

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

In the matter of	)	
	)	
<b>EchoStar Satellite L.L.C.</b>	)	
	)	
Application to Construct, Launch, and Operate	)	File No. SAT-LOA-20030609-00113
a Direct Broadcast Satellite at the	)	
86.5° W.L. Orbital Location	)	Call Sign S2454
	)	
	)	
	)	

**ORDER AND AUTHORIZATION**

**Adopted: November 29, 2006**

**Released: November 29, 2006**

By the Acting Chief, International Bureau:

**I. INTRODUCTION**

1. By this *Order*, we grant EchoStar Satellite L.L.C. (EchoStar) authority to construct a new Direct Broadcast Satellite (DBS) service satellite, EchoStar-86.5W, to be located at the 86.5° W.L. orbital location. This satellite should allow EchoStar to offer its customers more local-into-local channels, expand its programming options, and more efficiently use the orbital resources and spectrum allocated for DBS service. This could, in turn, provide consumers with more satellite programming choices, more alternatives in subscription video providers and services at reduced prices, and encourage technological innovation. At this time, we do not authorize EchoStar to launch or operate EchoStar-86.5W, pending EchoStar's development of additional information regarding the end-of-life disposal plans for this satellite.<sup>1</sup> We address issues relating to EchoStar's proposed operations in this *Order* so we will be in a position to act expeditiously upon its request for launch and operation authority.

**II. BACKGROUND**

2. *DBS Regulatory History.* DBS satellites serving the United States are governed by Commission policies and rules. Their operation is also governed by international regulations administered by the International Telecommunication Union (ITU).<sup>2</sup> The ITU Radio Regulations apportion spectrum and orbit locations for the broadcasting-satellite service (BSS)<sup>3</sup> among all nations in

<sup>1</sup> See paragraphs 20-21, *infra*.

<sup>2</sup> The International Telecommunication Union (ITU), headquartered in Geneva, Switzerland is an international organization within the United Nations System where administrations coordinate global telecommunication networks and services.

<sup>3</sup> BSS is the international term used for a radiocommunication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public. See 47 C.F.R. § 2.1. DBS is the term used in the United States to describe the domestic implementation of the BSS international service in the 12.2-12.7 GHz band.

various geographic regions in certain planned frequency bands<sup>4</sup> on a regional basis through agreements reached at Regional and World Radiocommunication Conferences.<sup>5</sup> This differs from the process in most fixed-satellite service ("FSS") bands where orbital locations are selected by administrations on a first-come, first-served basis, subject to resolving interference issues through satellite coordinations. In the early 1980's, ITU members reached agreement on assigning BSS spectrum at specific orbit locations among the ITU's Region 2 member countries.<sup>6</sup> Under the terms of the Region 2 BSS and feeder link Plans, the United States is assigned eight orbital locations for providing broadcasting-satellite service.<sup>7</sup> The eight U.S. orbital positions, proceeding from east to west (all West Longitude), are 61.5°, 101°, 110°, 119°, 148°, 157°, 166°, and 175°. Three of these orbital locations, 101° W.L., 110° W.L., and 119° W.L., can provide coverage of the 48 contiguous United States ("CONUS"). Each of the eight orbital locations is capable of providing 32 channels, each using 24 megahertz of bandwidth.<sup>8</sup> Currently, U.S. DBS orbit assignments are separated by at least nine degrees. The nine-degree orbital spacing in the DBS service enables subscribers to use earth station antennas that are smaller than those generally employed for C- and Ku-band services.<sup>9</sup>

3. The orbital spacing between satellites serving the same geographic area, combined with both the satellite transmit characteristics and receive earth station antenna performance, determines the amount of interference a DBS system will receive.<sup>10</sup> The Commission took notice of the possibility of reduced-spacing DBS satellites in 2002. In the *Part 100 Order*, the Commission stated that provision of service "into the United States from future entrants such as non-U.S. DBS satellites could result in smaller satellite spacing than the current nine-degree separation between U.S. DBS orbital locations."<sup>11</sup> Also in the *Part 100 Order*, the Commission adopted Section 25.114(c)(22)(i), which required that applicants provide sufficient technical showings that their proposed systems could operate satisfactorily if all

<sup>4</sup> The provisions of Appendices 30 and 30A of the International Radio Regulations are applicable to the BSS in the frequency bands 11.7-12.2 GHz (Region 3), 11.7-12.5 GHz (Region 1) and 12.2-12.7 GHz (Region 2), and to their associated feeder links in the bands 14.5-14.8 GHz and 17.3-18.1 GHz (Regions 1 and 3) and 17.3-17.8 GHz (Region 2). Other BSS allocations are not subject to the provisions of these Plans.

<sup>5</sup> The Regional Administrative Radio Conference in 1983 ("RARC-83") developed and adopted the Region 2 BSS and feeder link Plans. It was not until 1985, at the World Administrative Radio Conference ("WARC Orb-85"), that the Region 2 Plans were adopted internationally worldwide and became a part of the ITU's Radio Regulations. The Regions 1 (Europe and Africa) and 3 (Asia-Pacific) BSS Plan became a part of the ITU Radio Regulations in 1977 at the World Broadcasting-Satellite Administrative Radio Conference ("WARC-77"). The Regions 1 and 3 feeder link Plan became a part of the ITU Radio Regulations in 1988 at the World Administrative Radio Conference ("WARC Orb-88").

<sup>6</sup> ITU Region 2 includes North, Central, and South America and Greenland. See Article 5, Section I of the ITU Radio Regulations. The ITU Region 2 BSS Plan is comprised of the Plan for BSS in the band 12.2-12.7 GHz in ITU Region 2, as contained in Appendix 30 of the ITU Radio Regulations, and the associated Plan for the feeder links in the frequency band 17.3-17.8 GHz for the broadcasting-satellite service in Region 2, as contained in Appendix 30A of the ITU Radio Regulations.

<sup>7</sup> See Appendix 30 of the ITU's Radio Regulations.

<sup>8</sup> Digital compression enables operators to carry multiple video-programming services per 24 megahertz DBS channel. Current technology permits up to 12 digital channels per 24 megahertz DBS channel. See e.g. <http://www.lyngsat.com/packages/dish110.html> (visited on October 18, 2006) showing a large percentage of the transponders (24 MHz DBS channels) carrying 12 channels or more of television programming.

<sup>9</sup> Earth station antennas with a diameter of 45 cm (18 inches) are commonly employed in the DBS service, whereas earth station antennas employed in the Ku-band direct-to-home (DTH)-FSS are generally on the order of 0.84 to 1 meter (about 36 inches) in diameter.

<sup>10</sup> Policies and Rules for the Direct Broadcast Satellite Service, *Report and Order*, IB Docket No. 98-21, 17 FCC Rcd 11331, 11391 at para. 129 (2002) ("*Part 100 Order*").

<sup>11</sup> *Part 100 Order*, 17 FCC Rcd. at 11391, para. 129 (2002).

assignments in the BSS and feeder link Plans are implemented,<sup>12</sup> and Section 25.114(c)(22)(ii),<sup>13</sup> which required that applicants provide analyses of the proposed system with respect to the limits in Annex 1 to Appendices 30 and 30A of the ITU Radio Regulations.<sup>14</sup> The Commission also adopted Section 25.148(f), which states that operation of DBS systems with characteristics differing from those in the Appendix 30 and 30A plans may be permitted with adequate technical showing, and if a request has been made to the ITU to modify the appropriate Plans to include the system's technical parameters.<sup>15</sup> The Commission also stated that in accordance with the ITU Radio Regulations, other countries wishing to serve the United States will normally have to modify their assignments in the ITU BSS and feeder link Plans to allow them to provide service in the United States. The ITU modification process will identify the U.S. DBS systems that are affected by the proposed Plan modification of another administration, giving the United States an opportunity to work with the subject administration to ensure that no modification is made that will cause harmful interference to U.S. DBS systems.<sup>16</sup> Considering these factors, the Commission found it unnecessary to adopt DBS receive earth station antenna performance requirements.<sup>17</sup>

4. *EchoStar Application.* EchoStar already provides DBS service to U.S. consumers from the 61.5° W.L., 110° W.L., 119° W.L., and 148° W.L. orbital locations, and says that an expansion in programming will enable it to compete more effectively with cable operators in the multichannel video programming distribution ("MVPD") market. During the period from June 5 through June 9, 2003, EchoStar Satellite Corporation (EchoStar) filed applications to construct, launch, and operate DBS space stations at the 86.5° W.L., 96.5° W.L., 114.5° W.L., and 123.5° W.L. orbital locations, none of which are part of the original Region 2 Plans.<sup>18</sup> It later withdrew all applications except for the one pertaining to the

<sup>12</sup> This rule section has since been renumbered as 25.114(d)(13)(i).

