

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

In the Matter of)	
)	
Authorizing Permissive Use of the “Next Generation” Broadcast Television Standard)	GN Docket No. 16-142
)	

THIRD FURTHER NOTICE OF PROPOSED RULEMAKING

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By the Commission:

Comment Date: [30 days after date of publication in the Federal Register]

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I. INTRODUCTION

1. In this Third Further Notice of Proposed Rulemaking (FNPRM), we seek comment on the state of the Next Generation Television (“Next Gen TV” or “ATSC 3.0”) transition and on the scheduled sunsets of two rules adopted in the *First Next Gen TV Report and Order*.¹ As part of our assessment, we review and seek comment on the progress of Next Gen TV broadcasters’ voluntary, market-driven deployment of ATSC 3.0 service and the current state of the ATSC 3.0 marketplace, including whether holders of essential patents for the ATSC 3.0 standards are licensing such patents on reasonable and non-discriminatory (RAND) terms. Next, we seek comment on the scheduled 2023 sunset of the rule requiring that a Next Gen TV station’s ATSC 1.0 simulcast primary video programming stream be “substantially similar” to its 3.0 primary programming stream. Finally, we seek comment on the scheduled 2023 sunset of the requirement that a Next Gen TV station comply with the ATSC A/322 standard.

II. BACKGROUND

2. Next Gen TV is the newest broadcast TV transmission standard, developed by the Advanced Television Systems Committee (ATSC), which promises to enable broadcasters to deliver an array of new video and non-video services and enhanced content features to consumers.² Also called “ATSC 3.0” or “3.0”, this new standard merges the capabilities of over-the-air (OTA) broadcasting with the broadband viewing and information delivery methods of the Internet, using the same 6 MHz channels presently allocated for DTV service. As 3.0 proponents have previously explained to the Commission, the greater spectral capacity of the new standard and its Internet-Protocol (IP) delivery component will allow broadcasters to provide consumers with a higher quality television viewing experience, such as ultra-high-definition (UHD) picture resolutions and immersive audio. It also has the potential to enable broadcasters to reach viewers on both home and mobile screens. In addition, ATSC 3.0 will allow broadcasters to offer enhanced public safety capabilities, such as geo-targeting of emergency alerts to tailor information to particular communities and emergency alerting capable of waking up sleeping

¹ *Authorizing Permissive Use of the “Next Generation” Broadcast Television Standard*, GN Docket No. 16-142, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 9930 (2017) (*First Next Gen TV Report and Order*).

² See ATSC, *Spotlight ATSC 3.0*, <https://www.atsc.org/nextgen-tv/> (last visited June 22, 2021) (listing key features of 3.0 and providing a video describing the 3.0 service).

devices to warn consumers of imminent emergencies, as well as greater accessibility options, localized content, and interactive educational children's content.³ And as an IP-based standard, ATSC 3.0 could enable advanced one-way datacasting services to help support the proliferation of new, IP-based consumer applications.

3. In November 2017, the Commission authorized television broadcasters to use the Next Gen TV transmission standard on a voluntary, market-driven basis.⁴ The Commission required that broadcasters voluntarily deploying ATSC 3.0 service must, with very limited exceptions, continue to air at least their primary stream using the current-generation digital television (DTV) transmission standard,⁵ also called "ATSC 1.0" or "1.0," to their viewers through "local simulcasting" arrangements with other stations in their local market.⁶

4. The Commission found that a local simulcasting requirement is crucial to deploying Next Gen TV service in order to minimize viewer disruption. The Next Gen TV standard is not backward-compatible with pre-existing TV sets or receivers, which have only ATSC 1.0 and, in many cases, now-obsolete analog tuners.⁷ Accordingly, viewers will be unable to watch ATSC 3.0 transmissions on such televisions without additional equipment. Thus, it is critical that Next Gen TV broadcasters continue to provide service using the current ATSC 1.0 standard while the marketplace creates and disseminates devices compatible with the new 3.0 transmission standard, in order to avoid forcing viewers to acquire expensive new equipment immediately or depriving them of their local television service during the transition.⁸ Because a TV station cannot, as a technical matter, simultaneously broadcast in both 1.0 and 3.0 format from the same facility on the same physical channel, local simulcasting must be effectuated through voluntary partnerships between local market broadcasters that seek to provide Next Gen TV

³ See *Promoting Broadcast Internet Innovation through ATSC 3.0*, MB Docket No. 20-145, Report and Order, 35 FCC Rcd 14492, 14493, para. 4 (2020) (*Broadcast Internet Order*); *First Next Gen TV Report and Order*, 32 FCC Rcd at 9933-34, para. 4.

⁴ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9931, para. 1. In June 2020, the Commission adopted a Second Report and Order and Order on Reconsideration, resolving the remaining issues raised in the *Next Gen TV Further Notice*, as well as dismissing (or alternatively denying) the two petitions for reconsideration filed in response to the *First Next Gen TV Report and Order*. *Authorizing Permissive Use of the "Next Generation" Broadcast Television Standard*, GN Docket No. 16-142, Second Report and Order and Order on Reconsideration, 35 FCC Rcd 6793, 6793-94, para. 1 (2020) (*Second Next Gen TV Report and Order*).

⁵ LPTV and TV translator stations may deploy ATSC 3.0 service without providing an ATSC 1.0 simulcast signal. *First Next Gen TV Report and Order*, 32 FCC Rcd at 9950, para. 40; 47 CFR § 74.782(c). In addition, full power and Class A stations may request a waiver of the simulcast requirements. *First Next Gen TV Report and Order*, 32 FCC Rcd at 9953, para. 46.

⁶ *Id.* at 9931, para. 1. Under the Commission's rules, a Next Gen TV station is encouraged, but not required, to simulcast its existing non-primary video programming streams (multicast streams) in a 1.0 format. In November 2021, the Commission initiated a proceeding to allow Next Gen TV stations to include within their license certain of their multicast streams that are aired in a different service on "host" stations during a transitional period, using the same licensing framework, and to a large extent the same regulatory regime, established for the simulcast of primary video programming streams on "host" station facilities. See *Authorizing Permissive Use of the "Next Generation" Broadcast Television Standard*, GN Docket No. 16-142, Further Notice of Proposed Rulemaking, FCC 21-116 (rel. Nov. 5, 2021) (*ATSC 3.0 Multicast Licensing FNPRM*).

⁷ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9939, para. 15. As of August 31, 2017, new television receivers may, but are no longer required to, contain analog tuners. *Amendment of Part 15 of the Commission's Rules to Eliminate the Analog Tuner Requirement*, ET Docket No. 14-175, Third Report and Order and Fourth Notice of Proposed Rulemaking, 30 FCC Rcd 14927, para. 44 (2016).

⁸ *Id.* at 9939, paras. 15-16.

service.⁹ The Commission established certain requirements in the *First Next Gen TV Report and Order* for the provision of simulcast signals to ensure that local simulcasting is effective in protecting viewers.¹⁰

5. The Commission also required that Next Gen TV broadcasters comply with all of its broadcast rules, including, but not limited to, our rules regarding foreign ownership, political broadcasting, children’s programming, equal employment opportunities, public inspection file, indecency, sponsorship identification, contests, the CALM Act, the Emergency Alert System (EAS), and accessibility for people with disabilities.¹¹ The Commission emphasized that broadcasters, equipment manufacturers, and MVPDs must comply with the Commission’s Part 79 captioning rules including closed captioning decoder requirements, video description and emergency information accessibility requirements, and requirements for user interfaces, programming guides, and menus.¹²

6. “*Substantially Similar*” Rule. In the 2017 *First Next Gen TV Report and Order*, the Commission adopted a requirement that the programming aired on a Next Gen TV station’s ATSC 1.0 simulcast channel be “substantially similar” to that of the primary video programming stream on the ATSC 3.0 channel.¹³ This means that the programming must be the same, except for programming features that are based on the enhanced capabilities of ATSC 3.0 and promotions for upcoming programs.¹⁴ In adopting this approach, the Commission found it “will help ensure that viewers do not lose access to the broadcast programming they receive today, while still providing flexibility for

⁹ *Second Next Gen TV Report and Order*, 35 FCC Rcd at 6794, para. 3; *First Next Gen TV Report and Order*, 32 FCC Rcd at 9937, para. 12; 47 CFR § 73.624(b)(3). A Next Gen TV station must partner with another television station (“host”) in its local market to either: (1) air an ATSC 3.0 channel at the host’s facility, while using its original facility to continue to provide an ATSC 1.0 simulcast channel, or (2) air an ATSC 1.0 simulcast channel at the host’s facility, while converting its original facility to the ATSC 3.0 standard in order to provide a 3.0 channel. In either case, a Next Gen TV broadcaster must simulcast the primary video programming stream of its ATSC 3.0 channel in an ATSC 1.0 format, so that viewers will continue to receive ATSC 1.0 service. *First Next Gen TV Report and Order*, 32 FCC Rcd at 9937, para. 12; 47 CFR § 73.3801(b) (simulcasting requirement). By the time the transition is complete, any temporary authority granted for local simulcasting will expire, and a station will once again be required to air all of its licensed programming on its own single channel. *First Next Gen TV Report and Order*, 32 FCC Rcd at 9938, n.46 and accompanying text.

¹⁰ See 47 CFR §§ 73.3801, 73.6029, 74.782.

¹¹ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9971-72, para. 80 n.232 (citing 47 CFR §§ 73.1940, 73.1941, and 73.1942 (political broadcasting); 73.670, 73.671, and 73.673 (children’s programming); 73.2080 (EEO); 73.1943, 73.3526, 73.3527 (public and political file); 73.1125 (main studio); 73.3999 (indecency); 73.1212 (sponsorship id); 73.1216 (contest rules); 47 CFR 73.682(d) (incorporating ATSC A/65C:2006 into our rules) and Appendix B (adopting new Section 73.682(f)(2), which will require broadcasters to maintain their major channel numbers); 73.682(e) and 73.8000 (loud commercials) (We understand that ATSC 3.0 signals that do not use the AC-3 audio codec for audio compression will refer to Annex K of the A/85 recommended practice, which describes actions to ensure that all non-AC-3 programming is consistently matched to a target loudness level.); 11.1 *et seq.* & 73.1250 (EAS); 79.1 *et seq.* (e.g., closed captioning, televised emergency information, and video description). See also 47 U.S.C. § 310 and 47 CFR §§ 1.5000-5004 (foreign ownership).

¹² *First Next Gen TV Report and Order*, 32 FCC Rcd at 9972, para. 81 (citations omitted).

¹³ 47 CFR §§ 73.3801(b)(1), 73.6029(b)(1), 74.782(b)(1); *First Next Gen TV Report and Order*, 32 FCC Rcd at 9942-43, para. 22. We refer to this as the substantially similar rule. The substantially similar rule is independent of the requirement for Next Gen TV broadcasters to simulcast in 1.0 format (see *infra* note 16), a requirement that does not have a sunset date. See 47 CFR §§ 73.3801(b), 73.6029(b), 74.782(b).

¹⁴ Such enhanced content or features that cannot reasonably be provided in ATSC 1.0 format include: targeted advertisements, “hyper-localized” content (e.g., geo-targeted weather, targeted emergency alerts, and hyper-local news), programming features or improvements created for the 3.0 service (e.g., emergency alert “wake up” ability and interactive programming features), enhanced formats made possible by 3.0 technology (e.g., 4K or HDR), and any personalization of programming performed by the viewer and at the viewer’s discretion. See 47 CFR §§ 73.3801(b)(1), 73.6029(b)(1), 74.782(b)(1).

broadcasters to innovate and experiment with new, innovative programming features using Next Gen TV technology.”¹⁵ The Commission decided, however, that the substantially similar requirement would expire on July 17, 2023, unless the Commission takes action to extend it.¹⁶ In this regard, the Commission concluded that, while “this [substantially similar] requirement is necessary in the early stages of ATSC 3.0 deployment, it could unnecessarily impede Next Gen TV programming innovations as the deployment of ATSC 3.0 progresses.”¹⁷ The Commission further stated that it “intend[ed] to monitor the ATSC 3.0 marketplace,” and would “extend the substantially similar requirement if necessary.”¹⁸ The substantially similar rule took effect on July 17, 2018, and is set to expire on July 17, 2023, unless extended by the Commission.¹⁹ The Commission affirmed this decision in 2020, but stated that, approximately one year before the requirement is set to expire, it would seek comment on whether the rule should be extended based on marketplace conditions at that time.²⁰

7. *Requirement to comply with the ATSC A/322 standard.* In authorizing use of the Next Gen TV broadcast transmission standard, the Commission in the *First Next Gen TV Report and Order* required compliance with only two parts of the ATSC 3.0 suite of standards: (1) ATSC A/321:2016 “System Discovery & Signaling” (A/321),²¹ which is the standard used to communicate the RF signal type that the ATSC 3.0 signal will use; and (2) A/322:2016 “Physical Layer Protocol” (A/322),²² which is the standard that defines the waveforms that ATSC 3.0 signals may take.²³ In requiring compliance with A/322, the Commission observed that “device manufacturers and MVPDs may not be able to reliably predict what signal modulation a broadcaster is using unless broadcasters are required to follow A/322,” at least with respect to their required primary programming stream.²⁴ The Commission explained that “[t]his uncertainty could cause manufacturers to inadvertently build equipment that cannot receive Next Gen TV broadcasts or could render MVPDs unable to receive and retransmit the signals of Next Gen TV stations. These outcomes would harm consumers.”²⁵ The Commission, however, decided that it was not appropriate at the time “to require broadcasters to adhere to A/322 indefinitely,” explaining that “the ATSC 3.0 standard could evolve, and stagnant Commission rules could prevent broadcasters from taking

¹⁵ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9942-43, para. 22.

