogs as much as they would like for one fixed monthly price. The concept of placing restrictions on the number of "plays" that the subscriber can receive as part of their subscription is fundamentally at odds with the value proposition that digital subscription services are trying to sell, especially in seeking to induce users – in the post-Napster era – to pay for music. A per-play rate structure would render services unable to contain their costs unless they imposed limitations on usage and engagement, rather than encouraged such engagement. This dynamic is counter-productive because usage and engagement

are *the* key indicators of retention; the growth of digital music services depends upon active, engaged users. It is thus important to provide for a rate structure that rewards services that effectively engage users, not one that punishes them with higher, unpredictable royalty costs (and one that would create disincentives to use the very service we are trying to sell).

21. A per-play rate structure is also troubling because it would be particularly burdensome for newer services, whose rapid growth would lead to unpredictable and uncontrollable costs under a per-play rate structure. A per-play rate structure would disadvantage new entrants who are not as able to tolerate substantial royalty obligations with no correlation to revenue. It is part of Google's core mission to foster an open and thriving digital marketplace, including for new entrants into the digital sphere to increase innovation and consumer choice.

22. Rates keyed off of a percentage of a service's revenue, on the other hand, allow a service to grow with the understanding that a set percentage of revenue will be earmarked for content costs. Percentage-of-revenue based licenses are superior to foster growth and innovation. As services attract more paying users, the rights holders' payments increase and they share in that success. Moreover, the minimums in Google's proposed structure prevents services from overly discounting or giving music away without providing adequate compensation to the music publishers.

23. Google proposes the following rate structure for services offering interactive streams and conditional downloads under Subpart B of the Section 115

statutory license: the greater of (i) the topline rate of 10.5% of service revenue and (ii) the lesser of (a) 13.5% of the total amount expensed by the service provider for the right to make interactive streams and limited downloads of sound recordings, and (b) the existing per-subscriber per-month minima set forth in 37 C.F.R. 385.13(a).[3] Google proposes the following rate structure under Subpart C: the greater of (i) the existing Subpart C topline rates, and (ii) 13.5% of the total amount expensed by the service provider for the right to make interactive streams and limited downloads of sound recordings. For the two service categories under Subpart C that currently contain a "per subscriber" minimum, those minima would also be retained. For both subparts, the resulting royalty pool would remain subject to a deduction for payments made for public performance rights.[4]

24. Google also proposes that the definitions of "Service Revenue" in 37 C.F.R. § 385.11 and "Subpart C Service Revenue" in 37 C.F.R. § 385.21 be amended to allow for deductions of certain costs of revenue — such as credit card transaction fees, carrier billing fees, and app store commissions — up to a maximum of 15%. The regulations should also be amended to specifically allow services a deduction to account for direct licenses of reproduction and distribution rights in musical works.

[3] Google's proposal to keep the existing per-subscriber minimum fees set forth in 37 C.F.R. 385.13 is contingent on such fees remaining part of a royalty formula that allows services to pay the lesser of such fees or 13.5% of the amount paid for sound recording rights. If that structure were altered, then lower per-subscriber minima would be appropriate. Google's proposal to keep the existing minima is also contingent on the Section 115 regulations clarifying how family plans are counted for purposes of per-subscriber minima. The minima should track the pricing of the plans. For example, under current pricing where a family plan is priced at 150% of a normal plan, the minima should also be multiplied by 1.5, and such fee should cover the entire family. Additionally, to protect against too low of pricing of family plans, the minimum per-subscriber payment per family plan could be set at 1.5 times the prevailing per-subscriber minimum for each service type.

[4] Under this proposal, all subscriber based floor fees applicable to Subpart B, which are described in 37 C.F.R. § 385.13, would be eliminated.

IV. Prior Phonorecords Proceedings

25. Over the course of my career, I have been involved in prior Phonorecords proceedings concerning digital music services. As a result, I have personal knowledge of how the current general framework for Section 115 license-fee calculations was established.

26. In 2001, the year I joined Listen.com, the Copyright Office initiated a rulemaking proceeding to determine what types of digital services engaged in Digital Phonorecord Deliveries were subject to the Section 115 compulsory license. In particular, there were questions about whether on-demand streams and limited downloads actually resulted in Digital Phonorecord Deliveries ("DPDs").

27. Listen.com, RealNetworks, and other digital media companies submitted comments through the Digital Media Association ("DiMA"). DiMA was founded in 1998 and continues to represent digital media companies including Rhapsody, Microsoft, and CRB participants Amazon, Apple, Google, Pandora, and Spotify. DiMA's comments set forth its members' position, which Google maintains today, that interactive and non-interactive streaming does not result in a DPD. Rather, these activities implicate only public performance rights. DiMA also called for a Copyright Arbitration Royalty Panel to set rates for permanent and limited downloads.

28. Later that year, the National Music Publishers Association ("NMPA"), the Harry Fox Agency ("HFA"), and the Recording Industry Association of America ("RIAA") entered into a voluntary settlement agreement addressing payments and

licenses for DPDs associated with on-demand streams and limited downloads pending the establishment of final rates and terms via a settlement or non-appealable CARP determination. In order to get into business without risk of crushing copyright liability, certain DiMA members signed onto the agreement.

29. In early 2002, DiMA submitted comments on behalf of its members that did not sign onto the agreement, reiterating its position that streaming does not require a mechanical license. DiMA also pointed out that the NMPA-RIAA settlement acknowledged that non-interactive streams, which are technologically indistinguishable from on-demand streams with respect to the need for incidental reproductions, did not require mechanical licenses. I have consistently believed and Google has consistently asserted that streaming does not implicate the mechanical right.

30. These issues shifted to the legislative arena for several years. Meanwhile, in 2006, the *Phonorecords I* proceeding began. RealNetworks participated through DiMA, along with AOL, Apple, MusicNet, Napster, and Yahoo! Music. Google was not a participant in that proceeding. Although I left RealNetworks in 2006 for YouTube, I continued to follow Section 115 developments with interest. At the time I joined Google, it did not have its own audio service. In my role, I took a broad view that Google, as an online service, was always considering offering a music service.

31. In 2007, the Copyright Office held a public roundtable to resume discussion of Section 115's applicability for on-demand streaming and limited

downloads. After the rebuttal phase in *Phonorecords I*, the Copyright Office issued another Notice of Proposed Rulemaking to address the question of whether interactive, on-demand streams and limited downloads require a mechanical license.

32. Google submitted comments objecting to the Proposed Rulemaking for two principal reasons. First, the Proposed Rulemaking could have upset over a decade of industry practice acknowledging that non-interactive streaming did not implicate a mechanical right. And second, the Proposed Rulemaking threatened to impose new licensing obligations for existing and nascent services engaged in interactive streaming, including audiovisual services not eligible for a compulsory license under Section 115. Google also noted that certain services' decision to take Section 115 licenses for streaming services reflected a decision to avoid litigation of the issues addressed by the Proposed Rulemaking.

33. On September 19, 2008, the Copyright Office held a hearing on its proposed Section 115 rulemaking. Before then, during the rebuttal phase of *Phonorecords I*, the NMPA, RIAA, and certain online music services reached a settlement covering the rates and terms for the Section 115 license for the period 2008-2012. Under the terms of the settlement, online music services agreed that interactive streaming required a mechanical license in exchange, among other things, for the publishers' agreement that no such license was required for non-interactive streaming. The parties also agreed that all mechanical rates, including those for limited and incidental downloads, would be subject to Section

115 compulsory licensing and rate-setting.

34. At the hearing, the settling parties argued that the Proposed Rulemaking threatened to upend the settlement reached in *Phonorecords I*. Bill Patry, who was heavily involved in the Section 115 legislative process, also testified and maintained Google's position that on-demand streaming did not implicate the Section 115 license.

35. The *Phonorecords I* settlement established the general framework for Section 115 license-fee calculations that remains in place today for on-demand streaming services: the greater of 10.5 percent of service revenue or the lesser of a percentage of sound-recording payments or a per-subscriber minimum, less public performance royalties, subject to a per-subscriber floor. Under the prevailing rates in 2008 as I understood them, the settlement meant that a ten-dollar-per-month subscription service effectively paid a 10.5 percent of revenue all-in fee for music publishing rights (including public performance rights) associated with a subscription on-demand service. [redacted]

36. In November 2008, the Copyright Office issued an Interim Regulation taking no position on whether buffer copies independently qualify as DPDs and declining to set a threshold for establishing a DPD had occurred. The Interim Regulation simply clarified that, where a DPD occurs, "all reproductions made for the purpose of making a DPD are also included as part of the DPD." 73 F.R. 66173.

37. In January 2011, Google filed a petition to participate in *Phonorecords II* because it contemplated launching a service that would engage in DPDs during the statutory term of 2013-2017. At that time, as Director of Content Partnerships for Android, I remained focused on issues related to the licensing of Google's anticipated music services and was involved in settlement negotiations. In addition to Google's anticipated entry into the music download business, the Section 115 regulations then in place were ill-equipped to address emerging services, including music locker services, that some argued required mechanical licenses.

38. Issues other than rate dominated those settlement negotiations. We negotiated over locker services, "limited" offerings and various bundled offerings, as well as ancillary issues related to accounting and the length of royalty-free previews and cloud storage of purchased music.

39. *Phonorecords II* resulted in another industry-wide settlement. The settlement continued the 9.1-cent Subpart A rate for downloads and physical sales and carried forward the rate structure described above, subject to minor changes, for on-demand streaming services covered by Subpart B. Finally, the settlement created rates and terms for five new digital service categories under the new Subpart C.

40. Google viewed this settlement as maintaining the status quo agreement that non-interactive streams required no mechanical license and that interactive streaming services would pay 10.5 percent of revenue on an all-in basis for music publishing rights (including whatever mechanical and/or performance

rights are implicated by the service's activities). [redacted] Below, I will discuss Google's music services and direct licenses in greater detail.

41. [redacted]

V. The Google Play Music Service

42. Since *Phonorecords II*, Google developed and expanded the Google Play Music service.

43. Google Play is Google's one-stop-shop for the purchase of Android apps. The Google Play Store allows users to browse, purchase, and download content such as music. Users can access the music they purchase through the Play Store on the web, as well as through a mobile "consumption app" called Play Music. The Play Music app is available on Android and iOS smartphones and tablets and on Android TVs, and in some cases on some other devices (e.g. Sonos, Android Auto).

44. Google Play Music is Google Play's entire suite of music services and includes several functionalities: (i) a music store ("Music Store"); (ii) a cloud-based music storage service ("Locker Service"); (iii) an on-demand digital music streaming service ("Streaming Service"), and (iv) in the US, a Section 114-compliant non-interactive digital radio service.

45. **Music Store:** The Music Store primarily sells permanent digital phonorecord deliveries ("DPDs"). But the Music Store also enables on-demand streaming of 90-second "previews" of the songs available for purchase in the Music Store.

46. **Streaming Service:** The Google Play Music streaming service has both an ad-supported, free-to-the-user tier and a subscription tier. The free tier includes a non-interactive streaming radio service. On the non-interactive radio service, users cannot select a specific song to hear on demand. Instead, users can select pre-programmed radio stations that are based around a mood, genre, activity, artist or song. The free radio service generates revenue by placing advertisements on the service.

47. The Google Play Music free tier also includes a cloud-based locker service. This service allows users to store up to 50,000 of their already-owned tracks into their cloud-based Music Locker, to make playlists from such tracks, and to then stream those tracks and playlists from the web and from the Play Music App on Android and iOS devices.

48. Google Play Music's paid tier is an on-demand subscription Streaming Service. It allows users to stream Google's catalog of over 40 million recordings on-demand and ad-free, with the added benefit of offline playback. The standard individual subscription plan is $9.99 a month. The family subscription plan, for up to six (6) family members, is $14.99 a month. Both plans can begin with a free 30-day trial period.

[redacted]

50. Moreover, in an on-demand service, it would not be prudent for Google to offer a particular publisher a higher market share of plays from its catalog in exchange for discounted rates. The hallmark of a great on-demand service is the promise of the best song for the user at the right time, to be played as often as the user wishes, regardless of the licensor of such content.

VI. Google's Direct Licenses with Music Publishers

51. Google has entered into numerous direct deals with publishers that cover the on-demand streaming functionalities of Google Play Music. [redacted]

[redacted]

VII. Google's Direct Licenses with Record Labels

55. [redacted]

[5] Labels historically have not passed through mechanical rights to subscription services, hence the lower percentages are irrelevant.

[6] [redacted]

[redacted]. For example, Google Dir. Ex. 004 (GOOG-PHONOIII-0002560) is Google's form sound recording license for independent labels. [redacted]

VIII. Conclusion

56. The outcome of this proceeding will have a profound effect on Google's music business and on the vibrancy of the streaming music ecosystem. The per play structure and rate increase proposed by Copyright Owners would guarantee that only those very few companies who could both afford and would be willing to incur tremendous losses could continue to offer streaming music services. [redacted]. But losing money should not be a baseline requirement to enter and participate in the business of digital music services. These rates would foreclose new entrants and would challenge even existing, established companies to justify sustaining a service with no hope of future profitability. The potential damage to the streaming ecosystem would ultimately be bad for the market as a whole, including for rights holders that could see the overall revenue base shrink, and consumers who would have fewer alternatives for

accessing music.

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of:	
Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)	**Docket No. 16-CRB-0003-PR (2018-2022)**

DECLARATION OF ZAHAVAH LEVINE

I, Zahavah Levine, declare under penalty of perjury that the statements contained in my Written Direct Testimony in the above-captioned proceeding are true and correct to the best of my knowledge, information, and belief. Executed this 31 day of October, 2016 in Mountain View, California.

Zahavah Levine

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of: **Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022)**

WRITTEN DIRECT TESTIMONY OF PAUL JOYCE
(On behalf of Google Inc.)

1. My name is Paul Joyce. I am the Director of Product Management of Google Play Music, which is a division of Google Inc. I report directly to Sameer Samat, Vice President of Product Management. I oversee products for Google Play music, movies, and books. I joined Google in 2010, and since then I have held several titles, including Group Product Manager and Senior Product Manager.

2. Before joining Google Play, I served as a founder and Vice President of Marketing for Simplify Media, a company that enabled remote access to personal media. I was at Simplify Media from 2006 until coming to Google in 2010. Before Simplify Media, I was a Senior Director of Product Strategy and a Director of Engineering at Spoke Software, which develops social networking software. Prior to joining Spoke in 2002, I held various roles at Silicon Valley tech companies, including Siebel Systems and OnLink Technologies, since the 1990s. I graduated from Stanford University in 1989 with a degree in Political Science.

3. My testimony addresses three topics related to Google Play Music.

First, I will provide an overview of Google's music-related services, with a particular focus on the Google Play Music subscription streaming service. This overview will discuss the features that differentiate Google's multiple offerings, the strategies used to monetize Google's offerings, and the services' lack of profitability under current conditions.

Second, I will discuss the impact of music royalties on Google Play Music's ability to attain profitability. Since its inception in 2012, Google Play Music has consistently operated at a loss. The losses have continued even as Google Play Music has built a continually increasing base of subscribers paying $9.99 per month for the streaming service. These yearly losses are driven by Google Play Music's [redacted] expenses, including music royalty payments that [redacted] of the service's revenue. Google Play Music pays [redacted] in royalties each year to publishers, songwriters, labels and performing artists. Those payments will continue to grow as Google invests to expand the Google Play Music service and reach new users. But to do so, royalty rates must be at a level where operating Google Play Music still makes financial sense for Google.

Third, I will discuss the structure of Google Play Music's license fees. Specifically, I will discuss the mechanical royalties paid by Google. I will also discuss Google's royalties paid for public performance rights in both compositions and sound recordings. [redacted]

[redacted][1] The benefit to Google Play Music is that its royalty obligations, while burdensome to the business, are somewhat predictable and scale with the growth of the business.

I. Google's Music-Related Services and Revenue Streams

4. Google operates the following streaming services: Google Play Music, YouTube, and the YouTube Music mobile app. Of these offerings, Google Play Music is an audio service, YouTube is a streaming video service, and the YouTube Music app, while primarily focused on audiovisual content, includes functionality that allows subscribers to choose whether to operate the app as either an audio or audiovisual service at any given moment.

A. Google Play Music

5. Google Play Music is a streaming music and locker service that Google has operated since 2011. It is part of Google Play, which is a retail site for mobile apps and various forms of digital media, including e-books, movies, television shows, and paid downloads of music tracks and albums.

6. The Google Play Music streaming service has two tiers: a free tier and a subscription tier. Users of the free tier can upload their own music collection into a music locker and then listen to those tracks through either the Google Play Music desktop website or mobile app. Users can create playlists using their stored personal music libraries of up to 50,000 tracks, or the service can create a playlist for the user with a feature called "instant mix." With the instant mix feature, the

[1] [redacted]

user inputs a favorite artist or track from his or her personal library, which the service then uses as the basis for creating the playlist.

7. The free tier of Google Play Music also allows for listening to streaming radio. Like other curated internet radio services, users can personalize stations by inputting their favorite artists or tracks, and the service will create a station based on those parameters. One of the primary features that differentiates Google Play Music's personalization efforts from other services is the use of human playlist creation. A team of music experts actually programs playlists. Google Play Music's free radio service also includes a unique feature where users can create stations based on their mood or activity. For instance, a user could request a playlist of "celebratory" songs, "introspective" songs, or a playlist for "working out." Google's acquisition of another streaming service, Songza, enabled Google to include this functionality. Songza was a popular service known for its unique playlist creation. Google paid [redacted] in 2014 to acquire Songza.

8. Google monetizes the streaming radio portion of Google Play Music by selling advertising. Audio advertisements stream during a user's playlist similar to how advertisements traditionally have been incorporated into radio programming. Users are also shown pre-roll video advertisements and banner advertisements that appear on the listening interface. Additionally, the free tier serves as an important monetization tool by funneling users towards paid subscriptions.

9. Google Play Music's paid subscription option adds on-demand streaming capabilities and entitles users to the same features as the free service but

on an ad-free basis. Subscribers can choose to listen to any song or album in Google Play's catalog of roughly 40 million songs. A standard individual subscription to Google Play Music is $9.99 per month. When the service launched in May 2013, the introductory subscription price was $7.99 per month, but prices increased to the current level at the end of June 2013.[2] In December 2015, Google Play Music also added the Google Play Music family plan, which for a subscription price of $14.99 per month allows up to six family members to access the service.

10. Similar to the free portion of the service, Google Play Music's on-demand subscription service also includes tools to recommend music to users in order to provide a more customized experience. Google Play Music features a proprietary "music quiz" on its homepage that prompts users to provide information about their listening preferences so that Google can make customized music recommendations. Google Play also looks at a number of other factors when making listening recommendations, including listening history, time of day, activity, and type of location (e.g., home, office, coffee shop). The goal in considering all of these inputs is to enhance the value of the implemented algorithms to build better music recommendations for the customers. Additionally, Google Play Music's subscription offering is unique due to its integration with other Google products. Subscribers are attracted to the service because Google Play also offers the ability to store the subscriber's own music collection using the free locker service, and Google Play Music subscribers receive access to YouTube Red as an added benefit.

[2] Google Dir. Ex. 007 (GOOG-PHONOIII-00003275).

11. Google has made [redacted] investments to grow the Google Play Music subscription service. Around [redacted] engineers work on Google Play Music. Google has developed unique features, including the customization features mentioned above, to differentiate itself from other streaming services. [redacted][4] As a result of these growth efforts, Google Play Music now has [redacted] U.S. subscribers.

12. Unfortunately, even with these investments resulting in the [redacted] growth experienced by Google Play Music, the service is not profitable. Google Play Music incurs [redacted] costs associated with running the service. Typically, the largest of the costs in running the service are related to content royalties, but the service also faces many other variable costs, including costs related to credit card fees, carrier fees, marketing, and customer support efforts. The net effect of these costs is that Google Play Music has never experienced profitability [redacted].

[3] Google Dir. Ex. 008 (GOOG-PHONOIII-00003330).

[4] Google used [redacted] in inventory promoting Google Play from 2013 to 2015 and [redacted] in inventory in just 2016. *See* Google Dir. Ex. 009 (GOOG-PHONOIII-00003274) and Google Dir. Ex. 010 (GOOG-PHONOIII-00003276).

B. YouTube Offerings

13. Google operates the well-known video streaming site YouTube, which can also be viewed as a mobile app. Though YouTube is a streaming video site, it also includes music related content. YouTube's audiovisual service is primarily funded through in-stream video advertisements and banner advertisements. But in late 2015, YouTube launched a subscription option, called "YouTube Red," which captures revenue through a $9.99 per month subscription fee. YouTube Red grants subscribers access to ad-free viewing of the YouTube library and access to original programming and exclusive video content. YouTube Red subscriptions are bundled with Google Play Music subscriptions such that subscribing to YouTube Red grants a user access to Google Play Music, and vice versa.

14. Additionally, YouTube operates a free mobile app called YouTube Music. The app allows users to access music-related video content from the YouTube catalog. Users can also watch curated playlists of YouTube videos that YouTube populates using a combination of human curation and machine-learning techniques that track user preferences. For YouTube Red subscribers, the app is presented free of advertisements. Subscribers also get the ability to switch the app into an audio-only mode, which allows for reduced data usage and access to the roughly 40 million audio tracks that are available through Google Play Music (as well as many more music tracks available through YouTube). Other advantages for subscribers include the ability to make a limited number of tracks available for offline listening and the ability to use the app in background mode (where a

subscriber can perform other activities on their mobile device while still listening to music). Like Google Play Music, the YouTube Music app incurs [redacted] music royalty costs and is not currently profitable.

II. The Impact Of Music Royalties On Profitability

15. Google Play Music has grown tremendously and now has [redacted] U.S. subscribers [redacted][5] Yet, even with these [redacted] revenue numbers, Google's music offerings are not profitable.

16. Of the costs borne by Google's music-related services, the most significant relate to music royalties. Google's direct licenses with record labels are structured [redacted] Between payments for sound recordings and the prevailing publishing rate of 10.5%, Google's standing royalty obligations are already above [redacted] of revenue. The [redacted] of revenue that remains after Google pays its royalty costs is quickly absorbed by credit card processing fees, data center and streaming costs, marketing and payroll.

17. In addition to the royalty costs and other costs described in this report, Google is also incurring costs to try to grow Google Play Music and YouTube Red. Both services are nascent compared to other participants in the streaming music market, and Google has to devote resources to advertising and building brand

[5] *See* Google Dir. Ex. 008 (GOOG-PHONOIII-00003330).

awareness. Google also continues to make investments in its curation and playlist building capabilities with the aim of improving the user experience and facilitating music discovery. By making investments that attract new users, Google can hopefully grow the market and generate more revenue (and thus more royalties), which will benefit both Google and copyright owners.

18. Unfortunately, the burdensome existing royalty structure reduces spending on other investments that could grow the business by both expending available resources and reducing incentives to grow. While profitability may be possible at larger scale, short term losses and thin possible margins are an impediment to deeper investment in the service. [redacted]

19. I understand that, in this proceeding, Copyright Owners nevertheless have proposed raising rates significantly. The outcome they advocate would drive Google Play Music further into unprofitability and, perhaps more importantly, would render Google Play Music's subscription streaming model financially untenable. Specifically, I understand that the copyright owners have proposed a royalty formula for interactive and locker streams where the royalty is based on the greatest of the following four different calculations:

[redacted]

This proposal is a huge increase over current rates. Under current market conditions — including Google's current subscription price of $9.99 per month and current streams per month — these suggested rates would almost double Google Play Music's publishing royalty obligations in the United States. For instance, in May 2016 the suggested per-stream royalty would have resulted in a net effective rate of for just mechanical rights (without even accounting for the related public performance royalties),[6] and the proposed 33% of label payments prong would result in an all-in publishing royalty above of revenue. An already struggling business cannot afford to see another of revenue disappear if these rates are adopted.

III. Structure of Current Direct Licenses

20. Though Google's current royalty payments for Google Play Music are already too high to permit a profitable service, the rates are generally structured in a way that allows payment amounts to be predictable and to scale with the growth of the service.

[6] During May 2016, Google had streams by subscribers. *See* Google Dir. Ex. 008 (GOOG-PHONOIII- 00003330). The per-stream royalty payment would have been , which is of the service's revenue for that month. *See* Google Dir. Ex. 011 (GOOG-PHONOIII-00003189).

[redacted] It also avoids incentivizing Google to encourage Google Play Music subscribers *not* to use their subscriptions or to hope for "breakage" (paid but unused accounts).

21. [redacted]

[7] [redacted]

[8] [redacted]

[redacted]

22. Google's practice [redacted] Currently, Google has direct licenses covering [redacted] of the total number of compositions contained in the Google Play Music catalog.

23. Under the structure of Google's direct licenses, the Google Play Music service has paid consistent royalty amounts for use of compositions. Google Play Music's model of charging $9.99 for subscriptions [redacted]

24. I understand that in this proceeding Google is proposing a statutory rate [redacted] Adoption of this rate structure would have several benefits for Google Play Music, including not disrupting the economics of Google's nascent subscription music service, providing predictability with regard to future

[9] Google Dir. Ex. 011 (GOOG-PHONOIII-00003189) demonstrates how Google arrives at what rate to pay on the tab entitled "10.5% Calculation." [redacted]

royalties to allow for continued investment and growth, and streamlining the existing statutory rate calculation by removing arbitrary floor fees. Google's hope is that these changes could open the door for Google Play Music to further invest in the business, attract more users, grow revenues, and attain profitability.

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of: **Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022)**

DECLARATION OF PAUL JOYCE

I, Paul Joyce, declare under penalty of perjury that the statements contained in my Written Direct Testimony in the above-captioned proceeding are true and correct to the best of my knowledge, information, and belief. Executed this 31st day of October, 2016 in Mountain View, CA.

Paul Joyce

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of: **Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022)**

WRITTEN DIRECT TESTIMONY OF ELLIOT ALYESHMERNI
(On behalf of Google Inc.)

1. My name is Elliot Alyeshmerni. I am a Finance Manager at Google Play Music, which is a division of Google Inc. I work within the Finance department and report directly to Shafiq Ahmed, who is the Senior Finance Manager of Google Play. I have worked at Google as either a Finance Manager, Senior Finance Analyst, or Finance Analyst since joining the company in 2011.

2. Before joining Google, I received a Master's of Business Administration degree from Binghamton University in 2007 and a Bachelor of Science in Bioengineering from Binghamton University in 2006. After completing my M.B.A., I worked as a Senior Consultant at Protiviti, which is a business consulting firm.

3. In my current role at Google Play, my primary job responsibility is to provide financial insight to business leaders across Google Play, including by creating and supplying return-on-investment analysis, resource allocation analysis, profit and loss ("P&L") and metric insights, analysis of licensing and distribution contract structures, and P&L forecasting and reporting. I also work to identify

business risks and opportunities to maximize investment performance and grow revenue and gross margins in an economically sound manner.

4. My testimony in this matter will summarize Google Play Music's sources of revenue, the costs to run the service (including music royalties), and the service's lack of profitability.

I. Google Play Music's Revenues

5. Google Play Music is a streaming music service that features three different types of music listening: on-demand streaming where the user chooses songs, radio style streaming where the user does not choose the songs, and a locker service where users can store content. Users can either access the service on a free basis or pay for a subscription. Free users can only access the locker service and radio style playlists that feature advertisements. The subscription option enables on-demand listening and removes advertising.

6. Google Play Music is part of Google Play, which is also an online retailer of digital media, including permanent downloads of songs and albums.

7. Each of the different facets of Google Play Music described above captures revenues in different ways. The subscription service generates revenue through recurring monthly subscription payments, the free tier generates revenue through sales of advertising, and the Google Play Music digital media store generates revenue through selling downloads. An approximate allocation of revenues between these sources is captured in Google Dir. Ex. 012. Specifically, that

exhibit tracks revenues and certain operating costs for Google Play Music from 2012 to the present.

8. Google Play Music generates [redacted] revenue from the sale of music downloads.[1] Google Play Music sells [redacted] digital music track and album downloads per quarter.[2] One method of promoting these download sales is that both the free radio and on-demand portions of Google Play Music display "buy" buttons on their user interfaces that link listeners to the location on the Google Play Music storefront where a currently playing track can be purchased.

9. Google Play Music also generates [redacted] revenue from subscription payments. As Google Play Music has grown its user base to [redacted],[3] these subscription payments have increased. In the second quarter of 2016, U.S. subscription sales generated [redacted] in revenue. [redacted][4] Over the same period, Google Play Music's subscriber base [redacted].[5]

10. Google also generates revenue through advertising sales related to its non-interactive radio service, [redacted] than the service's subscription revenues.[6] [redacted]

[1] *See* Google Dir. Ex. 012 (GOOG-PHONOIII-00003186).
[2] Google Dir. Ex. 013 (GOOG-PHONOIII-00003327).
[3] Subscribers to Google Play Music also gain subscription access to another premium service operated by Google, YouTube Red. For accounting purposes, subscribers (and subscription revenue) are attributed to either Google Play Music or YouTube Red based on which of the two subscription services the user first accesses when purchasing a subscription.
[4] Google Dir. Ex. 012 (GOOG-PHONOIII-00003186).
[5] Google Dir. Ex. 011 (GOOG-PHONOIII-00003189).
[6] *See* Google Dir. Ex. 012 (GOOG-PHONOIII-00003186).

[redacted]

II. Google Play Music's Costs and Royalty Obligations

11. As demonstrated on Google Dir. Ex. 012, Google Play Music has incurred [redacted] costs constructing the service's infrastructure and has [redacted] variable costs associated with running the service. The largest of the variable costs are related to content royalties, but the service also faces many other variable costs, including costs related to credit card fees, carrier fees, and customer support efforts. For instance, in most quarters, Google Play Music's subscription business incurs [redacted] in credit card processing fees alone.[7]

12. Google Play also incurs a number of operating expenses that cannot be allocated to a specific consumer-facing product (e.g., the subscription streaming service) but are necessary for Google Play's music services. Google Dir. Ex. 014 shows these unallocated operating expenses, including [redacted] payroll and marketing expenses each quarter.[8]

13. One of Google Play Music's most significant costs, music royalties, alone consumes [redacted] of the service's revenue. Between Google's licenses obligating [redacted] of revenue be paid to record labels [redacted]

[7] Google Dir. Ex. 012 (GOOG-PHONOIII-00003186).
[8] Google Dir. Ex. 014 (GOOG-PHONOIII-00003188).

[redacted], Google Play Music is consistently paying [redacted] of revenue (and often more) towards content costs.

14. For instance, in May 2016, Google Play Music paid [redacted] in royalties pursuant to direct publishing licenses [redacted], payments for mechanical royalties under the statutory rate, and sound recording licenses.[9] This number is under-inclusive of the service's overall royalty obligation since the service also incurs additional costs associated with the public performance of compositions that are not directly licensed.[10] But even this under-inclusive royalty payment figure represented [redacted] of the service's [redacted] in revenue for that month.[11]

15. Figure 1, below, shows the publisher royalty payments for each quarter over the last three years and the number Google Play Music subscribers.

[redacted]

[9] Google Dir. Ex. 011 (GOOG-PHONOIII-00003189).
[10] Google is currently negotiating licenses with the performing rights organizations that will present additional publishing-related costs.
[11] Google Dir. Ex. 011 (GOOG-PHONOIII-00003189).

16. Between these standing royalty obligations and the other [redacted] costs incurred by Google, it is not surprising that Google Play Music is having difficulty attaining profits.

III. Google Play Music's Lack of Profitability under the Existing Royalty Structure

17. Google Dir. Ex. 012 shows the extent to which Google Play's music offerings have not been profitable. In each quarter, the U.S. operations of Google Play's music-related offerings have incurred [redacted] estimated losses ranging from [redacted]. These loss estimates are necessarily under-inclusive since they do not account for major portions of Google Play's operating expenses that cannot be allocated among different product lines, including the [redacted] marketing and payroll costs included on Google Dir. Ex. 014.

18. Unfortunately, even the [redacted] gains Google has made in attracting new subscribers have not yet been able to make the service profitable. Google Play Music U.S. subscription revenues [redacted]. There are now [redacted] U.S. Google Play Music subscribers ([redacted] the number at the start of 2014), and monthly U.S. service revenues [redacted]. Still, the substantial costs faced by the business—including automatically spending over [redacted] of revenue for content costs in each quarter—have prevented Google from obtaining [redacted] to profitability. And while Google is optimistic that continued

growth could eventually lead to profitability, current variable costs (including royalty obligations) will ensure that margins remain small.

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of: **Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022)**

DECLARATION OF ELLIOT ALYESHMERNI

I, Elliot Alyeshmerni, declare under penalty of perjury that the statements contained in my Written Direct Testimony in the above-captioned proceeding are true and correct to the best of my knowledge, information, and belief. Executed November 1, 2016 in Mountain View, California.

Elliot Alyeshmerni

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

In the Matter of: Determination of Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)	Docket No. 16-CRB-0003-PR (2018-2022)

EXPERT WITNESS STATEMENT OF DR. GREGORY K. LEONARD

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I. QUALIFICATIONS AND ASSIGNMENT

1. I am an economist and partner at Edgeworth Economics, 333 Bush Street, Suite 1450, San Francisco, CA 94104. I received a Bachelor of Science degree in Applied Mathematics-Economics from Brown University in 1985 and a Ph.D. in Economics from the Massachusetts Institute of Technology in 1989. Prior to joining Edgeworth Economics, I was, at various times, a senior vice president with NERA Economic Consulting, a senior vice president with Lexecon Inc., a founding member and director of Cambridge Economics, Inc., and an assistant professor of economics at Columbia University.

2. My specialties within economics are applied microeconomics, which is the study of the behavior of consumers and firms, and econometrics, which is the application of statistical methods to economics data. I have published over sixty papers in scholarly and professional journals. My publications are listed on my curriculum vitae, attached as Appendix A. A number of these papers address issues in industrial organization, demand for products, intellectual property and the calculation of damages in patent infringement litigation, and econometrics, including publications in the *Journal of Industrial Economics*, the *RAND Journal of Economics*, the *Journal of Econometrics*, the *Berkeley Journal of Technology and Law*, and *les Nouvelles*.

3. For example, a paper in the *Journal of Econometrics* addresses econometric approaches to estimating patent value for use in patent litigation and licensing negotiations; a recent paper in *Antitrust* focuses on methodologies for determining "reasonable and non-discriminatory royalties" for standard-essential patents; and a paper in the *Columbia Science and Technology Review* discusses the concept of apportionment in patent valuation.