<sup>13</sup> This rule section has since been renumbered as 25.114(d)(13)(ii).

<sup>14</sup> Annex 1 contains technical criteria for determining whether a proposed BSS system will affect radiocommunications systems of other administrations.

<sup>15</sup> The modification procedures for the Region 2 Plans are stipulated in Section 4.2 of Article 4 of Appendices 30 and 30A of the ITU Radio Regulations. Administrations start the process by filing the information required by Appendix 4 of the Radio Regulations to request a modification to the Plan. For U.S. Plan modifications, the Appendix 4 information is prepared by the satellite operators and submitted to the Commission, which reviews the information and forwards it to the ITU/BR. The Appendix 4 information includes such BSS satellite parameters as antenna beam footprint, transmitted power, modulation techniques, forward-error-correction techniques, earth station antenna characteristics (including typical subscriber terminal characteristics), and satellite orbital location.

<sup>16</sup> As used in this order, the term "affected" or "affected operator" has the meaning given in the Annex 1 of Appendices 30 and 30A of the ITU Radio Regulations. Carrier-to-interference ratio is a measure at a reference point—typically, the input to the receiver—of the amount of power in the wanted signal, the "carrier" (C), compared to the amount of power in the interfering signal (I). The assessment of interference between ITU Region 2 Plan assignments is based on the concept of overall equivalent protection margin ("OEPM"). The OEPM is the overall margin relative to a predefined level of aggregate C/I ratio. The C/I ratio takes account of the interference from the co-channel operation of the interfering satellite as well as the nearest and next nearest neighboring channels both above and below the wanted channel in frequency. The interference is summed for all the beams of every assignment in the plan and every plan modification request preceding the proposed plan modification. This calculation is done for a number of earth station locations defined as downlink test points for each potentially affected plan assignment or preceding plan modification request. According to Annex 1 of Appendices 30 and 30A, if the effect of the proposed network is to reduce the OEPM of any channel and test point of any network in the plan or pending plan modification below -0.25 db, or if already negative, by 0.25 dB or more, that network is considered to be "affected" and the new network can only be added to the plan with the agreement of all the administrations whose networks are affected.

<sup>17</sup> *Part 100 Order*, 17 FCC Rcd 11331, 11391-92 at para. 130.

<sup>18</sup> EchoStar Satellite Corporation, Application of EchoStar Satellite Corporation for Authority to Construct, Launch and Operate a Direct Broadcast Satellite in the 12.2-12.7 GHz and 17.3-17.8 GHz Frequency Bands at the 86.5°

86.5° W.L. orbital location.<sup>19</sup> In support of the proposed 86.5° W.L. satellite (“EchoStar-86.5W”),<sup>20</sup> EchoStar explains that this satellite will increase DBS consumers’ programming choices, including HDTV offerings and international programming, improve EchoStar’s spectrum efficiency, and enhance the system’s capacity to provide local broadcasting.<sup>21</sup> Although the proposed EchoStar-86.5W satellite is not a reduced spacing satellite relative to U.S. DBS operators, it would be located less than nine degrees from two Canadian DBS satellites for which Canada filed Region 2 Plan modifications requesting to add U.S. coverage. The two Canadian satellites are Nimiq 1 at 91° W.L. and Nimiq 2 at 82° W.L., which operate under the ITU network names CAN-BSS2 at 91° W.L. and CAN-BSS1 at 82° W.L.

5. In the *DBS Reduced Spacing Public Notice*<sup>22</sup> issued in December 2003, the Commission sought comment generically on the technical issues raised by the EchoStar applications and other proposals regarding provision of DBS service from non-nine degree spaced orbital locations.<sup>23</sup> On January 28, 2004, the International Bureau released a *Public Notice* that clarified the DBS space station application processing rules,<sup>24</sup> noting that in order to be complete, space station applications, including those for DBS, must contain all information specified in Section 25.114 of the Commission’s rules.<sup>25</sup> This *Public Notice* also said:

... we place DBS applicants on notice that, as of the date of this Public Notice, if a DBS application fails to include any of the required information . . . the Bureau will return the application without prejudice to refile as being unacceptable for filing. . . Applications filed prior to this Public Notice that do not meet these requirements may be subject to a Commission letter requesting that the applicant provide the required information.<sup>26</sup>

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W.L. Orbital Location, File No. SAT-LOA-20030609-00113 (filed June 9, 2003) (*EchoStar-86.5W Application*); Application for Authority to Construct, Launch and Operate a Direct Broadcast Satellite in the 12.2-12.7 GHz and 17.3-17.8 GHz Frequency Bands at the 96.5° W.L. Orbital Location, File No. SAT-LOA-20030605-00109 (filed June 5, 2003); Application of EchoStar Satellite Corporation for Authority to Construct, Launch and Operate a Direct Broadcast Satellite in the 12.2-12.7 GHz and 17.3-17.8 GHz Frequency Bands at the 114.5° W.L. Orbital Location, File No. SAT-LOA-20030604-00108 (filed June 4, 2003); and Application of EchoStar Satellite Corporation for Authority to Construct, Launch and Operate a Direct Broadcast Satellite in the 12.2-12.7 GHz and 17.3-17.8 GHz Frequency Bands at the 123.5° W.L. Orbital Location, File No. SAT-LOA-20030606-00107 (filed June 6, 2003).

<sup>19</sup> The Commission granted EchoStar’s request to dismiss its applications for DBS space stations at the 114.5°, 123.5°, and 96.5° W.L., orbital locations. See Satellite Policy Branch Information, *Public Notice*, Report No. SAT-00171 (rel. October 10, 2003) (Int’l Bur. 2003), Satellite Policy Branch Information, *Public Notice*, Report No. SAT-00283 (rel. April 8, 2005) (Int’l Bur. 2003).

<sup>20</sup> EchoStar proposes to use a “single North American shaped antenna beam” to cover CONUS, Puerto Rico, the U.S. Virgin Islands, and Mexico. EchoStar-86.5W Application, Technical Annex at 1.

<sup>21</sup> EchoStar Application at 12-13.

<sup>22</sup> International Bureau Seeks Comments on Proposals to Permit Reduced Orbital Spacings Between U.S. Direct Broadcast Satellites, *Public Notice*, Report No. SPB-196, 18 FCC Rcd 25683 (2003) (“*DBS Reduced Spacing Public Notice*”).

<sup>23</sup> At the time the *DBS Reduced Spacing Public Notice* was released, the Commission had not yet accepted for filing the EchoStar applications, including the application for the 86.5° W.L. orbital location.

<sup>24</sup> International Bureau Clarifies Direct Broadcast Satellite Space Station Application Processing Rules, *Public Notice*, Report No. SPB-198, 19 FCC Rcd 1346 (2004) (“*2004 DBS Application Processing Public Notice*”).

<sup>25</sup> *Id.* See also 47 C.F.R. § 25.114.

<sup>26</sup> *2004 DBS Application Processing Public Notice*, 19 FCC Rcd 1346, 1347.

