

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)
)
Video Description: Implementation of the) MB Docket No. 11-43
Twenty-First Century Communications and)
Video Accessibility Act of 2010)

SECOND REPORT TO CONGRESS

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By the Chief, Media Bureau:

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I. INTRODUCTION

1. In this Second Report to Congress (Second Report), the Media Bureau (Bureau) of the Federal Communications Commission (Commission), pursuant to its delegated authority,¹ presents its assessment of the current status of video description. Video description makes video programming² more accessible to individuals who are blind or visually impaired through “[t]he insertion of audio narrated descriptions of a television program’s key visual elements into natural pauses between the program’s dialogue.”³ Video description is typically provided through the use of a secondary audio stream, which

¹ 47 CFR § 0.283.

² “Video programming” refers to programming provided by, or generally considered comparable to programming provided by, a television broadcast station, but not including consumer-generated media. 47 U.S.C. § 613(h)(2); 47 CFR § 79.3(a)(4).

³ *Id.* § 79.3(a)(3). Although the statutory term is “video description,” there is wide support for the view that the synonymous term “audio description” is more descriptive of the process denoted by these terms. The Disability Advisory Committee (DAC), which the Commission established in December 2014, recently recommended that “the Commission, as soon as practicable, use the term ‘audio description’ to refer to described video programs when discussing or listing audio described programming.” Recommendation of the Federal Communications Commission Disability Advisory Committee Described Audio TV Listings Working Group at 3 (adopted Sept. 24, 2019) (DAC Sept. 2019 Recommendation), available at <https://www.fcc.gov/ecfs/filing/109260918804199>. See also FCC Announces the Establishment of the Disability Advisory Committee and Solicits Nominations for Membership,

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allows the consumer to choose whether to hear the narration by switching from the main program audio to the secondary audio. As required by section 202 of the Twenty-First Century Communications and Video Accessibility Act of 2010 (CVAA),⁴ the Commission adopted rules in 2011 requiring certain television broadcast stations and multichannel video programming distributors (MVPDs) to provide video description for a portion of the video programming that they offer to consumers on television.⁵ The Commission has stated that its video description rules play a key role in affording better access to television programs for individuals who are blind or visually impaired, “enabling millions more Americans to enjoy the benefits of television service and participate more fully in the cultural and civic life of the nation.”⁶

2. The CVAA provides that, on October 8, 2019, “the Commission shall submit to the Committee on Energy and Commerce of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report assessing” certain aspects of video description.⁷ Specifically, the report must assess:

- (I) the types of described video programming that are available to consumers;
- (II) consumer use of such programming;
- (III) the costs to program owners, providers, and distributors of creating such programming;
- (IV) the potential costs to program owners, providers, and distributors in designated market areas (DMAs) outside of the top 60 of creating such programming;
- (V) the benefits to consumers of such programming;
- (VI) the amount of such programming currently available; and
- (VII) the need for additional described programming in DMAs outside the top 60.⁸

3. Our assessment of these matters is below. First, we consider the types and amount of video-described programming, including specifically the amount of video-described children’s programming. The record indicates there has been significant progress in the types and amount of video-

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Public Notice, 29 FCC Rcd 14484 (CGB 2014) (stating that the DAC’s mission will include providing the Commission with “recommended proposals on the full range of disability access issues within the Commission’s jurisdiction,” and that it will “facilitate the participation of consumers with disabilities in proceedings before the Commission”). Many of the commenters in this proceeding also use the term “audio description.” See, e.g., *infra* n.42. Given that we have used the statutory term “video description” throughout this proceeding, to avoid confusion we will use that term in this Second Report.

⁴ Pub. L. No. 111-260, § 202(a); 47 U.S.C. § 613(f)(1).

⁵ *Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, MB Docket No. 11-43, Report and Order, 26 FCC Rcd 11847 (2011) (*2011 Video Description Order*). See also 47 CFR § 79.3. In accordance with the CVAA, the *2011 Video Description Order* reinstated with certain modifications the Commission’s video description rules that the United States Court of Appeals for the District of Columbia Circuit previously had vacated due to its finding that the Commission had insufficient authority for its rules. See *Motion Picture Ass’n of America, Inc. v. Federal Communications Comm.*, 309 F.3d 796 (D.C. Cir. 2002).

⁶ *2011 Video Description Order*, 26 FCC Rcd at 11848, para. 1. In 2017 the Commission stated that “[e]stimates of the number of Americans who are blind or visually impaired range from seven million to over 23 million.” See *Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, MB Docket No. 11-43, Report and Order, 32 FCC Rcd 5962, 5967, para. 10 (2017) (*2017 Video Description Order*) (footnote omitted).

⁷ 47 U.S.C. § 613(f)(4)(C)(iii).

⁸ *Id.*

described programming available over the past five years, and consumers would benefit from additional described programming. Second, we discuss consumer use of and benefits from video-described programming. The record in this proceeding demonstrates that consumers who are blind or visually impaired derive significant benefits from the use of video description. It also suggests that technological developments should improve the availability of accurate information about what programming contains video description, as well as the current tension between whether Spanish-language programming or video description should be provided on a single available secondary audio stream. Third, we consider the costs to program owners, providers, and distributors of providing video description. The record indicates that the Commission's estimate of \$4,202.50 as the maximum cost of adding video description to an hour of video programming remains accurate, and that the cost can be as little as \$1,000 per hour. Fourth, we discuss the potential expansion of video description requirements to additional market areas. Although consumers seek expansion of the video description requirements to DMAs outside the top 60, and description would benefit consumers in smaller markets, the record does not contain detailed or conclusive information as to whether the costs of such an expansion would be reasonable.⁹ Finally, although the CVAA does not require the Commission to consider video-on-demand (VOD) programming or Internet protocol (IP)-delivered programming¹⁰ for purposes of this Second Report, we also consider these issues and discuss the record evidence that most VOD and online programming currently does not include video description, potentially due to current technical limitations.

II. BACKGROUND

4. The Bureau's first report to Congress on video description, which also was mandated by the CVAA,¹¹ presented a detailed history of the Commission's video description rules through 2014,¹² and therefore we do not repeat that history here. In the *First Report*, the Bureau found that "[t]he availability of video description on television programming has provided substantial benefits for individuals who are blind or visually impaired, and industry appears to have largely complied with their responsibilities under the Commission's 2011 rules."¹³ The Bureau also found, however, that "consumers report the need for

⁹ Given that the CVAA provides the Commission with authority "to phase in the video description regulations for up to an additional 10 designated market areas each year" beginning October 8, 2020, the Media Bureau will issue a Public Notice early next year to consider whether the costs of such an expansion would be reasonable. *See* 47 U.S.C. § 613(f)(4)(C)(iv).

