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ATTORNEYS AT LAW

March 10, 2008

**BY ELECTRONIC FILING**

Marlene H. Dortch  
Office of the Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

Re: ***CS Docket Nos. 98-120 and 00-96, MB Docket No. 07-91***

Dear Ms. Dortch:

In recent *ex parte* filings, the National Association of Broadcasters (“NAB”) urges the Commission to impose carriage obligations on Direct Broadcast Satellite (“DBS”) operators far exceeding those being considered by the Commission.<sup>1</sup> Specifically, NAB requests that DBS operators be required not only to carry the signals of all local broadcast stations in high definition (“HD”) format immediately, but to do so in all 210 Designated Market Areas (“DMAs”) nationwide, and to do so without using the compression techniques that they now use for every channel they offer.<sup>2</sup> After imposing this requirement, according to NAB, the Commission should then conduct an inquiry into whether DBS operators have the ability to implement it in the first place.<sup>3</sup> (To quote the Queen of Hearts, “Sentence first – verdict afterwards.”<sup>4</sup>)

<sup>1</sup> See, e.g., Letter from Jerianne Timmerman to Marlene H. Dortch, CS Docket Nos. 98-120 and 00-96, MB Docket No. 03-30 (Mar. 4, 2008) (“NAB Mar. 4 Letter”).

<sup>2</sup> See *id.*; Petition for Reconsideration and Clarification of the Association for Maximum Service Television, Inc. and the National Association of Broadcasters, CS Docket No. 98-120 (filed Mar. 3, 2008) (again demanding carriage of “all content bits”).

<sup>3</sup> NAB Mar. 4 Letter at 3 (“The FCC should fully investigate, including allowing third party verification, of the satellite carriers’ most recent assertions. The FCC should not allow *any delay* in HD carriage requirements pending completion of this investigation.” (emphasis in original)).

<sup>4</sup> Lewis Carroll, *Alice’s Adventures in Wonderland*, Chapter 12 (Chronicle Books 2002).

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Perhaps the most disturbing aspect of NAB's proposal is that it continues a pattern of attempting to use the digital transition as a vehicle to impose additional mandates on others. In proceeding after proceeding, NAB and its constituent broadcasters have attempted to improve their own commercial positions by expropriating facilities deployed at great expense by others.<sup>5</sup> This latest proposal is no different.

NAB cites the public interest in affording viewers in even the most remote locales access to local news, information, and entertainment.<sup>6</sup> But why should this burden fall solely on satellite carriers and their subscribers? Broadcasters can, if they choose, build out facilities to provide over-the-air signals throughout their DMAs – thereby making their signals available directly to consumers in whatever number, format and resolution they think best.<sup>7</sup> And DIRECTV has provided (at great expense) a seamless method for its subscribers to integrate such signals with its satellite-delivered service. Yet broadcasters have shown far more interest in increasing their coverage by riding on the investments of others rather than by investing in their own facilities. For that matter, if the NAB were truly concerned about *local* news, information, and entertainment, its proposal would presumably be accompanied by a commitment for broadcasters to offer locally-produced HD content. NAB, however, remains silent on this issue.

If, as NAB insists, the public interest demands the universal availability of local signals, the Commission should inquire why *broadcasters* have yet to upgrade their facilities to make this happen. Furthermore, in order to justify carriage of HD programming, the Commission should demand that broadcasters actually produce local HD content rather than simply retransmitting network HD programming – and demand that NAB explain why they have not yet done so. Such an inquiry would serve the cause of localism far better than the broadcasters' transparent attempt to expand their potential audience still further on someone else's dime.

As for the merits of NAB's proposal, DIRECTV, Inc. and DISH Network have previously noted the challenges they would face if the Commission were to impose a

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<sup>5</sup> Thus, broadcast interests have advocated mandatory carriage for both analog and digital signals, for multicast digital signals, and for "all content bits" transmitted over-the-air without compression or other processing, and have also sought improved channel placement and guaranteed picture quality that they could not obtain in commercial negotiations. In most cases, the Commission recognized these requests as commercially overreaching and legally unjustifiable, and so rejected them. See, e.g., *Carriage of Digital Television Broadcast Signals: Amendment of Part 76 of the Commission's Rules*, 22 FCC Rcd. 21064, ¶ 9 (2007) ("[T]he all content bits approach is likely to stifle innovation and the very efficiency that digital technology offers"); *Carriage of Digital Television Broadcast Signals; Amendments to Part 76 of the Commission's Rules*, 16 FCC Rcd. 2598, ¶ 57 (2001) (rejecting broadcaster request for multicast carriage and dual carriage); *Carriage of Digital Television Broadcast Signals: Amendments to Part 76 of the Commission's Rules*, 20 FCC Rcd. 4516, ¶ 33 (2005) (same).

<sup>6</sup> NAB Mar. 4 Letter at 1.

<sup>7</sup> Digital television broadcast stations are eligible for licenses to operate low power and translator stations specifically to provide a signal in areas where one is unavailable due to distance or intervening terrain barriers. See 47 C.F.R. § 74.790.