On February 12, 2004, and in accordance with the procedure just described, the Satellite Division of the International Bureau sent a letter<sup>27</sup> to EchoStar requesting information required by Section 25.114(c) of the Commission's Rules.<sup>28</sup> On February 27, 2004, EchoStar filed an amendment to its 86.5° W.L. application supplying the requested information.<sup>29</sup> This information included a detailed analysis of interference from the new DBS space station requested by EchoStar into existing DBS systems.<sup>30</sup> The analysis for EchoStar at 86.5° W.L. showed that the 0.25 dB change in overall equivalent protection margin ("delta-OEPM") that triggers the requirement to seek agreement of potentially-affected administrations under Annex 1 of Appendix 30 of the ITU Radio Regulations was exceeded for several non-U.S. Region 2 administrations. The Bureau placed EchoStar's application on Public Notice on April 15, 2005<sup>31</sup> and received comments from SES Americom and oppositions from Telesat Canada ("Telesat") and Bell ExpressVu L.P. ("Bell ExpressVu").

6. Telesat is the Canadian-licensed satellite operator of the Nimiq 1 and Nimiq 2 DBS satellites, each located 4.5 degrees from the 86.5° W.L. orbital location that EchoStar seeks.<sup>32</sup> The Commission authorized DIRECTV Inc. to move its DIRECTV 3 DBS satellite to the 82° W.L. orbital location pursuant to an agreement between DIRECTV and Telesat under which the DIRECTV 3 satellite would provide back-up capacity to the Nimiq 2 satellite, which experienced a solar power array malfunction and transponder shutdown.<sup>33</sup> Telesat opposes EchoStar's application, asserting that its 1.5 million Canadian customers would experience service disruptions if the Commission were to permit EchoStar's proposed

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<sup>27</sup> Letter from Thomas S. Tycz, Chief, Satellite Division, FCC, to David K. Moskowitz, Senior Vice President and General Counsel, EchoStar Satellite Corporation (February 12, 2004).

<sup>28</sup> 47 C.F.R. § 25.114(c).

<sup>29</sup> EchoStar Satellite L.L.C. Amendment to File No. SAT-LOA-20030609-00113, filed Feb. 27, 2004 (EchoStar Amendment).

<sup>30</sup> The Commission subsequently granted EchoStar's request to dismiss its applications for DBS space stations at the 114.5°, 123.5°, and 96.5° W.L., orbital locations. See Satellite Policy Branch Information, *Public Notice*, Report No. SAT-00171 (rel. October 10, 2003) (Int'l Bur. 2003), Satellite Policy Branch Information, *Public Notice*, Report No. SAT-00283 (rel. April 8, 2005) (Int'l Bur. 2005).

<sup>31</sup> See Policy Branch Information: Applications Accepted for Filing, *Public Notice*, Report No. SAT-00284 (rel. April 15, 2005).

<sup>32</sup> Opposition of Telesat Canada re EchoStar Satellite L.L.C., Application File No. SAT-LOA-20030609-00113 ("Telesat Opposition") at 1-2. We observe that all co-channel and co-coverage orbital location assignments in the Region 2 Plans were spaced a minimum of nine degrees apart. Therefore, DBS locations assigned to different nations may be less than nine degrees apart if their original plan assignments were not co-coverage. However, as previously mentioned, Canada requested and received approval from the ITU to modify the Region 2 Band Plan for the 91° W.L. and 82° W.L. orbital locations to expand the Nimiq satellites' coverage areas into the United States. See Digital Broadband Applications Corp., Consolidated Application for Authority to Operate U.S. Earth Stations with a U.S.-Licensed Ku-Band FSS Satellite and Canadian-Licensed Nimiq 1 and Nimiq 2 Satellites to Offer Integrated Two-Way Broadband Video and Data Service Throughout the United States (Call Sign E020010), *Order*, 18 FCC Rcd 9455 at n. 9 (2003) ("DBAC Order"). Thus, the 86.5° W.L. location that EchoStar seeks is a reduced spacing location relative to Canadian locations.

<sup>33</sup> See Telesat Opposition at 1-2. The DIRECTV 3 satellite is now known as Nimiq 3. *Id.* See also Application of DIRECTV, Inc. Request For Special Temporary Authority for the DIRECTV 3 Satellite, *Order*, 19 FCC Rcd 11055 (2004). DIRECTV moved the DIRECTV 2 satellite from the 100.6° W.L. to the 91° W.L. orbital location (designated orbital location) pursuant to grant of IBFS File No. SAT-STA-20051018-00201, and renamed the satellite Nimiq 4i. Under DIRECTV's contract with Telesat, Telesat has the exclusive right to use the capacity, and direct and control DIRECTV 2 at the 82° W.L. and 91° W.L. orbital locations. The agreement contemplates that Telesat will use the satellite to provide back up capacity for any of its NIMI1, NIMI2, or NIMI3 satellites at the 82° W.L. or 91° W.L. orbital locations for use solely in Canada.

operations.<sup>34</sup> Bell ExpressVu, which owns the transponders on the Nimiq satellites,<sup>35</sup> “fully supports” the Telesat Opposition and notes that “the financial consequences of a change from 9 degree satellite spacing to 4.5 degree spacing would undermine billions of dollars of satellite-based infrastructure investment by ExpressVu and its customers.”<sup>36</sup> In response, EchoStar said that Telesat’s and Bell ExpressVu’s concerns can be addressed by a coordination condition as long as their plans “do not implicate use of ‘triple-feed’ antennas.”<sup>37</sup> EchoStar also states that Telesat’s and Bell ExpressVu’s concerns “underscore the need for the Commission to initiate a rulemaking on the [reduced spacing] satellite issues to determine, among other things, whether the interference that may be caused by [reduced spacing] satellites into existing DBS networks would be acceptable and if so, whether technical rules can be established to ensure that these satellites do not limit the ability of existing DBS providers to take advantage of such innovations as triple-feed antennas.”<sup>38</sup> Telesat replied that a triple-feed antenna is a distinct possibility given its current operations at 82° W.L. and 91° W.L. and its planned future operations at 72.5° W.L.<sup>39</sup> Telesat also argues that the EchoStar Application should be dismissed as defective and unacceptable for filing because EchoStar has not provided an adequate showing that its system could operate satisfactorily if all assignments in the BSS and feeder link Plans were implemented.<sup>40</sup>

### III. DISCUSSION

7. We find that granting EchoStar’s application subject to certain conditions is in the public interest. Notably we condition EchoStar’s authorization subject to submission of a detailed orbital debris mitigation plan<sup>41</sup> and subject to the condition that EchoStar not exceed certain interference limits until it has successfully coordinated its operations with operators of adjacent and affected DBS satellites.<sup>42</sup> As explained below, we grant EchoStar’s application pursuant to our statutory authority to grant authorizations where the applicant is legally, technically, and financially qualified and the public interest will be served. Although the Commission is contemporaneously seeking comment on procedures for

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<sup>34</sup> See Telesat Opposition at 2-3 and Bell ExpressVu L.P. Opposition re: EchoStar Satellite L.L.C., Application File No. SAT-LOA-20030609-00113 at 5. Bell ExpressVu Opposition.

<sup>35</sup> Bell ExpressVu Opposition at 1.

<sup>36</sup> Bell ExpressVu Opposition at 2.

<sup>37</sup> EchoStar Satellite L.L.C, Consolidated Reply to Oppositions and Comments re: Application File No. SAT-LOA-20030609-00113 at 2.

<sup>38</sup> *Id.* at 2-3. In its comments on the Petition of DIRECTV Enterprises, LLC for a Rulemaking on the Feasibility of Reduced Orbital Spacing in the U.S. Direct Broadcast Satellite Service (filed September 5, 2003), EchoStar said that the “Commission’s DBS technical rules do not prohibit consideration and grant” of the EchoStar and SES Americom reduced spacing proposals. EchoStar comments on DIRECTV Petition at 6.