4. I am a senior editor of the *Antitrust Law Journal* and have served as a referee for numerous economics and other professional journals. I have given invited lectures on intellectual property and antitrust issues at the Federal Trade Commission (FTC), the United States Department of Justice (DOJ), the Directorate General for Competition of the European Commission, the Fair Trade Commission of Japan, and China's Supreme People's Court and Ministry of Commerce. I have been retained by the DOJ to consult on antitrust matters.

5. In 2009, I was invited to speak at a session of the FTC's hearings on the "Evolving IP Marketplace" concerning the calculation of patent damages. In the report that the FTC subsequently issued, my views on damages calculation were cited extensively.[1] In 2007, I served as a consultant to and testified before the Antitrust Modernization Commission, which was tasked by Congress and the President of the United States to make recommendations for revising U.S. antitrust laws. In its *Uniloc* decision, the U.S. Court of Appeals for the Federal Circuit cited one of my publications in support of its conclusion that a method of calculating reasonable royalty damages in a patent case (the so-called "25% Rule") is an unreliable and flawed methodology.[2]

6. I have served as an expert witness in a number of litigation matters before U.S. District Courts, the (U.S.) International Trade Commission, state courts, and arbitration panels. A list of cases in which I have testified (in deposition or at trial) in the last four years is provided in my curriculum vitae, attached as Appendix A to this Written Direct Statement. One of those cases was *Oracle v. Google*, where I analyzed damages for alleged copyright infringement as well as

[1] Federal Trade Commission, *The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition*, March 2011.

[2] *Uniloc USA, Inc. v. Microsoft Corp.*, Nos. 2010-1035, 2010-1055, 2011 WL 9738 (Fed. Cir. Jan. 4, 2011).

factors related to whether use of a copyright was fair use. My hourly rate for this matter is $900.

My fee is not contingent on the outcome of this proceeding.

7. The Judges of the Copyright Royalty Board ("CRB") have commenced this proceeding to set the rates and terms of the 17 U.S.C. § 115 ("Section 115") compulsory license for making and distributing phonorecords of nondramatic musical works for the period from January 1, 2018 through December 31, 2022. I understand that the Copyright Royalty Judges received requests to participate in this proceeding from Amazon Digital Services, Inc. ("Amazon"); Apple, Inc. ("Apple"); American Society of Composers, Authors and Publishers ("ASCAP"); Broadcast Music, Inc. ("BMI"); Church Music Publishers Association ("Church Music"); David Powell; Deezer S.A. ("Deezer"); Digital Media Association ("DiMA"); Gear Publishing Co ("Gear"); George Johnson; Google Inc. ("Google"); Music Reports, Inc. ("Music Reports"); Nashville Songwriters Association International ("NSAI"); National Music Publishers Association ("NMPA"); Harry Fox Agency ("Harry Fox"); Omnifone Group Limited ("Omnifone"); Pandora Media, Inc. ("Pandora"); Recording Industry Association of America, Inc. ("RIAA"); Rhapsody International, Inc. ("Rhapsody"); Songwriters of North America ("SONA"); Sony Music Entertainment ("SME"); SoundCloud Limited ("SoundCloud"); Spotify USA Inc. ("Spotify"); Universal Music Group; and Warner Music Group.[3] I note that Universal Music Group, Warner Music Group, and Sony Music Entertainment have entered into a settlement agreement with participating Copyright Owners covering the rates and terms for 37 C.F.R. § 385 ("Section 385"), Subpart A, and are thus no longer participating in the proceeding. Several other

[3] 37 CFR Part 385, *Determination of Rates and Terms for Making and Distributing Phonorecords* (Phonorecords III), Federal Register 48371 Vol. 81 No. 142, July 25, 2016.

participants have also withdrawn from the proceeding. Amazon, Apple, George Johnson, Google, NSAI, NMPA, Pandora, and Spotify remain as participants.

8. I have been asked by Google to review the relevant economic evidence in this matter and to provide my opinions on the appropriate range of rates and terms for the Section 115 compulsory license for the period from January 1, 2018, through December 31, 2022, specifically those pertaining to services providing interactive streaming and limited downloads covered by Section 385, Subpart B, and limited offerings, mixed service bundles, music bundles, paid locker services, and purchased content locker services covered under Section 385, Subpart C. My opinions regarding the appropriate rates and terms have been undertaken in accordance with the factors described in 17 U.S.C. § 801(b)(1) ("the Section 801(b)(1) factors").

9. In the course of my analysis, I have reviewed the documents and other information listed in Appendix B to this Written Direct Statement. Specific documents and other information cited as support in this testimony are not meant to be an exhaustive listing of all such documents or information.

10. My analysis and this report are based on information currently available to me. I reserve the right to augment or update opinions based on information learned in ongoing discovery.

II. SUMMARY OF OPINIONS

11. I understand that Google has proposed the following rate for Section 385, Subpart B: the greater of (i) 10.5% of service revenue and (ii) the lesser of (a) 13.5% of the total amount expensed by the service provider for sound recording rights, and (b) the existing per-subscriber per-month minima set forth in 37 C.F.R. 385.13(a). Similarly, for Section 385, Subpart C, Google proposes that the rate be the greater of (i) the existing Subpart C topline rates, and (ii)

13.5% of the total amount expensed by the service provider for sound recording rights. Google also proposes maintaining the per subscriber minima for the two service categories that contain such minima in Subpart C. For both subparts, the resulting royalty pool would be subject to a deduction for payments made for public performance rights.[4] I also understand that Google has proposed amending the definitions of Service Revenue in 37 C.F.R. 385.11 and Subpart C Service Revenue in 37 C.F.R. 385.21 to allow for deduction of certain costs of revenue, such as credit card transaction fees, carrier billing fees, and app store commissions, up to a maximum of 15 percent.

12. Google's proposals for Subparts B and Subpart C are economically reasonable. Based on my review of the relevant economic evidence produced in this matter, my opinions regarding the appropriate rates and terms for the Section 115 compulsory license for the period from January 1, 2018, through December 31, 2022, for the services covered under Section 385, Subparts B and C are as follows:

- 37 C.F.R. § 385, Subpart B – Interactive Streaming and Limited Downloads
  - The economically reasonable range for the all-in topline royalty rate for all of the service offering categories under Section 385, Subpart B is 10.0% to 11.0%, assuming the service revenue definitions proposed by Google. The lower end of this range, 10.0%, is calculated by dividing (1) the current Section 385, Subpart A royalty rate of the greater of $0.091 or $0.0175 per minute of playing time per download, which is approximately $0.093 per permanent digital download ("PDD"), by (2) the most current (2015) average retail price of a PDD of $1.10, after deducting up to 15% of revenue for certain costs of revenue under Google's proposed service revenue definitions. The upper end of the range, 11.0%, is calculated by dividing $0.093 per PDD by the historical (2006) average retail price of a PDD of $0.99, after deducting up to 15% of revenue based on Google's proposed service revenue definitions. Google's proposed all-in royalty rate of 10.5% is within this range.
  - The overall rate structure proposed by Google is also supported by [redacted]

[4] Google's proposal also includes a carve-out for compositions that have been directly licensed.

[redacted] The parties to these agreements have demonstrated a preference for a structure in which the licensee pays an all-in royalty rate for the package of rights. To be consistent with this structure, the Section 115 statutory rate should continue to provide for deduction of a service's musical composition public performance royalty payments; and the application of mechanical-only per-subscriber royalty floors should be removed from the Section 385, Subpart B royalty calculation.

- Amending the definition of service revenue to allow for deduction of up to 15% of revenue for certain costs of revenue, such as app store fees, credit card transaction fees, and carrier billing fees, is reasonable. These costs are analogous to deductions allowed for ad-supported services under 37 C.F.R. 385.11. [redacted] Further, as discussed below, application of the Section 801(b) factors from an economic perspective suggests that a decrease in the payments under the compulsory license is appropriate. That decrease can be accomplished in part by allowing for certain deductions to service revenue associated with services' costs directly incurred to expand the revenue base. Lastly, Google's maintenance of the 10.5% all-in rate and the greater-of structure with the lesser of percentage-of-sound-recording and existing per-subscriber minima, in addition to the 15% cap on the proposed deduction, ensures that the effect of such a change to the definition of service revenue will be limited.
- The economically reasonable minimum to apply under Section 385, Subpart B is the lesser of a percentage of the service's payments for sound recording rights and a per-subscriber minimum, as follows:
  - Percentage of service payments for sound recording rights – A minimum of 13.5% of service payments for sound recording rights is economically reasonable. This percentage is calculated by dividing (1) the current Section 385, Subpart A royalty of $0.093 per PDD for musical works rights by (2) the royalties paid to record labels for sound recording rights, which are equal to 70% of the retail price of a PDD less the musical works royalty.[6]
  - All-in per-subscriber minimum royalty rate – Maintenance of the existing per-subscriber per-month minima is economically reasonable, provided that they remain part of a lesser-of formulation with sound recording royalty payments.[7]

[5] [redacted]

[6] In the instance of pass-through percentages applicable to record company revenues when the record company clears mechanical rights, this minimum should be adjusted accordingly.

[7] I understand that the current regulations are unclear on how to treat family plans, annual subscriptions, and student discounts with regard to the all-in per-subscriber minimum royalty rate. It is my opinion that when calculating a minimum for the purposes of family plans, the minimum should follow the economics of how the plans are priced; e.g., if a $10 per subscriber plan has an $0.80 all-in per-subscriber minimum, then a $15 per-family plan should have a $1.20 all-in per-family minimum. Alternatively, the per-subscriber minimum for family plans could be fixed at 150% of the per-subscriber minimum for individual plans, to conform to existing industry

- 37 C.F.R. § 385, Subpart C – Limited Offerings, Mixed Service Bundles, Music Bundles, Paid Locker Services, and Purchased Content Locker Services
  - The economically reasonable range for the all-in topline royalty rates for all of the service offering categories under Section 385, Subpart C is 10.0% to 11.0% based on the same analysis as that described for Subpart B. Google's proposal to maintain the existing all-in topline rates of up to 12% subject to its proposed definition of service revenue is conservatively high.
  - The overall rate structure proposed by Google is also supported by [redacted] the prior settlements in Phonorecords I and II. The parties to these agreements have demonstrated a preference for a structure in which the licensee pays an all-in royalty rate for the package of rights. To be consistent with this structure, the Section 115 statutory rate should continue to provide for deduction of a service's musical composition public performance royalty payments; and the application of mechanical-only per-subscriber royalty floors should be removed from the Section 385, Subpart C royalty calculation.
  - Amending the definition of Subpart C Service Revenue to allow for deduction of up to 15% of revenue for certain costs of revenue, such as app store fees, credit card transaction fees, and carrier billing fees is reasonable. These costs are analogous to deductions allowed for ad-supported services under 37 C.F.R. 385.21. [redacted] Further, as discussed below, application of the Section 801(b) factors from an economic perspective suggests that a decrease in the statutory rate is appropriate. That decrease can be accomplished in part by allowing for certain deductions to service revenue associated with services' costs directly incurred to expand the revenue base. Lastly, Google's maintenance of the existing topline all-in rates and the greater-of structure with the percentage-of-sound-recording and existing per-subscriber minima, in addition to the 15% cap on the proposed deduction, ensures that the effect of such a change to the definition of service revenue will be limited.
  - The economically reasonable minimum to apply under Section 385, Subpart C is:
    - Percentage of service payments to record companies for sound recording rights – Consistent with my analysis for Section 385, Subpart B (see above), for all of the service offering categories under Section 385, Subpart C, this minimum should be 13.5% of service payments for sound recording rights.[8]
    - All-in per-subscriber minimum royalty rate – Maintenance of the existing per subscriber per month minima is economically reasonable.

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pricing practices. See "Choose the Best Music Streaming Service for Your Family", CNET, October 14, 2016 (discussing prevailing on-demand streaming service price of $14.99 per month).

[8] In the instance of pass-through percentages applicable to record company revenues when the record company clears mechanical rights, this minimum should be adjusted accordingly.

III. BACKGROUND

A. Key Players in the Music Licensing Landscape

13. A songwriter is the author of a musical work, contributing music or lyrics. The Songwriters Guild of America ("SGA") and NSAI, a participant in this proceeding, are trade organizations that represent songwriters.[9]

14. Music publishers are entities that enter into publishing agreements with songwriters, under which the publishers in part finance songwriters' efforts in exchange for future royalty collections. Music publishers usually license songwriters' musical works and collect royalties from licensees of the musical works; and publishers in return receive from songwriters an ownership percentage in the musical work or the royalty streams that they collect from licensees.[10] There are three major music publishers: (1) Sony/ATV Music Publishing ("Sony/ATV"); (2) Warner/Chappell Music ("Warner/Chappell"); and (3) Universal Music Publishing Group ("Universal Music Publishing"). These firms hold a significant combined position, controlling the majority of the U.S. music publishing market.[11] There are also a number of mid-sized music publishers, including Kobalt Music Group ("Kobalt") and BMG Chrysalis ("BMG"), followed by thousands of smaller music publishers and self-published

[9] "About NSAI," Nashville Songwriters Association International, August 3, 2016; "SGA Professional Services," Songwriters Guild of America, March 12, 2007.

[10] Donald S. Passman, "Publishing Companies and Major Income Sources," (Chapter 16), *All You Need to Know about the Music Business*, Eighth Edition, Simon and Schuster, 2013, pp. 219-220.

[11] "Publishers Quarterly: Sony/ATV Rules Again But Warner/Chappell Gets a Big Boost from Lukas Graham," Billboard, July 28, 2016.

songwriters.[12] NMPA, a participant in this proceeding, and the Association of Independent Music Publishers ("AIMP"), are two trade organizations in the music publishing industry.[13]

15. The licensing of mechanical rights for musical works is often handled by mechanical rights administrators, such as Harry Fox — the largest such administrator — and Music Reports, due to the administrative burdens associated with a Section 115 compulsory license, which include serving notice on the copyright holder and the reporting of royalties on a song-by-song basis every month. Mechanical rights licensing for musical works is also often handled directly by music publishers.[14]

16. Performing rights organizations ("PROs") are organizations that license the public performance rights in musical works on behalf of songwriters and publishers, which typically align themselves with a particular PRO. ASCAP and BMI are the two largest PROs and represent the majority of songs publicly performed in the United States. ASCAP and BMI are not-for-profit businesses that must operate according to certain antitrust consent decrees that constrain their membership and licensing practices. SESAC, Inc. ("SESAC"), and Global Music Rights ("GMR") are two smaller, for-profit PROs that are involved in licensing public performance rights in musical works outside of government control.[15]

17. A record company (or label) typically finances the production of sound recordings, which are the result of a contractual relationship between the recording artists and record company.

[12] "Publishers Quarterly: Sony/ATV Rules Again But Warner/Chappell Gets a Big Boost from Lukas Graham," Billboard, July 28, 2016.

[13] "About," National Music Publishers Association, June 18, 2015; "About Us," Association of Independent Music Publishers, December 21, 2011.

[14] Al Kohn & Bob Kohn, "Licensing Music in Sound Recordings (Mechanical Licenses)," (Chapter 13), *Kohn on Music Licensing*, Fourth Edition, 2010, pp. 808-809.

Record companies also promote the sound recording and recording artists, and arrange for the physical and digital distribution of the sound recording. Record companies own and generally handle the licensing of the reproduction and public performance rights for their sound recordings themselves. An exception is the licensing of incidental reproductions and public performances of sound recordings for digital, non-interactive streaming services, which are the subject of Section 112 and 114 statutory licenses, respectively, and where the industry collective, SoundExchange, is responsible for collecting and paying out royalties to recording artists, non-featured artists, and record companies.[16] There are major record labels and independent record labels. Universal Music Group, Sony Music Entertainment, and Warner Music Group are the primary major record labels. These major record labels share common corporate ownership with the major music publishers discussed above — e.g., Sony Corporation owns SME (record company) and half of Sony/ATV (music publisher); Universal Music Group (record company) owns Universal Music Publishing (music publisher); and Warner/Chappell (music publisher) is a division of Warner Music Group (a record company). Independent labels are those that are not wholly owned by one of these three major record labels.

18. Music service providers represent the channels of distribution for musical works and sound recordings, including radio and television stations, digital music companies, and physical and online record stores. In this matter, the music service providers relevant to the Section 115 compulsory license include companies that provide digital, interactive streaming services. Digital interactive streaming, also known as on-demand streaming, enables listeners to select and

[15] "Music in the Marketplace," Better Business Bureau; "Music Publishing Groups Have New Competitor," Ernie Smith, Associations Now, October 31, 2014.

[16] Donald S. Passman, "Broad-Strokes Overview of the Record Business," (Chapter 7), *All You Need to Know about the Music Business*, Eighth Edition, 2013, p. 63.

play songs on demand. Examples of digital interactive streaming service providers include Spotify, Google, Apple, and Rhapsody. In contrast, I understand that non-interactive digital streaming services, also known as internet radio, have not been subject to the Section 115 compulsory license. These types of services enable listeners to play music without the ability to select the specific songs that are played. Pandora historically has been an example of a digital, non-interactive streaming service provider.[17] The National Association of Broadcasters ("NAB"), Radio Music License Committee, and Television Music License Committee are the primary organizations representing terrestrial radio and television broadcasters.[18] DiMA is the national organization that represents the interests of digital music and media companies such as, for example, Apple, Pandora, Spotify, and Google.[19]

B. Section 115 – Compulsory License for Making and Distributing Phonorecords

19. Under Section 115, the exclusive rights to make and distribute phonorecords (including digital phonorecords) of nondramatic musical works (i.e., mechanical rights) are subject to a compulsory license.[20] The process of obtaining a compulsory license under Section 115 begins by serving a notice of intention ("NOI") on the copyright owner.[21] Once an NOI has been served, the licensee must provide statements of account and pay the statutory royalties on a monthly basis. The CRB is the administrative body consisting of three Copyright Royalty Judges appointed by the Librarian of Congress that is responsible for establishing the statutory

[17] "The 2 Types of Streaming Royalties and How You Can Collect Both," Songtrust, August 4, 2014.

[18] "About Us," National Association of Broadcasters, November 6, 2009; "Homepage," Radio Music License Committee, February 24, 2010; "About Us," Television Music License Committee, October 14, 2013.

[19] "About DiMA," Digital Media Association, June 13, 2009.

[20] 17 U.S.C. § 115.

[21] 17 U.S.C. § 115(b).

royalty rates and terms under the Section 115 compulsory license for mechanical rights associated with musical works, a process that by statute takes place every five years.[22] The statutory royalty rates for the compulsory license are established under a standard set forth in Section 801(b)(1),[23] which requires the CRB to weigh several factors and to seek to achieve the following policy-oriented objectives:

> (A) To maximize the availability of creative works to the public.
>
> (B) To afford the copyright owner a fair return for his creative work and the copyright user a fair income under existing economic conditions.
>
> (C) To reflect the relative roles of the copyright owner and the copyright user in the product made available to the public with respect to relative creative contribution, technological contribution, capital investment, cost, risk and contribution to the opening of new markets for creative expression and media for their communication.
>
> (D) To minimize any disruptive impact on the structure of the industries involved and on generally prevailing industry practices.[24]

20. The current royalty rates and terms of the compulsory license for mechanical rights in musical works are presented in Section 385, and are discussed in the following sections. In this matter, the relevant rates and terms for the use of musical works under a Section 115 compulsory license for mechanical rights for Google are covered under: Subpart B — interactive streaming and limited downloads; and Subpart C — limited offerings, mixed service bundles, music bundles, paid locker services, and purchased content locker services.

21. As an alternative to the compulsory license, copyright owners and users are free to negotiate voluntary licenses that may depart from the Section 115 statutory rates and terms.

[22] 17 U.S.C. § 804(b)(4).

[23] 17 U.S.C. § 115(c)(3)(A).

[24] 17 U.S.C. § 801(b)(1).

According to Section 115: "License agreements voluntarily negotiated at any time between one or more copyright owners of nondramatic musical works and one or more persons entitled to obtain a compulsory license under subsection (a)(1) shall be given effect in lieu of any determination by the Librarian of Congress and Copyright Royalty Judges."[25] Mechanical rights licensing is predominantly accomplished through voluntary licenses between music service providers and mechanical rights administrators (e.g., Harry Fox) or music publishers.[26]

C. Section 385 – Rates and Terms for Use of Musical Works under Compulsory License for Making and Distributing of Physical and Digital Phonorecords

1. Subpart A [§ 385.1 – 385.4] – Physical Phonorecord Deliveries, Permanent Digital Downloads, and Ringtones

22. Under Section 385, the current royalty rates for licensing mechanical rights for physical phonorecord deliveries, PDDs, and ringtones are as follows:

- Physical phonorecord deliveries and PDDs – maximum of $0.091 and $0.0175 per minute of playing time or fraction thereof.
- Ringtones - $0.24 per ringtone.[27]

I understand that, under historical industry practice, record labels generally secure and pass through the mechanical rights to physical and digital music stores.[28]

[25] 17 U.S.C. § 115(c)(3)(E)(i).

[26] W. Jonathan Cardi, "Über-Middleman: Reshaping the Broken Landscape of Music Copyright", Iowa Law Review, Vol. 92, p. 835 (2007), pp. 841-42.

[27] 37 C.F.R. § 385.1-4.

[28] [redacted]

2. Subpart B [§ 385.10 – 385.17] – Interactive Streaming and Limited Downloads

23. Under Section 385, the current royalty rates for licensing mechanical rights for interactive streams and limited downloads of musical works are calculated based on the following steps:[29]

- Calculate the All-In Publishing Royalty for the Service Offering[30]
  - Maximum of 10.5% of service revenue and the following specified all-in minimum royalties based on the type of service:
    - (1) Standalone Non-Portable Subscription, Streaming Only:[31] Lesser of 22% of service payments for sound recording rights and $0.50 per subscriber per month.[32]
    - (2) Standalone Non-Portable Subscription, Mixed Use:[33] Lesser of 21% of service payments for sound recording rights and $0.50 per subscriber per month.
    - (3) Standalone Portable Subscription, Mixed Use:[34] Lesser of 21% of service payments for sound recording rights and $0.80 per subscriber per month.
    - (4) Bundled Subscription Services:[35] 21% of service payments for sound recording rights.

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[29] See 37 C.F.R. § 385.10-17, and "Rate Charts," Harry Fox Agency.

[30] "All-In Publishing Royalty" refers to the royalties for licenses covering both mechanical and public performance rights for musical works.

[31] Standalone Non-Portable Subscription, Streaming Only is defined as a "subscription service through which an end user can listen to sound recordings only in the form of interactive steams and only from a non-portable device to which such streams are originally transmitted while the device has a live network connection." (37 C.F.R. § 385.13.)

[32] I understand that only the higher of the percentages of service payments for sound recording rights is relevant for all of the Subpart B service offerings as it is the recording industry's practice not to pass through mechanical royalties for subscription services.

[33] Standalone Non-Portable Subscription, Mixed Use is defined as "a subscription service through which an end user can listen to sound recordings either in the form of interactive streams or limited downloads but only from a non-portable device to which such streams or downloads are originally transmitted." (37 C.F.R. § 385.13.)

[34] Standalone Portable Subscription, Mixed Use is defined as "a subscription service through which an end user can listen to sound recordings in the form of interactive streams or limited downloads from a portable device." (37 C.F.R. § 385.13.)

[35] Bundled Subscription Services are defined as "a subscription service providing licensed activity that is made available to end users with one or more other products or services (including products or services subject to other subparts) as part of a single transaction without pricing for the subscription service providing licensed activity separate from the product(s) or service(s) with which it is made available (e.g., a case in which a user can buy a portable device and one-year access to a subscription service providing licensed activity for a single price)." (37 C.F.R. § 385.13.)

(5) Free Non-Subscription/Ad-Supported Services:[36] 22% of service payments for sound recording rights.

- Subtract Applicable Performance Royalties
  - Subtract from the result in the previous step the "total amount of royalties for public performance of musical works that has been or will be expensed pursuant to public performance licenses in connection with uses of musical works through such offering."[37]

- Determine the Payable Royalty Pool
  - Maximum of the result in the previous step and the following mechanical-only per-subscriber royalty floors based on the type of service:
    (1) Standalone Non-Portable Subscription, Streaming Only: $0.15 per subscriber per month.
    (2) Standalone Non-Portable Subscription, Mixed Use: $0.30 per subscriber per month.
    (3) Standalone Portable Subscription, Mixed Use: $0.50 per subscriber per month.
    (4) Bundled Subscription Services: $0.25 per active subscriber per month.
    (5) Free Non-Subscription/Ad-Supported Services: NA.

- Calculate the Per-Work Royalty Allocation for Each Relevant Work
  - Divide the result in the previous step by the total number of plays of all musical works through the service offering to calculate a per-play figure. Then multiply this figure by the total number of plays for each musical work through the service offering.

3. Subpart C [§ 385.20 – 385.26] – Limited Offerings, Mixed Service Bundles, Music Bundles, Paid Locker Services, and Purchased Content Locker Services

24. Under Section 385, the current royalty rates for licensing mechanical rights for limited offerings, mixed service bundles, music bundles, paid locker services, and purchased content locker services are calculated based on the following steps: [38]

[36] Free Non-Subscription/Ad-supported Services are defined as "a service offering licensed activity free of any charge to the end user." (37 C.F.R. § 385.13.)

[37] 37 C.F.R. § 385.12.

- Calculate the All-In Publishing Royalty for the Service Offering
  - Maximum of the applicable percentage of service revenue based on the type of service:

    (1) Mixed Service Bundle:[39] 11.35% of service revenue.

    (2) Music Bundles:[40] 11.35% of service revenue.

    (3) Limited Offering:[41] 10.5% of service revenue.

    (4) Paid Locker Service:[42] 12% of incremental service revenue.

    (5) Purchased Content Locker:[43] 12% of service revenue.

    and the applicable all-in minimum based on the type of service:

    (1) Mixed Service Bundle: 21% of service payments for sound recording rights.[44]

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[38] See 37 C.F.R. § 385.20-26, and "Rate Charts," Harry Fox Agency.

[39] Mixed Service Bundle is defined as "an offering of one or more of permanent digital downloads, ringtones, locker services or limited offerings, together with one or more of non-music services (e.g., Internet access service, mobile phone service) or non-music products (e.g., a device such as a phone) of more than token value, that is provided to users as part of one transaction without pricing for the music services or music products separate from the whole offering." (37 C.F.R. § 385.21.)

[40] Music Bundles is defined as "an offering of two or more of physical phonorecords, permanent digital downloads or ringtones provided to users as part of one transaction (e.g., download plus ringtone, CD plus downloads). A music bundle must contain at least two different product configurations and cannot be combined with any other offering containing licensed activity under subpart B of this part or subpart C of this part." (37 C.F.R. § 385.21.)

[41] Limited Offering is defined as "a subscription service providing interactive streams or limited downloads where - (1) An end user is not provided the opportunity to listen to a particular sound recording chosen by the end user at a time chosen by the end user (i.e., the service does not provide interactive streams of individual recordings that are on-demand, and any limited downloads are rendered only as part of programs rather than as individual recordings that are on-demand); or (2) The particular sound recordings available to the end user over a period of time are substantially limited relative to services in the marketplace providing access to a comprehensive catalog of recordings (e.g., a service limited to a particular genre or permitting interactive streaming only from a monthly playlist consisting of a limited set of recordings)." (37 C.F.R. § 385.21.)

[42] Paid Locker Service is defined as "a locker service that is a subscription service." Locker service is defined as "a service providing access to sound recordings of musical works in the form of interactive streams, permanent digital downloads, restricted downloads or ringtones, where the service has reasonably determined that phonorecords of the applicable sound recordings have been purchased by the end user or are otherwise in the possession of the end user prior to the end user's first request to access such sound recordings by means of the service." (37 C.F.R. § 385.21.)

[43] Purchased Content Locker is defined as "a locker service made available to end-user purchasers of permanent digital downloads, ringtones or physical phonorecords at no incremental charge above the otherwise applicable purchase price of the permanent digital downloads, ringtones or physical phonorecords, with respect to the sound recordings embodied in permanent digital downloads or ringtones or physical phonorecords purchased from a qualified seller…whereby the locker service enables the purchaser to engage in one or both of the qualifying activities." "Qualifying activity for purposes of this definition of 'purchased content locker service' is enabling the purchaser to – (i) Receive one or more additional phonorecords of such purchased sound recordings of musical works in the form of permanent digital downloads or ringtones at the time of purchase, or (ii) Subsequently access such purchased sound recordings of musical works in the form of interactive streams, additional permanent digital downloads, restricted downloads or ringtones." (37 C.F.R. § 385.21.)

(2) Music Bundles: 21% of service payments for sound recording rights.

(3) Limited Offering: 21% of service payments for sound recording rights (subject to a further minimum payment of $0.18 per subscriber per month).

(4) Paid Locker Service: 20.65% of service payments for sound recording rights (subject to a further minimum payment of $0.17 per subscriber per month).

(5) Purchased Content Locker: 22% of any incremental service payments to record companies for sound recording rights (above the otherwise applicable payments for permanent digital downloads and ringtones).

- Subtract Applicable Performance Royalties
  - Subtract from the result in the previous step the "total amount of royalties for public performance of musical works that has been or will be expensed pursuant to public performance licenses in connection with uses of musical works through such subpart C offering."[45]

- Calculate the Per-Work Royalty Allocation for Each Relevant Work
  - Calculate the per-work royalty allocation based on the type of service:

    (1) Limited Offering: Divide the result in the previous step by the total number of plays of all musical works through the service offering to calculate a per-play figure. Then multiply this figure by the total number of plays for each musical work through the service offering.

    (2) Mixed Service Bundle, Paid Locker Service, and Purchased Content Locker: Divide the result in the previous step by the total number of plays of all musical works through the service offering, which is equal to the sum of the total number of interactive streams, the total number of plays of restricted downloads, and 5 times the total number of downloads, to calculate a per-play figure. Then, multiply this figure by the sum of the total number of interactive streams, restricted downloads, and 5 times the total number of downloads, for each musical work through the service offering.

    (3) Music Bundles: Separate the result in the previous step by the product types in the music bundle using the relative prices of each product type in the bundle. Then divide each product-type total by the total number of sound recordings of musical works of that product type included in the music bundle.

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[44] I understand that only the higher of the percentages of service payments for sound recording rights is relevant for all of the Subpart C service offerings as it is the recording industry's practice not to pass through mechanical royalties for subscription services

[45] 37 C.F.R. § 385.22.

D. Digital Interactive Streaming Services Subject to Section 385, Subparts B and C

25. In this section, I provide an overview of some of the digital interactive streaming services that are subject to Subparts B and C of Section 385 provided by companies that are a part of this proceeding.

1. Google Play Music

26. Google Play Music includes a music store from which users can purchase music content ("Google Play Music Store") that is subject to Subpart A of Section 385, an online storage service for a user's music collection ("Google Play Locker Music Service") subject to Subpart C, and a music subscription service ("Google Play Subscription Service") subject to Subpart B that integrates with the online storage service and the music store.[46]

27. The Google Play Music Store is a music store from which users can purchase music content. The purchased content can be placed in the user's Google Play Locker Music.[47] A music store was first added to Google's Android Market on November 16, 2011.[48]

28. The Google Play Music locker service provides users with access to store music and associated data files, as well as software applications and related services that allow users to update, manage, access, and play the user's stored music, including songs the user purchases

[46] [redacted] The "Google Locker Music Service" used to be referred to as "Google Play Music Library."

[47] [redacted]

[48] "Google Music Is Open for Business," Google Official Blog, November 16, 2011.

from the Google Play Store.[49] Specifically, the service offers a digital locker that scans and matches users' music collections up to 50,000 songs, with songs purchased from the Google Play Store excluded from the storage limit, and allows users to stream them to their Android devices or computers in the U.S. for free.[50]

29. Google Play Music subscription service provides interactive streams and conditional downloads.[51] Google launched its new subscription on-demand interactive streaming music service, called Google Play Music All Access, on May 15, 2013.[52] The service was later rebranded Google Play Music.

30. The current Google Play Music service offers both a free service and subscription plan to its users. Its free service enables users to upload up to 50,000 songs to personal cloud libraries and the ability to stream customized radio stations on an ad-supported basis.[53] Free users may also listen to "Upsell Plays" that provide interactive streams to non-subscribers for the purpose of upselling such users to Google's subscription-based service or purchase opportunities.[54] Google Play Music's subscription tier allows subscribers to stream 35 million commercially-available songs on-demand, access offline playback, and access YouTube Red, which is

[49] "Google Play Terms of Service," Google, July 27, 2016; GOOG-PHONOIII-00000090. Purchased Music Locker makes available digital downloads, cache copies, and interactive streams of purchased files via single server copies to users who have purchased such files via the Google Play Music Store.

[50] "Google Play" Google+, December 18, 2012; "Comparing Music Storage Services from Apple, Amazon, Google," CNET, March 10, 2015.

[51] [redacted] Conditional Download means a digital transmission of a digital file available to users for off-line playback on an authorized device for up to thirty-one (31) consecutive days.

[52] "Google Unveils Streaming Music Subscription Service," Mashable, May 15, 2013; "Google Launches 'Google Play Music All 'Access' On-Demand $9.99 a Month Subscription Service," TechCrunch, May 15, 2013.

[53] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[54] [redacted]

YouTube's ad-free subscription service.[55] The Google Play Music subscription plan is available to users for $9.99 a month. The platform is available through Apple and Android apps as well as web browsers.[56]

2. Amazon Prime Music

31. Amazon Prime Music is available with a $99 annual Amazon Prime subscription.[57] The service launched in June 2014.[58] Amazon Prime Music gives users access to a catalog of more than 1 million songs. The ad-free service enables users to access on-demand music as well as customizable radio stations and playlists. Additionally, mobile users can save songs to their devices for offline listening. Amazon Prime is available through Apple, Android, Windows, BlackBerry, and Roku apps.[59] In October 2016, Amazon launched an on-demand music streaming service called Amazon Music Unlimited. The subscription service is priced at $9.99 per month, with Amazon Prime and Echo users paying a respective $7.99 and $3.99 per month. Amazon Music Unlimited provides access to a larger catalog of music compared to the Amazon Prime Music service, with access to tens of millions of tracks.[60] Further, Amazon Music Unlimited also provides its subscribers access to curated music playlists and personalized stations.[61]

[55] "Apple Music vs. Spotify vs. Google Play Music," Android Authority, July 20, 2016; "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[56] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[57] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[58] "Amazon Launches Streaming Music Service for Prime Members," The Verge, June 12, 2014.

[59] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[60] "Now Streaming: Amazon Music Unlimited," Amazon, October 12, 2016; "Amazon Pairs Its Speaker With Streaming Music, at a Bargain Price," The New York Times, October 12, 2016.

[61] "Now Streaming: Amazon Music Unlimited," Amazon, October 12, 2016.

