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

COMMENTS OF
THE NATIONAL ASSOCIATION OF BROADCASTERS

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I. INTRODUCTION AND SUMMARY

The National Association of Broadcasters (NAB)\(^1\) hereby submits comments in response to the Commission’s Third Further Notice of Proposed Rulemaking (FNPRM) concerning the state of the NextGen TV transition and the scheduled sunsets of two rules governing that transition.\(^2\)

The transition to NextGen service is more ambitious than any previous transition the broadcast industry has faced. With no additional spectrum to facilitate deployment, competing broadcasters must share capacity to continue to provide service in ATSC 1.0 while beginning to deploy NextGen services. In the early stages of this transition, most stations in a market continue transmitting in the legacy format while one or perhaps two stations host NextGen content for the other stations while also trying to offer new and better experiences to viewers. As the transition progresses, more stations will begin to transmit in the ATSC 3.0

\(^{1}\) The National Association of Broadcasters (NAB) is the nonprofit trade association that advocates on behalf of free local radio and television stations and broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the courts.

standard, enabling even better experiences for viewers, while necessarily fewer stations will host programming in the ATSC 1.0 format to maintain legacy service to viewers. Capacity constraints make the transition complex, but the payoff for consumers will be a more robust broadcasting service, among other things.

Broadcasters are not engaged in this complex and burdensome effort merely for the sake of an experiment. Broadcasters view a successful transition to Next Gen TV service as critical for the future of free over-the-air and local television. The additional flexibility and innovation ATSC 3.0 will provide broadcasters is vital for the health and competitiveness of the industry. Congress has mandated that the Commission preserve broadcasters’ ability to continue to serve their local communities and offer a compelling and competitive free over-the-air service, and thus the FCC’s top broadcasting priority should be to work with the industry to accelerate the transition wherever possible. The Commission has taken and continues to take aggressive steps to promote 5G services; we hope it will engage with broadcasters to find ways to promote ATSC 3.0 as well.

II. BROADCASTERS HAVE MADE IMPRESSIVE PROGRESS DEPLOYING ATSC 3.0 SERVICE UNDER CHALLENGING CIRCUMSTANCES

A. ATSC 3.0 Deployment is Well Underway

The transition to ATSC 3.0 is best understood as a four-part process. Part one is the development and approval of the ATSC 3.0 standard. Part two is deployment and seeding the market with devices. Part three is densification of ATSC 3.0 deployments, i.e., increasing the amount of 3.0 capacity in individual markets to allow broadcasters to take greater advantage of ATSC 3.0’s capabilities and offer improved and attractive services to viewers. Part four is maturation of the technology and a successful transition to ATSC 3.0. Part one was completed remarkably quickly. Broadcasters and electronics manufacturers are currently in part two of this transition and are making impressive progress. A significant number of ATSC 3.0
receivers are already available at a variety of price points – and we expect that availability to continue to grow rapidly.

In just under five years since the Commission approved the use of ATSC 3.0, broadcasters have launched ATSC 3.0 service in 52 markets, covering more than 60 million American television households. Additional markets are expected to launch by the end of the year. We note that the FNPRM specifically asks “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?”\(^3\) Viewers in 29 markets, representing approximately 36 million television households, have access to the “Big-4” networks via NextGen.

Viewers who have compatible equipment and are able to receive ATSC 3.0 signals are already receiving improved over-the-air service. Some broadcasters are deploying service with high dynamic range, higher frame rates, and greater resolution, providing significantly improved video quality. Viewers may also enjoy surround-sound and object-oriented audio that allows them to control program dialog levels above background noise. Broadcasters will be able to do even more with ATSC 3.0 as they launch additional 3.0 facilities in individual markets, creating more 3.0 capacity in those markets for partner stations to share, and as more programming is produced with NextGen capabilities in mind.

Broadcasters have made this remarkable progress while dealing with substantial challenges. Certainly, a once-in-a-century pandemic has created obstacles for many industries, including broadcasters. More fundamentally, of course, broadcasters must

\(^3\) FNPRM at ¶ 12.
upgrade their transmission technology with no additional spectrum and with unparalleled regulatory and service requirements.

