

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
Expanding Flexible Use of the 3.7 to 4.2 GHz Band	)	GN Docket No. 18-122
	)	
Expanding Flexible Use in Mid-Band Spectrum	)	GN Docket No. 17-183
Between 3.7 and 24 GHz	)	(Inquiry Terminated as to 3.7 – 4.2 GHz)
	)	
Petition for Rulemaking to Amend and Modernize	)	RM-11791
Parts 25 and 101 of the Commission’s Rules to	)	
Authorize and Facilitate the Deployment of	)	
Licensed Point-to-Multipoint Fixed Wireless	)	
Broadband Service in the 3.7-4.2 GHz Band	)	
	)	
Fixed Wireless Communications Coalition, Inc.,	)	RM-11778
Request for Modified Coordination Procedures in	)	
Band Shared Between the Fixed Service and the	)	
Fixed Satellite Service	)	

To: The Commission

**COMMENTS OF CUMULUS MEDIA INC.  
AND WESTWOOD ONE, LLC**

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## Summary

Cumulus Media Inc. and Westwood One, LLC are submitting these comments for the purpose of demonstrating to the Commission the substantial importance of the 3.7 – 4.2 GHz band not only to broadcasters, satellite operators, and content providers, but to each end user consumer who relies on the C-band each and every day. Indeed, nearly every American who watches television or listens to radio, whether in their home, car, or workplace relies on the ubiquitous, reliable, and high quality continuous coverage that the C-band provides throughout the country.

There is no alternative spectrum or frequency source available that provides the same high degree of quality, reliability and ubiquitous coverage. Before the Commission makes any determination regarding whether to reallocate spectrum in the 3.7 – 4.2 GHz band for new terrestrial wireless services, it is imperative that the Commission first have an accurate assessment of the number of earth stations actual operating in the C-band, determine the potential impact that any reallocation of spectrum and commencement of new wireless services within the 3.7 – 4.2 GHz band would have on public safety and emergency services, especially in rural and remote areas throughout the country.

Further, in the event the Commission elects to reallocate spectrum for new wireless services, the Commission should reject any co-channel sharing proposal and adopt the market-based proposal proposed by the satellite operators in this proceeding. The Commission also should ensure that all incumbent earth station licensees are fully reimbursed for all costs they each would incur in accommodating the new wireless entrants. Finally, the Commission also should not allow new terrestrial fixed point-to-multipoint services in the C-band.

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**COMMENTS OF CUMULUS MEDIA INC.  
AND WESTWOOD ONE, LLC**

Cumulus Media Inc. (“Cumulus”) and Westwood One, LLC (“Westwood One”) hereby submit these comments in response to the above-captioned Notice of Proposed Rulemaking (“*NPRM*”) in which the Federal Communications Commission (“FCC”) has requested comments on its proposal to authorize new terrestrial mobile wireless services in the 3.7 – 4.2 GHz band (commonly referred to as the “C-band”).<sup>1</sup> Cumulus and Westwood One are submitting these comments for the purpose of accomplishing the following three primary objectives: (1) demonstrate that the content distribution services provided by satellite operators through the C-band are essential not only to the business operations of both Cumulus and Westwood One, but

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<sup>1</sup> *Expanding Flexible Use of the 3.7-4.2 GHz Band*, Order and Notice of Proposed Rulemaking, GN Docket No. 18-122, FCC 18-91 (rel. July 13, 2018) (“*NPRM*”).

to millions of Americans around the country who otherwise would be unable to receive news, weather, sports and entertainment programming, as well as adequate public safety and related emergency services; (2) demonstrate Cumulus' and Westwood One' support for the market-based proposal set forth in this proceeding by Intelsat License LLC ("Intelsat"), SES Americom, Inc. ("SES"), and Intel Corporation ("Intel")<sup>2</sup> to allow terrestrial mobile use in a portion of the C-band that may be reallocated for such use in this proceeding;<sup>3</sup> and (3) oppose new fixed point-to-multipoint ("P2MP") services in the C-band and any associated proposed limits on full-band, full-arc protection for satellite earth stations.

## **I. Background.**

Cumulus, through various indirect wholly-owned subsidiaries, owns and operates 440 commercial radio stations in ninety (90) markets. Cumulus utilizes the C-band for the distribution of news, news talk, and entertainment programming on a nationwide basis, including various award shows and high profile events of national significance. Cumulus utilizes its centralized production facilities in combination with the C-band to distribute its audio content to all of its 90 local markets across the country.