¹⁶ *Id.* We emphasize that the underlying requirement that a Next Gen TV station must simulcast in 1.0 format does not have a sunset date. See 47 CFR §§ 73.3801(b), 73.6029(b), 74.782(b) (“A full power television station that chooses to air an ATSC 3.0 signal must simulcast the primary video programming stream of that signal in an ATSC 1.0 format.”). In addition, none of the other aspects of the local simulcasting rules are set to expire, including those governing: simulcast arrangements and agreements; designated market area (DMA), and community of license coverage; and multichannel video programming distributor (MVPD) notices and consumer education. See *id.* §§ 73.3801, 73.6029, 74.782.

¹⁷ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9942-43, para. 22.

¹⁸ *Id.*

¹⁹ The local simulcasting rules, sections 73.3801, 73.6029, and 74.782, took effect on July 17, 2018. *Next Gen TV Rules Receive OMB Approval*, GN Docket No. 16-142, Public Notice, 33 FCC Rcd 6747 (MB 2018).

²⁰ See *Second Next Gen Report and Order*, 35 FCC Rcd at 6812-13, para 39.

²¹ See ATSC A/321:2016 “System Discovery & Signaling” (2016), <https://www.atsc.org/wp-content/uploads/2016/03/A321-2016-System-Discovery-and-Signaling.pdf>.

²² See ATSC A/322:2016 “Physical Layer Protocol” (2016), <https://atsc.org/wp-content/uploads/2016/10/A322-2016-Physical-Layer-Protocol.pdf>.

²³ These two standards were incorporated by reference into the Commission’s rules. See 47 CFR § 73.682(f). The Commission applied the A/322 standard only to a Next Gen TV station’s primary, free, OTA video programming stream.

²⁴ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9980, para. 99.

²⁵ *Id.*

advantage of that evolution.”²⁶ The Commission thus determined that the requirement to comply with the A/322 standard would expire on March 6, 2023, absent Commission action to extend it. In establishing a sunset for A/322 compliance, the Commission sought to “balance [its] goals of protecting consumers while promoting innovation.”²⁷ The Commission affirmed this decision in 2020, but stated that, approximately one year before the requirement is set to expire, it would seek comment on whether the rule should be extended based on marketplace conditions at that time.²⁸

8. *Patent Licensing.* In the *First Next Gen TV Report and Order*, the Commission observed that the ATSC, which developed the ATSC 3.0 standard, requires patent owners to disclose that they hold relevant patents and to commit to licensing them on reasonable and non-discriminatory (RAND) terms.²⁹ Courts have found that a patentee’s agreement with a standard-setting organization to provide RAND licensing created a contract enforceable by a third-party beneficiary.³⁰ The Commission decided in 2017 that “[w]ith no evidence of patent licensing issues, . . . it [was] premature to impose regulations on the private licensing marketplace.”³¹ We note that in the context of the original DTV transition, the Commission similarly stated its expectation that the licensing of patents in DTV technology would be on RAND terms.³² The Commission also emphasized that if a problem with patent licensing arose and was brought to the Commission’s attention, it would “consider it and take appropriate action.”³³ Ultimately, however, the Commission never adopted any specific licensing terms or otherwise took action on these

²⁶ *Id.* at 9980, para. 100.

²⁷ *Id.* at 9979-80, para. 98 (concluding that “requiring Next Gen TV broadcasters to adhere to A/322 for an appropriate transitional period, and only on their primary video programming stream, appropriately addresses the concerns raised in the record and will best serve the public interest”).

²⁸ *Second Next Gen TV Report and Order.*, 35 FCC Rcd at 6815, para. 44.

²⁹ See *First Next Gen TV Report and Order*, 32 FCC Rcd at 9981, n.300. These disclosures about patents in ATSC 3.0 technology are posted on the ATSC’s website at <https://www.atsc.org/documents/atsc-3-0-standards/patent-statements> (last visited May 17, 2022). See also ATSC’s Patent Policy, Doc. B/04 at <https://www.atsc.org/policies/policy-documents/> (“It shall be the policy of the Advanced Television Systems Committee, Inc. (ATSC) that Essential Claims included in ATSC Specification Documents be available to implementers on reasonable and non-discriminatory terms.”).

³⁰ See, e.g., *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872, 885 (9th Cir. 2012) (finding existence of contract where “Motorola made promises to the ITU to license its standard-essential patents worldwide to all comers,” and “[i]n exchange, it received the benefit of having its patents implicated in the standards”); *Microsoft Corp. v. Motorola, Inc.*, 854 F.Supp.2d 993, 999 (W.D. Wash. 2012) (“The court agrees with Microsoft that through Motorola’s [RAND] letters to [standard-setting organizations (SSOs)], Motorola has entered into binding contractual commitments to license its essential patents on RAND terms.”); *Apple, Inc. v. Motorola Mobility, Inc.*, 886 F.Supp.2d 1061, 1083 (W.D. Wis. 2012) (“In this case, the combination of the policies and bylaws of the standard-setting organizations, Motorola’s membership in those organizations and Motorola’s assurances that it would license its essential patents on fair, reasonable and nondiscriminatory terms constitute contractual agreements.”); *Realtek Semiconductor Corp. v. LSI Corp.*, 946 F.Supp.2d 998, 1006 (N.D. Cal. 2013) (“Similar to the situation in Motorola, the defendants are contractually obligated under their Letters of Assurance to the IEEE to license the [patents] on RAND terms....”).

³¹ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9981, n.300.

³² See *Digital Television Distributed Transmission System Technologies*, MB Docket No. 05-312, Report and Order, 23 FCC Rcd 16731, 16760, para. 51 (2008) (*DTS Report and Order*); *Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service*, MM Docket No. 87-268, Fourth Report and Order, 11 FCC Rcd 17771, 17794, para. 55 (1996) (*DTV Fourth Report and Order*) (stating that the adoption of the DTV standard was “premised” on “reasonable and non-discriminatory” licensing, but finding that Commission rules were not necessary).

³³ *Id.*

issues in the context of the DTV transition. In the case of ATSC 3.0 the Commission stated that it would “monitor how the marketplace handles patent royalties for essential patents.”³⁴

III. DISCUSSION

9. As an initial matter, we seek comment on the state of the ATSC 3.0 marketplace, including specifically information and data on broadcasters’ present deployment of ATSC 3.0 service; current availability and pricing of ATSC 3.0 consumer television equipment; the number of over-the-air (OTA) television viewers currently watching ATSC 3.0 broadcasts; whether any MVPDs are currently carrying or have plans to carry 3.0 signals; and how the 3.0 marketplace is handling patent royalties for essential patents in ATSC 3.0 technology. Next, we seek comment on whether we should retain the substantially similar requirement, which is set to expire in July 2023. Finally, we seek comment on whether we should retain the requirement that Next Gen TV broadcasters’ primary video programming stream must comply with the ATSC A/322 standard, which is set to expire in March 2023, and, if so, for how long.

A. Review of ATSC 3.0 Marketplace

10. First, we seek comment regarding the ATSC 3.0 marketplace. It has been more than four years since the Commission authorized Next Gen TV broadcasters to provide OTA broadcast ATSC 3.0 service on a voluntary, market-driven basis.³⁵ During this time, dozens of broadcasters have voluntarily deployed ATSC 3.0 service to test its technical and economic viability as a DTV broadcast service. In the *First Next Gen TV Report and Order*, the Commission stated that it would “monitor the pace of the voluntary deployment of ATSC 3.0 both nationally and market-by-market, including the rollout of 3.0 service by television broadcasters, the penetration of ATSC 3.0–ready TV sets and other converter equipment, and the extent to which MVPDs have deployed 3.0 equipment.”³⁶ The Commission also stated that it would “monitor how the marketplace handles patent royalties for essential patents.”³⁷ Accordingly, we seek specific comment on five aspects of the deployment: (1) voluntary deployment of ATSC 3.0 service by broadcasters and the continued availability of ATSC 1.0 programming; (2) availability of ATSC 3.0 consumer TV sets and equipment; (3) consumer viewership of ATSC 3.0 signals; (4) MVPD carriage of ATSC 3.0 signals; and (5) status of ATSC 3.0 patent licensing.

11. As part of this review, we seek comment on whether broadcasters still consider ATSC 3.0 to be a trial technology and the extent to which broadcasters intend to fully transition to 3.0 at some point. Is the expectation still a uniform transition by all broadcasters at some future point? The Commission intended for broadcasters to operate in both 1.0 and 3.0 only for a “temporary” period of time.³⁸ We seek comment on the appropriate length of time broadcasters should be required or allowed to operate in both

³⁴ *Id.* The Commission affirmed this decision in the *Second Next Gen TV Report and Order*. *Second Next Gen TV Report and Order*, 35 FCC Rcd at 6823-24, paras. 60-61.

³⁵ The Media Bureau completed revisions to the FCC Form 2100 and began accepting ATSC 3.0 license applications through the Commission’s Licensing and Management System (LMS) on May 28, 2019. *Media Bureau Announces That It Will Begin Accepting Next Generation Television (ATSC 3.0) License Applications In The Commission’s Licensing and Management System On May 28, 2019*, GN Docket No. 16-142, Public Notice, 34 FCC Rcd 3684 (MB 2019). Prior to this date, the Bureau continued to process requests to commence ATSC 3.0 market trials and product development under the experimental licensing rules. *Next Gen TV Rules Receive OMB Approval*, GN Docket No. 16-142, Public Notice, 33 FCC Rcd 6747, n.6 (MB 2018).

³⁶ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9938, para. 14.

³⁷ *Id.* at 9981, n.300.

³⁸ *See First Next Gen TV Report and Order*, 32 FCC Rcd at 9938, para. 14, n.46 (“intend[ing] that the local simulcasting requirement be temporary” and “anticipat[ing] that Next Gen TV broadcasters that initiate 3.0 service at another location will ultimately return to their existing licensed facility and convert that facility from 1.0 to 3.0 technology.”).

1.0 and 3.0. What is the impact on OTA viewers and MVPDs of not having a date certain 3.0 transition deadline? For example, without a certain transition date, are viewers and MVPDs able to prepare for their own transitions? We also seek comment on the ways in which broadcasters are educating consumers about the continued progress of the transition.