2. Apple Music

32. Apple Music launched in 2015.[62] Apple Music provides a free service and a paid subscription plan with access to more than 30 million songs. Apple's free service provides users with access to Beats 1, which is an internet radio station. Its subscription service is available for $9.99 a month or $14.99 for a family account. Paying subscribers are able to play songs on demand and use offline playback.[63] Apple Music has 15 million paid subscribers.[64] Apple Music is available through Apple and Android mobile devices as well as Mac and Windows desktop applications.[65]

3. Pandora

33. Pandora provides a free ad-supported, non-interactive streaming service as well as an ad-free version called Pandora One for $4.99 per month.[66] Pandora, which launched its radio service in 2004, has approximately 78 million users of which 4 million are paying subscribers.[67] In 2016, Pandora expects to launch an on-demand music service.[68]

4. Spotify

34. Spotify has more than 100 million users, including 30 million paying subscribers as of July 2016.[69] Spotify offers both a free and paid subscription service enabling users to access its catalog of more than 30 million songs. Spotify's advertising-based free service option enables

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[62] "Apple Music vs. Spotify vs. Google Play Music," Android Authority, July 20, 2016.

[63] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[64] "Spotify Has 100 Million Users But Apple Music Remains a Threat," Macworld, June 20, 2016.

[65] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[66] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[67] Pandora Media, Inc. 10-Q, 2016 Quarterly Report, October 27, 2016.

[68] "Pandora's New Strategy: It's Going On-Demand," Media Life Magazine, August 23, 2016; "Amazon and Pandora to Gauge Music's Value in the Internet Age," The New York Times, September 11, 2016.

users to play songs on demand through its desktop version and playlists on its mobile version.[70]

Spotify's $9.99 monthly subscription plan allows users to play songs on demand, download music directly, use playback offline, and listen to music without advertisements.[71] Its service is available through Apple and Windows mobile and desktop computer applications, Android phones, PlayStation, Roku, and web browsers.[72]

IV. OVERVIEW OF THE SECTION 801(b)(1) FACTORS USED TO DETERMINE THE RATES AND TERMS FOR THE SECTION 115 COMPULSORY LICENSE

35. As previously discussed, the statutory rates for the Section 115 compulsory license are established under a standard set forth in Section 801, which I understand requires the CRB to weigh several policy objectives (i.e., the Section 801(b)(1) factors). To determine the appropriate rates and terms for the Section 115 compulsory license in this matter, I first identify market-based benchmarks for the Section 115 rates — these benchmarks are derived from economic evidence including, for example, the current Section 385 Subpart A royalty rates for PDDs, the recent proposed settlement pertaining to future Subpart A rates, and the terms of Google's and other music service providers' agreements involving licenses to mechanical rights in musical works for digital interactive music streaming services. Then, I analyze additional economic evidence pertaining to each of the four 801(b)(1) factors to determine if the market-based benchmarks should be adjusted to reflect the policy objectives and economic considerations under each of these factors.

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[69] "Spotify Wants to Go Public Despite a History of Losses," Fortune, July 20, 2016.

[70] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[71] "Spotify," TechCrunch, September 20, 2016; "Go Premium," Spotify, September 20, 2016.

[72] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

V. BENCHMARK ANALYSIS FOR THE RATES AND TERMS FOR THE SECTION 115 COMPULSORY LICENSE

A. Continuation of the Current Rates in Section 385, Subpart A – Physical Phonorecord Deliveries, Permanent Digital Downloads, and Ringtones

36. The Copyright Royalty Judges ruled on November 24, 2008 that the statutory rates payable under a Section 115 compulsory license for musical works in physical phonorecords and PDDs would be the greater of $0.091 or $0.0175 per minute of playing time for the period until successor rates and terms become effective.[73] The rate for ringtones was set at $0.24 per download.[74] These are the rates that licensees had been paying under a Section 115 compulsory license for physical phonorecord deliveries, PDDs, and ringtones since 2006.[75]

37. On November 13, 2013, the Copyright Royalty Judges issued the final regulations that set the rates and terms for a Section 115 compulsory license, including the rates and terms for services covered under Section 385, Subpart A, which would become effective January 1, 2014. The rates for physical phonorecords and PDDs were kept the same at the greater of $0.091 or

[73] Final Determination of the Rates and Terms, Mechanical and Digital Phonorecord Delivery Rate Determination Proceeding, Docket No. 2006-3 CRB DPRA (November 24, 2008), p. 1. For the effective dates of these rates, see U.S.C. § 803(d)(2)(b): "In other cases where rates and terms do not expire on a specified date, successor rates and terms shall take effect on the first day of the second month that begins after the publication of the determination of the Copyright Royalty Judges in the Federal Register, except as otherwise provided in this title, or by the Copyright Royalty Judges, or as agreed by the participants in a proceeding that would be bound by the rates and terms. Except as otherwise provided in this title, the rates and terms, to the extent applicable, shall remain in effect until such successor rates and terms become effective."

[74] Final Determination of the Rates and Terms, Mechanical and Digital Phonorecord Delivery Rate Determination Proceeding, Docket No. 2006-3 CRB DPRA (November 24, 2008), p. 1.

[75] Final Determination of the Rates and Terms, Mechanical and Digital Phonorecord Delivery Rate Determination Proceeding, Docket No. 2006-3 CRB DPRA (November 24, 2008), p. 17.

$0.0175 per minute of playing time; the rates for ringtones were also kept the same at $0.24 per download.[76]

38. On June 15, 2016, the Copyright Royalty Judges received a motion stating that the participants listed below had reached a partial settlement regarding the rates for services covered under Section 385, Subpart A for the period from 2018 to 2022, and seeking approval of that partial settlement.[77]

- Copyright Owners
  - Church Music
  - NSAI
  - NMPA
  - Harry Fox
  - SONA
- Licensees
  - Universal Music Group
  - Warner Music Group

39. The settlement proposes "that the royalty rates and terms presently set forth in 37 C.F.R. Part 385 Subpart A should be continued for the rate period at issue in the proceeding."[78] A2IM, an independent label group (though not a participant in the proceeding), submitted a comment to

[76] See 37 CFR Part 385, *Adjustment of Determination of Compulsory License Rates for Mechanical and Digital Phonorecords*, Federal Register 67938 Vol. 78 No. 219, November 13, 2013. No changes were made to Section 385, Subpart A.

[77] 37 CFR Part 385, *Determination of Rates and Terms for Making and Distributing Phonorecords* (Phonorecords III), Docket No. 16-CRB-0003-PR (2018-2022), Federal Register 48371 Vol. 81 No. 142, July 25, 2016.

[78] 37 CFR Part 385, *Determination of Rates and Terms for Making and Distributing Phonorecords* (Phonorecords III), Docket No. 16-CRB-0003-PR (2018-2022), Federal Register 48371 Vol. 81 No. 142, July 25, 2016.

the CRB in support of the partial settlement on August 24, 2016.[79] On October 28, 2016, Sony Music Entertainment and Copyright Owners NMPA and NSAI filed a joint motion to adopt the terms of the proposed settlement with Universal Music Group and Warner Music Group on an industrywide basis.[80]

40. In summary, from 2006 to the present, and likely through 2022, the royalty rates paid under the Section 115 compulsory license for Section 385 Subpart A have remained, and will remain, constant. Specifically, for physical phonorecords and PDDs the rates have remained constant at the greater of $0.091 or $0.0175 per minute of playing time per download. During this same time period, the weighted average price per digital download — based on the price per download for singles and the price per song for albums — has steadily increased. In Exhibit 7, I present the weighted average price per download from 2006 to 2015, which has increased from $0.99 per download in 2006 to $1.10 per download in 2015, an increase of approximately 11%. Based on data provided by Google for tracks sold on the Google Play Store in August 2016, I understand that [redacted] of U.S. track purchases were less than or equal to [redacted] minutes and that, for the [redacted] of U.S. track purchases that were greater than [redacted] minutes, the average track length was [redacted]. Using these data, I calculated the effective Section 385, Subpart A royalty rate to be ([redacted]*$0.091) + ([redacted]*([redacted]+[redacted])*$0.0175) = $0.093. Comparing this effective rate to the weighted average price per download shows that the Subpart A effective royalty rate as a

[79] Comments of A2IM in Support of Proposed Settlement, *Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III),* Docket No. 16-CRB-0003-PR (2018-2022), August 24, 2016.

[80] See Mot. Adopt Settlement Industry-Wide, filed Oct. 28 2016 (joint mention of the NMPA, NSAI, and SME; "The Parties have agreed that the royalty rates and terms provided in the UMG/WMG Settlement should be applied industry-wide to all licensees under Section 115. The UMG/WMG Settlement calls for continuation of the rates and terms presently set forth in 37 C.F.R. Part 385 Subpart A . . . .").

percentage of the weighted average price per download has actually decreased from 9.4% in 2006 to 8.5% in 2015.[81]

41. Using the royalties paid in connection with PDDs as a benchmark is conservative because the contribution of the service relative to that of the copyright owner is larger in the case of interactive streaming than in the case of PDDs.

42. After adjusting for the fact that deductions of up to 15% of revenue would be permitted under Google's proposed service revenue definitions for Subpart B (and assuming hypothetically that this would also be the case for sellers of PDDs under Subpart A, who pay download store commissions of 30%), the 2006 percentage of revenue after deductions would be 11.0%. This is similar to the current 10.5% Subpart B rate, which accounts for all necessary publishing rights. Using the 2015 weighted average price per PDD of $1.10, and adjusting for the fact that deductions of up to 15% of revenue would be permitted under Google's proposed service revenue definitions for Subpart B, the corresponding 2015 effective Subpart A percentage of revenue royalty rate is 10.0%.

43. Furthermore, there is some evidence that interactive streaming may supplant download sales,[82] which suggests there should be consistency between the effective percentage of revenue

[81] I reserve the right to update my calculations if additional data are produced that relate to this point.

[82] See, e.g., the decision of the Second Circuit in *Arista Records, LLC v. Launch Media, Inc.*, 578 F.3d 138 (2nd Cir. 2009). In that case, the Court explained, "[i]f the user has sufficient control over the interactive service such that she can predict the songs she will hear, much as she would if she owned the music herself and could play each song at will, she would have no need to purchase the music she wishes to hear. *Launch Media*, 578 F.3d at 161. I also understand that the copyright owners in this proceeding have consistently made the argument that on-demand streaming substitutes for download sales, and that this understanding explains the industry's prior Section 115 settlements' licensing of on-demand streaming services and exemption of non-interactive services. See also *Digital Performance Right in Sound Recordings Act of 1995, House of Representatives* No. 104- 274, at 14 (1995) ("Of all the new forms of digital transmission services, interactive services are most likely to have a significant impact on traditional record sales, and therefore pose the greatest threat to the livelihoods of those whose income depends upon revenues derived from traditional record sales.").

reflected in the Subpart A rate and the Subpart B rate. As also demonstrated above, the percentage of revenue rate derived from the effective Subpart A rate of $0.093 per download, has declined over time as the price per download has consistently increased (i.e., from 11.0% in 2006 to 10.0% in 2015, adjusted for the proposed 15% of revenue cost deduction). This economic evidence supports a corresponding decrease in the current Subpart B percentage-of-revenue rate.

44. I have also compared the effective Subpart A rate of $0.093 per download paid to publishers for musical works rights under Section 385, Subpart A to the royalties paid to record companies for sound recording rights on the same sale of a PDD. [redacted] Additionally, according to several sources, Apple also pays royalties to record labels equal to 70% of the retail price for sales of digital downloads through the iTunes Music Store.[84] I understand that the royalties paid by both Google and Apple to record companies are inclusive of the $0.093 per download effective royalty owed to music publishers, and that the record companies pass through the $0.093 payment to the music publishers. As discussed above, the weighted average retail price per digital download has increased from $0.99 in 2006 to $1.10 in 2015; which means that the royalties that companies such as Apple [redacted] have been paying to record labels for sales of PDDs based on the 70% royalty rate have been increasing over time. As a result, the ratio of musical works-to-sound recordings royalties on sales of PDDs covered under Section 385, Subpart A has decreased from approximately 15.5% to 13.8% from 2006 to 2015. These ratios

[83] [redacted]

are lower than the current ratios of musical works-to-sound recordings royalties contained in Section 385, Subparts B and C (e.g., musical works royalties are between 17.36% and 21% of the service payment to record companies for sound recordings for Standalone Portable Subscription, Mixed Use services covered under Subpart B). This analysis supports a reduction in the current Section 385, Subparts B and C minimum payments based on percentages of service payments paid for sound recording rights to bring them in line with the implied Subpart A musical works-to-sound recordings percentages.[85]

B. Existing Agreements Involving Licenses to Mechanical Rights in Musical Works for Digital Interactive Music Streaming Services

45. In general, in the absence of any constraints, the outcome of an arm's-length negotiation between unrelated parties represents a "fair" outcome for both parties as contemplated under Section 801(b)(1)(B). Additionally, it may also represent an outcome that appropriately divides the value created by the combination of the two parties' assets as contemplated under Section 801(b)(1)(C). Therefore, existing licenses negotiated in the open market can potentially be used to form a benchmark for setting rates for the Section 115 compulsory license that provide both a "fair" return to the copyright owner and leave the copyright user with a "fair" income, while also properly reflecting the relative contributions of the copyright owner and the copyright user in the product made available to the public.

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[84] "The New Economics of the Music Industry," Rolling Stone, October 25, 2011; "More Artists Steer Clear of iTunes," The Wall Street Journal, August 28, 2008. For further support for the 70% of the sales price figure, see Testimony of David B. Pakman, November 1, 2016, FN 6.

[85] The 13.5% of label payments proposed by Google is very close to the 13.8% figure calculated here. Additionally, the 13.8% number represents the latest in a downward trend. And the number, which is based on only one month of data, is subject to change as I obtain industry wide data and data on additional time frames.

46. Only existing licenses that are "comparable" to the Section 115 compulsory license should be used in a benchmark analysis. In the context of intellectual property licensing, an existing agreement is a valid comparable for a prospective license if the economic conditions that surrounded the agreement are similar to the economic conditions surrounding the prospective license. Such conditions include the economic positions of the parties (including, e.g., the products or services sold by the licensee) and the rights being licensed. In the event that there are differences in economic conditions between a potential comparable agreement and the prospective license being assessed, it may be possible to make adjustments to account for those differences.

47. Comparable licenses are commonly used in analysis by financial economists as benchmarks for the valuation of companies and their assets, including intellectual property.[86] Comparable licenses are also commonly used by damages experts in intellectual property litigation to determine the "reasonable royalty" that would have resulted from a hypothetical licensing negotiation between the patent owner and the alleged infringer.[87] When evaluating licenses as potential benchmarks, it is important to consider the circumstances surrounding the negotiation of the licenses.

48. I have reviewed a number of existing agreements produced by the parties in this matter, including agreements involving licenses to various rights in musical works and sound recordings.

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[86] See, e.g., Robert F. Reilly and Robert P. Schweihs, The Handbook of Business Valuation and Intellectual Property Analysis, Chapter 23: Research Techniques for an Intellectual Property Economic Analysis, 2004, pp. 615-616. ("The identification of comparative sale/license transactions should reflect the industry and economic environment in which the subject intellectual property operates." See also Aswath Damodaran, Damodaran on Valuation, Security Analysis for Investment and Corporate Finance, 2006, p. 238-254.

[87] See, e.g., Christine Meyer and Bryan Ray, "A Critique of Noneconomic Methods of Reasonable Royalties," Economic Approaches to Intellectual Property, pp. 90-93. See also *VirnetX, Inc. v. Cisco Systems, Inc.*, September 16, 2014.

A summary of these agreements is provided in Exhibits 1a-1j. In the following sections, I focus my discussion and analysis on the agreements that include, among other things, licenses covering mechanical rights in musical works for digital interactive music streaming services, and address their relevance in terms of establishing a benchmark for the rates for the Section 115 compulsory license. A detailed summary of my review of these agreements (and their related amendments) is provided in Exhibits 2a-2h.

1. Google's Publishing Agreements Involving Licenses for Mechanical Rights in Musical Works for Digital Interactive Music Streaming Services

49. Google has entered into publishing agreements that include a license for mechanical rights in musical works covering its digital interactive music streaming services subject to the Section 115 compulsory license. These Google licenses cover Google Play Subscription Services, Google Locker Music Services, or YouTube.

50. I have compared the terms of the Google mechanical rights licenses with those of the current Section 115 statutory license, with a focus on the actual rights being licensed under the Google licenses, the services covered under these licenses, and the corresponding royalty calculation terms of these licenses as compared to the royalty calculation methodologies currently presented in Subparts B and C of Section 385. In general, the terms outlined in the Google publisher agreements are consistent with the Section 385 terms with several exceptions, which I address in the following sections.

a. Google Play Subscription Services Licenses

51. I have reviewed a number of Google licenses with music publishers covering mechanical rights in musical works, [redacted]

[redacted]

I note that these Google licenses cover [redacted] of mechanical rights for the Google Play Subscription Service, and that for Google the Section 115 compulsory license is only necessary to obtain mechanical rights for the small remaining portion of the service.[89] The most notable difference between these Google direct licenses with music publishers covering Google Play Subscription Services and the Section 115 statutory mechanical license is that the Google licenses are "all-in" licenses. In other words, the licenses granted to Google by the music publishers convey both mechanical and public performance rights. I understand that such all-in licenses are consistent with the fact that, historically, the 10.5% of service revenue "starting point" for the Section 385, Subpart B royalty calculation has been viewed by music service providers (and music publishers)[90] as a rate that covers the costs of all publishing rights associated with Subpart B activities.[91]

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[88] See Exhibit 2a. [redacted] I understand that Google has entered into this form license with a number of licensors. I note that the terms of this agreement pertaining to the Google Play Subscription Service are generally consistent with those of Google's agreements with other music publishers.

[89] I understand that Google's direct publisher licenses cover [redacted] of the total number of compositions in the Google Play Catalog. See Written Direct Testimony of Paul Joyce, November 1, 2016, ¶ 22.

[90] See Trial Tr. 1255:15–23, Pandora Media, Inc. v. Am. Soc'y of Composers, Authors & Publishers, No. 12-cv-8035 (S.D.N.Y. 2014)(testimony of then-UMPG chairman/CEO Zach Horowitz) ("THE COURT: So are you talking about ASCAP's public performance fee for an on-demand service? [Zach Horowitz]: In my mind I blur it, I merge it. It doesn't make any difference to me how Spotify's income to the publishers are designated. It doesn't matter to me if they're called digital royalties or performance royalties. It's a service that offers value to

52. In terms of the actual royalty calculation methodology presented in Google's direct licenses with music publishers covering mechanical and public performance rights in musical works pertaining to Google Play Subscription Services, [redacted] However, the royalty calculation methodology in Google's direct licenses with music publishers has several differences [redacted] including:

- [redacted]
- [redacted]
- [redacted]

As a result, the royalty calculation methodology in Google's direct licenses with music publishers conveying all necessary publishing rights for the Google Play Music subscription service is effectively simplified to [redacted]

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the consumers and a certain amount of money is paid to the publishers as a result. And so I looked at it in a holistic way in terms of the total amounts paid.")

[91] Testimony of David B. Pakman, November 1, 2016, ¶ 21; Written Direct Testimony of Zahavah Levine, November 1, 2016, ¶¶ 35, 40-41.

[92] [redacted]

[93] Note that this last difference is not included in all of the relevant Google license agreements pertaining to Google Play Subscription Services.

[94] [redacted]

53. I note that although these Google Play Subscription Services licenses are voluntary licenses, the negotiations leading to the agreements may have been influenced by the existence of the Section 115 compulsory license. Specifically, neither the licensor nor the licensee has any incentive to agree to terms different from those in the Section 115 compulsory license (because, in the absence of an agreement, they could each fall back on the statutory license) unless it was made better off by doing so. The economic evidence suggests that the influence of the Section 115 compulsory license was favorable to the copyright owners (i.e., compared to if there was no Section 115 compulsory license to fall back upon). First, as discussed below, the services have not been profitable at the current statutory rates, a factor likely to result in lower negotiated rates absent any influence from the Section 115 compulsory license. Second, Google's Zahavah Levine described [redacted] that is, it has been the copyright owners, not Google, that have used the Section 115 compulsory license as leverage in the negotiations. Third, as discussed above, the effective percentage royalty rate for musical works rights for digital downloads under Subpart A has decreased over time, whereas the royalty rate for musical works rights under Subpart B has remained constant over time.

54. The Google Play Subscription Services licenses confirm that Google and the publishers intended for there to be a fixed all-in rate that Google would pay to publishers for whatever rights were necessary, so that any fluctuations in the public performance rights marketplace would not result in any change to Google's total payments to publishers. This makes economic sense. To the extent streaming requires both mechanical and public performance rights, they are complementary rights, with one having little or no value absent the other. This creates a "Cournot complements" problem, whereby independent sellers of complementary products may

each price inefficiently high because each does not take into account the negative externality on the other of increasing its price. When the Cournot complements problem exists, joint selling of a package consisting of the complementary products leads to a lower overall price, greater output, and increased economic efficiency. The analogous action here is to sell a package of the mechanical and public performance rights for an all-in rate. If the sum of the rates for separately negotiated mechanical and public performance rights was greater than the all-in rate, that would represent a relatively inefficient outcome. Thus, it makes sense to limit the total payments to the publisher to the all-in rate and eliminate the mechanical-only floor fees.

b. Google Locker Music Services Licenses

55. I have reviewed a number of Google licenses with music publishers covering mechanical rights in musical works, [redacted] Like the subscription agreements discussed in the previous section, these Google licenses cover the vast majority of mechanical rights for the Google Locker Music Service. Additionally, as with the subscription agreements, the most notable difference between Google's direct licenses with music publishers covering Google's Locker Music Services and the Section 115 statutory mechanical license is that the Google licenses are "all-in" licenses. In other words, the licenses granted to Google by the music publishers convey

[95] See Exhibit 2a. [redacted]

all necessary publishing rights. I understand that such all-in licenses are consistent with the fact that, historically, the 12% of service revenue "starting point" for the Section 385, Subpart C royalty calculation for locker services has been viewed by music service providers (and music publishers) as a rate that covers the costs of all publishing rights associated with Subpart C activities.[96]

56. In terms of the actual royalty calculation methodology presented in Google's direct licenses with music publishers covering mechanical and public performance rights in musical works pertaining to Google Locker Music Services, [redacted]

As a result, the royalty calculation methodology in Google's direct licenses with music publishers conveying all necessary publishing rights for the Google Locker Music Services is effectively simplified to [redacted] Because Google's music locker service is offered free to the consumer (i.e., there is no service revenue), this reduces to [redacted] Google incurs the cost of operating this service in part because it funnels users towards Google's revenue

[96] Testimony of David B. Pakman, November 1, 2016, ¶ 21; Written Direct Testimony of Zahavah Levine, November 1, 2016, ¶¶ 35, 40-41.

[97] [redacted]

generating music services (e.g., the Google Play Store and the Google Play subscription service).[98]

57. As discussed in the previous section, any influence of the Section 115 compulsory license on these negotiated agreements was likely in favor of the copyright owners. Moreover, again the agreements demonstrate the intention of the parties that Google's publishing payments would be [redacted] and would not increase due to fluctuations in the public performance rights marketplace.

c. YouTube Licenses

58. The most notable difference between Google's direct licenses with music publishers covering YouTube and the Section 115 statutory license is that the YouTube licenses are designed primarily to cover audiovisual works, which makes these licenses less relevant as benchmarks for purposes of the current analysis. Unlike the Section 115 statutory license or the Google Play Subscription Services and Google Locker Music Services agreements discussed above, these licenses also include additional types of rights, including synchronization rights and the rights covering derivative works.

59. In terms of the actual royalty calculation methodology presented in YouTube's direct licenses with music publishers pertaining to audio-only tracks [redacted]

[98] See Written Direct Testimony of Paul Joyce, November 1, 2016, ¶ 8.

[99] [redacted]

[redacted][100]

2. Other Music Service Providers' Agreements Involving Licenses to Mechanical Rights in Musical Works for Digital Interactive Music Streaming Services

60. I have also reviewed agreements from other music service providers that include a license for mechanical rights in musical works for their digital interactive music streaming services. I have compared the terms of these mechanical rights licenses with those of the Section 115 statutory license; with a focus on the actual rights being licensed under these licenses, the services covered under these licenses, and the corresponding royalty calculation terms of these licenses as compared to the royalty calculation methodologies currently presented in Subparts B and C of Section 385. In the following sections, I focus on the notable differences between the terms of these music service providers' licenses and Section 385.

a. Amazon Agreements

61. I have reviewed several Amazon agreements that license mechanical rights for musical works.[101] The rights licensed cover Amazon Prime Music.[102] The ad-free service is part of an

[100] [redacted]

[101] See Exhibit 2c. One of these licenses—the Amazon Digital Services LLC Music Publishing Rights Agreement, AMZN00000147—does not identify a specific music publisher as the licensor. However, I understand that Amazon has entered into this form license with a number of licensees. [redacted]

[102] Prior to June 12, 2014, Amazon's music service was called Amazon Cloud Player. See "Amazon Launches Music Service, Adds Another Element to Prime," Mashable, June 12, 2014; "Amazon Launches Smartphone Music Streaming in U.S.," Computerworld, March 29, 2011.

annual Amazon Prime subscription,[103] and enables users to access on-demand music as well as customizable radio stations and playlists. Additionally, mobile users can save songs to their devices for offline listening.[104]

62. [redacted] I note that Amazon

[103] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[104] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[105] [redacted]

[106] [redacted]

would have had no economic incentive to negotiate how the publisher allocates its revenues among mechanical and public performance royalties.

63. [redacted]

b. Loudr Agreement

64. I have reviewed an agreement that licenses mechanical rights in musical works covering Loudr Store, a music provider owned by re:Discover, Inc.[109] Loudr Store is a segment of Loudr,[110] and enables consumers to preview, purchase, download, stream, and share store content.[111] [redacted]

[107] [redacted]

[108] [redacted]

[109] See Exhibit 2g.

[110] Loudr is a platform that specializes in the licensing and distribution of cover songs. See "Distribution Features," Loudr, April 9, 2014.

[111] "Terms of Use," Loudr, March 30, 2015.

[112] [redacted]

c. Pandora Agreements

65. I have reviewed several Pandora License Agreements [redacted]

d. Microsoft Agreement

66. I have reviewed two Microsoft agreements that license mechanical rights in musical works.[116] [redacted]

[113] See Exhibit 2f.

[114] [redacted]

[115] [redacted]

[116] See Exhibit 2e.

[117] [redacted] Microsoft has since rebranded this music service to Groove Music on July 6, 2015. See "Updates to Entertainment in Windows 10," Microsoft, July 6, 2015.

[118] "What is the Microsoft Groove Music app?," Microsoft, August 18, 2016.

[redacted]

[redacted]

e. Spotify Agreements

67. I have reviewed several Spotify agreements [redacted]

[redacted]

f. Apple Agreements

68. [redacted]

[redacted]

[redacted]

[redacted]

[119] Additionally, this agreement specifies a minimum payment guarantee of $450,000.

[120] See Exhibit 2h. [redacted]

[121] [redacted]

[122] See Exhibit 2d.

[123] [redacted]

[redacted]

69. [redacted]

[redacted]

[redacted]

124 [redacted]

125 [redacted]

126 [redacted]

127 [redacted]

[redacted]

70. [redacted]

[redacted]

128 [redacted]

129 [redacted]

130 [redacted]

C. Results of the Benchmark Analysis for the Rates and Terms for the Section 115 Compulsory License

1. Benchmark All-In Topline Royalty Rate

71. I have reached the following conclusions regarding the appropriate all-in topline rate for the service offering categories under Section 385, Subparts B and C suggested by the available benchmarks:

- The economically appropriate all-in topline royalty rate for a Section 115 license, accounting for musical work public performance royalties, for all of the service offering categories under Section 385, Subpart B suggested by the available benchmarks ranges from 10.0% to 11.0%.
  - The lower end of this range, 10.0%, is based on a comparison of the effective Section 385, Subpart A royalty rate of $0.093 per PDD to the most current (2015) average retail price of a PDD of $1.10, adjusted to reflect Google's proposed deductions of up to 15% of revenue. As discussed above, given the relationship between PDDs and streams and the, if anything, greater relative contribution of the services in the case of streams, the effective percentage of revenue rate derived from the $0.093 per stream Subpart A rate should be consistent with the Subpart B percentage of service revenue rate.
  - The upper end of this range, 11.0%, is based on a comparison of the effective Section 385, Subpart A royalty rate of $0.093 per PDD to the historical (2006) average retail price of a PDD of $0.99, adjusted to reflect that deductions of up to 15% of revenue are permitted under Google's proposed service revenue definitions.
  - Google's proposal for the all-in topline royalty rate of 10.5% is within this range.
  - Google's and other music service providers' voluntary licenses provide an upper bound on the payments that should be set in this proceeding. Moreover, in terms of its structure, Google's proposal is consistent with these agreements.
    - Google's voluntary licenses with music publishers for its Google Play Subscription Service — classified in the Standalone Portable Subscriptions, Mixed Use service offering category for Section 385, Subpart B — involve parties, services of the licensee, and rights licensed that are similar to those of the Section 115 license.
    - Pandora's voluntary licenses [redacted]

[redacted]

- Spotify's voluntary licenses [redacted]
- Google's voluntary licenses with music publishers covering YouTube are less comparable to the Section 115 license that I am addressing in this proceeding because they are designed to primarily cover audiovisual works and not the interactive streaming and limited download services covered under the Section 115 license; and they include a license to additional types of rights, including synchronization rights and the rights covering derivative works, which are not subject to the Section 115 license.
- Microsoft's voluntary [redacted]
- Apple's voluntary licenses [redacted]
- Finally, Amazon's more recent voluntary licenses [redacted]

- The economically appropriate all-in topline royalty rate for a Section 115 license, accounting for musical work public performance royalties, for all of the service offering categories under Section 385, Subpart C suggested by the available benchmarks ranges from 10.0% to 11.0%.
  - The upper and lower ends of this range are based on the same Subpart A benchmark analysis described above for Subpart B. Given this range, Google's proposal to retain the current all-in rates of up to 12% is conservatively high.
  - Google's and other music service providers' voluntary licenses and the Phonorecords II settlement support the rate structure proposed by Google.
    - Google's voluntary licenses with music publishers for its Google Locker Music Service — classified in the Purchased Content Locker service offering category for Section 385, Subpart B — involve parties, services of the licensee, and rights licensed similar to those of the Section 115 license.
    - Pandora's voluntary licenses [redacted]

- [redacted]
- Amazon's historical voluntary licenses [redacted]

72. Other conclusions can be drawn from the voluntary agreements. [redacted] The parties to these agreements therefore have a revealed preference for royalties based on a percentage of revenue. A percentage of revenue structure has a number of advantages over, for example, a per-stream royalty structure. For example, the same revenue percentage can be applied to a wide variety of plans, under the reasonable assumption that the relative contributions of the musical work and the service are roughly constant across plans, with the subscription fees varying with the willingness to pay ("WTP") of consumers who choose the plans.[131] In contrast, using the same per-stream royalty for different plans assumes that the absolute contribution of the plan is constant, across all plans and consumer WTP. In addition, as discussed in more detail below, the percentage of revenue structure likely encourages more musical consumption than a per-stream structure because the latter penalizes consumption.

[131] A structure based on a percentage of an appropriate measure of profits would be theoretically preferable to a structure based on percentage of revenues, but measurement and verification of profits is difficult. For this reason, revenues, rather than profits, form the royalty base in virtually all of the intellectual property licenses I have reviewed over the course of my career that specify a percentage royalty rate.

73. For Purchased Content Lockers that are free-to-the-user, like Google's, the license fee under the existing agreements is equal to [redacted] Establishing the rate structure proposed by Google would not foreclose Google and other services from negotiating corresponding alternative rate structures in voluntary licenses where appropriate.

74. Another implication of the voluntary agreements, and in particular, the widespread adoption of an all-in rate that covers both mechanical and performance rights, is that the parties view these two rights as a single bundle to be licensed at the same time. Indeed, in the context of streaming, there is no apparent economic reason why a service would seek a license to either the mechanical right, but not the performance right, or vice-versa. A service is only concerned with securing whatever rights in musical works are necessary for streaming.

75. The definition of service revenue in the agreements and in the current Section 115 compulsory license allows for the deduction of expenses required to obtain such revenue up to a maximum of 15% of revenue, in some cases.[132] The business rationale for defining the "royalty base" in this way is that such costs should be shared between the licensor and licensee because they pay for activities that expand the subscriber base to the benefit of both parties. However, there are other costs, such as credit card processing fees, that play a similar role in expanding the subscriber base, but are not considered to be allowable deductions from revenue under the existing Section 115 compulsory license. Given, as discussed above, that the existing statutory

[132] See 37 C.F.R. §§ 385.11 and 385.21 for the definition of "service revenue" and "Subpart C service revenue," including allowable deductions.

rates weigh somewhat to the favor of copyright owners, I conclude that Google's proposal to allow costs such as credit card processing fees to be deducted from revenue (subject to the same 15% maximum) is a reasonable way to address this concern. In the case of Google, this would have only a small effect on the royalty base because credit card fees are generally only [redacted] of revenue and app store fees are limited.

2. Benchmark Minimum

a. Percentage of the Service Payments for Sound Recording Rights

76. I have reached the following preliminary conclusions regarding the economically appropriate all-in minimum royalty, based on a percentage of service payments for sound recording rights, to apply for the service offering categories under Section 385, Subparts B and C suggested by the Subpart A benchmark:

- The economically appropriate all-in minimum royalty for a Section 115 license, accounting for musical work public performance royalties, for all service offering categories under Section 385, Subparts B and C suggested by the available benchmarks ranges from 13.8% to 15.5% of service payments for sound recording rights.
  - The lower end of this range, 13.8%, is based on a comparison of the effective rate paid by Google based on the current Section 385, Subpart A royalty rate of the greater of $0.091 or $0.0175 per minute of playing time per download, or $0.093 per PDD, to the royalties paid to record labels for sound recording rights, which is based on 70% of the most current (2015) average retail price of a PDD of $1.10.
  - The upper end of this range, 15.5%, is based on a comparison of the effective Subpart A royalty rate of $0.093 per PDD to the royalties paid to record labels for sound recording rights, which is based on 70% of the historical (2006) average retail price of a PDD of $0.99.
  - Google's proposal of 13.5% is reasonable, given that it is close to the low end of the reasonable range described above and the endpoints of the range are subject to some imprecision due to, among other things, being based in part on song length data from a limited time period.[133]

[133] I note that the 13.8%, which was based on one month of data from the Google Play Store, may be subject to further revision as I obtain additional data concerning industry wide data on download sales and data for additional time periods.

b. All-In Per-Subscriber Minimum Royalty Rate

77. For a typical subscription streaming plan, the all-in per-subscriber minimum royalty rate does not come into play because, for example, the revenue percentage (10.5%) times the subscriber fee (typically $10) is greater than the $0.80 all-in per-subscriber minimum royalty rate (for the Subpart B Standalone Portable Subscription, Mixed Use service offering category), which is less than the 21% of payments for sound recording rights for $10 per month services. Thus, a reduction in the all-in per-subscriber minimum would have no effect on the mechanical royalties paid on typical subscription plans under the proposed rate structure.