Westwood One, a wholly-owned subsidiary of Cumulus, is the largest radio network in America providing programming 24 hours per day, seven days per week ("24x7"), to over 245 million listeners each week via Westwood One's affiliated stations throughout the country. Westwood One utilizes over five thousand (5,000) C-band receive-only earth stations in its distribution of news, talk, sports, music and other audio content to 8,000 commercial radio station affiliates in the continental U.S., Alaska and Hawaii in cooperation with 1,500 broadcast partners, including other large group owners such as Alpha Media, Beasley Media Group,

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<sup>2</sup> Intelsat, SES, and Intel are collectively referred to herein as the "Satellite Operators."

<sup>3</sup> See *NPRM* at ¶¶66-97.

Bonneville International Corporation, Cox Communications, The Cromwell Group, Entercom Communications Corp., Hubbard Broadcasting, iHeartMedia Communications, Midwest Communications, and Townsquare Media. In addition to its large group partners, Westwood One has affiliates of all sizes, including stations operated in small markets across the country which benefit greatly from the resources provided by Westwood One.

Westwood One enables broadcast radio groups to provide compelling content that otherwise would be unavailable in their respective local markets through its 24x7 music formats, talk show programming and a vast variety of sports programming, which includes NFL/NCAA football, NCAA basketball, NHL hockey, the Olympics, and Triple Crown horse race events.

The C-band plays a vital role in the nation’s communications infrastructure, including “serving as the backbone for the distribution of video and audio programming enjoyed by U.S. consumers in their homes, cars, and workplaces around the country.”<sup>4</sup> As demonstrated by the comments filed in this proceeding, C-band satellite services continue to be the primary means of transmitting and receiving programming delivered to 100 million American households, including nearly 52 million cable video customers.<sup>5</sup> The C-band is relied upon by content providers to deliver television programming to thousands of MVPD head-ends, over 1,000 broadcast television stations affiliated with national networks, and over-the-top service providers.<sup>6</sup> Radio content providers also have relied heavily on the C-band, including another radio network, National Public Radio, which has stated that the public radio system depends on

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<sup>4</sup> Globecast America, Inc. (“Globecast”) *Ex Parte* Presentation, GN Docket No. 17-183 and 18-122 at 1 (filed June 5, 2018).

<sup>5</sup> Comments of NCTA – The Internet & Television Association (“NCTA Comments”), GN Docket No. 18-122 at 2 (filed May 31, 2018). Unless otherwise indicated, all comments cited herein were submitted in GN Docket No. 18-122 on May 31, 2018.

<sup>6</sup> Comments of the National Association of Broadcasters (“NAB Comments”) at 2, citing Comments of the Content Companies (“Content Companies Comments”), GN Docket No. 17-183 at 2 (filed Oct. 2, 2017).

the C-band “for reliable distribution of programming to the 475 public radio stations that together broadcast public radio programming to 42 million Americans each week.”<sup>7</sup> Thus, as demonstrated in greater detail herein, any change in the current C-band operating environment would have a significant negative impact on the business operations of Cumulus and Westwood One, as well as the millions of consumers served by each of those entities.

## **II. No Alternative Spectrum or Frequency Source is Available.**

If the Commission were to consider any alternative delivery system, it is important for the Commission to understand that earth stations supported by the C-band currently receive data from a commercial satellite provider at 75 MBps speeds with minimal atmospheric attenuation. If the Commission were to propose an alternative regulatory framework, it must ensure that there is no degradation in the high reliability, quality, capacity, and efficiency that exists today in the C-band. Higher frequency bands such as the Ku band are more susceptible to atmospheric attenuation and therefore do not serve as a suitable substitute for the C-band.<sup>8</sup> Commenters in this proceeding also have noted that the Ku-band is more susceptible to signal fade than C-band frequencies, and transponder power is not available everywhere.<sup>9</sup> The degree of reliability is of even greater concern for Cumulus and Westwood One because, in the case of the delivery of audio content, consumers demand a high level of reliability in their programming regardless of the weather. Furthermore, it is the understanding of both Cumulus and Westwood One that there

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<sup>7</sup> NAB Comments at 2, quoting Letter from Adam Shoemaker to Marlene H. Dortch, GN Docket No. 17-183 (filed Nov. 8, 2017).

<sup>8</sup> “Comments of Raytheon Company” (“Raytheon Comments”) at 4 (filed June 15, 2018).

