

BEFORE THE  
Federal Communications Commission  
WASHINGTON, D.C.

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of	)	
	)	
<b>Loral Space &amp; Communications Ltd.</b>	)	SAT-MOD-19991102-00106
	)	
Application for Modification of Space Station Authorization	)	
	)	
<b>Loral Space &amp; Communications Ltd.</b>	)	SAT-MOD-19991101-00107
	)	
Application for Modification of Milestones	)	
	)	
<b>Loral Orion, Inc.</b>	)	SAT-MOD-19991101-00108
	)	
Application for Modification of Space Station Authorization	)	
	)	
<b>Loral SpaceCom Corporation</b>	)	SAT-MOD-19991101-00109
	)	
Application for Modification of Space Station Authorization	)	

Received

FEB 15 2000

Satellite Policy Branch  
International Bureau

**CONSOLIDATED OPPOSITION AND REPLY OF LORAL SPACE &  
COMMUNICATIONS LTD.**

Loral Space & Communications Ltd. ("Loral"), by its attorneys, submits this consolidated Opposition and reply to the Petition to Deny ("Petition") filed by Pacific Century Group, Inc. ("PCG")<sup>1</sup> and the Comments filed by Pegasus Development Corporation ("Pegasus")<sup>2</sup> with

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<sup>1</sup> Despite the fact that the caption of the PCG Petition relates to all four of Loral's concurrently filed modification applications relating to Loral's authorizations at 77° W.L. and 89° W.L., PCG's Petition clearly states that it "has no objection to those portions of the captioned modification requests which deal only with deployment of C- and Ku-band capacity at 77 W.L. and 89 degrees W.L." PCG Petition at 2.

<sup>2</sup> Pegasus only commented with respect to the Loral Orion, Inc. application to modify the Ka-band authorization of Orion F7 at 89° W.L.

respect to the above-captioned applications.<sup>3</sup> PCG and Pegasus' pleadings are not supported by fact, misrepresent the nature of Loral's modification applications and should be denied. The Petition and Comments filed by PCG and Pegasus are wrong in three key respects. Contrary to these parties' assertions: (1) Loral has satisfied the construction commencement milestone associated with its Ka-band authorization at 89° W.L.; (2) Loral has fully complied with the Commission's rules and policies; and (3) Loral has not abandoned its plans to operate Orion F7 at 89° W.L.

**I. LORAL HAS COMPLIED WITH ITS CONSTRUCTION MILESTONES AT 89° W.L.**

PCG and Pegasus' pleadings are premised on the incorrect assumption that by modifying its C and Ku-band hybrid Telstar 8 satellite, Loral has abandoned its Orion F7 satellite at 89° W.L. This is simply not true. As discussed in more detail below, Telstar 8 (and its Ka-band payload) is not a substitute for Orion F7. The primary focus of the PCG and Pegasus pleadings is their unsubstantiated allegation that Loral has missed or at least failed to certify compliance with the construction commencement milestone associated with the Orion F7 Ka-band authorization.<sup>4</sup> These accusations are baseless. Loral has met the construction commencement milestone associated with this authorization.<sup>5</sup> Pegasus claims that Loral failed to certify milestone

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<sup>3</sup> On different grounds, the Public Broadcasting Service ("PBS") and the South Carolina Educational Television Commission ("SCETV") filed Petitions to Deny certain of Loral's modification applications as they relate to the relocation of Telstar 4. Loral has requested an extension of time to respond to these Petitions to which no party objects. See Letter from John P. Stern, Associate General Counsel, Loral Space & Communications Ltd. to Thomas S. Tczyk, Chief, Satellite and Radiocommunication Division (dated Feb. 4, 2000).

<sup>4</sup> PCG Petition at 4; Pegasus Comments at 3.

<sup>5</sup> Loral has also met the current milestones associated with its Telstar 8 authorization. Loral filed a request on January 4, 2000 for an extension of the remaining milestones associated with the Orion F7 authorization with its concurrent request to add inter-

compliance and did not submit annual progress reports required of Ka-band licensees pursuant to § 25.145(g) of the Commission's rules.<sup>6</sup> Pegasus is simply wrong. In Loral's 1998 and 1999 annual satellite reports to the Commission, Loral specifically confirmed its compliance with the construction commencement milestone for its Orion F7 satellite at 89° W.L.<sup>7</sup> Moreover, at the Commission's request, Loral has provided the FCC with copies of the contract for this satellite.<sup>8</sup>

## II. LORAL'S MODIFICATION PROPOSAL COMPLIES WITH THE COMMISSION'S RULES AND POLICIES

PCG and Pegasus misrepresent the technical aspects of Loral's Ka-band related modification applications in an attempt to allege non-compliance with the Commission's Ka-band rules and policies. First, as discussed above, Loral plans to launch a separate satellite (Orion F7) at 89° W.L. The operation of Orion F7 at 89° W.L. will provide Ka-band coverage and spectrum beyond that which will be provided by Telstar 8. Loral will fully and efficiently use all available Ka-band spectrum at this orbital location.