1. Broadcaster Deployment of ATSC 3.0 Service

12. We seek comment and data on broadcasters' current and future deployment of ATSC 3.0 service. According to our licensing records, as of June 21, 2022, the Commission has licensed 306 broadcast television stations to provide ATSC 3.0 service.³⁹ Based on our records, ATSC 3.0 stations have been licensed to operate in 68 markets, though in some cases it may be a single low power television station.⁴⁰ Furthermore, most markets with 3.0 deployments have a single 3.0 "lighthouse" facility licensed to provide ATSC 3.0 service.⁴¹ According to S&P Global, Next Gen TV now reaches nearly 66.3 million unique households, or about 51.1% of total U.S. households.⁴² Given current deployments, is this an accurate estimate of the percentage of the U.S. population that could have access to at least one ATSC 3.0 broadcast signal if they had 3.0 TV equipment? We seek comment on these data points, as well as additional data. In how many DMAs has ATSC 3.0 service actually been launched, and what percentage of viewers could receive ATSC 3.0 programming if they had 3.0 equipment? In how many markets are broadcasters providing access to all of the "Big-4" networks (NBC, CBS, ABC, FOX) and what percentage of 3.0 viewers have access to such programming? In how many markets are broadcasters providing access to all of the "Big-4" networks and PBS programming and what percentage

³⁹ According to our licensing records, the following stations have been licensed to provide 3.0 service: 250 of 1,373 (18.2 percent) full-power commercial stations, 10 of 384 (2.6 percent) noncommercial educational TV stations, 15 of 383 (3.9 percent) Class A TV stations, 31 of 5,071 (0.6 percent) low-power TV and TV translator stations. Percentages are based on stations totals as of March 31, 2022. *See Broadcast Station Totals as of March 31, 2022*, Public Notice, DA 22-365 (rel. Apr. 5, 2022).

⁴⁰ In the following 54 DMAs at least one full power television station has been licensed to provide ATSC 3.0 service: Albany-Schenectady-Troy, NY; Albuquerque-Santa Fe, NM; Atlanta, GA; Austin, TX; Baltimore, MD; Buffalo, NY; Birmingham, AL; Charleston-Huntington, WV; Charleston, SC; Charlotte, NC; Cincinnati, OH; Columbus, OH; Dallas-Ft. Worth, TX; Denver, CO; Detroit, MI; Flint-Saginaw-Bay City, MI; Fresno-Visalia, CA; Grand Rapids-Kalamazoo-Battle Creek, MI; Green Bay-Appleton, WI; Greensboro-High Point-Winston-Salem, NC; Greenville-New Bern-Washington, NC; Greenville-Spartanburg, SC-Asheville, NC-Anderson, SC; Harrisburg-Lancaster-Lebanon-York, PA; Hartford-New Haven, CT; Houston, TX; Indianapolis, IN; Kansas City, KS-MO; Las Vegas, NV; Little Rock-Pine Bluff, AR; Los Angeles, CA; Mobile, AL-Pensacola, FL; Nashville, TN; Norfolk-Portsmouth-Newport News, VA; Oklahoma City, OK; Omaha, NE; Orlando-Daytona Beach-Melbourne, FL; Phoenix, AZ; Pittsburgh, PA; Portland, OR; Raleigh-Durham, NC; Richmond-Petersburg, VA; Sacramento-Stockton-Modesto, CA; Salt Lake City, UT; San Antonio, TX; Seattle, WA; Shreveport, LA; Springfield, MO; Springfield-Holyoke, MA; St. Louis, MO; Syracuse, NY; Tampa-St. Petersburg-Sarasota, FL; Washington, DC; West Palm Beach-Ft. Pierce, FL; and Wichita-Hutchinson Plus, KS. In addition, there are 14 markets with at least one licensed 3.0 Class A TV, LPTV or TV Translator station, but no full-power station has been licensed to operate in ATSC 3.0: Bend, OR; Boise, ID; Chicago, IL; Colorado Springs-Pueblo, CO; Fresno-Visalia, CA; Medford-Klamath Falls, OR; Memphis, TN; Miami-Ft. Lauderdale, FL; New York, NY; San Diego, CA; San Francisco-Oakland-San Jose, CA; Santa Barbara, CA; Tallahassee, FL-Thomasville, GA; Twin Falls, ID. The type of 3.0 programming and extent to which ATSC 3.0 may be available across these markets is likely limited. *See also* <https://www.watchnextgentv.com/> (last visited May 17, 2022) (an industry website tracking Next Gen TV deployments).

⁴¹ Based on Staff review of licensing records, of the markets with at least one full power station licensed to operate in ATSC 3.0, there is a single 3.0 "lighthouse" facility in 38 markets. There is more than one 3.0 lighthouse facility licensed to provide ATSC 3.0 service in 13 markets. For purposes of our count, a 3.0 "lighthouse" facility is a station that is hosting at least one other broadcast station's primary signal.

⁴² Peter Leitzinger, *Broadcast TV groups expecting heavy growth in Next Gen TV development in 2022*, S&P Global Market Intelligence, Broadcast Investor (March 10, 2022).

of 3.0 viewers can receive such programming? What other programming networks are available in 3.0 and in which markets? What other data should the Commission be tracking in order to monitor the state of the ATSC 3.0 transition, and how should it collect such information? Are existing Commission databases sufficient to track such information?

13. We seek further information on the ATSC 3.0 broadcast rollout. Just prior to the pandemic, the broadcast industry expected that ATSC 3.0 service would be available in 61 markets by the end of 2020.⁴³ To date, however, full-power broadcasters are licensed to provide ATSC 3.0 service in only 54 markets.⁴⁴ How, and to what extent, has the pandemic impacted overall ATSC 3.0 deployment?⁴⁵ Early in the pandemic, some expected that the delays would not be significant.⁴⁶ Given the length of the pandemic and its impact on supply chains, have those early estimates held? Have the related supply-chain disruptions had an impact on broadcasters' ability to secure necessary equipment? What other challenges have Next Gen TV broadcasters faced?⁴⁷ What future challenges do they anticipate, if any? Has ATSC 3.0 met broadcasters', and the Commission's original expectations from a technical perspective?⁴⁸ What have broadcasters learned so far in terms of the economic viability of ATSC 3.0 service, and how are they evaluating viability? What else have broadcasters learned from over four years of real-world experience with ATSC 3.0?

14. What are broadcasters' plans for future voluntary ATSC 3.0 deployment? For example, by what date do broadcasters expect that there will be some ATSC 3.0 service in all 210 markets, and when do they expect to be ready to transition entire markets to ATSC 3.0? To what extent are enhanced datacasting capabilities expected to help promote the transition to ATSC 3.0 and what, if any, services are already being offered? We also specifically seek comment from any broadcasters that do not currently have plans to voluntarily deploy ATSC 3.0 service. Do they have plans to transition at a later date? Why have they decided not to undertake ATSC 3.0 service, and what factors are most important to these stations as they plan for future services (be it in 1.0 or 3.0)?

15. *Continuing Availability of Programming to Existing Viewers.* We seek comment on the effectiveness of local simulcasting in ensuring continuity of OTA television service. Has local simulcasting worked as expected? To what extent, if any, have consumers experienced disruption or confusion as a result of the transition and simulcasting arrangements? Have any OTA viewers

⁴³ See, e.g., *Second Next Gen TV Report and Order*, 35 FCC Rcd at 6815, para. 43 (citing information from NAB and Pearl TV). Pearl TV described this estimate as an "ambitious goal." Letter from Gerard J. Waldron, Counsel to Pearl TV, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 16-142, at 1-2 (filed Sept. 9, 2019).

⁴⁴ *Supra* note 40.

⁴⁵ See, e.g., James O'Neal, *NextGen TV Deployment Picks Up Steam* (June 30, 2020), <https://www.tvtechnology.com/news/nextgen-tv-deployment-picks-up-steam> (quoting ONEMedia President Mark Aitken's statement that the pandemic caused "a slight delay [but] not a serious delay").

⁴⁶ See, e.g., James O'Neal, *NextGen TV Deployment Picks Up Steam* (June 30, 2020), <https://www.tvtechnology.com/news/nextgen-tv-deployment-picks-up-steam> (quoting ONEMedia President Mark Aitken's statement that the pandemic caused "a slight delay [but] not a serious delay").

⁴⁷ We note that the Commission recently issued an FNPRM in response to broadcasters' concerns about airing multicast streams on host stations. *Authorizing Permissive Use of the "Next Generation" Broadcast Television Standard*, GN Docket No. 16-142, Further Notice of Proposed Rulemaking, FCC 21-116 (rel. Nov. 5, 2021) (*ATSC 3.0 Multicast Licensing FNPRM*) (proposing to allow Next Gen TV stations to apply the same licensing framework established for the simulcast of primary streams to multicast streams, in order to preserve television viewer access to 1.0 service on multicast streams and minimize viewer disruption as much as possible while also facilitating Next Gen TV broadcasters' transition to 3.0).

⁴⁸ For example, has ATSC 3.0 service met the Commission's original expectations of technical performance outlined in the *First Next Gen TV Report and Order*? See *First Next Gen TV Report and Order*, 32 FCC Rcd at 9982-87, paras. 105-114.

complained about problems related to 1.0 simulcast service such as loss of access to service or quality of a station's signal? Have any viewers purchased 3.0 TV equipment because they stopped receiving a 1.0 simulcast signal? Are Next Gen TV stations' 1.0 simulcasts aired in HD format? Have any Next Gen TV stations that were previously broadcasting 1.0 service in HD changed to an SD format for their 1.0 simulcast service upon or after the deployment of 3.0 service? If so, why? To what extent and in what ways has the programming on Next Gen TV stations' 3.0 primary stream differed from that on their 1.0 primary stream?⁴⁹

16. *3.0 Enhanced Content and Features.* We seek comment on what types of enhanced content and features are currently being broadcast to 3.0 viewers (both with and without internet service). The record established in the 2017 *First Next Gen TV Report and Order* reflected ATSC 3.0's potential to allow for "a wide range of potential services now and in the future."⁵⁰ ATSC 3.0 proponents said that ATSC 3.0 will enable delivery of Ultra High Definition (UHD) television, including images with high spatial resolution, wide color gamut, high dynamic range and high frame rate as well as advanced audio systems to provide consumers with more vivid pictures and sound.⁵¹ In addition, ATSC 3.0 proponents said the new standard would "allow broadcasters to offer exciting and innovative services,' including superior reception, mobile viewing capabilities, enhanced public safety capabilities, such as advanced emergency alerting capable of waking up sleeping devices to warn consumers of imminent emergencies, enhanced accessibility features, localized and/or personalized content, interactive educational children's content, and other enhanced features."⁵² To what extent are any of these enhanced content or features, such as enhanced accessibility features, currently being offered to viewers?⁵³ If they are not currently available, when can viewers expect them to become available? What types of specific enhanced content and features are currently being provided? What types of enhanced content and features are expected to be launched in the near future, and what is the timing for such offerings? What offerings can be accessed by viewers who do not have wired or wireless broadband Internet access?

17. We seek comment in particular on the types of viewer data that broadcasters deploying ATSC 3.0 may collect and on the expected uses of such data.⁵⁴ Will all 3.0 viewers be potentially subject to ATSC 3.0-enabled viewer data collection, or does that capability apply only to those 3.0 viewers whose television receivers have an Internet connection? What efforts are broadcasters taking to inform 3.0 viewers about the data that is being collected? Will 3.0 viewers have the ability to opt out of undesired 3.0 features, such as data collection and targeted advertising? Would limitations or regulations on the collection of user data by ATSC 3.0 broadcasters be in the public interest? Commenters should identify the authority on which the Commission might rely to impose such limitations or regulations.

2. Availability of ATSC 3.0 Consumer TV Equipment

18. We seek comment on the current availability and pricing of TV sets with ATSC 3.0 tuners and other ATSC 3.0 consumer TV equipment (*e.g.*, gateway devices, set-top boxes, and 3.0 to 1.0 converter devices such as dongles). According to recent press reports, the industry believes there is still

⁴⁹ See *supra* para. 6.

⁵⁰ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9933-34, para. 4 (citing ATSC's Reply).

⁵¹ *Id.*

⁵² *Id.* (citing comments of ATSC, AWARD, GatesAir, ONE Media and PTV).

⁵³ Jared Newman, *ATSC 3.0—aka NextGen TV—remains irrelevant to most cord-cutters. Here's why* (Jan. 6, 2022), <https://www.techhive.com/article/579965/atsc-30-aka-next-gen-tv-remains-irrelevant-to-most-cord-cutters.html> (arguing that NextGen TV "remains irrelevant," in large part because it offers, at best, only "modest benefits").

⁵⁴ See, *e.g.*, Paul Gluckman, *Sinclair Eyes Start of "Legacy" ATSC 1.0 Shutdown in "Near Future"* (Apr 1, 2022) https://communicationsdaily.com/article/view?search_id=537740&id=1209574&BC=bc_6247079f8513f (noting that Sinclair has installed dedicated apps on at least some 3.0 sets, allowing it to monitor "how many people are watching' 3.0 signals from a Sinclair station, including 'when they watch and what they watch'").