<sup>9</sup> See Comments of NCTA (“NCTA Comments”) at 6-7, citing Comments of AT&T Services, Inc. (“AT&T Comments”), GN Docket No. 17-183 at 5, 7 (filed Oct. 2, 2017); Content Companies Comments, GN Docket No. 17-183 at 4 (filed Oct. 2, 2017); Comments of the Satellite Industry Association (“SIA Comments”), GN Docket No. 17-183 at 15 (filed Oct. 2, 2017); Comments of SES (“SES Comments”), GN Docket No. 17-183 at 3 (filed Oct. 2, 2017).

may not be sufficient Ku-band capacity to accommodate all of the existing services that utilize the C-band spectrum today.<sup>10</sup>

With respect to fiber, the coverage, reliability and cost make fiber virtually an impossible substitute for C-band. Comments filed in this proceeding demonstrate that due to cable cuts – referred to as “backhoe fade” – C-band availability often exceeds that of fiber, even in urban areas.<sup>11</sup> Further, the reach of fiber generally is limited to a few hundred of the largest metropolitan areas and, thus, cannot serve as a substitute for the nationwide footprint of the C-band satellite infrastructure.<sup>12</sup> Moreover, fiber does not have the same combination of efficiency and reliability as C-band for content delivery. In order to ensure the necessary degree of reliability, redundancy of fiber lines would likely be required in most instances, which would multiply the expense.<sup>13</sup>

One example of the limitations of fiber is illustrated through the failure of many terrestrial based services, including fiber, on September 11th, the day the World Trade Center in New York City was attacked. Through the use of its C-band facilities, Westwood One was still able to deliver news and time-sensitive emergency-related information to Cumulus’ and its other

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<sup>10</sup> Reply Comments of Satellite Industry Association (“SIA Reply Comments”), GN Docket No. 17-183 at 20 (filed Nov. 15, 2017); Reply Comments of SES (“SES Reply Comments”), GN Docket No. 17-183 at 13 (filed Nov. 15, 2017) (“[O]perating satellites equipped with Ku- and Ka-band frequencies were built and launched in response to demand for space segment in that spectrum and are actively used by customers providing a wide range of services, including commercial VSAT networks, aeronautical services and consumer and enterprise broadband connectivity. Any unused capacity on Ku- and Ka-band spacecraft with U.S. coverage is nowhere near enough to replace the hundreds of C-Band transponders that currently serve the U.S.”); Comments of the American Cable Association (“Comments of ACA”), GN Docket No. 17-183 at 16 n.30 (filed Oct. 2, 2017) (“ACA understands that all Ku-band transponders are full, with demand exceeding supply.”).

<sup>11</sup> SIA Comments at 4, citing AT&T Comments at 7, GN Docket No. 17-183 at 5, 7 (filed Oct. 2, 2017).

<sup>12</sup> SIA Comments at 4, citing SIA Reply Comments, GN Docket No. 17-183 at 14-16 (filed Nov. 15, 2017); SES Reply Comments, GN Docket No. 17-183 at 14-16 (filed Nov. 15, 2017); Comcast *Ex Parte*, GN Docket Nos. 17-258 & 18-122 at Attachment 7 (filed May 16, 2018).

<sup>13</sup> NCTA Comments at 7, citing Reply Comments of SES, GN Docket No. 17-183 at 16 (filed Nov. 15, 2017); ACA Comments, GN Docket No. 17-183 at 17 n.34 (filed Oct. 2, 2017).



New York-based affiliates. Shortly after the attack, Westwood One was contacted by stations in the New York City area requesting access to national news coverage who had no affiliation with a network news product. Due to the reliability, quality, and capacity provided by the C-band, Westwood One was able to quickly authorize and deliver vital national news content to stations which had lost terrestrial and fiber links as a result of the failure of a major central telecommunications office during that horrific event. The attacks on September 11th are just one example – even in an urban environment – where fiber could not provide a satisfactory substitute for the C-band.

If existing earth stations were forced to use fiber as an alternative for the distribution of video content, the result would leave broadcasters and cable systems in thousands of smaller cities, towns, and rural areas with no affordable means to access the programming they now provide to their respective communities.

The costs of attempting to extend the fiber infrastructure would also be astronomical. Indeed, the ability to replicate the reliability of C-band FSS services would require expenditures that are likely to be beyond the reach of smaller broadcasters or cable systems. In most cases they would be forced to pass the substantial price increases on to their subscribers and advertisers, or cease operations altogether.<sup>14</sup> The effect of implementing such an inferior substitute alternative would result in a sharp demarcation between urban dwellers, who would continue to enjoy a full range of news, sports, and entertainment programming, and those residents of less populated areas, whose video and audio content delivery offerings either would be impaired or terminated due to the substantial increase in costs.

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<sup>14</sup> SIA Comments at 5.