¹⁰ "Internet protocol" is defined as "includ[ing] Transmission Control Protocol and a successor protocol or technology to Internet protocol." Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-260, 124 Stat. 2751, § 206(5) (2010); Amendment of Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-265, 124 Stat. 2795 (2010) (making technical corrections to the CVAA). Video programming delivered using IP includes, but is not limited to, video programming that is available on the Internet. *See Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, Report and Order, 27 FCC Rcd 787, 796, para. 12 & n. 65 (2012) (*IP Closed Captioning Order*) ("All video programming that is available on the Internet is IP-delivered, but not all video programming that is delivered via IP is Internet programming. For example, programming may be delivered via IP using an entity's private network. Such programming would be IP-delivered, but it would not be Internet programming."). To the extent an MVPD uses IP to distribute its traditional managed video services to its MVPD customers within its service footprint, however, that service is subject to the existing video description rules that apply to MVPDs, notwithstanding the use of IP technology. *See* 47 CFR § 79.3; *IP Closed Captioning Order*, 27 FCC Rcd at 796-97, para. 12.

¹¹ 47 U.S.C. § 613(f)(3).

¹² *Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, MB Docket No. 11-43, Report to Congress, 29 FCC Rcd 8011, 8014-17, paras. 4-11 (2014) (*First Report*). The Commission first adopted video description rules in 2000, but they were vacated in 2002. *See id.* at 8014, para. 4; *supra* n.5.

¹³ *First Report*, 29 FCC Rcd at 8011, para. 1.

increased availability of and easier access to video-described programming, both on television and online.”¹⁴

5. The CVAA provided that the Commission could issue additional video description regulations if it determined, “at least 2 years after completing the [*First Report*], that the need for and benefits of providing video description for video programming, insofar as such programming is transmitted for display on television, are greater than the technical and economic costs of providing such additional programming.”¹⁵ The Commission made such a finding in 2017, and it subsequently increased the amount of described programming that covered broadcast stations and MVPDs are required to carry to 87.5 hours per calendar quarter from 50 hours per calendar quarter.¹⁶ Specifically, the video description rules now require commercial television broadcast stations that are affiliated with one of the top four commercial television broadcast networks (ABC, CBS, Fox, and NBC) and are located in the top 60 television markets to provide 50 hours of video-described programming per calendar quarter, which must appear during prime time or on children’s programming,¹⁷ and to provide an additional 37.5 hours of video-described programming per calendar quarter at any time between 6 a.m. and midnight.¹⁸ In addition, MVPD systems that serve 50,000 or more subscribers must provide 50 hours of video description per calendar quarter during prime time or on children’s programming on each of the top five national nonbroadcast networks that they carry on those systems,¹⁹ and must provide an additional 37.5 hours of video description per calendar quarter at any time between 6 a.m. and midnight.²⁰ The top five nonbroadcast networks currently subject to the video description requirements are USA Network, HGTV, TBS, Discovery, and History.²¹

6. The CVAA requires the Commission to submit this Second Report on video description to the Committee on Energy and Commerce of the House of Representatives and to the Committee on Commerce, Science, and Transportation of the Senate on October 8, 2019.²² The Second Report must assess the seven topics listed in Section I above. To inform the Second Report, the Bureau sought comment on these topics, “including information on pertinent developments since the previous video

¹⁴ *Id.*

¹⁵ 47 U.S.C. § 613(f)(4)(A).

¹⁶ See *2017 Video Description Order*. NCTA filed a petition for partial reconsideration of the *2017 Video Description Order* requesting that the Commission reconsider the rule that allows for counting programs aired with video description no more than twice and adopt a safe harbor for networks that air a substantial amount of programming with video description. Petition for Partial Reconsideration of NCTA – The Internet & Television Association, MB Docket No. 11-43 (Sept. 11, 2017). Subsequently, NBC Universal filed a request for limited waiver of the video description rules with respect to its wholly owned nonbroadcast programming network, USA Network, and any similarly situated top 5 nonbroadcast network that airs a substantial amount of programming with video description. Request of USA Network for Limited Waiver of Video Description Rules, MB Docket No. 11-43 (May 3, 2019). On October 7, 2019, the Media Bureau released an order that grants a limited waiver of the video description rules with respect to USA Network for the remainder of the current ratings period ending on June 30, 2021, but declines to grant a safe harbor from the video description requirements for other similarly situated, top 5 nonbroadcast networks. See *Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, Memorandum Opinion and Order, MB Docket No. 11-43, DA No. 19-1019 (rel. Oct. 7, 2019). As a condition of the waiver, USA Network must air at least 1,000 hours of described programming each quarter without regard to the number of repeats and describe at least 75 percent of any newly produced, non-live programming that is aired between 6:00 a.m. and midnight per quarter. *Id.*

¹⁷ 47 CFR § 79.3(b)(1). On July 1, 2015, full-power affiliates of the top four television broadcast networks located in markets 26 through 60 became subject to the video description requirements in addition to the top 25 markets already covered by the requirements. See *2011 Video Description Order*, 26 FCC Rcd at 11855-56, para. 16.

