Exhibit A
Hughes Network Systems,
Licensee Subsidiary, LLC
Call Sign E000166
Modification of License Application
July 2006

Description of Application

Hughes Network Systems License Subsidiary, Limited Liability Corporation ("Hughes") hereby requests a modification to the earth station license of E000166 in the following respects:[1]

A. Minor changes/corrections to the current authorization

   1. Removal of obsolete information

   2. Deletion of antennas no longer in use

   3. Correction/updating of information in license

   4. Improvement in consistency of license information

B. Increase of the power density on certain small antennas

C. Addition of new emission codes

D. Addition of New 74 CM Remote Antennas that Fall Under the Coordination Envelope of Hughes' Authorized TR 74-2 CM and TFTR 74-2 CM remote antennas

E. Addition of new Point of Communication

F. Change in operating conditions for Horizons-1 satellite

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[1] Hughes attempted to provide FCC Form 312, Schedule B information for all of its antenna types (hub and remote) in order to add the new point of communication ("POC") discussed in Section E, and to add a remote control point as per Section I. Unfortunately, due to the number of antennas involved and the quantum of information the form requires to be input in order to add a few new pieces of data, Hughes has been unsuccessful in its extended effort to supply the POC and remote control point additions for the large number of involved antennas on the FCC Form 312, Schedule B in electronic form. Pursuant to discussions with Commission staff, Hughes requests that the narrative requests for addition of Satmex-6 as a POC to all authorized antennas (Section E of this Exhibit A) and the addition of the Hughes North Las Vegas, NV facility (Call Sign E940460) to all of the authorized remote antennas (Section I of this Exhibit A) substitute for the electronic filing that Hughes has been unable to complete. Hughes emphasizes that where POC and/or remote control point information is being specified for the new antenna or in conjunction with a requested additional modification to an existing antenna, Hughes does provide the information on Schedule B in conjunction with the other information being supplied.

G. Alignment of conditions applicable to the installation of remote antennas

H. Removal of Condition 5011

I. Addition of Remote Control Point to all remote antennas

A. Minor Changes/Corrections to the Current Authorization

Hughes requests the following minor changes and corrections to its current authorization (Call Sign E000166, File No. SES-MFS-20050721-00951):

1. The deletion of a number of emission codes in Section B of its authorization as these emission codes are no longer being used. The entries on the following lines of Section B, Particulars of Operation, should be deleted in their entirety: 75, 76, 77, 78, 79, 80, 85, 86, 87, 88, 89, 93, 96, 100, 101, 102, 111, 112, 128, 129, 130, 131, 140, 141, 142, 143, 144, 153, 154, 155, 156, 157, 166, 167, 168, 169, 170, 183, 184, 185, 186, 187, 188, 193 in Section B of the authorization.

2. The deletion of all information pertaining to the three remote antennas identified as "Rx-only 0.66m", "Rx-only-0.74M" and "TR 75 cm" from Section A of the authorization – entries 13, 14, and 24 respectively – as these antenna types are no longer being used by Hughes. As a consequence of these changes:

   a. Lines 8, 29, 42, and 43 should be deleted in their entirety from Section C of the authorization;

   b. Lines 16, 69, and 94 should be deleted in their entirety from Section D of the authorization;

   c. The entries for "Rx-only-0.6 RO/0.66," "Rx-only-0.7 RO74," and "TR 75 CM" should be deleted in their entirety from Section E of the authorization;

d. The entry for "TR 75 CM" should be deleted in its entirety from Section F of the authorization; and

e. Waivers of Section 25.134(a) of the Commission's Rules recorded in elements 1) and 3) of Condition 5794 in Section H of the authorization are no longer required, and this information should be deleted from the referenced condition.

3. That the erroneous value 201 dBW/4 kHz be corrected to 21.1 dBW/4kHz in line 139 of Section B of the authorization.

4. That all references to the term "QPSK" in Section B of the authorization be corrected, as a matter of precision, to refer instead to "OQPSK."

5. That the TX EIRP and TX EIRP density values of 0.0 in lines 20, 116, 197 and 205 of Section B of the authorization be removed, as these emission codes are intended for reception.

6. That for the sake of consistency with the remainder of the license, the Section A Site ID "Tx & Rx 0.74M" (entry 27) be changed to "TR 74CM". As a consequence of this change:

a. The reference to "Tx & Rx- 0.74M" in lines 4 through 15, inclusive, in Section D of the authorization should also be corrected to read "TR 74CM.

b. The same reference change should be made in the penultimate entry in Section E of the authorization;

c. The same reference change should be made in the final entry in Section F of the authorization.

7. That in Section E of the authorization, the values for the "TR 98 CM" entry should consist of a receive gain of 39.9 dBi at 11.95 GHz, 41.3 dBi at 14.25 GHz, a flange power of 2 Watts, and a aggregate EIRP of 44.3 dBW. The values were correctly entered for the transportable version of the identical antenna (TF TR 98 CM) but not for this antenna. The authorization currently contains incorrect gain, power, and EIRP entries Section E for the TR 98 CM antenna.

8. In line 135 of Section B, the upper limit of the referenced frequency band should be corrected to read "12200.0000" rather than "11200.0000."

9. There is a duplicate entry in Section A. Line 26 is a repeat of the information in Line 25, and should be deleted.

For the convenience of the Commission, Hughes has included, as Attachment 1 to this Exhibit A, a scanned copy of the current authorization that shows the deletions and corrections requested above.

B. Increase of the Power Density on Certain Small Antennas

Hughes requests the authority to increase the transmitted power density on certain small antennas from -17 dBW/4kHz to -14 dBW/4kHz for the emission code identified as 200KG7D. [2] The antennas to which this request applies are identified as:

a. TR 74-2 CM,

b. TF TR 74-2 CM,

c. TFTR 74 CM and

d. TR 74 CM.

[2] This request applies to all but one of the twelve satellites (Galaxy-4R, Horizons-1, Satmex-5, AMC-3, AMC-4, AMC-6, AMC-9, Galaxy-3C, Galaxy XI, Galaxy-10R, Intelsat Americas-5, and Intelsat Americas-8) upon which Hughes operates. As Hughes is only authorized to operate a maximum uplink power density at the antenna flange is limited to -17 dBW/4kHz on Satmex-5, this request does not apply to this satellite.

Grant of this request would allow Hughes to make use of the full power of the power amplifier for all emission codes, which is currently not possible for the narrowest emission code.

While the referenced antennas do not comply with 25.209 of the Commissions rules, coordination letters have been previously submitted to the FCC which allow Hughes to operate the antennas at -14 dBW/4 kHz. Hughes provides as Attachment 2 to this Modification Application supplemental letters from SES Americom, PanAmSat, Horizons, and Intelsat that include the statements required by Sections 25.220(d)(1) and (e)(1) of the Commission's rules. Hughes emphasizes, through this request, that it does not seek to increase the overall transmitted EIRP. As a result, grant of this request would not result in an increase in the radiation hazard. Hughes seeks specific modifications to Section B of its authorization in the following manner:

a. In line 95, change the EIRP to 42 dBW and the EIRP density to 25 dBW/4kHz.

b. In line 117, change the EIRP to 41.7 dBW and the EIRP density to 24.7 dBW/4kHz.

c. In line 175, change the EIRP to 41.7 dBW and the EIRP density to 24.7 dBW/4kHz.

d. In line 189, change the EIRP to 42 dBW and the EIRP density to 25 dBW/4kHz.

C. Addition of New Emission Codes

Hughes requests authority to increase the bandwidth from 400 kHz to 1.6 MHz for remote terminals having antennas identified as TR 1.0M. Specifically, Hughes requests authority to add 800KG7D and 1M60G7D as emission codes for the TR 1.0M antenna. Since no additional power will be transmitted, the use of a wider bandwidth will actually reduce the possibility of interference to adjacent satellites by reducing the EIRP density for these emission codes. The additional emission characteristics of the TR 1.0M antenna are reflected in Schedule B of the FCC Form 312 Modification Application to which this exhibit is attached.

D. Addition of New 74 CM Remote Antennas That Fall Under the Coordination Envelope of Hughes' Authorized TR 74-2 CM and TFTR 74-2 CM Antennas

Hughes currently has authorization to deploy two types of 74 centimeter antennas – one manufactured by Prodelin (the TR 74 CM and TFTR 74 CM antennas) and one manufactured by Raven (the TR 74-2 CM and TFTR 74-2 CM antennas). Both antennas are non-compliant with 25.209 of the Commission's Rules, but have been fully coordinated with adjacent satellites in the manner contemplated by the FCC's Rules. *See also* Section B above and Attachment 2 to this exhibit.