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requirement for carriage of each broadcaster's HD feed in markets where a satellite operator carries any broadcaster's HD feed ("HD carry-one, carry-all").<sup>8</sup> After carefully evaluating these challenges and their ability to respond to them, DIRECTV and DISH Network jointly proposed that, if the Commission were to adopt such a requirement, it do so by implementing a series of increasing obligations leading to full compliance in all markets served within four years after the digital transition.<sup>9</sup> Such an approach is necessary to ensure a smooth digital transition, preserve competition among MVPD providers, avoid disrupting service to tens of millions of American consumers, and allow sufficient time for business planning and investment in the technology necessary for compliance with such a mandate.

The Commission should not reject the aggressive consensus schedule devised by DIRECTV and DISH Network in favor of NAB's unrealistic proposal. As described below, and in the further response to NAB's questions attached hereto:

- Imposing an obligation for DBS operators to provide local service in all markets in HD format would conflict with the local carriage regime carefully crafted by Congress in the Satellite Home Viewer Improvement Act ("SHVIA").
- NAB has not contested many of the factors cited by DIRECTV as justifying a phased-in schedule for local HD carriage, such as necessary upgrades to ground-based infrastructure. It has instead focused on a single factor – satellite capacity. Even with respect to this one factor, NAB's claims are wrong, and its efforts to call into question the satellite industry's past representations on capacity issues are grossly misleading. If NAB's proposal were adopted, the predictable result would *not* be more rapid service to rural areas; it would be payments from DBS operators to broadcasters. Such payments line the pockets of broadcasters but do nothing for the public interest.
- The schedule required by DIRECTV and DISH Network is similar to those routinely employed by Congress and the Commission to implement new technological mandates. It is actually more demanding than those applied to the broadcasters' own digital transition mandates.

In the end, what the Commission should focus on is this: nobody has done more to achieve universal broadcast coverage (including HD signals) than DIRECTV. It has spent billions of dollars to expand the reach of local broadcasters in markets throughout the country.

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<sup>8</sup> See, e.g., Letter from Susan Eid to Marlene H. Dortch, CS Docket Nos. 98-120 and 00-96, MB Docket No. 07-91 (Feb. 13, 2008) ("DIRECTV Letter"); Letter from Linda Kinney to Marlene H. Dortch, CS Docket Nos. 98-120 and 00-96 (Feb. 11, 2008).

<sup>9</sup> See Letter from Linda Kinney and Susan Eid to Marlene H. Dortch, CS Docket Nos. 98-120 and 00-96, MB Docket No. 07-91 (Feb. 15, 2008).

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For the most part, this investment has benefited both DIRECTV and the broadcasters<sup>10</sup> – who, after all, derive significant additional advertising revenue from the expanded audience DIRECTV allows them to reach. But NAB simply cannot be heard to suggest that satellite carriers are somehow betraying the public trust by not undertaking a far more onerous burden on the broadcasters' behalf in every market. The broadcasters should not be permitted to use the digital transition as a pretext for yet more regulatory gamesmanship.

## I. The Commission Lacks Authority to Adopt NAB's Proposals.

In adopting SHVIA's statutory copyright license for local broadcast signal carriage, Congress specifically recognized the capacity limitations faced by satellite operators.<sup>11</sup> In light of those limitations, Congress adopted a "carry-one, carry-all" regime in which satellite operators can choose whether to enter a market, and only then must carry all qualifying stations in that market.<sup>12</sup> This regime was carefully crafted to balance the interests of broadcasters and satellite carriers alike.

The Commission thus lacks authority to deviate from the regime deliberately created by Congress by mandating local service in all 210 DMAs.<sup>13</sup> Nor does the Commission's role in implementing the digital transition permit it to abandon the carry-one, carry-all approach. Congress gave the Commission authority to *update* the carry-one, carry-all rules in light of the digital transition.<sup>14</sup> It did not empower the Commission to replace them with a much broader

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<sup>10</sup> This is not universally so. To the extent that must-carry stations claim capacity on DIRECTV's system that could otherwise be used to deliver more compelling programming, the benefit of carriage flows entirely to broadcasters, while the burden falls entirely on DIRECTV's subscribers.

<sup>11</sup> H.R. Rep. No. 106-157 (1999) (Conf. Rep.), 145 Cong. Rec. H 11769, \*H11792 ("To that end, it is important that the satellite industry be afforded a statutory scheme for licensing television broadcast programming similar to that of the cable industry. At the same time, the practical differences between the two industries must be recognized and accounted for.") ("Conference Report"); *id.* at \*H11795 ("Because of unique technical challenges on satellite technology and constraints on the use of satellite spectrum, satellite carriers may initially be limited in their ability to deliver must carry signals into multiple markets.").

<sup>12</sup> 47 U.S.C. § 338(a)(1).

<sup>13</sup> Indeed, Congress concluded that the carry-one, carry-all regime was constitutional largely because it gave satellite carriers the choice of whether or not to serve a particular market. *See* Conference Report at \*H11795 ("Rather than requiring carriage of stations in the manner of cable's mandated duty, this Act allows a satellite carrier to choose whether to incur the must-carry obligation in a particular market in exchange for the benefits of the local statutory license.").