¹⁸ 47 CFR § 79.3(b)(1). See also *2017 Video Description Order*, 32 FCC Rcd at 5965, 5970, paras. 7, 15. Covered broadcast stations became subject to the requirement to provide an additional 37.5 hours of video description as of the calendar quarter beginning on July 1, 2018. See *id.* at 5972-73, para. 19. In addition, the rules require “[t]elevision broadcast stations that are affiliated or otherwise associated with any television network [to] pass

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description report to Congress in 2014.”²³ In addition, the Bureau sought comment on the availability of VOD programming with video description, as well as updated information regarding the provision of video description on video programming distributed on the Internet.²⁴ The comments received in response to the *2019 Public Notice*, as well as the Bureau’s findings, are detailed below. We received three comments and one reply from members of the television industry, and two comments and one reply from groups representing individuals who are blind or visually impaired. We also received 34 comments and replies from individual consumers. The CVAA provides that as of October 8, 2020, “the Commission shall have the authority, based upon the findings, conclusions, and recommendations contained in the [Second Report], to phase in the video description regulations for up to an additional 10 designated market areas each year.”²⁵

III. DISCUSSION

7. The following discussion is divided into topical subsections that correspond to the seven topics, noted above, that the CVAA requires this Second Report to address. We also address two additional related topics on which the Bureau sought comment: (1) video description on VOD programming and (2) description on programming distributed via the Internet.²⁶

A. Types and Amount of Video-Described Programming, and Amount on Children’s Programming

8. This Second Report is required to assess “the types of described video programming that [are] available to consumers,” and “the amount of such programming currently available.”²⁷ In the *2019 Public Notice*, the Bureau sought “data on the amount of video-described programming that is currently available to consumers on television, as well as the types of programming that are provided with video description.”²⁸ The Bureau also requested “data on the types of described video programming being used to meet both the 50-hour requirement as well as the expanded hourly programming requirement, and the

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through video description when the network provides video description and the broadcast station has the technical capability necessary to pass through the video description, unless it is using the technology used to provide video description for another purpose related to the programming that would conflict with providing the video description.” 47 CFR § 79.3(b)(3).

¹⁹ 47 CFR § 79.3(b)(4). For purposes of the video description rules, the top five national nonbroadcast networks include only those that reach 50 percent or more of MVPD households and have at least 50 hours per quarter of prime-time programming that is not live or near-live or otherwise exempt under the video description rules. 47 CFR § 79.3(b)(4). The list of the top five networks is updated every three years based on changes in ratings and was last updated on July 1, 2018 (remaining in effect until June 30, 2021). See 47 CFR § 79.3(b)(4).

²⁰ 47 CFR § 79.3(b)(4). See also *2017 Video Description Order*, 32 FCC Rcd at 5965, 5970, paras. 7, 15. Covered MVPDs became subject to the requirement to provide an additional 37.5 hours of video description as of the calendar quarter beginning on July 1, 2018. See *id.* at 5972-73, para. 19. In addition, MVPD systems of any size must pass through video description provided by a broadcast station or nonbroadcast network, if the channel on which the MVPD distributes the station or programming has the technical capability necessary to do so and if that technology is not being used for another purpose related to the programming. 47 CFR § 79.3(b)(5)(i)-(ii).

²¹ See *Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, MB Docket 11-43, Order and Public Notice, 33 FCC Rcd 4915 (2018). See also *supra* n.16 (describing the USA Network limited waiver).

²² 47 U.S.C. § 613(f)(4)(C)(iii).

²³ *Media Bureau Seeks Comment on Recent Developments in the Video Description Marketplace to Inform Report to Congress*, MB Docket No. 11-43, Public Notice, 34 FCC Rcd 158, 160-64, paras. 6-10 (MB 2019) (*2019 Public Notice*).

amount of rerun programming being used to meet the video description requirements.”²⁹ In addition, the Bureau invited “comment on the amount of children’s programming that is used to meet the video description requirements.”³⁰

9. **Types of video-described programming.** NCTA reports that video description today is “available on a wide variety of programming genres, such as reality television, new entertainment series, feature films, and syndicated programming.”³¹ According to NCTA, programs that are video-described generally air initially in prime time and are re-aired with video description during non-prime time hours, which makes video description available to customers during an increasing variety of day parts.³² In addition, broadcast and individual commenters provide several examples of programs that are currently available with video description on networks such as ABC, CBS, Fox, NBC, and PBS. These programs include sitcoms, dramas, game shows, movies, news specials, sports events, and children’s educational programming.³³ Individual consumers also indicate that the increased variety of video-described programming on television has enriched their ability to enjoy television programming.³⁴

10. **Amount of video-described programming.** Although NCTA does not provide numbers for the amount of video-described programming currently available on cable systems, it states that “the amount of video-described material on cable systems has grown substantially” since the *First Report*, and “[s]everal other cable networks (in addition to the currently covered top five networks) voluntarily air programming with video description, including some networks that previously were covered by the FCC’s rules.”³⁵ As explained above, video description is now available on a wide variety of programming, including on some live programming such as awards shows, Presidential Inauguration coverage, and Olympic events.³⁶ NCTA also reports that the “total amount of video-described material on cable systems far exceeds the minimum number of video-described hours mandated under the rules when one takes into account all the video-described programming that is available both on linear channels and on-demand.”³⁷ Similarly, on the broadcast side, NAB states that “all of the networks subject to the rules voluntarily currently provide more described programming than mandated under the Commission’s rules,

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²⁴ *Id.* at 164, paras. 11-12.

²⁵ 47 U.S.C. § 613(f)(4)(C)(iv). The Commission may only engage in such a phase-in “(I) if the costs of implementing the video description regulations to program owners, providers, and distributors in those additional markets are reasonable, as determined by the Commission; and (II) except that the Commission may grant waivers to entities in specific designated market areas where it deems appropriate.” *Id.*

²⁶ *Id.* § 613(f)(4)(C)(iii); *2019 Public Notice*, 34 FCC Rcd at 164, paras. 11-12.

²⁷ 47 U.S.C. § 613(f)(4)(C)(iii)(I), (VI).

²⁸ *2019 Public Notice*, 34 FCC Rcd at 164, para. 7.

²⁹ *Id.* (footnotes omitted). *See also* 47 CFR § 79.3(b)(1), (4), (c)(2).

³⁰ *2019 Public Notice*, 34 FCC Rcd at 164, para. 7.

³¹ NCTA – The Internet & Television Association (NCTA) Comments at 3.

³² *Id.* *See also id.* at 4 (“For example, USA Network typically offers newly produced non-live programming with video description. These programs include popular series such as *Mr. Robot*, *Suits*, *Chrisley Knows Best*, *Psych*, *Colony*, and *the Sinner*.”).