In this Modification Application, Hughes seeks authority to add a third 74 centimeter antenna (and the second such antenna manufactured by Prodelin) to its license. When the Raven TR 74-2 CM and TFTR 74-2 CM antennas were added to the Hughes license in 2005, the characteristics of the antennas were sufficiently different from the original Prodelin TR/TFTR 74 CM antennas that new coordination letters from potentially affected satellite operators were required from Hughes. The new Prodelin antenna that Hughes proposes to add to its license now are completely within the electrical performance envelope of the authorized TR 74-2 CM and TFTR 74-2 CM antennas, as per the antenna patterns in Exhibit B to Hughes's most recent application for authority to modify the license for Call Sign E000166 (*see* File No. SES-MFS-20050721-00951). In other words, although the new Prodelin 74 CM antenna remains non-compliant with 25.209, it is no more non-compliant than the Raven antenna that was authorized by the Commission last year. This means that the coordination letters that Hughes supplied in connection with the July 2005 modification of license application encompass the new Prodelin 74 centimeter fixed and temporary fixed antennas, and that no new letters are required. Hughes hereby incorporates by reference the letters it submitted in Exhibit E of its July 2005 modification of license application. The antenna gain pattern attached to this Modification

Application as Exhibit B illustrates that the performance of the subject Prodelin antenna complies with the Commission's two-degree spacing policy.

As the new Prodelin product is electrically identical to the antenna the Commission authorized Hughes to deploy just nine months ago, Hughes requests that the modified antenna be included under the TR 74-2 CM and TFTR 74-2 CM antennas on the E000166 license without the need for new coordination letters. Requiring Hughes to secure new coordination letters for something already covered by the coordination agreements would impose a substantial burden on both Hughes and the satellite operators, without returning any tangible benefit in terms of interference protection. In support of this request, Hughes emphasizes that the new Prodelin 74 CM antenna would be used in the same way and possesses the same emission codes as the present TR 74-2 CM and TFTR 74-2 CM antennas.

Finally, Hughes states that a radiation hazard analysis was done for the new Prodelin 74 cm antenna and 2 Watts of power applied at the flange, using the methodology from OET Bulletin 65. The results of this analysis, which can be seen in Exhibit C to this modification application, show that the maximum permissible exposure limit (MPE) for protection of the general public of 1 mW/cm^2 is met both in the near field, transition region, far field and in the region between the reflector and the ground.

However, as is typical for all satellite antennas, the value of 1 mW/cm^2 is exceeded both near the reflector surface, as well as in the volume of space between the feed horn and the reflector. These regions are not usually accessible to the general public because the units are typically installed on rooftops.

The only change needed to the license comes in Section E of the authorization. There, the new Prodelin 74 cm Series 1741 should be added to the Raven model number HNS-1035610

antenna that is now listed under both the TR 74-2 CM and TFTR 74-2 CM entries in that section.[3]

E. Add New Point of Communications

Hughes requests authority to add Satmex-6 to the list of satellites to which its non-compliant antennas is authorized to communicate. While Satmex-6 is not yet on the FCC's list of permitted satellites, Satmex has submitted an application to include Satmex-6 on this list.[4] It is the understanding of Hughes that Satmex-6 was to have become available for commercial service as of 1 July 2006.

Hughes requests through this application the authority to communicate with Satmex-6 using non-compliant antennas. Permission has been obtained from Satmex (see Attachment 3 to this exhibit[5]) to operate the non-compliant antennas identified in this license as:

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[3] If the FCC prefers that the new Prodelin antenna be identified separately, Hughes requests that it be identified as TR 74-3CM for the fixed terminals and TFTR 74-3CM for the transportable fixed terminals. To avoid having to make consequential changes to list the new antennas throughout the E000166 license and its various sections, Hughes suggests that the Commission add a new Special Condition to the authorization that reads as follows:

> All references in Sections B, C, D, and E of this license to the TR 74-2 CM antenna shall, unless otherwise specified, pertain as well to the TR 74-3 CM antenna described in Section A. Similarly, all references in Sections B, C, D, and E of this license to the TFTR 74-3 CM antennas shall, unless otherwise specified, pertain as well to the TR 74-3 CM antenna described in Section A.

Such a condition would allow the license to reflect the fact that the TR/TFTR 74-2 CM and TR/TFTR 74-3 CM antennas are electronically identical, and minimize the number of changes and additions that would need to be made to the already substantial license under Call Sign E000166.

[4] SAT-PPL-20060329-00030 (filed March 29, 2006). The request was accepted for filing on June 23, 2006 (*see* Public Notice Report No. SAT-00371, released June 23, 2006), and remains pending.

[5] Hughes represents that a coordination agreement has been reached in principle with the operator of Satmex-6, and that as of this date, a joint Hughes/Satmex-6 coordination letter is being prepared. Hughes intends to supply that letter to the Commission promptly upon its receipt, but does not want to delay the commencement of the processing of this substantial Modification Application any longer while awaiting the final letter. To the extent that the Commission would consider the instant request for approval of the operation of non-compliant antennas with Satmex-6 to be unacceptable for filing until such a letter is submitted, Hughes requests that the Commission disregard this element of the Modification Application if such a step is necessary to achieve the placement of the balance of the instant Modification Application on public notice as accepted for filing. At a minimum, Hughes understands and accepts that any favorable consideration of the request to use non-compliant antennas with Satmex-6 is contingent at a minimum upon submission of the agreement between Hughes and the operator of Satmex-6.

TR 74 CM

TF TR 74 CM

TR 74-2 CM[6]

TF TR 74-2 CM[5]

TR 98 CM

TF TR 98 CM

Hughes requests a waiver of Section 25.134(a)(1) of the Commission's Rules in order to be authorized to exceed the maximum permitted downlink EIRP level of +10 dBW/4 kHz by up to 3 dB. In support of this request, Hughes emphasizes that the higher power level will not be inconsistent with the intent of the rule to protect adjacent satellite operators, as downlink operation at the +13 dBW/4 kHz EIRP density level has been coordinated with the relevant satellite operators.

As reported above, Hughes is seeking to add Satmex-6 as a point of communication for all authorized and proposed antennas under this license. For those antennas for which Schedule B information is not independently supplied, Hughes is not supplying Schedule B information on the point of communication request for the reasons provided in Note 1 to this Exhibit A.

As a final note, Hughes recognizes that the Commission may be in a position to act on this modification of license application before it is in a position to act upon the pending request to have Satmex-6 added to the Permitted Space Station List. In such a situation, Hughes is prepared to have the Commission act upon those portions of its application that are ripe for action, and defer action as necessary on this request to have Satmex-6 added to the underlying license as a point of communication.

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[6] This would include the new Prodelin 74 centimeter antennas discussed in Section D above, regardless of whether they are designated TR/TFTR 74-2 CM or TR/TFTR 74-3 CM.

F. Hughes Operation on Horizons-1

On July 21, 2005, Hughes submitted a request to access Horizons-1 with its non-compliant antennas. This request was granted but with "Special and General Provisions" 2635 and 2636 being imposed for operation on Horizons 1. These conditions impose bandwidth and power limitations based on the Commission's grant of authority to PanAmSat.

Hughes understands that the conditions imposed on PanAmSat have recently been modified following discussions between PanAmSat and the FCC. As a result, Hughes once again requests permission to operate at an EIRP density level of +13 dBW/4kHz as it has been authorized to do in its coordination letter from PanAmSat.[7]

G. Alignment of Conditions Applicable to the Installation of Remote Antennas

All Hughes VSAT remote terminals that operate under call sign E000166 are installed by trained professionals that are remunerated for this task as required in Condition 3220 of Section H of Hughes' authorization. The penultimate sentence of this condition requires that "Only technically trained professionals shall install the antennas."[8] While this provision of Condition

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[7] *See* Letter dated May 27, 2005, from Horizon Satellite LLC. Hughes initially submitted this letter as part of an exhibit to its July 2005 modification of license application for the instant facility. *See* File No. SES-MFS-20050721-00951 at Exhibit E. A copy of the Horizon Satellite letter permitting Hughes operation at a maximum forward downlink satellite EIRP denisity equal to or less than +13 dBW/4 kHz is reproduced as Attachment 4 to this exhibit.

[8] Condition 3220 reads in its entirety as follows:

> Licensee shall ensure that the antenna does not create the potential for exposure of persons who may be within the immediate vicinity to radiofrequency radiation in excess of FCC safety guidelines defined in 47 C.F.R. Section 1.1207(b)(1) and 1.1310. Licensee shall take precautions to ensure compliance with FCC guidelines for exposure to RF radiation. This will include use of a warning label on the transmitting antennas, and a radome or an automatic shut off system. Only technically trained professionals shall install the antennas. These installers shall place the antennas only at locations that are not readily accessible to the general public.

3220 is acceptable for most installations, it poses an onerous constraint for some Hughes customers who need to frequently relocate their terminals.[9]

VSAT terminal users do not routinely install satellite antennas as part of their employment. Therefore, they may not qualify as "technically trained professionals" and thus could be prohibited by the last sentence of Condition 3220 from installing their own antennas once they move to a new location. Their options are thus to either buy an expensive, self-pointing antenna system or to request a professional installation at each new location. Even if the technical personnel of the customer, many of whom are practically qualified to set up and maintain their employers' terminals, were to be trained and examined to the same standard as a professional installer, they could still fail to meet the "professional" requirement imposed in Condition 3220 (and repeated in Condition 5867).