“a lot of work to be done” to get 3.0 equipment on the shelves and into the hands of consumers.⁵⁵ This is unsurprising, since no television purchased before 2020 is capable of tuning ATSC 3.0 programming,⁵⁶ and the first mass produced consumer converter device was not available until 2021.⁵⁷ Even in 2022, analyst forecasts of TV sales suggest that only 11% of new televisions sold will have ATSC 3.0 tuners.⁵⁸ We understand that about 70 models of TV sets with ATSC 3.0 tuners are now available from three manufacturers – LG Electronics, Samsung, and Sony.⁵⁹ Press reports suggest that the least expensive 3.0-compatible set is a mid-size TV that is consistently listed for more than \$400.⁶⁰ A fourth manufacturer, Hisense, recently announced that it will be releasing three 3.0-compatible sets this year, with the least expensive retailing for approximately \$800.⁶¹ How many 3.0 TV sets have been sold in the U.S. to

⁵⁵ See Paul Gluckman, ‘Still a Ways to Go’ Before ATSC 3.0 Reaches Mainstream: Pearl’s Schelle, Communications Daily (Apr. 12, 2022) (quoting Anne Schelle, Pearl TV Managing Director, as saying “it’s ‘still the early days’ of 3.0 service deployments,” and “[t]here’s ‘a lot of work that needs to be done’ first, in seeding consumer adoption of 3.0 sets, before considering sunsetting the 1.0 service”).

⁵⁶ Brian Westover, *Best TVs with ATSC 3.0 tuners* (February 09, 2022), <https://www.tomsguide.com/best-picks/best-tvs-with-atsc-30-tuners> (stating that “[t]he first ATSC 3.0 tuners only started arriving in new TVs in 2020, and there hasn’t been the biggest influx since then.”).

⁵⁷ Tom Butts, *\$200 NextGen TV Tuner Now available on Amazon*, <https://www.tvtechnology.com/news/dollar200-nextgen-tv-tuner-now-available-on-amazon> (Apr. 29, 2021) (stating that the first standalone tuner was not available on a mass market basis until April 2021). See also Paul Gluckman, ‘Still a Ways to Go’ Before ATSC 3.0 Reaches Mainstream: Pearl’s Schelle, Communications Daily (Apr. 12, 2022) (quoting Anne Schelle, Pearl TV Managing Director, as saying: “There’s a natural arc to scale. Smartphones took eight years to scale.” The article further quotes Schelle as saying: “‘We’re focused on creating the marketplace and the environment to allow for a full transition to happen’ away from the legacy 1.0 service. ‘When and how that happens is a discussion that will be happening over the next several years.’”)

⁵⁸ Industry has projected that 4.5 million 3.0 TV sets will be sold in 2022; see Ty Pendlebury, *Get Ready for Free NextGen TV Broadcasts with these 2022 Televisions* (Jan. 30, 2022), <https://www.cnet.com/tech/home-entertainment/every-new-2022-tv-with-atsc-3-0-get-ready-for-free-next-gen-tv-broadcasts> (noting that “ATSC says that 3 million compatible [ATSC 3.0] TVs were sold last year). Overall 2022 TV set sales are predicted to be about 41 million. See Rick Kowalski, CTA.tech, *By the Numbers: Record Television Shipments in 2020* (May/June 2021), <https://cdn.cta.tech/cta/media/media/resources/i3/2021/may-june/pdfs/business-by-the-numbers.pdf>.

⁵⁹ These TV sets are marketed using the “NEXTGEN TV” label. See <https://www.watchnextgentv.com/#faq>; <https://www.watchnextgentv.com/products/lg-tvs/>; <https://www.watchnextgentv.com/products/samsung-tvs/>; <https://www.watchnextgentv.com/products/sony-tvs/>. See also ATSC News, *President’s Memo: Collaborating Together* (Aug. 9, 2021), <https://www.atsc.org/news/presidents-memo-collaborating-together/>; Glen Dickson, *ATSC Touts Gains On 3.0 Receivers, Datacasting* (Sept. 2, 2021), <https://tvnewscheck.com/tech/article/atsc-touts-gains-on-3-0-receivers-datacasting/>. See also Paul Gluckman, ‘Still a Ways to Go’ Before ATSC 3.0 Reaches Mainstream: Pearl’s Schelle, Communications Daily (Apr. 12, 2022) (quoting Anne Schelle, Pearl TV Managing Director, as saying she expects 150 models of 3.0-compliant TVs to be available to consumers this year, “but there’s still a ways to go” before the technology reaches the mainstream).

⁶⁰ See Sony 43" Class X80J Series LED 4K UHD Smart Google TV, <https://www.bestbuy.com/site/sony-43-class-x80j-series-led-4k-uhd-smart-google-tv/6452965.p?skuId=6452965> (last visited Mar. 8, 2022); Sony 43" Class X80J Series LED 4K UHD Smart Google TV, <https://www.amazon.com/Sony-X80J-Inch-Compatibility-KD43X80J/dp/B08QXV8TWZ?th=1> (last visited Mar. 8, 2022).

⁶¹ See Tom Butts, *CES 2022: Hisense Debuts its First NextGen TVs* (Jan. 5, 2022), <https://www.tvtechnology.com/news/ces-2022-hisense-debuts-its-first-nextgen-tvs>. A fifth manufacturer, Skyworth, has also announced a single 3.0-compatible set, but it is not clear when or if it will be available for purchase by U.S. consumers. Ty Pendlebury, *Get Ready for Free NextGen TV Broadcasts with these 2022 Televisions* (Jan. 30, 2022), <https://www.cnet.com/tech/home-entertainment/every-new-2022-tv-with-atsc-3-0-get-ready-for-free-next-gen-tv-broadcasts>.

date?⁶² How does the pricing of currently available 3.0 TV sets compare to the overall market? To what extent are 3.0 tuners available, or expected to be available, in the lowest-cost models of TV sets? What other companies are manufacturing or are planning to manufacture 3.0 TV sets and other 3.0 TV equipment? What challenges or impediments exist, if any, for manufacturers seeking to develop and manufacture 3.0 TV sets and other 3.0 TV equipment? To what extent, if any, is patent licensing inhibiting the development of 3.0 TV sets or other 3.0 equipment by non-patent holders?⁶³

19. We seek specific comment on the availability of low-cost consumer 3.0 to 1.0 set-top boxes or other converter devices, such as external tuners or dongles, that can make a legacy 1.0 TV set capable of receiving 3.0 signals.⁶⁴ How many 3.0 converter devices have been sold in the U.S. to date? Where are such devices available for sale? Do all currently available converter devices require an Internet connection, and if so are there plans to create devices that do not require Internet access? What manufacturers are developing or have plans to develop ATSC 3.0 converter devices, particularly low-cost devices, and where will such devices be sold? When might such devices become available and at what prices? We believe the availability of low-cost 3.0 converter devices will be critical for consumers who are not ready to replace their 1.0 TV sets. What is the price range that should be considered “low-cost,” and what is that range based on? The cheapest 3.0 gateway device currently available for purchase, of which we are aware, is the “HDHomeRun 4K” device that can be purchased over the Internet and retails for \$199.⁶⁵ We are not aware of any low-cost set-top boxes or converters (*e.g.*, external tuners or

⁶² According to the ATSC website, more than 3 million Next Gen TV sets were shipped in 2021 and another 4.5 million sets are projected to be sold in 2022. See ATSC News, *ATSC Salutes Broadcasters and Consumer Technology Companies Pushing Forward With NEXTGEN TV Deployment*, (Jan. 5, 2022), <https://www.atsc.org/news/atsc-salutes-broadcasters-and-consumer-technology-companies-pushing-forward-with-nextgen-tv-deployment/> (stating that “[t]he Consumer Technology Association this week said that overall 2021 sales of NEXTGEN TVs more than tripled last year’s original forecast, with three million units shipped by manufacturers. CTA is projecting 2022 NEXTGEN TV sales of 4.5 million units, as the number of TV makers endorsing the hybrid over-the-air and over-the-top ATSC 3.0 technology continues to grow”).

⁶³ We observe that LG Electronics, Samsung, and Sony – which were the first to offer 3.0 TV sets – each appear to have patent rights in ATSC 3.0 technology, but that at least some other manufacturers are beginning to enter the market. See <https://www.atsc.org/documents/atsc-3-0-standards/patent-statements/>.

⁶⁴ See Paul Gluckman, *‘Still a Ways to Go’ Before ATSC 3.0 Reaches Mainstream: Pearl’s Schelle*, Communications Daily (Apr. 12, 2022) (quoting Anne Schelle, Pearl TV Managing Director, as saying “we need to get into the high-volume, low-cost devices” in order for 3.0 to achieve widespread adoption).

⁶⁵ See SiliconDust HDHomeRun 4K Flex, <https://www.silicondust.com/product/hdhomerun-flex-4k/> (last visited May 19, 2022). SiliconDust’s HDHomeRun 4K Flex is priced at \$199. Another converter device called the “Zapperbox M1” is currently shipping to “beta users” and is available for pre-order to the general public, with all pre orders expected to ship by June 15, 2022. <https://zapperbox.com/faqs/> (last visited May 19, 2022). The lowest cost unit retails for \$249, with upgraded versions available for up to \$329. The device also includes the ability to record programming. Zapperbox, <https://zapperbox.com/> (last visited Mar. 25, 2022). We are also aware that Tablo has announced that it plans to release an ATSC 3.0 DVR in the spring of 2022, for \$299.99, but has since said it “anticipate[s] a manufacturing delay of several months.” *Introducing the Tablo ATSC 3.0 QUAD HDMI – A Tablo DVR for NextGen TV* (Jan. 4, 2022), <https://www.tablotv.com/blog/tablo-atsc-3-quad-hdmi-a-tablo-dvr-for-nextgen-tv/>. See also Jess Barnes, *Tablo Will Delay the Release of Its ATSC 3.0 QUAD OTA DVR* (April 15, 2022), <https://www.cordcuttersnews.com/tablo-will-delay-the-release-of-its-atsc-3-0-quad-ota-dvr/?source=home>. None of the converter boxes listed above appear to currently contain the “NexGenTV” logo certification. While Commission staff has been informed such certification is in process for some of the devices, until such certification is obtained the precise functionality of each box and its ability to receive all ATSC 3.0 signals is currently unclear. See Zapperbox, <https://zapperbox.com/faqs/> (last visited May 19, 2022); Tablo Support-David, *Tablo ATSC 3.0 Quad OTA DVR Status Update* (Apr. 12, 2022), <https://support.tablotv.com/hc/en-us/articles/5517396708372>; see also NextGenTV, *Shop Devices*, <https://www.watchnextgentv.com/shop/> (last visited May 19, 2022). The “NextGenTV” logo will help retailers and consumers identify devices that are compliant with the ATSC 3.0 standard in order to ensure the devices’ functionality. See Consumer Technology Association, *Next GenTV is the Future of TV*, <https://www.cta.tech/Membership/Member-Groups/Video-Division/NEXTGEN-TV> (last visited May 19, 2022); see (continued....)

dongles), or any converter devices that can be purchased offline in a “brick and mortar” location. What (if anything) can the Commission do to foster the development of such low-cost 3.0 converter devices? Do broadcasters have any plans to distribute or subsidize such devices as a means of facilitating the deployment of ATSC 3.0?

3. OTA TV Viewers Watching 3.0 Broadcasts

20. We seek comment and data on how many OTA TV viewers are currently watching 3.0 broadcasts. Are there any current sources for this information? Are any companies able or planning to track this data as the transition progresses? If so, how? How many OTA TV households have a TV set with (or attached to) a 3.0 tuner? Is the number of 3.0 TV sets or other 3.0 TV equipment sold with ATSC 3.0 tuners a good indicator of consumer viewing trends for ATSC 3.0 service? Is there evidence that consumers are currently using the ATSC 3.0 tuner featured in these sets? Are OTA TV viewers and other consumers aware of the broadcasters’ voluntary transition to 3.0 and how it may affect them now and in the future?