<sup>14</sup> Section 338(j) requires the Commission to promulgate regulations "*implementing this section*" – *e.g.*, carry-one, carry-all. 47 U.S.C. § 338(j) (emphasis added). Such regulations "shall include requirements on satellite carriers that are comparable to the requirements on cable operators" under section 614(b)(4) of the Cable Television Consumer Protection and Competition Act. *Id.* Section 614(b)(4)(B), in turn, provides: "At such time as the Commission prescribes modifications of the standards for television broadcast signals, the Commission shall initiate a proceeding to establish any changes in the signal carriage requirements of cable

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and more onerous must-carry regime. Indeed, Congress deliberately declined to impose any must-carry obligations for digital signals at all.<sup>15</sup>

## II. NAB's Proposal Would Place Local Service and the Digital Transition at Risk.

Even if the Commission had authority to adopt NAB's proposals (which it does not), failure to adopt the phased-in approach proposed by DIRECTV and DISH Network would place the local service of tens of millions of subscribers at risk, and would even jeopardize the transition efforts of the broadcasters themselves. DIRECTV has previously demonstrated why it will need four years from the date of the digital transition before it could fully comply with an HD carry-one, carry-all requirement in the markets where it currently plans to provide HD local signals.<sup>16</sup> As set forth more fully herein and in the attachment hereto:

- Compliance with HD carry-one, carry-all would require the successful launch and operation of next-generation satellites, as well as further improvements in satellite-related technologies that increase capacity.
- Compliance with HD carry-one, carry-all would require substantial upgrades to DIRECTV's ground-based infrastructure – from new equipment at local collection facilities and additional fiber backhaul capacity to new infrastructure in DIRECTV's uplink centers.
- DIRECTV's engineering resources are fully committed for the next year to upgrading ground-based infrastructure to ensure a smooth digital transition – an effort that would be jeopardized if those resources had to be reallocated to address an immediate HD carriage mandate.

In prior submissions, DIRECTV has also demonstrated that putting the infrastructure in place to provide standard definition ("SD") local service in the remaining local markets would take over three years and cost in excess of \$250 million.<sup>17</sup> And, as DIRECTV described to the Commission last year, carrying HD signals in all 210 DMAs *without compression* is simply an

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television systems necessary to ensure cable carriage of such broadcast signals of local commercial television stations which have been changed to conform with such modified standards." 47 U.S.C. § 534(b)(4)(B).

<sup>15</sup> Indeed, the Conference Report stated: "by directing the FCC to promulgate these must carry rules [found in Section 338], the conferees do not take any position regarding the application of must-carry rules to carriage of digital television signals by either cable or satellite systems." Conference Report at \*H11795.

<sup>16</sup> See DIRECTV Letter, *supra*.

<sup>17</sup> See Letter from William M. Wiltshire to Marlene H. Dortch, MB Docket No. 07-18 (Aug. 23, 2007) (submitting "An Economic Analysis of DIRECTV Providing Local-Into-Local Service Via Satellite in All 210 DMAs").

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impossibility.<sup>18</sup> Indeed, if DIRECTV is not allowed to compress HD broadcast signals, its spot beams would be rendered useless and all of the capacity currently available for HD local carriage would be sufficient to serve just one midsized market.

NAB does not contest the need to upgrade ground-based infrastructure. Nor has it even attempted to rebut DIRECTV's thorough analysis of the cost of providing SD signals in all 210 DMAs. Rather, NAB's argument rests solely on its attempts to call into question the capacity limitations of carriers' satellite networks. Of course, satellite capacity is useless if the ground infrastructure is not in place to collect, backhaul, process, and uplink the broadcast signals in the first place. For this reason alone, NAB's arguments are at best misguided.

Yet even with respect to satellite capacity alone, NAB is grossly off the mark. NAB first criticizes DIRECTV for claiming that it would soon have the capacity to carry 1,500 local television stations in HD, yet not actually doing so.<sup>19</sup> But this criticism ignores record evidence of an anomaly in one of DIRECTV's new satellites. It also ignores record evidence that satellite-related technologies have not yet advanced as quickly as DIRECTV had anticipated.<sup>20</sup> And it ignores record evidence regarding DIRECTV's use of digital signal processing.<sup>21</sup>

Stripped of its rhetoric, this entire line of argument is but a rehash of prior NAB and Affiliate arguments that DIRECTV's satellites *in the aggregate* have enough capacity to carry all digital signals.<sup>22</sup> As DIRECTV has repeatedly explained, this simplistic view ignores the fact that excess capacity in one spot beam cannot be reallocated for carriage of stations in markets not served by that beam.<sup>23</sup> Determining a DBS operator's capacity to service local markets is thus not the "paint by numbers" exercise that the broadcasters would have the Commission believe.

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<sup>18</sup> See, e.g., Letter from William M. Wiltshire to Marlene H. Dortch, CS Docket No. 00-96 (Aug. 28, 2007) (attaching analysis of local carriage metrics); Reply of DIRECTV, Inc., MB Docket No. 05-181, Attachment at 5-6 (filed Dec. 19, 2005).

<sup>19</sup> NAB Mar. 4 Letter at 1.

<sup>20</sup> DIRECTV Letter at 1-2.

<sup>21</sup> See footnote 18, *supra*.

<sup>22</sup> NAB Mar. 4 Letter at 2 (citing Reply of the ABC, CBS, and NBC Television Affiliate associations, MB Docket No. 05-181 (filed Dec. 19, 2005) ("In 2005, the ABC, CBS, and NBC Television Affiliate Associations demonstrated in a filing with the FCC that both satellite carriers had the bandwidth to retransmit the *full digital signal of every television station in the United States*. That demonstration has never been rebutted, and the FCC has yet to take up the matter." (emphasis in original)).

