

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

In the Matter of
Application of SpaceData International LLC
For Authority to Operate on a Time Share
Basis NASA's Tracking and Data Relay
Satellite System
File No. SAT-A/O-20001117-00160

ORDER AND AUTHORIZATION

Adopted: May 1, 2001

Released: May 2, 2001

By the Chief, International Bureau:

I. INTRODUCTION

1. With this Order and Authorization, we authorize SpaceData International LLC (SDI) to operate for commercial purposes, on a time-share basis, four satellites now operating as part of the Tracking and Data Relay Satellite System (TDRSS), owned by the National Aeronautics and Space Administration (NASA). This authorization will enable SDI to provide services to seismic exploration vessels surveying the ocean floor, which in turn will facilitate the development of new oil and gas resources.

II. BACKGROUND

2. SDI plans to provide a service it calls the SeismicStar Communications System (SeismicStar) to the marine seismic industry, which surveys the ocean floor to identify potential oil and gas deposits. Currently, survey vessels locate these deposits by taking soundings of the surveyed areas, recording the soundings on computer data storage tapes, and transporting the tapes to land-based data-processing centers by ship. This process can take from six weeks to several months. SDI proposes to transmit this data to a data processing center by satellite, thereby greatly expediting the discovery of new offshore oil and gas deposits. SDI estimates that its service will reduce the cost of each individual survey by up to \$4.1 million.

3. SDI proposes to provide its service via four of NASA's TDRSS satellites in the 13/15 GHz frequency range. SDI explains that Congress has taken a number of steps to promote the

1 SDI Application at 3-4.

2 SDI Application at 4.

3 SDI Application at 4.

4 SDI Application at 6.

5 These satellites are located at 41° W.L., 47° W.L., 171° W.L., and 174° W.L. SDI Application at 2. SDI originally requested authority to operate a fifth TDRSS satellite at 45° W.L. SDI later explained that there is no TDRSS satellite at 45° W.L., and corrected its application to remove

commercialization of space assets owned by NASA and other U.S. Government agencies. In particular, the Commercial Space Competitiveness Act of 1992 authorizes NASA and other agencies to make their facilities available to private entities.⁶ Pursuant to this Act, SDI and NASA have entered into a contract that enables SDI to use excess capacity in the 13/15 GHz frequency range on TDRSS satellites for commercial purposes subject to appropriate regulatory authorizations.⁷ NASA states that it "continues to be a strong supporter of the SDI SeismicStar initiative."⁸

4. SDI will place an earth station on each survey vessel, and the survey data will be transmitted via a TDRSS satellite to NASA's facility in White Sands, New Mexico,⁹ and then to a data processing center in Houston, Texas via land lines.¹⁰ SDI explains that its contract with NASA allows SDI to use excess 13/15 GHz capacity of the White Sands facility.¹¹ SDI explains further that, while NASA has control over the timing of SDI's use of TDRSS, SDI will be responsible for operation of the TDRSS space stations' operations in the 13/15 GHz range at the times SDI is using them.¹² SDI maintains that it must use the TDRSS satellites to provide this service because commercial satellite systems do not have the technical capabilities, geographic coverage, or capacity necessary to transmit the data generated by ocean floor survey vessels.¹³

5. SDI is currently testing its service. We granted SDI Special Temporary Authority (STA) on August 29, 2000, subject to conditions, to conduct tests by transmitting surveying data from earth stations on three ships.¹⁴ This STA was originally scheduled to expire on February 25, 2001. It remains in effect because SDI filed a timely request to renew STA on February 21, 2001, and we have not yet acted on that request.¹⁵ Adoption of this Order makes this STA application moot.

references to any satellite located at 45° W.L. See Letter from Laura B. Sherman, Attorney for SpaceData International, LLC, to Magalie Roman Salas, Secretary, FCC (Dec. 22, 2000).

⁶ SDI Application at 6, *citing* 15 U.S.C. §§ 5801-5807.