The Internet also is not an acceptable substitute for the C-band because it does not provide a reliable means of distributing content to rural and remote areas. A signal delivered via the Internet is susceptible to drop outs and freezing up, which is not a workable solution in the context of delivering audio programming where, as stated above, consumers demand a high level of reliability in their programming. Moreover, the cost of attempting to distribute content throughout the country via the Internet would be prohibitively expensive.

Furthermore, it is not just the content distribution of video and audio service availability that is at stake in this proceeding. As demonstrated in the comments filed by National Public Radio (“NPR”),<sup>15</sup> the reliability of the C-band is essential to the public radio service. Because eighty percent (80%) of NPR’s programming is broadcast live, it is critical that the emergency-related alerts and other time-sensitive information provided to local communities during and immediately after natural disasters and other emergencies be protected.<sup>16</sup> Thus, if the Commission were to reallocate a portion of the C-band in a manner such that certain earth stations no longer would be able to provide existing services for those residents beyond the reach of terrestrial mobile services, losing C-band satellite connectivity could literally be life-threatening for a substantial number of Americans because it would cut those residents completely off from any means of receiving timely alerts and other critical information in the case of a natural disaster or other emergency.

As demonstrated above, the resources that operators of receive-only earth stations such as Cumulus and Westwood One have expended to conduct their operations in the C-band represent a substantial sunk investment. If the Commission were to fail to retain sufficient spectrum in the

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<sup>15</sup> NPR provides approximately 450,000 hours of public radio programming each year to over 1,200 local affiliated public radio stations for over-the-air broadcasts to 42 million Americans each week in all 50 states, the District of Columbia, the Virgin Islands, Puerto Rico, and Guam. NPR Comments at 4.

<sup>16</sup> *See Id.* at 4-5.

3.7 – 4.2 GHz band to permit incumbent operators to continue to operate in that band, the entire investment that Cumulus, Westwood One, its affiliated stations, and all of the other incumbent earth station operators have made in that band for purposes of content distribution would be lost entirely. Due to the complete lack of an available substitute alternative source of spectrum, the substantial costs that would be incurred in attempting to find some means of replacing the C-band in both urban and rural areas would be substantial, if not astronomical, and would raise significant public safety concerns.

**III. Before Making Any Determination Regarding a Reallocation of Spectrum, the Commission Should Consider the Number of Earth Stations Operating in the C-Band and the Potential Impact Upon Public Safety and Emergency Services.**

Pursuant to the Congressional directive in the MOBILE NOW Act,<sup>17</sup> the Commission is obligated to carefully analyze the feasibility of any potential changes to the existing C-band framework, including, specifically: (i) the proposed changes and impact on incumbent earth station operators in the band; (ii) the feasibility of pursuing strategies to preclude interference and address other operational issues; and (iii) the costs of migrating existing content distribution providers to alternative spectrum or other distribution platforms. Without this information, the Commission will be unable to make an informed decision regarding whether the benefits that are believed to result from any spectrum sharing arrangement or other proposal in this proceeding will outweigh the costs to the satellite, broadcast, other content providers, and, ultimately, the end-user consumers of those distributed audio and video services.<sup>18</sup>

Before the Commission is in a position to conduct the above analysis, however, it must have an accurate count of the number of earth stations that are actually operating in the C-band.

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<sup>17</sup> See Consolidated Appropriations Act, 2018, Pub. L. No. 115-141, § 605(b)-(c), 132 Stat. 348, 1100 (2018).

<sup>18</sup> See Comments of Comcast Corporation and NBCUniversal Media, LLC (“Comcast Comments”) at 4-5.

The comments filed in this proceeding indicate that although there were 4,700 earth stations registered or licensed in the International Bureau Filing System (IBFS), there are thousands of unregistered receive-only earth stations operating in the C-band that must be protected in this proceeding.<sup>19</sup> The comments filed in this proceeding indicate that the Commission’s records grossly underestimate the substantial number of earth stations operating in the C-band. For example, the SIA estimates the actual number of earth stations operating in the band to be over 33,000.<sup>20</sup> The American Cable Association, which represents smaller cable systems in rural areas that rely heavily on C-Band to obtain their video programming, indicates that ninety percent (90%) of its members’ earth stations are not registered.<sup>21</sup> Similarly, Learfield Communications, LLC (“Learfield”) stated that as of September 25, 2018, only eight percent (8%) of the sites that receive its content programming were registered with the Commission.<sup>22</sup> According to the most recent registrations in the IBFS, there currently are a total of approximately 16,500 registered earth stations operating in the C-band. Those registrations, however, do not accurately represent the total number of earth stations actually operating in the C-band, or more importantly, the number of listeners and viewers receiving content from those earth stations.