The lack of additional spectrum for the transition means that broadcasters are required to launch a new service with one hand tied behind their backs. Broadcasters interested in launching ATSC 3.0 service must partner with one or more competitors to continue to provide ATSC 1.0 service. In addition, broadcasters face strict coverage requirements – 95 percent of their population served – with respect to potential partner stations to qualify for expedited processing of their ATSC 3.0 applications. While stations can, in theory, still apply for non-expedited processing without meeting those strict coverage requirements, as a practical matter few if any stations will do so given the onerous showing the Commission requires for stations that will serve less than 95 percent of the current covered population.4

A critical component to a successful transition, and one over which broadcasters have very little control, is the availability of ATSC 3.0 receivers. Unlike wireless carriers, who wield considerable power with respect to the development of mobile devices, because FCC ownership rules deliberately keep television broadcasters comparatively small, broadcasters have little ability to compel manufacturers to offer more receivers more quickly. Thus, broadcasters’ only option is to continue to launch 3.0 markets and attempt to offer compelling services in those markets to help stimulate consumer demand for receivers.

LG, Samsung, and Sony already offer a variety of ATSC 3.0 compatible sets, with Sony’s entire television product line now being 3.0 compatible. Hisense is expected to make its 3.0

compatible sets available later this month, at which point we expect there will be approximately 120 models of television sets with 3.0 receivers available at a variety of price points from four manufacturers. Broadcasters expect this number to continue to grow, as the marginal cost of adding a 3.0 receiver to a television set is low. More low-cost, high-volume products are expected in the near future. We note that there is currently a standalone receiver (*i.e.*, a receiver not built into a television set) available for less than $200, and we anticipate the release of lower cost receivers as the market continues to develop.

ATSC 3.0 capability in TV sets is identified and promoted to consumers by the NEXTGENTV logo, which is earned by passing certification tests developed in concert with NAB and CTA. We anticipate that the NEXTGENTV logo program will help minimize the potential for consumer confusion concerning the capabilities of 3.0 compatible equipment and help promote a reliable equipment ecosystem.

In short, while there is no question that much work remains in the ATSC 3.0 transition, broadcasters have made tremendous progress in a very short period of time, while facing challenges no other industry under the FCC’s jurisdiction would encounter in a technological upgrade.

**B. Broadcasters View ATSC 3.0 as the Future of Television, not a Trial**

The FNPRM asks whether broadcasters view ATSC 3.0 as a trial technology at this point. The answer is emphatically no. As described above, broadcasters have made great strides in deploying ATSC 3.0 service and the consumer equipment market is developing rapidly. Beyond the progress to date, broadcasters view ATSC 3.0 as critical to the future health of their industry. ATSC 3.0 provides a pathway to offering superior service that

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5 FNPRM at ¶ 11.
maintains parity with other video programming providers with which broadcasters compete. ATSC 3.0 also affords broadcasters with the opportunity to offer new services that can help ensure a vibrant future for broadcasting in a changing communications marketplace.

First, broadcast technology must evolve to remain competitive. Warner Bros. recently announced that it would make all eight seasons of “Game of Thrones,” as well as the follow-up series “House of the Dragon,” available in 4K with high dynamic range and Dolby Atmos immersive sound later this month. Netflix, Amazon Prime, and other service providers also make 4K programming available, and some pay-TV services have dedicated 4K channels. Broadcasters can only match those formats with ATSC 3.0. Ultimately, if consumers continue to demand higher resolution video and superior sound formats for popular programming, broadcasters risk being left behind if they cannot offer competitive video services.

Second, ATSC 3.0 allows broadcasters to use some of their capacity to make new services available. For example, one company recently conducted a successful demonstration using ATSC 3.0 as a datacasting solution for public safety agencies on July 4 in Washington, DC. Datacasting allowed public safety agencies to transmit encrypted video and secure alert messages and files over an ATSC 3.0 broadcast facility. This successful trial demonstrates that datacasting using ATSC 3.0 can serve as important backup platform for public safety communications, offering deep building penetration and robust coverage using existing


infrastructure. Critically, datacasting remained fully operational and unaffected by crowds or network congestion even as LTE-based services were degraded due to heavy usage around the National Mall. ATSC 3.0 allows broadcasters to explore reliable and secure datacasting opportunities for public safety, distance learning, and commercial uses.

C. The Commission Can Help Accelerate the Transition

Because ATSC 3.0 is so important to maintaining a healthy and dynamic broadcast industry, the Commission should actively look for additional opportunities to work with broadcasters to help accelerate deployment and densification. While neither the Commission nor broadcasters may be able to fully address the most challenging aspect of the transition – an absence of additional spectrum – the Commission should acknowledge the difficulties the transition poses and remove regulatory barriers to deployment wherever possible.