21. We seek comment on how broadcasters are educating OTA TV viewers and other consumers about the broadcasters’ voluntary transition to 3.0 and how it may affect them now and in the future. How effective have the required on-air notices been in informing OTA viewers about the 3.0 transition?⁶⁶ Following the transitions of individual stations, have broadcasters received any complaints or questions? What (if any) additional, voluntary education efforts are currently being employed by broadcasters, manufacturers and/or retailers? Other than the “NEXTGEN TV” branding noted above, are manufacturers and retailers providing information about the 3.0 transition to consumers before they buy new TV equipment?⁶⁷

4. MVPD Carriage of 3.0 Signals

22. We seek comment and data on whether any MVPDs are currently carrying or have plans to carry 3.0 signals. We note that MVPDs are not required to carry 3.0 signals but may do so voluntarily if they obtain retransmission consent from the Next Gen TV broadcast station. We seek comment about the technical challenges, if any, that MVPDs face in carrying 3.0 signals. Is there equipment available that will allow MVPDs to receive 3.0 signals and redistribute them to their subscribers? We seek comment on the coordination efforts between Next Gen TV broadcasters and MVPDs to resolve any existing technical issues, including the status of any relevant ATSC 3.0 working groups.⁶⁸ We observe that ATSC has issued a recommended practice, ATSC A/370: “Conversion of ATSC 3.0 Services for Redistribution.”⁶⁹ Does this document resolve the question of how MVPDs can receive 3.0 broadcast signals and convert them to 1.0 or some other format for redistribution to their subscribers? Is ATSC still working on the issue of how broadcasters can deliver 3.0 services to MVPDs for direct redistribution?

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also ATSC, *Brand Guide*, <https://www.atsc.org/about/brand-guide/>. We are not aware of any manufacturer that has committed to developing devices using the “low-cost chipset from Mediatek” that was announced at this year’s Consumer Electronics Show. See also Ty Pendlebury, *Get Ready for Free NextGen TV Broadcasts with these 2022 Televisions* (Jan. 30, 2022), <https://www.cnet.com/tech/home-entertainment/every-new-2022-tv-with-atsc-3-0-get-ready-for-free-next-gen-tv-broadcasts>.

⁶⁶ See 47 CFR §§ 73.3801(g), 73.6029(g), 74.782(g) (requiring Next Gen TV broadcasters to provide advance on-air notifications to educate consumers about Next Gen TV service deployment and simulcasting).

⁶⁷ See *supra* note 59.

⁶⁸ In the 2017 *First Next Gen TV Report and Order*, the Commission observed that an ATSC working group called TG3/S37, the “Specialist Group on Conversion and Redistribution of ATSC 3.0 Service,” was still working to resolve technical issues in this regard. *First Next Gen TV Report and Order*, 32 FCC Rcd at 9962-3, n.189. What is the status of this working group and the resolution of these issues?

⁶⁹ ATSC A/370: “Conversion of ATSC 3.0 Services for Redistribution” (2022); <https://www.atsc.org/atsc-documents/type/3-0-recommended-practices/>.

Which enhanced features available to OTA 3.0 viewers do MVPDs expect to be able to pass through to their subscribers now or in the future? We also seek comment on any other issues related to MVPDs' ability to carry and transmit ATSC 3.0 signals.

5. RAND Licensing of 3.0 Patents

23. We seek comment on how the 3.0 marketplace is handling patent royalties for essential patents in ATSC 3.0 technology. As noted above, ATSC requires patentees to make essential patents available on RAND terms.⁷⁰ Are holders of essential patents in ATSC 3.0 technologies licensing such patents on RAND terms? How have the available licensing terms impacted current and potential participants in the 3.0 marketplace, the deployment of 3.0 services, and the availability of consumer devices? The Commission previously found that it would be premature to impose regulations on 3.0 patent licensing in the absence of any issues. Have there been any developments that would warrant such Commission action at this time and how should the Commission continue to monitor this issue in the future? If so, what precisely should such a rule require and upon what authority would the rule be based? What are the advantages, disadvantages, and legal limitations of such a requirement? Finally, we observe that a "ATSC 3.0 Patent Portfolio License" is being offered by MPEG LA, LLC.⁷¹ We seek more information and comment about this portfolio license. Is this portfolio license being made available on RAND terms? What essential patents, if any, are not included in this portfolio license?

B. Substantially Similar Rule

24. We seek comment on whether we should retain the substantially similar rule or permit it to sunset in 2023.⁷² As the Commission stated when adopting the requirement, the purpose of the rule, in conjunction with the underlying requirement to simulcast in 1.0, is to protect 1.0 viewers from losing access to a Next Gen TV station's programming when that station transitions its facility to 3.0.⁷³ While the underlying requirement that a Next Gen TV broadcaster must air a 1.0 signal (when deploying 3.0) ensures 1.0 viewers continue to receive some free OTA TV service during the transition, the substantially similar rule ensures that 1.0 viewers actually receive the same primary video programming as that aired on the 3.0 channel. As the Commission explained in the 2017 *First Next Gen TV Report and Order*, "[t]o ensure that viewers are protected, it is important not only to require that television broadcasters continue to broadcast in the current ATSC 1.0 standard while ATSC 3.0 is being deployed, but also that they continue to air in ATSC 1.0 format the programming that viewers most want and expect to receive. We seek to ensure that broadcasters air their most popular, widely-viewed programming on their 1.0 simulcast channels so that viewers are not forced to purchase 3.0 capable equipment simply to continue to receive this programming rather than because they find the ATSC 3.0 technology particularly attractive."⁷⁴

⁷⁰ *Supra* notes 29 and 30 and accompanying text.

⁷¹ In January 2022, it was reported that a company called MPEG LA, LLC announced the availability of the "ATSC 3.0 Patent Portfolio License," which offers a "one-stop access to patents that are essential to the [ATSC 3.0] standard." See Business Wire, *MPEG LA Offers One-Stop License for ATSC 3.0* (Jan. 20, 2022), <https://www.businesswire.com/news/home/20220120005711/en/>. According to the Business Wire article, the initial patent owners to MPEG LA's ATSC 3.0 License are CableTelevision Laboratories, Inc.; Cerinet USA Inc.; Communications Research Centre Canada (CRC), part of Innovation, Science and Economic Development Canada; Dolby Laboratories Licensing Corporation; Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung e.V.; Koninklijke KPN N.V.; Koninklijke Philips N.V.; NEC Corporation; Nippon Hoso Kyokai; ONE Media, LLC; Panasonic Corporation; Shanghai National Engineering Research Center of Digital Television Co., Ltd (NERC-DTV); and Sun Patent Trust.

⁷² We note that, even without an expiration date, the substantially similar rule, which is tied to the underlying requirement to simulcast in 1.0, is intended to be temporary and would in any event be eliminated when the transition to 3.0 is complete. *First Next Gen TV Report and Order*, 32 FCC Rcd at 9938, para. 14.

⁷³ See *First Next Gen TV Report and Order*, 32 FCC Rcd at 9943, 9944, para. 22, 25.

⁷⁴ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9944, para. 25.

25. To what extent would allowing the sunset of the substantially similar rule undermine the 1.0 simulcast rule? For example, without the substantially similar rule, how can the Commission ensure that 1.0 viewers are able to keep watching the same programming they watch today, as well as any new programming offerings on a broadcaster's primary channel that can be offered in 1.0 format? The voluntary transition to 3.0 is intended to "minimize[e] the impact on, and costs to, consumers and other industry stakeholders."⁷⁵ Yet many consumers may not want or be financially able to purchase new TV equipment with 3.0 tuners in the current market. Would eliminating the rule make the underlying requirement to simulcast in 1.0 less effective or ineffective? In the absence of the substantially similar rule, how would the Commission determine whether a 1.0 stream was a "simulcast" of a specific 3.0 stream when enforcing the underlying requirement to simulcast in 1.0?

26. While broadcasters have incentives to provide the programming their viewers want, after making significant investments in ATSC 3.0 technology they may also have incentives to favor their ATSC 3.0 offerings. For example, without a requirement to make programming substantially similar, Next Gen TV broadcasters would be free to provide the most desirable programming only to those viewers with 3.0 TV equipment. This could create two different tiers of free, OTA television service.⁷⁶ Advertising dollars, and thus spending on programming, could flow primarily to the 3.0 "tier" in such a scenario, potentially widening the quality gap between the two tiers. Given these concerns, are Next Gen TV broadcasters' financial incentives sufficient to ensure that all 1.0 viewers retain access to all primary video programming that can be offered in 1.0 format? How might broadcasters' financial incentives change as the 3.0 transition progresses? How could the development of "tiered" programming disproportionately impact consumers with limited means and other vulnerable consumers (such as seniors)? In a voluntary, market-based transition, what are Next Gen TV broadcasters' obligations to 1.0 viewers that choose not to transition to 3.0? We seek comment on these questions and issues.

27. Have marketplace developments to date in any way reduced or eliminated the need for the substantially similar rule? What marketplace conditions are relevant to this question, independent of the underlying requirement to simulcast in 1.0?⁷⁷ While we are seeking detailed information about the state of the ATSC 3.0 marketplace in this proceeding, the information we have already shows that ATSC 3.0 deployment and consumer adoption remain in the early stages.⁷⁸ When 3.0 viewership increases (reducing reliance on 1.0 service) and more affordable 3.0 TV equipment become available in the marketplace, will the need for the substantially similar rule remain? How, if at all, will any such need be affected by the potential for shifting financial incentives as the transition progresses? We seek comment on these questions and issues.

28. We also seek comment on whether the substantially similar rule is currently impeding innovations in broadcast programming and, if so, how? Is it likely that the rule will hinder 3.0

⁷⁵ *First Next Gen TV Report and Order*, 32 FCC Rcd at 9931, para. 2

⁷⁶ We recognize that two tiers of OTA TV service may already occur to a lesser extent. Due to inevitable 1.0 capacity constraints as the transition progresses, the Commission has afforded Next Gen TV stations with the flexibility to air 1.0 primary programming in SD, even if the station was previously broadcasting it in HD. Similarly, the Commission did not require that Next Gen TV stations air multicast streams in 1.0 format. In contrast to these situations, 1.0 capacity constraints would not seem to be hindering the provision of substantially similar programming. Next Gen TV broadcasters are not required to simulcast programming that cannot be aired in 1.0 format.

⁷⁷ We observe that certain marketplace conditions will factor into our analysis about how long the underlying requirement to simulcast in 1.0 is needed. *First Next Gen TV Report and Order*, 32 FCC Rcd at 9938, para. 14 (stating that the Commission "intends that the local simulcasting requirement be temporary" and "will monitor the pace of the voluntary deployment of ATSC 3.0 both nationally and market-by-market, including the rollout of 3.0 service by television broadcasters, the penetration of ATSC 3.0-ready TV sets and other converter equipment, and the extent to which MVPDs have deployed 3.0 equipment.").

⁷⁸ *See supra* section III.A.

programming innovations in the near future? If so, how? Should any such innovations outweigh the protections afforded to 1.0 viewers by the rule? We observe that the substantially similar rule already affords significant flexibility for broadcasters to innovate and experiment with new, innovative programming features using Next Gen TV technology in that it does not require Next Gen TV broadcasters to duplicate enhanced content or features that cannot reasonably be provided in the 1.0 format, and does not require any degree of simulcasting on any stream other than the primary stream.⁷⁹ Does the requirement nonetheless pose any impediment to innovation in broadcast programming and, if so, how? Are such impediments imminent or currently theoretical? What innovations that are currently being aired or are in development would be hindered by the rule, if any? We seek specific comment on what types of programming Next Gen TV broadcasters would like to provide only in 3.0 and, to the extent such programming can (as a technical matter) be provided in 1.0 format, why such programming should not have to be provided in 1.0 format? To the extent an individual Next Gen TV broadcaster may need more flexibility than the rule allows, would targeted waivers be more appropriate than sunseting the substantially similar requirement?⁸⁰ We seek comment on these questions and issues.

29. Finally, we seek comment about any other advantages or disadvantages associated with the sunset of the substantially similar rule, and if we do decide to retain it, for how long? How would the sunset of the rule impact MVPDs, including small MVPDs, particularly given that the 1.0 simulcast signal remains the relevant signal for carriage purposes?⁸¹ What is the impact on small broadcasters of requiring continued compliance with the substantially similar rule? Finally, we note that because the substantially similar rule, like the underlying requirement to simulcast in 1.0, will be eliminated when the transition to 3.0 is complete, the timing of the ultimate “sunset” of this requirement is very much in the hands of the broadcast industry. If the rule is retained, should we consider extending the substantially similar requirement for a particular term, or retain it for as long as the underlying requirement to simulcast in 1.0 remains? If for a term, what would be an appropriate benchmark? We seek comment on these questions and issues.