<sup>23</sup> It is thus untrue that the Affiliates' pleading cited by NAB was never rebutted. The Affiliates' Reply supported, and was largely derivative of, a longer Opposition filed by NAB itself with respect to capacity issues. On the same day the Affiliates filed their Reply, DIRECTV filed its own reply rebutting in full NAB's (and, as it turned out, the Affiliates') baseless capacity arguments. See Reply of DIRECTV, Inc., MB Docket No. 05-181 (filed Dec. 19, 2005).

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To the contrary: the record evidence in this and other proceedings demonstrates that DIRECTV does not now have, and will not have in the immediate future, the bandwidth to retransmit every television signal in the United States, and will never have the bandwidth to do so while carrying “all content bits” in each station’s HD stream.<sup>24</sup>

NAB also chides DIRECTV for suggesting in 2002 that it would be unable to serve more than 70 local markets, while it now serves 148.<sup>25</sup> However, NAB neglects to mention that the introduction of local-into-local service in more markets than DIRECTV had anticipated in 2002 required DIRECTV to enter into an arrangement for the use of a Canadian DBS slot to serve U.S. households and to redesign and repurpose its Ka-band satellites from their original mission of providing broadband services.<sup>26</sup> Indeed, as NAB must concede, it has taken DIRECTV six years to deploy the infrastructure needed to launch local service in all of these markets. The timetable proposed by DIRECTV and EchoStar would implement an HD carry-one, carry-all requirement in less time.

Lastly, NAB criticizes satellite operators for having claimed that they would be unable to comply with extraordinary carriage mandates applicable to Alaska and Hawaii that went into effect in 2007.<sup>27</sup> But at the same time NAB recognizes that one operator (DIRECTV) did not have sufficient capacity to meet the carriage requirement when it went into effect and does not anticipate having such capacity until later this year. In order to satisfy the statute, DIRECTV was compelled to seek – and pay for – waivers from a number of stations in Alaska and Hawaii. Thus, the result of the Commission’s aggressive interpretation of SHVERA’s Alaska-Hawaii carriage provisions was *not* that DIRECTV offered local signals in those states more quickly than anticipated. The result was instead payments that lined the pockets of local broadcasters in those states at the expense of the public interest. A similar result on a national scale could be expected if NAB’s latest proposal were adopted. While such an outcome might be in the interest of NAB and its members, it would not promote the public interest.

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<sup>24</sup> This information is publicly available, as are the answers to nearly all of the questions NAB now thinks the Commission ought to ask satellite carriers. *See* Letter from Jane Mago to Marlene H. Dortch, CS Docket No. 98-120, MB Docket Nos. 00-96 and 03-30 (Mar. 6, 2008) (“NAB Mar. 6 Letter”) (containing a list of proposed questions for an NOI on satellite capacity). For NAB’s convenience, however, DIRECTV has attached hereto both a summary of its space- and ground-based capabilities.

<sup>25</sup> NAB Mar. 4 Letter at 3.

<sup>26</sup> Indeed, even after writing off an investment of hundreds of millions of dollars and abandoning a satellite-based broadband service, DIRECTV *still* had to invest tens of millions of dollars into the development of MPEG-4 encoding technology and set-top boxes in order to roll out HD local services.

<sup>27</sup> NAB Mar. 4 Letter at 3. NAB also cites to various submissions in other proceedings that it claims are unrebutted. *Id.* at 3-4. However, DIRECTV has on numerous occasions submitted analyses to demonstrate the limitations of its capacity in providing local-into-local services. *See, e.g.*, Letter from William Wiltshire to Marlene H. Dortch, CS Docket No. 98-120 (Sept. 7, 2006); Reply Comments of DIRECTV, MB Docket 05-255 (filed Oct. 11, 2005); Letter from William Wiltshire and Michael Nilsson to Marlene H. Dortch, CS Docket No. 98-120 (Aug. 23, 2005).

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NAB is thus wrong to suggest that satellite carriers routinely (much less purposely) discount their satellite capacity for regulatory purposes. The truth is that increasing capacity for local carriage requires years to achieve and that such increases involve significant costs in terms of new infrastructure and dedication of resources. It is these facts that informed the phased-in schedule proposed by DIRECTV and DISH Network.

### **III. Congress and the Commission Routinely Implement Technology Mandates Over Time.**

As described above and in other pleadings, the schedule proposed by DIRECTV and DISH Network is necessary to avoid disruption to tens of millions of satellite subscribers. It is also entirely consistent with Congress's and the Commission's implementation of other technology-related mandates. The Commission routinely phases in new regulatory requirements in order to "ensure that the goal of the statute is met in an efficient and practical manner,"<sup>28</sup> especially where new technology is involved. Indeed, Congress allowed satellite operators several years to implement SD carry-one, carry-all when it first imposed the requirement.<sup>29</sup> Moreover, the Commission has taken this approach in implementing other aspects of the digital transition.

- Broadcasters were given a phased-in schedule for construction of digital transmission facilities over a six-year period, tailored to initiate digital service in the largest markets first while allowing more time in smaller markets.<sup>30</sup>
- Similarly, broadcasters were allowed to implement the requirement for simulcasting programming in both analog and digital formats over an eight-year period.<sup>31</sup>
- Although cable operators will be obliged to comply with an HD carry-one, carry-all requirement as of the digital transition date in February 2009, the Commission gave those operators eight years' advance notice of that obligation.<sup>32</sup>

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<sup>28</sup> *Closed Captioning and Video Description of Video Programming*, 13 FCC Rcd. 3272, ¶ 41 (1997) ("Closed Captioning Order").