⁷ SDI Application at 4.

⁸ SDI Application at Exh. 3 (Letter from Joseph H. Rothenberg, Associate Administrator for Space Flight, NASA, to Frank Van Rensselaer, Chief Executive Officer, SDI (July 20, 2000)).

⁹ SDI Application at 2.

¹⁰ SDI Application at 4.

¹¹ SDI Application at 4.

¹² SDI Application at 4.

¹³ SDI Application at 5.

¹⁴ Letter from Thomas S. Tycz, Chief, Satellite and Radiocommunication Division, International Bureau, to Phillip L. Spector, Counsel for SDI (Aug. 29, 2000) (*August 29 Letter*). We discuss the STA conditions in detail below.

¹⁵ See Letter from Laura B. Sherman, Counsel for SDI, to Magalie Roman Salas, Secretary, FCC (Feb. 21, 2001) (*February 21 Letter*); Administrative Procedure Act, 5 U.S.C. § 558(c).

6. SDI seeks a license to operate the TDRSS satellites on a time-share basis pursuant to Section 303(c) of the Communications Act of 1934, as amended.¹⁶ Specifically, SDI requests authority to operate four TDRSS satellites in the 13/15 GHz frequency band during the times that NASA is not using those satellites. SDI also requests waivers of the financial qualification requirement¹⁷ and the Table of Frequency Allocations.¹⁸ We placed SDI's application on public notice on November 27, 2000.¹⁹ No comments or oppositions were filed. For the reasons discussed below, we grant SDI's application and associated waiver requests, subject to conditions.

III. DISCUSSION

A. Licensing Issues

7. We have authority under the Communications Act to issue time-share licenses for commercial space station operations in frequency bands allocated to U.S. Government use. Section 303(c) of the Communications Act enables the Commission to "assign bands of frequencies to the various classes of stations, and assign frequencies for each individual station and determine the power which each station shall use *and the time during which it may operate.*"²⁰ We have previously issued licenses that authorized one of two operators to use different frequencies on the same satellite.²¹ We have also issued frequency time-share licenses for non-satellite services.²² Accordingly, we find that we have the jurisdiction to consider SDI's application.

B. Qualification Issues

8. Having determined that we can grant SDI a license for its proposed commercial operations on TDRSS, we next determine whether SDI is qualified to hold this license. The Commission's rules require SDI to demonstrate that it is legally, financially, and technically

¹⁶ 47 U.S.C. § 303(c).

¹⁷ 47 C.F.R. § 25.140(c).

¹⁸ 47 C.F.R. § 2.106.

¹⁹ Satellite Policy Branch Information, Applications Accepted for Filing, Public Notice, DA 00-2670 (Nov. 27, 2000).

²⁰ 47 U.S.C. § 303(c) (emphasis added).

²¹ See Columbia Communications Corporation, *Memorandum Opinion and Order*, 7 FCC Rcd 122 (1991) (issuing Columbia a license to operate C-band capacity on TDRSS satellites); GTE Spacenet Corporation, Geostar Corporation, *Memorandum Opinion and Order*, 2 FCC Rcd 5312 (Com. Car. Bur. 1987)(*GTE/Geostar Order*) (issuing Geostar a license to operate radiodetermination satellite service (RDSS) capacity on a GTE satellite).

²² See, e.g., Applications of Radio Relay Corp. - Texas, Aircall of Texas, Inc., *Memorandum Opinion and Order*, 46 Rad. Reg. 2d 157 (Com. Car. Bur. 1979) (authorizing two Domestic Public Land Mobile Radio Service (DPLMRS) providers in Houston, Texas to use a single frequency band on a time-share basis, and to control their separate transmitters through a central control point). See also *GTE/Geostar Order*, 2 FCC Rcd at 5316 n.26.

qualified to hold a Commission license to operate a space station.²³ For the reasons discussed below, we find that SDI is qualified to hold a time-share license for the TDRSS satellites.