C. Requirement to Comply with the ATSC A/322 Standard

30. We seek comment on whether we should retain the requirement that Next Gen TV broadcasters’ primary video programming stream must comply with the ATSC A/322 standard and, if so, for how long. If we retain the requirement, should we apply a different sunset date or is it needed on an ongoing basis? The purpose of this requirement is to provide certainty to consumers, television receiver manufacturers, and MVPDs that 3.0 TV sets or other 3.0 TV equipment will be able to receive all 3.0 primary broadcast signals. What would be the impact on consumers, television receiver manufacturers,

⁷⁹ See 47 CFR §§ 73.3801(b)(1), 73.6029(b)(1), 74.782(b)(1). Next Gen TV broadcasters do not have to duplicate enhanced content or features that cannot reasonably be provided in the 1.0 format. *First Next Gen TV Report and Order*, 32 FCC Rcd at 9943, para. 23. This includes: “hyper-localized” content (e.g., geo-targeted weather, targeted emergency alerts, and hyper-local news), programming features or improvements created for the 3.0 service (e.g., emergency alert “wake up” ability and interactive programming features), enhanced formats made possible by 3.0 technology (e.g., 4K or HDR), and any personalization of programming performed by the viewer and at the viewer’s discretion. See 47 CFR §§ 73.3801(b)(1), 73.6029(b)(1), 74.782(b)(1).

⁸⁰ Notably, the Commission has stated with respect to requests for waiver of the requirement to simulcast that “[it would] look favorably on a waiver applicant choosing to provide ATSC 3.0 converter devices at no cost or low cost to over-the-air households located within its community of license which will no longer receive the station’s ATSC 1.0 signal as a means to minimize the impact of not simulcasting on viewers.” *Second Next Gen TV Report and Order*, 35 FCC Rcd at 6801, para. 18.

⁸¹ We note that small or rural MVPDs are more likely to rely exclusively on OTA delivery of TV signals. *First Next Gen TV Report and Order*, 32 FCC Rcd at 9945, n.89 (citing ACA Comments). While MVPDs that rely on OTA delivery could mitigate signal quality issues by obtaining delivery through alternate means, such as fiber, DBS transport, or reception and transcoding/down conversion of the ATSC 3.0 signal, such methods may require significant expenditures that small MVPDs in particular are less able to afford.

and MVPDs if this requirement were to sunset? If we do not require compliance with the ATSC A/322 standard, how can we ensure that 3.0 TV sets and other 3.0 TV equipment will be able to receive all 3.0 primary broadcast signals? What would be the potential impact, if any, of eliminating the requirement on consumers, television manufacturers, and MVPDs? Would the sunset of this requirement jeopardize the provision of ATSC 3.0 service as a free and universally available digital broadcast television service? Have marketplace developments since 2017 reduced or eliminated the need for mandatory compliance with the ATSC A/322 standard? What marketplace conditions are relevant to this question?

31. In 2017, broadcasters acknowledged that “adopting the full physical layer of the Next Gen standard, including A/322” may “ensure that consumer electronics manufacturers can build television receivers with confidence.”⁸² Is this no longer the case? Is A/322 no longer necessary to provide such certainty? Is the A/322 standard currently impeding broadcast innovations? If so, how? Does the need to facilitate any such innovations outweigh the protections the rule affords to consumers, television receiver manufacturers and MVPDs? Might retention of the A/322 standard – which applies only to the primary broadcast stream – hinder broadcast innovation in the future? If so, how? Do broadcasters merely hope to use methods that are likely to be adopted in future versions of A/322, or do they contemplate the use of a physical layer standard that ATSC would never incorporate into A/322? What is the impact on small broadcasters of requiring continued compliance with the A/322 standard? What could be the impact on small television receiver manufacturers and small MVPDs if the requirement is allowed to sunset? We seek comment on these questions.

32. Finally, we observe that ATSC has updated the A/322 standard since we mandated its use in 2017. It appears, however, that the most recent 2021 version of the A/322 standard⁸³ makes only ministerial changes to the standard and contains no substantive changes.⁸⁴ We seek comment on this observation as well as whether it is necessary or advisable to incorporate into our rules the 2021 version of the A/322 standard to the extent that the requirement is retained.

33. *Digital Equity and Inclusion.* The Commission, as part of its continuing effort to advance digital equity for all,⁸⁵ including people of color, persons with disabilities, persons who live in rural or Tribal areas, and others who are or have been historically underserved, marginalized, or adversely affected by persistent poverty or inequality, invites comment on any equity-related considerations⁸⁶ and benefits (if any) that may be associated with the proposals and issues discussed herein. Specifically, we seek comment on how our proposals may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well the scope of the Commission’s relevant legal authority.

⁸² *First Next Gen TV Report and Order*, 32 FCC Rcd at 9980, para. 99.

⁸³ See A/322:2021 “Physical Layer Protocol” (2021); <https://www.atsc.org/atsc-documents/type/3-0-standards/>.

⁸⁴ See ATSC’s document “Approved Changes to A/322, Physical Layer Protocol,” Doc. TG3-201r3 (dated Jan. 20, 2021), which “describes changes made to A/322, “Physical Layer Protocol,” since the 2017 version (dated 6 June 2017) was approved and adopted by reference in the FCC rules 47 CFR § 73.682.”

⁸⁵ Section 1 of the Communications Act of 1934 as amended provides that the FCC “regulat[es] interstate and foreign commerce in communication by wire and radio so as to make [such service] available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex.” 47 U.S.C. § 151.

⁸⁶ The term “equity” is used here consistent with Executive Order 13985 as the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. See Exec. Order No. 13985, 86 Fed. Reg. 7009, Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (January 20, 2021).

IV. PROCEDURAL MATTERS

34. *Initial RFA Analysis.* As required by the Regulatory Flexibility Act of 1980 (RFA),⁸⁷ the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA). The IRFA is attached as Appendix A. Written public comments are requested on the IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the first page of this document. The Commission will send a copy of this document, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).

35. *Initial Paperwork Reduction Act Analysis.* This document does not contain proposed information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA).⁸⁸ In addition, therefore, it does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002.⁸⁹

36. *Ex Parte Rules - Permit-But-Disclose.* This proceeding shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s *ex parte* rules.⁹⁰ Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter’s written comments, memoranda, or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission’s *ex parte* rules.

37. *Filing Requirements—Comments and Replies.* Pursuant to sections 1.415 and 1.419 of the Commission’s rules,⁹¹ interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission’s Electronic Comment Filing System (ECFS).⁹²

⁸⁷ 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601, *et. seq.*, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 847 (1996). The SBREFA was enacted as Title II of the Contract with America Advancement Act of 1996 (CWAAA).

⁸⁸ The Paperwork Reduction Act of 1995 (PRA), Pub. L. No. 104-13, 109 Stat 163 (1995) (codified in Chapter 35 of title 44 U.S.C.).

⁸⁹ The Small Business Paperwork Relief Act of 2002 (SBPRA), Pub. L. No. 107-198, 116 Stat. 729 (2002) (codified in Chapter 35 of title 44 U.S.C.). *See* 44 U.S.C. § 3506(c)(4).

⁹⁰ 47 CFR §§ 1.1200 *et seq.*

⁹¹ *Id.* §§ 1.415, 1419.

⁹² *Electronic Filing of Documents in Rulemaking Proceedings*, GC Docket No. 97-113, Report and Order, 13 FCC Rcd 11322 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://apps.fcc.gov/ecfs/>.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing.
- Filings can be sent by commercial overnight courier or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.
 - Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
 - U.S. Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street NE, Washington, DC 20554.
- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19.⁹³
- During the time the Commission's building is closed to the general public and until further notice, if more than one docket or rulemaking number appears in the caption of a proceeding, paper filers need not submit two additional copies for each additional docket or rulemaking number; an original and one copy are sufficient.

38. *People with Disabilities.* To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY).

39. *Additional Information.* For additional information, contact Evan Baranoff, Evan.Baranoff@fcc.gov, of the Media Bureau, Policy Division, (202) 418-7142. Direct press inquiries to Janice Wise at (202) 418-8165.

V. ORDERING CLAUSES

40. **IT IS ORDERED**, pursuant to the authority found in sections 1, 4, 7, 301, 303, 307, 308, 309, 316, 319, 325(b), 336, 338, 399b, 403, 534, and 535 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154, 157, 301, 303, 307, 308, 309, 316, 319, 325(b), 336, 338, 399b, 403, 534, and 535, this Third Further Notice of Proposed Rulemaking **IS HEREBY ADOPTED** and **NOTICE IS HEREBY GIVEN** of the proposals and tentative conclusions described in this Third Further Notice of Proposed Rulemaking.

41. **IT IS FURTHER ORDERED** that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, **SHALL SEND** a copy of this Third Further Notice of

⁹³ FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy, Public Notice, 35 FCC Rcd 2788 (OMD 2020). See <https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy>.

Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A**Initial Regulatory Flexibility Analysis**

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies proposed in this *Third Further Notice of Proposed Rulemaking (FNPRM)*. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *FNPRM* provided on the first page of the *FNPRM*. The Commission will send a copy of this entire *FNPRM*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).² In addition, the *FNPRM* and the IRFA (or summaries thereof) will be published in the Federal Register.³

A. Need for, and Objectives of, the Proposed Rule Changes.

2. In this *Third Further Notice of Proposed Rulemaking (FNPRM)*, the Commission considers and seeks comment on the state of the Next Gen TV transition and on the scheduled sunsets of two rules adopted in the *First Next Gen TV Report and Order*. In that decision, the Commission authorized broadcasters to use the ATSC 3.0 standard and adopted rules governing the deployment of 3.0 service, including two which are scheduled to sunset absent further action. The Commission noted that it would monitor the 3.0 transition and approximately one year before the scheduled sunsets, it would seek comment on whether marketplace conditions warranted extending these requirements. As part of our assessment, we review and seek comment on the progress of Next Gen TV broadcasters' voluntary, market-driven deployment of ATSC 3.0 service and the current state of the ATSC 3.0 marketplace, including whether holders of essential patents for the ATSC 3.0 standards are licensing such patents on reasonable and non-discriminatory (RAND) terms and if a Commission rule requiring 3.0 patent licensing on RAND terms would provide benefits to consumers and potential participants in the 3.0 marketplace. Next, the Commission considers whether to retain the rule requiring that a Next Gen TV station's ATSC 1.0 simulcast primary video programming stream be substantially similar to its 3.0 primary programming stream. This rule is scheduled to sunset in July 2023. Finally, the Commission considers whether to retain the requirement that a Next Gen TV station comply with the ATSC A/322. This rule is also scheduled to sunset in March 2023.

B. Legal Basis.

3. The proposed action is authorized pursuant to sections 1, 4, 7, 301, 303, 307, 308, 309, 316, 319, 325(b), 336, 338, 399b, 403, 534, and 535 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154, 157, 301, 303, 307, 308, 309, 316, 325(b), 336, 338, 399b, 403, 534, and 535.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply.

4. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.⁴ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."⁵ In addition, the term "small business" has the

¹ 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, was amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² 5 U.S.C. § 603(a).

³ *Id.*

⁴ 5 U.S.C. § 603(b)(3).

⁵ *Id.* § 601(6).

same meaning as the term “small business concern” under the Small Business Act.⁶ A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.⁷ The rules proposed herein will directly affect small television and radio broadcast stations. Below, we provide a description of these small entities, as well as an estimate of the number of such small entities, where feasible.

5. *Wired Telecommunications Carriers.* The U.S. Census Bureau defines this industry as establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired communications networks.⁸ Transmission facilities may be based on a single technology or a combination of technologies. Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including VoIP services, wired (cable) audio and video programming distribution, and wired broadband internet services.⁹ By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.¹⁰ Wired Telecommunications Carriers are also referred to as wireline carriers or fixed local service providers.¹¹

6. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.¹² U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.¹³ Of this number, 2,964 firms operated with fewer than 250 employees.¹⁴ Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 5,183 providers that reported they were engaged in the provision of fixed local services.¹⁵ Of these providers, the Commission estimates that 4,737

⁶ *Id.* § 601(3) (incorporating by reference the definition of “small business concern” in 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.” *Id.* § 601(3).

⁷ 15 U.S.C. § 632(a)(1). Application of the statutory criteria of dominance in its field of operation and independence are sometimes difficult to apply in the context of broadcast television. Accordingly, the Commission’s statistical account of television stations may be over-inclusive.