<sup>39</sup> Telesat Reply to EchoStar Satellite L.L.C, Consolidated Reply to Oppositions and Comments re: Application File No. SAT-LOA-20030609-00113, at 2-3.

<sup>40</sup> Telesat Reply at 3-4.

<sup>41</sup> See orbital debris mitigation discussion in section III. D, *infra*.

<sup>42</sup> In this context, an “affected” operator is one that is deemed affected in Annex 1 of Appendix 30 and 30A of the ITU Regulations. See *supra* n. 16.

processing new DBS applications,<sup>43</sup> grant of this application is consistent with our past practice of resolving pending applications during a period of transition to a new licensing scheme.<sup>44</sup>

#### A. Processing Procedures for Reduced Spacing DBS Applications

8. We grant the EchoStar Application pursuant to our statutory authority to grant authorizations where the applicant is legally, technically, and financially qualified and the public interest will be served.<sup>45</sup> Although the Commission is seeking comment on rules for processing applications and petitions for the provision of DBS service,<sup>46</sup> the pendency of that proceeding does not prevent us from acting on the EchoStar Application.<sup>47</sup> Specifically, given the Commission's general statutory authority under Sections 308 and 309 of the Communications Act, coupled with the application filing requirements and rules regarding non-interference showings, we find that we can process the EchoStar Application consistent with the public interest, convenience, and necessity.<sup>48</sup>

9. We find that current Commission rules can accommodate DBS applications filed prior to the freeze that specify operations at locations other than the eight orbital slots assigned to the United States in the ITU Region 2 Plan (as specified in Appendices 30 and 30A of the ITU Radio Regulations). The Commission's Part 25 rules refer to and incorporate provisions of the ITU Radio Regulations for purposes of analyzing applications for DBS with technical parameters that differ from those in the Region 2 Plans. Specifically, Section 25.114(d)(13)(i) requires that for satellites in the DBS service, applicants must submit a "sufficient technical showing that the proposed system could operate satisfactorily if all assignments in the BSS and feeder link Plans were implemented."<sup>49</sup> This showing is intended to demonstrate that the proposed system will meet its performance objectives given the Region 2 Plan

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<sup>43</sup> Amendment of the Commission's Policies and Rules for Processing Applications in the Direct Broadcast Satellite Service; Feasibility of Reduced Orbital Spacing for Provision of Direct Broadcast Satellite Service in the United States, IB Docket No. 06-160, *Notice of Proposed Rulemaking*, FCC 06-120, rel. August 18, 2006. (*"DBS Notice"*).

<sup>44</sup> Although the Commission is considering applying the Commission's Space Station Licensing Reform first-come, first-served satellite processing rules to DBS, we may continue to consider pending applications under the existing Part 25 framework. See Amendment of the Commission's Space Station Licensing Rules and Policies, *First Report and Order and Further Notice of Proposed Rulemaking*, IB Docket No. 02-34, 18 FCC Rcd 10760 (2003) (*"First Space Station Reform Order"*).

<sup>45</sup> See, e.g., PANAMSAT LICENSEE CORP., Application for authority to construct, launch and operate a hybrid international communications satellite, *Order and Authorization*, 14 FCC Rcd. 2719 (1998).

<sup>46</sup> Amendment of the Commission's Policies and Rules for Processing Applications in the Direct Broadcast Satellite Service; Feasibility of Reduced Orbital Spacing for Provision of Direct Broadcast Satellite Service in the United States, IB Docket No. 06-160, *Notice of Proposed Rulemaking*, FCC 06-120, rel. August 18, 2006. (*DBS Notice*).

<sup>47</sup> Although the Commission has adopted a freeze on applications for new DBS service, EchoStar filed its application prior to the imposition of the freeze, which was limited to "applications for licenses for new space stations or for new requests for market access by foreign-licensed space stations." See *Direct Broadcast Satellite Service Auction Nullified: Commission Sets Forth Refund Procedures for Auction No. 52 Winning Bidders and Adopts a Freeze on All New DBS Service Applications*, *Public Notice*, 20 FCC Rcd 20618, 20619 (2005). Accordingly, the EchoStar Application is not subject to the freeze.

<sup>48</sup> See 47 C.F.R. §§ 25.114(d)(13), 25.156(a); 47 U.S.C. § 308(a) (stating that "the Commission may grant construction permits and station licenses . . . only upon written application therefore received by it"); § 308(b) (requiring that Section 308(a) applications set forth "such facts as the Commission by regulation may prescribe," but not requiring the Commission to prescribe such regulations) (emphasis added); § 309(a) (stating that "the Commission shall determine . . . whether the public interest, convenience, and necessity will be served by the granting of [a Section 308] application," and, if so, the Commission "shall grant such application"). 47 U.S.C. §§ 308, 309. See also *DBS Notice*, FCC 06-120, para. 21.

<sup>49</sup> 25 C.F.R. § 25.114(d)(13)(i).

assignments. Section 25.114(d)(13)(ii) requires “[a]nalyse of the proposed systems with respect to the limits in Annex 1 to Appendices 30 and 30A” of the International Telecommunication Union (“ITU”) Radio Regulations.<sup>50</sup> This showing is intended to demonstrate how the proposed system will affect operating DBS systems and those systems that are subject to pending Region 2 modification proposals. Section 25.148(f) requires that “DBS operations must be in accordance with the sharing criteria and technical characteristics contained in Appendices 30 and 30A of the ITU Radio Regulations. Operation of systems using differing technical characteristics may be permitted, with adequate technical showing, and if a request has been made to the ITU to modify the appropriate Plans to include the system’s technical parameters.”<sup>51</sup> Further, as noted previously, the *Part 100 Report and Order* contemplated reduced spacings.<sup>52</sup> Thus, if an applicant can coordinate its proposal with other U.S. DBS operators and secure agreement with U.S. or any other operators already having assignments in the Region 2 Plans or with prior requests for Plan modifications, we believe our rules allow us to consider these applications prior to completing the rulemaking proceeding.

10. Section 25.156(d)(6) of the Commission’s rules provides that a DBS application is entitled to comparative consideration with one or more conflicting applications if they are mutually exclusive and the application was filed by the “cut-off” date specified in a public notice.<sup>53</sup> In this case, no cut-off date was ever established and no other applications or petitions for a DBS satellite at 86.5° W.L. were received by the Commission. We acknowledge that the Commission is seeking comment on licensing procedures for both Region 2 Plan and non-Plan DBS satellite applications in the *DBS Notice*.<sup>54</sup> However, the need to determine processing procedures for DBS satellite applications does not prevent us from acting on the EchoStar-86.5W Application at this time. We have granted applications in the past, absent specific licensing procedures when, as now, mutual exclusivity is not present among pending applications<sup>55</sup> and the public might benefit from expeditious processing and delivery of new or expanded service offerings.<sup>56</sup> Indeed, we used such an approach when granting earth station licenses to DBAC and Pegasus to use Canadian DBS satellites to provide service in the United States.<sup>57</sup> Given the application filing

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<sup>50</sup> 25 C.F.R. § 25.114(d)(13)(ii).

<sup>51</sup> 47 C.F.R. § 25.148(f). Section 25.111(c) provides additional guidance regarding the filing of plan modifications at the ITU. In particular, this rule indicates what U.S. applicants and licensees must provide to the Commission so that it may file plan modifications on the licensee’s/applicant’s behalf. See 47 C.F.R. § 25.111(c).

<sup>52</sup> See *supra* para. 3.

<sup>53</sup> 47 C.F.R. § 25.156(d)(6).

<sup>54</sup> Although the Commission is considering expanding the streamlined satellite application processing rules (*e.g.*, first-come/first-served processing) to DBS, it may continue to consider pending applications under the existing Part 25 framework.

<sup>55</sup> See *Ashbacker Radio Corp. v. FCC*, 326 U.S. 327 (1945). The Court held in *Ashbacker* “that where two *bona fide* applications are mutually exclusive the grant of one without a hearing to both deprives the loser of the opportunity which Congress chose to give him.” *Ashbacker*, 326 U.S. at 333.