As recently as only one year ago, the Commission had the opportunity to establish a rule that all VSAT remote earth stations installations be handled exclusively by "professional" installers.[10] The Commission, however, declined to adopt such a broad requirement noting the lack of an adequate basis to impose a professional installation requirement on all blanket earth station licenses or even on antennas of a certain size, concluding instead that it would impose such a requirement only where warranted and on a case-by-case basis.[11] It would thus appear that the FCC has and uses discretion to determine whether a case requires the imposition of the penultimate sentence of Condition 3220 and in Condition 5867.

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[9] Hughes's license also contains Condition 5867, which, in complete overlap with the sentence quoted above from Condition 3220, specifies in its entirety that "Only technically trained professionals shall install the antennas."

[10] *2000 Biennial Regulatory Review Streamlining and Other Revisions of Part 25 of the Commission's Rules Governing the Licensing of, and Spectrum Usage by, Satellite Network Earth Stations and Space Stations*, 20 FCC Rcd 5593, 5608 (2005) ("*Part 25 Streamlining Order*").

[11] *Id.*

Hughes observes, in this connection, that its license for a VSAT network comprised of multiple hub and remote stations that operates out of North Las Vegas, Nevada (Call Sign E940460), and which performs many of the same functions for Hughes customers that the facilities operated under the instant Germantown, Maryland authorization perform, does not contain either Condition 3220 or Condition 5867.[12] This is not to say that the North Las Vegas license is deficient or lacking in any way with respect to protection of the public from the deleterious effects of radiofrequency radiation. Instead, Hughes' license under Call Sign E940460 addresses the issue thoroughly and directly through Condition 5208 to that authorization. Condition 5208 reads as follows:

> 5208 --- The licensee shall take all necessary measures to ensure that the antenna does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.

Replacing Conditions 3220 and 5867 from Hughes' Call Sign E000166 license with Condition 5208 from Hughes' Call Sign 940460 license would be consistent with the public interest on several levels, and an appropriate exercise of the Commission's discretion under the *Part 25 Streamlining Order*. First of all, the intent of Conditions 3220 and 5867 would not be undermined by the replacement of the condition with Condition 5208. The conditions are designed to ensure that the operation of the authorized antennas does not create the potential for

[12] *See* File No. SES-MFS-20050721-00952, Call Sign E940460.

exposure of persons who may be within the immediate vicinity of the antennas to radiofrequency radiation in excess of levels established in the Commission's rules.

In addition, there is a compelling interest on Hughes' part in having the two authorizations aligned in this significant respect. In the absence of alignment, there is confusion, as the two authorizations include a number of overlapping transportable fixed transmit/receive terminal types. In this last respect, it would be an appropriate exercise of the Commission's discretion to align the authorizations by replacing Conditions 3220 and 5867 with Condition 5208 on the Call Sign E000166 license, rather than by replacing Condition 5208 with Condition 3220 (and/or Condition 5867) on the Call Sign E940460 license. There are several major VSAT network authorizations that include transportable fixed terminals that are subject to Condition 5208 but are not subject to Condition 3220/Condition 5867.[13] The alignment requested by Hughes here is not just within Hughes, but is more broadly extended to other elements within the Ku-band VSAT industry.[14]

Third, there is the fact that Hughes already employs safety measures to control exposure to the electromagnetic field of its "consumer" antennas. These safety measures reduce the possibility that human exposure to the electromagnetic field created by these antennas will

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[13] *See, e.g.,* Call Sign E050033, WB Holdings 1 LLC (0.7m remotes subject to Condition 5208, but not Condition 3220); Call Sign E980084 , VIASAT, Inc. (1.2 m remotes s ubject to Condition 5208, but not Condition 3220).

[14] In the event that the Commission determines that Condition 3220 should remain associated with the Call Sign E000166 license, it would not undermine the intent of Condition 3220 to permit Hughes to operate under an amended Condition 3220 that allows the installation of antennas by "technically trained" albeit not "professional" individuals. Hughes therefore contingently requests, for its remotes under Call Sign E000166 at a minimum, the Commission revise the penultimate sentence of Condition 3220 to read as follows: "Only technically trained persons ~~professionals~~ shall install the antennas." Such a change would cause no loss in protection from radiofrequency radiation. This change, however, would be particularly welcome in such situations as the case of emergency relief organizations that are frequently called upon to move on short notice to areas where professional installers are simply not available. Installations, and the attendant protections, could be handled by technically trained persons competent to ensure proper installation. More routine examples of beneficiaries of the change include owners of recreational vehicles and mobile homes, who frequently change locations and require a new installation of their antenna each time they move. These individuals could be trained, through a variety of effective means, on how to properly install antennas to ensure compliance with the other portions of Condition 3220.

exceed the level specified in the Commission's rules for general population exposure. Among the measures utilized are a demodulator interlock shut down (which shuts down the system in the event that human exposure causes the receiver to lose lock), and the conspicuous placement of durable warning labels on the antennas (which labels are anticipated to last for the anticipated life span of the antenna systems).[15] Finally, Hughes notes that its license for Call Sign E000166 requires Hughes to operate terminals so as to avoid the risk of radiation hazard to persons and consistent with FCC OET Bulletin 65 (Conditions 3415 and 3420 to its license for Call Sign E000166). This request in no way seeks to modify these requirements and Hughes hereby reiterates that it will continue to operate VSAT remotes licensed under Call Sign E000166 in full conformity with these requirements of its license.

In short, a decision to replace Conditions 3220 and 5867 from Hughes' license under Call Sign E000166 with Condition 5208 from Hughes' license under Call Sign E940460 would be in the public interest. There would be no diminution in protection of operators or the public from potentially harmful radiofrequency radiation, pointing errors would continue to be minimized (thereby not increasing the prospect of interference to operators and users of adjacent satellites), and the flexibility and desirability of the service Hughes offers its customers would be enhanced. The condition should be reformed in the manner requested here.

In this case too, Hughes recognizes that the Commission may be in a position to act on some or all of the remaining elements of this modification of license application before it is in a position to resolve policy questions regarding the installation of earth terminals by technically trained persons. In such a case, Hughes is prepared to have the Commission act upon those

[15] Further detail on these measures can be found in a letter on the subject of safety measures to control exposure to the electromagnetic field of DirecPC antennas that Hughes included in the file of an earlier modification of license application associated with Call Sign E000166. See File No. SES-MOD-20000921-01777 (Dec. 6, 2000 letter).

portions of its application that are ripe for action, and defer action as necessary on this request to have Conditions 3220 and 5867 replaced with Condition 5208 in the manner suggested above. We note that this request has an element of urgency given that emergency responders will be some of the most important beneficiaries of this modification and hurricane season in the United States has recently commenced.

H. Removal of Condition 5011

Hughes requests the removal of Condition 5011 which requires that the FCC be provided with a frequency plan of Hughes' carriers within 7 days of a change. As Hughes currently rents over 85 satellite transponders, changes to the frequency plan of the Hughes carriers take place on a very frequent basis, even dynamically, as managed through the Hughes Network Operations Center. Providing the FCC with a current frequency plan of all its carriers would prove an onerous task both for Hughes as well as a substantial record-keeping and records management task for the FCC. To the extent that the obligation is associated with a Commission desire to ensure the ability to respond quickly in the event of interference issues with adjacent satellite operators to the ones with which Hughes's earth stations communicate, Hughes submits that any problems in this area are rapidly and effectively addressed between affected operators, who have a high incentive to ensure such resolutions of difficulties. For this reason, Hughes requests that the FCC remove Condition 5011 from its license.

I. Addition of Remote Control Point to Remote Antennas

At present, Hughes has two major earth stations that it uses to control remotes deployed through its network. These consist of the Germantown facility (FCC Call Sign E000166) that is the subject of the instant Modification Application, and the North Las Vegas hub stations which operate under FCC Call Sign E940460. Hughes requests that the Hughes North Las Vegas earth

station (Call Sign E940640) be added as a remote control point for all of the remote antenna types authorized and requested for inclusion on its Call Sign E000166 license. This addition will facilitate continuity of Hughes control in the event of any expected events. In the event of a natural disaster or major anomaly at the Germantown hub, control of the stations would be transferred to North Las Vegas. Having the North Las Vegas hub listed as a secondary control point would allow for a seamless transfer of control from Germantown to North Las Vegas should the need ever arise.

For the reasons provided in Note 1 to this Exhibit A, for those remote antennas for which Schedule B information is not independently supplied, Hughes is not supplying Schedule B information on the addition of the North Las Vegas hub as a remote control point.