In defining incumbent earth stations, the FCC proposed to define “incumbent” stations as those that:

(1) were operational as of April 19, 2018; (2) are licensed or registered (or had a pending application for license or registration) in the IBFS database as of October 17, 2018; and (3) have timely certified the accuracy of information on file with the Commission to the extent required by the Order.

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<sup>19</sup> *NPRM* at ¶15, citing Comments of North American Broadcasters Association at 2; ACA Comments at 3; SIA Comments at 4; NAB Comments at 4.

<sup>20</sup> SIA Reply Comments, GN Docket No. 17-183, at 10-11, 16, 23 (Nov. 15, 2017).

<sup>21</sup> ACA Comments, GN Docket No. 17-183, at 4 n.6 (Oct. 2, 2017).

<sup>22</sup> Learfield *Ex Parte* Presentation, GN Docket 18-122 at 1 (filed September 25, 2018).

*NPRM* at ¶27 (footnote omitted).<sup>23</sup> As demonstrated by the comments filed in this proceeding prior to the issuance of the *NPRM*, there may be many more earth stations operating in the C-band that will not be registered by the October 31, 2017 filing deadline. The procedures adopted by the Commission for registering earth stations operating in the C-band have made it difficult, cumbersome and expensive to register earth stations, particularly for those earth station operators/broadcasters with limited funding. As one commenter aptly stated, the registration of receive earth stations is “cost-prohibitive for many providers.”<sup>24</sup> Although the Commission waived the coordination requirement, earth station registrants have still been required to pay the FCC filing fee of \$435. Those costs can add up quickly for operators with a significant number of receive-only earth stations, and “can be an obstacle to registration for smaller entities with very limited operating budgets, even if their earth station sites number only in the double digits.”<sup>25</sup> Commenters also have demonstrated that compiling and submitting all of the data required by the registration process has been unduly burdensome, and constitute a “serious strain” on the limited resources of smaller companies “as well as smaller video programmers that often serve specific ethnic and niche consumers who rely upon these programming services for information and entertainment tailored for their respective interests.”<sup>26</sup>

The C-band is also critical for purposes of public safety and providing emergency services. As demonstrated by the comments filed in this proceeding, the C-band is “ubiquitous”

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<sup>23</sup> On October 17, 2018, the International Bureau issued a Public Notice extending the filing deadline through October 31, 2018 for earth stations currently operating in the C-band. *Public Notice*, DA 18-1061 (rel. October 17, 2018).

<sup>24</sup> Globecast *Ex Parte* Presentation, GN Docket 18-122 at 2 (filed June 5, 2018).

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* See also Learfield *Ex Parte* Presentation, GN Docket 18-122 at 1-2 (filed June 5, 2018) (same).

– reaching all corners of the country, including rural areas that can be impossible to reach with fiber or other alternative distribution methods.<sup>27</sup> The ability of the C-band to provide high performance under adverse or severe weather conditions is essential for safety-of-life communications such as air traffic control, distribution of emergency alerts, and National Weather Service operations, as conditions that create the greatest degree of attenuation are those in which maintaining connectivity is most critical.<sup>28</sup> As noted above, NPR stated in its comments that the reliability of the C-band is essential to its network because, with eighty percent (80%) of the programming broadcast live, the reliability provided by the C-band is critical to the emergency-related alerts and other time-sensitive information provided to local communities both during and after natural disasters and other emergencies.<sup>29</sup> Indeed, satellite-delivered programming generally is regarded as the only reliable means for distribution of essential weather data, allowing watches and warnings without interruption to listeners, first responders, and recovery personnel, even if the terrestrial connection is broken as occurred during and after Hurricanes Katrina and Maria, when it became necessary to maintain forecast office operations through satellite connections.<sup>30</sup>

The substantial importance of the public safety component of the C-band is further demonstrated by Premiere Networks’<sup>31</sup> partnership with the Federal Emergency Management Agency (“FEMA”) to transmit the Emergency Alert System (“EAS”) nationwide messages to its

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<sup>27</sup> Microspace Communications Corporation *Ex Parte* Presentation, GN Docket 18-122 at 2 (filed July 3, 2018).

<sup>28</sup> SIA Comments at 4.

<sup>29</sup> NPR Comments at 7.

<sup>30</sup> See Raytheon Comments at 4-5 (filed June 15, 2018).