78. Although Google has not proposed a reduction in the applicable all-in per-subscriber minima, as discussed below under the "availability" 801(b)(1) factor, the $0.80 all-in per-subscriber minimum may deter service providers from offering additional subscription plans with a lower per-subscriber price. A reduction in the all-in per-subscriber minimum would give service providers the flexibility to offer new types of plans that have the potential to expand the set of subscribers.[134] An expanded set of subscribers would benefit both music service providers and copyright owners.[135] While a service provider could attempt to negotiate separate agreements with each copyright owner that allowed a lower per-subscriber minimum for such plans, the transactions costs for doing so would be high, and one of the economic rationales for the compulsory license is to save on such transactions costs. As such, it would be useful to build flexibility into the compulsory license terms. That said, to the extent that all-in per-subscriber

[134] Offering a menu of plans is a means by which service providers can separate out users into groups with different willingness to pay for the service and charge them different prices. To the extent overall output (measured by subscribers) expands, economic efficiency likely has increased as a result.

[135] Service providers would prefer to minimize the extent to which any new plans "cannibalize" existing subscribers on existing plans. This means the service providers' incentives in this regard would be aligned roughly with the interests of the copyright owners.

minima are part of a lesser-of comparison with 13.5% of sound recording fees, as Google has proposed, it is likely that the percentage-of-sound-recording royalties prong will be lower than the all-in per-subscriber prong.

79. Different types of plans may be designed to attract subscribers with different levels of willingness to pay for streaming (or other services). Basing the royalty on a percentage of subscriber revenue makes sense when the relative contributions of the publishing rights and the music service providers to attracting a subscriber is roughly the same regardless of the plan the subscriber chooses. If anything, the contribution of the publishing right may be relatively smaller for a subscriber who was enticed only by a new limited plan and would not otherwise have subscribed to the existing unlimited plan (because such a subscriber is a less "intense" music listener with lower WTP for streaming). Changing the all-in per-subscriber minimum royalty to be equal to 10.5% of the lowest reasonable subscription plan price would provide for a reasonable all-in per-subscriber minimum that would protect copyright owners from arguably too-low per-subscriber royalties. Consistent with this concept, under the existing statutory royalty structure, the per-subscriber minima for lower-priced services like locker services are set to lower levels than for streaming.

c. Mechanical-Only Per-Subscriber Royalty Floor

80. Many of the music service provider licenses that I have reviewed in this matter were all-in licenses that conveyed all required rights in musical works. For example, all of Google's Google Play Subscription and Locker Music Services licenses were all-in licenses. When mechanical and public performance rights are bundled together, as they were in these licenses, the deduction of the public performance royalties in the Section 385 Subparts B and C royalty calculations become unnecessary. Similarly, the application of a mechanical-only per-subscriber

royalty floor for certain services covered in the Section 385, Subpart B royalty calculation also becomes unnecessary since the licenses do not cover only mechanical rights and the publishers are free to allocate as they see fit.

81. As discussed above, the agreements reflect the parties' revealed preference for a fixed all-in rate that the service pays to publishers/songwriters for the combination of mechanical and public performance rights, regardless of how the publishers/songwriters divide the all-in rate between the two types of rights. In particular, the all-in rate in these agreements does not change depending on what happens in the public performance rights marketplace. Accordingly, the exclusion of the mechanical–only per-subscriber royalty floor from the royalty calculation for Subpart B is economically appropriate.

VI. ANALYSIS OF THE RELEVANT ECONOMIC EVIDENCE PERTAINING TO § 801(b)(1)(A): TO MAXIMIZE THE AVAILABILITY OF CREATIVE WORKS TO THE PUBLIC

82. To an economist, "maximizing the availability of [musical] works to the public" has two aspects. First, the availability of existing musical works to consumers will be greater if there are a wider set of providers and mechanisms (including plans with different characteristics) through which consumers can access the works. Second, the availability of musical works to consumers will be greater to the extent that there are more musical works.

A. Greater Variety of Product Offerings and a Greater Number of Competing Service Providers

83. Consumers vary in their preferences not only over musical works themselves, but also in the methods by which they gain access to musical works. For example, some consumers prefer to listen to CDs, some prefer to download and listen to MP3s, some prefer to stream musical

works, and so on. Many consumers use a mix of these methods. Consumers also vary in the devices through which they listen to music, including mobile devices, PCs, and stereo equipment, and again many consumers use a mix of devices. Finally, consumers vary in the amount of time in which they listen to music.

84. The economics of "product differentiation" suggests that, when consumers vary in their preferences over product attributes, producers have the incentive to offer a variety of products with different sets of product attributes that appeal to different subsets of consumers.[136] Product variety is beneficial to consumers because each consumer has a number of different products from which to choose and thus can find a good match among the different products to his or her preferences.[137]

85. Music service providers have developed a number of different "product offerings" (often called "business models") that appeal to different types of consumers.[138] CDs are available from retailers, companies such as Pandora provide non-interactive streaming services, companies such as Spotify provide interactive streaming services, and companies like Google offer digital downloads as well as streaming services. Even within these broad categories, there is variety in product offerings. Spotify, for example, offers two types of streaming services — a free service with advertisements and a subscription service without advertisements.

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[136] See, generally, Jean Tirole, "Product Differentiation: Price Competition and Non-Price Competition," (Chapter 7), *The Theory of Industrial Organization*, MIT Press, 1988.

[137] If there are fixed costs associated with offering a product, it is possible that producers provide "too much" product variety from a social welfare point of view (the fixed costs incurred by the producers do not justify the gains to consumers from the additional variety). Id. However, consumers benefit from the overprovision of variety.

[138] From the music service provider's point of view, the offering of different products can also allow the sorting of customers into groups based on their WTP for, e.g., streaming. Different prices can be charged to the different groups of customers, which can increase the revenue that the music service provider can extract. This in turn can benefit the copyright owners.

86. Growth in the set of product offerings in the music service provider space appears likely to continue in the future. For example, Pandora will soon offer an interactive streaming service in addition to its non-interactive streaming service, and Amazon has forthcoming interactive streaming service that it plans to introduce. Providers may choose to offer additional types of subscription plans, such as a lower-priced subscription that may be limited in the amount of music that can be streamed or the number of devices used.

87. The substantial variety in the product offerings of musical service providers benefits consumers and leads to a greater availability of musical works because each consumer is more likely to find a product offering that is to his liking and therefore worth paying for. A consumer that prefers a free, advertising-supported non-interactive streaming service has several different options. A consumer that is willing to pay a fee for interactive streaming has a number of options. A consumer that prefers to one-stop shop at Amazon can do so. As a result, consumers consume more music.

88. The substantial variety in product offerings is the result of service providers determining that investing in developing greater product variety is worthwhile, i.e., that the expected returns from the investment are greater than the costs. The expected returns depend in part on the incremental total royalty costs associated with providing greater product variety to customers. As a general matter, higher royalty costs would be expected to cause a decrease in the number of product offerings (either through a decreased number of service providers that are able to pay the royalty costs and remain profitable, fewer product offerings from each service provider, or both) and, conversely, lower royalty costs would be expected to increase the number of product offerings. I understand that under the current rates (and the rates proposed by the copyright owners in this proceeding) it is likely that some interactive music streaming service providers

will have to exit the market due to an inability to achieve profitability.[139] Furthermore, I understand that many digital music services have already exited the market under the existing rate structure.[140]

89. Thus, from the point of view of "maximizing the availability of musical works to the public," an important consideration in setting the royalty rates are that they not be set at a level that would overly limit product variety by foreclosing reasonable product offerings.

90. The "availability" of a product is also greater when its price is lower, as more consumers will be willing to pay a lower price to obtain the product. Prices in a market tend to be lower the more competitors participate in the market. As noted above, at higher royalty rates, the number of musical service providers that can operate profitably may be lower. In addition to the adverse effects on product variety, a smaller set of competing music service providers may lead to higher prices. For example, Spotify likely places a competitive constraint on other music service providers, such as Apple. If royalty rates were set in a way such that Apple could pay the rates and remain in business while Spotify could not, consumers likely would be harmed, not only because of the loss of the Spotify product offerings, which some consumers may find preferable, but also because Apple may be able to increase the prices of its product offerings once it no longer faced competition from Spotify.

91. The evidence suggests that an increase in royalty payments for musical works would result in a decrease in the variety of product offerings. Thus, overall I conclude that consideration of the "availability" factor weighs against any increase from the current payment levels.

[139] Testimony of David B. Pakman, November 1, 2016, ¶¶ 29-30.

92. On the other hand, the current rates, and in particular the per-subscriber minimums, may render new types of product offerings economically infeasible. For example, a subscriber plan offered at a lower price, but with limitations on usage or devices, may not be economically feasible for service providers because the per-subscriber minimums would apply and would represent a large percentage of the subscriber fee. For a $5 per-subscriber plan, 10.5% of revenue would be less than the $0.80 per-subscriber minimum (for Subpart B Standalone Portable Subscriptions, Mixed Use), and a $0.80 royalty would represent 16% of revenue. Thus, a reduction in the $0.80 per-subscriber minimum likely would result in an increase in the variety of plan offerings. In this respect, Google's proposal to leave the per-subscriber minimum at current rates is conservative.

B. Set of Existing Musical Works

93. The second consideration with respect to the "availability of musical works" is the size of the set of existing musical works. A musical work has to have been created to be "available." Financial rewards, of which royalty payments are one form, likely play a role in songwriters' decisions to create compositions. This is one of the principal justifications for the recognition of copyrights in the United States.[141]

94. However, there is no evidence that the existing royalty structure has adversely affected the creation of compositions. The total number of affiliated songwriters, composers, and music publishers for the two largest PROs, ASCAP and BMI, increased steadily from 2004 to 2016 as shown in Exhibit 9. Additionally, the total number of musical compositions in the repertories of

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[140] Written Direct Testimony of Zahavah Levine, November 1, 2016, ¶¶ 16-17.

[141] *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349 (1991) ("The primary objective of copyright is not to reward the labor of authors, but '[t]o promote the Progress of Science and useful Arts.'").

ASCAP and BMI has similarly increased from 14.5 million in 2010 to over 20 million in 2015, as shown in Exhibit 10.

VII. ANALYSIS OF THE RELEVANT ECONOMIC EVIDENCE PERTAINING TO § 801(b)(1)(B): TO AFFORD THE COPYRIGHT OWNER A FAIR RETURN FOR HIS OR HER CREATIVE WORK AND THE COPYRIGHT USER A FAIR INCOME UNDER EXISTING ECONOMIC CONDITIONS

A. Benchmark Analysis for the Rates and Terms for the Section 115 Compulsory License

95. As previously discussed, I performed a benchmark analysis for the rates and terms for the Section 115 compulsory license that examined certain economic evidence including the current Section 385 Subpart A royalty rates for PDDs and existing license agreements. This type of evidence provides evidence useful in assessing "fair" outcomes for both the copyright owner and copyright user as contemplated under this Section 801(b)(1) factor. See Section IV for my conclusions from the benchmarking analysis. As discussed in the next section, the payment terms in the current compulsory license and the existing agreements may be overly favorable to the copyright owners given the lack of profitability for music service providers (and the decline in the Subpart A benchmark rate over time).

B. Digital Interactive Streaming Service Providers Have Had a History of Not Being Profitable

96. I understand, that since its inception, Google Play Music has not been profitable. This is despite the fact that its user base and its corresponding subscription revenue has grown continuously. For example, both Google Play Music's U.S. subscriber base and monthly subscription revenues have [redacted]. However, Google Play Music has incurred significant costs as well; these include, for example: investments to build the infrastructure

behind the Google Play Music service; variable costs such as music royalties paid to record companies and publishers; credit card fees, carrier fees, and customer support efforts; and other Google Play-related operating expenses that are not directly allocated down to a specific product such as the Google Play Subscription Service—such as payroll and marketing expenses—but are necessary for the music service to operate. As a result, I understand that the U.S. operations of Google Play Music have historically generated operating losses of [redacted] per quarter.[142]

97. It is also significant that despite its success and popularity, steadily increasing revenue, and overall reputation in the digital interactive music streaming industry, Spotify has not generated a profit. Costs have exceeded revenues, and a substantial portion of costs are made up by the licensing fees that Spotify pays to record labels and music publishers. In 2015, Spotify generated $2.2 billion in revenue and paid $1.8 billion, or 82% of its revenue, in licensing fees.[143] Spotify's overall losses were $206 million in 2015 compared to $184 million in 2014[144] (see Exhibit 4 for Spotify's historical revenues and net losses (in Euros) from 2009 to 2015). In an effort to increase profitability, Spotify has expanded into new businesses such as short videos and concert ticket promotions.[145]

98. It is still not clear whether the market can support the existing set of interactive music streaming companies, in part, due to the existing high licensing fees relative to revenues.[146]

[142] Written Direct Testimony of Elliot Alyeshmerni, November 1, 2016, ¶¶ 17-18.

[143] "Spotify Wants to Go Public Despite a History of Losses," Fortune, July 20, 2016.

[144] "Spotify's Financial Results Reinforce Just How Broken the Music Business Is," Fortune, May 24, 2016.

[145] "Spotify Wants to Go Public Despite a History of Losses," Fortune, July 20, 2016.

[146] Testimony of David B. Pakman, November 1, 2016, ¶¶ 25-26, 28-30; see also, "Massive Losses in Music Streaming Leave Industry Giants on Low Note," In The Black, June 1, 2016.

Tidal reportedly lost $28 million in 2015, despite a 30% year-over-year increase in revenue and reaching over 4 million paid subscribers.[147] Deezer, a growing European interactive streaming service provider with approximately 6 million subscribers, paid 84% of its revenue in licensing fees, is currently not profitable, and had to recently cancel a planned IPO.[148] Rhapsody, branded as Napster outside of the United States, had revenue of $202 million but lost $35.5 million in 2015. Samsung's Milk Music and JB Hi-Fi's Now streaming services in Australia have already closed down in 2016.[149] Furthermore, I understand that other music streaming services have recently shut down (e.g., Rara.com closed in March 2015 and in November 2015 Rdio filed for bankruptcy before being eventually acquired by Pandora).[150]

99. The lack of profitability among music service providers suggests that, if anything, the current statutory rates are overly favorable to copyright owners and that lower rates may be "fair."[151]

C. Profitability of the Music Publishers

100. I have analyzed the profitability of music publishers based on the financial documents received from the following music publishers: BMG. EMI, Sony/ATV, Kobalt, Universal, and Warner/Chappell.[152] These financial statements report data from 2010 to Q3 2016.[153]

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[147] "Jay Z's Music Streaming Service Tidal Posts Huge Loss in 2015," Wall Street Journal, September 13, 2016.

[148] "Deezer prospectus makes one thing clear: Streaming Music is a Terrible Business," Fortune, September 25, 2015; "Music Streaming Service Deezer Abandons IPO," Financial Times, October 28, 2015.

[149] "Massive Losses in Music Streaming Leave Industry Giants on Low Note," In The Black, June 1, 2016.

[150] Written Direct Testimony of Zahavah Levine, November 1, 2016, ¶ 17.

[151] An argument may be made that the services expect to be profitable eventually, otherwise they would go out of business and Spotify, for example, would not have positive market value. However, when considering the appropriate royalty rates for the next five years, the lack of current profitability is relevant and suggests that profitability is not imminent. This situation can, of course, be reevaluated in five years.

[152] I note that my analysis considers the U.S. operations of these music publishers, except for Kobalt, whose financial statements are on a worldwide basis.

Profitability was analyzed by operating margin and earnings before interest, taxes, depreciation, and amortization ("EBITDA").[154] Average EBITDA for each music publisher ranges from [redacted], with exception of [redacted], which reports an average EBITDA of [redacted] Average operating margin for each music publisher ranges from [redacted] except for [redacted], which reports an average operating margin of [redacted]

VIII. Analysis of the Relevant Economic Evidence Pertaining to § 801(b)(1)(C): To Reflect the Relative Roles of the Copyright Owner and the Copyright User in the Product Made Available to the Public With Respect To Relative Creative Contribution, Technological Contribution, Capital Investment, Cost, Risk, and Contribution to the Opening of New Markets for Creative Expression and Media for Their Communication

A. Benchmark Analysis for the Rates and Terms for the Section 115 Compulsory License

101. As previously discussed, I performed a benchmark analysis for the rates and terms for the Section 115 compulsory license. This type of evidence provides an appropriate division of the value created by the combination of the copyright owner's and copyright user's assets between the two parties as contemplated under this Section 801(b)(1) factor. See Section IV for my conclusions from the benchmark analysis. In general, the benchmarks, together with the lack of profitability of music service providers, tend to suggest that rates lower than the prevailing rates would appropriately divide the value between the copyright owner and user.

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[153] See Exhibits 5a-5f.

[154] Profitability for BMG was analyzed only by EBITDA as information on the company's depreciation and amortization expense was not reported.

B. Contributions of the Digital Interactive Streaming Service Providers

102. There have been a number of important developments in the music industry that have led to the rise of streaming in general, and digital interactive streaming services more specifically. In this section, I provide a timeline addressing some of the key events, product launches, and innovations that have contributed to the current success of digital interactive streaming services in terms of their use (e.g., number of streams) and popularity (e.g., number of users of streaming services).

103. In June 1999, Napster, the first widely used peer-to-peer ("P2P") file-sharing site, launched.[155] The service had 70 million users at its peak, before filing for bankruptcy in 2002. Napster shut down on July 1, 2001, after losing a protracted legal battle with the RIAA over copyright infringement. The music streaming site, Rhapsody, bought what was left of Napster in 2012, and now runs its (legal) business under the Napster brand.[156]

104. Napster was one of the first companies to use the P2P business model, with subsequent P2P examples being Uber and Airbnb.[157] It also offered an alternative to the established business model for music distribution: users could download songs they wanted (for free) on their computers instead of buying them from retailers; users could download individual tracks instead of buying whole albums; users could also find old songs that were no longer in production; and musicians could promote their work while bypassing record company gatekeepers.[158]

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[155] "15 Years After Napster: How the Music Service Changed the Industry," The Daily Beast, June 6, 2014; "Ashes to Ashes, Peer to Peer: An Oral History of Napster," Fortune, September 5, 2013.

[156] "Ashes to Ashes, Peer to Peer: An Oral History of Napster," Fortune, September 5, 2013; "Napster Files for Bankruptcy," CNN Money, June 3, 2002.

[157] "Ashes to Ashes, Peer to Peer: An Oral History of Napster," Fortune, September 5, 2013.

[158] "15 Years After Napster: How the Music Service Changed the Industry," The Daily Beast, June 6, 2014.

105. In April 2003, Apple launched the iTunes Music Store, which began the next year that Napster went bankrupt, with a relatively small catalogue of 200,000 songs. Unlike Napster, the iTunes Music Store had the support of the major record companies at that time. Unbundled singles sold for $0.99, and albums for $9.99. Buying songs on the iTunes Music Store quickly became a significant method to obtain music online, legally. The iTunes Music Store sold one million songs in the first week, and 50 million songs in its first year. By 2008, the iTunes Music Store had become the largest music retailer in the United States, and the largest worldwide just two years later in 2010.[159]

106. Apple broke up the record industry's long-standing, preferred product bundle, the album, and allowed customers to legally buy just the songs they wanted.[160]

> Indeed iTunes hacked away at the dominance of the album as a sales unit and simultaneously tapped into consumer desire to be more selective about the music they owned. Apple's business model brought back the single, which up until the early 1990s was one of the primary formats for the recording industry. The single all but vanished with the rise of the CD, and music fans were forced to pay for the entire albums to get the songs they wanted. Apple unbundled songs, sold them for less than a buck – and paved the way for the CD's eventual extinction.[161]

[159] "iTunes Store at 10: How Apple Built a Digital Media Juggernaut," The Verge, April 26, 2013; "Who Killed the Music Industry," Pando, August 5, 2013.

[160] "iTunes Store at 10: How Apple Built a Digital Media Juggernaut," The Verge, April 26, 2013.

[161] "iTunes Store at 10: How Apple Built a Digital Media Juggernaut," The Verge, April 26, 2013. "Jobs fought music executives hard on pricing. But in the end, the industry caved, desperate to convince a new generation raised on Napster to start paying for music, even if it was on Apple's terms. But by ceding pricing, the record companies lost control of their product. Now albums were back down to an affordable $9.99. Singles were $0.99. On top of that, virtually any song was available as a 'single,' not just the tracks chosen by the record label. Gone were the days of dropping $15 on one album for only a couple songs you liked…The data supports this consumer shift: Since 2004, when the RIAA began calculating digital sales, digitally-downloaded singles have outsold albums in terms of both revenue and units sold." ("Who Killed the Music Industry," Pando, August 5, 2013.)

107. After revenues for the music industry reached its apex in 1999, total music industry revenues fell sharply over the subsequent decade.[162] As illustrated in Exhibit 6a, between 2005 and 2010 total U.S. music industry revenues declined dramatically from $12.3 billion to $7.0 billion, a decline of approximately 43%. This decline in revenues was predominantly driven by the decline in revenues from CD sales, which were $10.5 billion in 2005 but decreased to $3.4 billion in 2010, a decline of approximately 68%. Exhibit 6a shows that between 2005 and 2010, CD unit sales declined from 705.4 million shipments to 253.0 million shipments, while Download Single unit sales increased from 366.9 million shipments to 1,177.4 million shipments. Therefore, between 2005 and 2010, the decline in total U.S. music industry revenues was a result, in large part, of consumers switching from purchasing more expensive CDs (albums) to relatively lower cost singles due to the unbundling of album sales and the rise of digital download services such as iTunes. Services such as iTunes enabled consumers to easily download single song tracks rather than purchase full CD albums, a factor which resulted in declining music industry revenue as the increased sales of single track songs were unable to offset losses from full album sales.[163] Furthermore, this decline in total U.S. music industry revenues occurred before on-demand music streaming services took off in the marketplace.

108. As also illustrated in Exhibit 6b, since 2010 total U.S. music industry revenues have remained relatively flat despite revenues from CD sales continuing to decline and revenues from Download Single sales remaining relatively flat. The reason that total U.S. music industry revenues have remained relatively constant since 2010 is because revenues from music streaming

[162] "U.S. Recorded Music Revenues by Format," The Recording Industry Association of America.

[163] Elberse, Anita, "Bye-Bye Bundles: The Unbundling of Music in Digital Channels," *Journal of Marketing* 74, no. 3 (May 2010), p. 108; "More Artists Steer Clear of iTunes," The Wall Street Journal, August 28, 2008; "Who

services—captured in categories including Paid Subscriptions, payments to SoundExchange, and free On-Demand Streaming[164]—have all increased substantially since 2010.[165]

109. Founded in 2006, Spotify is a commercial music streaming service. The Sweden-based startup launched in October 2008, enabling users to browse or search by artist, album, genre, playlist, or record label. With premium membership, users are able to remove advertisements, download music directly, listen offline, have unlimited skips, and enjoy higher quality audio.[166] The company has over 100 million users, of which 30 million are premium subscribers.[167] By comparison, Apple Music has 15 million paid subscribers and Pandora has 4 million paying subscribers and 80 million active users.[168]

110. In July 2011, Spotify launched in the United States.[169] Within one month of its release, Spotify had gained 1.4 million U.S. users.[170] Spotify has become the most successful interactive music streaming service (as measured by number of users) in the United States.[171] Spotify's inventive interface, allowing users to stream music instantaneously, and social media integration are both credited as reasons for its success. Spotify allows users to integrate their existing Facebook and Twitter accounts, enabling access to their friend's music and sending tracks and

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Killed the Music Industry," Pando, August 5, 2013; "A Decade of iTunes Singles Killed the Music Industry," CNN Money, April 25, 2013.

[164] "News and Notes on 2015 Mid-Year RIAA Shipment and Revenue Statistics," The Recording Industry Association of America, 2015.

[165] Exhibit 6c.

[166] Spotify," TechCrunch, September 20, 2016; "Go Premium," Spotify, September 20, 2016.

[167] "Spotify Wants to Go Public Despite a History of Losses," Fortune, July 20, 2016.

[168] "Spotify Wants to Go Public Despite a History of Losses," Fortune, July 20, 2016; "Spotify Has 100 Million Users But Apple Music Remains a Threat," Macworld, June 20, 2016.

[169] "Hello America. Spotify Here," Spotify News, July 14, 2011.

[170] "Spotify Gained 1.4 Million Users in a Month," Mashable, August 8, 2011.

[171] "Spotify's Financial Results Reinforce Just How Broken the Music Business Is," Fortune, May 24, 2016.

playlists.[172] Although other streaming services, such as MOG and Rhapsody, were available before Spotify's launch in the United States, these services had not garnered significant traction with consumers. Spotify, however, gave users complete control and access to songs on-demand along with free options to more than simple radio streaming. In addition, Spotify's ability to upload local tracks and its launch of a Pandora-style radio service positioned Spotify as a viable replacement for both iTunes as well as Pandora.[173] In 2012, the MIT Technology Review named Spotify as one of the 50 most "disruptive"[174] companies due to its success in negotiating with record labels to allow users access to a large music library and ability to download music for offline use.[175] Furthermore, in July 2015, Spotify launched its Discover Weekly feature enabling users to receive new 30-track playlists each week tailored to each user based on a machine-learning algorithm.[176] Discover Weekly quickly became one of Spotify's most successful features with over 40 million listeners in May 2016.[177] In 2015, Spotify's Android and iOS apps became the most popular music streaming apps in the world, according to information mobile app analytics company, App Annie.[178]

111. Companies such as Google and Amazon are striving to differentiate themselves from companies such as Spotify.[179]

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[172] "Spotify: The Next Step in Digital Music Innovation," Northwestern Business Review, January 3, 2012.

[173] "How Spotify Turned Free Music into a $10+ Billion Valuation," GrowthHackers.

[174] The term "disruptive" in this context has positive connotations for social welfare. A "disruptive" firm is one that introduces a new business model that displaces an older business model as a result of being more attractive to customers.

[175] "50 Disruptive Companies 2012," The MIT Technology Review, 2012.

[176] "Spotify's Discover Weekly: How It Works," The Guardian, August 1, 2016.

[177] "Why Spotify's Discover Weekly Is So Addictive," Vogue, May 30, 2016.

[178] "Spotify Has Become the World's Most Popular Music Streaming App," Variety, December 1, 2015.

[179] "Global Music Report: State of the Industry Overview 2016," IFPI, April 12, 2016.

112. One of Google Play Music's unique advantages is its human playlist curation. Google Play Music is arguably the best music-streaming service at predicting what listeners want to hear and personalizing playlist recommendations.[180] Google Play Music offers human-curated playlists based on your mood, activity, or the time of day.[181]

113. Google acquired Songza in July 2014 for [redacted].[182] Songza is a context-based music curation service and its technology was integrated into Google Play Music and rolled out on October 21, 2014. Songza co-founder and CEO, Elias Roman, and Google Play Music Project Manager, Brandon Bilinski, stated: "Each station has been handcrafted – song by song – by our team of music experts (dozens of DJs, musicians, music critics and ethnomusicologists) to give you the exact right song for the moment."[183]

114. Another unique feature of Google Play Music is its integration with other Google services. Google Play Music subscribers can store 50,000 tracks for free in the cloud as part of Google's locker service.[184] Google Play Music subscribers also get access to YouTube Red, which allows them to watch videos without ads, offline, in the background, and audio only through the YouTube Music app.[185]

115. Google makes substantial capital investments in its Google Play Music subscription service to differentiate its service offering from its competitors and to grow its music subscription service. These investments include: (1) investments in its free tier (including the

[180] "Google Might Have the Best Music App in the World," Business Insider, April 27, 2016.

[181] "It's Tuesday Morning, Play Music for a Bright, Sunshiny Day," Android Blog, October 21, 2014.

[182] Written Direct Testimony of Paul Joyce, November 1, 2016, ¶ 7.

[183] "It's Tuesday Morning, Play Music for a Bright, Sunshiny Day," Android Blog, October 21, 2014; "Google Might Have the Best Music App in the World," Business Insider, April 27, 2016.

[184] "Google Might Have the Best Music App in the World," Business Insider, April 27, 2016.

purchase of Songza) to grow the subscription funnel, which consists of the group of free users most likely to become future paying subscribers; (2) investments to grow the music catalog for the subscription service; (3) advertising resources to promote and market the subscription service and to build brand awareness, including using advertising inventory on other Google sites; and (4) investments in curation and playlist capabilities.[186]

116. Amazon's key advantage is the integration of its streaming music service, Amazon Prime Music, into Amazon Prime, the company's $99-per-year premium bundle of services.[187] Amazon's strategy has been to win over casual listeners with smaller WTP for music, who do not highly value having access to 30 million songs (Amazon's catalog is roughly 1 million songs), by offering bundled services at a lower price.[188] Over 63 million people in the United States have Amazon Prime memberships in 2016.[189] That gives Amazon's music service access to potential users that number more than double the 30 million subscribers to the current market leader, Spotify.[190]

117. One of Amazon's contributions to streaming is its bundling of services, which offers value to consumers.[191] For just $8.25 per month with annual subscription, Prime members get free two-day shipping (same day in over 20 cities), unlimited on-demand movies and TV shows

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[185] "What is YouTube Red?," YouTube Red FAQ, last accessed October 31, 2016.

[186] Written Direct Testimony of Paul Joyce**,** November 1, 2016, ¶¶ 7, 10-11.

[187] "Why You Should Give Amazon Prime Music a Second Chance," Make Use Of, February 17, 2016.

[188] "Amazon's Streaming Music Aims for More Casual Listeners," The New York Times, November 10, 2015.

[189] "Every Day Is Prime Day at Amazon," Bloomberg Gadfly, July 12, 2016.

[190] "Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.

[191] "Why You Should Give Amazon Prime Music a Second Chance," Make Use Of, February 17, 2016.

from Amazon Prime Video, unlimited cloud photo storage, free Kindle e-books, and Audible audio books.[192]

118. Furthermore, as the largest retailer of CDs and vinyl albums in the United States, Amazon leverages its data to offer relevant suggestions to listeners based on their listening and shopping habits.[193] Prime members can upload 250,000 songs from their own library for $25 a year.[194] Music purchases from the Amazon store do not count against that limit, and customers who buy physical records from Amazon will get a digital version put in their account for no extra charge, even retroactively. Amazon Prime Music users can also download unlimited tracks to their mobile devices for offline play.[195]

119. When a consumer subscribes to a streaming service, it is not only to obtain music, but also to obtain the convenience of the resulting method of access to music, plus the other features of the service, such as listening suggestions, curated playlists, or bundling with other products or services. The method of access and features are provided by the services, which have and will continue to bear substantial costs in the necessary infrastructure as well as the development and improvement of features. Ultimately, the services must earn a return on these costs or they will exit the business. The copyright owners have benefited from the existence of the services, just as the services have benefited from having music to stream. The copyright owners on their own could not, for example, create their own streaming service from scratch that would match that of

[192] "Why You Should Give Amazon Prime Music a Second Chance," Make Use Of, February 17, 2016. Amazon prime membership costs $10.99 per month with monthly subscription. "Amazon Prime," Amazon.com, last accessed October 5, 2016.

[193] "New Amazon Music Streaming Service Costs Echo Speaker Owners $4 a Month," Nasdaq, October 12, 2016.

[194] "Why You Should Give Amazon Prime Music a Second Chance," Make Use Of, February 17, 2016.

[195] "I'm Obsessed With a Music Streaming Service Millions of People Probably Don't Know They Can Use For Free," Business Insider, May 16, 2015.

Google or Spotify without incurring substantial time and expense. Yet, revenues from the streaming services have been an important source of revenue to copyright owners that were otherwise experiencing a decline in revenue streams (for reasons including piracy). By offering a wide variety of business models and plans, streaming services have been successful to expanding revenues and subscribers beyond what otherwise would have occurred.[196]

IX. ANALYSIS OF THE RELEVANT ECONOMIC EVIDENCE PERTAINING TO § 801(b)(1)(D): TO MINIMIZE DISRUPTIVE IMPACT ON THE STRUCTURE OF THE INDUSTRIES INVOLVED AND ON GENERALLY PREVAILING INDUSTRY PRACTICES

A. Meaning of "Disruption"

120. I understand that in the November 24, 2008 ruling for Section 385, Subpart A, the Copyright Royalty Judges noted that a new mechanical royalty rate may be considered to be disruptive "if it directly produces an adverse impact that is substantial, immediate and irreversible in the short-run because there is insufficient time for [the parties impacted by the rate] to adequately adapt to the changed circumstances produced by the rate change and, as a consequence, such adverse impacts threaten the viability of the music delivery system currently offered to customers under this license."[197]

B. Google's Proposal Is Not Disruptive

121. Google's proposal is not disruptive because it moves only incrementally from the terms of the existing Section 115 compulsory license. Under Google's proposal, the basic structure would remain the same, with all-in rates and all-in minimums remaining substantially the same

[196] See also Testimony of David B. Pakman, November 1, 2016, ¶ 39 for additional discussion of the technological contributions and service innovations made by service providers.

[197] Final Determination of the Rates and Terms, Mechanical and Digital Phonorecord Delivery Rate Determination Proceeding, Docket No. 2006-3 CRB DPRA (November 24, 2008), p. 58.

as current levels. Google proposes three changes. First, certain types of expenses, such as credit card processing fees, would be allowed to be deducted from revenues (while maintaining the 15% cap on such expenses), which would serve to address the existing imbalance in the size of the payments that favors copyright owners. Second, the percentage-of-sound-recording-fee minimum would be adjusted to bring it into line with the ratio suggested by the proposed Subpart A settlement. Third, the mechanical rights fee floor would be eliminated given that the division of the all-in rate between mechanical and public performance rights has no economic relevance and that voluntary agreements have negotiated an all-in rate that is fixed and not subject to changes in the public performance marketplace.