ATTACHMENT 1

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Attachment 1

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

Nature of Service: Domestic Fixed Satellite Service

Nature of Service: Fixed Satellite Service

Nature of Service: International Fixed Satellite Service

Class of Station: VSAT Network

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
1)	HUB-A	7.6M. (HUB) 11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°10'49.0"N	77°14'47.0"W	141.4	83	
2)	HUB-B	7.6M (HUB) 11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°10'46.0"N	77°14'41.0"W	129.9	83	
3)	HUB-C 7.6M	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°10'43.0"N	77°14'51.0"W	155.4	83	
4)	HUB-D 7.6M	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°10'42.0"N	77°14'53.0"W	155.5	83	
5)	HUB-E 6.1M	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°10'46.0"N	77°14'49.0"W	135.8	27	
6)	HUB-F 5.6M	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°10'46.0"N	77°14'54.0"W	143.3	83	

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
7)	HUB-G 4.6M	10450 PACIFIC CENTER COURT SAN DIEGO, SAN DIEGO, CA 92121	32°54'31.0"N	117°11'26.0"W	97.2	83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
8)	MESH 1.2M	CONUS, AK, HI, PR, VI (5,000 1.2M UNITS)				83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
9)	MESH 1.8M	CONUS, AK, HI, PR, VI (5,000 1.8M UNITS)				83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
10)	MESH 2.4M	CONUS, AK, HI, PR, VI (5,000 2.4M UNITS)				83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
11)	MESH 3.5M	11717 EXPLORATION LANE (5,000 3.5M UNITS) CONUS, AK, HI, VI, P,				83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
12)	R1.2M	VSAT 1.2M (10 UNITS) CONUS, AK, HI, PR, VI				83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
~~13)~~	~~Rx only 0.66M~~	~~VSAT 0.66M (49 x 89 cm)~~ (1,500,000 UNITS) ~~Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.~~				~~83~~	DELETE

FCC Form 488

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
~~14)~~	~~Rx only 0.74M~~	~~VSAT 0.74M (98 x 56 cm)~~				~~83~~	
		(1,000,000 UNITS) DELETE					
		~~CONUS, AK, HI, PR, VI~~					
		~~Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.~~					
15)	TF TR 1.2M	CONUS, AK, HI, PR, VI 1.2 M (50,000 UNITS)				83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
16)	TF TR 74CM	VSAT 0.74M (98 x 56 cm) temporary-fixed (60,200 UNITS)				83	
		CONUS, AK, HI, PR, VI Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
17)	TF TR 98CM	VSAT 0.98M temporary-fixed (54,000 UNITS) CONUS, AK, HI, PR,VI, Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				83	
18)	TFTR 74-2CM	CONUS, AK, HI, VI, PR 50,000 (.74 METER ANTENNAS)				83	
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
19)	TR 1.0M	VSAT 1.0M (135 cm x 58 cm) (100,000 UNITS) CONUS, AK,HI,VI,PR, Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				83	
20)	TR 1.2M	VSAT 1.2M (100,000 UNITS) CONUS, AK, HI, VI, PR				83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					

UNITED STATES OF AMERICA
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Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
21)	TR 1.8M	VSAT 1.8M (50,000 UNITS) CONUS, AK, HI, VI, PR				83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
22)	TR 2.4M	VSAT 2.4M (11,000 units) CONUS, AK, HI, VI, P,				83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
23)	TR 74-2 CM	CONUS, AK, HI, VI, PR 500,000 (.74 METER ANTENNAS)				83	
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
~~24)~~	~~TR 75 CM~~	~~CONUS, AK, HI, PR, VI~~ (10,000 .75CM UNITS)				~~83~~	
		DELETE ~~Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.~~					
25)	TR 98CM	VSAT 0.98M (60,000 UNITS) CONUS, AK, HI, PR,VI, Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				83	
~~26)~~	~~TR 98CM~~	~~CONUS, AK, HI, VI, PR~~ 60,000 (.98 METER ANTENNAS)				~~83~~	
		DELETE ~~Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.~~					
27)	~~Tx & Rx 0.74M~~ TR 74CM	VSAT 0.74M (98 x 56 cm) (350,000 UNITS) Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				83	

FCC Form 488

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

Subject to the provisions of the Communications Act of 1934, The Communications Satellite Act of 1962, subsequent acts and treaties, and all present and future regulations made by this Commission, and further subject to the conditions and requirements set forth in this license, the grantee is authorized to construct, use and operate the radio facilities described below for radio communications for the term beginning September 13, 2000 (3 AM Eastern Standard Time) and ending September 13, 2010 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is 00/00/0000. Grantee must file with the Commission a certification upon completion of construction and commencement o operation.

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
1)	14000.0000-14500.0000	H,V	400KG7D	Tx	47.90	27.90	HubA7.6M		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
2)	14000.0000-14500.0000	H,V	1M60G7D	Tx	53.90	27.90	HubA7.6M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
3)	14000.0000-14500.0000	H,V	24M0G7D	Tx	78.00	40.20	HubA7.6M		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
4)	14000.0000-14500.0000	H,V	36M0G7D	Tx	78.00	38.50	HubA7.6M		QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
5)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubA7.6M		QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
6)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubA7.6M		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
7)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubA7.6M		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
8)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubA7.6M		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
9)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubA7.6M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
10)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubA7.6M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
11)	14000.0000-14500.0000	H,V	400KG7D	Tx	47.90	27.90	HubB7.6		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
12)	14000.0000-14500.0000	H,V	1M60G7D	Tx	53.90	27.90	HubB7.6		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
13)	14000.0000-14500.0000	H,V	24M0G7D	Tx	78.00	40.20	HubB7.6		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
14)	14000.0000-14500.0000	H,V	36M0G7D	Tx	78.00	38.50	HubB7.6		QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
15)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubB7.6	O/1	QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
16)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubB7.6		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
17)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubB7.6		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
18)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubB7.6		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
19)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubB7.6		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
20)	11700.0000-12200.0000	H,V	200KG7D	Rx	~~0.00~~	~~0.00~~ 6	HubB7.6		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
21)	14000.0000-14500.0000	H,V	400KG7D	Tx	59.00	39.00	HubC 7.6M		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
22)	14000.0000-14500.0000	H,V	1M60G7D	Tx	65.00	39.00	HubC 7.6M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
23)	14000.0000-14500.0000	H,V	6M00G7D	Tx	70.80	39.00	HubC 7.6M	O/1	QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
24)	14000.0000-14500.0000	H,V	12M0G7D	Tx	73.80	39.00	HubC 7.6M	O/1	QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
25)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubC 7.6M	O/1	QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
26)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubC 7.6M		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
27)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubC 7.6M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
28)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubC 7.6M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
29)	14000.0000-14500.0000	H,V	400KG7D	Tx	59.00	39.00	HubD 7.6M		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
30)	14000.0000-14500.0000	H,V	1M60G7D	Tx	65.00	39.00	HubD 7.6M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
31)	14000.0000-14500.0000	H,V	6M00G7D	Tx	70.80	39.00	HubD 7.6M	O/1	QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

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Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
32)	14000.0000-14500.0000	H,V	12M0G7D	Tx	73.80	39.00	HubD 7.6M	0 1	QPSK, DATA, 1024 KSPS, MULTIMEDIA BROADCAST CARRIER
33)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubD 7.6M	0 1	QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
34)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubD 7.6M		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
35)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubD 7.6M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
36)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubD 7.6M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
37)	14000.0000-14500.0000	H,V	400KG7D	Tx	52.90	32.90	HubE 6.1M		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
38)	14000.0000-14500.0000	H,V	1M60G7D	Tx	58.90	32.90	HubE 6.1M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
39)	14000.0000-14500.0000	H,V	6M00G7D	Tx	67.70	35.90	HubE 6.1M	0 1	QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
40)	14000.0000-14500.0000	H,V	12M0G7D	Tx	70.70	35.90	HubE 6.1M	0 1	QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
41)	14000.0000-14500.0000	H,V	24M0G7D	Tx	79.70	41.90	HubE 6.1M	0 1	QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
42)	14000.0000-14500.0000	H,V	36M0G7D	Tx	97.70	40.20	HubE 6.1M	0 1	QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
43)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubE 6.1M		OQPSK, DATA, 128 KSPS, RETURN CARRIER
44)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubE 6.1M		OQPSK, DATA, 256 KSPS, RETURN CARRIER
45)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubE 6.1M	0 1	QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
46)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubE 6.1M		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
47)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubE 6.1M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
48)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubE 6.1M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER

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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
49)	14000.0000-14500.0000	H,V	400KG7D	Tx	52.90	32.90	HubF 5.6M		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
50)	14000.0000-14500.0000	H,V	1M60G7D	Tx	58.90	32.90	HubF 5.6M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
51)	14000.0000-14500.0000	H,V	6M00G7D	Tx	67.70	35.90	HubF 5.6M		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
52)	14000.0000-14500.0000	H,V	12M0G7D	Tx	70.70	35.90	HubF 5.6M		QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
53)	14000.0000-14500.0000	H,V	24M0G7D	Tx	77.70	39.90	HubF 5.6M		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
54)	14000.0000-14500.0000	H,V	36M0G7D	Tx	77.70	38.20	HubF 5.6M		QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
55)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubF 5.6M		OQPSK, DATA, 128 KSPS, RETURN CARRIER
56)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubF 5.6M		OQPSK, DATA, 256 KSPS, RETURN CARRIER
57)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubF 5.6M		QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
58)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubF 5.6M		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
59)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubF 5.6M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
60)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubF 5.6M		BPSK OR MSK, DATA, 522 KSPS, INROUTE CARRIER
61)	14000.0000-14500.0000	H,V	400KG7D	Tx	57.50	37.50	HubG 4.6M		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
62)	14000.0000-14500.0000	H,V	1M60G7D	Tx	57.50	31.50	HubG 4.6M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
63)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubG 4.6M		QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
64)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubG 4.6M		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
65)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubG 4.6M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER

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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
66)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubG 4.6M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
67)	14000.0000-14500.0000	H,V	156KG7D	Tx	45.00	29.10	MESH 1.2M		BPSK OR QPSK, DATA, MESH CARRIER
68)	11700.0000-12200.0000	H,V	156KG7D	Rx			MESH 1.2M		BPSK OR QPSK, DATA, MESH CARRIER
69)	14000.0000-14500.0000	H,V	156KG7D	Tx	48.60	32.70	MESH 1.8M		BPSK OR QPSK, DATA, MESH CARRIER
70)	11700.0000-12200.0000	H,V	156KG7D	Rx			MESH 1.8M		BPSK OR QPSK, DATA, MESH CARRIER
71)	14000.0000-14500.0000	H,V	307KG7D	Tx	53.70	34.80	MESH 2.4M		BPSK OR QPSK, DATA, MESH CARRIER
72)	11700.0000-12200.0000	H,V	307KG7D	Rx			MESH 2.4M		BPSK OR QPSK, DATA, MESH CARRIER
73)	14000.0000-14500.0000	H,V	2M46G7D	Tx	66.20	38.30	MESH 3.5M		BPSK OR QPSK, DATA, MESH CARRIER
74)	11700.0000-12200.0000	H,V	2M46G7D	Rx			MESH 3.5M		BPSK OR QPSK, DATA, MESH CARRIER
~~75)~~	~~11700.0000-12200.0000~~	~~H,V~~	~~24M0G7D~~	~~Rx~~			~~R1.2~~		~~QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER~~
76)	11700.0000-12200.0000	H,V	36M0G7D	Rx			R1.2		QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
77)	11700.0000-12200.0000	H,V	24M0G7D	Rx			RO/0.66M		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
78)	11700.0000-12200.0000	H,V	36M0G7D	Rx			RO/0.66M		QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
79)	11700.0000-12200.0000	H,V	24M0G7D	Rx			RO74		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
80)	11700.0000-12200.0000	H,V	36M0G7D	Rx			RO74		QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
81)	14000.0000-14500.0000	H,V	200KG7D	Tx	46.10	29.10	TF TR 1.2		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
82)	14000.0000-14500.0000	H,V	400KG7D	Tx	46.10	26.10	TF TR 1.2		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER

DELETE

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FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
83)	14000.0000-14500.0000	H,V	800KG7W	Tx	46.10	23.10	TF TR 1.2		OQPSK, DIGITAL, 512 KSPS, RETURN CARRIER
84)	14000.0000-14500.0000	H,V	1M60G7D	Tx	46.10	20.10	TF TR 1.2		OQPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
~~85)~~	~~14000.0000-14500.0000~~	~~H,V~~	~~200KG7D~~	~~Tx~~	~~46.10~~	~~29.10~~	~~TF TR 1.2~~		~~BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER~~
86)	14000.0000-14500.0000	H,V	400KG7D	Tx	46.10	26.10	TF TR 1.2		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
87)	14000.0000-14500.0000	H,V	800KG7D	Tx	46.10	23.10	TF TR 1.2		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
88)	11700.0000-12200.0000	H,V	~~400KG7D~~ DELETE	Rx			TF TR 1.2		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
89)	11700.0000-12200.0000	H,V	1M60G7D	Rx			TF TR 1.2		~~BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER~~
90)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TF TR 1.2	0 1	QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
91)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TF TR 1.2	0 1	QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
92)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TF TR 1.2	0 1	QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
~~93)~~	~~11700.0000-12200.0000~~	~~H,V~~	~~30M0G7D~~ DELETE	~~Rx~~			~~TF TR 1.2~~		~~QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER~~
94)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TF TR 1.2	0 1	QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
95)	14000.0000-14500.0000	H,V	200KG7D	Tx	39.00	22.00	TF TR 74		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
~~96)~~	~~14000.0000-14500.0000~~	~~H,V~~	~~400KG7D~~	~~Tx~~	~~39.00~~	~~19.00~~	~~TF TR 74~~		~~OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER~~ 6 6
97)	14000.0000-14500.0000	H,V	400KG7W	Tx	42.00	22.00	TF TR 74		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
98)	14000.0000-14500.0000	H,V	800KG7D	Tx	42.00	19.00	TF TR 74		OQPSK, DIGITAL, 512 KSPS, RETURN CARRIER
99)	14000.0000-14500.0000	H,V	1M60G7D	Tx	42.00	16.00	TF TR 74		OQPSK, DIGITAL, 1024 KSPS, RETURN CARRIER

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RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
~~100)~~	~~11700.0000-12200.0000~~	~~H,V~~	~~400KG7W~~	~~Rx~~			~~TF TR 74~~		~~OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER~~
101)	11700.0000-12200.0000	H,V	800KG7D	Rx			TF TR 74		OQPSK, DIGITAL, 512 KSPS, RETURN CARRIER
102)	11700.0000-12200.0000	H,V	1M60G7D	Rx			TF TR 74		OQPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
103)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TF TR 74		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
104)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TF TR 74		QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
105)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TF TR 74		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
106)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TF TR 74		QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
107)	14000.0000-14500.0000	H,V	800KG7D	Tx	44.30	21.30	TF TR 98		QPSK, DIGITAL, 512 KSPS, RETURN CARRIER
108)	14000.0000-14500.0000	H,V	1M60G7D	Tx	44.30	18.30	TF TR 98		QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
109)	14000.0000-14500.0000	H,V	200KG7D	Tx	44.30	27.30	TF TR 98		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
110)	14000.0000-14500.0000	H,V	400KG7D	Tx	44.30	24.30	TF TR 98		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
~~111)~~	~~11700.0000-12200.0000~~	~~H,V~~	~~800KG7D~~	~~Rx~~			~~TF TR 98~~		~~QPSK, DIGITAL, 512 KSPS, RETURN CARRIER~~
112)	11700.0000-12200.0000	H,V	~~1M60G7D~~	Rx			TF TR 98		QPSK, DIGITAL, 1024 ~~KSPS, RETURN CARRIER~~
113)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TF TR 98		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
114)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TF TR 98		QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
115)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TF TR 98		QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER

DELETE

DELETE

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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
116)	11700.0000-12200.0000	H,V	24M0G7D	Rx	~~0.00~~	~~0.00~~	TF TR 98		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
117)	14000.0000-14500.0000	H,V	200KG7D	Tx	38.70	21.70	TFTR 74-2C		QPSK, DIGITAL, 128 KSPS, RETURN CARRIER
118)	14000.0000-14500.0000	H,V	400KG7D	Tx	41.70	21.70	TFTR 74-2C		QPSK, DIGITAL, 256 KSPS, RETURN CARRIER
119)	14000.0000-14500.0000	H,V	800KG7D	Tx	41.70	18.70	TFTR 74-2C		QPSK, DIGITAL, 512 KSPS, RETURN CARRIER
120)	14000.0000-14500.0000	H,V	1M60G7D	Tx	41.70	15.70	TFTR 74-2C		QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
121)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TFTR 74-2C		QPSK, DATA, 5 MSPS, MULTIMEDIA
122)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TFTR 74-2C		QPSK, DATA, 10 MSPS, MULTIMEDIA
123)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TFTR 74-2C		QPSK, DATA, 20 MSPS, MULTIMEDIA
124)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TFTR 74-2C		QPSK, DATA, 30 MSPS, MULTIMEDIA
125)	14000.0000-14500.0000	H,V	200KG7D	Tx	44.00	27.00	TR 1.0		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
126)	14000.0000-14500.0000	H,V	400KG7D	Tx	44.00	24.00	TR 1.0		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
127)	14000.0000-14500.0000	H,V	800KG7D	Tx	44.00	21.00	TR 1.0		BPSK OR MSK, DATA 512 KSPS, INROUTE CARRIER
~~128)~~	~~14000.0000-14500.0000~~	~~H,V~~	~~200KG7D~~	~~Tx~~	~~44.00~~	~~27.00~~	~~TR 1.0~~		~~BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER~~
129)	14000.0000-14500.0000	H,V	400KG7D	Tx	44.00	24.00	TR 1.0		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
130)	11700.0000-12200.0000	H,V	400KG7D	Rx	DELETE		TR 1.0		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
131)	~~11700.0000-12200.0000~~	H,V	1M60G7D	Rx			TR 1.0		~~BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER~~
132)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR 1.0		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
133)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TR 1.0		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER

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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
134)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR 1.0	O 1	QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
135)	11700.0000-~~12000~~ 12200.0000	H,V	12M0G7D	Rx			TR 1.0	O 1	QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
136)	14000.0000-14500.0000	H,V	200KG7D	Tx	46.10	29.10	TR 1.2M		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
137)	14000.0000-14500.0000	H,V	400KG7D	Tx	46.10	26.10	TR 1.2M		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
138)	14000.0000-14500.0000	H,V	800KG7D	Tx	46.10	23.10	TR 1.2M		OQPSK, DIGITAL, 512 KSPS, RETURN CARRIER
139)	14000.0000-14500.0000	H,V	1M60G7D	Tx	46.10	~~29.10~~ 21.10	TR 1.2M		OQPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
~~140)~~	~~14000.0000-14500.0000~~	~~H,V~~	~~200KG7D~~	~~Tx~~	~~46.10~~	~~29.10~~	~~TR 1.2M~~		~~BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER~~
141)	14000.0000-14500.0000	H,V	400KG7D	Tx	46.10	26.10	TR 1.2M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
142)	14000.0000-14500.0000	H,V	800KG7D	Tx	46.10	23.10	TR 1.2M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
143)	11700.0000-12200.0000	H,V	1M60G7D	Rx	DELETE		TR 1.2M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
144)	11700.0000-12200.0000	H,V	400KG7D	Rx			TR 1.2M		~~BPSK OR MSK, DATA, 256 KSPS, OUTROUTE CARRIER~~
145)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR 1.2M	O 1	QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
146)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR 1.2M	O 1	QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
147)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TR 1.2M	O 1	QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
148)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR 1.2M	O 1	QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
149)	14000.0000-14500.0000	H,V	200KG7D	Tx	49.70	32.70	TR 1.8		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
150)	14000.0000-14500.0000	H,V	400KG7D	Tx	49.70	29.70	TR 1.8		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER

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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
151)	14000.0000-14500.0000	H,V	800KG7D	Tx	49.70	26.70	TR 1.8		OQPSK, DIGITAL, 512 KSPS, RETURN CARRIER
152)	14000.0000-14500.0000	H,V	1M60G7D	Tx	49.70	23.70	TR 1.8		OQPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
~~153)~~	~~14000.0000-14500.0000~~	~~H,V~~	~~200KG7D~~	~~Tx~~	~~49.70~~	~~32.70~~	~~TR 1.8~~		~~BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER~~
154)	14000.0000-14500.0000	H,V	400KG7D	Tx	49.70	29.70	TR 1.8		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
155)	14000.0000-14500.0000	H,V	800KG7D	Tx	49.70	26.70	TR 1.8		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
156)	11700.0000-12200.0000	H,V	~~400KG7D~~ DELETE	Rx			TR 1.8		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
157)	~~11700.0000-12200.0000~~	~~H,V~~	~~1M60G7D~~	~~Rx~~			TR 1.8		~~BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER~~
158)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR 1.8	O	QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
159)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR 1.8	O	QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
160)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TR 1.8	O	QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
161)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR 1.8	O	QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
162)	14000.0000-14500.0000	H,V	800KG7D	Tx	52.20	29.20	TR 2.4M	O	QPSK, DIGITAL, 512 KSPS, RETURN CARRIER
163)	14000.0000-14500.0000	H,V	1M60G7D	Tx	52.20	26.20	TR 2.4M	O	QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
164)	14000.0000-14500.0000	H,V	200KG7D	Tx	52.20	35.20	TR 2.4M		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
165)	14000.0000-14500.0000	H,V	400KG7D	Tx	52.20	32.20	TR 2.4M		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
~~166)~~	~~14000.0000-14500.0000~~	~~H,V~~	~~200KG7D~~	~~Tx~~	~~52.20~~	~~35.20~~	~~TR 2.4M~~		~~BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER~~
167)	14000.0000-14500.0000	H,V	~~400KG7D~~ DELETE	Tx	52.20	32.20	TR 2.4M		BPSK OR MSK, DATA, 256 ~~KSPS, INROUTE CARRIER~~

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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
~~168~~	~~14000.0000-14500.0000~~	~~H,V~~	~~800KG7D~~	~~Tx~~	~~52.20~~	~~29.20~~	~~TR 2.4M~~		~~BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER~~
169	11700.0000-12200.0000	H,V	400KG7D	Rx			~~TR 2.4M~~ DELETE		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
170	~~11700.0000-12200.0000~~	H,V	1M60G7D	Rx			TR 2.4M		~~BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER~~
171	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR 2.4M	0 1	QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
172	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR 2.4M	0 1	QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
173	11700.0000-12200.0000	H,V	24M0G7D	Rx			TR 2.4M	0 1	QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
174	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR 2.4M	0 1	QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
175	14000.0000-14500.0000	H,V	200KG7D	Tx	38.70	21.70	TR 74-2	0 1	QPSK, DIGITAL, 128 KSPS, RETURN CARRIER
176	14000.0000-14500.0000	H,V	400KG7D	Tx	41.70	21.70	TR 74-2	0 1	QPSK, DIGITAL, 256 KSPS, RETURN CARRIER
177	14000.0000-14500.0000	H,V	800KG7D	Tx	41.70	18.70	TR 74-2	0 1	QPSK, DIGITAL, 512 KSPS, RETURN CARRIER
178	14000.0000-14500.0000	H,V	1M60G7D	Tx	41.70	15.70	TR 74-2	0 1	QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
179	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR 74-2	0 1	QPSK, DATA, 5 MSPS, MULTIMEDIA
180	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR 74-2	0 1	QPSK, DATA, 10 MSPS, MULTIMEDIA
181	11700.0000-12200.0000	H,V	24M0G7D	Rx			TR 74-2	0 1	QPSK, DATA, 20 MSPS, MULTIMEDIA
182	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR 74-2	0 1	QPSK, DATA, 30 MSPS, MULTIMEDIA
~~183~~	~~14000.0000-14500.0000~~	~~H,V~~	~~400KG7D~~	~~Tx~~	~~38.80~~	~~18.80~~	~~TR 75 CM~~		~~BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER~~
184	14000.0000-14500.0000	H,V	~~200KG7D~~	Tx	38.80	21.80	TR 75 CM DELETE		BPSK OR MSK, DATA, 128 ~~KSPS, INROUTE CARRIER~~

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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
~~185~~	~~11700.0000-12200.0000~~	~~H,V~~	~~400KG7D~~	~~Rx~~			~~TR 75 CM~~		~~BPSK, DATA, 256, OUTROUTE CARRIER~~
186	11700.0000-12200.0000	H,V	1M60G7D	Rx			TR 75 CM		~~BPSK~~, DATA, 1024 KSPS, OUTROUTE CARRIER
187	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR 75 CM		QPSK, DATA, 10 MSPS, MULTIMDIA BROADCAST CARRIER
188	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR 75 CM		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
189	14000.0000-14500.0000	H,V	200KG7D	Tx	39.00	22.00	TR74		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
190	14000.0000-14500.0000	H,V	400KG7D	Tx	42.00	22.00	TR74		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
191	14000.0000-14500.0000	H,V	800KG7D	Tx	42.00	19.00	TR74		OQPSK, DIGITAL, 512 KSPS, RETURN CARRIER
192	14000.0000-14500.0000	H,V	1M60G7D	Tx	42.00	16.00	TR74		OQPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
~~193~~	~~11700.0000-12200.0000~~	~~H,V~~	~~800KG7D~~	~~Rx~~			~~TR74~~		~~OQPSK, DIGITAL, 512 KSPS, RETURN CARRIER~~
194	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR74		QOQPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
195	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR74		QOQPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
196	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR74		QOQPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST CARRIER
197	11700.0000-12200.0000	H,V	24M0G7D	Rx	~~0.00~~	~~0.00~~ 6	TR74		QOQPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
198	14000.0000-14500.0000	H,V	800KG7D	Tx	44.30	21.30	TR98		QOQPSK, DIGITAL, 512 KSPS, RETURN CARRIER
199	14000.0000-14500.0000	H,V	1M60G7D	Tx	44.30	18.30	TR98		QOQPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
200	14000.0000-14500.0000	H,V	200KG7D	Tx	44.30	27.30	TR98		OQPSK, DIGITAL, 128 KSPS, RETURN CARRIER
201	14000.0000-14500.0000	H,V	400KG7D	Tx	44.30	24.30	TR98		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER

DELETE

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FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
202)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR98	0 QPSK, DATA, 1 MULTIMEDIA CARRIER	5 MSPS, BROADCAST
203)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR98	0 QPSK, DATA, 1 MULTIMEDIA CARRIER	10 MSPS, BROADCAST
204)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR98	0 QPSK, DATA, 1 MULTIMEDIA CARRIER	30 MSPS, BROADCAST
205)	11700.0000-12200.0000	H,V	24M0G7D	Rx	~~0.00~~	~~0.00~~ 6	TR98	0 QPSK, DATA, 1 MULTIMEDIA CARRIER	20 MSPS, BROADCAST

C) Frequency Coordination Limits

	Frequency Limits	Satellite Arc (Deg. Long.) East	West	Elevation (Degrees) East	West	Azimuth (Degrees) East	West	Max EIRP Density toward Horizon	Associated
1)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	TF TR 1.2
2)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TF TR 1.2
3)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				R1.2
4)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-5.5	TR74
5)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR74
6)	14000.0000-14500.0000	50.0W	150.0W	36.0	08.0	134.0	257.0	-9	TR74
7)	11700.0000-12200.0000	50.0W	150.0W	36.0	08.0	134.0	257.0		TR74
~~8)~~	~~11700.0000-12200.0000~~	~~62.0W~~	~~143.0W~~	~~05.0~~	~~05.0~~			~~0~~	~~RO74~~ 6
9)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	TR 1.2M
10)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR 1.2M
11)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	TR 1.8
12)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR 1.8
13)	14000.0000-14500.0000	62.0W	143.0W	41.9	10.0	156.7	254.1	-12.1	HubB7.6
14)	11700.0000-12200.0000	62.0W	143.0W	41.9	10.0	156.7	254.1		HubB7.6
15)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0	000.0	000.0	-2.5	TR 1.0
16)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR 1.0
17)	14000.0000-14500.0000	99.0W	143.0W	05.0	05.0			-2.5	TR98
18)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR98
19)	11700.0000-12200.0000	50.0W	150.0W	36.7	08.3	134.0	257.0		TR98
20)	14000.0000-14500.0000	50.0W	150.0W	36.7	08.3	134.0	257.0	-9	TR98
21)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	TF TR 98

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RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

C) Frequency Coordination Limits

	Frequency Limits	Satellite Arc (Deg. Long.) East	West	Elevation (Degrees) East	West	Azimuth (Degrees) East	West	Max EIRP Density toward Horizon	Associated
22)	11700.0000-12200.0000	62.0W-	143.0W	05.0-	05.0				TF TR 98
23)	14000.0000-14500.0000	62.0W-	143.0W	05.0-	05.0			-5.5	TF TR 74
24)	11700.0000-12200.0000	62.0W-	143.0W	05.0-	05.0				TF TR 74
25)	14000.0000-14500.0000	50.0W-	150.0W	36.0-	08.0	134.0-	257.0	-9	TF TR 74
26)	11700.0000-12200.0000	50.0W-	150.0W	36.0-	08.0	134.0-	257.0		TF TR 74
27)	14000.0000-14500.0000	62.0W-	143.0W	41.9-	10.0	156.7-	254.1	-12.1	HubA7.6M
28)	11700.0000-12200.0000	62.0W-	143.0W	41.9-	10.0	156.7-	254.1		HubA7.6M
~~29)~~	~~11700.0000-12200.0000~~	~~62.0W-~~	~~143.0W~~	~~05.0-~~	~~05.0~~				~~RO/0.66M~~
30)	14000.0000-14500.0000	62.0W-	143.0W	05.0-	05.0			-2.5	TR 2.4M
31)	11700.0000-12200.0000	62.0W-	143.0W	05.0-	05.0				TR 2.4M
32)	14000.0000-14500.0000	60.0W-	143.0W	41.2-	10.0	153.8-	254.1	-13.6	HubC 7.6M
33)	11700.0000-12200.0000	60.0W-	143.0W	41.2-	10.0	153.8-	254.1		HubC 7.6M
34)	14000.0000-14500.0000	60.0W-	143.0W	41.2-	10.0	153.8-	254.1	-13.6	HubD 7.6M
35)	11700.0000-12200.0000	60.0W-	143.0W	41.2-	10.0	153.8-	254.1		HubD 7.6M
36)	14000.0000-14500.0000	62.0W-	143.0W	41.9-	10.0	156.7-	254.1	-8.4	HubE 6.1M
37)	11700.0000-12200.0000	62.0W-	143.0W	41.9-	10.0	156.7-	254.1		HubE 6.1M
38)	14000.0000-14500.0000	62.0W-	143.0W	41.9-	10.0	156.7-	254.1	-9.9	HubF 5.6M
39)	11700.0000-12200.0000	62.0W-	143.0W	41.9-	10.0	156.7-	254.1		HubF 5.6M
40)	14000.0000-14500.0000	60.0W-	143.0W	18.8-	42.7	109.3-	221.7	-16.9	HubG 4.6M
41)	11700.0000-12200.0000	60.0W-	143.0W	18.8-	42.7	109.3-	221.7		HubG 4.6M
~~42)~~	~~11700.0000-12200.0000~~	~~62.0W-~~	~~143.0W~~	~~05.0-~~	~~05.0~~				~~TR 75 CM~~
~~43)~~	~~14000.0000-14500.0000~~	~~62.0W-~~	~~143.0W~~	~~05.0-~~	~~05.0~~			~~5.5~~	~~TR 75 CM~~
44)	11700.0000-12200.0000	62.0W-	143.0W	05.0-	05.0				MESH 1.8M
45)	14000.0000-14500.0000	62.0W-	143.0W	05.0-	05.0			-2.5	MESH 1.8M
46)	11700.0000-12200.0000	62.0W-	143.0W	05.0-	05.0				MESH 2.4M
47)	14000.0000-14500.0000	62.0W-	143.0W	05.0-	05.0			-2.5	MESH 2.4M
48)	11700.0000-12200.0000	62.0W-	143.0W	05.0-	05.0				MESH 1.2M
49)	14000.0000-14500.0000	62.0W-	143.0W	05.0-	05.0			-2.5	MESH 1.2M
50)	14000.0000-14500.0000	50.0W-	150.0W	36.7-	08.3	134.0-	257.0	-9	TR 74-2
51)	11700.0000-12200.0000	50.0W-	150.0W	36.7-	08.3	134.0-	257.0		TR 74-2
52)	14000.0000-14500.0000	50.0W-	150.0W	36.7-	08.3	134.3-	257.0	-9	TFTR 74-2C
53)	11700.0000-12200.0000	50.0W-	150.0W	36.7-	08.3	134.3-	257.0		TFTR 74-2C

D) Points of Communications

The following stations located in the Satellite orbits consistent with Sections B and C of this License

1) TF TR 1.2M to All authorized U.S. Domestic (ALSAT) Satellites.
2) TF TR 1.2M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
3) R1.2M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
4) ~~Tx & Rx 0.74M~~ to GALAXY 4R @ 99 W.L. (U.S.-licensed domestic satellite)
5) ~~Tx & Rx 0.74M~~ to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)

TR 74CM

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

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Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

REPLACE "Tx & Rx - 0.74M" WITH "TR 74 CM"

D) Points of Communications

The following stations located in the Satellite orbits consistent with Sections B and C of this License