Broadcasters are engaged in a difficult and delicate technological transition for which there is no Commission precedent. Because television stations do not have extra channels they can use to maintain 1.0 service while deploying 3.0, they must ultimately make judgments about how best to serve their viewers, particularly as 1.0 capacity becomes more limited as the transition proceeds. The Commission should entrust those business and market judgments to broadcasters. They have all of the right incentives in this instance to serve the public. Broadcasters are far better positioned to determine the best way to continue to serve 1.0 viewers while rolling out 3.0 services, and the Commission should not attempt to bend the transition to its will through micromanagement or heavy-handed regulation.

Experience with the ATSC 3.0 transition to date confirms that a flexible approach that trusts broadcasters to make decisions about how best to serve their viewers is the most productive path forward. For example, during the original ATSC 3.0 rulemaking, some commenters urged the Commission to impose a new and unsupported requirement that
transitioning broadcasters transmit their 1.0 signals in high definition – a significant change in the Commission’s rules that would impose new burdens while broadcasters were attempting a challenging transition. The Commission rightly rejected those requests, recognizing that broadcasters could have less capacity for HD programming at certain points during the transition and choosing instead to “rely on broadcasters’ market-based incentives” to continue to provide high quality service on their 1.0 signals to the extent possible.\(^8\) \textit{This approach has worked.} While capacity constraints are real and require broadcasters to make difficult tradeoffs dynamically both now and in the future, NAB knows of no station that has switched its primary programming stream from HD to SD through over 50 market launches.

Going forward, as more stations in individual markets switch to ATSC 3.0, the amount of 1.0 capacity in those markets will decrease, and the tradeoffs broadcasters will have to make will only become more difficult. Some stations may need to drop multicast programming or use higher levels of compression, and it is certainly conceivable that in some markets some stations may need to change the format of some programming for a limited period of time during the transition. Broadcasters, not regulators, are best situated to make judgment calls concerning the best way to serve their viewers. Mandates in this area could only serve to undermine the essential transition to ATSC 3.0.

Critically, the Commission must understand and accept that insurmountable capacity constraints will likely make it impossible to achieve a standard of \textit{zero} consumer disruption. Any stakeholder or policymaker who disagrees with that proposition has an argument with physics, not with broadcasters. The Commission itself accepted the disruption of television service during a previous transition – the repack following the broadcast spectrum incentive

\(^8\) ATSC 3.0 Order at ¶ 28.
auction – where viewers unquestionably lost service to accommodate a technological transition that did not benefit those viewers. The Commission cannot hold broadcasters to a higher standard than it has held itself for preserving existing service. In this case, at least, the end state will allow broadcasters to offer a benefit to all viewers in the form of significantly improved service.

Because of the unavoidable challenges associated with this transition, and because of the benefits to a free over-the-air service, we urge the Commission to make promoting and accelerating the ATSC 3.0 transition one of its top broadcast priorities. There are numerous steps the Commission could take to accelerate the deployment, densification, and maturation of the ATSC 3.0 transition. For example, we urge the Commission to move forward expeditiously with final rules in response to NAB’s petition for rulemaking regarding the licensed treatment of hosted multicast streams. The absence of clarity regarding the regulatory treatment of certain kinds of hosting arrangements is actively complicating and delaying the launch of some markets. The Commission’s goal should be to provide a flexible and future-proof set of predictable rules for hosting arrangements that are a necessary part of a difficult transition, not to make the transition more difficult by overregulating those hosting arrangements.

The Commission should also resolve the outstanding petition for reconsideration of its order modifying its rules governing broadcasters’ use of distributed transmission system technologies. That petition was filed more than a year ago and there has been no

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subsequent activity in the docket for nearly 11 months. The record is plainly complete, and we urge the Commission to resolve this issue promptly to provide broadcasters with certainty regarding potential DTS deployments. Broadcasters are unable to move forward with such deployments, which the Commission has acknowledged will provide public interest benefits including more robust service and more efficient use of spectrum, without understanding whether the reasonable compromises the Commission adopted are indeed final.

Additionally, as the Commission is aware, some broadcasters are using more advanced compression to allow the preservation of multicast programming in a capacity-constrained environment. The Commission should consider a further notice in this proceeding that would explore the optional use of greater compression for primary programming streams as well as multicast programming streams. The Commission should also consider in a further notice whether it would be appropriate to modify the 95 percent coverage threshold for expedited processing of ATSC 3.0 applications, or in the alternative to substantially streamline the showing that a broadcaster would need to make for a non-expedited processing.