³³ *See, e.g.*, National Association of Broadcasters (NAB) Comments at 3-4 (“Examples of video described programming include: ABC: *The Goldbergs*, *Modern Family*, *Speechless*, *black-ish*, *America’s Funniest Home Videos*, live awards and game shows, live Presidential Inauguration coverage, and additional children’s programming. CBS: *NCIS: Los Angeles*, *NCIS*, *NCIS: New Orleans*, *Lucky Dog*, *The Inspectors*, *Hope in the Wild*, additional prime-time and children’s programming. FOX: *Empire*, *Family Guy*, *The Gifted*, *Gotham*, *Lethal Weapon*, *The Masked Singer*, *The Passage*, *The Resident*, *The Simpsons*, *Star*, *Beat Shazam*, and *MasterChef*. NBC: *New Amsterdam*, *Chicago Fire*, *Will & Grace*, *Superstore*, *A.P. Bio*, *The Wiz Live!*, *Hairspray Live!*, the 2018 Winter Olympics and additional children’s programming.”); *Id.* at 4 (noting that at least two broadcast networks,

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and in some cases, substantially more.”³⁸ NCTA explains that a focus only on hours that count as video-described programming under the Commission’s rules ignores the “sizable increase in the amount and diversity of programming with video description that customers can enjoy on their cable systems” and that is not “countable” under the rules.³⁹

11. Notwithstanding the reported increase in the available amount of video-described programming, some consumers express frustration with the lack of video-described programming on certain networks or shows that they would like to view.⁴⁰ One commenter questions why her television viewing experience should be limited.⁴¹ Consumer comments indicate that they would like to see continued expansion in the amount of video-described programming available.⁴² ACB recommends the Commission increase the amount of video-described programming by an additional 75 percent.⁴³

12. ***Children’s programming.*** ACB states that “video described educational programming plays a vital role in the development of disabled children, as well as of children with disabled family members and friends, because the programming increases the level of engagement by the viewers and allows for more in-depth interaction by all audience members.”⁴⁴ Litton, which describes itself as “the preeminent producer of children’s educational and informational (‘E/I’) programming in the United States,” indicates that all of the original programming it currently produces includes both closed captions and video description.⁴⁵ Specifically, Litton states that it “currently provides three (3) hours of E/I programming to affiliates of ABC, CBS, NBC, as well as the CW and Telemundo networks,” and that programming reaches viewers of more than 900 television stations in the United States.⁴⁶ The website for ACB’s Audio Description Project (ADP) indicates that there is video description on other children’s programming, specifically on PBS, which is not subject to the video description requirements but nonetheless “offers description of *many* children’s shows.”⁴⁷

13. ***Summary.*** The record indicates that there has been significant progress in the variety and amount of video-described programming available. While video description originally would have been

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The CW and PBS, “provide a meaningful amount of video described programming on a voluntary basis”); Timothy Wynn (Wynn) Comments at 1 (“For FOX and ABC, the top two broadcast networks with the highest amount of Video-Described content, programs with [video description] range from sitcoms such as American Housewife or Bob’s Burgers, to dramas such as For the People or Empire, but can also include game shows such as Match Game or The Masked Singer.”). The record indicates that program providers provide programming to local broadcast television stations with video description, and the stations pass the video description through when the programming airs. See Litton Entertainment (Litton) Comments at 3-4.

³⁴ See, e.g., Renee Arrington-Johnson (Arrington-Johnson) Comments at 1; Michal Nowicki (Nowicki) Comments; Megan Parker (Parker) Reply at 1 (“The expansion of video description in recent years has opened up the world of television to me once again. Watching shows with my husband is a truly enjoyable activity for us now that so many shows are described. I also enjoy being able once again to talk about popular shows with friends, family, and coworkers.”). But see Judy L. Davis (Davis) Comments (expressing frustration with “networks that often reair movies with video description instead of using new movies”).

³⁵ NCTA Comments at 6 (also noting that most of the first run shows on TNT are video-described).

³⁶ See *supra* n.33.

³⁷ NCTA Comments at 3.

³⁸ NAB Comments at 2. See also *id.* at 3 (stating that the actual amounts of video-described programming are up to 100 to 125 hours per quarter for some networks).

³⁹ NCTA Comments at 3. NCTA notes that the Commission’s rules “allow[] MVPDs to count toward the quarterly hour requirement each program it airs with video description no more than two times per network,” and claims that “[t]he total amount of video-described material on cable systems far exceeds the minimum number of video-described hours mandated under the rules when one takes into account all the video-described programming that is available both on linear channels and on-demand.” *Id.*; *supra* n.16.

found largely on prerecorded scripted programming,⁴⁸ the record reflects that today it is also available on some live programming, including awards shows, Presidential Inauguration coverage, and Olympic events.⁴⁹ Similarly, the record indicates that the amount of video-described programming often goes beyond what is required by Commission rules and that video description is available on certain children's programming. The record also reflects consumer demand for more video-described programming and that consumers would benefit from a continued increase in the types and amount of such programming.

B. Consumer Use of and Benefit from Video-Described Programming

14. This Second Report is required to assess “consumer use of [video-described] programming” and “the benefits to consumers of such programming.”⁵⁰ In the *2019 Public Notice*, the Bureau sought “comment on the extent to which both visually impaired and non-visually impaired consumers use video description services when viewing television programming, as well as the benefits to consumers of such services.”⁵¹ The Bureau also sought “comment on how consumers can access information about video-described programming from covered entities, such as via program lists and schedules.”⁵² In addition, the Bureau sought “comment on the extent to which there are developments in the marketplace that are enabling or will enable apparatus to handle more than two audio tracks.”⁵³

15. ***Consumer use and benefits.*** NFB explains that “the importance and necessity of video description for blind consumers has only grown” since the *First Report* and the *2017 Video Description Order* were published.⁵⁴ Individual consumers who are blind or visually impaired explain that their use of video description greatly enhances the experience of viewing video programming.⁵⁵ For these consumers, whether video programming has video description is a major factor in deciding whether they will watch it.⁵⁶ Video description serves as “an important tool in enabling persons with severe vision impairments to become more fully integrated into society.”⁵⁷ Consumers explain that it allows people who are blind or visually impaired to be more independent, since they do not need to rely on others to narrate the visual elements of television programming.⁵⁸ Consumers also indicate that there may be ways to make video

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⁴⁰ See, e.g., Fred and Kathy Brack (Brack) Comments at 1; Jason Farrar Comments; Bonnie O'Day Reply at 1; Parker Reply at 1; Patrick Sheehan Reply at 1.

⁴¹ Tiffany Taylor (Taylor) Reply at 1.