<sup>31</sup> Premier Networks (“Premier”) is a subsidiary of iHeartMedia Communications, Inc., debtor-in-possession (“iHeartMedia”).

radio affiliates on a redundant delivery basis to ensure full, nationwide participation in the EAS.<sup>32</sup> iHeartMedia elected to use the C-band spectrum as a means of enhancing the distribution of the EAS after certain states were unable to properly receive the nationwide EAS test alerts.<sup>33</sup> Thus, as demonstrated above, if the Commission does not preserve the C-band for use by existing earth stations, the Commission's action could have a harmful and significant impact on public safety, including the ability to provide safety-of-life communications and the distribution of EAS alerts.

#### **IV. The Commission's Full-Band, Full-Arc Licensing Policy Must Be Preserved.**

In the *NPRM*, the Commission proposed to reexamine its full-band, full-arc coordination policy in its effort to maximize spectrum efficiency and make the 3.7 – 4.2 GHz band more available for terrestrial mobile use.<sup>34</sup> Despite the Commission's proposal, the Commission's full-band, full-arc policy is vital for incumbent operators in the C-band to ensure continuity of service. Under that policy, an earth station currently is permitted to request coordination across the full 3.7 – 4.2 GHz band and for the full geostationary arc. The policy provides earth station operators with the flexibility to adapt their frequency and antenna pointing to ensure continuity of service during both planned and any unanticipated outages. In the event of an unexpected satellite or transponder failure,<sup>35</sup> earth stations may be required to orient to new satellites in the orbital arc, or they may have to tune to new frequencies, with no change in location.<sup>36</sup> These

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<sup>32</sup> Comments of iHeartMedia at 2.

<sup>33</sup> *Id.*

<sup>34</sup> *NPRM* at ¶39.

<sup>35</sup> Satellite failures can occur for a variety of reasons, including power failures, loss of telemetry, damage caused by solar flares, and solar panel failures. Regardless of the cause, content providers currently have the ability to make alternative arrangements for satellite delivery through the Commission's full-band, full-arc access to the C-band. *See* Comcast Comments at 11-12.

<sup>36</sup> *See* NCTA Comments at 10, citing Content Companies Comments, GN Docket 17-183 at 3-4 (filed Oct. 2, 2017); SIA Comments, GN Docket 17-183 at 26-28 (filed Oct. 2, 2017).

changes may occur for any number of reasons, all of which are outside the control of the earth station operator, including the following: (i) the end of a satellite's useful life, (ii) during periodic sun transit events (when the sun is in alignment with the satellite's arc and the earth station and solar radiation interferes with reception), (iii) in the context of live breaking news or sporting events (for which transponder usage typically is coordinated just prior to the event), (iv) the expiration or termination of a transponder lease or service agreement, and/or (v) the expiration or termination of a property lease agreement.<sup>37</sup>

As demonstrated above, in considering options for expanded fixed use of the C-band, the Commission should reject any proposal that would require the elimination or restriction of its longstanding and highly successful full-band, full-arc earth station licensing policy pursuant to which FSS earth stations may coordinate across the entire frequency band and over the entire geostationary arc. Preserving the longstanding flexibility that full-band, full-arc licensing provides is essential to content providers, broadcasters, and the ultimate consumers that rely on satellite services. Because satellites operate in orbit thousands of miles above the earth, any equipment problems or other failures that occur in orbit are not easily repaired from the ground. Flexibility with respect to the ability to move to a new satellite and transponder frequency are necessary to ensure reliable operation.<sup>38</sup> As demonstrated by the comments filed in this proceeding, the elimination of the full-band, full-arc policy would prevent a prompt response to "transmission anomalies and emergencies," and, at the same time, burden the Commission with frequent, time-sensitive, and unnecessary STA requests for new frequencies and antenna

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<sup>37</sup> NCTA Comments at 10, citing Content Companies Comments, GN Docket 17-183 at 4 (filed Oct. 2, 2017); SIA Comments, GN Docket 17-183 at 28, 31 (filed Oct. 2, 2017).

<sup>38</sup> See NAB Comments at 3-4.



pointings.<sup>39</sup> Moreover, no party in this proceeding, nor the Commission has offered an alternative to the existing full-band, full-arc licensing policy that will satisfy the industry's needs with respect to reliability and continuity of service.<sup>40</sup> Therefore, the Commission's full-band, full-arc policy must be preserved in all respects.