C. A Substantial Increase in Royalties Would Disrupt Streaming Services

122. As discussed above, the evidence demonstrates that streaming services, such as Google Music and Spotify, have not been profitable to date. While Spotify has been estimated to have an enterprise value of several billion dollars, this valuation is based on the assumption that Spotify will be profitable in the future despite its current lack of profitability. Other streaming services similarly remain in business despite a lack of current profitability because they expect to generate a profit in the future. Forecasts of future profitability, in turn, likely are based, either explicitly or implicitly, on the assumption that the structure and level of the compulsory license royalty rates will remain roughly the same (or perhaps decrease) over time.

123. Music copyright royalties represent the major component of the costs of providing a streaming service. Thus, if payments under Section 115 increased, forecasts of the future profitability of streaming services could be revised downward. With a large enough adverse effect on profitability forecasts, a service may decide to shut down. In fact, the evidence

(including the rates suggested by the digital download musical works rate and the lack of streaming service profitability) suggests that a lower level of rates would be justified.

D. A Shift to Per Stream Royalties Would Disrupt Streaming Services

124. A change to the structure of the royalties under the compulsory license, e.g., a shift from the current percentage of revenue with per-subscriber minimums to per-stream royalty rates, likely would also cause substantial disruption to streaming services. The subscription streaming services provided by companies such as Spotify and Google offer "all you can eat" plans, where subscribers pay a fixed monthly fee and then choose the desired amount of streaming. Under the current royalty structure, in which the royalty is based on a percentage of the subscriber fee (subject to minimums), the royalty, like the subscriber fee, is a fixed amount per subscriber. This gives the service certainty about both its revenues and a major cost component on a per-subscriber basis. If the royalty structure were changed to a per-stream basis, on the other hand, the royalty cost component on a per-subscriber basis would be uncertain because it would depend on the amount of usage of the subscribers. Moreover, with per-stream royalties, services would have the incentive to minimize their costs by taking measures to limit usage by each subscriber, including possibly imposing usage limits. This incentive could even result in services themselves starting to charge users on a per-stream basis, which would also tend to limit usage. Changes in service business models that led to reduced usage would be inconsistent with the 801(1)(A) "availability" factor. In any event, the result would likely be a substantial disruption to the way streaming services operate and to the consumers who use those services.

125. Streaming services that rely on advertisements to generate revenue likely would face similar disruption from a change to per-stream royalties. Currently, there is a direct link between

the generation of revenues (advertisements) and the royalty cost component (a percentage of advertising revenues). With per-stream royalties, that link would be broken and would create additional risks for the provider. Here also, a per-stream royalty structure would give providers the incentive to take measures to limit usage to decrease their royalty costs. These changes would disrupt both providers and users. Moreover, per-stream royalties would raise barriers to entry faced by new ad-based services, because a new entrant likely would have to incur substantial royalty costs over a period of time before they were able to gain enough subscribers to generate ad revenues.

E. Changing the Regulatory "Rules of the Game" Would Increase Uncertainty, Disrupting Service Providers' Future Investment Decisions

126. There are further implications of the fact that existing music service providers have previously made sunk cost investments in their businesses with the reasonable expectation that the regulatory "rules of the game" (i.e., the form and level of the royalty rates for the compulsory license) would not change substantially over time. By their nature, sunk cost investments cannot be undone, even if the "rules of the game" change and the investments would no longer make economic sense under the new rules. While a service provider in such a situation might choose to continue in the business despite the higher royalty rates (because the investments are already sunk), it would not earn the return it had expected on those investments. Moreover, service providers would be deterred from making future investments due to increased uncertainty regarding the regulatory rules of the game (having been changed once already) and the associated danger of having the rules change after sunk cost investments have been made.

127. Songwriters may have made investments in the development of their musical works. These investments would generally be time spent composing the works, and the cost would be

the opportunity cost of the composer's time. Songwriters may also have made their investment decisions on the basis of the existing regulatory framework.

128. As a general matter, the consideration of the "disruption" factor suggests that any departures from the status quo should be small. Google's proposal is consistent with this.

F. A Service Provider May Use the Regulatory Process to Disrupt and Weaken Its Rivals

129. A further consideration under the "disruption" factor is whether one service provider may attempt to manipulate the regulatory process to weaken its rivals. A service provider may propose a rate structure or level that would relatively disadvantage the particular type of business model used by its rivals. For example, Spotify, given its pure-play streaming business model, may find it difficult to achieve profitability under the per-stream rate structure proposed by Apple. Apple, on the other hand, given the fact that a user of its music streaming service may also use other Apple services, leading to several sources of revenue and profits for Apple, may be able to be profitable as a whole under the per-stream structure even if its music service is not profitable.[198] If Spotify were weakened, or even forced to exit, under a per-stream structure, Apple would benefit from the decrease in competition it faced. Consumers, on the other hand, would be harmed both from the reduction in product variety and, potentially, an increase in the prices charged by Apple and other remaining service providers.

130. The competition between Apple and Spotify over the past few years has become more direct and aggressive. In June 2013, Apple launched iTunes Radio, an ad-supported (ad-free for iTunes Match users) online streaming music radio service that is free for all users.[199] iTunes

[198] Testimony of David B. Pakman, November 1, 2016, ¶ 29, FN 17.

[199] "iTunes Radio vs. The Competition: Which One Should You Use?," iMore, June 11, 2013.

Radio directly challenged similar services such as Pandora and Spotify's custom radio feature and made rapid gains since its launch.[200] In June 2015, after acquiring Beats (which previously had acquired MOG), Apple Music made its worldwide debut, and shortly after that Apple ended access to iTunes Radio.[201] Apple Music and Spotify are differentiated in increasingly narrow ways, and both can be trialed for three months without much investment. Spotify may be preferred by many consumers, even iOS users.[202]

131. After Apple Music launched, Spotify became more aggressive about encouraging users to pay for the service outside of iTunes. In the fall of 2015, Spotify started a promotional campaign and offered new subscribers three months of music streaming for $0.99 if they signed up via Spotify's own site. In June 2016, Spotify stopped advertising the promotion due to Apple's threat to remove the Spotify app from the Apple Store unless Spotify stopped advertising the promotion to iPhone users, and Spotify also turned off its Apple Store billing option.[203] Spotify has recently accused Apple of blocking an update to its Spotify app unless Spotify uses Apple's billing system in order to push customers towards Apple.[204] Clearly, Apple would stand to gain if Spotify, or other pure-play services, were forced to leave the market.

[200] "iTunes Radio: Apple Reveals Spotify Rival – And Says It Will Be Free to iPhone and iPad Users," The Guardian, June 11, 2013; "Media Review: Music Streaming Services Market Profile," Clearvoice Research (2014).

[201] "Introducing Apple Music – All The Ways You Love Music. All in One Place," Apple Press Info, June 8, 2015; "Free iTunes Radio Closes Shop," The International Business Times, January 29, 2016.

[202] "Apple Music or Spotify – Which Is Better?" iMore, July 1, 2016.

[203] "Spotify Says Apple Won't Approve A New Version of Its App Because It Doesn't Want Competition For Apple Music," Recode, June 30, 2016.

[204] "Spotify Accuses Apple of Stymying Competition by Halting App," Bloomberg Technology, June 30, 2016.

Gregory K. Leonard

Dated: November 1, 2016

Appendix A

GREGORY K. LEONARD

Gregory K. Leonard is a Partner at Edgeworth Economics specializing in applied microeconomics and econometrics.

Dr. Leonard has written widely in the areas of antitrust, industrial organization, econometrics, intellectual property, class certification, and labor economics. His publications have appeared in the *RAND Journal of Economics*, the *Journal of Industrial Economics*, the *Journal of Econometrics*, the *International Journal of Industrial Organization*, the *Journal of Public Economics*, *Annales Economie et de Statistique*, the *Journal of Labor Economics*, the *International Journal of the Economics of Business*, *Antitrust Law Journal*, *Antitrust*, *Antitrust Source*, the *Journal of Economic Analysis & Policy*, *Journal of Competition Law and Economics*, the *Journal of Economic Surveys*, *法学家 (Jurists' Review)*, *Antitrust Chronicle*, the *Berkeley Technology Law Journal*, the *Columbia Science and Technology Law Review*, the *European Competition Law Review*, *les Nouvelles*, *Landslide*, *Managing Intellectual Property*, *Legal Issues of Economic Integration*, *Kokusai Shoji Houmu (International Business Law and Practice)*, and the *George Mason Law Review*. Dr. Leonard authored two chapters and co-authored another chapter in the American Bar Association Section of Antitrust Law (ABA) volume *Econometrics* (2nd Ed., 2014), co-authored two chapters in the ABA volume *Issues in Competition Law and Policy*, and co-authored the "Econometrics and Regression Analysis" chapter of the ABA volume *Proving Antitrust Damages* (2nd Ed., 2010). He co-edited *Economic Approaches to Intellectual Property: Policy, Litigation, and Management* and authored or co-authored three of its chapters. One of these chapters (co-authored with Lauren J. Stiroh) was cited by the Court of Appeals for the Federal Circuit in its *Uniloc* decision. Dr. Leonard is a Senior Editor of the *Antitrust Law Journal* and has served as a referee for numerous economics journals.

Dr. Leonard was invited to speak on merger simulation at the 2004 US Department of Justice and Federal Trade Commission (FTC) Merger Workshop, the econometrics of evaluating competition in local retail markets at the 2008 FTC Retail Mergers Workshop, and the calculation of patent damages at the 2009 FTC Hearings on the Evolving IP Marketplace. The 2011 FTC report resulting from the latter hearings cited Dr. Leonard extensively. In 2005, Dr. Leonard served as a consultant on the issue of immunities and exemptions to the Antitrust Modernization Commission (AMC), which was tasked by Congress and the President with developing recommendations for changes to the US antitrust laws. He testified before the AMC in December 2005. Dr. Leonard gave an invited presentation on the use of natural experiments in antitrust at the European Commission's Directorate General for Competition (DG Comp) in 2014.

Dr. Leonard has extensive experience with international antitrust and intellectual property issues, particularly in Asia. He has been retained by the Anti-Monopoly Bureau of China's Ministry of Commerce (MOFCOM) as an outside economics expert to assist in merger reviews. Dr. Leonard has given invited presentations at MOFCOM, the Supreme People's Court of China, Renmin University, the Chinese Academy of Social Sciences, and the University of Political Science and Law. He was a member of ABA and US Chamber of Commerce delegations to joint workshops with the Chinese antitrust agencies, MOFCOM, NDRC, and SAIC, and served on the working groups of the ABA's Sections of Antitrust Law and International Law that prepared comments on MOFCOM's and SAIC's draft regulations. Dr. Leonard has also given presentations to the Japan Fair Trade Commission and the India Competition Commission.

Dr. Leonard has experience in a broad range of industries, including pharmaceuticals, telecommunications, airlines, semiconductors, hedge funds, securities, commercial and recreational fishing, medical devices, professional sports, credit card networks, payment systems, information services, computer software, computer hardware, chemicals, plastics, flat glass, retailing, advertising, beef processing, fertilizers, printing, petroleum, steel, beer, cereals, cosmetics, athletic apparel, film, milk, canned fish, vitamins, animal feed supplements, tissue, paperboard, industrial gas, concrete, automobiles, contact lens cleaners, sports beverages, soft drinks, diapers, tobacco products, graphite and carbon products, and modems, among others.

Dr. Leonard has provided written and oral testimony and presentations before federal and state courts, government agencies, and arbitration panels on issues involving antitrust, damages estimation, statistics and econometrics, surveys, valuation, and labor market discrimination.

Prior to joining Edgeworth, Dr. Leonard was a Senior Vice President at NERA and Lexecon Inc., a founding member and Director of Cambridge Economics, Inc., and an Assistant Professor at Columbia University, where he taught statistics, econometrics, and labor economics.

Dr. Leonard received an Sc.B. in Applied Mathematics-Economics from Brown University and a Ph.D. in Economics from the Massachusetts Institute of Technology, where he was a National Science Foundation Graduate Fellow and an Alfred P. Sloan Foundation Fellow.

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PAPERS AND PUBLICATIONS

"A Proposed Method for Measuring Competition Among Imperfect Substitutes," *Antitrust Law Journal* 60, 1992, pp. 889-900 (with J. Hausman and D. Zona).

"Issues in the Contingent Valuation of Environmental Goods: Methodologies for Data Collection and Analysis," in *Contingent Valuation: A Critical Assessment*, Ed. by J. A. Hausman, North Holland Press, 1993 (with D. McFadden).

"Assessing Use Value Losses Due to Natural Resource Injury," in *Contingent Valuation: A Critical Assessment*, ed. by J. A. Hausman, North Holland Press, 1993 (with J. Hausman and D. McFadden).

"Does Contingent Valuation Measure Preferences? Experimental Evidence," in *Contingent Valuation: A Critical Assessment*, ed. by J. A. Hausman, North Holland Press, 1993 (with P. Diamond, J. Hausman, and M. Denning).

"Competitive Analysis with Differentiated Products," *Annales d'Economie et de Statistique* 34, 1994, pp. 159-180 (with J. Hausman and D. Zona).

"A Utility Consistent, Combined Discrete Choice and Count Data Model: Assessing Recreational Use Losses Due to Natural Resource Damage," *Journal of Public Economics* 56, 1995, pp. 1-30 (with J. Hausman and D. McFadden).

"Market Definition Under Price Discrimination," *Antitrust Law Journal* 64, 1996, pp. 367-386 (with J. Hausman and C. Vellturo).

"Achieving Competition: Antitrust Policy and Consumer Welfare," *World Economic Affairs* 1, 1997, pp. 34-38 (with J. Hausman).

"Economic Analysis of Differentiated Products Mergers Using Real World Data," *George Mason Law Review* 5, 1997, pp. 321-346 (with J. Hausman).

"Superstars in the NBA: Economic Value and Policy," *Journal of Labor Economics* 15, 1997, pp. 586-624 (with J. Hausman).

"Efficiencies From the Consumer Viewpoint," *George Mason Law Review* 7, 1999, pp. 707-727 (with J. Hausman).

"Documents Versus Econometrics in Staples," contributed to www.antitrust.org, also available at www.nera.com (with J. Hausman).

"The Competitive Effects of a New Product Introduction: A Case Study," *Journal of Industrial Economics* 30, 2002, pp. 237-263 (with J. Hausman).

"Does Bell Company Entry into Long-Distance Telecommunications Benefit Consumers?" *Antitrust Law Journal* 70, 2002, pp. 463-484 (with J. Hausman and J. G. Sidak).

"On Nonexclusive Membership in Competing Joint Ventures," *RAND Journal of Economics* 34, 2003 (with J. Hausman and J. Tirole).

"Correcting the Bias When Damage Periods are Chosen to Coincide With Price Declines," *Columbia Business Law Review*, 2004, pp. 304-306 (with D. Carlton).

"Competitive Analysis Using a Flexible Demand Specification," *Journal of Competition Law and Economics* 1, 2005, pp. 279-301 (with J. Hausman).

"Using Merger Simulation Models: Testing the Underlying Assumptions," *International Journal of Industrial Organization* 23, 2005, pp. 693-698 (with J. Hausman).

"Application of Empirical Methods in Merger Analysis," report to the Fair Trade Commission of Japan, June 27, 2005 (with C. Dippon and L. Wu).

"A Practical Guide to Damages," in *Economic Approaches to Intellectual Property, Policy, Litigation and Management*, ed. by G. Leonard and L. Stiroh, 2005 (with L. Stiroh).

"Applying Merger Simulation Techniques to Estimate Lost Profits Damages in Intellectual Property Litigation," in *Economic Approaches to Intellectual Property, Policy, Litigation and Management*, ed. by G. Leonard and L. Stiroh, 2005.

"Antitrust Implications of Pharmaceutical Patent Litigation Settlements," in *Economic Approaches to Intellectual Property, Policy, Litigation and Management*, ed. by G. Leonard and L. Stiroh, 2005 (with R. Mortimer).

"Framework for Policymakers to Analyze Proposed and Existing Antitrust Immunities and Exemptions," report to the Antitrust Modernization Commission, October 24, 2005 (with D. Bush and S. Ross).

"Real Options and Patent Damages: The Legal Treatment of Non-Infringing Alternatives and Incentives to Innovate," *Journal of Economic Surveys* 20, 2006, pp. 493-512 (reprinted in *Economic and Legal Issues in Intellectual Property*, M. McAleer and L. Oxley, eds., Blackwell Publishing, 2007) (with J. Hausman).

"The Competitive Effects of Bundled Discounts," in *Economics of Antitrust: Complex Issues in a Dynamic Economy*, ed. by L. Wu, 2007.

"Estimation of Patent Licensing Value Using a Flexible Demand Specification," *Journal of Econometrics* 139, 2007, pp. 242-258 (with J. Hausman).

"Patent Damages and Real Options: How Judicial Characterization of Non-Infringing Alternatives Reduces Incentives to Innovate," *Berkeley Technology Law Journal* 22, Spring 2007, pp. 825-853 (with J. Hausman and J. G. Sidak).

"Don't Feed the Trolls," *les Nouvelles*, Vol. 42, September 2007, pp. 487-495 (reprinted in *Patent Trolls: Legal Implications*, C.S. Krishna, ed., The Icfai University Press, 2008) (with J. Johnson, C. Meyer, and K. Serwin).

"Are Three to Two Mergers in Markets with Entry Barriers Necessarily Problematic?" *European Competition Law Review* 28, October 2007, pp. 539-552 (with N. Attenborough and F. Jimenez).

"Economics and the Rigorous Analysis of Class Certification in Antitrust Cases," *Journal of Competition Law and Economics* 3, 2007, pp. 341-356 (with J. Johnson).

"Assessing the Competitive Effects of a Merger: Empirical Analysis of Price Differences Across Markets and Natural Experiments," *Antitrust*, Fall 2007, pp. 96-101 (with L. Wu).

"Incentives and China's New Antimonopoly Law," *Antitrust*, Spring 2008, pp. 73-77 (with F. Deng).

"Use of Simulation in Competitive Analysis," in *Issues in Competition Law and Policy*, ed. by W. Dale Collins, 2008 (with J.D. Zona).

"Allocative and Productive Efficiency," in *Issues in Competition Law and Policy*, ed. by W. Dale Collins, 2008 (with F. Deng).

"In the Eye of the Beholder: Price Structure as Junk Science in Antitrust Class Certification Proceedings," *Antitrust*, Summer 2008, pp. 108-112 (with J. Johnson).

"Merger Retrospective Studies: A Review," *Antitrust*, Fall 2008, pp. 34-41 (with G. Hunter and G. S. Olley).

"Roundtable Discussion: Developments—and Divergence—In Merger Enforcement," *Antitrust*, Fall 2008, pp. 9-27.

"Dispatch From China," *Antitrust*, Spring 2009, pp. 88-89.

"A Hard Landing in the Soft Drink Market – MOFCOM's Veto of the Coca-Cola/Huiyuan Deal," *Antitrust Chronicle*, April 2009(2) (with F. Deng and A. Emch).

"Predatory Pricing after *linkline* and *Wanadoo*," *Antitrust Chronicle,* May 2009(2) (with A. Emch).

"Farrell and Shapiro: The Sequel," *Antitrust*, Summer 2009, pp. 14-18 (with M. Lopez).

"掠夺性定价—美国与欧盟的法律及经济学分析" ("Predatory Pricing - Economics and Law in the United States and the European Union"), **法学家** (*Jurists' Review)*, 2009, pp. 100-110 (with A. Emch).

"Revising the Merger Guidelines: Second Request Screens and the Agencies' Empirical Approach to Competitive Effects," *Antitrust Chronicle,* December 2009(1) (with L. Wu).

"How Private Antitrust Litigation May Be Conducted in China," *Competition Law360*, January 6, 2010 (with F. Deng and W. Tang).

"Merger Screens: Market-Share Based Approaches and 'Upward Pricing Pressure,'" *Antitrust Source*, February 2010 (with E. Bailey, G. S. Olley, and L. Wu).

"Minimum Resale Price Maintenance: Some Empirical Evidence From Maryland," *BE Journal of Economic Analysis & Policy* 10, 2010 (with E. Bailey).

"Three Cases Reshaping Patent Licensing Practice," *Managing Intellectual Property*, March 2010 (with E. Bailey and A. Cox).

"Econometrics and Regression Analysis," in *Proving Antitrust Damages: Legal and Economic Issues*, ABA Section of Antitrust (2nd Edition), 2010 (with J. Langenfeld, W. Li, and J. Morris).

"Patent Damages: What Reforms Are Still Needed?," *Landslide* 2, May/June 2010 (with M. Lopez).

"The Google Books Settlement: Copyright, Rule 23, and DOJ Section 2 Enforcement," *Antitrust*, Summer 2010, pp. 26-31.

"The 2010 Merger Guidelines: Do We Need Them? Are They All We Need?," *Antitrust Chronicle*, October 2010(2).

"Evaluating the Unilateral Competitive Effects of Mergers Among Firms with High Profit Margins," *Antitrust*, Fall 2010, pp. 28-32 (with E. Bailey and L. Wu).

"Predatory Pricing in China—In Line With International Practice?," *Legal Issues of Economic Integration* 37, 2010, pp. 305-316 (with A. Emch).

"What Can Be Learned About the Competitive Effects of Mergers From 'Natural Experiments'?," *International Journal of the Economics of Business* 18, 2011, pp. 103-107 (with G. S. Olley).

"District Court Rejects the Google Books Settlement: A Missed Opportunity?," *Antitrust Source*, April 2011.

"Making Sense of 'Apportionment' in Patent Damages," *Columbia Science and Technology Law Review* 12, pp. 255-271, 2011 (with E. Bailey and M. Lopez).

"Rigorous Analysis of Class Certification Comes of Age," *Antitrust Law Journal* 77, 2011, pp. 569-586 (with J. Johnson).

"Economic Analysis in Indirect Purchaser Class Actions," *Antitrust*, Fall 2011, pp. 51-57 (with F. Deng and J. Johnson).

"Merger Assessment and Frontier of Economic Analyses (4): Empirical Methods in Antitrust Merger Review," *Kokusai Shoji Houmu (International Business Law and Practice)*, Vol. 40, No. 3, 2012, pp. 391-401 (with L. Wu)

"Merger Assessment and Frontier of Economic Analyses (5): Empirical Methods in Antitrust Merger Review," *Kokusai Shoji Houmu (International Business Law and Practice)*, Vol. 40, No. 4, 2012, pp. 557-564 (with L. Wu).

"Merger Assessment and Frontier of Economic Analyses (6): Empirical Methods in Antitrust Merger Review," *Kokusai Shoji Houmu (International Business Law and Practice)*, Vol. 40, No. 5, 2012, pp. 731-739 (with L. Wu).

"Economists' Roundtable on Hot Patent-Related Antitrust Issues", *Antitrust*, Summer 2013, pp. 10-21 (with D. Carlton, C. Meyer, C. Shapiro).

"Not So Natural Experiments," *Competition Policy International*, July 2013 (2).

"The Role of China's Unique Economic Characteristics in Antitrust Enforcement," in *China's Anti-Monopoly Law: The First Five Years*, ed. by Adrian Emch and David Stallibrass, 2013 (with F. Deng).

"Reflections on Bazaarvoice," *CPI Antitrust Chronicle*, March 2014 (1) (with P. Normann).

"An Introduction to Econometric Analysis," in *Econometrics: Legal, Practical and Technical Issues*, ABA Section of Antitrust (2nd Edition), 2014.

"The Econometric Framework," in *Econometrics: Legal, Practical and Technical Issues*, ABA Section of Antitrust (2nd Edition), 2014.

"Applying Econometrics to Estimate Damages," in *Econometrics: Legal, Practical and Technical Issues*, ABA Section of Antitrust (2nd Edition), 2014 (with J. Langenfeld, W. Li, and J. Morris).

"Determining RAND Royalties for Standard-Essential Patents," *Antitrust*, Fall 2014, pp. 86-94 (with M. Lopez).

"Reflections on the Debates Surrounding Standard-Essential Patents," *The Antitrust Source*, August 2015.

"Turning Daubert on Its Head: Efforts to Banish Hypothesis Testing in Antitrust Class Actions," *Antitrust*, Spring 2016, pp. 53-59.

"A Comparison of the Almost Ideal Demand System and Random Coefficients Logit Models For Use with Retail Scanner Data," NERA Working Paper, 2007 (with F. Deng).

PRESENTATIONS

"Merger Analysis with Differentiated Products," paper presented to the Economic Analysis Group of the US Department of Justice, April 1991 (with J. Hausman and D. Zona).

"Assessing Use Value Losses Due to Natural Resource Injury," paper presented at "Contingent Valuation: A Critical Assessment," Cambridge Economics Symposium, April 3, 1992 (with J. Hausman and D. McFadden).

"Contingent Valuation and the Value of Marketed Commodities," paper submitted to the Contingent Valuation Panel of the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, August 12, 1992 (with J. Hausman).

"Economic Analysis of Differentiated Products Mergers Using Real World Data," paper presented to the George Mason University Law Review Antitrust Symposium, October 11, 1996 (with J. Hausman).

"Documents Versus Econometrics in Staples," paper presented to a program of the Economics Committee of the ABA Antitrust Section, September 5, 1997 (with J. Hausman).

Discussant, "New Developments in Antitrust" session, AEA meetings, January 7, 2000.

"In Defense of Merger Simulation," Department of Justice and Federal Trade Commission Merger Workshop, Unilateral Effects Session, February 18, 2004.

Discussant, "Proving Damages in Difficult Cases: Mock Trial & Discussion," NERA Antitrust & Trade Regulation Seminar, July 10, 2004.

"Network Effects, First Mover Advantage, and Merger Simulation in Damages Estimation," LSI Workshop on Calculating and Proving Patent Damages, July 16, 2004.

"Early Exchange of Documents," LSI Workshop on Pre- and Early Stage Patent Litigation, July 23, 2004.

"Lessons Learned From Problems With Expert Testimony: Antitrust Suits," LSI Workshop on Effective Financial Expert Testimony, November 4, 2004.

"Price Erosion and Convoyed Sales," LSI Workshop on Calculating & Proving Patent Damages, January 19, 2005.

"Economic Analysis of Rule 23(b)(3)," LSI Litigating Class Action Suits Conference, June 6, 2005.

"Early Exchange of Documents," LSI Workshop on Pre- & Early-Stage Patent Litigation, July 22, 2005.

"Issues to Consider in a Lost Profits Damages Analysis," Patent Litigation 2005, Practicing Law Institute, September 30, 2005.

"Antitrust Issues in Standard Setting and Patent Pools," Advanced Software Law and Practice Conference, November 3, 2005.

"New Technologies for Calculating Lost Profits," LSI Workshop on Calculating & Proving Patent Damages, February 27, 2006.

"Estimating Antitrust Damages," Fair Trade Commission of Japan, April 21, 2006.

"Economic Analysis of Rule 23(b)(3)," LSI Litigating Class Action Suits Conference, May 11, 2006.

"Permanent Injunction or Damages: What is the Right Remedy for Non-Producing Entities?," San Francisco Intellectual Property Law Association/Los Angeles Intellectual Property Law Association Spring Seminar, May 20, 2006.

"Antitrust Enforcement in the United States" and "Economic Analysis of Mergers," Sino-American Symposium on the Legislation and Practice of Anti-Trust Law, Beijing Bar Association, Beijing, People's Republic of China, July 17, 2006.

"Economic Analysis in Antitrust," Chinese Academy of Social Sciences, Beijing, People's Republic of China, July 20, 2006.

"Issues to Consider in a Lost Profits Damages Analysis," Patent Litigation 2006, Practicing Law Institute, September 26, 2006.

"Comparison of the Almost Ideal Demand System and Random Coefficient Models for Use With Retail Scanner Data," Pacific Rim Conference, Western Economic Association, Beijing, People's Republic of China, January 12, 2007 (with F. Deng).

Discussant, "Applied Economics" Session, Pacific Rim Conference, Western Economic Association, Beijing, People's Republic of China, January 12, 2007.

"Balancing IPR Protection and Economic Growth in China," International Conference on Globalization and the Protection of Intellectual Property Rights, Chinese University of Political Science and Law, Beijing, People's Republic of China, January 20, 2007.

"The Use and Abuse of Daubert Motions on Damages Experts: Lessons from Recent Cases," LSI Workshop on Calculating & Proving Patent Damages, February 27, 2007.

"Will Your Licenses Ever be the Same? Biotechnology IP Strategies," BayBio 2007 Conference, April 26, 2007.

"Tension Between Antitrust Law and IP Rights," Seminar on WTO Rules and China's Antimonopoly Legislation, Beijing, People's Republic of China, September 1, 2007.

"Issues to Consider in a Lost Profits Damages Analysis," Patent Litigation 2007, Practicing Law Institute, September 25, 2007.

Discussant, "Dominance and Abuse of Monopoly Power" Session, China's Competition Policy and Anti-Monopoly Law, J. Mirrlees Institute of Economic Policy Research, Beijing University, and the Research Center for Regulation and Competition, Chinese Academy of Social Sciences, Beijing, People's Republic of China, October 14, 2007.

"Opening Remarks," Seminar on China's Anti-monopoly Law and Regulation on Abuse of Intellectual Property Rights, Beijing, People's Republic of China, April 26, 2008.

"Issues to Consider in a Reasonable Royalty Damages Analysis," Patent Litigation 2008, Practicing Law Institute, October 7, 2008.

"Econometric Evaluation of Competition in Local Retail Markets," Federal Trade Commission and National Association of Attorneys General Retail Mergers Workshop, December 2, 2008

"Merger Review Best Practices: Competitive Effects Analysis," International Seminar on Anti-Monopoly Law: Procedure and Substantive Assessment in Merger Control, Beijing, People's Republic of China, December 15-17, 2008.

"The Use of Natural Experiments in Antitrust," Renmin University, Beijing, People's Republic of China, December 18, 2008.

"China's Antimonopoly Law: An Economist's Perspective," Bloomberg Anti-Monopoly Law of China Seminar, January 29, 2009.

Panelist, "Standards for Assessing Patent Damages and Their Implementation by Courts," FTC Hearings on the Evolving IP Marketplace, February 11, 2009.

"Economic Analysis of Agreements Between Competitors" and "Case Study: FTC Investigates Staples' Proposed Acquisition of Office Depot," Presentation to Delegation of Antitrust Officials from the People's Republic of China, Washington, DC, March 23, 2009.

"Reasonable Royalties in the Presence of Standards and Patent Pools," LSI Workshop, April 20, 2009.

Presentations on Unilateral Effects, Buyer Power, and the Intellectual Property-Antitrust Interface to Delegation from the Anti-Monopoly Bureau of MOFCOM of the People's Republic of China, Washington, DC, May 10-11, 2009.

Panelist, "The Use of Economic and Statistical Models in Civil and Criminal Litigation," Federal Bar Association, San Francisco, May 13, 2009.

"Trends in IP Rights Litigation and Economic Damages in China," Pursuing IP in the Pacific Rim, May 14, 2009.

Presentation on the Economics of Antitrust, National Judicial College of the People's Republic of China, Xi'an, People's Republic of China, May 25-26, 2009.

"Case Study: The Use of Economic Analysis in Merger Review," Presentation to the Anti-Monopoly Bureau of MOFCOM, Beijing, People's Republic of China, May 27, 2009.

"Economics and Antitrust Law," China University of Political Science and Law, Beijing, People's Republic of China, September 21, 2009.

"Case Study: Economic Analysis of Coordinated Interaction," Presentation to the Anti-Monopoly Bureau of MOFCOM, Beijing, People's Republic of China, September 22, 2009.

"Relevant Market Definition," 4th Duxes Antitrust Law Seminar, Beijing, People's Republic of China, September 26, 2009.

"Expert Economic Testimony in Antitrust Litigation," Supreme People's Court, Beijing, People's Republic of China, February 2, 2010.

"New Case Law for Patent Damages," Law Seminars International Telebriefing, April 28, 2010.

"China/India: Sailing in Unchartered Waters: Regulating Competition in the Emerging Economies – New Laws, New Enforcement Regimes and No Precedents," The Chicago Forum on International Antitrust Issues, Northwestern University School of Law Searle Center, May 20, 2010.

"Antitrust and Intellectual Property," Supreme People's Court, Beijing, People's Republic of China, May 26, 2010.

"Cartel Enforcement Trends in the United States," 2nd Ethical Beacon Anti-Monopoly Summit, Beijing, People's Republic of China, May 27, 2010.

Panelist, "The Future of Books and Digital Publishing: the Google Book Settlement and Beyond," 2010 American Bar Association Annual Meeting, August 7, 2010.

"Coordinated Effects" and "Non-Horizontal Mergers," Presentations to Delegation from India Competition Commission, US Chamber of Commerce, Washington, DC, October 26, 2010.

"UPP and Merger Simulation," Annual Conference of the Association of Competition Economics, Norwich, UK, November 11, 2010.

"Uniloc v. Microsoft: A Key Ruling For Patent Damages," Law Seminars International Telebriefing, January 21, 2011.

"Correlation, Regression, and Common Proof of Impact," New York City Bar Association, January 19, 2011.

"Private Litigation Under China's New Antimonopoly Law," Bar Association of San Francisco, February 17, 2011.

"Competition Law and State Regulation: Setting the Stage and Focus on State-Owned Enterprises," Competition Law and the State: International and Comparative Perspectives, Hong Kong, People's Republic of China, March 18, 2011.

Panelist, “Booking it in Cyberspace: The Google Book Settlement and the Aftermath,” American Intellectual Property Law Association, San Francisco, May 13, 2011.

“Econometric Estimation of Cartel Overcharges,” ZEW Conference on Economic Methods and Tools in Competition Law Enforcement, Mannheim, Germany, June 25, 2011.

Panelist, “Antitrust and IP in China,” Antitrust and IP in Silicon Valley and Beyond, American Bar Association and Stanford University, Palo Alto, October 6, 2011.

Panelist, University of San Diego School of Law Patent Law Conference: The Future of Patent Law Remedies, January 18, 2013.

“Economics Framework,” US-China Workshop on Competition Law and Policy for Internet Activities, China’s State Administration for Industry and Commerce (SAIC) and the U.S. Trade and Development Agency (USTDA), Shenzhen, People’s Republic of China, June 4-5, 2013.

Panelist, “China Inside and Out,” American Bar Association, Beijing, People’s Republic of China, September 16-17, 2013.

Panelist, “Remedies in Patent Cases,” Fifth Annual Conference on The Role of the Courts in Patent Law & Policy, Berkeley and Georgetown Law Schools, November 1, 2013.

“Royalty Base,” LeadershIP Conference, Qualcomm Incorporated, March 21, 2014.

“Reflections on Natural Experiments,” DG Comp, April 8, 2014.

Panelist, “Antitrust in Asia: China,” American Bar Association Section of Antitrust Law, Beijing, People’s Republic of China, May 21-23, 2014.