Second, PCG and Pegasus misstate the technical capabilities of the modified Telstar 8 satellite. Telstar 8 is in no way an "experimental" satellite.<sup>9</sup> Telstar 8 is a state-of-the-art satellite

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satellite links ("ISLs") to Orion F7 and its other Ka-band authorizations. Loral has requested that any future milestones imposed on its Ka-band authorizations be consistent with those imposed on other operators which have requested use of ISLs.

<sup>6</sup> Pegasus Comments at 3.

<sup>7</sup> Letter from Laurence D. Atlas, Vice President, Government Relations, Loral Space & Communications Ltd., to Magalie Roman Salas, Secretary, FCC (filed June 30, 1998); Letter from John P. Stern, Associate General Counsel, Loral Space & Communications Ltd., to Magalie Roman Salas, Secretary, FCC (filed June 30, 1999).

<sup>8</sup> See Letter from John P. Stern, Associate General Counsel, Loral Space & Communications Ltd., to Magalie Roman Salas, Secretary, FCC (filed Dec. 20, 1999).

<sup>9</sup> PCG Petition at 5.

designed to incorporate three different frequency bands onto one satellite in order to make efficient use of a scarce orbital resource and provide significant service capabilities to consumers.

The modified Telstar 8 design complies with the Commission's Ka-band and hybrid policies, full frequency reuse rules, and the terms of its authorization. For example, contrary to the assertions of PCG and Pegasus, Telstar 8 will make Ka-band services available to the entire country. As modified, the satellite will allow the use of earth terminals, which operate in the Ka and Ku-band simultaneously, to provide a variety of advanced services throughout the CONUS.<sup>10</sup> The earth terminals would transmit in the Ka-band frequencies and receive in the Ku-band frequencies.

The choice of uplink and downlink frequencies to provide a particular service results from a system architecture which is chosen to support specific business needs - a decision best left to the operator. Contrary to PCG's assertions, the benefit of use of the Ka-band need not be derived exclusively from its use for both uplink and downlink from the same earth terminal. Hybrid systems similar to Telstar 8 have been developed for commercial use in other parts of the world.<sup>11</sup>

Contrary to PCG's baseless allegation, Telstar 8 implements the full downlink spectrum authorized to Loral at the 89° W.L. orbital location in all frequency bands.<sup>12</sup> The uplink Ka-band

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<sup>10</sup> PCG asserts that the Telstar 8 Ka-band payload will provide coverage to only four metropolitan areas. PCG Petition at 2-3, 6.

<sup>11</sup> Societe Europeenne des Satellites (SES) has expanded its ASTRA-NET system to provide interactive broadband and bandwidth on demand multimedia services on a Ku/Ka-band satellite. An additional Ku/Ka-band hybrid satellite is under construction. The system utilizes Ku-band frequencies to uplink various multimedia services. The satellite return path uses Ka-band frequencies. See ASTRA Press Release, *SES to Develop Interactive Satellite Return Channel* (Dec. 15, 1998).

<sup>12</sup> The remaining 500 MHz of Ka-band downlink frequencies which Loral intends to deploy at this location is the subject of the Commission's ongoing 18 GHz rulemaking proceeding. In re Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth

spectrum on Telstar 8 has been chosen to match the downlink Ka-band spectrum. Each of the four Ka-band downlink spot beams uses the full spectrum assigned to Loral, achieving four times frequency reuse.<sup>13</sup> Stating "that operators should be provided with as much flexibility as possible in their system designs," the Commission has specifically declined to specify the number of times frequencies should be reused for satellites employing spot beam coverage.<sup>14</sup>

Telstar 8 is also compliant with the Commission's hybrid policies. As noted above, the authorized spectrum is used efficiently in all three frequency bands. The satellite's beams cover the entire CONUS region and the services to be provided in each frequency band will be available to most of the country. The Commission's Ka-band service rules specifically permit Ka-band licensees to build hybrid satellites where they are assigned to corresponding C and Ku-band orbital locations, provided the Commission's technical and service requirements are met.<sup>15</sup>

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Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, Notice of Proposed Rulemaking, 13 FCC Rcd. 19923 (1998). Loral anticipates obtaining this additional spectrum as well as spectrum for ISLs for Orion F7, which will fully implement Loral's Ka-band authority at 89° W.L. and comply with the Commission's Ka-band rules and policies.

<sup>13</sup> This frequency reuse ratio is essentially the same as what was proposed in the Orion F7 application which anticipated a larger amount of Ka-band spectrum.

<sup>14</sup> In re Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, Third Report and Order, 12 FCC Rcd. 22310 at ¶ 29 (1997) ("28 GHz Third Report and Order"). Indeed, the Commission has expressed concern that "the existing full-frequency reuse requirements may not be appropriate for satellite systems in the Ka-band." Id. at ¶ 28.

<sup>15</sup> 28 GHz Third Report and Order at ¶ 31. Licensees that wished to co-locate satellites into a hybrid were instructed to file an application to modify their underlying licenses. Id.