<sup>56</sup> See, *e.g.*, PANAMSAT LICENSEE CORP., Application for authority to construct, launch and operate a hybrid international communications satellite, *Order and Authorization*, 14 FCC Rcd 2719 (1998).

<sup>57</sup> See Digital Broadband Applications Corp., Consolidated Application for Authority to Operate U.S. Earth Stations with a U.S.-Licensed Ku-Band FSS Satellite and Canadian-Licensed Nimiq and Nimiq 2 Satellites to Offer Integrated Two-Way Broadband Video and Data Service Throughout the United States (Call Sign E020010), *Order*, 18 FCC Rcd 9455 (2003) (“*DBAC Order*”); Pegasus Development Corporation, Consolidated Applications for Authority to Operate one U.S. Transmit/Receive Fixed Earth Station (Call Sign E010320) and 1,000,000 Receive-Only Earth Stations (Call Sign E020022) with the Canadian-Licensed Nimiq 1 and Nimiq 2 Satellites to Offer Direct Broadcast Satellite Service Throughout the United States, *Order*, 19 FCC Rcd 6080 (2004) (“*Pegasus Order*”). No U.S. applications for satellites at the Canadian locations were pending when the DBAC and Pegasus applications were under consideration. We granted both the DBAC and Pegasus applications, in part, because co-frequency



requirements and rules regarding non-interference showings, we can process an application provided that it is complete and we find that grant would serve the public interest.<sup>58</sup>

## B. Technical Qualifications

11. *Background.* EchoStar proposes to position its EchoStar-86.5W satellite at the 86.5° W.L. orbital location, with  $\pm 0.05^\circ$  longitudinal stationkeeping.<sup>59</sup> EchoStar will operate EchoStar-86.5W on 32, 24 megahertz bandwidth service link channels in the 12.2 to 12.7 GHz Direct Broadcast Satellite Service (DBS) frequency band, and 32 corresponding feeder link channels in the 17.3 to 17.8 GHz frequency band.<sup>60</sup> EchoStar-86.5W will have a shaped service-link beam covering the contiguous United States and Mexico, Puerto Rico, and the U.S. Virgin Islands.<sup>61</sup> The feeder link beam of EchoStar-86.5W will be a spot beam that covers the EchoStar feeder link uplink sites at Cheyenne, WY and Gilbert, AZ.<sup>62</sup> All 32 service link channels will be provided to all areas served by EchoStar-86.5W. EchoStar-86.5W will have a maximum downlink effective isotropically radiated power (EIRP) of 56 dBW in high-power mode, or 53.2 dBW in low-power mode.<sup>63</sup> It will use circular polarization that is opposite in sense (*i.e.*, left-hand instead of right-hand, and *vice versa*) from the standard Region 2 Plan polarizations.<sup>64</sup> EchoStar states that EchoStar-86.5W will use tracking, telemetry, and command (TT&C) frequencies at the edges of the 12.2 to 12.7 GHz and 17.3 to 17.8 GHz frequency bands for transfer-orbit and on-station operations.<sup>65</sup>

12. EchoStar believes that Telesat's concerns about a DBS satellite located at 86.5° W.L. can be addressed through a coordination condition so long as the plans of Telesat and Bell ExpressVu do not implicate the use of "triple-feed" antennas.<sup>66</sup> EchoStar says that Telesat's interference concerns "underscore the need for the Commission to initiate a rulemaking" on DBS reduced spacing issues.<sup>67</sup> Telesat responds that it has been awarded a Canadian authorization to develop the 72.5° W.L. orbital location, and that it might use "triple-feed" antennas, designed to receive DBS signals from satellites at the 72.5°, 82°, and 91° W.L. orbital locations.<sup>68</sup> Telesat also argues that EchoStar's application for a DBS satellite at 86.5° W.L. should be dismissed as defective and unacceptable for filing because EchoStar has not provided an adequate showing that its system could operate satisfactorily if all assignments in the Broadcasting-Satellite Service ('BSS') and feeder link Plans were implemented.<sup>69</sup>

13. SES Americom, Inc. ("SES Americom") points out that it has ITU date priority over EchoStar to employ BSS frequencies at the 86.5° W.L. orbital location via two filings submitted by the

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receive-only operations are not mutually exclusive and gateway stations that provide feeder links to/from the same DBS satellite can operate at different frequencies or polarizations.

<sup>58</sup> See footnote 48.

<sup>59</sup> EchoStar Application, Exhibit A to Technical Annex at 1.

<sup>60</sup> EchoStar Application, Technical Annex at 4.

<sup>61</sup> EchoStar Application, Technical Annex at 1.

<sup>62</sup> EchoStar Application, Technical Annex at 2.

<sup>63</sup> EchoStar Application, Technical Annex at 1.

<sup>64</sup> EchoStar Application, Technical Annex at 3.

<sup>65</sup> EchoStar Application, Technical Annex at 3 and Supplemental Technical Annex at 13.

<sup>66</sup> EchoStar Consolidated Reply at 1-2.

<sup>67</sup> EchoStar Consolidated Reply at 2-3.

<sup>68</sup> Telesat Reply at 2-3

<sup>69</sup> Telesat Reply at 3-4.

United Kingdom (USAT S3 and USAT S3 MOD A) on behalf of SES Americom's subsidiary SES Satellites (Gibraltar) Limited.<sup>70</sup> SES Americom asks that the Commission condition any EchoStar-86.5W grant such that EchoStar (a) is not entitled to interference protection from networks operating pursuant to prior ITU filings and (b) must coordinate with affected systems of other administrations that have ITU date priority.<sup>71</sup> EchoStar acknowledged these comments, but did not respond to them.<sup>72</sup>

14. *Discussion.* Sections 25.114(d) and 25.148(f) of the Commission's rules permit applicants to propose DBS systems that differ from the parameters established in the Region 2 Plans. If an applicant can coordinate its proposal with other U.S. DBS operators and secure agreement with all other operators that have assignments in the Region 2 Plans or prior requests for Plan modifications, the Commission believes that it can grant its application prior to adoption of final rules in the DBS Notice proceeding.<sup>73</sup>

15. In considering the EchoStar Application, we must evaluate the proposed satellite's interference potential to other authorized DBS satellites and to the radiocommunications systems of other countries. In particular, we must determine whether the EchoStar-86.5W satellite will be operated in accordance with Appendices 30 and 30A of the ITU Radio Regulations. Because the technical parameters of EchoStar's DBS system vary from those set forth for U.S. assignments in the Region 2 BSS plans and its associated feeder link Plan,<sup>74</sup> the Commission must request modification of the Region 2 BSS Plan and its associated feeder link Plan for the EchoStar-86.5W satellite.<sup>75</sup> Annex 1 of Appendices 30 and 30A provide the methodology and criteria for determining whether a proposed satellite system (*i.e.*, a proposed modification to the Plan) might interfere with frequency assignments in accordance with the Region 2 BSS Plan and its associated feeder link Plan, other satellite systems, or terrestrial services.<sup>76</sup> If the limits in Annex 1 are exceeded, the system must be coordinated with the affected operator.

16. Upon reviewing EchoStar's application, we find sufficient evidence to determine that EchoStar-86.5W will not cause unacceptable interference to other U.S. DBS systems. In addition, EchoStar has submitted analyses demonstrating EchoStar-86.5W's interference potential to radiocommunications systems of other countries. The analyses indicate that a number of administrations, including Canada, would be affected by the EchoStar-86.5W satellite.<sup>77</sup> Therefore, the Commission, on behalf of EchoStar, must seek the agreement of the affected administrations prior to EchoStar operating

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<sup>70</sup> SES Americom comments at 1-2. The Commission has not submitted the EchoStar Application to the ITU for modification of the Region 2 BSS Plan because EchoStar has not prepared a cost recovery letter and the necessary elements for an ITU filing. As noted below, EchoStar is required to submit this information within 30 days from the release date of this decision, in order for this Order and Authorization to remain valid.