Panelist, “Patent Damages Roundtable,” 2015 Intellectual Property Institute, University of Southern California Gould School of Law, Los Angeles, March 23, 2015.

Panelist, “IP and Antitrust - The Current State of Economic Analysis,” Global Competition Review Live 2nd Annual IP & Antitrust USA, Washington, DC, April 14, 2015.

Panelist, “FRAND Royalty Rates After Ericsson v. D-Link,” American Bar Association, May 15, 2015.

PROFESSIONAL ACTIVITIES

Member, American Economic Association

Member, Econometric Society

Member, American Bar Association

Contributor, www.antitrust.org

Contributor, ABA Section of Antitrust Law, *Econometrics*, 2005

Associate Editor, *Antitrust*, 2007-2010

Senior Editor, *Antitrust Law Journal*, 2012-; Associate Editor, 2010-2012

Co-Editor, ABA Section of Antitrust Law Economics Committee Newsletter, 2009-2012

Member, Economics Task Force, ABA Section of Antitrust Law, 2011-2012

Member, ABA Delegation to International Seminar on Anti-Monopoly Law: Procedure and Substantive Assessment in Merger Control, Beijing, People's Republic of China, December 15-17, 2008

Member, Working Group for drafting the "Joint Comments of the American Bar Association Section of Antitrust Law and Section of International Law on the MOFCOM Draft Guidelines for Definition of Relevant Markets," 2009

Member, Working Group for drafting the "Joint Comments of the American Bar Association Section of Antitrust Law and Section of International Law on the SAIC Draft Regulations on the Prohibition of Acts of Monopoly Agreements and of Abuse of Dominant Market Position," 2009.

Member, Working Group for drafting the "Joint Comments of the American Bar Association Section of Antitrust Law and Section of International Law on the SAIC Draft Regulations on the Prohibition of Acts of Monopoly Agreements and of Abuse of Dominant Market Position," 2010.

Referee: *Econometrica*, *Review of Economics and Statistics*, *International Journal of Industrial Organization*, *Review of Industrial Organization, Journal of Sports Economics*, *Journal of Environmental Economics and Management*, *Research in Law and Economics*, *Labour Economics*, *Eastern Economic Journal*, *Journal of Forensic Economics, Antitrust, Antitrust Law Journal, Journal of Competition Law and Economics, Advances in Econometrics.*

TESTIMONY IN THE LAST FIVE YEARS

In re: Budeprion XL Marketing and Sales Practices Litigation, Civil Action 2:09-CV-2811, MDL Docket No. 2017, 2011 (Deposition).

Convolve, Inc. v. Dell Inc., et al., United States District Court, Eastern District of Texas, Marshall Division, Case No. No. 2:08-cv-244, 2011 (Deposition, Trial Testimony).

In the Matter of CERTAIN WIRELESS COMMUNICATION DEVICES, PORTABLE MUSIC AND DATA PROCESSING DEVICES, COMPUTERS AND COMPONENTS THEREOF, before the United States International Trade Commission, Investigation No. 337-TA-745, 2011 (Deposition).

In the Matter of CERTAIN MOBILE DEVICES, ASSOCIATED SOFTWARE, AND COMPONENTS THEREOF, before the United States International Trade Commission, Investigation No. 337-TA-744, 2011 (Deposition).

Oracle America, Inc. v. Google, Inc., United States District Court, Northern District for California, Case No. 3:10-CV-03561-WHA, 2011 (Deposition), 2016 (Deposition, Trial Testimony).

In the Matter of CERTAIN GAMING AND ENTERTAINMENT CONSOLES, RELATED SOFTWARE, AND COMPONENTS THEREOF, before the United States International Trade Commission, Investigation No. 337-TA-752, 2011 (Deposition).

General Atomics v. Paul Banks and TetraVue, Inc., Superior Court of the State of California, Case No. 37-2009-00084081-CU-BC-CTL, 2011 (Deposition, Trial Testimony).

Apple Inc., v. Motorola, Inc., United States District Court, Western District of Wisconsin, Case No. 10-CV-662 (BBC), 2011 (Deposition).

Genentech, Inc. and City of Hope v. Glaxo Group, Limited, et al., United States District Court, Central District of California, Western Division, Case No. 2:10-CV-02764-MRP (FMOx), 2011 (Deposition).

In the Matter of CERTAIN HANDHELD COMPUTING DEVICES, RELATED SOFTWARE, AND COMPONENTS THEREOF, before the United States International Trade Commission, Investigation No. 337-TA-769, 2011 (Deposition, Trial Testimony).

In the Matter of CERTAIN EQUIPMENT FOR COMMUNICATIONS NETWORKS, INCLUDING SWITCHES, ROUTERS, WIRELESS ACCESS POINTS, CABLE MODEMS, IP PHONES, AND PRODUCTS CONTAINING SAME, before the United States International Trade Commission, Investigation No. 337-TA-778, 2012 (Deposition).

Plantronics, Inc. v. Aliph, Inc., United States District Court for the Northern District of California, San Francisco Division, Case No. C09-01714 BZ, 2012 (Deposition).

Commonwealth Scientific and Industrial Research Organization v. Lenovo, Inc., et al., United States District Court for the Eastern District of Texas, Tyler Division, Case No. 6:09-cv-00400-LED, 2012 (Deposition).

Bayer HealthCare LLC v. Pfizer Inc., United States District Court, Northern District of Illinois, Eastern Division, Civil Action No. 1:12-cv-00630, 2012-2013 (Deposition).

L-7 Designs, Inc. v. Old Navy, Inc., United States District Court, Southern District of New York, Civil Action No. 09 Civ. 1432 (DC), 2012 (Deposition).

Apple, Inc. v. Motorola, Inc., United States District Court, Northern District of Illinois, Case No. 11-c-08540, 2012 (Deposition).

ITT Manufacturing Enterprises, Inc. v. Cellco Partnership, et al., United States District Court, District of Delaware, Civil Action No. 09-190-LPS, 2012 (Deposition).

Shelbyzyme LLC v. Genzyme Corporation, United States District Court, District of Delaware, Civil Action No. 09-768 (GMS), 2012 (Deposition, Trial Testimony).

In the Matter of CERTAIN DEVICES FOR IMPROVING UNIFORMITY USED IN A BACKLIGHT MODULE AND COMPONENTS THEREOF AND PRODUCTS CONTAINING THE SAME, before the United States International Trade Commission, Investigation No. 337-TA-805, 2012 (Deposition, Trial Testimony).

Rachel Eastman, et al. v. First Data Corporation, et al., United States District Court, District of New Jersey, Case No. 2:10-cv-04860 (WHW) (MCA), 2012 (Deposition).

In the Matter of CERTAIN COMMUNICATIONS EQUIPMENT COMPONENTS THEREOF, AND PRODUCTS CONTAINING THE SAME, INCLUDING POWER OVER ETHERNET TELEPHONES, SWITCHES, WIRELESS ACCESS POINTS, ROUTERS AND OTHER DEVICES USED IN LANs, AND CAMERAS, before the United States International Trade Commission, Investigation No. 337-TA-817, 2012 (Deposition).

Fujitsu Limited v. Belkin, et al., United States District Court, Northern District of California, San Jose Division, Case No. 10-cv-03972-LHK(PSG), 2012 (Deposition, Trial Testimony).

Medivation, Inc. v. The Regents of the University of California, et al., Superior Court of the State of California, Case No. CGC-11-510715, 2012 (Deposition, Trial Testimony).

In Re Photochromic Lens Antitrust Litigation (Direct Purchaser Action), United States District Court for the Middle District of Florida, Tampa Division, MDL Docket No. 2173, 2012 (Deposition, Hearing Testimony).

In Re Photochromic Lens Antitrust Litigation (Indirect Purchaser Actions), United States District Court for the Middle District of Florida, Tampa Division, MDL Docket No. 2173, 2012 (Deposition, Hearing Testimony).

In the Matter of CERTAIN PRODUCTS CONTAINING INTERACTIVE PROGRAM GUIDE AND PARENTAL CONTROL TECHNOLOGY, before the United States International Trade Commission, Investigation No. 337-TA-845, 2012 (Deposition, Trial Testimony).

In the Matter of CERTAIN COMPUTERS AND COMPUTER PERIPHERAL DEVICES AND COMPONENTS THEREOF AND PRODUCTS CONTAINING THE SAME, before the United States International Trade Commission, Investigation No. 337-TA-841, 2012-2013 (Trial Testimony).

Gemalto SA v. HTC Corporation, et al., United States District Court for the Eastern District of Texas, Tyler Division, Civil Action No. 6:10-CV-561-LED, 2013 (Deposition).

Adobe Systems Incorporated v. Wowza Media Systems, LLC, et al., United States District Court for the Northern District of California, Oakland Division, Case No. cv 11-02243, 2013 (Deposition).

In the Matter of CERTAIN AUDIOVISUAL COMPONENTS AND PRODUCTS CONTAINING THE SAME, before the United States International Trade Commission, Investigation No. 337-TA-837, 2013 (Deposition).

Ericsson Inc., et al. v. D-Link Corporation, et al., United States District Court for the Eastern District of Texas, Tyler Division, Civil Action No. 6:10-cv-473, 2013 (Deposition, Trial Testimony).

Edwards Lifesciences v. Medtronic CoreValve, et al., United States District Court for the District of Delaware, Case No. 12-23 (GMS), 2013 (Deposition, Trial Testimony).

Intellectual Ventures I LLC v. Trend Micro Incorporated and Trend Micro, Inc. (USA), United States District Court for the District of Delaware, C. A. No. 12-cv-1581-LPS, 2013 (Deposition).

The Money Suite Company v. Insurance Answer Center, LLC, et al., United States District Court for the Central District of California, Southern Division – Santa Ana, Lead Case No. 11-SACV-01847 AG (JPRx), 2013 (Deposition).

ParkerVision Inc. v. Qualcomm Incorporated, United States District Court for the Middle District of Florida, Jacksonville Division, Case No.: 3:11-cv-719-J-37-TEM, 2013 (Deposition, Trial Testimony).

Medtronic, Inc. v. Edwards Lifesciences Corporation, et al., United States District Court for the Central District of California, Case No.: SACV 12-00327 JVS (JPRx), 2013 (Deposition).

Microsoft Corporation v. Motorola Inc., et al., United States District Court for the Western District of Washington, Seattle Division, Case No. C10-1823JLR, 2013 (Deposition, Trial Testimony).

In the Matter of CERTAIN INTEGRATED CIRCUIT CHIPS AND PRODUCTS CONTAINING SAME, before the United States International Trade Commission, Investigation No. 337-TA-859, 2013 (Deposition, Trial Testimony).

Realtek Semiconductor Corporation v. LSI Corporation and Agere Systems, Inc., United States District Court Northern District of California, San Jose Division, Case No. 5:12-cv-03451 RMW, 2013 (Deposition, Trial Testimony).

Acer Inc., Acer America Corporation, and Gateway Inc. v. Technology Properties Limited, Patriot Scientific Corporation, and Alliacense Limited, United States District Court for the Northern District of California, San Jose Division, Case No. 5:08-cv-00877 PSG, 2013 (Deposition).

Intervet Inc. d/b/a Merck Animal Health, The Arizona Board of Regents on behalf of The University of Arizona v. Boehringer Ingelheim Vetmedica, Inc., United States District Court for the District of Delaware, Case No. 11-595-LPS, 2013 (Deposition).

In Re Innovatio IP Ventures, LLC Patent Litigation, United States District Court for the Northern District of Illinois, Case No. 1:11-cv-09308, 2013 (Deposition, Trial Testimony).

In the Matter of CERTAIN OMEGA-3 EXTRACTS FROM MARINE OR ACQUATIC BIOMASS AND PRODUCTS CONTAINING THE SAME, before the United States International Trade Commission, Investigation No. 337-TA-877, 2013 (Deposition).

Open Text SA v. Box Inc., United States District Court for the Eastern District of Virginia, Norfolk Division, Civil Action No. 2:13-CV-00319-MSD-DEM, 2013-2015 (Deposition, Trial Testimony).

Apple Inc. and Apple Sales International v. Motorola Mobility LLC, United States District Court for the Southern District of California, Case No. 3:12-cv-00355-GPC-BLM, 2013 (Deposition).

iControl Networks, Inc. v. Alarm.com Incorporated and Frontpoint Security Solutions, LLC, United States District Court for the Eastern District of Virginia, Alexandria Division, Case No. 1:13cv834 (LMB-IDD), 2013 (Deposition).

Affinity Labs of Texas, LLC v. General Motors LLC, United States District Court for the District of Eastern District of Texas, Beaumont Division, C.A. No. 1:12-cv-00582-RC, 2014 (Deposition).

W.L. Gore & Associates, Inc. v. C.R. Bard, Inc. and Bard Peripheral Vascular, Inc., United States District Court for the District of Delaware, C.A. No. 11-515-LPS-CJB, 2014 (Deposition).

Richard Noll and Rhythm Motor Sports, LLC v. eBay Inc., eBay Europe S.A.R.L., and eBay International AG, Inc., United States District Court for the Northern District of California, San Jose Division, Case No. 5:11-CV-04585-EJD, 2014 (Deposition).

Bristol-Myers Squibb Company v. Genentech Inc. and City of Hope, United States District Court for the Northern District of California, Western Division, Case No. 2:13-CV-05400-MRP (JEMx), 2014 (Deposition).

Eli Lilly and Imclone v. Genentech Inc. and City of Hope, United States District Court for the Northern District of California, Western Division, Case No. 2:13-CV-07248-MRP, 2014 (Deposition).

Graftech International Ltd. and Graftech International Holdings Inc. F/K/A UCAR Carbon Company Inc. v. Carbone Savoie, Alcan France and Rio Tinto Alcan, International Chamber of Commerce, International Court of Arbitration, Case Ref.: 19798/AGF, 2014 (Hearing Testimony).

Samsung Electronics Co., Ltd. (Korea) v. Nokia Corporation (Finland), International Chamber of Commerce, International Court of Arbitration, Case Ref.: 19602/AGF/RD (c.19638/AGF), 2015 (Hearing Testimony).

In the Matter of CERTAIN NETWORK DEVICES, RELATED SOFTWARE, AND COMPONENTS THEREOF (I), before the United States International Trade Commission, Investigation No. 337-TA-944, 2015 (Deposition).

Broadband iTV, Inc. v. Hawaiian Telecom, Inc., Oceanic Time Warner Cable, LLC, and Time Warner Cable, Inc., United States District Court for the District of Hawaii, Case No. 14-00169 ACK-RLP, 2015 (Deposition).

In the Matter of CERTAIN NETWORK DEVICES, RELATED SOFTWARE, AND COMPONENTS THEREOF (II), before the United States International Trade Commission, Investigation No. 337-TA-945, 2015 (Deposition, Hearing Testimony).

SRI International, Inc. v. Cisco Systems, Inc., United States District Court for the District of Delaware, Case No. 13-1534 (SLR), 2016 (Deposition, Trial Testimony).

ChriMar Systems, Inc., et al. v. Cisco Systems, Inc., et al., United States District Court for the District of Northern California, Oakland Division, Case No. 4:13-cv-01300-JSW, 2016 (Deposition).

TCL Communication Technology Holdings, LTD., et al., v. Telefonaktiebolaget LM Ericsson, et al., United States District Court for the Central District of California, Southern Division, Case No. SACV14–00341 JVS (DFMx), 2016 (Deposition).

Chervon North America, Inc., Positec Tool Corporation, Positec USA, Inc. and Hilti, Inc. v. Milwaukee Electric Tool Corporation, United States Patent and Trademark Office Before the Patent Trial and Appeal Board, Case IPR2015-00595, Case IPR2015-00596, and Case IPR2015-00597, 2016 (Deposition).

Sanofi-Aventis U.S. LLC and Regeneron Pharmaceuticals, Inc. v. Genentech, Inc. and City of Hope, United States District Court, Central District of California, Western Division, Case No. 2:15-CV-05685, 2016 (Deposition).

Irori Technologies, Inc. v. Procopio, Cory, Hargreaves & Savitc, LLP, and Eleanor Musick, JAMS Arbitration Reference No. 1240022033, 2016 (Deposition).

SD3, LLC and SawStop LLC v. Black and Decker (U.S.), Inc., et al., United States District Court for the Eastern District of Virginia, Civil Action No.: 1:14-cv-00191, 2016 (Deposition).

Intellectual Ventures II LLC v. Nextel Operations, Inc., Sprint Spectrum L.P., Boost Mobile LLC, and Virgin Mobile USA, L.P., United States District Court for the District of Delaware, Civil Action No. 13-cv-1635-LPS, 2016 (Deposition).

In Re Lidoderm Antitrust Litigation, United States District Court for the District of Northern California, Case No. 14-MD-02521-WHO, 2016 (Deposition).

SELECTED MERGER EXPERIENCE

R.R. Donnelley/Meredith Burda (1990-1993): Merger of printing companies. Reviewed by the FTC. Preliminary Injunction Hearing. Part III Hearing.

Kimberly-Clark/Scott (1995): Merger of manufacturers of tissue products. Reviewed by the DOJ and the European Commission.

Staples/Office Depot (1996-1997): Proposed merger of office supply retailers. Reviewed by the FTC. Preliminary injunction hearing.

IMC/Western Ag (1997): Merger of mining companies. Reviewed by the DOJ.

Dow/Union Carbide (1999-2001): Merger of chemical manufacturers. Reviewed by the FTC.

Volvo/Scania (2000): Merger of truck manufacturers. Reviewed by the European Commission.

First Data/Concord (2003-2004): Merger of companies involved in merchant acquiring and payment networks. Reviewed by the DOJ.

Bumble Bee/Connors (2004): Merger of canned seafood manufacturers. Reviewed by the DOJ.

Sonaecom/Portugal Telecom (2006): Merger of telecommunications companies. Reviewed by the Portuguese Competition Authority.

Graphic Packaging/Altivity (2007-2008): Merger of paperboard manufacturers. Reviewed by the DOJ.

Inbev/Anheuser-Busch (2008): Merger of beer manufacturers. Reviewed by the DOJ, the UK Competition Commission, and MOFCOM.

Serta/Simmons (2009): Merger of mattress manufacturers. Reviewed by the FTC.

Coty/OPI (2010): Merger of nail polish manufacturers. Reviewed by the DOJ.

Knowles/NXP (2011): Knowles acquired the speaker/receiver business of NXP. Reviewed by MOFCOM.

AT&T/T-Mobile (2011): Consulted for the DOJ regarding the proposed deal between the two wireless service providers.

Confidential engagement for consumer product manufacturer (2012): Consulted for a consumer product manufacturer considering an acquisition with potential overlap in various jurisdictions around the world.

Confidential engagement for consumer product manufacturer (2012): Consulted for a consumer product manufacturer considering an acquisition with potential overlap in numerous product lines in the US.

UPS/TNT (2013): Consulted for the Ministry of Commerce of the People's Republic of China regarding the proposed deal between two package delivery services.

Thermo Fisher/Life Technologies (2014): Consulted for the Ministry of Commerce of the People's Republic of China regarding the proposed deal.

Seagate/Samsung (2014-2015): Consulted for Ministry of Commerce of the People's Republic of China regarding whether "hold separate" conditions should be lifted.

Western Digital/Hitachi (2014-2015): Consulted for Ministry of Commerce of the People's Republic of China regarding whether "hold separate" conditions should be lifted.

Confidential engagement for consumer product manufacturer (2016): Consulted for a consumer product manufacturer concerning possible acquisition in the US.

Appendix B

Appendix B
Documents Considered

Bates Documents

AMZN00000001
AMZN00000031
AMZN00000062
AMZN00000115
AMZN00000117
AMZN00000119
AMZN00000121
AMZN00000123
AMZN00000124
AMZN00000130
AMZN00000132
AMZN00000133
AMZN00000135
AMZN00000136
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AMZN00000147
AMZN00000153
AMZN00000156
AMZN00000160
AMZN00000168
AMZN00000174
AMZN00000190
AMZN00000191
AMZN00000231
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AMZN00000236
AMZN00000240
BMG00000044
BMG00000079
BMG00000093
BMG00000266
BMG00000272
BMG00000563
BMG00000564
BMG00000565
BMG00000566
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GOOG-PHONOIII-00000001
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WC00000096
WC00000097
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WC00000478
WC00000829
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WC00001158
WC00001206

Court Documents

17 U.S.C. § 115.

17 U.S.C. § 801.

17 U.S.C. § 803.

17 U.S.C. § 804.

37 C.F.R. § 385.

81 FR 48371.

Adjustment of Determination of Compulsory License Rates for Mechanical and Digital Phonorecords, Docket No. 2011-3 CRB Phonorecords II (November 13, 2013).

Comments of A2IM in Support of Proposed Settlement, Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III), Docket No. 16-CRB-0003-PR (2018-2022), August 24, 2016.

Decision of the Second Circuit in Arista Records, LLC v. Launch Media, Inc., 578 F.3d 138 (2nd Cir. 2009).

Determination of Rates and Terms for Making and Distributing Phonorecords (Phonorecords III), Docket No. 16-CRB-0003-PR (2018-2022).

Federal Trade Commission, The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition, March 2011.

Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 349 (1991).

Final Determination of the Rates and Terms, Mechanical and Digital Phonorecord Delivery Rate Determination Proceeding, Docket No. 2006-3 CRB DPRA (November 24, 2008).

H.R. Rep. No. 104- 274 (1995).

Mot. Adopt Settlement Industry-Wide, filed Oct. 28 2016.

Uniloc USA, Inc. v. Microsoft Corp., Nos. 2010-1035, 2010-1055, 2011 WL 9738 (Fed. Cir. Jan. 4, 2011).

VirnetX, Inc. v. Cisco Systems, Inc., September 16, 2014.

Websites

"15 Years After Napster: How the Music Service Changed the Industry," The Daily Beast, June 6, 2014.

"17 U.S. Code § Section 801 - Copyright Royalty Judges; Appointment and Functions," Cornell University Law School.

"50 Disruptive Companies 2012," The MIT Technology Review, 2012.

"A Closer Look at the Department of Justice's ASCAP and BMI Consent Decree Review," Public Knowledge, July 18,

2016.
"A Decade of iTunes Singles Killed the Music Industry," CNN Money, April 25, 2013.
"About," BMI.
"About ASCAP," ASCAP.
"About DiMA," Digital Media Association, June 13, 2009.
"About NSAI," Nashville Songwriters Association International, August 3, 2016.
"About Us," Association of Independent Music Publishers, December 21, 2011.
"About Us," Television Music License Committee, October 14, 2013.
"About," National Music Publishers Association, June 18, 2015.
"Adjustment of Determination of Compulsory License Rates for Mechanical and Digital Phonorecords," The Federal Register, November 11, 2013.
"Amazon and Pandora to Gauge Music's Value in the Internet Age," The New York Times, September 11, 2016.
"Amazon Launches Music Service, Adds Another Element to Prime," Mashable, June 12, 2014.
"Amazon Launches Smartphone Music Streaming in U.S.," Computerworld, March 29, 2011.
"Amazon Launches Streaming Music Service for Prime Members," The Verge, June 12, 2014.
"Amazon Pairs Its Speaker With Streaming Music, at a Bargain Price," The New York Times, October 12, 2016.
"Amazon Prime," Amazon.com.
"Amazon's Streaming Music Aims for More Casual Listeners," The New York Times, November 10, 2015.
"Apple is Shutting Down Beats Music on November 30," Forbes, November 13, 2015.
"Apple Music or Spotify – Which Is Better?," iMore, July 1, 2016.
"Apple Music vs. Spotify vs. Google Play Music," Android Authority, July 20, 2016.
"Apple Music, Spotify and a Guide to Music Streaming Services," The New York Times, April 5, 2016.
"Apple, in Seeming Jab at Spotify, Proposes Simpler Songwriting Royalties," New York Times, July 15, 2016.
"Ashes to Ashes, Peer to Peer: An Oral History of Napster," Fortune, September 5, 2013.
"Choose the Best Music Streaming Service for Your Family," CNET, October 14, 2016.
"Comparing Music Storage Services from Apple, Amazon, Google," CNET, March 10, 2015.
"Deezer Prospectus Makes One Thing Clear: Streaming Music is a Terrible Business," Fortune, September 25, 2015.
"Distribution Features," Loudr, April 9, 2014.
"Every Day Is Prime Day at Amazon," Bloomberg Gadfly, July 12, 2016.
"Free iTunes Radio Closes Shop," The International Business Times, January 29, 2016.
"Global Music Report: State of the Industry Overview 2016," IFPI, April 12, 2016.
"Go Premium," Spotify, September 20, 2016.
"Google Launches 'Google Play Music All Access' On-Demand $9.99 a Month Subscription Service," TechCrunch, May 15, 2013.
"Google Might Have the Best Music App in the World," Business Insider, April 27, 2016.
"Google Music Is Open for Business," Google Official Blog, November 16, 2011.
"Google Play Terms of Service," Google, July 27, 2016.
"Google Play" Google+, December 18, 2012.
"Google Unveils Streaming Music Subscription Service," Mashable, May 15, 2013.
"Hello America. Spotify Here," Spotify News, July 14, 2011.
"Homepage," Radio Music License Committee, February 24, 2010.
"How Spotify Turned Free Music into a $10+ Billion Valuation," GrowthHackers.

"I'm Obsessed With a Music Streaming Service Millions of People Probably Don't Know They Can Use For Free," Business Insider, May 16, 2015.

"Introducing Apple Music – All The Ways You Love Music. All in One Place," Apple Press Info, June 8, 2015.

"It's Tuesday Morning, Play Music for a Bright, Sunshiny Day," Android Blog, October 21, 2014.

"iTunes Radio vs. The Competition: Which One Should You Use?," iMore, June 11, 2013.

"iTunes Radio: Apple Reveals Spotify Rival – And Says It Will Be Free to iPhone and iPad Users," The Guardian, June 11, 2013.

"iTunes Store at 10: How Apple Built a Digital Media Juggernaut," The Verge, April 26, 2013.

"Jay Z's Music Streaming Service Tidal Posts Huge Loss in 2015," Wall Street Journal, September 13, 2016.

"Massive Losses in Music Streaming Leave Industry Giants on Low Note," In The Black, June 1, 2016.

"More Artists Steer Clear of iTunes," The Wall Street Journal, August 28, 2008.

"Music in the Marketplace," Better Business Bureau.

"Music Publishing Groups Have New Competitor," Ernie Smith, Associates Now, October 31, 2014.

"Music Streaming Service Deezer Abandons IPO," Financial Times, October 28, 2015.

"Napster Files for Bankruptcy," CNN Money, June 3, 2002.

"New Amazon Music Streaming Service Costs Echo Speaker Owners $4 a Month," Nasdaq, October 12, 2016.

"News and Notes on 2015 Mid-Year RIAA Shipment and Revenue Statistics," The Recording Industry Association of America, 2015.

"Now Streaming: Amazon Music Unlimited," Amazon, October 12, 2016.

"Pandora's New Strategy: It's Going On-Demand," Media Life Magazine, August 23, 2016.

"Publishers Quarterly: Sony/ATV Rules Again But Warner/Chappell Gets a Big Boost from Lukas Graham," Billboard, July 28, 2016.

"Rate Charts," Harry Fox Agency.

"RIAA Accepts Streams for Gold and Platinum Certifications," Billboard, February 1, 2016.

"SGA Professional Services," Songwriters Guild of America, March 12, 2007.

"Spotify Accuses Apple of Stymying Competition by Halting App," Bloomberg Technology, June 30, 2016.

"Spotify Gained 1.4 Million Users in a Month," Mashable, August 8, 2011.

"Spotify Has 100 Million Users But Apple Music Remains a Threat," Macworld, June 20, 2016.

"Spotify Has Become the World's Most Popular Music Streaming App," Variety, December 1, 2016.

"Spotify Says Apple Won't Approve A New Version of Its App Because It Doesn't Want Competition For Apple Music," Recode, June 30, 2016.

"Spotify Wants to Go Public Despite a History of Losses," Fortune, July 20, 2016.

"Spotify," TechCrunch, September 20, 2016.

"Spotify: The Next Step in Digital Music Innovation," Northwestern Business Review, January 3, 2012.

"Spotify's Discover Weekly: How It Works," The Guardian, August 1, 2016.

"Spotify's Financial Results Reinforce Just How Broken the Music Business Is," Fortune, May 24, 2016.

"Spotify's Revenue and Net Income/Loss from 2009 to 2015," Statista, November 20, 2015.

"Terms of Use," Loudr, March 30, 2015.

"The 2 Types of Streaming Royalties and How You Can Collect Both," Songtrust, August 4, 2014.

"The DOJ Deals a Devastating Blow to Professional Songwriters," The Hill, July 20, 2016.

"The End of Freemium for Spotify?," Music Industry Blog, July 7, 2016.

"The New Economics of the Music Industry," Rolling Stone, October 25, 2011.

"U.S. Recorded Music Revenues by Format," The Recording Industry Association of America.

"U.S. Sales Database," Recording Industry Association of America.

"Updates to Entertainment in Windows 10," Microsoft, July 6, 2015.

"Wayback Machine," Internet Archive.

"What is the Microsoft Groove Music App?," Microsoft, August 18, 2016.

"What is YouTube Red?," YouTube Red FAQ.

"Who Killed the Music Industry," Pando, August 5, 2013.

"Why Spotify's Discover Weekly Is So Addictive," Vogue, May 30, 2016.

"Why You Should Give Amazon Prime Music a Second Chance," Make Use Of, February 17, 2016.

Other

Al Kohn and Bob Kohn, Kohn on Music Licensing, Fourth Edition, 2010.

ASCAP, 2010 Annual Report.

ASCAP, 2011 Annual Report.

ASCAP, 2012 Annual Report.

ASCAP, 2013 Annual Report.

ASCAP, 2014 Annual Report.

ASCAP, 2015 Annual Report.

Aswath Damodaran, Damodaran on Valuation: Security Analysis for Investment and Corporate Finance, Second Edition, Wiley, 2006.

Christine Meyer and Bryan Ray, Economic Approaches to Intellectual Property, eds. Gregory K. Leonard and Lauren J. Stiroh, NERA Economic Consulting, 2005.

Clearvoice Research, "Media Review: Music Streaming Services Market Profile," May 2014.

Data generated in response to a request made by Edgeworth Economics to Google.

Donald S. Passman, All You Need to Know about the Music Business, Eighth Edition, Simon and Schuster, 2013.

Elberse, Anita, "Bye-Bye Bundles: The Unbundling of Music in Digital Channels," Journal of Marketing 74, no. 3 (May 2010), p. 108.

Jean Tirole, The Theory of Industrial Organization, MIT Press, 1988.

Pandora Media, Inc. 10-Q, 2016 Quarterly Report, October 27, 2016.

Robert F. Reilly and Robert P. Schweihs, The Handbook of Business Valuation and Intellectual Property Analysis, McGraw-Hill Education, 2004.

Trial Transcript, Pandora Media, Inc. v. Am. Soc'y of Composers, Authors & Publishers, No. 12-cv-8035 (S.D.N.Y. 2014).

W. Jonathan Cardi, "Über-Middleman: Reshaping the Broken Landscape of Music Copyright," Iowa Law Review, Vol. 92, p. 835 (2007).

Written Direct Testimony of David B. Pakman, November 1, 2016.

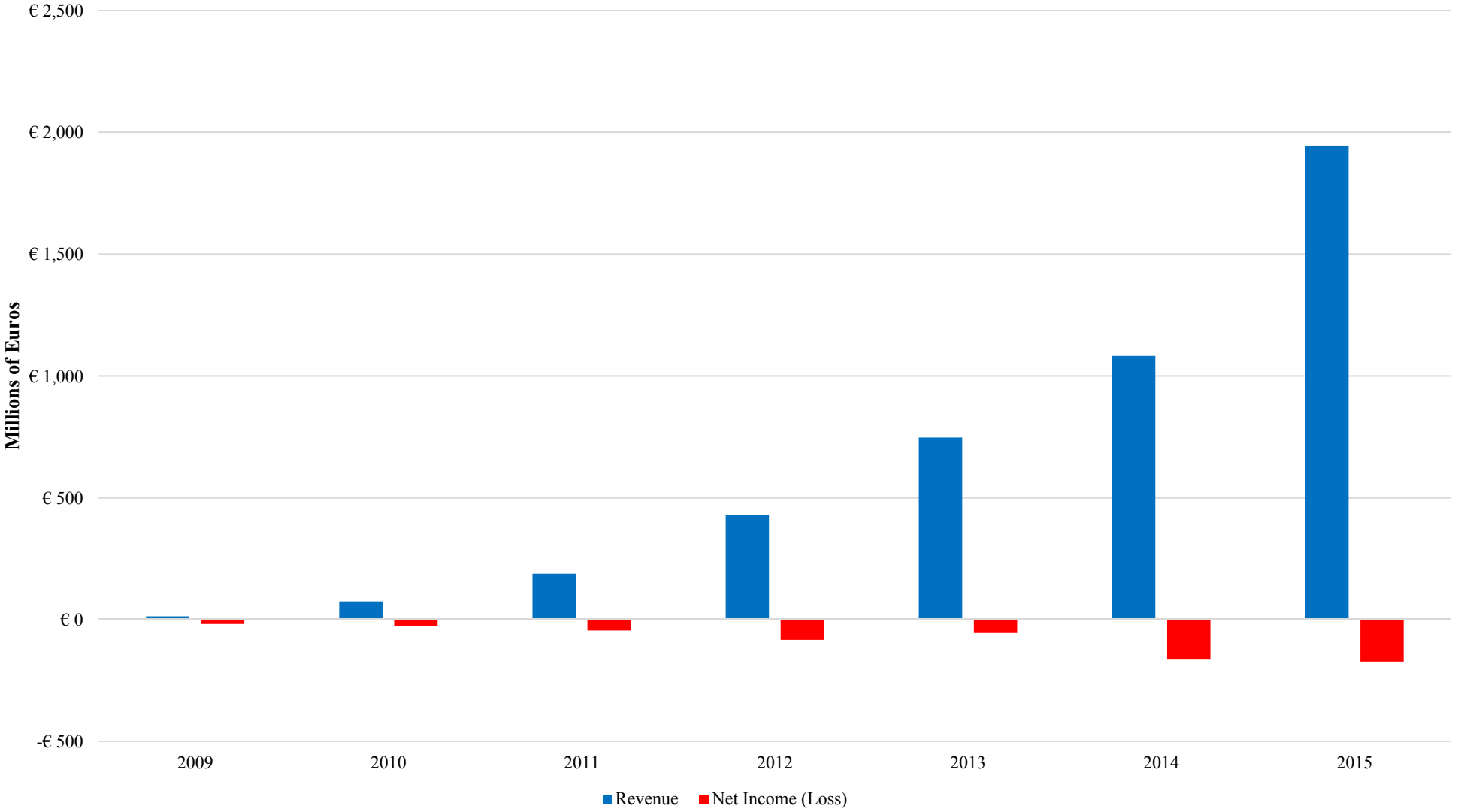
Written Direct Testimony of Elliot Alyeshmerni, November 1, 2016.