⁸ See U.S. Census Bureau, *2017 NAICS Definition, “517311 Wired Telecommunications Carriers,”* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

⁹ *Id.*

¹⁰ *Id.*

¹¹ Fixed Local Service Providers include the following types of providers: Incumbent Local Exchange Carriers (ILECs), Competitive Access Providers (CAPs) and Competitive Local Exchange Carriers (CLECs), Cable/Coax CLECs, Interconnected VOIP Providers, Non-Interconnected VOIP Providers, Shared-Tenant Service Providers, Audio Bridge Service Providers, and Other Local Service Providers. Local Resellers fall into another U.S. Census Bureau industry group and therefore data for these providers is not included in this industry.

¹² See 13 CFR § 121.201, NAICS Code 517311.

¹³ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFI, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

¹⁴ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

¹⁵ Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2021), <https://docs.fcc.gov/pubId.lic/attachments/DOC-379181A1.pdf>.

providers have 1,500 or fewer employees.¹⁶ Consequently, using the SBA’s small business size standard, most of these providers can be considered small entities.

7. *Cable Companies and Systems (Rate Regulation)*. The Commission has developed its own small business size standard for the purpose of cable rate regulation. Under the Commission’s rules, a “small cable company” is one serving 400,000 or fewer subscribers nationwide.¹⁷ Based on industry data, there are about 420 cable companies in the U.S.¹⁸ Of these, only seven have more than 400,000 subscribers.¹⁹ In addition, under the Commission’s rules, a “small system” is a cable system serving 15,000 or fewer subscribers.²⁰ Based on industry data, there are about 4,139 cable systems (headends) in the U.S.²¹ Of these, about 639 have more than 15,000 subscribers.²² Accordingly, the Commission estimates that the majority of cable companies and cable systems are small.

8. *Cable System Operators (Telecom Act Standard)*. The Communications Act of 1934, as amended, contains a size standard for a “small cable operator,” which is “a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000.”²³ For purposes of the Telecom Act Standard, the Commission determined that a cable system operator that serves fewer than 677,000 subscribers, either directly or through affiliates, will meet the definition of a small cable operator based on the cable subscriber count established in a 2001 Public Notice.²⁴ Based on industry data, only six cable system operators have more than 677,000 subscribers.²⁵ Accordingly, the Commission estimates that the majority of cable system operators are small under this size standard. We note however, that the Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million.²⁶ Therefore, we are unable at this time to estimate with greater precision the number of cable

¹⁶ *Id.*

¹⁷ 47 CFR § 76.901(d).

¹⁸ S&P Global Market Intelligence, S&P Capital IQ Pro, U.S. MediaCensus, *Operator Subscribers by Geography* (last visited May 26, 2022).

¹⁹ S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q* (last visited May 26, 2022); S&P Global Market Intelligence, *Multichannel video subscriptions, top 10* (April 2022).

²⁰ 47 CFR § 76.901(c).

²¹ S&P Global Market Intelligence, S&P Capital IQ Pro, U.S. MediaCensus, *Operator Subscribers by Geography* (last visited May 26, 2022).

²² S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q* (last visited May 26, 2022).

²³ 47 U.S.C. § 543(m)(2).

²⁴ *FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, Public Notice, 16 FCC Rcd 2225 (CSB 2001) (*2001 Subscriber Count PN*). In this Public Notice, the Commission determined that there were approximately 67.7 million cable subscribers in the United States at that time using the most reliable source publicly available. *Id.* We recognize that the number of cable subscribers changed since then and that the Commission has recently estimated the number of cable subscribers to be approximately 58.1 million. *See Communications Marketplace Report*, GN Docket No. 20-60, 2020 Communications Marketplace Report, 36 FCC Rcd 2945, 3049, para. 156 (2020) (*2020 Communications Marketplace Report*). However, because the Commission has not issued a public notice subsequent to the *2001 Subscriber Count PN*, the Commission still relies on the subscriber count threshold established by the *2001 Subscriber Count PN* for purposes of this rule. *See* 47 CFR § 76.901(e)(1).

²⁵ S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q* (last visited May 26, 2022); S&P Global Market Intelligence, *Multichannel video subscriptions, top 10* (April 2022).

²⁶ The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority’s finding that the operator does not qualify as a small cable operator pursuant to § 76.901(e) of the Commission’s rules. *See* 47 CFR § 76.910(b).

system operators that would qualify as small cable operators under the definition in the Communications Act.

9. *Direct Broadcast Satellite (“DBS”) Service.* DBS service is a nationally distributed subscription service that delivers video and audio programming via satellite to a small parabolic “dish” antenna at the subscriber’s location. DBS is included in the Wired Telecommunications Carriers industry which comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks.²⁷ Transmission facilities may be based on a single technology or combination of technologies.²⁸ Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including VoIP services, wired (cable) audio and video programming distribution; and wired broadband internet services.²⁹ By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.³⁰

10. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.³¹ U.S. Census Bureau data for 2017 show that 3,054 firms operated in this industry for the entire year.³² Of this number, 2,964 firms operated with fewer than 250 employees.³³ Based on this data, the majority of firms in this industry can be considered small under the SBA small business size standard. According to Commission data however, only two entities provide DBS service - DIRECTV (owned by AT&T) and DISH Network, which require a great deal of capital for operation.³⁴ DIRECTV and DISH Network both exceed the SBA size standard for classification as a small business. Therefore, we must conclude based on internally developed Commission data, in general DBS service is provided only by large firms.

11. *Satellite Master Antenna Television (SMATV) Systems, also known as Private Cable Operators (PCOs).* SMATV systems or PCOs are video distribution facilities that use closed transmission paths without using any public right-of-way. They acquire video programming and distribute it via terrestrial wiring in urban and suburban multiple dwelling units such as apartments and condominiums, and commercial multiple tenant units such as hotels and office buildings. SMATV systems or PCOs are included in the Wired Telecommunications Carriers’ industry which includes

²⁷ See U.S. Census Bureau, *2017 NAICS Definition, “517311 Wired Telecommunications Carriers,”* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

²⁸ *Id.*

²⁹ See *id.* Included in this industry are: broadband Internet service providers (e.g., cable, DSL); local telephone carriers (wired); cable television distribution services; long-distance telephone carriers (wired); closed-circuit television (CCTV) services; VoIP service providers, using own operated wired telecommunications infrastructure; direct-to-home satellite system (DTH) services; telecommunications carriers (wired); satellite television distribution systems; and multichannel multipoint distribution services (MMDS).

³⁰ *Id.*

³¹ See 13 CFR § 121.201, NAICS Code 517311.

³² See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPfirm, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPfirm&hidePreview=false>.

³³ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

³⁴ See *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Eighteenth Report*, Table III.A.5, 32 FCC Rcd 568, 595 (Jan. 17, 2017).

wireline telecommunications businesses.³⁵ The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.³⁶ U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.³⁷ Of this total, 2,964 firms operated with fewer than 250 employees.³⁸ Thus under the SBA size standard, the majority of firms in this industry can be considered small.

12. *Home Satellite Dish (HSD) Service.* HSD or the large dish segment of the satellite industry is the original satellite-to-home service offered to consumers and involves the home reception of signals transmitted by satellites operating generally in the C-band frequency. Unlike DBS, which uses small dishes, HSD antennas are between four and eight feet in diameter and can receive a wide range of unscrambled (free) programming and scrambled programming purchased from program packagers that are licensed to facilitate subscribers' receipt of video programming. Because HSD provides subscription services, HSD falls within the industry category of Wired Telecommunications Carriers.³⁹ The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.⁴⁰ U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated for the entire year.⁴¹ Of this total, 2,964 firms operated with fewer than 250 employees.⁴² Thus, under the SBA size standard, the majority of firms in this industry can be considered small.

13. *Open Video Services (OVS).* The open video system (OVS) framework was established in 1996 and is one of four statutorily recognized options for the provision of video programming services by local exchange carriers. The OVS framework provides opportunities for the distribution of video programming other than through cable systems. OVS operators provide subscription services and therefore fall within the SBA small business size standard for the cable services industry, which is "Wired Telecommunications Carriers."⁴³ The SBA small business size standard for this industry classifies firms having 1,500 or fewer employees as small.⁴⁴ U.S. Census Bureau data for 2017 show that there were

³⁵ See U.S. Census Bureau, *2017 NAICS Definition*, "517311 Wired Telecommunications Carriers," <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

³⁶ See 13 CFR § 121.201, NAICS Code 517311.

³⁷ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFI, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

³⁸ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

³⁹ See U.S. Census Bureau, *2017 NAICS Definition*, "517311 Wired Telecommunications Carriers," <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

⁴⁰ See 13 CFR § 121.201, NAICS Code 517311.

⁴¹ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFI, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

⁴² *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁴³ See U.S. Census Bureau, *2017 NAICS Definition*, "517311 Wired Telecommunications Carriers," <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

⁴⁴ See 13 CFR § 121.201, NAICS Code 517311.

3,054 firms in this industry that operated for the entire year.⁴⁵ Of this total, 2,964 firms operated with fewer than 250 employees.⁴⁶ Thus, under the SBA size standard the majority of firms in this industry can be considered small. Additionally, we note that the Commission has certified some OVS operators who are now providing service and broadband service providers (BSPs) are currently the only significant holders of OVS certifications or local OVS franchises. The Commission does not have financial or employment information for the entities authorized to provide OVS however, the Commission believes some of the OVS operators may qualify as small entities.

14. *Wireless Cable Systems – Broadband Radio Service and Educational Broadband Service.* Broadband Radio Service systems, previously referred to as Multipoint Distribution Service (MDS) and Multichannel Multipoint Distribution Service (MMDS) systems, and “wireless cable,”⁴⁷ transmit video programming to subscribers and provide two-way high speed data operations using the microwave frequencies of the Broadband Radio Service (BRS) and Educational Broadband Service (EBS) (previously referred to as the Instructional Television Fixed Service (ITFS)).⁴⁸ Wireless cable operators that use spectrum in the BRS often supplemented with leased channels from the EBS, provide a competitive alternative to wired cable and other multichannel video programming distributors. Wireless cable programming to subscribers resembles cable television, but instead of coaxial cable, wireless cable uses microwave channels.⁴⁹

15. In light of the use of wireless frequencies by BRS and EBS services, the closest industry with a SBA small business size standard applicable to these services is Wireless Telecommunications Carriers (*except* Satellite).⁵⁰ The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.⁵¹ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.⁵² Of this number, 2,837 firms employed

⁴⁵ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFI, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

⁴⁶ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁴⁷ The use of the term “wireless cable” does not imply that it constitutes cable television for statutory or regulatory purposes.

⁴⁸ See 47 CFR § 27.4; *see also* *Amendment of Parts 21 and 74 of the Commission’s Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, Report and Order, 10 FCC Rcd 9589, 9593, para. 7 (1995).

⁴⁹ Generally, a wireless cable system may be described as a microwave station transmitting on a combination of BRS and EBS channels to numerous receivers with antennas, such as single-family residences, apartment complexes, hotels, educational institutions, business entities and governmental offices. The range of the transmission depends upon the transmitter power, the type of receiving antenna and the existence of a line-of-sight path between the transmitter or signal booster and the receiving antenna.

⁵⁰ See U.S. Census Bureau, *2017 NAICS Definition*, “517312 Wireless Telecommunications Carriers (*except* Satellite),” <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

⁵¹ See 13 CFR § 121.201, NAICS Code 517312.

⁵² See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFI, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

fewer than 250 employees.⁵³ Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

16. According to Commission data as December 2021, there were approximately 5,869 active BRS and EBS licenses.⁵⁴ The Commission's small business size standards with respect to BRS involves eligibility for bidding credits and installment payments in the auction of licenses for these services. For the auction of BRS licenses, the Commission adopted criteria for three groups of small businesses. A very small business is an entity that, together with its affiliates and controlling interests, has average annual gross revenues exceed \$3 million and did not exceed \$15 million for the preceding three years, a small business is an entity that, together with its affiliates and controlling interests, has average gross revenues exceed \$15 million and did not exceed \$40 million for the preceding three years, and an entrepreneur is an entity that, together with its affiliates and controlling interests, has average gross revenues not exceeding \$3 million for the preceding three years.⁵⁵ Of the ten winning bidders for BRS licenses, two bidders claiming the small business status won 4 licenses, one bidder claiming the very small business status won three licenses and two bidders claiming entrepreneur status won six licenses.⁵⁶ One of the winning bidders claiming a small business status classification in the BRS license auction has an active licenses as of December 2021.⁵⁷

17. The Commission's small business size standards for EBS define a small business as an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than \$55 million for the preceding five (5) years, and a very small business is an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than \$20 million for the preceding five (5) years.⁵⁸ In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

18. *Incumbent Local Exchange Carriers (ILECs)*. Neither the Commission nor the SBA has developed a small business size standard specifically for incumbent local exchange carriers. Wired

⁵³ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁵⁴ Based on a FCC Universal Licensing System search on December 10, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service =BR, ED; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

⁵⁵ See 47 CFR § 27.1218(a).