⁴² See, e.g., Arrington-Johnson Comments at 1 (“Prime time television shows should all have [audio description] so that all consumers can choose what they want to watch.”); Denice Brown (Brown) Comments (“please expand the hours per day that networks have video described programming.”); Ralph Cappellieri (Cappellieri) Comments (“Any expansion of audio description services would be beneficial.”); Gaylen Floy (Floy) Comments at 1 (“I would like to see Audio Description become easier to access and much more content become available.”); Scott B. Smith Comments at 1 (“We would hope for all program material to be accessible with audio description in the future.”). In response to concerns about the accessibility of video description, we note that the requirements in section 79.109 of our rules pertaining to activating accessibility features went into effect for smaller MVPDs on December 20, 2018. See 47 CFR § 79.109(c). See also *First Report*, 29 FCC Rcd at 8026-27, para. 33 (discussing the accessible user interfaces requirements).

⁴³ American Council of the Blind (ACB) Reply at 2. See also National Federation of the Blind (NFB) Comments at 2 (indicating that it is time “to ensure that blind consumers are provided as much described content as possible”).

⁴⁴ ACB Reply at 1-2.

⁴⁵ Litton Comments at 3.

⁴⁶ *Id.* (also stating that “[b]y providing three hours of video-described children’s programming per week for ABC, CBS, and NBC, Litton effectively provides 78% (3 of 3.85 hours per week) of the mandated amount of video-described programming for these network-affiliated stations as part of its E/I offerings”).

⁴⁷ See <https://acb.org/adp/tvschedule.html> (emphasis in original).

description more user-friendly, such as including an industry-standard tone at the start of a program to indicate that it is video-described or adding dedicated buttons to remote controls to turn video description on or off.⁵⁹ ACB states that demand for video description will only increase over the next 20 years, as “the incidence of blindness will continue to significantly increase.”⁶⁰

16. **Access to information about video description.** The *2011 Video Description Order* indicated that the Commission expected programmers, broadcasters, and MVPD systems to provide information about the availability of video description to viewers in an accessible manner, including on their websites, and to provide it to companies that publish television listings information.⁶¹ It did not, however, require covered entities to make this information available in a particular manner.⁶²

17. Consumer and industry commenters express differing points of view as to the availability of information about video-described programming. According to NAB, each of the four major broadcast television networks clearly identifies video-described programming on its website.⁶³ Similarly, NCTA states that information identifying video-described programming is “readily available to cable customers,” with programming networks publicizing on their websites schedules of content available with video description and sometimes also providing this information over the telephone.⁶⁴ Some consumers express concern, however, that information about programming that is video described is sometimes non-existent or inaccurate.⁶⁵ The DAC recommendation similarly states that “consumers assert that individuals must search multiple network websites, browse a third-party website, or call into a phone system to find a schedule of audio described programs.”⁶⁶

18. The record indicates that certain developments may help improve the availability and accuracy of information about which programming is described. While some of these developments have already occurred, others may be available in the future. First, the record discusses the benefits of the ACB’s ADP and of “talking guides,” both of which are available today. Specifically, both consumer and industry commenters identify the ADP as a key resource for aggregating and updating an online database of all available video-described content in the United States.⁶⁷ The ADP involves manual verification of

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⁴⁸ See, e.g., NCTA Comments at 3, n.9 (“networks need sufficient lead time between creation of a program and airing to include video description in the final product”).

⁴⁹ See *supra* n.33.

⁵⁰ 47 U.S.C. § 613(f)(4)(C)(iii)(II), (V).

⁵¹ *2019 Public Notice*, 34 FCC Rcd at 162, para. 8.

⁵² *Id.*

⁵³ *Id.*

⁵⁴ NFB Comments at 1.

⁵⁵ See, e.g., Regina Brink (Brink) Comments; Brown Comments; Floy Reply at 1; Michal Moran Reply at 1.

⁵⁶ See, e.g., Davis Comments.

⁵⁷ Jeffery Thom Reply at 1.

⁵⁸ See Davis Comments at 1; Suzi Farrar (S. Farrar) Comments; DeAnna Johnson (Johnson) Comments (describing how after her husband lost his sight, video description allowed her and her husband to “converse with one another, be a part of popular culture,” and “access worlds and stories that he has loved since he was a boy”); Balah Powers (Powers) Comments at 1 (“Since th[e] discovery [of audio description], the quality of my life has improved greatly. I can now enjoy a quiet television show without bothering anyone else in the room to explain to me what is happening on the screen or during the program.”); Floy Reply at 1; MariLyn Piepho Reply at 1 (“Asking others to tell me what is going on visually impacts on their enjoyment, and it is rude to do that especially in a theater.”). See also Wynn Comments at 2 (“In our household, I am the primary user of [video description], though my sighted brother enjoys having it on even when I am not watching a program with him. This allows him to take his eyes off the television when doing other things and still know what is going on.”).

video-described content, which is a “time intensive” process that can only be completed “after video described programming is publicly listed.”⁶⁸ Similarly, NCTA states that the “talking guides” now available on cable systems make it easier to navigate to programming with video description, aided by the fact that “set-top boxes now enable individuals with disabilities to more easily access certain functions on their set-top boxes and television sets.”⁶⁹ Second, the record discusses potential future developments that could help improve the availability and accuracy of information about which programming is described. Specifically, ACB recommends the use of “a standardized digital identifier” for video-described programming, which television broadcasters and MVPDs could then use to identify and disseminate prompt and accurate information on what programming is video-described.⁷⁰ Further, one commenter indicates a desire for better customer service for video description issues, since local contacts are currently available but some issues may be nationwide.⁷¹

19. The DAC recommendation similarly offers suggestions to improve the availability and accuracy of information about which programming is described. Specifically, the DAC recommends standardizing the terms and logos that identify described programming; providing timely and accurate listings of described programming on the websites of broadcast and non-broadcast networks and the Commission, as well as to third-party aggregators; and encouraging MVPDs and other streaming service providers “to develop methods to filter, search, or discover programs that are audio described in their electronic program guides.”⁷²

20. ***Marketplace developments to enable more than two audio tracks.*** As noted above, video description is provided via the secondary audio stream.⁷³ Both consumers and members of the industry have indicated that there are sometimes technical difficulties as a result.⁷⁴ These problems are often related to the fact that Spanish-language audio is also provided on the secondary audio stream.⁷⁵ One potential solution could be to enable more than two audio tracks for a single program, but NAB explains that there would be technical difficulties in doing so at this time, including both for broadcast television station equipment and consumer electronics.⁷⁶ Industry commenters state that progress is being

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⁵⁹ Brack Comments at 2.