Written Direct Testimony of Paul Joyce, November 1, 2016.

Written Direct Testimony of Zahavah Levine, November 1, 2016.

Exhibits

Exhibit 4
Spotify Financial Performance
2009 - 2015



Source: "Spotify's Revenue and Net Income/Loss from 2009 to 2015," Statista, November 20, 2015.

Exhibit 6a
Total Revenue and Shipments for the U.S. Music Industry

2005 - 2015

	2005 (a)	2006 (b)	2007 (c)	2008 (d)	2009 (e)	2010 (f)	2011 (g)	2012 (h)	2013 (i)	2014 (j)	2015 (k)
Revenue ($M)											
LP/EP	$ 14.2	$ 15.7	$ 22.9	$ 56.7	$ 63.8	$ 88.9	$ 119.4	$ 160.7	$ 210.7	$ 314.9	$ 416.2
Vinyl Single	13.2	9.9	4.0	2.9	2.5	2.3	4.6	4.7	3.0	5.9	6.1
8-Track	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cassette	13.1	3.7	3.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cassette Single	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Tapes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CD	10,520.2	9,372.6	7,452.3	5,471.3	4,318.8	3,389.4	3,100.7	2,485.6	2,140.9	1,832.6	1,520.8
CD Single	10.9	7.7	12.2	3.5	3.1	2.9	3.5	3.2	2.5	3.8	1.2
Music Video	602.2	451.1	484.9	227.3	209.6	177.6	151.0	116.6	106.3	91.2	73.2
DVD Audio	11.2	2.4	2.8	1.2	1.6	0.9	0.3	0.2	-0.5	2.1	5.4
SACD	10.0	5.5	3.6	3.1	2.4	1.7	1.5	1.3	1.0	0.8	1.1
Download Single	363.3	580.6	811.0	1,032.2	1,172.0	1,336.4	1,522.4	1,623.6	1,567.6	1,407.8	1,226.9
Download Album	135.7	275.9	497.4	635.3	744.3	872.4	1,070.8	1,204.8	1,232.1	1,150.9	1,090.7
Kiosk	1.0	1.9	2.6	2.6	6.3	6.4	2.7	3.7	6.2	2.6	3.7
Download Music Video	3.7	19.7	28.2	41.3	40.9	36.6	32.4	20.8	16.7	13.6	6.4
Ringtones & Ringbacks	421.6	773.8	1,055.8	977.1	702.8	448.0	276.2	166.9	97.9	66.3	54.5
Paid Subscriptions	149.2	206.2	234.0	221.4	206.2	212.4	247.8	399.9	639.2	800.1	1,218.9
SoundExchange	20.4	32.8	36.2	100.0	155.5	249.2	292.0	462.0	590.4	773.4	802.6
Synchronization	0.0	0.0	0.0	0.0	201.2	188.7	196.5	190.6	189.7	189.7	202.9
On-Demand Streaming	0.0	0.0	0.0	0.0	0.0	0.0	113.8	170.9	220.0	294.8	385.1
Total Revenue	**$ 12,289.9**	**$ 11,759.5**	**$ 10,650.9**	**$ 8,776.8**	**$ 7,831.0**	**$ 7,013.8**	**$ 7,135.6**	**$ 7,015.5**	**$ 7,023.7**	**$ 6,950.5**	**$ 7,015.7**
Shipments (M)											
LP/EP	1.0	0.9	1.3	2.9	3.5	4.2	5.5	6.9	9.4	13.2	16.9
Vinyl Single	2.3	1.5	0.6	0.4	0.3	0.3	0.4	0.4	0.3	0.5	0.5
8-Track	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cassette	2.5	0.7	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cassette Single	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Tapes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CD	705.4	619.7	499.7	368.4	296.6	253.0	240.8	198.2	173.8	142.8	122.9
CD Single	2.8	1.7	2.6	0.7	0.9	1.0	1.3	1.1	0.6	1.0	0.4
Music Video	33.8	23.2	27.5	13.2	11.6	9.1	7.7	6.0	4.8	4.1	3.3
DVD Audio	0.5	0.1	0.2	0.0	0.1	0.0	0.0	0.0	-0.1	0.1	0.2
SACD	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Download Single	366.9	586.4	819.4	1,042.7	1,124.4	1,177.4	1,332.3	1,392.2	1,327.9	1,199.1	1,021.0
Download Album	13.6	27.6	49.8	63.6	74.5	85.8	103.9	116.7	118.0	117.6	109.4
Kiosk	0.7	1.4	1.8	1.6	1.7	1.7	1.3	2.0	3.7	1.6	2.2
Download Music Video	1.9	9.9	14.2	20.8	20.5	18.4	16.3	10.5	8.4	6.8	3.2
Ringtones & Ringbacks	170.0	315.0	433.8	405.1	294.3	188.5	115.4	69.3	39.3	26.6	21.9
Paid Subscriptions	1.3	1.7	1.8	1.6	1.2	1.5	1.8	3.4	6.2	7.7	10.8
Total Shipments	**1,303.2**	**1,590.1**	**1,853.3**	**1,921.2**	**1,829.7**	**1,741.0**	**1,826.8**	**1,806.8**	**1,692.3**	**1,521.1**	**1,312.7**

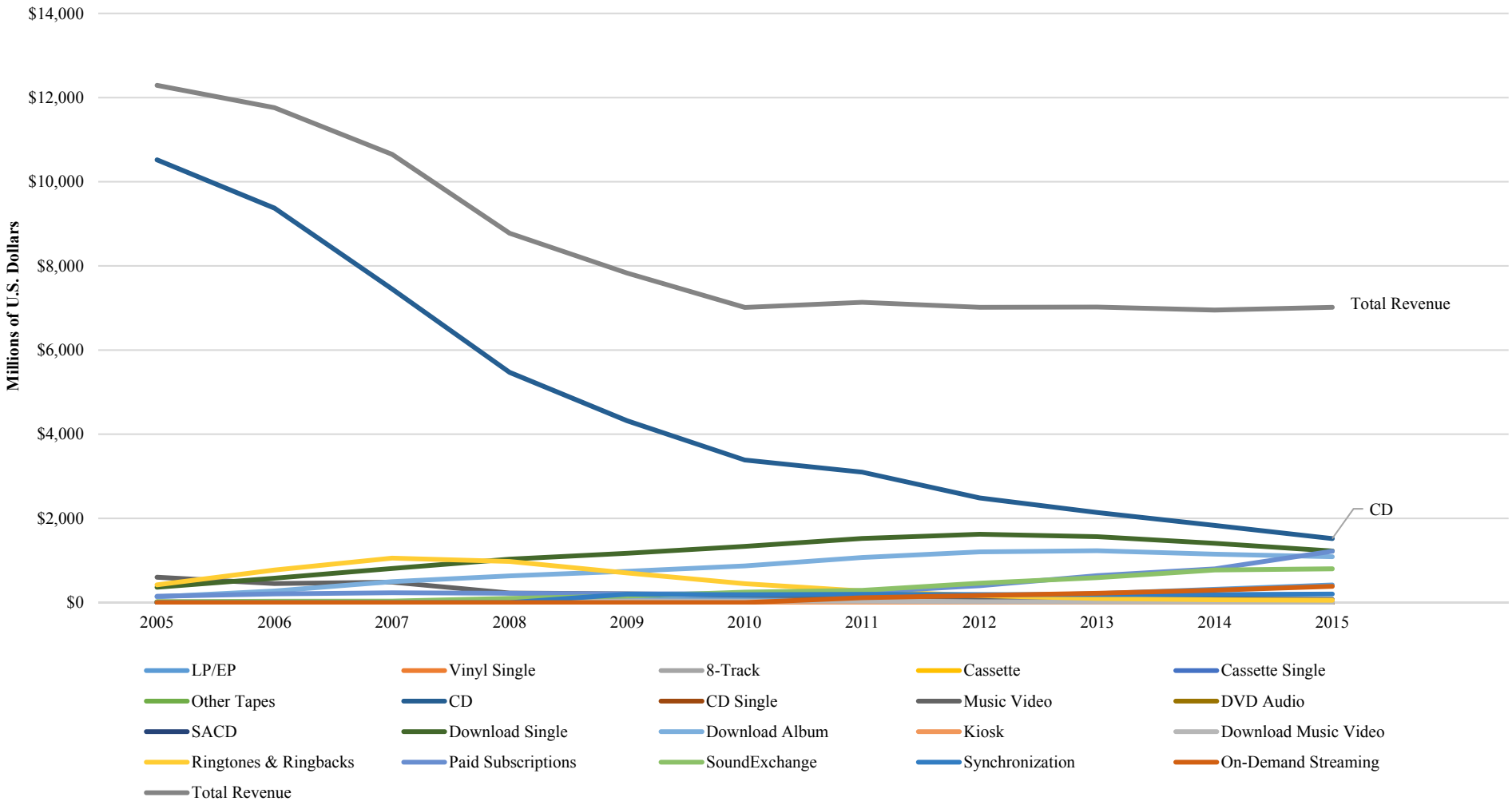
Notes: SoundExchange includes streaming radio services such as Pandora, SiriusXM and other internet radio. Paid subscriptions includes services such as Rhapsody and paid versions of Spotify. On-demand streaming includes services such as ad-supported Spotify. See "News and Notes on 2015 Mid-Year RIAA Shipment and Revenue Statistics."

The RIAA does not provide shipments information on SoundExchange, synchronization and on-demand streaming services.

Sources: "U.S. Sales Database," The Recording Industry Association of America, https://www.riaa.com/u-s-sales-database/. Last accessed September 21, 2016.

"News and Notes on 2015 Mid-Year RIAA Shipment and Revenue Statistics," The Recording Industry Association of America, 2015, http://www.riaa.com/wp-content/uploads/2015/09/2015_RIAAMidYear_ShipmentData.pdf.

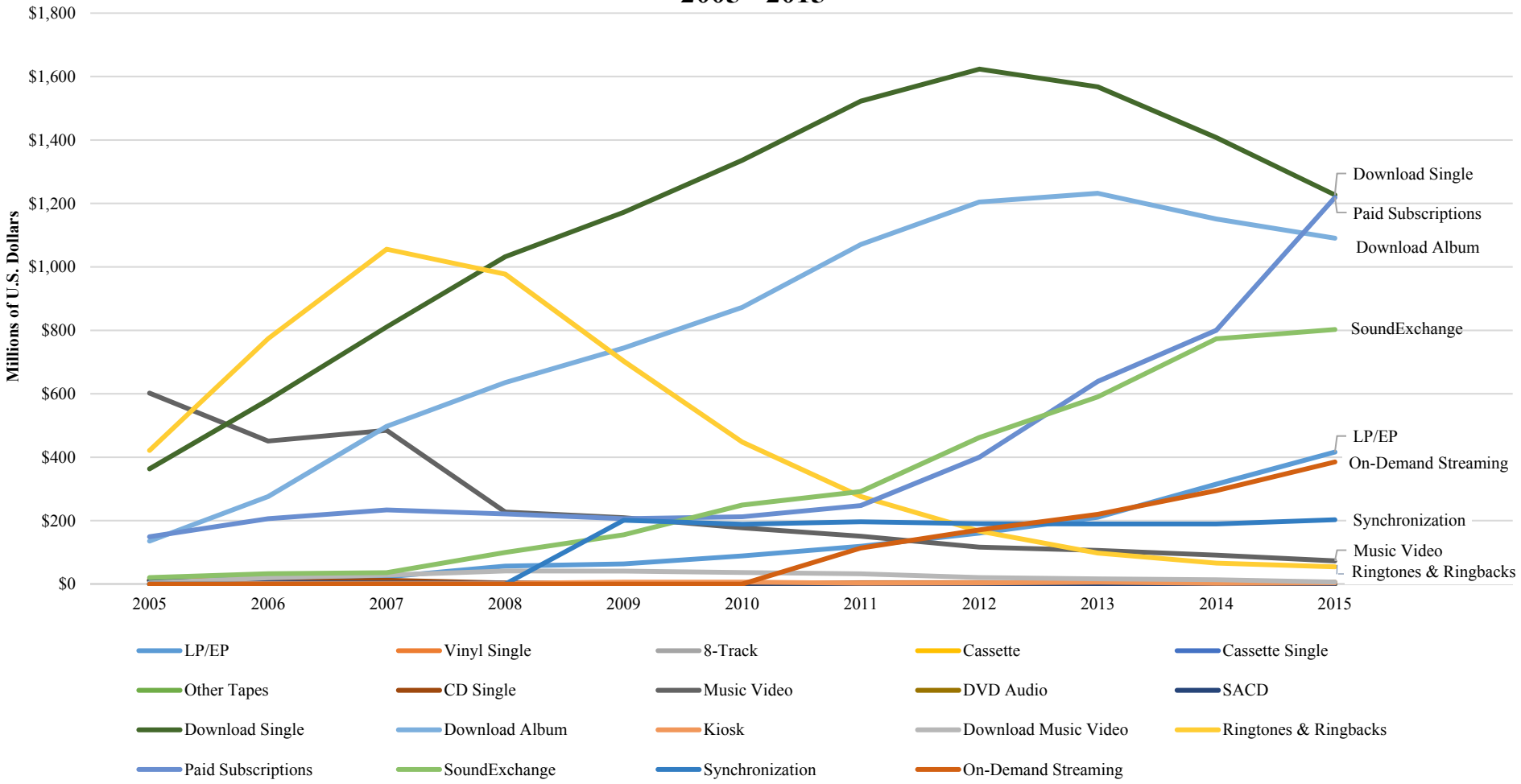
Exhibit 6b
U.S. Music Industry Revenue
2005 - 2015



Notes: SoundExchange includes streaming radio services such as Pandora, SiriusXM and other internet radio. Paid subscriptions includes services such as Rhapsody and paid versions of Spotify. On-demand streaming includes services such as ad-supported Spotify.

Sources: "U.S. Sales Database," The Recording Industry Association of America, https://www.riaa.com/u-s-sales-database/. Last accessed September 21, 2016.
"News and Notes on 2015 Mid-Year RIAA Shipment and Revenue Statistics," The Recording Industry Association of America, 2015, http://www.riaa.com/wpcontent/uploads/2015/09/2015_RIAAMidYear_ShipmentData.pdf.

Exhibit 6c
U.S. Music Industry Revenue
Excluding Total Industry and CD Sales
2005 - 2015



Notes: SoundExchange includes streaming radio services such as Pandora, SiriusXM and other internet radio. Paid subscriptions includes services such as Rhapsody and paid versions of Spotify. On-demand streaming includes services such as ad-supported Spotify.

Sources: "U.S. Sales Database," The Recording Industry Association of America, https://www.riaa.com/u-s-sales-database/. Last accessed September 21, 2016.
"News and Notes on 2015 Mid-Year RIAA Shipment and Revenue Statistics," The Recording Industry Association of America, 2015, http://www.riaa.com/wpcontent/uploads/2015/09/2015_RIAAMidYear_ShipmentData.pdf.

Exhibit 7
Subpart A Effective Royalty Rate as a Percentage of the Price Per Song

2006-2015

	2006 (a)	2007 (b)	2008 (c)	2009 (d)	2010 (e)	2011 (f)	2012 (g)	2013 (h)	2014 (i)	2015 (j)
Subpart A Royalty Rate										
Rate for Songs ≤ 5.2 Minutes (Per Song)	$ 0.091	$ 0.091	$ 0.091	$ 0.091	$ 0.091	$ 0.091	$ 0.091	$ 0.091	$ 0.091	$ 0.091
Rate for Songs > 5.2 Minutes (Per Minute)	$ 0.0175	$ 0.0175	$ 0.0175	$ 0.0175	$ 0.0175	$ 0.0175	$ 0.0175	$ 0.0175	$ 0.0175	$ 0.0175
Proportion of Songs > 5.2 Minutes	8.8 %	8.8 %	8.8 %	8.8 %	8.8 %	8.8 %	8.8 %	8.8 %	8.8 %	8.8 %
Avg. Length of Songs > 5.2 Minutes (in Minutes)	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Blended Subpart A Royalty Rate Per Song	$ 0.093	$ 0.093	$ 0.093	$ 0.093	$ 0.093	$ 0.093	$ 0.093	$ 0.093	$ 0.093	$ 0.093
U.S. Sales of Digital Downloads										
Singles										
Unit Shipments	586.4	819.4	1,042.7	1,124.4	1,177.4	1,332.3	1,392.2	1,327.9	1,199.1	1,021.0
Revenue	$ 580.6	$ 811.0	$ 1,032.2	$ 1,172.0	$ 1,336.4	$ 1,522.4	$ 1,623.6	$ 1,567.6	$ 1,407.8	$ 1,226.9
Price Per Song	$ 0.99	$ 0.99	$ 0.99	$ 1.04	$ 1.14	$ 1.14	$ 1.17	$ 1.18	$ 1.17	$ 1.20
Albums										
Unit Shipments	27.6	49.8	63.6	74.5	85.8	103.9	116.7	118.0	117.6	109.4
Revenue	$ 275.9	$ 497.4	$ 635.3	$ 744.3	$ 872.4	$ 1,070.8	$ 1,204.8	$ 1,232.1	$ 1,150.9	$ 1,090.7
Price Per Album	$ 10.00	$ 9.99	$ 9.99	$ 9.99	$ 10.17	$ 10.31	$ 10.32	$ 10.44	$ 9.79	$ 9.97
Songs Per Album	10	10	10	10	10	10	10	10	10	10
Implied Price Per Song	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.02	$ 1.03	$ 1.03	$ 1.04	$ 0.98	$ 1.00
Singles and Albums										
Price Per Song	$ 0.99	$ 0.99	$ 0.99	$ 1.03	$ 1.09	$ 1.09	$ 1.11	$ 1.12	$ 1.08	$ 1.10
Subpart A Effective Royalty Rate Per Song										
Effective Subpart A Royalty Rate	9.4 %	9.4 %	9.4 %	9.1 %	8.6 %	8.5 %	8.4 %	8.3 %	8.6 %	8.5 %

Average Price Per Song	**$ 1.07**
Effective Subpart A Royalty Rate	**8.7 %**

Notes: Blended Subpart A Royalty Rate Per Song is calculated as 9.1 cents multiplied by one minus the Proportion of Songs > 5.2 Minutes, plus 1.75 cents multiplied by the Average Length of Songs > 5.2 Minutes and the Proportion of Songs > 5.2 Minutes.

Effective Subpart A Royalty Rates are calculated as the Subpart A Royalty Rate Per Digital Download divided by Price Per Song.

The Proportion of Songs > 5.2 Minutes and the Average Length of Songs > 5.2 Minutes are obtained as of August 2016 and are used for 2006 through 2015.

Unit Shipments and Revenue are in millions.

Based on the RIAA's assumption, one album contains 10 songs on average.

Implied Price Per Song in the Albums section is calculated as the Price Per Album divided by Songs Per Album.

Price Per Song in the Singles and Albums section is calculated as the weighted average price per song for singles and albums.

Average Price Per Song is calculated as the weighted average price per song over the 2006-2015 time period.

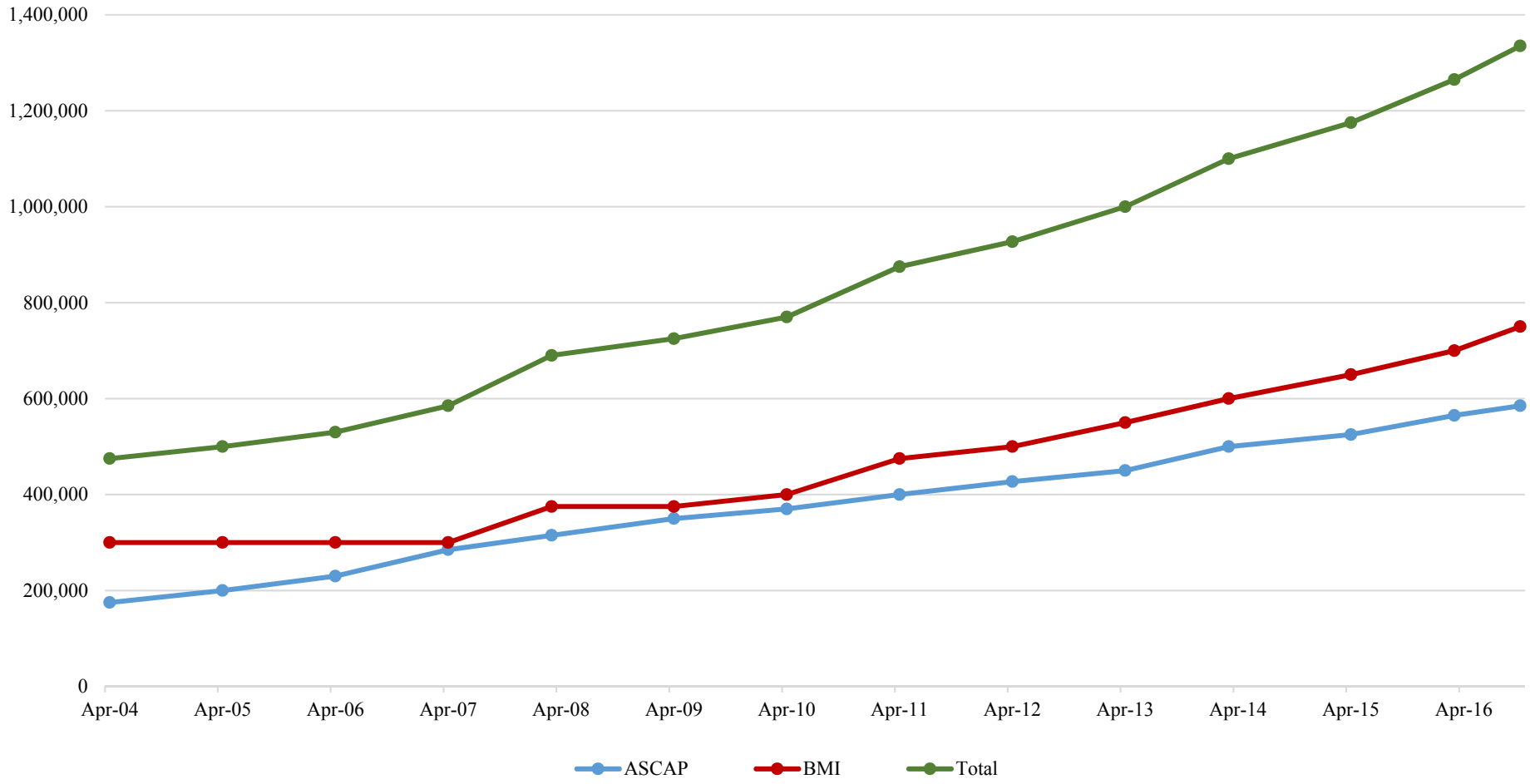
Sources: 37 CFR § 385.3.

"U.S. Sales Database," The Recording Industry Association of America, https://www.riaa.com/u-s-sales-database/. Last accessed on September 14, 2016.

"RIAA Accepts Streams for Gold and Platinum Certifications," Billboard, February 1, 2016, http://www.billboard.com/articles/business/6859551/riaa-streaming-gold-platinum-certification-methodology.

Data Generated in Response to a Request Made by Edgeworth Economics to Google.

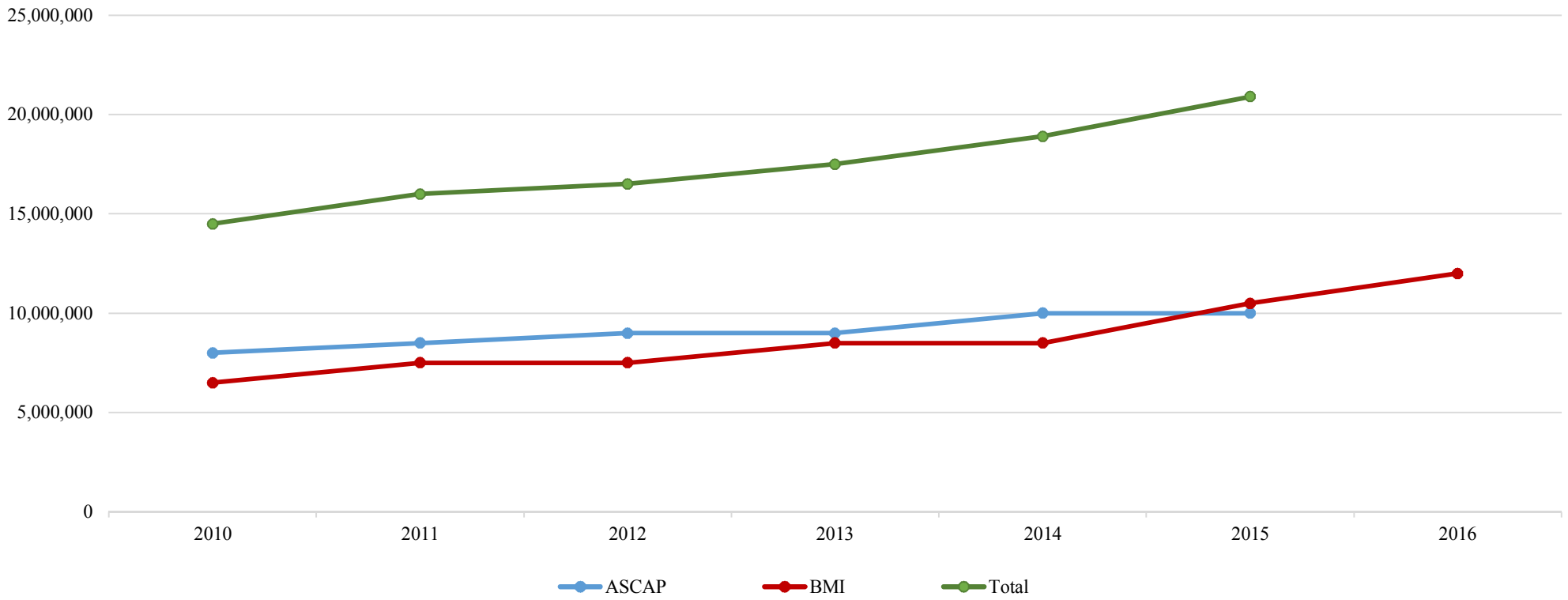
Exhibit 9
Number of Affiliated Songwriters, Composers, and Music Publishers
2004-2016



Note: Historical data for ASCAP and BMI retrieved from https://archive.org/web/.
Sources: "About ASCAP," ASCAP, http://www.ascap.com/about.
"About," BMI, http://www.bmi.com/about.

Exhibit 10
Number of Compositions Represented by Major U.S. PROs

2010-2016



Note: Historical data for BMI retrieved from https://archive.org/web/.
Sources: "About," BMI, http://www.bmi.com/about.
2015 Annual Report, ASCAP.
2014 Annual Report, ASCAP.
2013 Annual Report, ASCAP.
2012 Annual Report, ASCAP.
2011 Annual Report, ASCAP.
2010 Annual Report, ASCAP.

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

In the Matter of	)	
DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (PHONORECORDS III)	)	**Docket No. 16-CRB-0003-PR (2018-2022)**

TESTIMONY OF DAVID B. PAKMAN

I. BACKGROUND AND QUALIFICATIONS

1. I am a Partner at venture capital firm Venrock, where I have worked for the past eight years. At Venrock, I focus on investing in and helping build early-stage consumer and enterprise internet companies. I also have extensive prior experience in the digital music industry, not only as an investor, but also as the founder of a digital music services company and as a CEO and employee of others.

2. I joined Venrock in 2008. Venrock invests in early-stage internet, technology, and healthcare companies and works to build them into successful, stand-alone, high-growth businesses. Venrock's beginnings date back to 1938, when Laurance Rockefeller started doing what many people today call venture capital investing by providing the initial capital for both Eastern Airlines and McDonnell Aircraft. Mr. Rockefeller continued making a new investment or two each year for the next 30 years, at which time the financial construct of venture investment vehicles led to the creation of some of the iconic early venture firms, Venrock among them. Today, Venrock continues Mr. Rockefeller's tradition of venture investing.

3. Prior to joining Venrock, I spent a number of years in the music industry. From 1991-1994, and then again from 1995-1997, I worked at Apple, first as a Product Manager and then as co-founder of the original Apple Music Group, which focused on advancing the state of the art in digital music distribution by partnering with, and developing digital products for, the music industry.

4. From 1997-1999, I worked at N2K Entertainment, where I served as Vice President, Business and Product Development. At N2K, I oversaw the creation of e-mod, the first commercially available digital music download service.

5. In 1999, I co-founded MyPlay, Inc. and served as its President. At MyPlay, my co-founder and I created the first cloud-based digital music locker. MyPlay launched one of the first DMCA-compliant,[1] internet-only, webcasting services. We were one of the first companies to report and pay royalties to SoundExchange. Under my leadership, MyPlay grew to over 50 employees with over 8 million music locker users. In October 2001, MyPlay was sold to Bertelsmann eCommerce Group and re-branded as Bertelsmann BeMusic. Following the acquisition, I served at Bertelsmann BeMusic as Senior Vice-President, Corporate Development & Public Policy.

6. From 2003-2008, I served as the Chief Operating Officer, and then the Chief Executive Officer, of eMusic, at the time the largest retailer of independent music in the world and the second largest online retailer of digital downloads in the world. During my tenure at eMusic, I helped to grow its revenues from about $7 million to $68 million, made possible by thousands of agreements with independent record labels and performing rights societies.

[1] "DMCA" refers to the Digital Millennium Copyright Act.

7. In all, I have spent more than 14 years in the digital music industry, negotiated hundreds of licensing agreements with major and independent labels, music publishers and performing rights organizations, sold music and music-related services to millions of consumers, and built and launched multiple successful digital consumer products. I have overseen the modeling and creation of many different business models in digital music, including ad-supported streaming, subscription downloads, digital music lockers and digital download sales. I also have testified before Congress on music licensing issues, including in 2012 before the Subcommittee on Intellectual Property, Competition and the Internet of the House Judiciary Committee on the state of internet music licensing. Additionally, I testified before the Copyright Arbitration Royalty Panel ("CARP") in the first webcasting proceeding to set sound recording performance royalties ("*Webcasting I*") and before this tribunal in the fourth webcasting proceeding ("*Webcasting IV*").

8. I hold a Computer Science Engineering degree from the University of Pennsylvania School of Engineering and Applied Science.

9. Appendix A is a copy of my most recent curriculum vitae. I am being paid an hourly rate of $800. My compensation is not dependent upon the conclusions I reach or the outcome in the proceedings.

II. SUMMARY OF PRIOR COPYRIGHT ROYALTY BOARD TESTIMONY

10. In the *Webcasting IV* proceeding, I provided testimony which concluded that, based on my long personal experience in the digital music industry and my evaluation of potential investments while at Venrock, the webcasting industry has fared poorly due primarily to royalty rates that are too high. This is evidenced by, among other things, a high failure rate for webcasting services and a lack of investment in these services relative to other digital industries.

11. I further opined that the combination of high royalty rates, low likelihood of profitability, scarce investment capital, and high failure rates results in a smaller market for noninteractive streaming digital music services, fewer licenses, and smaller overall payments to rights-holders.

III. ASSIGNMENT AND SUMMARY OF CONCLUSIONS

12. I have been retained by counsel for Google Inc., Pandora Media, Inc., Spotify USA Inc., and Amazon Digital Services, LLC to provide an opinion regarding the impact that the rates and terms for the making and distributing of phonorecords have had and likely will have on interactive digital music services and on investors' willingness to invest in those services.

13. Based on my long personal experience in this industry, my evaluation of potential investments while at Venrock, and my review of the materials listed in Appendix B, I have reached the following conclusions:

a) The digital music service industry has fared poorly due primarily to music licensing royalty rates—including payments to both music publishers and owners of sound recordings—that are too high.

b) As a result of excessive music licensing royalty costs, there is a high failure rate for digital music services and a lack of investment in these services relative to other digital businesses.

c) The low level of investment in digital music services is stifling growth in this industry, depressing both music service revenues and the total dollar amount of payments to music rights-holders relative to the levels I would expect to see if there were a lower royalty structure.

IV. VENROCK INVESTS IN MANY INTERNET AND OTHER HIGH-TECH COMPANIES, BUT IT AND OTHER INVESTORS ARE UNWILLING TO INVEST IN DIGITAL MUSIC SERVICES

14. Venrock is fortunate enough to have invested in and helped build some of the most important and iconic technology and healthcare companies ever created. These investments include Apple, which Venrock funded in 1977, only one year after Apple was founded, as well as Intel, Athenahealth, Check Point Software, DoubleClick, Nest and Dollar Shave Club. Our firm has invested more than $2.6 billion in more than 450 companies over the past 40 years.

15. Collectively, as a firm, Venrock has invested in more than 200 internet and technology companies. Some of our more recent successful investments include Zeltiq Aesthetics, Inc., a public company which markets and licenses the CoolSculpting cryolipolysis procedure and Nest, the creator of the smart thermostat, acquired by Google.

16. At Venrock, I have invested in ten internet companies. These companies include Smartling, the leading cloud-based language translation management platform, and Pearl Automation, a leading autonomous driving consumer products company. I led the Series A and Series B rounds in Dollar Shave Club (acquired by Unilever for $1 billion), the largest direct-to-consumer men's grooming company.

17. Because of my deep experience in digital music, virtually every investment opportunity related to digital entertainment is initially directed to me, and in the event other Venrock investment professionals review an investment in this space, I will be consulted and will make the final determination as to whether the investment opportunity is sufficiently compelling to pursue.

18. Despite Venrock's heavy investment in internet and technology companies and my extensive experience as an entrepreneur in the digital music business, Venrock has never invested in any digital music or internet radio companies. The overwhelming majority of my venture capital colleagues industry-wide have taken a similar approach by declining to invest in such services. This is primarily due to a combination of four factors: (1) digital music and internet radio services have extremely high royalty costs, (2) these high royalty costs result in very low gross margins, (3) the low gross margins make it virtually impossible to earn a profit and, (4) as a result of elusive profits, the businesses fail far more frequently than in other sectors. These combined factors make Venrock and other investors skeptical that they will earn a meaningful return on their invested capital.