⁵⁶ See Federal Communications Commission, Economics and Analytics, Auctions, Auction 86: Broadband Radio Service, Summary, Reports, All Bidders, <https://www.fcc.gov/sites/default/files/wireless/auctions/86/charts/86bidder.xls>.

⁵⁷ Based on a FCC Universal Licensing System search on December 10, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service =BR; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

⁵⁸ See 47 CFR § 27.1219(a).

Telecommunications Carriers⁵⁹ is the closest industry with a SBA small business size standard.⁶⁰ The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.⁶¹ U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.⁶² Of this number, 2,964 firms operated with fewer than 250 employees.⁶³ Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 1,227 providers that reported they were incumbent local exchange service providers.⁶⁴ Of these providers, the Commission estimates that 929 providers have 1,500 or fewer employees.⁶⁵ Consequently, using the SBA's small business size standard, the Commission estimates that the majority of incumbent local exchange carriers can be considered small entities.

19. *Competitive Local Exchange Carriers (CLECs)*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. Providers of these services include several types of competitive local exchange service providers.⁶⁶ Wired Telecommunications Carriers⁶⁷ is the closest industry with a SBA small business size standard. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.⁶⁸ U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.⁶⁹ Of this number, 2,964 firms operated with fewer than 250 employees.⁷⁰ Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 3,956 providers that reported they were competitive local exchange service providers.⁷¹ Of these providers, the Commission estimates that 3,808 providers have

⁵⁹ See U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

⁶⁰ See 13 CFR § 121.201, NAICS Code 517311.

⁶¹ *Id.*

⁶² See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFI, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

⁶³ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁶⁴ Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2021), <https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf>.

⁶⁵ *Id.*

⁶⁶ Competitive Local Exchange Service Providers include the following types of providers: Competitive Access Providers (CAPs) and Competitive Local Exchange Carriers (CLECs), Cable/Coax CLECs, Interconnected VOIP Providers, Non-Interconnected VOIP Providers, Shared-Tenant Service Providers, Audio Bridge Service Providers, Local Resellers, and Other Local Service Providers.

⁶⁷ See U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

⁶⁸ See 13 CFR § 121.201, NAICS Code 517311.

⁶⁹ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFI, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

⁷⁰ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁷¹ Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2021), <https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf>.

1,500 or fewer employees.⁷² Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

20. *Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing.* This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment.⁷³ Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.⁷⁴ The SBA small business size standard for this industry classifies businesses having 1,250 employees or less as small.⁷⁵ U.S. Census Bureau data for 2017 show that there were 656 firms in this industry that operated for the entire year.⁷⁶ Of this number, 624 firms had fewer than 250 employees.⁷⁷ Thus, under the SBA size standard, the majority of firms in this industry can be considered small.

21. *Audio and Video Equipment Manufacturing.* This industry comprises establishments primarily engaged in manufacturing electronic audio and video equipment for home entertainment, motor vehicles, and public address and musical instrument amplification. Examples of products made by these establishments are video cassette recorders, televisions, stereo equipment, speaker systems, household-type video cameras, jukeboxes, and amplifiers for musical instruments and public address systems.⁷⁸ The SBA small business size standard for this industry classifies firms with 750 employees or less as small.⁷⁹ According to 2017 U.S. Census Bureau data, 464 firms in this industry operated that year.⁸⁰ Of this number, 399 firms operated with less than 250 employees.⁸¹ Based on this data and the associated SBA size standard, we conclude that the majority of firms in this industry are small.

⁷² *Id.*

⁷³ See U.S. Census Bureau, *2017 NAICS Definition*, "334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing," <https://www.census.gov/naics/?input=334220&year=2017&details=334220>.

⁷⁴ *Id.*

⁷⁵ See 13 CFR § 121.201, NAICS Code 334220.

⁷⁶ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPfirm, NAICS Code 334220, <https://data.census.gov/cedsci/table?y=2017&n=334220&tid=ECNSIZE2017.EC1700SIZEEMPfirm&hidePreview=false>. https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/31SG2//naics~334220

⁷⁷ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁷⁸ See U.S. Census Bureau, *2017 NAICS Definition*, "334310 Audio and Video Equipment Manufacturing," <https://www.census.gov/naics/?input=334310&year=2017&details=334310>.

⁷⁹ See 13 CFR 121.201, NAICS Code 334310.

⁸⁰ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPfirm, NAICS Code 334310, <https://data.census.gov/cedsci/table?y=2017&n=334310&tid=ECNSIZE2017.EC1700SIZEEMPfirm&hidePreview=false>.

⁸¹ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard. We also note that the U.S. Census Bureau withheld publication of the number of firms that operated for the entire year and the number of firms that operated with 5 to 9 employees, to avoid disclosing data for individual companies (see Cell Notes for "Firms operated for the entire year" and "Firms operated for the entire year with 5 to 9 employees"). Therefore, the number of firms with employees that meet the SBA size standard would be higher than noted herein.

22. *Television Broadcasting.* This industry is comprised of “establishments primarily engaged in broadcasting images together with sound.”⁸² These establishments operate television broadcast studios and facilities for the programming and transmission of programs to the public.⁸³ These establishments also produce or transmit visual programming to affiliated broadcast television stations, which in turn broadcast the programs to the public on a predetermined schedule. Programming may originate in their own studio, from an affiliated network, or from external sources. The SBA small business size standard for this industry classifies businesses having \$41.5 million or less in annual receipts as small.⁸⁴ 2017 U.S. Census Bureau data indicate that 744 firms in this industry operated for the entire year.⁸⁵ Of that number, 657 firms had revenue of less than \$25,000,000.⁸⁶ Based on this data we estimate that the majority of television broadcasters are small entities under the SBA small business size standard.

23. The Commission estimates that as of March 2022, there were 1,373 licensed commercial television stations.⁸⁷ Of this total, 1,280 stations (or 93.2 percent) had revenues of \$41.5 million or less in 2021, according to Commission staff review of the BIA Kelsey Inc. Media Access Pro Television Database (BIA) on June 1, 2022, and therefore these licensees qualify as small entities under the SBA definition. In addition, the Commission estimates as of March 2022, there were 384 licensed noncommercial educational (NCE) television stations, 383 Class A TV stations, 1,840 LPTV stations and 3,231 TV translator stations.⁸⁸ The Commission however does not compile, and otherwise does not have access to financial information for these television broadcast stations that would permit it to determine how many of these stations qualify as small entities under the SBA small business size standard. Nevertheless, given the SBA’s large annual receipts threshold for this industry and the nature of these television station licensees, we presume that all of these entities qualify as small entities under the above SBA small business size standard.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements.

24. The *FNPRM* considers whether to retain two existing compliance requirements, both of which are scheduled to expire in 2023. The *FNPRM* does not propose any new reporting or recordkeeping requirements.

25. *Substantially Similar Rule.* The *FNPRM* considers whether to retain the “substantially similar” rule. This rule requires that the programming aired on a Next Gen TV station’s ATSC 1.0 simulcast channel be “substantially similar” to that of the primary video programming stream on the

⁸² See U.S. Census Bureau, *2017 NAICS Definition*, “515120 Television Broadcasting,” <https://www.census.gov/naics/?input=515120&year=2017&details=515120>.

⁸³ *Id.*

⁸⁴ See 13 CFR § 121.201, NAICS Code 515120.

⁸⁵ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEREVFIRM, NAICS Code 515120, <https://data.census.gov/cedsci/table?y=2017&n=515120&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false>.

⁸⁶ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, see https://www.census.gov/glossary/#term_ReceiptsRevenueServices.

⁸⁷ *Broadcast Station Totals as of March 31, 2022*, Public Notice, DA 22-365 (rel. April 5, 2022) (*March 2022 Broadcast Station Totals PN*), <https://www.fcc.gov/document/broadcast-station-totals-march-31-2022>.

⁸⁸ *Id.*

ATSC 3.0 channel.⁸⁹ This means that the programming must be the same, except for programming features that are based on the enhanced capabilities of ATSC 3.0, including targeted advertisements, and promotions for upcoming programs.⁹⁰

26. *Requirement to comply with the ATSC A/322 standard.* The FNPRM considers whether to retain the requirement to comply with the ATSC A/322 standard. In authorizing use of the Next Gen TV broadcast transmission standard, the Commission in the *First Next Gen TV Report and Order* required compliance with only two parts of the ATSC 3.0 suite of standards: (1) ATSC A/321:2016 “System Discovery & Signaling” (A/321),⁹¹ which is the standard used to communicate the RF signal type that the ATSC 3.0 signal will use; and (2) A/322:2016 “Physical Layer Protocol” (A/322),⁹² which is the standard that defines the waveforms that ATSC 3.0 signals may take.⁹³ The requirement to comply with A/321 does not have a sunset date but the requirement to comply with A/322 will expire in 2023 unless the Commission takes action to extend it.

E. Steps Taken to Minimize Significant Impact on Small Entities and Significant Alternatives Considered.

27. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.⁹⁴

28. The Commission has authorized television broadcasters to use the Next Gen TV (ATSC 3.0) standard on a voluntary, market-driven basis. As observed in the Final Regulatory Flexibility Analysis of the 2017 *First Next Gen TV Report and Order*,⁹⁵ this means that broadcasters decide whether (and if so when) to deploy ATSC 3.0 service and bear the costs associated with such deployment. The substantially similar requirement and the requirement to comply with A/322 only apply to TV broadcast stations that voluntarily choose to implement the Next Gen TV (ATSC 3.0) standard. Because the decision to deploy ATSC 3.0 service is voluntary, broadcasters, including small entities, do not need to undertake any costs or burdens associated with ATSC 3.0 service unless they choose to do so.

⁸⁹ 47 CFR §§ 73.3801(b)(1), 73.6029(b)(1), 74.782(b)(1); *First Next Gen TV Report and Order*, 32 FCC Rcd at 9942-43, para. 22. We refer to this as the substantially similar rule. The substantially similar rule is independent of the requirement for Next Gen TV broadcasters to simulcast in 1.0 format, which requirement does not have a sunset date. See 47 CFR §§ 73.3801(b), 73.6029(b), 74.782(b).

⁹⁰ Such enhanced content or features that cannot reasonably be provided in ATSC 1.0 format include: “hyper-localized” content (e.g., geo-targeted weather, targeted emergency alerts, and hyper-local news), programming features or improvements created for the 3.0 service (e.g., emergency alert “wake up” ability and interactive programming features), enhanced formats made possible by 3.0 technology (e.g., 4K or HDR), and any personalization of programming performed by the viewer and at the viewer’s discretion.

⁹¹ See ATSC A/321:2016 “System Discovery & Signaling” (2016), <https://www.atsc.org/wp-content/uploads/2016/03/A321-2016-System-Discovery-and-Signaling.pdf>.

⁹² See ATSC A/322:2016 “Physical Layer Protocol” (2016), <https://atsc.org/wp-content/uploads/2016/10/A322-2016-Physical-Layer-Protocol.pdf>.

⁹³ These two standards were incorporated by reference into the Commission’s rules. See 47 CFR § 73.682(f). The Commission applied the A/322 standard only to a Next Gen TV station’s primary, free, OTA video programming stream.

⁹⁴ 5 U.S.C. § 603(c).

⁹⁵ *First Next Gen TV Report and Order*, 32 FCC Rcd at 10026-27, para. 32.

Accordingly, we believe that should the Commission decide to retain either or both of these requirements (*i.e.*, the substantially similar rule and the A/322 standard) that they would not impose a significant economic impact on small entities. We seek comment on this tentative conclusion. We also seek comment on the impact of these rules on small entities.⁹⁶

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rule.

29. None.

⁹⁶ See Third Further Notice of Proposed Rulemaking at sections III.B and III.C, *supra*.