⁶⁰ ACB Comments at 1-2.

⁶¹ *2011 Video Description Order*, 26 FCC Rcd at 11872, para 51.

⁶² *Id.*

⁶³ NAB Comments at 5 (explaining that ABC, CBS, and Fox have dedicated websites listing current programming with video description, and that ABC and NBC use an icon to identify video-described programming on their websites containing the network programming schedule).

⁶⁴ NCTA Comments at 6-7 (providing the example of USA Network, which has an accessibility portion of its website and “publicizes telephone access through its website and on the FCC’s video description webpage”).

⁶⁵ *See, e.g.*, Arrington-Johnson Comments at 1; Brack Comments at 1-2; Cappellieri Comments; Wynn Comments at 2.

⁶⁶ DAC Sept. 2019 Recommendation at 2.

⁶⁷ *See* Arrington-Johnson Comments at 1; NCTA Comments at 7; Robert Warrehn Comments. *See also* Arrington-Johnson Comments at 1 (while the ADP is a helpful resource to find video-described content, “it adds extra searching for the consumer that detracts from the entertainment experience and is just plain cumbersome”). The ADP is available at <http://www.acb.org/adp>, and it includes a “master list” of “Current Cinema, DVD, Streaming, and TV titles” that are available in the United States with English-language video description, which it states is updated twice per week.

⁶⁸ ACB Reply at 2.

⁶⁹ NCTA Comments at 6.

⁷⁰ ACB Reply at 2.

made towards developing technology to support more audio tracks in the future.⁷⁷ Both consumers and members of the industry reference the need to balance the interests of Spanish-speakers and of consumers who are blind or visually impaired.⁷⁸ NAB also states that these issues extend to IP-delivered programming, for which there is no established standard for encoding multiple audio tracks, and it notes that the upcoming conversion to ATSC 3.0 may help with this issue.⁷⁹

21. **Summary.** The record indicates that consumers who are blind or visually impaired derive significant benefit from the use of video description, including that they are able to enjoy video programming independently and more fully participate in this aspect of society. While commenters state that information about which programming contains video description is not always complete or accurate, they also demonstrate that new resources and recent technological developments are helping to alleviate this issue. Similarly, commenters suggest that future technological developments to facilitate more audio streams on a single program may help ease tension between whether Spanish-language programming or video description should be provided when only one secondary audio stream is available.

C. Costs to Program Owners, Providers, and Distributors

22. This Second Report is required to assess “the costs to program owners, providers, and distributors of creating [video-described] programming.”⁸⁰ In the *2019 Public Notice*, the Bureau requested information on this issue.⁸¹ The Commission recently estimated that the maximum cost of adding video description to an hour of video programming is \$4,202.50,⁸² and the *2019 Public Notice* sought comment on whether this estimate remains accurate.⁸³ The *2019 Public Notice* also sought comment on related issues, including technological developments that could impact the cost of video description, a potential increase in advertising revenue resulting from video-described programming reaching a larger audience, and the entities responsible for the cost of adding video description to

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⁷¹ Wynn Comments at 3.

⁷² DAC Sept. 2019 Recommendation at 3.

⁷³ See *2011 Video Description Order*, 26 FCC Rcd at 11863-64, para. 32.

⁷⁴ See, e.g., ACB Comments at 4 (“The SAP architecture is reliant on technology that predates much of the innovation in the digital broadcast space.”); NAB Comments at 6 (“There continue to be technical challenges for stations to broadcast more than one additional audio service.”); ACA Connects – America’s Communications Association (ACA) Reply at 2 (stating that some ACA members report “that their headend equipment is already capable of receiving and passing through more than two audio streams,” but “most existing customer premises equipment is not capable of processing more than one primary and one secondary audio stream”).

⁷⁵ See Arrington-Johnson Comments at 1; Brack Comments at 2; NFB Comments at 2 (“The conflict between foreign language audio tracks and a video described audio track on the sole secondary audio program (SAP) channel is problematic. However, it is not one without a solution”); Wynn Comments at 1.

⁷⁶ NAB Comments at 6 (“Additional routing, encoding and other equipment would be required to be installed and tested at every television station to encode multiple SAP channels. On the consumer electronics side, many digital television receivers still lack the requisite user interface needed to enable viewers to easily select the SAP channel. In addition, legacy analog television receivers still used by a significant number of consumers are only able to select one SAP channel. Finally, NAB’s understanding is that many existing cable converter boxes may not have the capability to provide multiple SAP channels, and some cable and satellite headends are not able to receive and process multiple SAP channels.”).

⁷⁷ See NCTA Comments at 9-10 (stating that as technology is replaced, cable operators will have more flexibility to avoid audio track conflicts, and noting that the Society of Cable Telecommunications Engineers (SCTE) completed

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programming.⁸⁴

23. **Costs.** The record contains very limited information on the costs to program owners, providers, and distributors of creating video-described content, with NAB providing the only substantive comments on this issue. NAB states that the Commission’s estimate of \$4,202 as the maximum cost of adding video description to an hour of video programming remains consistent with NAB’s understanding, although some networks estimate that the costs of adding video description to a pre-recorded program (\$1,000 to \$2,000) are much lower than the costs of adding it to a live program.⁸⁵ NAB explains further that each network “self-funds all the video description costs for prime-time programming and programming aired 6:00 am to midnight, while some networks obtain some children’s programming from a self-funded third-party provider.”⁸⁶ Further, NAB states that there is a lack of research to demonstrate “whether video description may allow broadcasters to reach a larger audience, and in turn generate additional advertising revenues that could offset some of these costs.”⁸⁷

24. **Summary.** The limited record on this topic indicates that, while the maximum cost of creating video-described programming remain consistent with the Commission’s 2017 estimate of \$4,202.50 per hour, the cost of describing pre-recorded programming can be as low as \$1,000 per hour. We previously determined that program owners paid the cost of adding video description to programming,⁸⁸ and based on the record, it appears that largely remains true today.