1. Legal Qualifications

9. SDI has submitted an FCC Form 430 showing that it has never been convicted of a felony and is controlled exclusively by U.S. citizens.²⁴ Furthermore, SDI does not propose to provide a common carrier service.²⁵ Based on these demonstrations, we conclude that SDI meets all the Commission's legal qualifications for space station licensees.

2. Technical Qualifications

10. SDI claims that its SeismicStar service will comply with the technical requirements of Part 25.²⁶ We find that the technical requirements of Part 25 do not apply to SDI's operations. Because SDI will operate in frequency bands allocated to U.S. Government use, we conclude that it must comply with the technical requirements that the National Telecommunications and Information Administration (NTIA) has adopted for those bands.

3. Financial Qualifications

11. Section 25.140(c) of the Commission's rules requires space station license applicants to demonstrate that they have the financial resources to launch a satellite and to operate it for one year.²⁷ SDI requests a waiver of the financial qualification requirement. SDI argues that we should not require it to demonstrate that it has the financial resources to launch a satellite because the TDRSS satellites have already been launched.²⁸ SDI also argues that its operating expenses will consist primarily of per-minute payments to NASA for use of TDRSS satellites, and that it will not incur this expense until it has customers paying for the service.²⁹ SDI also points out that the financial qualification requirement is designed to prevent wasting or warehousing of scarce orbital resources, and that SDI could not waste or warehouse any orbital resources in this case.

12. We agree with SDI that a waiver of the financial qualification requirement is warranted in this case. The Commission may grant a waiver of its rules only if there is "good cause" for a waiver within the meaning of Section 1.3 of the Commission's rules.³⁰ Generally, the Commission may grant a waiver of its rules in a particular case only if the relief requested would not undermine the policy objective of the rule in question, and would otherwise serve the public

²³ 47 C.F.R. § 25.140.

²⁴ SDI Application, Exh. 4.

²⁵ SDI Application, Form 312.

²⁶ SDI Application at 11.

²⁷ 47 C.F.R. § 25.140(c).

²⁸ SDI Application at 9-10.

²⁹ SDI Application at 10-11.

³⁰ 47 C.F.R. § 1.3.

interest.³¹ The Commission's financial qualification rules are designed to prevent under-capitalized licensees from holding valuable orbit-spectrum resources to the exclusion of others who may be ready to proceed with their business plans while they attempt to arrange financing to construct and launch the licensed system.³² Because the TDRSS satellites have already been launched, there is no reason to require SDI to demonstrate its financial capability to build and launch the TDRSS satellites.³³ Accordingly, we grant SDI's request for waiver of the financial qualification requirement.

C. Spectrum Issues

1. Waiver Standard

13. SDI plans to use spectrum allocated to U.S. Government use for a non-U.S. Government purpose. SDI requests a waiver of the Table of Allocations in Section 2.106 of the Commission's rules to allow this use.³⁴ SDI claims that there is good cause for such a waiver because its service will further the public interest, and because there are no commercial alternatives for the satellite capacity SDI needs.³⁵

14. As noted above, we may find that there is "good cause" in a particular case only if the relief requested would not undermine the policy objective of the rule in question, and would otherwise serve the public interest.³⁶ We find below that granting SDI's waiver request will further the public interest. We also find that SDI's waiver request should not undermine the policy objective of the rule in question, provided that we place appropriate conditions on the waiver.

2. Statutory Considerations

15. SDI seeks to operate a commercial service on U.S. Government frequencies. Congress allows private entities to use U.S. Government facilities for commercial services *only* if

³¹ *WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969) (*WAIT Radio*); *Dominion Video Satellite, Inc., Order and Authorization*, 14 FCC Rcd 8182, 8185 (para. 5) (Int'l Bur., 1999) (*Dominion Video*).