The Commission's Ka-band service rules support the use of multiple satellites in one orbital location to satisfy a Ka-band authorization. Indeed, in the first Ka-band processing round, the Commission specifically contemplated the use of multiple Ka-band satellites to satisfy an authorization at one orbital location. For example, GE Americom requested and was granted authority to co-locate two Ka-band satellites at four of its five requested orbital locations.<sup>16</sup> Lockheed Martin was granted a similar request for its Astrolink system.<sup>17</sup> In the context of the C and Ku-band, the FCC recently permitted GE Americom to modify a satellite authorization to permit the use of single frequency satellites in lieu of the originally authorized hybrid satellite.<sup>18</sup>

Telstar 8's deployment of Ka-band capacity will bring significant Ka-band services to the U.S. market before many other domestic operators are able to do so. The operation of Orion F7 at 89° W.L. will enhance Loral's Ka-band services at this orbital location. Loral's satellites will fully and efficiently use the authorized spectrum at the 89° W.L. orbital location. In licensing satellites, "the Commission seeks to promote competition, provide flexibility, and encourage technical innovation."<sup>19</sup> Therefore, it consistently "leaves spacecraft design decisions to the licensee since the licensee is in a better position to determine how to tailor its system to meet the

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<sup>16</sup> In re Application of GE American Communications, Inc. for Authority to Construct, Launch and Operate a Ka-Band Satellite System in the Fixed-Satellite Service, Order and Authorization, 12 FCC Rcd. 6475 (1997).

<sup>17</sup> In re Application of Lockheed Martin Corporation for Authority to Construct, Launch and Operate a Ka-Band Satellite System in the Fixed-Satellite Service, Order and Authorization, 12 FCC Rcd. 23014 (1997). AT&T's VoiceSpan system proposed to co-locate two Ka-band satellites at five of the seven orbital slots requested. Its satellite system application was later withdrawn.

<sup>18</sup> In re Application of GE American Communications, Inc. for Modification of Authorization to Construct, Launch and Operate a Space Station in the Fixed-Satellite Service, Memorandum Opinion and Order, 14 FCC Rcd. 686 (1998).

<sup>19</sup> Id. at ¶ 6.

particular needs of its customers."<sup>20</sup> Loral has proposed a modification which will permit the efficient and expeditious provision of Ka-band services to customers from the 89° W.L. orbital location. Both Telstar 8 alone and Telstar 8 and Orion F7 together will make advanced, broadband satellite services available to large segments of the American public. The modifications proposed by Loral will result in significant operating efficiencies and more valuable services for consumers and is therefore consistent with the public interest.

### III. CONCLUSION.

PCG and Pegasus's pleadings are fundamentally flawed and should be denied. For the reasons set forth above, Loral requests that the Commission grant Loral's modification applications.

Respectfully submitted,

LORAL SPACE & COMMUNICATIONS LTD.

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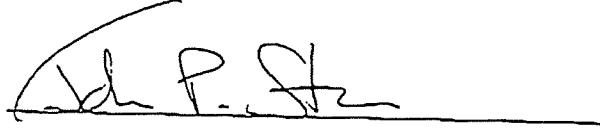
February 8, 2000

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<sup>20</sup> Id. See also In re Application of AMSC Subsidiary Corp. for Modification of Mobile Satellite Service License, Order and Authorization, 13 FCC Rcd. 12316 at ¶ 8 (1998)(citing Big LEO Notice of Proposed Rulemaking, 9 FCC Rcd. 1094 at ¶ 11 (1994)).

DECLARATION

I, John P. Stern, hereby declare, under penalty of perjury under the laws of the United States, that the statements of fact made in this Opposition (except for those of which official notice may be taken) are true, complete and correct to the best of my knowledge and belief, and are made in good faith.

A handwritten signature in black ink, appearing to read "John P. Stern", is written over a solid horizontal line.

John P. Stern  
Associate General Counsel  
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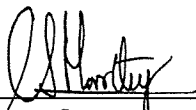
February 8, 2000



**ENGINEERING CERTIFICATION**

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in this consolidated Opposition and Reply of Loral Space and Communications Ltd. to the Petition to Deny filed by the Pacific Century Group, Inc. and the Comments filed by Pegasus Corporation; that I am familiar with Parts 21 and 25 of the Commission's Rules; that I have either prepared or reviewed the engineering information contained in this Opposition and Reply document; and that it is complete and accurate to the best of my knowledge.

Dated the 7<sup>th</sup> day of February 2000

By:  \_\_\_\_\_  
Sundaram C. Moorthy  
Director, Satellite and  
Spectrum Development  
Loral Skynet<sup>1</sup>

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<sup>1</sup> Skynet is a registered trademark of Loral SpaceCom Corporation.

## CERTIFICATE OF SERVICE

I, Dennette Manson, do hereby certify that on this 8th day of February, 2000 copies of the foregoing Consolidated Opposition and Reply of Loral Space & Communications Ltd. were delivered by hand, unless otherwise indicated, to the following parties:

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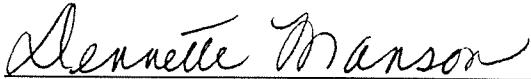
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