<sup>71</sup> *Id.* at 3.

<sup>72</sup> EchoStar Consolidated Reply at 1, n. 1.

<sup>73</sup> See Spectrum Five, LLC, Petition for Declaratory Ruling to Serve the U.S. Market Using Broadcast Satellite Service (BSS) Spectrum from the 114.5° W.L. Orbital Location, *Order and Authorization*, DA 06-2439, rel. November 29, 2006.

<sup>74</sup> The International Telecommunication Union (ITU) Radio Regulations divide the world into three Regions. Generally, Region 1 includes Africa, Europe, Northern and Western portions of Asia; Region 2 includes the Americas and Greenland; and Region 3 includes Southern portions of Asia, Australia and the South Pacific. See ITU Radio Regulations Article S5, Section I. Unless referring specifically to the Region 2 BSS Plan and its associated feeder link Plan, in the United States the term "DBS" is used interchangeably with "BSS" with regard to service in the 12.2-12.7 GHz band.

<sup>75</sup> Some of these varying parameters include type of emission, size of receive dish antennas and the use of spot beams.

<sup>76</sup> See ITU Radio Regulations, Appendices 30 and 30A.

<sup>77</sup> EchoStar Amendment at Appendix 2, A2-2.

EchoStar-86.5W. Telesat asserts that a DBS satellite at 86.5° W.L. has the potential to seriously disrupt Telesat's and Bell ExpressVu's operations.<sup>78</sup> Telesat also states that its satellites have been designed to provide coverage of the United States, and have been approved by the Commission to provide DTH service within the United States.<sup>79</sup> Telesat disputes EchoStar's suggestion that "through the proper design of the proposed satellite, including beam shaping and power roll-off, harmful interference to other nearby planned BSS systems can be avoided,"<sup>80</sup> saying such techniques "cannot be used in co-coverage coordination situations as is the case here. Indeed, to ensure adequate protection for the existing Canadian DBS operations at 82° and 91° W.L., very substantial reductions of the power levels on the proposed EchoStar satellite would appear to be the only way that the MSPACE triggers could be removed."<sup>81</sup>

17. Any operations of EchoStar-86.5W will be subject to the provisions of Article 4.2 of Appendices 30 and 30A of the ITU Regulations. In addition, any operations of EchoStar-86.5W may continue even after launch of a satellite that would operate consistent with an entry in the ITU plan or pursuant to an earlier filed modification, upon a showing of coordination with such satellite. Absent coordination, continued operation is still possible within the confines of Appendices 30 and 30A of the ITU Radio Regulations, provided that no other authorized operators are affected.<sup>82</sup> The conditions of this authorization address the commenters' concerns.<sup>83</sup> In addition, until it has successfully coordinated with affected operators, EchoStar must inform its customers that service from EchoStar-86.5W is subject to coordination agreements with other operators, both foreign and domestic, and that EchoStar may be required to discontinue or alter service (e.g., by replacement of subscriber antennas).

18. To help effectuate coordination, EchoStar is required to submit to the Commission, within 30 days from the release date of this grant, all information required in order to modify the Appendix 30 Broadcasting-Satellite Service Plans and associated Appendix 30A feeder link Plans to incorporate the characteristics of EchoStar-86.5W, in accordance with the ITU Radio Regulations.<sup>84</sup> EchoStar will be

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<sup>78</sup> *Id.* Telesat asserts that it and Bell ExpressVu would be faced with a situation of dual-feed subscriber earth station antennas facing the 82° W.L. and 91° W.L. orbital locations, and due to the technology of these antennas and their inability to selectively discriminate an intermediate interferer, technical coordination with EchoStar as required under the ITU Radio Regulations is unlikely to be successful. (Telesat Opposition at 4).

<sup>79</sup> *Id.*, citing Digital Broadband Applications Corp. (DBAC), Consolidated Application for Authority to Operate U.S. Earth Stations with a U.S.-Licensed Ku-Band FSS Satellite and Canadian-Licensed Nimiq and Nimiq 2 Satellites to Offer Integrated Two-Way Broadband Video and Data Service Throughout the United States *Order*, 18 FCC Rcd 9455 (2003). DBAC's authorization to access the Nimiq 1 and Nimiq 2 satellites was subsequently withdrawn. *See* Satellite Communications Services Information, *Public Notice*, Report No. SES-00663 (released November 24, 2004). We note that we also granted Pegasus Development Corporation authority to access the Nimiq 1 and Nimiq 2 satellites. *See* Pegasus Development Corporation, Consolidated Applications for Authority to Operate One U.S. Transmit/Receive Fixed Earth Station (Call Sign E010320) and 1,000,000 Receive-Only Earth Stations (Call Sign E020022) with the Canadian-Licensed Nimiq 1 and Nimiq 2 Satellites to Offer Direct Broadcast Satellite Service Throughout the United States, *Order*, 19 FCC Rcd 6080 (2004) ("*Pegasus Order*").

<sup>80</sup> Telesat Opposition at 4, citing EchoStar Application at 5.

<sup>81</sup> Telesat Opposition at 5. MSPACE is a software package designed to determine the coordination requirements for space networks in Appendices 30, 30A and 30B of the ITU Radio Regulations. For additional information regarding MSPACE, *see* [http://www.itu.int/ITU-R/space/plans/MSPACEg\\_files/SPS\\_v5\\_readme.html](http://www.itu.int/ITU-R/space/plans/MSPACEg_files/SPS_v5_readme.html).

<sup>82</sup> In this context, an "affected" operator is one that is deemed affected in Annex 1 of Appendix 30 and 30A of the ITU Regulations. *See supra* n. 16.

<sup>83</sup> *See* Telesat Opposition at 4-5; Telesat reply at 3-4; Bell ExpressVu Opposition 2; SES Americom comments at 3.

<sup>84</sup> This includes, but is not limited to, the submission of any information or analyses necessary for completing the Plan modification process. *See also* 47 C.F.R. § 25.111(c).

held responsible for all cost recovery fees associated with these ITU filings.<sup>85</sup> Upon receipt of this information and EchoStar's certification that it unconditionally accepts all cost recovery responsibilities,<sup>86</sup> the United States will submit to the ITU EchoStar's application to provide DBS/BSS at the 86.5° W.L. orbital location. EchoStar's failure to provide this information within 30 days of this grant will result in immediate cancellation of its construction authority by its own terms.

### C. Geographic Service Rule

19. Section 25.148(c) of the Commission's rules requires DBS licensees to provide DBS service to Alaska and Hawaii where such service is technically feasible from the authorized orbital location.<sup>87</sup> EchoStar states that service to Alaska and Hawaii from EchoStar-86.5W is not technically feasible, due to the very low elevation angles of the 86.5° W.L. orbital location as seen from these states.<sup>88</sup> EchoStar states that the elevation angles from Hawaii to EchoStar-86.5W would be between 7 and 12 degrees above the horizon, and the elevation angles from Alaska would be at most 8 degrees above the horizon, with most of Alaska below the horizon as seen from EchoStar-86.5W.<sup>89</sup> No parties commented on this issue. Given the very low elevation angles to the 86.5° W.L. orbital location from Alaska and Hawaii, it is very unlikely that service to these states from EchoStar-86.5W would be technically feasible. Therefore, we will not require EchoStar-86.5W to provide service to Alaska and Hawaii from the 86.5° W.L. orbital location. However, we take this opportunity to inform EchoStar that in the event that it seeks any future authorization to move the EchoStar-86.5W DBS space station to a more western orbital location, we may include a condition requiring provision of DBS services to Alaska and Hawaii from that new orbital location, consistent with 47 C.F.R. § 25.148(c). Therefore we strongly encourage EchoStar to consider a possible future requirement to serve Alaska and Hawaii, from a different orbital location, in the design of this DBS space station.<sup>90</sup>

### D. Orbital Debris Mitigation

20. Section 25.114(d) of the Commission's rules requires applicants for space station authorizations to submit a description of the design and operational strategies that it will use to mitigate orbital debris, including a statement detailing post-mission disposal plans for space stations at the end of their operating life.<sup>91</sup> In conjunction with adopting this rule, the Bureau released a Public Notice stating that pending applications must be amended to include information requested in Section 25.114(d).<sup>92</sup> This information addresses four specific elements of orbital debris mitigation: 1) spacecraft hardware and design; 2) minimizing accidental explosions; 3) safe flight profiles; and 4) post-mission disposal.