<sup>29</sup> *See Implementation of the Satellite Home Viewer Improvement Act of 1999*, 16 FCC Rcd. 1918, ¶ 14 (2000) (describing implementation period provided by Congress).

<sup>30</sup> *See Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, 12 FCC Rcd. 12809, ¶ 76 (1997).

<sup>31</sup> *Id.*, ¶ 54 (requiring simulcast of 50% of programming within six years, 75% within seven years, and 100% within eight years). Seven years into this process, the Commission decided to eliminate the simulcast obligation as the rule had largely achieved its purpose. *See Second Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, 19 FCC Rcd. 18279, ¶ 131 (2004).

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There are any number of other contexts outside the digital transition in which the Commission has taken a similar approach.<sup>33</sup> In each case, the implementation schedule allowed for an orderly transition and also afforded the affected parties both sufficient time to prepare for compliance and an opportunity to seek clarifications on the precise contours of their obligations.<sup>34</sup> DIRECTV and DISH Network ask for nothing more.

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DIRECTV agrees with NAB that “DBS providers need to design, build and launch satellites that are compliant with the Commission’s carriage rules in order to truly serve the public interest.”<sup>35</sup> But DBS providers cannot continue to do so if the rules are radically changed and then put into effect well before the satellites and other facilities necessary for compliance can be designed, built, and deployed. DIRECTV and DISH Network have proposed that, if the Commission is to adopt an HD carry-one, carry-all requirement for satellite operators, it should do so on a realistic schedule with quantifiable benchmarks to ensure steady progress toward full compliance in all markets served within four years after the digital transition. This approach will actually afford satellite operators three years *less* time than cable operators have been given to come into compliance. It will also require compliance with carriage benchmarks along the way – which has not been required of cable operators during the eight years between adoption of the requirement and its implementation.

By contrast, NAB’s “Ready-Fire-Aim” proposal ignores technological realities and conflicts with past Commission precedent. For constitutional, statutory, and public policy reasons, the Commission’s carriage rules must take these factors into consideration.<sup>36</sup> Once it

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<sup>32</sup> See *Carriage of Digital Television Broadcast Signals*, 16 FCC Rcd. 2598, ¶¶ 3, 73 (2001) (requiring cable operators to carry of HD local signals without degradation, but declining to impose that burden until the transition to all-digital transmission is complete).

<sup>33</sup> See, e.g., *Closed Captioning Order*, ¶ 41 (providing an eight-year transition schedule for closed captioning of video programming, noting that “requiring distributors to implement captioning immediately could reduce the availability of certain types of video programming in the near term, or pose implementation problems”); *Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, 14 FCC Rcd. 17388, ¶ 42 (1999), *modified*, *Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, 15 FCC Rcd 17442, 17445 ¶ 36 (2000) (granting wireless carriers employing handset-based technologies nearly six years in the aggregate to undertake reasonable efforts to achieve 100 percent penetration of ALI-capable handsets in the total subscriber base).

<sup>34</sup> See, e.g., *Carriage of Digital Television Broadcast Signals*, 20 FCC Rcd. 4516 (2005) (confirming that cable operators have no obligation for dual carriage during transition and defining signal entitled to mandatory carriage); *Carriage of Digital Television Broadcast Signals*, 22 FCC Rcd. 21064 (2007) (same).

<sup>35</sup> NAB Mar. 6 Letter at 6.

<sup>36</sup> See, e.g., *Turner Broad. Syst., Inc. v. FCC*, 520 U.S. 180, 227 (1997) (Breyer, J., concurring) (confirming that the government must balance the asserted government interest in mandating carriage against the corresponding burden on distributors’ free speech rights). As demonstrated by the aggressive implementation schedule it has

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does so, the Commission must reject NAB's proposal as overreaching, unwise, and insupportable.

Sincerely yours,

/s/

William M. Wiltshire  
Michael D. Nilsson  
*Counsel for DIRECTV, Inc.*

Attachment

cc: Michelle Carey  
Catherine Bohigian  
Amy Blankenship  
Rudy Brioché  
Rick Chessen  
Cristina Pauzé  
Monica Desai  
Eloise Gore

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negotiated with EchoStar, DIRECTV would much prefer to work with the Commission on reasonable rules for this transition. However, it reserves its right to challenge the legality of overly burdensome HD carriage regulations.

## SUMMARY OF ASSETS AND CHALLENGES FOR HD LOCAL-INTO-LOCAL

DIRECTV has addressed satellite carriage of local signals dozens of times over the years in this docket and others. The National Association of Broadcasters (“NAB”), however, now argues that Direct Broadcast Satellite (“DBS”) operators have not been sufficiently specific with regard to their ability to comply with its latest high-definition (“HD”) must-carry proposal.<sup>1</sup> NAB thus argues that the Commission should commence an inquiry into satellite capacity, and proffers several questions that it thinks the Commission might ask in any such inquiry.<sup>2</sup>

In the letter accompanying this submission, DIRECTV rebuts NAB’s specific claims – including its suggestion that the Commission ought to impose substantive rules *before* conducting its inquiry. DIRECTV nonetheless thought it might be useful to summarize the facts regarding satellite capacity and other information in one place in hopes of demonstrating that NAB’s questions have already been answered.