Finally, the FNPRM also questions how long broadcasters should be required or allowed to operate in both ATSC 1.0 and 3.0.\textsuperscript{11} While, as described above, broadcasters still have significant work to do in the transition, there is no doubt that the requirement to operate in both ATSC 1.0 and ATSC 3.0 may complicate the transition. The Commission should consider a further notice or a notice of inquiry regarding the appropriate conditions under which broadcasters may voluntarily begin to sunset their ATSC 1.0 signals. The lead time on such a proceeding will likely be long, and a predictable and stable set of rules developed in concert with the broadcast industry will aid both broadcasters and viewers. At the same time,

\textsuperscript{11} FNPRM at ¶ 11.
the Commission should consider developing a formalized process for targeted waivers of the simulcast rule on a case-by-case basis where broadcasters can demonstrate that the public interest would be better served by allowing stations to launch ATSC 3.0 service without adhering to the simulcasting requirement.

D. The Commission Should Not Change Its Approach to Patents

As the FNPRM acknowledges, the Commission’s approach to essential patents associated with ATSC 3.0 mirrors its approach in the original DTV transition. In its orders adopting ATSC 1.0, the Commission concluded that the fact that industry testing procedures already required licensing of essential patents on reasonable and non-discriminatory (RAND) terms was adequate, and that the Commission would monitor developments and take further action if needed. Similarly, in its Next Gen Order, the Commission observed that the ATSC requires licensing of essential patents on RAND terms, and stated that it would, “monitor how the marketplace handles patent royalties for essential patents.” There is no reason for the Commission to change its approach at this time.

As the Commission is aware, ATSC’s patent policy generally requires disclosure of essential patents and licensing of essential patents on RAND terms. There are thousands of patents associated with the ATSC 3.0 standard, held by a wide array of companies in different industries, but NAB is not aware of any broadcaster patent-holder that has refused to make

12 FNPRM at ¶ 8.
14 ATSC 3.0 Order at ¶ 100, n. 300.
essential patents available on RAND terms. Indeed, every ATSC member that has disclosed that it holds patents essential to ATSC 3.0 adopted standards has declared its intention to make those patents available on RAND terms.\textsuperscript{16}

Moreover, there are dozens of models of television sets available for sale with ATSC 3.0 receivers. Plainly, patent issues have not prevented manufacturers from including 3.0 receivers in numerous models of televisions. Even if the Commission had jurisdiction to regulate issues relating to patent royalties, which it likely does not, there is no evidence of a market failure that would warrant Commission action at this time. Accordingly, the Commission should make no changes in its approach, and continue to allow the market for 3.0 receivers to continue to develop.

E. The A/322 Requirement Has Not Impeded ATSC 3.0 Deployments or the Development of Equipment

In its order allowing broadcasters to deploy ATSC 3.0 technology on a voluntary basis, the Commission sought to strike a balance between providing predictable standards for television manufacturers and allowing broadcasters freedom to innovate and offer new services.\textsuperscript{17} Accordingly, the Commission required that broadcasters deploying ATSC 3.0 service comply with the ATSC A/322 standard with respect to their primary video programming stream for five years.\textsuperscript{18}

To date, the Commission’s approach has not interfered with broadcasters’ efforts to deploy ATSC 3.0 service. In fact, NAB believes the requirement has been helpful in encouraging television manufacturers to design and build television sets that incorporate


\textsuperscript{17} ATSC 3.0 Order at ¶ 98.

\textsuperscript{18} \textit{Id.}
ATSC 3.0 receivers. For that reason, NAB would support a reasonable extension of the requirement that broadcasters comply with the ATSC A/322 standard with respect to their primary video programming stream.

III. A PREDICTABLE SUNSET OF THE “SUBSTANTIALLY SIMILAR” REQUIREMENT WILL STIMULATE INNOVATION

When the Commission adopted the substantially similar component of its simulcast requirement, it made plain that it intended the requirement to be temporary, noting that while it might be necessary at the outset, “it could unnecessarily impede Next Gen TV programming innovations as the deployment of ATSC 3.0 progresses.”19 The Commission should allow this requirement to expire and give broadcasters permission to develop new programming options. Given that unnecessary rules only make the transition longer and more difficult, the Commission should examine this issue only through the lens of whether there are compelling reasons to extend the requirement.