V. HIGH ROYALTY RATES ARE THE PRIMARY REASON FOR THE LACK OF INVESTMENT IN DIGITAL MUSIC SERVICES AND FOR THEIR HIGH FAILURE RATE

A. The Royalties Paid to Music Rights Owners Represent the Majority of Costs Incurred by Digital Music Services

19. Digital music services must secure licenses from music publishers for rights to the musical works and licenses from record labels for rights to the sound recordings. In some cases, the licenses needed are offered by the rights-holder on a voluntary basis and, in my experience, require lengthy and burdensome negotiations. In other cases, music uses are subject to compulsory licensing, such as the reproduction and distribution of musical works at issue in this proceeding.

20. It is true that sound recording royalty costs comprise a much larger portion of the royalty burden than publishing rights for digital music services. There are a variety of reasons

for the difference in rates paid to sound recording and musical work rights owners.[2] However, music service operators and their investors view these royalties as a combined cost that they must pay in order for the services to operate lawfully. Lowering one rate while increasing another does not provide a path to profitability for these services. Music service operators are accordingly agnostic regarding how to allocate the two different royalty obligations associated with sound recording and publishing copyrights and only care about the total amount of royalty costs that they must pay.

21. Similarly, from the perspective of the digital music service, the publishing royalty has always been viewed as a whole. The division of uses into the so-called mechanical royalty and public performance royalty buckets is an artificial distinction from a different era. In fact, when viewed in light of its historical definition, it is not even clear if a mechanical right is implicated in the delivery of a stream or in the operation of a digital music streaming service. For these reasons, digital music services view the music publishing royalty simply as a total royalty paid to music publishers for whichever or both of these two historical buckets are implicated by a service's activities.

[2] Specifically, Charles Ciongoli, the Chief Financial Officer of Universal Music Group, who at that time oversaw both the label and publishing functions at Universal, testified in the first Webcasting proceeding before the CARP that there were "significant differences between the record business and the music publishing business" and that "record labels engage in a very risky business," whereas "the publishing business has less risk and less cost." Public Testimony of Charles Ciongoli Before the Copyright Arbitration Royalty Panel (April 2001) at 1-2. In *Webcasting II*, Mr. Ciongoli testified again that "there are fundamental differences between the sound recording and music publishing businesses." He even went so far as to say that publishers "ride the coattails of the record company" and that it was "therefore unsurprising that the risks and rewards – and the levels of compensation – for sound recordings and musical works differ greatly in markets where music is disseminated." Rebuttal Testimony of Charles Ciongoli (Sept. 2006) at 2-3.

22. The combined royalties for musical works and sound recordings continue to represent the overwhelming amount of costs of goods sold ("COGS") in the digital music services business. Based on my experience in the music industry and as a venture capitalist evaluating potential investments in digital music companies, the biggest cost faced by digital music services is the amount of royalties paid to music rights-holders (i.e., music publishers and record labels).[3]

B. I Am Unaware of Any Standalone Digital Music Service That Has Achieved Profitability to Date

23. The high rates that have been set for music licensing royalties have resulted in widespread failure among digital music services. Indeed, I am not aware of a single standalone digital music service that has achieved sustained profitability to date.[4] Market evidence shows that the royalty rates that have been set in the past are extraordinarily high relative to the amount of revenue that could be generated by digital music services. Ultimately, the cost of music licensing royalties often exceeded the revenue generated by both advertising and subscription business models, producing businesses that operate with negative gross margins and are unable to generate any profit.[5]

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[3] *See, e.g.*, Spotify, *Spotify Explained: How We Pay Royalties: An Overview*, http://www.spotifyartists.com/spotify-explained/#how-we-pay-royalties-overview ("Spotify pays royalties for all of the listening that occurs on our service by distributing nearly 70% of all the revenues that we receive back to rights holders.").

[4] *See, e.g.*, Mathew Ingram, *That Digital Music Service You Love Is a Terrible Business*, *Fortune* (Jul. 1, 2016), http://fortune.com/2016/07/01/digital-music-business/.

[5] *See, e.g.*, Generator Research, Digital Music Subscription Services, at 11 (Nov. 12, 2013) ("Our analysis is that no current music subscription service – including marquee brands like Pandora, Spotify and Rhapsody – can ever be profitable, even if they execute perfectly and the reason for this is that it is almost inconceivable that the music industry will agree to significantly reduced royalties.").

24. This is true in the case of many digital download music services. For five years, as COO and then CEO of eMusic, I operated one of the largest digital download music services in the world. In that time, despite paying combined sound recording and music publishing royalties that were lower than Apple's iTunes,[6] its primary competitor, eMusic was unable to operate profitably at any time during these five years. Even after I left, eMusic was not able to achieve sustained profitability. Other digital download services have also struggled to achieve meaningful, sustained profitability.

25. Interactive digital streaming music services face an arguably even more difficult path to probability, because the non-music royalty costs associated with operating interactive streaming services are higher than those of digital download services. Interactive streaming services bear costs associated with delivering the stream from the service's servers every time a user plays a song[7]. In contrast, for digital download music services, a bandwidth expense is incurred only once when a user purchases and downloads a song. Subsequent listens to that song do not result in any additional costs to the digital download service. Given this higher ongoing bandwidth expense associated with running an interactive streaming service, if music royalty costs were the same, it is even less likely that interactive streaming services at current price levels will be able to achieve profitability unless the combined sound recording and music publishing rates are lowered. And this does not even consider the higher overhead and infrastructure costs such as marketing, staff and other technology costs incurred by interactive streaming services as they seek to promote a shift in music consumption behavior by consumers.

[6] eMusic's total music royalty costs were approximately 60% of revenue whereby Apple's payments to music rightsholders for downloads are approximately 70% of revenue.

[7] Provided the song has not been locally cached – a feature available in only some services.

In light of the increased non-music operating costs of interactive streaming services, one would expect the music licensing costs to be lower in order to allow services a chance to earn a similar profit. However, this is not the case. The combined cost burden of both music licensing and non-music operating costs offers even a lesser chance for interactive streaming services to achieve profitability.

26. The available public data bear this out. Spotify, the world's largest interactive streaming on-demand music service, has more than 100 million active users[8] and more than 40 million paying subscribers.[9] In 2015, its revenue was $2.1 billion. Of this, a great majority of its revenues were paid out as royalty costs to rights holders.[10] Even with this extremely large paying user base, Spotify lost approximately $200 million in 2015 and has never achieved profitability.[11]

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[8] *See* Micah Singleton, *Spotify Has Over 100 Million Active Users*, The Verge (June 20, 2016), http://www.theverge.com/2016/6/20/11976554/spotify-has-over-100-million-active-users.

[9] *See* Matt Brian, *Spotify Now Has 40 Million Paid Subscribers*, Endgadget (Sep. 14, 2016), https://www.engadget.com/2016/09/14/spotify-40-million-paid-subscribers/.

[10] *See* Tim Ingham, *Spotify Revenues Topped $2Bn Last Year as Losses Hit $194M*, Music Business Worldwide (May 23, 2016), http://www.musicbusinessworldwide.com/spotify-revenues-topped-2bn-last-year-as-losses-hit-194m/.

[11] *See* Mathew Ingram, *Spotify's Financial Results Reinforce Just How Broken the Music Business Is*, Fortune (May 24, 2016), http://fortune.com/2016/05/24/spotify-financials/; *see also,* Joshua Brustein, *Spotify Hits 10 Million Paid Users. Now Can It Make Money?*, Bloomberg Businessweek (May 21, 2014), http://www.businessweek.com/articles/2014-05-21/why-spotify-and-the-streaming-music-industry-cant-make-money (emphasis added):

> Scale is a magic word for so many cloud-based companies and services, but Beats and Spotify operate differently. ***Their margins don't improve as they get larger.*** If Spotify bought the rights to songs for a flat rate, then every subscriber it adds would mean free money for the company. But that isn't what it does. Instead, ***it spends a fixed proportion of its total revenue on royalties. So if Spotify doubles its subscriber base, it doubles the amount of money it pays out***. It may be that Spotify will gain some power over the

27. From my personal experience, investing in digital music companies is largely disfavored in the venture funding community, as those companies' failure rate is among the highest I have observed. My research in this area confirms the point. My research included using the PitchBook Platform, a proprietary database that Venrock and other venture capitalists regularly use for conducting research on industry financings and company performance, including successes and failures of companies in various market segments. The search criteria and functions in the database allowed me to compare the performance results for the mobile,[12] Software-as-a-Service ("SaaS"),[13] eCommerce,[14] and digital music[15] sectors. To determine the

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royalties it pays once it has a critical mass of customers, but right now, many people think it can never get ahead of its costs.

[12] I selected the "Mobile" vertical and "VC-backed" company universe resulting in 10,999 companies as of 10/2/16. PitchBook defines this vertical as "Companies whose primary revenue source comes from providing services for mobile devices or enabling mobile communications." To determine non-distressed exits, I selected "public investments" and "acquisitions" exit types resulting in 2,388 companies as of 10/2/16. To determine distressed outcomes, I selected "distress" exit type, resulting in 760 companies as of 10/2/16.

[13] I selected the "SaaS" vertical and "VC-backed" company universe resulting in 13,767 companies as of 10/2/16. PitchBook defines this vertical as "Information technology companies which provide their software using client-server architectures that host the application in a centralized, off-site location." To determine non-distressed exits, I selected "public investments" and "acquisitions" exit types resulting in 4,818 companies as of 10/2/16. To determine distressed outcomes, I selected "distress" exit type, resulting in 961 companies as of 10/2/16.

[14] I selected the "eCommerce" vertical and "VC-backed" company universe resulting in 4,813 companies as of 10/2/16. PitchBook defines this vertical as "Companies whose primary purpose is selling products or facilitating the selling of products through the internet. This includes online retailers, online marketplaces, social commerce and logistics and shipping for online retailers, and providers of software and hosting services for online retail." To determine non-distressed exits, I selected "public investments" and "acquisitions" exit types resulting in 990 companies as of 10/2/16. To determine distressed outcomes, I selected "distress" exit type, resulting in 400 companies as of 10/2/16.

[15] I selected the "Venture Capital" universe and "Consumer Products and Services (B2C)" industry and added the keyword "music". I excluded 897 companies which were not companies

number of VC-backed companies in each sector, I used the "VC-backed" company universe search criteria. I next determined outcomes for each sector – i.e., whether profitable for the investors or simply a distressed/bankruptcy exit. In that regard, I used an "exit type" search where "Public Investments, Acquisitions" indicated a profitable outcome and "Distress" indicated either a distressed exit or bankruptcy. In addition, I spot-checked the search results in an attempt to confirm accuracy. I discuss the comparative results of my research in parts a) and b) below.

a) Digital Music: My research revealed that, since 1997, approximately 239 digital music companies (including both interactive and noninteractive) were created and funded by venture investors. Of those, approximately 63 were acquired by larger companies[16], sometimes for less money than their investors put in. Venture investors expect to achieve a multiple return of five times to ten times the amount of money invested for an investment to be deemed a success. Of the 63 digital music companies who have exited, I believe only seven—Last.FM, Spinner, MP3.com, Gracenote, Thumbplay, Pandora and possibly The Echo Nest—achieved meaningful venture returns for their investors. Based on my professional experience, I would estimate that the total return to investors for each of these services was at least $25 million. This represents an investor success rate of only approximately 3%, far below that of

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in a business requiring the licensing of music or of providing music-related consumer utilities or internet radio services, or whose primary application did not involve music in some way. This resulted in 239 companies as of 10/2/16. To determine non-distressed exits, I selected "public investments" and "acquisitions" exit types resulting in 65 companies as of 10/2/16. I removed Deezer and Rdio from this list, since Deezer has not exited and Rdio did not exit profitably for its investors, according to my research, resulting in 63 companies. To determine distressed outcomes, I selected "distress" exit type, resulting in 37 companies as of 10/2/16.

[16] This number suggests a success rate of 26.4%. Upon closer inspection, most of those exits did not produce meaningful returns for their investors and many actually produced losses for their investors.

other internet and technology market segments (*see* subsection b), below). Further, of the 239 digital music services that received funding from venture investors, only two have achieved an Initial Public Offering, while at least 37 companies have resulted in a distressed exit and/or filed for bankruptcy. The failure rate of standalone digital music companies of 15.4% is among the highest of any industry I have evaluated at Venrock. I believe the already-high failure rate for digital music services will only worsen over the coming years if the royalty structure is not improved, as the remaining companies in this space continue to struggle.

b) Comparison to Other Market Segments: Other internet and technology market segments attract far larger numbers of startups and have produced positive investor outcomes at a rate which compares more favorably to the digital music market. For example, more than 10,999 venture-backed companies have been formed in the mobile communications space. Of those, approximately 2,388 have achieved an exit bringing a profitable return to their investors, for a success rate of 21.7% (as compared to 3% for digital music services) and only 760 have filed for bankruptcy or had a distressed exit, for a 6.9% failure rate (as compared to the 15.4% for digital music services). Similarly, in the SaaS sector, more than 13,767 venture-backed companies were created, and, so far, at least 4,818 had profitable liquidity events, a success rate of approximately 35%. Only 961 have resulted in bankruptcy for a 7% failure rate. Likewise, at least 4,813 eCommerce companies have been formed and venture-backed so far, with 990 profitable outcomes, or a 20.5% success rate; and the bankruptcy rate is only 8.3%. Perhaps most importantly, these figures demonstrate a dramatically lower level of venture investment into the digital music sector – 239 venture funded companies in digital music compared with thousands in many other technology sectors.

28. Pandora Media is the largest music streaming service in the United States, with nearly 78 million monthly active listeners. Although Pandora is now transitioning to offer interactive tiers of service, it has operated as an internet radio service with lower statutory royalty payments for sound recording rights than it would have paid at prevailing rates for interactive services. Even with this extraordinary scale – almost one-quarter of all Americans listen each month – and a lower effective royalty rate, the company was not profitable on a GAAP basis. Nor does it appear that it will operate profitably on a GAAP basis in 2016.

29. The only outcome that seems to produce success for investors and entrepreneurs is when digital music services are sold to larger companies willing to provide additional capital to operate these services, despite the challenging economic model and dim prospects for reaching profitability for digital music services. For example, large companies like Apple, Google, and Amazon may be willing to operate low gross-margin digital music services because their other companion businesses are profitable and can subsidize the music service.[17] It would be a sign of an unhealthy market if the only remaining digital music services are those owned by larger companies content to subsidize their music subsidiaries while generating profit elsewhere in the businesses. Yet, in my experience, this is precisely the state of the digital music market. An independent, stand-alone digital music service can only operate while its investors are willing to

[17] *See, e.g.*, Jill Krasny, *Why Every Music Start-Up Will Fail (and Apple Will Win)*, Inc. (June 10, 2013), http://www.inc.com/jill-krasny/why-startups-are-entering-music-streaming-wars.html:

> According to Ted Cohen, a digital entertainment executive who's worked for Napster and EMI, tech giants also have the advantage of using music as a loss leader, something a single-purpose start-up can't do. Apple has a whole ecosystem of products to fall back on, while Amazon, who is reportedly eyeing the music space as well, can sell music subscriptions so long as customers keep shopping on its site.

fund the low-margin business. But as investors come to see that there are no prospects of reaching profitability and decline to provide additional funding, the digital music service either shuts down or exits to large companies willing to subsidize the digital music service and run at break-even or for a modest profit. As my research shows, venture capital investors largely disfavor the digital music market for these very reasons. The likely outcome is that only a few digital music services will remain and most likely operated by large companies capable of funding extremely low-margin businesses. This result deprives rights-holders of the chance to earn more royalty payments from more companies and likely further results in a smaller total digital music market.

30. The concerns I am raising here are not just theoretical. In 2015, the Copyright Royalty Board released new rates for sound recording royalties in the *Webcasting IV* decision. These rates did not include any relief for the high royalties paid by smaller webcasters initially addressed by the Webcaster Settlement Act of 2009. As a direct result of the expiration of this Act and the resultant royalty rate increase of between eight to 14 times their previous rates,[18] many smaller webcasters ceased operations and cited high royalty costs as the reason. For example, Live365, one of the industry's most prominent webcasters, shut its service down on January 31, 2016 and laid off its staff. [19] In addition, Radionomy blocked U.S. licensing on radio

[18] Brad Hill, *CRB: Small Webcasters Face January 1 With Fear, Anger, Hope, and Strategies*, Radio & Internet News (Dec. 28, 2015), http://rainnews.com/crb-small-webcasters-face-january-1-with-fear-anger-hope-and-strategies/.

[19] Anna Washenko, *Live365 Announces Shut-Down at the End of January*, Radio & Internet News (Jan. 21, 2016), http://rainnews.com/breaking-live365-announces-shut-down-at-the-end-of-january/. While there are reports that Live365's assets have been purchased and it may one day resume operations, as of the date of this testimony, the service remains non-operational. *See* Brad Hill, *Live365 Set to Return: Big News for Small Webcasters*, Radio & Internet News (Aug. 15, 2016), http://rainnews.com/live365-set-to-return-big-news-for-small-webcasters/.

stream aggregation service TuneIn because of the new CRB rates.[20]

C. A Change in the Music Royalty Rate Structure Could Help Digital Music Services Become More Profitable and More Attractive to Investors

31. Investment capital is attracted to markets where the possibility of high returns exist when weighed against the potential risks. The historically unprofitable nature and low success rates of digital music services have scared many investors away from the digital music sector. Due to the economic conditions and the lower-than-other-segments success rates, dramatically fewer entrepreneurs enter these markets and even fewer investors are willing to fund companies entering these markets as compared to many other software technology markets. Indeed, venture capitalists are aware that unlike those healthy sectors, digital music services are burdened by high music licensing royalty rates charged for distributing and performing sound recordings and music compositions that result in unsustainable gross margins and unprofitable companies.[21]

32. It would be possible for the publishers and record labels to set rates in such a way as to allow licensees to experience healthier and sustainable gross margins, but the publishers

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[20] Brad Hill, *Radionomy Blocks U.S. Listening on TuneIn Because of CRB Rates*, Radio & Internet News (May 2, 2016), http://rainnews.com/radionomy-blocks-u-s-listening-on-tunein-because-of-crb-rates/.

[21] *See, e.g.,* Sarah Mitroff, *So You Want in on the Music Biz? Fred Wilson Has 4 Things to Tell You*, Wired (Nov. 16, 2012), http://www.wired.com/2012/11/music-startups/ (emphasis added):

> Unlike a typical software startup that can get up and running with $500,000, music startups often need at least $5 million and up to $20 million just to get started, says Wilson. ***Much of that money goes towards licensing music content from the copyright holder, …. "The startup costs for a legal and legitimate music service are extremely high relative to any other sector,"*** he says. Translation: VCs have plenty of other cheap sectors to go hunting for promising startups, so funding for music startups is hard to come by.

and labels have chosen not to do this, and the CARP and CRB rates likewise have resulted in unprofitable digital music services. As a result, companies trying to deliver these innovative services are unsustainable under the current rates and frequently shut down once their investors grow tired of subsidizing these high rates and elusive profits fail to arrive at any scale.

33. With fewer entrants and many failures, little opportunity exists to grow this market and pay more royalties to rights holders. The ideal market environment, in my opinion, is to have many sustainable, profitable music services licensing music from rights holders and making frequent payments back to them, serving many market segments, reducing piracy and ultimately creating a larger music market. It is in the best interest of music rights holders to encourage the success of many digital music licensees and to reap the economic benefits of a large, growing and healthy market, receiving payments from many operators.

D. Royalty Rates Must Be Lowered to Ensure a Healthy Market for Streaming Music

34. As discussed previously, the combination of music publishing and sound recording royalties are currently too high and no profitable digital music services currently exist. Reducing these rates is the largest opportunity an operator has to attempt to become profitable, become self-sustaining (i.e., not require additional investment capital or subsidization to survive), and to provide an on-going income stream to rights holders as a meaningful alternative to piracy or other lower-value music consumption.

35. I understand that in trying to determine a fair royalty rate under Section 115, the CRB is tasked with following the policy objectives outlined in 17. U.S.C. § 801(b), including the objectives of "maximiz[ing] the availability of creative works to the public." In order to achieve this objective, it must be relatively easy and attractive for music services to operate or to enter the market and provide musical works to the public.

36. The music industry is continuing to undergo a dramatic transition. Over the past seventeen years, we have witnessed the transition from music sold as physical goods, to music sold as digital downloads, to digitally streamed music on the internet. With the prevalence of mobile devices such as smartphones and tablets globally and the availability of wireless broadband connectivity to those devices, the future of the delivery and dissemination of music is certain to be largely conducted through digital streaming on the internet. In fact, the two legacy forms of music distribution, physical goods and digital downloads, are nearly relics of the past, declining in sales year over year.[22]

37. In order to ensure a healthy, prosperous music industry for creators and rights holders, the industry must establish a structure allowing for the success of stand-alone digital music services that continuously pay rights-holders and artists for the use of their works. The models of the past do not perfectly fit this future, and thus structural and economic changes are necessary. The new streaming music industry does not yet have the economic conditions and music licensing framework that will let it prosper. This proceeding should establish rates that will allow music services to operate profitably. Only then will there be meaningful capital investments in the digital music service sector, encouraging new services to enter the market, and in turn creating new and increasing income streams for artists and rights holders.

38. Another of the 801(b) factors is that a rate must "afford the copyright owner a fair return for his or her creative work and the copyright user a fair income under existing economic conditions." As stated previously, current economic conditions and current royalty rates do not allow for profitability for any services, which alone counsels for lowering the rates. However,

[22] *See* Ben Sisario and Karl Russell, *In Shift to Streaming, Music Business Has Lost Billions*, New York Times (Mar. 24, 2016), http://www.nytimes.com/2016/03/25/business/media/music-sales-remain-steady-but-lucrative-cd-sales-decline.html?_r=0.

the current system also stifles the return to copyright owners by limiting the distribution of music. It is important to create a market whereby scores of digital music services can prosper and pay rights holders for their works. This could be accomplished through a reduction in licensing costs, which would lower the operating costs of digital music services, allow services to operate profitably, and encourage a proliferation of new services, which could grow the addressable market and increase the overall return to copyright holders.

39. Under 801(b), a rate should also "reflect the relative roles of the copyright owner and the copyright user in the product made available to the public with respect to relative creative contribution, technological contribution, capital investment, cost, risk, and contribution to the opening of new markets for creative expression and media for their communication." Thus, it is worth recognizing the significant technical and customer contributions made by digital music services. Establishing a global streaming network to offer low-latency music streaming in high fidelity to thousands of different devices is a herculean and challenging task, typically requiring hundreds of engineers and network operations experts. Providing a service that understands individual customer tastes, curates music selections in a relevant and engaging manner and helps users quickly discover new music or play existing favorites — all features which are currently de rigeur for the operation of a competitive service — also requires hundreds of product development specialists, software developers, designers, and algorithmic technologists. The expertise and personnel needed to operate a state-of-the-art music service today is among one of the most challenging technical problems faced by consumer-facing internet companies. In short, the services are making tremendous contributions in order to distribute music, and music publishing royalties should be set at a level that makes it possible for

services that operate efficiently to see some reward for this effort and be incentivized to continue contributing to the industry.

40. Finally, under 801(b), a rate should "minimize any disruptive impact on the structure of the industries involved and on generally prevailing industry practices." As my research and testimony clearly set forth, digital music companies are unable to reach profitability under the existing rate structure. This serves to (a) suppress investment capital, (b) cause a much larger percentage of businesses to fail relative to other technology segments and (c) leave the market with a select few remaining services. The remaining services struggle to operate under the current rate structure. A material increase in rates would likely cause further harm to these struggling services, eventually dooming them to the same disappointing fate as the failed services that have come before.

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress
Washington, D.C.

In the Matter of: **Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022)**

DECLARATION OF DAVID PAKMAN

I, David Pakman, declare under penalty of perjury that the statements contained in my Written Direct Testimony in the above-captioned proceeding are true and correct to the best of my knowledge, information, and belief. Executed this 31 day of October, 2016 in Bedford, NY.

David Pakman

Appendix A

David B. Pakman

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Senior Executive Profile

Entrepreneur – Executive Management – Venture Capital – M&A – Product Marketing – Product Development
Software – Network Applications – Digital Music – Media – Entertainment – eCommerce –
Digital Media Technology & Infrastructure

Eight years experience venture investing, twelve years experience in launching and building innovative technology and media companies, building and managing large teams, running business development and product marketing/product development organizations, and overseeing $50M+ P&Ls. Exceptional business development executive with expertise in raising venture capital, negotiating complex deals and transactions, designing strategy, developing new business models, and taking companies from concept to IPO or acquisition.

- Strategic & Business Development
- Revenue/Market Growth & Profit Improvement
- New Business Development
- Legal & Business Affairs
- Competitive Strategy & Market Intelligence
- Managing P&Ls
- Product Strategy
- Product Marketing & Product Development
- Content Licensing
- Public Policy
- Funding Strategies & Raising Capital
- Public Speaking, Roadshows, PR
- M&A, IPO, Transactions

Professional Experience

VENROCK, New York, NY (November 2008 — Present)
Premiere venture capital firm investing in early stage internet and digital media companies

Partner

- Invested in Smartling, Dollar Shave Club, Dstillery (formerly Media6Degrees), Burner, Dasher, YouNow, Singly (acquired by Appcelerator), Klout (acquired by Lithium Technologies)
- Crunchyroll, Board Member (acquired by The Chernin Group)
- Nest, oversaw firm's investment (acquired by Google)
- CloudFlare, Board Observer

EMUSIC.COM, INC., New York, NY (2003 — November 2008)
Largest retailer of independent music

CEO/COO

- Completely rebuilt team and business
- Grew company 600% from $7M in revenue to $68M
- Grew subscription service from 50K subs to more than 450K in four years
- Managed 100 employees, operated in 28 countries

DIMENSIONAL ASSOCIATES, New York, NY (2003 — November 2008)
Private equity fund

Managing Director

- Purchased eMusic from Vivendi Universal
- Purchased The Orchard

MEDIACODE, Los Angeles, CA (2002 — 2003)
Strategic Advisor to VC-backed digital music company. Help sell company to Yahoo!

BERTELSMANN BEMUSIC, New York, NY (October 2001 — October 2002)
Largest music direct marketing company, $600M in sales and 12M customers, owned BMG Music Club & CDNOW

Senior Vice-President, Corporate Development & Public Policy

- Oversaw all record label and music publisher digital licensing efforts
- Achieved breakthrough economics in digital licensing from major labels
- Developed new business initiatives and partnerships
- Renegotiated and rationalized vendor contracts resulting in savings of more than $2M
- Member of executive team reporting directly to CEO, joined as part of Myplay acquisition

MYPLAY, INC., Redwood City, CA and New York, NY (June 1999 — October 2001)
Inventor of Digital Locker, online storage of digital media, over 8M customers, sold to Bertelsmann in 2001

President and Co-Founder

Founded and built the company which invented and launched the first digital locker, allowing customers to store and organize their music collections online and then access and listen from any net-connected device. Became locker service for scores of partners including AOL and Emusic. Myplay utilized highly-sophisticated 1-1 email marketing system to target its more than 8M customers based on music preferences.

- Raised more than $30M from Allen & Co, Redpoint Ventures, and Vulcan Ventures
- Oversaw business development, legal, public policy, industry relations, and product strategy
- Worked with CEO to hire and manage team of 75 employees
- Forged partnerships with hundreds of major and independent labels and artists to promote new releases
- Testified to Congress on copyright and intellectual property matters, lobbied Executive and Legislative branches extensively
- Participated in public policy debates and drafting sessions of key copyright legislation
- Outspoken and often-quoted pioneer of digital-age intellectual property matters and the future of the music industry

N2K, INC., New York, NY/CDNOW, INC., New York, NY (April 1997 – June 1999)
First ecommerce music/video retailer, over $100M in revenue, merged with CDNOW and sold to Bertelsmann in 2000
Vice-President, Business and Product Development

- Responsible for annual revenues of over $60M in sales
- Helped take N2K public and through secondary public offering, raising over $100M
- Helped complete $150M+ merger with CDNOW
- Constructed, negotiated, and managed the company's relationships with such partners as America Online, Netscape, Excite, Infoseek, Disney and ABC, Microsoft, and with artists such as The Tragically Hip and Stewart Copeland
- Managed company's business development efforts including the evaluation and negotiation of all strategic partnerships, the management and optimization of online marketing relationships, and the creation of economic models for new business initiatives such as custom compilations and digital music distribution.
- Responsible for the conceptualization, market research, and definition of product initiatives and feature sets for MusicBlvd (www.musicblvd.com). Built and managed a team of 25 business development and partner marketing employees
- Oversaw product management organization and set engineering and development priorities

APPLE COMPUTER, INC., Cupertino, CA and New York, NY (August 1991 – March 1997)
Manager of Programming, Apple Interactive Networks

- Managed group of 5 people creating continuous web-based interactive music programming
- Created cutting-edge websites, integrated new audio & video technologies
- Executive Producer for official webcast of the 39th GRAMMY awards, Metallica, and Mission: Impossible World Premiere webcasts.
- Negotiated technology, content, and artist partner relationships

Interactive Music Business Development Manager, Apple Music Group

- Co-founded Apple's Music Group
- Music industry liaison managing relationships with major music labels, artists, and music/multimedia developers
- Conceptualized, developed, and implemented new strategies and business models for Apple relating to key Apple technologies and their use in music and entertainment. Specific emphasis on internet-related music distribution models
- Co-created and Produced Macintosh New York Music Festival, first large-scale online music webcast.

Product Marketing Manager, Macintosh System Software Marketing

EDUCATION

WALTER A. HAAS SCHOOL OF BUSINESS, University of California at Berkeley, Berkeley, CA
Executive Education Program, Competitive Marketing Strategies for High–Tech Products, April 1993.

SCHOOL OF ENGINEERING AND APPLIED SCIENCE, University of Pennsylvania, Philadelphia, PA
Bachelor of Science Engineering (BSE) in Computer Science Engineering, May 1991. Dean's List.

PRIOR TESTIMONY

- Copyright Arbitration Royalty Panel, Docket No. 2000-9 CARP DTRA ("*Webcasting I*")
- U.S. House of Representatives Committee on the Judiciary, Subcommittee on Intellectual Property, Competition and the Internet Hearing on "Music Licensing Part One: Legislation in the 112th Congress" (Nov. 28, 2012).
- Copyright Royalty Board, Docket No. 14-CRB-0001-WR (2016-2020) ("*Webcasting IV*")

Appendix B

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

In the Matter of	)	
DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (PHONORECORDS III)	)	**Docket No. 16-CRB-0003-PR (2018-2022)**

DOCUMENTS CITED/RELIED UPON IN THE TESTIMONY OF DAVID B. PAKMAN

No.	Document
1.	Anna Washenko, *Live365 Announces Shut-Down at the End of January*, Radio & Internet News (Jan. 21, 2016), http://rainnews.com/breaking-live365-announces-shut-down-at-the-end-of-january/.
2.	Ben Sisario and Karl Russell, *In Shift to Streaming, Music Business Has Lost Billions*, New York Times (Mar. 24, 2016), http://www.nytimes.com/2016/03/25/business/media/music-sales-remain-steady-but-lucrative-cd-sales-decline.html?_r=0.
3.	Brad Hill, *CRB: Small Webcasters Face January 1 With Fear, Anger, Hope, and Strategies*, Radio & Internet News (Dec. 28, 2015), http://rainnews.com/crb-small-webcasters-face-january-1-with-fear-anger-hope-and-strategies/.
4.	Brad Hill, *Live365 Set to Return: Big News for Small Webcasters, Radio & Internet News* (Aug. 15, 2016), http://rainnews.com/live365-set-to-return-big-news-for-small-webcasters/.
5.	Brad Hill, *Radionomy Blocks U.S. Listening on TuneIn Because of CRB Rates*, Radio & Internet News (May 2, 2016), http://rainnews.com/radionomy-blocks-u-s-listening-on-tunein-because-of-crb-rates/.
6.	Generator Research, Digital Music Subscription Services (Nov. 12, 2013).
7.	Jill Krasny, *Why Every Music Start-Up Will Fail (and Apple Will Win)*, Inc. (June 10, 2013), http://www.inc.com/jill-krasny/why-startups-are-entering-music-streaming-wars.html.
8.	Joshua Brustein, *Spotify Hits 10 Million Paid Users. Now Can It Make Money?*, Bloomberg Businessweek (May 21, 2014), http://www.businessweek.com/articles/2014-05-21/why-spotify-and-the-streaming-music-industry-cant-make-money.

Appendix B

No.	Document
9.	Mathew Ingram, *Spotify's Financial Results Reinforce Just How Broken the Music Business Is*, Fortune (May 24, 2016), http://fortune.com/2016/05/24/spotify-financials/.
10.	Mathew Ingram, *That Digital Music Service You Love Is a Terrible Business*, Fortune (Jul. 1, 2016), http://fortune.com/2016/07/01/digital-music-business/.
11.	Matt Brian, *Spotify Now Has 40 Million Paid Subscribers*, Endgadget (Sep. 14, 2016), https://www.engadget.com/2016/09/14/spotify-40-million-paid-subscribers/.
12.	Micah Singleton, *Spotify Has Over 100 Million Active Users*, The Verge (June 20, 2016), http://www.theverge.com/2016/6/20/11976554/spotify-has-over-100-million-active-users.
13.	Proprietary PitchBook Platform Database
14.	Public Rebuttal Testimony of Charles Ciongoli Before the Copyright Royalty Board, Docket No. 2005-1 CRB DTRA ("*Webcasting II*") (September 2006).
15.	Public Testimony of Charles Ciongoli Before the Copyright Arbitration Royalty Panel, Docket No. 2000-9 CARP DTRA ("*Webcasting I*") (April 2001).
16.	Sarah Mitroff, *So You Want in on the Music Biz? Fred Wilson Has 4 Things to Tell You*, Wired (Nov. 16, 2012), http://www.wired.com/2012/11/music-startups/
17.	Spotify, *Spotify Explained: How We Pay Royalties: An Overview*, http://www.spotifyartists.com/spotify-explained/#how-we-pay-royalties-overview.
18.	Tim Ingham, *Spotify Revenues Topped $2Bn Last Year as Losses Hit $194M*, Music Business Worldwide (May 23, 2016), http://www.musicbusinessworldwide.com/spotify-revenues-topped-2bn-last-year-as-losses-hit-194m/.

Volume 3

Google Direct Exhibits 001–006 and 008–014 withheld as Restricted

	Country Name	Subscription Launch Date	Planned Currency of Sale	Free Trial Period	Intro Price Point	Intro End Date	Intro Price Duration	Standard Price Point	Family plan launch date	Family Price Point
US	United States	15-May-2013	USD	First 30 days free	7.99	30-Jun-2013	46	**9.99**	12/9/2015	14.99

Google Play's default prices for music download sales are $0.99 per track and $9.99 per album. [redacted]