**V. In the Event the Commission Should Reallocate Spectrum For New Wireless Services, the Commission Should Reject Any Co-Channel Sharing Proposal and Adopt the Satellite Operators' Market-Based Proposal.**

The record in this proceeding demonstrates that co-frequency sharing between terrestrial mobile services and satellite operations is not feasible. As the Commission recognized in the *NPRM*, because signals from satellites are relatively weak when they reach the ground, terrestrial mobile operations within the 3.7 – 4.2 GHz band could cause harmful interference to earth stations over large distances.<sup>41</sup> Any risk of interference to the C-band satellite services upon which Cumulus and Westwood One rely is unacceptable, not only from the standpoint of potential lost revenue, but because the risk of interference jeopardizes the ability of millions of Americans to continue to receive the programming content they have come to rely upon. Further, as has been demonstrated herein, the risk of such interference poses a serious threat to public safety due to the substantial risk that those Americans in rural areas who rely upon the C-band for essential safety-of-life communications, including air traffic control, distribution of emergency alerts, National Weather Service, first responders, and other emergency services will not continue to be provided in the same high quality, reliable, and ubiquitous manner.

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<sup>39</sup> NCTA *Ex Parte* Presentation at 3 (filed July 2, 2018).

<sup>40</sup> *Id.*

<sup>41</sup> See *NPRM* at ¶50. Indeed, earth stations are designed to reliably capture highly attenuated signals from satellites more than 22,000 miles away. As a result, these facilities are extremely sensitive to terrestrial interference. NAB Comments at 3, citing SIA Comments, GN Docket No. 17-183 at 36 (filed Oct. 2, 2017).

Proper management of the C-band going forward is critical to the continued vitality of the business operations of both Cumulus and Westwood One. Both entities therefore believe that a market-based approach, as proposed by the Satellite Operators, presents the most practical solution for introducing next generation terrestrial mobile operations in the C-band.

Broadcasters, cable systems, and other content distribution providers have been working with satellite operators for decades. Through the lengthy, established business relationship between the parties, satellite operators understand the needs of those parties who utilize the C-band, they have direct knowledge of our operations, and are uniquely positioned to protect not only the interests of Cumulus and Westwood One, but the interests of the other incumbent users of the C-band as well as those of other entities currently operating in the band which may not have registered their earth stations. At the same time, the Satellite Operators are fully capable (to the extent necessary) of undertaking the arduous and enormous costly task of clearing a portion of the 3.7 – 4.2 GHz spectrum for terrestrial mobile wireless use. Accordingly, in order to preserve the important private as well as public interests – including the substantial nationwide public safety interests that are at stake in this proceeding – the Commission should proceed with the market-based solution discussed in the *NPRM*.<sup>42</sup> In doing so, however, it is imperative that the Commission take efforts to minimize as much as possible any potential disruption to incumbent earth station operators, who have made a substantial investment in the C-band, as well as the over 100 million U.S. households who rely on those services each and every day.<sup>43</sup>

- (a) The Commission Should Not Take Any Action That Would Reduce Competition to the Extent that it Would Significantly Raise Prices in the C-Band.

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<sup>42</sup> See *NPRM* at ¶¶66-97.

<sup>43</sup> SES and Intelsat *Ex Parte* Presentation at 1 (filed July 3, 2018); See also NCTA Comments at 2.

In considering the amount of spectrum, if any, to be reallocated to facilitate the deployment of next generation wireless services within the 3.7 – 4.2 GHz band, the Commission should avoid taking any action in this proceeding that could reduce competition in the C-band to the extent that it could result in significantly higher prices in the marketplace for C-band services. Specifically, if the Commission were to conclude that it should reallocate a portion of the spectrum in the C-band for terrestrial wireless services, and reallocated too large a portion of that spectrum such that the reallocation significantly reduced competition and/or had the effect of substantially raising prices in the marketplace for C-band services, the Commission's action could have a harmful effect on competition which ultimately could result in millions of Americans being unable to receive the news, weather, sports and entertainment programming that they currently receive today. More importantly, the reallocation of too much spectrum for terrestrial wireless services could have such a harmful effect on competition in the C-band that it could deprive millions of Americans of the public safety and related emergency services that they so desperately require.

Indeed, the Commission acknowledged the following:  
Since a reduction in industry capacity generally leads to higher prices, reducing the spectrum associated with FSS may have the unintended consequence of increasing the price of FSS services and consequently of downstream services. *Conversely, such a reduction should correspond with an increase in industry capacity for high-speed wireless broadband services, which would tend to lead to lower prices.* How should the Commission evaluate proposed mechanisms with regard to their effect on downstream users of FSS and wireless broadband services?