³² *See, e.g.*, *Licensing Space Stations in the Domestic Fixed-Satellite Service, Report and Order*, CC Docket No. 85-135, FCC 85-395, 58 Rad. Reg. 2d 1267, 1270 (para. 8) (released Aug. 29, 1985).

³³ We have granted a waiver of the financial requirement in similar situations in the past. *See, e.g.*, *Intelsat LLC, Memorandum Opinion, Order and Authorization*, 15 FCC Rcd 15460, 15508-09 (para. 125) (2000). Similarly, applicants seeking to use foreign satellites that are already in orbit to provide service in the United States need not demonstrate the space station operator's financial qualifications. *See Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Satellites Providing Domestic and International Service in the United States, Report and Order*, IB Docket No. 96-111, 12 FCC Rcd 24094, 24175-76 (para. 191) (1997).

³⁴ SDI Application at 11-12.

³⁵ SDI Application at 11-12 and Exh. 2.

³⁶ *WAIT Radio*, 418 F.2d at 1157; *Dominion Video*, 14 FCC Rcd at 8185 (para. 5).

there is no commercial alternative available.³⁷ In its application, SDI represents that there are no commercial alternatives available at this time that can provide the capacity it needs for its service.³⁸ No commercial operator has filed comments disputing this statement. Consequently, we find that SDI may operate its SeismicStar system on U.S. Government facilities. SDI's authority will terminate, however, whenever we conclude that a commercial alternative that meets SDI's reasonable capacity needs has become available. In order to ensure compliance with this condition, we will require SDI to file transmission logs with the Commission, and we will make those logs publicly available.³⁹ This will enable commercial satellite operators to determine whether they are able to meet SDI's capacity needs, and, if so, to bring this to our attention in writing.

3. Public Interest Considerations

16. SDI has shown that its service will enable oil and gas companies to reduce substantially the time and expense needed to develop new energy resources. There are few if any economic sectors more important than energy to the economic well being of the nation as a whole. By helping to expedite the development of energy resources, SDI's proposed service should generate a considerable benefit for consumers throughout the U.S. economy.

4. Policy Goals of the Commission's Rule

17. To show "good cause" for a waiver, SDI must also demonstrate that the relief requested would not undermine the policy objective of the rule in question.⁴⁰ An important policy objective of the Table of Allocations is to ensure maximum use of the electromagnetic spectrum, by minimizing potential harmful interference between communications services. In order to limit the possibility that SDI's service might cause harmful interference into U.S. Government transmissions operating in the same band, we place conditions on SDI's Table of Allocations waiver and license application that we grant today. Moreover, NTIA, the U.S. Government agency that oversees operations in frequency bands designated for U.S. Government use, does not object to grant of SDI's application under specified conditions.⁴¹

18. First, SDI's operations are extremely limited. SDI may use a TDRSS satellite only during the times that NASA determines that it will not need to use that satellite, and that SDI's operations will not cause harmful interference to any U.S. Government operations.⁴² This will

³⁷ 15 U.S.C. § 5807(a)(4).

³⁸ SDI Application at Exh. 2.

³⁹ SDI offered to keep these logs and allow the Commission to make them publicly available. SDI Application at 8.

⁴⁰ *WAIT Radio*, 418 F.2d at 1157; *Dominion Video*, 14 FCC Rcd at 8185 (para. 5).

⁴¹ Letter from William T. Hatch, Associate Administrator, Office of Spectrum Management, NTIA, to Donald Abelson, Chief, International Bureau, FCC (dated April 23, 2001) (*Hatch Letter*).