21. EchoStar submitted an amendment disclosing the orbital debris mitigation plans for the

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<sup>85</sup> See Implementation of ITU Cost Recovery Charges for Satellite Network Filings, *Public Notice*, 16 FCC Rcd 18732 (2001).

<sup>86</sup> *Id.*

<sup>87</sup> 47 C.F.R. § 25.148(c).

<sup>88</sup> EchoStar Application at 10-11 and Technical Annex at 5-6.

<sup>89</sup> EchoStar Application, Technical Annex at 5.

<sup>90</sup> This is consistent with the Commission's determination that for DBS operators to use the Section 25.118(e) streamlined fleet management procedure, they must certify that they will meet, among other requirements, the geographic service requirements in Section 25.148(c) of the Commission's rules. See 47 C.F.R. § 25.118(e)(9).

<sup>91</sup> See 47 C.F.R. § 25.114(d); Mitigation of Orbital Debris, *Second Report and Order*, 19 FCC Rcd 11567 (2004).

<sup>92</sup> *Public Notice*, International Bureau Satellite Division Information, Disclosure of Orbital Debris Mitigation Plans, Including Amendment of Pending Applications, Report No. SPB-112, DA 05-2698 (Oct. 13, 2005) (*October 2005 Orbital Debris Public Notice*).

EchoStar-86.5W satellite.<sup>93</sup> According to EchoStar, the EchoStar-86.5W satellite is still in the design process.<sup>94</sup> As a result, EchoStar states that it is not in a position to supply specific information concerning the four elements of orbital debris mitigation identified in Section 25.114(d) and in the *October 2005 Orbital Debris Public Notice*. In particular, EchoStar states that it is unable to provide detailed information concerning end-of-life disposal and the amount of fuel that will be reserved, in kilograms, to effectuate such disposal.<sup>95</sup> We believe that a more detailed review of EchoStar's orbital debris mitigation plans is warranted as system design progresses, and prior to grant of launch and operating authority. Until such review can be completed, we are not in a position to conclude that the operation and disposal of the EchoStar-86.5W satellite, or the launch that would lead to such operations and disposal, are in the public interest. Accordingly, EchoStar must file, no later than December 29, 2008, an application to modify its authorization, providing a complete and detailed orbital debris mitigation plan for the EchoStar-86.5W satellite, including post-mission disposal of the spacecraft. Authority to launch and operate the satellite, as specified in this Order, will be granted if the information submitted demonstrates that EchoStar's orbital debris mitigation plans are consistent with our rules and subject to, as discussed above, modification of the Region 2 Plans.<sup>96</sup>

### E. Financial Qualifications

22. In the *First Space Station Reform Order*, the Commission eliminated the financial requirements then in place for space station applicants and replaced them with a bond requirement.<sup>97</sup> In accordance with this requirement, any entity awarded a license for a geostationary satellite must execute a payment bond, payable to the U.S. Treasury, within 30 days of the date of the license grant.<sup>98</sup> This requirement is intended to ensure that licensees are financially able and committed to implementing their systems in a timely manner. The bond is payable upon failure to meet any of the implementation milestones included in every license, where the licensee has not provided adequate justification for extending the milestone. Licensees may reduce the amount of the bond upon meeting each milestone. Once the licensee meets the last milestone, that is, it launches the satellite, it no longer has any bond obligation. This requirement applies to both U.S.-licensed space stations and non-U.S.-licensed space stations that seek to serve the U.S. market.<sup>99</sup>

23. The Commission excepted DBS and DARS licenses from the bond requirement at the time it was adopted.<sup>100</sup> Thus, we cannot impose the bond requirement, at this time, on DBS licensees.<sup>101</sup> However, we note that in the *DBS Notice*, the Commission seeks comment on whether to expand the

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<sup>93</sup> EchoStar Satellite Operating Corporation, IBFS File No. SAT-AMD-20051118-00244 (*EchoStar-86.5W Orbital Debris Amendment*).

<sup>94</sup> *EchoStar-86.5W Orbital Debris Amendment* at Orbital Debris Mitigation Plan, 1.

<sup>95</sup> *Id.* at 3.

<sup>96</sup> *See supra* para. 17.

<sup>97</sup> *See* Amendment of the Commission's Space Station Licensing Rules and Policies, *First Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 10760, 10826, at para. 170 (2003) ("*First Space Station Reform Order*").

<sup>98</sup> *See* 47 C.F.R. § 25.165.

<sup>99</sup> *First Space Station Reform Order*, 18 FCC Rcd 10760, 10875 at para. 309.

<sup>100</sup> *First Space Station Reform Order*, 18 FCC Rcd 10760, 10764-65 at n. 4 and Amendment of the Commission's Space Station Licensing Rules and Policies, *Notice of Proposed Rulemaking*, IB Docket No. 02-34, 17 FCC Rcd 3847, 3859 at n.4 (2002) ("*Space Station Reform NPRM or Notice*").

<sup>101</sup> The previous financial qualification requirements (which included submission of financial statements) have been eliminated entirely by *First Space Station Reform Order* and therefore we cannot impose them on DBS licensees, or any satellite licensee. *See supra* n. 115.

Space Station Licensing Reform licensing framework, including the bond requirement of Section 25.165, to DBS.<sup>102</sup> If the Commission adopts rules requiring DBS licensees to post a bond, we will modify EchoStar's authorization for the EchoStar-86.5W satellite accordingly.

#### F. General DBS Requirements

24. EchoStar will be subject to the same service rules and obligations as existing DBS licensees. This includes the public service obligations detailed in Section 25.701 of the Commission's rules, the emergency alert system rules in Part 11 of the Commission's rules, and the spacecraft end-of-life disposal requirements in Section 25.283 of the Commission's rules.<sup>103</sup> These rules apply to DBS, regardless of whether a licensee's satellites are part of the original Region 2 Plans, because the rules apply to all entities licensed to operate DBS satellites serving the United States in the 12.2-12.7 GHz DBS frequency band.<sup>104</sup> In addition, DBS licensees, including licensees of reduced spacing DBS satellites, that offer television broadcast channels to subscribers pursuant to the statutory copyright license must comply with all applicable statutory requirements and Commission rules related to such carriage.<sup>105</sup> Therefore, to the extent that EchoStar falls in this category with regard to the 86.5° satellite, it must comply with such rules and requirements.

#### G. Due Diligence

25. Section 25.148(b) of the Commission's rules establishes a milestone schedule for DBS authorization holders to ensure that entities exercise due diligence in constructing their systems.<sup>106</sup> According to this schedule, authorization holders must complete contracting for all system satellites within one year of grant; complete construction of the first satellite in the system within four years of grant; and bring all satellites in the system into operation within six years of grant.<sup>107</sup> We require that EchoStar adhere to this milestone schedule. We also require that EchoStar complete its critical design review (CDR) two years after this grant. The Commission has defined critical design review as "the stage in the spacecraft implementation process at which the design and development phase ends and the manufacturing phase starts."<sup>108</sup> Although the Commission has not prescribed a particular method for demonstrating that the CDR milestone has been met, evidence of compliance may include:

- (1) evidence of a large payment of money, required by most construction contracts at the time of the spacecraft CDR;
- (2) affidavits from independent manufacturers; and
- (3) evidence that the licensee has ordered all the long lead items needed to begin physical

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<sup>102</sup> See 47 C.F.R. §§ 25.165 (establishing the bond requirement for satellite licensees) and 25.137(d)(4) (making the bond requirement apply both to earth station applicants seeking access to foreign satellites and to non-U.S.-licensed satellite operators seeking access to the United States market). See also *DBS Notice*, FCC 06-120, para. 26.