### **I. Introduction**

Satellite carriage of local signals has always been a highly complicated and challenging task. Because DBS systems must retransmit the signals of hundreds of local stations in markets across the country, local-into-local service requires immense amounts of satellite capacity. Yet satellite operators must generate this capacity using only a limited amount of spectrum at a few orbital locations.

Finding sufficient capacity becomes all the harder with respect to HD signals, each of which requires up to six times as much capacity as a single SD feed.<sup>3</sup> DIRECTV could not have delivered local HD signals in more than a handful of markets without a billion-dollar effort to develop high-power Ka-band spot beam satellites, newer MPEG-4 compression algorithms, and 8PSK modulation.

DIRECTV will need to launch at least one more satellite before it could comply with an HD carry-one, carry all mandate in the markets where it currently expects to provide local HD service.<sup>4</sup> Even this estimate may be optimistic, as it depends upon further improvements in satellite-related technology that will enable DIRECTV to deliver

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<sup>1</sup> See, e.g., Letter from Jerianne Timmerman to Marlene H. Dortch, CS Docket Nos. 98-120 and 00-96, MB Docket No. 03-30 (Mar. 4, 2008).

<sup>2</sup> See Letter from Jane Mago to Marlene H. Dortch, CS Docket Nos. 98-120 and 00-96, MB Docket No. 03-30 (Mar. 6, 2008) (containing a list of proposed questions for an NOI on satellite capacity).

<sup>3</sup> See, e.g., Letter from William M. Wiltshire to Marlene H. Dortch, CS Docket No. 00-96 (Aug. 28, 2007) (attaching analysis of local carriage metrics); Reply of DIRECTV, Inc., MB Docket No. 05-181, at 5-6 (filed Dec. 19, 2005).

<sup>4</sup> See, e.g., Letter from Susan Eid to Marlene H. Dortch at 1-2, CS Docket No. 98-120, MB Docket Nos. 00-96 and 07-91 (Feb. 13, 2008) (“DIRECTV Letter”).

HD signals more efficiently.<sup>5</sup> And even this added capacity would not be nearly sufficient to meet NAB's current demand for HD carriage in all 210 DMAs.

Satellite carriage of HD local signals also requires substantial investment in ground-based facilities.<sup>6</sup> Satellite operators must collect local broadcast signals at local collection facilities ("LCFs") and transport those signals by fiber to centralized earth station facilities, where they are encoded and combined with signals from other markets for uplink to the satellites and ultimate distribution to subscribers. While these same activities are required for retransmission of local analog signals, the equipment required for HD processing is entirely separate from that used for SD service. This, and the far greater bandwidth required for HD signals, necessitates a parallel and substantially more robust set of facilities. As DIRECTV has explained to the Commission, moreover, it is now fully engaged in upgrading ground-based SD infrastructure in connection with the digital transition. It thus will be unable to commence its HD ground infrastructure upgrade until that effort is completed.<sup>7</sup>

Accordingly, the timing of any HD carriage mandate must be informed by the following facts:

- It takes at least four years to design, construct, and launch a spot-beam satellite.
- Improvements in satellite-related technologies necessary to achieve more spectrum efficient carriage are not anticipated before 2010.
- DIRECTV is able to design and deploy ground-based infrastructure at a pace that allows the launch of HD local carriage in about 30 additional markets per year, assuming that new earth station antennas can be procured and licensed on a timely basis.

Taking all of these facts into consideration, DIRECTV has proposed a phased implementation schedule that will match the pace of infrastructure deployment and technological developments with the extent of its HD carriage obligations.<sup>8</sup> Adopting such a schedule will provide all parties with a roadmap toward full compliance without causing disruption to millions of DBS subscribers across the country.

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<sup>5</sup> *Id.*

<sup>6</sup> *See* DIRECTV Letter; Letter from Linda Kinney and Susan Eid to Marlene H. Dortch, CS Docket Nos. 98-120 and 00-96, MB Docket No. 07-91 (Feb. 15, 2008) ("Joint DBS Letter").

<sup>7</sup> *See generally* DIRECTV Letter at 2; Joint DBS Letter.

<sup>8</sup> Joint DBS Letter at 1.

## II. Specific Assets and Challenges

In further support of its proposal, and in response to questions raised by NAB, DIRECTV provides the following background information about its spectrum, space- and ground-based systems, and operations.

*Satellite assets.* DIRECTV today carries approximately 440 national cable video channels (348 in SD and 92 in HD), nearly 1200 local channels in SD format, and over 300 local channels in HD format.<sup>9</sup> It provides this service using the following set of space-based assets:<sup>10</sup>

Orbital Location	Transmission Spectrum	Satellite	Spot Beam?	Launch Date
101° W.L.	32 DBS channels	DIRECTV 4S	Y	11/27/2001
		DIRECTV 8	N	05/22/2005
		DIRECTV 9S	Y	10/13/2006
110° W.L.	3 DBS channels	DIRECTV 5	N	05/07/2002
119° W.L.	11 DBS channels	DIRECTV 7S	Y	05/04/2004
99.2° W.L.	500 MHz Ka-band	SPACEWAY 2	Y	11/16/2005
102.8° W.L.	500 MHz Ka-band	SPACEWAY 1	Y	04/26/2005
	500 MHz Ka-band	DIRECTV 10	Y	07/06/2007
72.5° W.L. (Canadian)	16 DBS channels	DIRECTV 1R	N	10/09/1999

Six of these nine satellites were launched within the last four years, and the oldest (which operates at a Canadian-licensed slot) is just over eight years old. Another Ka-band spot beam satellite (DIRECTV 11) is scheduled to be launched to the nominal 99.2° W.L. orbital location later this month, which will further decrease the average age of this already-young constellation.