*NPRM* at ¶63 (emphasis added). The Commission's assumption in the above paragraph – that if there were to be reduction in available spectrum in the C-band which typically would result in higher prices, there should be a corresponding increase in capacity in high-speed broadband services which would tend to lead to lower prices – does not follow in this context because the two services are not interchangeable. The C-band marketplace currently involves the

distribution of content, whether it be video or audio, across the entire country, including rural and remote areas. As demonstrated herein, however, there is no satisfactory alternative substitute that will enable listeners and viewers in those areas to receive the news, weather, sports, entertainment programming, and emergency-related services that they currently receive today through the 3.7 – 4.2 GHz band. Therefore, even assuming, *arguendo*, that the Commission’s hypothesis is correct, *i.e.*, that the reduced availability of C-band services may lead to increased capacity for high-speed wireless broadband services at lower prices in certain urban areas, there will be millions of Americans in rural and remote areas throughout the country who no longer will be able to receive the same audio and video content which they had been accustomed to receiving via the C-band. For that reason, the Commission should reallocate only a small portion of the 3.7 – 4.2 GHz band for terrestrial mobile use.<sup>44</sup>

- (b) The Commission Must Ensure that All Incumbent Licensees Are Fully Reimbursed For All Costs Incurred in Accommodating the New Wireless Entrants.

In the event a portion of the 3.7 – 4.2 GHz band is reallocated for exclusive terrestrial wireless use, the Commission must establish safeguards to protect existing earth station operators from interference. Specifically, each of the more than thirty thousand (30,000) earth stations currently operating in the C-band would need to be provided and outfitted with a special filter. In addition, the Commission must establish a compensation mechanism to reimburse all incumbent earth stations for all of the costs in accommodating the new wireless entrants to

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<sup>44</sup> There is no guarantee that the use of fiber will result in lower prices. Commenters have noted that fiber and other ground-based systems are not viable alternatives for C-band operators because fiber either is not available or is prohibitively expensive. NAB Reply Comments at 3, citing NPR Comments at 7. As stated above, fiber does not have the same combination of efficiency and reliability as C-band for content delivery. In order to ensure the necessary degree of reliability, it likely would be necessary to install redundant fiber lines which would exacerbate the costs. NCTA Comments at 7, citing SES Reply Comments, GN Docket No. 17-183 at 16 (filed Nov. 15, 2017); ACA Comments, GN Docket No. 17-183 at 17 n.34 (Oct. 2, 2017).

ensure that they will be made whole for the costs that they each would incur in any transition to a substitute or alternative spectrum. In addition, any plans to compensate existing earth stations to transition to an alternative means of transmission should include compensation for any increase in the costs of future ongoing operations over that which the incumbent earth station operators previously incurred while operating in the C-band.

**VI. The Commission Should Not Allow New Terrestrial Fixed Point-to-Multipoint Services in the C-Band.**

The Commission should not allow new terrestrial P2MP services in the C-band or, as demonstrated above, restrict the protection of C-band earth stations across the full spectrum band and the visible satellite arc.<sup>45</sup> As demonstrated in Section IV above, the flexibility to change frequencies and receive antenna orientations is essential to the value of the C-band satellite capacity on which each of the incumbent earth station operators rely, including Cumulus and Westwood One. That flexibility allows, *inter alia*, restoration of service if an outage affects the earth station's primary space segment and facilitates the resolution of interference issues, as well as enables earth stations to take advantage of competition among satellite operators. If earth stations were required to work around new P2MP facilities, that would significantly undermine the nationwide reach of C-band service, and a requirement to modify earth station licenses for any change in operating parameters would impose significant and undue regulatory burdens on incumbent earth station licensees. For these reasons, the Commission should focus on other spectrum which is not used so extensively as the C-band to provide any additional frequencies that may be needed or suitable for P2MP operations.

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<sup>45</sup> See *NPRM* at ¶¶37-40 and 116-132.

## **VII. Conclusion.**

For the reasons stated herein, Cumulus and Westwood One respectfully request that the Commission: (i) consider the number of earth stations actually operating in the C-band and the potential impact upon public safety and emergency services, including the EAS, that any reallocation of spectrum in the 3.7 – 4.2 GHz band would have before determining whether to reallocate any spectrum for new terrestrial wireless services; (ii) preserve the full-band, full-arc licensing policy in its present form; (iii) reject any co-channel sharing proposal and, in the event any spectrum is reallocated for new wireless services, the Commission should adopt the Satellite Operators' market-based proposal; (iv) take the necessary steps to ensure that all incumbent earth station licensees are fully reimbursed for all costs incurred in accommodating the new wireless entrants; and (v) not allow new fixed point-to-multipoint services in the C-band.

Respectfully submitted,

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