<sup>103</sup> See 47 C.F.R. §§ 25.701, 25.283. In 2005, the Commission adopted revised emergency alert system ("EAS") rules that now extend to DBS. See *Review of the Emergency Alert System*, EB Docket No. 04-296, *First Report and Order and Further Notice of Proposed Rulemaking*, FCC 05-191 (rel. Nov. 10, 2005) and 47 C.F.R. Part 11.

<sup>104</sup> See, e.g., *DBAC Order*, 18 FCC Rcd 9455, 9469-70 at para. 39; *Pegasus Order*, 19 FCC Rcd 6080, 6092 at para. 28.

<sup>105</sup> See 17 U.S.C. §§ 119 & 122. See also 47 U.S.C. §§ 338 & 339; 47 C.F.R. § 76.66.

<sup>106</sup> See 47 C.F.R. § 25.148(b).

<sup>107</sup> *Id.* By contrast, Section 25.164 of the Commission's rules establishes a milestone schedule for GSO satellite system licensees, other than DBS and DARS satellite systems. Under this milestone schedule, one year after grant, the grantee must enter into a binding, non-contingent construction contract; at two years, complete critical design review; at three years begin construction of the first satellite; at five years, launch and operate the satellite. 47 C.F.R. § 25.164.

<sup>108</sup> *First Space Station Reform Order*, 18 FCC Rcd 10760, 10833 at para. 191.

construction of the spacecraft.<sup>109</sup>

26. In addition to these milestones, EchoStar must also file annual progress reports that illustrate the steps it has taken toward meeting its milestones. Progress reports will be due every June 30, with the first report due June 30, 2007, until the EchoStar-86.5W satellite has been launched and is operating. Submission of annual reports is consistent with the reporting requirements of other fixed satellite service operators.<sup>110</sup> We require the submission of these reports in order to ensure that EchoStar is taking all necessary action to meet its milestones.

#### H. License Term

27. Section 25.121(a) of our rules specifies that licenses for DBS space stations not licensed as broadcast facilities will be issued for a period of 10 years, beginning on the date that the licensee certifies to the Commission that the satellite has been successfully placed into orbit and has begun authorized operations.<sup>111</sup> Thus, the license term for EchoStar's satellite will be 10 years, effective from the date that EchoStar-86.5W is located at the 86.5° W.L. orbital location and begins providing service to customers.

### IV. ORDERING CLAUSES

28. Accordingly, IT IS ORDERED that, pursuant to Sections 303(r), 308, 309, and 319 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 303(r), 308, 309, and 319 and Sections 0.261 and 25.113(f) of the Commission's rules, 47 C.F.R. §§ 0.261 and 25.113(f), the Application of EchoStar Satellite L.L.C. for Application to Construct, Launch, and Operate A Direct Broadcast Satellite at the 86.5° W.L. Orbital Location, File No. SAT-LOA-20030609-00113 IS GRANTED IN PART, and EchoStar Satellite L.L.C. IS AUTHORIZED to construct its satellite, EchoStar-86.5W, capable of using channels 1-32 at the 86.5° W.L. orbit location in accordance with the terms, representations, and technical specifications set forth in its application, subject to the following conditions:

- a. Any operations of EchoStar-86.5W shall be conducted in a manner that does not exceed the interference limits in Annex 1 to Appendices 30 and 30A of the ITU Radio Regulations<sup>112</sup> within the service areas of any affected operators.<sup>113</sup> Upon a showing to the Commission of successful coordination with any such affected operator (pursuant to Article 4.2 of Appendices 30 and 30A of the Radio Regulations), EchoStar may operate in a manner consistent with such coordination.
- b. EchoStar's operations on the EchoStar-86.5W satellite are subject to the provisions of Article 4.2 of Appendices 30 and 30A of the International Radio Regulations. Even after launch of a satellite that would operate pursuant to an entry in the ITU plan or pursuant to an earlier filed modification, EchoStar may continue operations on the EchoStar-86.5W satellite: (i) upon a showing of coordination with such satellite, or (ii) if such satellite is not affected by continued operations of the EchoStar-

<sup>109</sup> *Id.*

<sup>110</sup> See 47 C.F.R. § 25.210(l). We note that in the *DBS Notice*, the Commission seeks comment on whether to require all DBS operators to be subject to annual reporting requirements. See *DBS Notice* at para. 27.

<sup>111</sup> 47 C.F.R § 25.121(d)(1)(2004).

<sup>112</sup> In particular, EchoStar shall not exceed a 0.25 dB change in overall equivalent protection margin with respect to the reference situation that existed for DBS satellites serving the U.S.

<sup>113</sup> In this context, an "affected" operator is one that is deemed affected in Appendices 30 and 30A of the ITU Radio Regulations.

86.5W satellite and associated earth stations. EchoStar's operations shall be in compliance with applicable current and future operational requirements as a result of coordination agreements reached with other satellite systems.

- c. EchoStar-86.5W's operations must comply with all rules applicable to other Commission DBS/DTH licensees (e.g., the public interest obligations of 47 C.F.R. § 25.701, the emergency alert system rules in 47 C.F.R. Part 11, and spacecraft end-of-life disposal requirements of 47 C.F.R. § 25.283). In addition, to the extent that EchoStar offers television broadcast channels to subscribers pursuant to the statutory copyright license, it must comply with all applicable statutory requirements and Commission rules related to such carriage.
- d. EchoStar is required to submit to the Commission, within 30 days from the release date of this grant, all information required in order to modify the Appendix 30 Broadcasting-Satellite Service Plans and associated Appendix 30A feeder link Plans to incorporate the characteristics of EchoStar-86.5W, in accordance with the ITU Radio Regulations. EchoStar will be held responsible for all cost recovery fees associated with these ITU filings.
- e. EchoStar must file, no later than December 29, 2008, an application to modify its authorization, specifying its end-of-life operations for the EchoStar-86.5W satellite. Authority to launch and operate the satellite, as specified in this Order, will be granted if the information submitted demonstrates that EchoStar's orbital debris mitigation plans are in the public interest.
- f. Until it has successfully coordinated with affected operators, EchoStar must inform its customers that service from EchoStar-86.5W is subject to coordination agreements with other operators, both foreign and domestic, and that EchoStar may be required to discontinue or alter service (e.g., by replacement of subscriber antennas).
- g. EchoStar Satellite L.L.C. is afforded 30 days from the date of the release of this Order and Authorization to decline it, as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization, as conditioned.

29. IT IS FURTHER ORDERED that this grant is subject to any rules adopted in the Notice of Proposed Rulemaking Proceeding in IB Docket 06-160.

30. IT IS FURTHER ORDERED that EchoStar must comply with the milestone schedule required by Section 25.148(b) of the Commission's rules, 47 C.F.R. § 25.148(b): (1) Within *one year* of grant: complete contracting for all system satellites. (2) Within *four years* of grant: complete construction of the first satellite in the system. (3) Within *six years* of grant: all satellites in the system must be in operation. In addition, EchoStar must complete its critical design review within two years of this grant.

31. IT IS FURTHER ORDERED that EchoStar file must submit annual progress reports that illustrate the steps it has taken toward meeting its milestones. Progress reports will be due every June 30, with the first report due June 30, 2007, until the EchoStar-86.5W satellite has been launched and is operating.



32. This *Order and Authorization* is issued pursuant to Section 0.261 of the Commission's rules on delegations of authority, 47 C.F.R. § 0.261, and is effective upon release.

FEDERAL COMMUNICATIONS COMMISSION



John V. Giusti  
Acting Chief, International Bureau