DIRECTV provides nearly all of its local programming – both SD and HD – over spot beams rather than nationwide “CONUS” beams.<sup>11</sup> Spot beam technology allows DIRECTV to divide up some or all of a satellite’s *total* capacity into individual beams so that frequencies can be re-used in different parts of the country. This is, however, an

<sup>9</sup> DIRECTV does not lease any of its capacity to third parties, nor does it use any of its capacity for broadband data services.

<sup>10</sup> The technical and operational characteristics of each of these satellites are set forth in full in their respective licensing applications, which are hereby incorporated herein by reference. *See* SES-MFS-20061213-02157 (D1R); SAT-LOA-20010518-00045 (D4S); SAT-A/O-20050504-00093 (D5); SAT-LOA-20030611-00115 (D7S); SAT-RPL-20040630-00127 (D8); SAT-RPL-20050322-00070 (D9S); SAT-LOA-20040909-00169 (D10); SAT-LOA-20040909-00168 (D11); SAT-MOD-20040614-00014 (SW1); and SAT-MOD-20040614-00113 (SW2).

<sup>11</sup> Some New York and Los Angeles network stations, which are provided throughout the country as “distant signals” pursuant to the statutory license contained in 17 U.S.C. § 119, are carried on nationwide, CONUS beams.

inexact science. It is simply not possible to perfectly match the spectrum used in each beam with the capacity needed to carry the stations served by that beam. As a result, there is inevitably some capacity left over in a number of beams which lies fallow. Although that capacity is capable of carrying additional stations, it cannot be reallocated to another beam for that purpose. Because of this “lumpiness,” one cannot merely assume that the total capacity available for carriage will translate perfectly to the aggregate number of stations desiring carriage, as NAB and its constituent members have consistently done. Any comparison of gross capacity against carriage of specific stations in particular markets is therefore meaningless. The relevant inquiry is always how much capacity is available *on a particular spot beam*.

***Provision of local programming.*** DIRECTV currently provides local SD signals via satellite in 148 DMAs and local HD signals via satellite in 76 DMAs. In addition, as previously described to the Commission,<sup>12</sup> DIRECTV is making available to its subscribers a seamless, integrated local signal offering by incorporating over-the-air digital signals into its satellite service. In some cases, the ATSC tuner used to receive the off-air signals is integrated into the set-top box, while more recent designs operate with an available external ATSC receiver.<sup>13</sup>

DIRECTV provides HD local programming to its subscribers via satellite exclusively using its Ka-band spot beam capacity. Accordingly, the launch of local HD service in a new market does not affect the DBS (Ku band) capacity already being used in that market to deliver local SD service, which DIRECTV continues to provide. DIRECTV transmits local HD programming using either MPEG-2 or MPEG-4 AVC compression and either 4PSK or 8PSK modulation and coding schemes, depending upon the mode of transmission that best optimizes service under the interference environment for a given beam. However, programming on its DBS satellites (Ku band) is transmitted exclusively using MPEG-2 and 4PSK, which is the only type of signal the DBS set-top boxes can decode.

***Compression and other digital processing techniques.*** DIRECTV compresses and modulates all of its video programming, broadcast and non-broadcast alike, using either MPEG-2 or MPEG-4 AVC compression and either 4PSK or 8PSK modulation and coding schemes. If not permitted to use this efficiency-enhancing technology, DIRECTV would be unable to offer local service at all. Each of DIRECTV’s Ka-band spot beams over which it provides HD local service contains either one or two frequency “channels” of capacity. DIRECTV can fit only one unprocessed HD broadcast signal into such a Ka-band channel. Moreover, DIRECTV cannot redeploy most of its spot beams once launched. Thus, without compression, DIRECTV could retransmit only one or two HD signals in any given market – making it unable to meet “carry one, carry all” standards in *any* market. Reallocation of DBS (Ku-band) spot beam capacity to local HD carriage

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<sup>12</sup> See Letter from William M. Wiltshire to Marlene H. Dortch, MB Docket No. 07-18 (Jan. 30, 2008).

<sup>13</sup> DIRECTV does not provide local stations over the Internet, but notes that many stations themselves make their programming available in this manner.

would add little to this equation, as DIRECTV uses only 10 of its DBS channels for SD local carriage and each DBS channel can handle only a single uncompressed HD broadcast signal.

***Set-top box capabilities.*** Most DIRECTV set-top boxes that are capable of receiving its HD service can decode both MPEG-2 and MPEG-4. However, its earlier, non-HD set-top boxes can decode MPEG-2 only. This equipment cannot be upgraded to support MPEG-4 decoding through a software modification. Accordingly, a large number of subscribers in a DMA would have to switch out their hardware before DIRECTV could use this more advanced compression technology to provide HD local signals in that DMA without stranding the subscribers who have legacy equipment. This transition can be expected to take many years to complete.