D. Additional Market Areas

25. This Second Report is required to assess “the potential costs to program owners, providers, and distributors in designated market areas outside of the top 60 of creating [video-described] programming,” and “the need for additional described programming in designated market areas outside the top 60.”⁸⁹ These inquiries are relevant because the CVAA grants the Commission the authority, based

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work last year “on an operational practice that describes methods and practices for distributing multiple audio streams, languages and services within cable and program provider systems, while continuing to support legacy equipment requirements.”); ACA Reply at 1, 4-5 (stating that the industry has made significant strides on the ability of MVPDs to pass through more than two audio tracks, and that smaller operators are not always able to deploy the same technologies as larger operators but they will become more available over time). *See also* NCTA Comments at 9-10 (indicating that cable operators currently offer more than two audio streams where it is feasible to do so, “[f]or example, Comcast’s X1 set-top boxes currently support multiple audio streams for certain on-demand content”); Wynn Comments at 2-3 (indicating that PBS currently distributes multiple secondary audio streams, one for video description and the other for Spanish); ACA Reply at 2 (expressing optimism that as technology continues to advance, more than two audio streams will be available more frequently).

⁷⁸ *See, e.g.*, Brack Comments at 2 (“[W]e recognize the legitimate interests of the large Spanish-speaking population in America that would like to hear Spanish audio when available.”); NAB Comments at 7 (“[T]he Commission must continue to balance the interests of blind and visually-impaired viewers against those of non-English speaking viewers”). *See also* NAB Comments at 7 (there may be “contractual obligations that may require the networks to broadcast a certain amount of Spanish language programming on the SAP channel. These broadcasters have less flexibility to provide additional video described programming.”).

⁷⁹ NAB Comments at 11. *See also* ACB Comments at 4-5 (stating that in the future it is ACB’s understanding that there will be a greater range of audio streams available, and work is ongoing “to develop innovative solutions toward meeting the future of video as it moves more toward IP delivery systems”).

⁸⁰ 47 U.S.C. § 613(f)(4)(C)(iii)(III).

⁸¹ 2019 Public Notice, 34 FCC Rcd at 162, para. 9.

upon the findings, conclusions, and recommendations in this Second Report, to phase in the video description requirements for up to an additional 10 DMAs each year starting after October 8, 2020, “(I) if the costs of implementing the video description regulations to program owners, providers, and distributors in those additional markets are reasonable, as determined by the Commission; and (II) except that the Commission may grant waivers to specific designated market areas where it deems appropriate.”⁹⁰ The Bureau sought comment on these issues.⁹¹

26. **Need for expansion to additional market areas.** Commenters do not provide information quantifying the amount of video-described programming currently available outside the top 60 markets, but NAB states that some stations outside those markets provide video-described programming voluntarily.⁹² Consumer commenters, including the ACB, express a desire for the expansion of video-described programming outside of the top 60 markets.⁹³ One consumer explains that video-described programming may be particularly valuable to consumers who are blind or visually impaired and who live in DMAs outside the top 60, because these consumers “tend to be even more isolated than those of us who live in larger markets.”⁹⁴

27. **Costs of expansion to additional market areas.** The record contains limited information on the costs of expanding video description to additional market areas, with the only substantive comments filed by NAB and one individual consumer. NAB states that costs should be manageable for network affiliates that receive programming via a network feed and simply pass through any video description, whereas other stations could be forced “to devote a substantial portion of their limited resources to compliance, [which could] lead to difficult decisions about whether to reduce news and other highly-valued programming that is expensive to produce.”⁹⁵ NAB explains that some stations would face significant expenditures, such as the purchase of additional equipment, to facilitate video description.⁹⁶ Thus, NAB asks the Commission to “consider the limited audiences and advertising revenues available to stations in smaller and midsized markets.”⁹⁷ One consumer commenter, however, states that passing

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⁸² See *2017 Video Description Order*, 32 FCC Rcd at 5966-67, para. 9.

⁸³ *2019 Public Notice*, 34 FCC Rcd at 162, para. 9.

⁸⁴ *Id.* at 162-63, para. 9.

⁸⁵ NAB Comments at 7.

⁸⁶ *Id.* at 7-8.

⁸⁷ *Id.* at 8.

⁸⁸ See *2011 Video Description Order*, 26 FCC Rcd at 11851-52, para. 8; *2019 Public Notice*, 34 FCC Rcd at 163, para. 9.

⁸⁹ 47 U.S.C. § 613(f)(4)(C)(iii)(IV), (VII).

⁹⁰ *Id.* § 613(f)(4)(C)(iv).

⁹¹ *2019 Public Notice*, 34 FCC Rcd at 163-64, para. 10.

⁹² NAB Comments at 8. See also *supra* para. 18 (explaining that the ACB’s ADP is a resource that aims to list all available video-described content in the United States).

⁹³ See ACB Reply at 1; Brink Comments; S. Farrar Comments.

⁹⁴ Brink Comments at 1.

⁹⁵ NAB Comments at 8, 10.

⁹⁶ *Id.* at 8.

⁹⁷ *Id.* at 9 (also stating that “[t]he average advertising revenue for television stations in the top ten DMAs is more than 5 ½ times that of stations in markets 51-100, and almost nine times the revenue of stations in markets 101-150”) (footnote omitted).

through a secondary audio stream that is already included on national broadcast network programming should not be burdensome, regardless of market, because the emergency information rules already require the use of the secondary audio stream.⁹⁸

28. **Summary.** The record indicates that consumers seek expansion of the video description requirements to DMAs outside the top 60, and it provides no basis for concluding that consumers would benefit less from video description in those markets than in other areas. The record does not, however, contain detailed or conclusive information as to whether the costs of such an expansion would be reasonable. Should the Commission seek to expand the video description requirements to DMAs outside the top 60, it will need to utilize the information contained in this Second Report, and any further information available to it at the time, to determine that “the costs of implementing the video description regulations to program owners, providers, and distributors in those additional markets are reasonable.”⁹⁹

E. Video-On-Demand

29. **Video description on video-on-demand programming.** Although not required by the CVAA, the 2019 *Public Notice* also sought comment on the availability of VOD programming with video description, where the programming was previously carried by that MVPD with video description.¹⁰⁰ Consumers indicate that they would like to see more video-described programming available on VOD programming, particularly when the programming previously aired with video description.¹⁰¹ NCTA asserts, however, that the technical limitations that inhibit cable operators’ ability to offer VOD programming with video description remain problematic, despite overcoming them in some cases.¹⁰² In some instances video-described VOD is now possible, as shown by the examples of Cox Communications providing a section of its VOD offerings with a “descriptive video” label, and Comcast’s X1 set-top boxes that “can play back multiple audio streams, permitting on-demand content to feature video description along with multiple language options.”¹⁰³

30. **Summary.** The record indicates that although some VOD programming currently includes video description, most does not, and that at this time there may be technical limitations in providing video description for such programming.