As an initial matter, NAB respectfully submits that concerns over the potential effects of sunsetting the substantially similar requirement are misplaced. The Commission posits that, absent a regulatory requirement, broadcasters could provide their most desirable content only over their ATSC 3.0 signal, effectively creating two different tiers of free OTA television service.20 It is unrealistic to expect broadcasters to fatally undermine their business in a ham-fisted scheme to compel consumers to buy new equipment. As of this writing the majority of OTA viewers are still reliant on ATSC 1.0 signals. Broadcasters cannot afford to eliminate the majority of their OTA audience by shifting their most popular programming exclusively to ATSC 3.0.

19 ATSC 3.0 Order at ¶ 22.
20 FNPRM at ¶ 26.
As a result, the most likely result of sunsetting the substantially similar requirement is not that broadcasters will alter the programming transmitted on their ATSC 1.0 signals; rather it is that broadcasters take the opportunity to try different programming or features on their ATSC 3.0 signals to entice viewers to voluntarily upgrade their equipment. That is, the effect in the near term of the elimination of the requirement would likely be changes to stations’ 3.0 programming, not changes to their 1.0 programming. Due to the substantially similar requirement, broadcasters do not have that incentive at this writing, and thus there is naturally limited investment in new and innovative programming or features.

Taking a step back, the Commission does not require other actors in the communications marketplace, including those with which broadcasters compete, to intentionally slow the pace of innovation when they upgrade their technology to avoid creating different tiers of service. For example, the Commission spent years developing rules to implement an auction of 280 MHz of C-band spectrum in an effort to advance 5G service in the United States.\textsuperscript{21} At no point in this process did the Commission entertain imposing requirements that carriers only offer the same services they could offer with 4G or 3G, despite the fact that literally no consumer can take advantage of 5G service using this spectrum without buying a new phone that could easily cost more than an ATSC 3.0 compatible television receiver.

Further, the Commission’s discussion of the potential development of two tiers of programming ignores fundamental present-day facts in the video programming marketplace. There \textit{already are} two tiers of programming service: pay and free. Broadcasters are the only

\textsuperscript{21} \textit{Expanding Flexible Use of the 3.7 to 4.2 GHz Band}, Report and Order and Order of Proposed Modification, 35 FCC Rcd 2343 (2020).
entities the Commission regulates that are required to provide a free service. As discussed above, broadcasters’ competitors in the video marketplace are not standing still – they are experimenting with and promoting service enhancements that broadcasters cannot offer in ATSC 1.0. If the Commission is concerned about multiple tiers of video programming, the Commission’s top broadcasting priority should be helping broadcasters improve the only free video programming option under the Commission’s jurisdiction. Accordingly, the Commission’s primary concern with respect to ATSC 3.0 deployment should be how best to ensure that broadcasters can innovate, expand their service offerings, and continue to operate a profitable service that, in turn, allows them to invest in the best programming and local news.

Finally, the FNPRM’s characterization of the driving forces of the ATSC 3.0 transition significantly overstates the degree to which the transition is exclusively under broadcasters’ control. The FNPRM states, “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 hands of the broadcast industry.” While broadcasters certainly have some degree of control over the pace of deployments and densification of 3.0 capacity in individual markets, as discussed above they have little control over how the consumer electronics industry develops, markets, and prices ATSC 3.0 receivers. That depends largely on consumer demand, which broadcasters can stimulate by showcasing what 3.0 can do that 1.0 cannot. That, in turn, depends on broadcasters’ ability to experiment with programming options, which broadcasters are more likely to do when they have a greater degree of certainty regarding the sunset of the

22 FNPRM at ¶ 29.
substantially similar requirement. Broadcasters are unlikely to invest the time and resources developing or acquiring different programming for ATSC 3.0 until they know they can do so without potentially running afoul of FCC rules. Providing regulatory certainty about the sunset of the substantially similar requirement is an important step in the transition, and the Commission should let the requirement sunset as scheduled.

IV. CONCLUSION

In a very short period of time, under very difficult circumstances, broadcasters have made incredible progress with the voluntary deployment of ATSC 3.0 service. The challenges and tradeoffs the industry faces will not get any easier as the transition progresses and the amount of capacity available to maintain 1.0 service continues to shrink. Broadcasters are nevertheless committed to a successful transition because they view ATSC 3.0 as critical to the future success of their industry and their ability to serve their customers. To offer competitive services, and to offer new services that may generate additional revenue to support broadcasters’ ability to serve their local communities, broadcasters must make this transition work. The Commission also has a vested interest in the success of this transition if it is committed to preserving a free over-the-air broadcast television service. We urge the Commission to make the success of the ATSC 3.0 transition a top priority and to continue to work constructively with the industry to eliminate regulatory barriers and provide regulatory clarity and certainty wherever possible.
Respectfully submitted,

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