⁴² For the purposes of this Order and Authorization, the term "harmful interference" means any interference to a Government station that endangers the functioning of a radionavigation service or of other safety services or degrades, obstructs, or interrupts a Government radiocommunication service.

ensure that SDI's operations will not curtail U.S. Government operations in the band. SDI points out that this condition is included in its contract with NASA governing SDI's use of TDRSS.⁴³ This is also a condition on SDI's STA.⁴⁴

19. Second, during the times SDI operates TDRSS, it must operate on a non-harmful interference basis relative to U.S. Government operations. Section 2.102(c) of the Commission's rules⁴⁵ allows non-U.S. Government stations to use U.S. Government frequencies only under certain conditions. One of those conditions is that "[s]uch operations shall not cause harmful interference to Government stations and, should harmful interference result, that the interfering non-Government operation shall immediately terminate."⁴⁶ To help ensure that SDI's operations do not cause harmful interference into U.S. Government operations, we adopt several conditions set forth in the Ordering Clauses of this Order.⁴⁷ In addition, we limit SDI to the frequency bands and associated authorized bandwidths set forth in Table 1 below.

Table 1

Service Segment	Frequencies
Uplink from Ships to TDRSS	14890.9 MHz to 15115.9 MHz
Downlink from TDRSS to White Sands	13415.9 MHz to 13640.9 MHz and 13815.9 MHz to 14040.9 MHz
Uplink from White Sands to TDRSS	14623.464 MHz to 14626.536 MHz and 15198.464 MHz to 15201.536 MHz
Downlink from TDRSS to Ships	13773.464 MHz to 13776.536 MHz

D. Conclusions

20. For the reasons discussed above, we grant SDI a license to operate four TDRSS satellites, located at 41° W.L., 47° W.L., 171° W.L., and 174° W.L., on a time-share basis, in accordance with the technical specifications in its applications and subject to additional conditions. We also find that SDI has shown good cause for a waiver of the Commission's financial qualification requirement. Furthermore, because SDI will be licensed to operate the four TDRSS space stations in the frequency bands listed in listed Table 1, SDI will be responsible for ensuring that those operations are consistent with all applicable Commission and NTIA rules. We will look to SDI in the event that there is a claim of harmful interference during the times SDI operates any TDRSS satellite. SDI may be subject to forfeiture liability if we determine that a TDRSS satellite has not been operated consistently with the Commission's rules during SDI's operations.

⁴³ SDI Application at 4.

⁴⁴ *August 29 Letter* at 1-2.

⁴⁵ 47 C.F.R. § 2.102(c).

⁴⁶ 47 C.F.R. § 2.102(c)(3).

⁴⁷ We also included many of these conditions in SDI's STA. *August 29 Letter* at 1-2. We have revised some of these conditions slightly to address concerns raised by NTIA. *See Hatch Letter*.

21. The SDI operations will be conducted under unique circumstances in U.S. Government frequency bands that support essential U.S. Government operations. Therefore, NTIA has stated that it would oppose any modification to the National Table of Frequency Allocations in these frequency bands to support these types of operations.⁴⁸

IV. ORDERING CLAUSES

22. Accordingly, IT IS ORDERED, pursuant to Sections 303(c) and 309 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 303(c), 309, that Application File No. SAT-A/O-20001117-00160 IS GRANTED, and SpaceData International, LLC IS AUTHORIZED to operate four Tracking and Data Relay Satellite System satellites, owned by the National Aeronautics and Space Administration, and located at 41° W.L., 47° W.L., 171° W.L., and 174° W.L., on a time-share basis.

23. IT IS FURTHER ORDERED that SpaceData International, LLC IS AUTHORIZED to use service uplinks and downlinks as specified in Table 1 of this Order, in accordance with the technical specifications set forth in its applications and consistent with the Commission's rules.

24. IT IS FURTHER ORDERED, pursuant to Section 1.3 of the Commission's rules, 47 C.F.R. § 1.3, that SpaceData International, LLC IS GRANTED a waiver of the financial qualification requirement in Section 25.140(c) of the Commission's rules, 47 C.F.R. § 25.140(c).

25. IT IS FURTHER ORDERED, pursuant to Section 1.3 of the Commission's rules, 47 C.F.R. § 1.3, that SpaceData International, LLC IS GRANTED a waiver of the Table of Frequency Allocations in Section 2.106 of the Commission's rules, 47 C.F.R. § 2.106.