F. Video Programming Distributed on the Internet

31. **Video description on video programming distributed on the Internet.** Although not required by the CVAA, the 2019 *Public Notice* also sought comment on any updated information related to the issues, costs, and benefits of providing video description for video programming that is delivered using IP, as well as other relevant legal and policy issues.¹⁰⁴ Some consumer commenters praise some of

⁹⁸ Wynn Comments at 3.

⁹⁹ 47 U.S.C. § 613(f)(4)(C)(iv)(I).

¹⁰⁰ 2019 *Public Notice*, 34 FCC Rcd at 164, para. 11.

¹⁰¹ See, e.g., Charles Crawford Comments at 1; S. Farrar Comments; Robert Kingett Comments; Nowicki Comments at 1.

¹⁰² NCTA Comments at 8. See also NCTA Comments, MB Docket No. 11-43, at 11-12 (June 27, 2016) (explaining that “MVPD systems may not have the technical ability to pass through a secondary audio stream on VOD platforms,” and even when they can do so, “the VOD version and the linear version of a program may include different audio tracks, among other differences”); ACA Reply at 3 (“providing video description for on-demand programming is extremely difficult for MVPDs, as an on-demand programming asset is not delivered to MVPDs in the same manner as a linear programming stream – it is a separate asset that is sent in a different format, typically sent by an on-demand platform vendor, in a format that does not allow for secondary audio”).

¹⁰³ NCTA Comments at 8.

¹⁰⁴ 2019 *Public Notice*, 34 FCC Rcd at 164, para. 12.

the video description that is currently available online,¹⁰⁵ while others indicate that more is needed.¹⁰⁶ The Commission's video description regulations do not currently apply to IP-delivered video programming that is not otherwise an MVPD service, but instead, they require video description only by certain television broadcast stations and MVPDs. ACB asserts that the Commission should exercise jurisdiction in the context of video description when the Internet is used to carry live terrestrial broadcast television.¹⁰⁷ NAB explains, however, that extending the video description requirements to IP-delivered video programming may be difficult due to a lack of standards for including multiple audio tracks, and that the "variety [of] video encoders and players of IP-delivered content and operating systems raise additional hurdles to efficient video description of IP-delivered video programming."¹⁰⁸ NAB also states that the CVAAs only provides the Commission with authority to adopt additional video description rules governing video programming that is "transmitted for display on television," not for IP-delivered video programming.¹⁰⁹ Regardless, both industry and consumer commenters express a shared optimism that technological developments may make video description on IP-delivered video programming more feasible in the future.¹¹⁰

32. **Summary.** The record shows that although some IP-delivered video programming currently includes video description, much does not, and that at this time there may be technical limitations in providing video description for such programming.

IV. CONCLUSION

33. The record demonstrates that there has been significant progress in the types and amount of video-described programming available, and that consumers would benefit from continued increases. Consumers who are blind or visually impaired derive significant benefit from the use of video description, as detailed in the record, and commenters indicate that technological developments should improve the availability of accurate information about what programming contains video description, as well as the current tension between whether Spanish-language programming or video description should be provided on a single available secondary audio stream. The record indicates that the Commission's estimate of \$4,202.50 as the maximum cost of adding video description to an hour of video programming remains accurate. Although consumers seek expansion of the video description requirements to DMAs outside the top 60, the record does not contain conclusive information as to whether the costs of such an expansion would be reasonable. The record also demonstrates that most VOD programming and online programming currently does not include video description, potentially due to current technical limitations. We will continue to monitor marketplace developments regarding video description, including for online programming, and we hope that industry will take the initiative to provide more video-described

¹⁰⁵ See, e.g., ACB Reply at 2 (stating that "Hulu, Netflix and Amazon Prime are industry leaders" in this regard); Johnson Comments; Parker Reply at 1.

¹⁰⁶ See, e.g., NFB Comments at 2 ("We have already reached the point where an entire generation of viewers watches most of their television through online streaming services. It is nonsensical that programming delivered through these services is not required to have video description . . ."); Philip G. Rich Comments at 1; Taylor Reply at 1.

¹⁰⁷ ACB Comments at 4. See also Norman Comments at 2 (agreeing with ACB's comments); Nowicki Comments ("I would also benefit significantly from expanding video description requirements to video delivered via Internet Protocol, as online video streaming options are increasingly rapidly.").

¹⁰⁸ NAB Comments at 11.

¹⁰⁹ *Id.* at 10; 47 U.S.C. § 613(f)(4)(A) ("The Commission may not issue additional regulations unless the Commission determines, at least 2 years after completing the reports required in paragraph (3), that the need for and benefits of providing video description for video programming, insofar as such programming is transmitted for display on television, are greater than the technical and economic costs of providing such additional programming.").

¹¹⁰ See, e.g., ACB Comments at 4-5; NAB Comments at 11.

programming, including online and on-demand, even where it is not required to do so.

FEDERAL COMMUNICATIONS COMMISSION

Michelle M. Carey
Chief, Media Bureau

APPENDIX**List of Commenters****Comments Filed in MB Docket No. 11-43**

American Council of the Blind (ACB)
Litton Entertainment (Litton)
NCTA – The Internet & Television Association (NCTA)
National Association of Broadcasters (NAB)
National Federation of the Blind (NFB)

Reply Comments Filed in MB Docket No. 11 43

American Council of the Blind (ACB)
ACA Connects – America’s Communications Association (ACA)

In addition, the following individual consumers filed comments and reply comments in this proceeding:

Renee Arrington-Johnson; Roanna Bacchus; Fred and Kathy Brack; Regina Brink; Denice Brown; Ralph Cappellieri; Charles Crawford; Judy L. Davis; Michelle Duquette; Jason Farrar; Suzi Farrar; Gaylen Floy; Rick Hodgkins; DeAnna Johnson; Robert Kingett; Mary Catherine McAdam; Michael Moran; Gary C. Norman; Michal Nowicki; Bonnie O’Day; Meghan Parker; Allan Peterson; MariLyn Piepho; Balah Powers; Philip G. Rich; Rhonda L. Shoemaker; Scott B. Smith; Megan Squire; Patrick Sheehan; Tiffany Taylor; Jeffery S. Thom; Robert Warrehn; Timothy Wynn; and Sheila Young.