***Ground-based facilities.*** DIRECTV collects broadcasters' digital signals at its LCFs primarily by either receiving a good quality signal over the air or fiber delivery. Regardless of how a station's signal arrives, DIRECTV must process and transport that signal from the local market to one of its centralized uplink facilities for processing and transmission to a satellite. Because DIRECTV uses different technologies to process SD versus HD signals (*e.g.*, different compression, modulation, etc.), the infrastructure required for the two formats is very different and completely separate. Although receivers capable of outputting in both formats do exist, the slight savings they offer over using two separate receivers is essentially immaterial. The far more significant factor is the cost of fiber capacity to backhaul bandwidth-intensive HD signals in addition to SD signals. Although such fiber is generally available, the capacity needed to carry the large volume of data imposes significant costs.

Over the past three years, DIRECTV has constructed and put into operation 12 new Ka-band uplink centers, where local HD signals are encoded, multiplexed, modulated, and uplinked to its satellites. It currently has applications pending for several more such earth stations to handle the increased load necessary to launch additional markets later this year.

At present, DIRECTV has adopted a phased approach by putting in place only the infrastructure necessary to handle the HD channels it is actually carrying. Before it could comply with an HD carry-one, carry all requirement, DIRECTV would need to:

- Install new HD receivers and other equipment at each LCF;
- Upgrade fiber capacity connecting each LCF to its backhaul network;
- Upgrade fiber capacity in its backhaul network;
- Upgrade fiber capacity from the backhaul network to its uplink facilities; and
- Install additional compression equipment, monitoring equipment and transmission equipment at its uplink centers.

- Add new uplink antennas and associated equipment at the uplink centers

Once begun, upgrade of DIRECTV's ground facilities to accommodate HD carry-one, carry-all will take several years to complete. Historically, it has been able to deploy the infrastructure needed for retransmission of HD local signals in roughly 30 markets per year. At this pace, DIRECTV would be able to put the necessary ground-based facilities in place over approximately three to four years after commencement of the upgrade process.

***Ground-based efforts related to the digital transition.*** DIRECTV will not be able to even *begin* implementing upgrades to its ground-based infrastructure until after the digital transition is complete. As it has described to the Commission previously, DIRECTV is expending all of its available ground-based engineering resources to ensure continuity of service during the digital transition.

DIRECTV must manage the transition of over 1200 broadcast stations that it now carries. This involves manually replacing the antenna and equipment at each LCF for each broadcaster, and testing the new equipment (and its ability to receive a digital signal) for each broadcaster. DIRECTV has worked with the Commission, broadcasters, and DISH Network to devise a plan for completing these upgrades in the most efficient manner possible. Yet, even setting aside the inevitable complications that will arise, DIRECTV estimates that an average of three manpower days will be required in each market in which it now provides service. DIRECTV further estimates that, in order to complete this process by February 2009, it will have to upgrade two markets per week. This effort will consume practically all of DIRECTV's broadcast engineering resources. And, because DIRECTV's HD LCFs are separate from its analog LCFs and would require additional time and equipment, DIRECTV cannot upgrade its HD facilities as part of this process.

Ensuring an orderly digital transition and continuity of critical local programming is of the utmost importance to the Commission.<sup>14</sup> DIRECTV is committed to the success of this critical public policy goal. Millions of DIRECTV subscribers expect to continue receiving their local news, information, and entertainment programming without disruption after the transition. DIRECTV cannot divert resources from this critical task in order to upgrade facilities used to offer *new* service. The upgrade of DIRECTV's HD ground facilities thus cannot begin until the digital transition is complete.

***Projected capacity to carry 1500 HD local channels.*** NAB has made much of DIRECTV's projection that, with the successful launch of the DIRECTV 10 and DIRECTV 11 satellites, it would have the capacity to carry 1500 HD local channels. Yet in evaluating that projection, one must bear in mind certain realities of satellite operation.

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<sup>14</sup> See, e.g., *DTV Consumer Education Initiative*, FCC 08-56, ¶ 42 ("The Commission is statutorily obligated to promote the orderly transition to digital television, 'a critical step in the evolution of broadcast television.'" (citation and footnote omitted)).

In designing its spot beam satellites, DIRECTV must make a number of assumptions. For example, it must project the efficiency that its compression and modulation schemes are likely to achieve in the future. And to the extent it anticipates one day operating under an HD carry-one, carry-all regime, it must proceed under the worst-case assumption that every potentially eligible broadcaster in a market will demand carriage of an HD signal. With these assumptions, DIRECTV can undertake the arduous task of optimizing its beam configuration so that the expected capacity available in each market is sufficient to meet the anticipated HD carriage demand there.

However, this process necessarily takes place years in advance. And it is not foolproof.

- As described above, it is not possible to perfectly match the spectrum used in each beam with the capacity needed to carry the stations served by that beam. As a result, there is inevitably some capacity left over in a number of beams which lies fallow.
- Expected improvements in satellite-related technology do not always progress at the rate anticipated. In this case, satellite-related technology that will increase DIRECTV's capacity to expected levels is running several years behind schedule, and is now unlikely to materialize before 2010.
- Operational anomalies can affect the ability of a satellite to perform its intended mission. The DIRECTV 10 satellite has experienced such an anomaly.

Even assuming successful launch of DIRECTV 11 later this month, these developments will push back the date at which the space-based infrastructure in place this year will be able to realize its full potential.