26. IT IS FURTHER ORDERED, that SpaceData International, LLC's authorization is subject to the following conditions:

- (a) SDI will not have an exclusive or first-priority right to operate TDRSS; rather, SDI will operate TDRSS only on a time-share basis and subject to the rights of authorized U.S. Government users. No operation by SDI of TDRSS may interfere with any authorized U.S. Government use of TDRSS, and any SDI operation of TDRSS may be preempted at any time for authorized U.S. Government uses.
- (b) SDI agrees to maintain a log recording (i) all times when SeismicStar transmits data via TDRSS, (ii) the location of each vessel during such transmission, (iii) the frequency band utilized, and (iv) the data rate. SDI agrees to file all such logs with the FCC semi-annually and acknowledges that the FCC will make such logs available to the general public.
- (c) SDI understands that this authority will be effective only as long as, and until, such time as any commercial satellite operator is able to demonstrate, to the Commission's satisfaction (after opportunity for comment by SDI and the public), that such commercial operator is able to provide an alternative to TDRSS that meets SDI's needs at that time.
- (d) SDI agrees to comply with the contract that it enters into with NASA's TDRSS facility contractors who operate these facilities under the authority of the Consolidated Space Operations Contract that it has with NASA.

⁴⁸

Hatch Letter at 1.

- (e) Based on non-conformance with the U.S. Table of Frequency Allocations, the operations will be on an unprotected, non-harmful interference basis to all present and future U.S. Government stations.⁴⁹
- (f) The NASA TDRSS satellites communicating with ship earth stations are limited to the 41° W.L., 47° W.L., 171° W.L., and 174° W.L. orbital locations.
- (g) The TDRSS satellites transmitting to or receiving from ship earth stations are limited to communicating with ship earth stations that are located at least 100 km from any coastline.
- (h) Before any vessel is equipped to operate with TDRSS, the following information pertaining to each vessel shall be submitted to NASA Goddard Space Flight Center, Mission Services Program Office, Code 450, Attn: Mr. Roger Flaherty:
- registering administration, and
 - name of vessel.
- Authorization from U.S. Government Agencies for SDI to operate TDRSS with that vessel, including possible issues that are not related to spectrum, will be required and NASA will be responsible for obtaining this authorization. SDI will not be permitted to operate TDRSS to communicate with that vessel until SDI receives a notification of such authorization from NASA.
- (i) This authorization will expire ten years after the release date of this Order, or when a commercial operator is able to provide an alternative to TDRSS that meets SDI's needs at that time, whichever comes first.
- (j) The SDI operations must comply with the technical requirements NTIA has placed on the NASA TDRSS operations.
- (k) SDI's use of the TDRSS satellites is limited to communicating only with ship earth stations that (i) will not be capable of transmitting unless they are communicating with a TDRSS space station, and (ii) will constantly monitor the carrier lock on the TDRSS transmit signal, and if for any reason this signal is lost, the SDI shipboard earth station transmitter will automatically be shut down instantaneously.

27. IT IS FURTHER ORDERED that the application for Special Temporary Authority filed by SpaceData International, LLC, on February 21, 2001, is DISMISSED AS MOOT.

28. IT IS FURTHER ORDERED that SpaceData International, LLC, is afforded 30 days from the date of release of this Order to decline any authorization granted in this Order as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.

⁴⁹ For the purposes of this Order and Authorization, the term "harmful interference" means any interference to a Government station that endangers the functioning of a radionavigation service or of other safety services or degrades, obstructs, or interrupts a Government radiocommunication service.

29. This Order is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon release. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within 30 days of the date of the release of this Order. (*See* 47 C.F.R. § 1.4(b)(2).)

FEDERAL COMMUNICATIONS COMMISSION

Donald Abelson
Chief, International Bureau