5) ~~Tx & Rx- 0.74M to~~ AMC-3 @ 87 degrees W.L. (U.S.-licensed domestic satellite)
6) ~~Tx & Rx- 0.74M~~ to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
7) ~~Tx & Rx- 0.74M~~ to GALAXY III-C @ 95 W.L. (U.S.-licensed domestic satellite)
8) ~~Tx & Rx- 0.74M~~ to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
9) ~~Tx & Rx- 0.74M~~ to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
10) ~~Tx & Rx- 0.74M~~ to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
11) ~~Tx & Rx- 0.74M~~ to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
12) ~~Tx & Rx- 0.74M~~ to AMC-6 @ 72 degrees W.L. (U.S.-licensed domestic satellite)
13) ~~Tx & Rx- 0.74M~~ to AMC-4 @ 101 degrees W.L. (U.S.-licensed domestic satellite)
14) ~~Tx & Rx- 0.74M~~ to AMSC-9 @ 85 degrees W.L. (U.S.-Licensed)
15) ~~Rx only- 0.74M to SATMEX-5 @ 116.8 W.L. (Mexican licensed) (Non-U.S. licensed)~~ 6
16) TR 1.2M to All authorized U.S. Domestic (ALSAT) Satellites.
17) TR 1.2M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
18) TR 1.8M to All authorized U.S. Domestic (ALSAT) Satellites.
19) TR 1.8M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
20) HUB-B to All authorized U.S. Domestic (ALSAT) Satellites.
21) HUB-B to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
22) HUB-B to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
23) HUB-B to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
24) HUB-B to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
25) TR 1.0M to All authorized U.S. Domestic (ALSAT) Satellites.
26) TR 1.0M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
27) TR 98CM to GALAXY 4R @ 99 W.L. (U.S.-licensed domestic satellite)
28) TR 98CM to AMC-3 @ 87 degrees W.L. (U.S.-licensed domestic satellite)
29) TR 98CM to GALAXY III-C @ 95 W.L. (U.S.-licensed domestic satellite)
30) TR 98CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
31) TR 98CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
32) TR 98CM to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
33) TR 98CM to AMSC-9 @ 85 degrees W.L. (U.S.-Licensed)
34) TR 98CM to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
35) TR 98CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
36) TR 98CM to AMC-4 @ 101 degrees W.L. (U.S.-licensed domestic satellite)
37) TR 98CM to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
38) TR 98CM to AMC-6 @ 72 degrees W.L. (U.S.-licensed domestic satellite)
39) TF TR 98CM to GALAXY 4R @ 99 W.L. (U.S.-licensed domestic satellite)
40) TF TR 98CM to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
41) TF TR 98CM to AMC-3 @ 87 degrees W.L. (U.S.-licensed domestic satellite)
42) TF TR 98CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
43) TF TR 98CM to GALAXY III-C @ 95 W.L. (U.S.-licensed domestic satellite)
44)

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

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Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

D) Points of Communications

The following stations located in the Satellite orbits consistent with Sections B and C of this License

45) TF TR 98CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
46) TF TR 98CM to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
47) TF TR 98CM to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
48) TF TR 98CM to AMSC-9 @ 85 degrees W.L. (U.S.-Licensed)
49) TF TR 98CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
50) TF TR 98CM to AMC-4 @ 101 degrees W.L. (U.S.-licensed domestic satellite)
51) TF TR 98CM to AMC-6 @ 72 degrees W.L. (U.S.-licensed domestic satellite)
52) TF TR 74CM to GALAXY 4R @ 99 W.L. (U.S.-licensed domestic satellite)
53) TF TR 74CM to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
54) TF TR 74CM to AMC-3 @ 87 degrees W.L. (U.S.-licensed domestic satellite)
55) TF TR 74CM to GALAXY III-C @ 95 W.L. (U.S.-licensed domestic satellite)
56) TF TR 74CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
57) TF TR 74CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
58) TF TR 74CM to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
59) TF TR 74CM to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
60) TF TR 74CM to AMC-4 @ 101 degrees W.L. (U.S.-licensed domestic satellite)
61) TF TR 74CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
62) TF TR 74CM to AMC-6 @ 72 degrees W.L. (U.S.-licensed domestic satellite)
63) TF TR 74CM to AMSC-9 @ 85 degrees W.L. (U.S.-Licensed)
64) HUB-A to All authorized U.S. Domestic (ALSAT) Satellites.
65) HUB-A to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
66) HUB-A to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
67) HUB-A to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
68) HUB-A to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
~~69) Rx-only- 0.66M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)~~ 6
70) TR 2.4M to All authorized U.S. Domestic (ALSAT) Satellites.
71) TR 2.4M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
72) HUB-C 7.6M to All authorized U.S. Domestic (ALSAT) Satellites.
73) HUB-C 7.6M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
74) HUB-C 7.6M to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
75) HUB-C 7.6M to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
76) HUB-C 7.6M to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
77) HUB-D 7.6M to All authorized U.S. Domestic (ALSAT) Satellites.
78) HUB-D 7.6M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
79) HUB-D 7.6M to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
80) HUB-D 7.6M to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
81) HUB-D 7.6M to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
82) HUB-E 6.1M to All authorized U.S. Domestic (ALSAT) Satellites.
83) HUB-E 6.1M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

D) Points of Communications

The following stations located in the Satellite orbits consistent with Sections B and C of this License

84) HUB-E 6.1M to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
85) HUB-E 6.1M to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
86) HUB-E 6.1M to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
87) HUB-F 5.6M to All authorized U.S. Domestic (ALSAT) Satellites.
88) HUB-F 5.6M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
89) HUB-F 5.6M to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
90) HUB-F 5.6M to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
91) HUB-F 5.6M to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
92) HUB-G 4.6M to All authorized U.S. Domestic (ALSAT) Satellites.
93) HUB-G 4.6M to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
~~94) TR 75 CM to All authorized U.S. Domestic (ALSAT) Satellites.~~
95) MESH 1.8M to All authorized U.S. Domestic (ALSAT) Satellites.
96) MESH 2.4M to All authorized U.S. Domestic (ALSAT) Satellites.
97) MESH 1.2M to All authorized U.S. Domestic (ALSAT) Satellites.
98) TR 74-2 CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
99) TR 74-2 CM to AMC-4 @ 101 degrees W.L. (U.S.-licensed domestic satellite)
100) TR 74-2 CM to AMSC-9 @ 85 degrees W.L. (U.S.-Licensed)
101) TR 74-2 CM to AMC-3 @ 87 degrees W.L. (U.S.-licensed domestic satellite)
102) TR 74-2 CM to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
103) TR 74-2 CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
104) TR 74-2 CM to AMC-6 @ 72 degrees W.L. (U.S.-licensed domestic satellite)
105) TR 74-2 CM to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
106) TR 74-2 CM to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
107) TR 74-2 CM to GALAXY III-C @ 95 W.L. (U.S.-licensed domestic satellite)
108) TR 74-2 CM to GALAXY 4R @ 99 W.L. (U.S.-licensed domestic satellite)
109) TR 74-2 CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
110) TFTR 74-2CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
111) TFTR 74-2CM to AMC-6 @ 72 degrees W.L. (U.S.-licensed domestic satellite)
112) TFTR 74-2CM to GALAXY 4R @ 99 W.L. (U.S.-licensed domestic satellite)
113) TFTR 74-2CM to AMC-3 @ 87 degrees W.L. (U.S.-licensed domestic satellite)
114) TFTR 74-2CM to GALAXY 10R @ 123 W.L. (U.S.-licensed domestic satellite)
115) TFTR 74-2CM to SATMEX-5 @ 116.8 W.L. (Mexican-licensed) (Non-U.S.-licensed)
116) TFTR 74-2CM to AMC-4 @ 101 degrees W.L. (U.S.-licensed domestic satellite)
117) TFTR 74-2CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
118) TFTR 74-2CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
119) TFTR 74-2CM to HORIZONS 1 @ 127 W.L. (Japan licensed) (Non-U.S.-licensed)
120) TFTR 74-2CM to GALAXY III-C @ 95 W.L. (U.S.-licensed domestic satellite)
121) TFTR 74-2CM to AMSC-9 @ 85 degrees W.L. (U.S.-Licensed)

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

E) Antenna Facilities

Site/Elevation 141.4 (Meters) AMSL

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
HUB-A	HubA7.6M	2	7.6	ANDREW CORP.	ES76K-1	8.5 AGL/ 149.9 AMSL	
	Max Gains(s):	57.8 dBi @	11.9500 GHz	59.3 dBi @	14.2500 GHz		
	Maximum total input power at antenna flange (Watts) =				800.00		
	Maximum aggregate output EIRP for all carriers (dBW) =				88.30		
HUB-B	HubB7.6	2	7.6	ANDREW CORP.	ES76K-1	8.5 AGL/ 138.4 AMSL	
	Max Gains(s):	57.8 dBi @	11.9500 GHz	59.3 dBi @	14.2500 GHz		
	Maximum total input power at antenna flange (Watts) =				800.00		
	Maximum aggregate output EIRP for all carriers (dBW) =				88.30		
HUB-C 7.6M	HubC 7.6M	1	7.6	NEC	APS-12/14-F64A	29.3 AGL/ 184.7 AMSL	
	Max Gains(s):	56.7 dBi @	12.0000 GHz	59.6 dBi @	14.0000 GHz		
	Maximum total input power at antenna flange (Watts) =				250.00		
	Maximum aggregate output EIRP for all carriers (dBW) =				83.60		
HUB-D 7.6M	HubD 7.6M	1	7.6	NEC	APS-12/14-F0764	30.8 AGL/ 186.2 AMSL	
	Max Gains(s):	56.7 dBi @	12.0000 GHz	59.6 dBi @	14.0000 GHz		
	Maximum total input power at antenna flange (Watts) =				250.00		
	Maximum aggregate output EIRP for all carriers (dBW) =				83.60		
HUB-E 6.1M	HubE 6.1M	1	6.1	VERTEX	6.1KPK	19.9 AGL/ 155.7 AMSL	
	Max Gains(s):	55.9 dBi @	11.9500 GHz	57.3 dBi @	14.2500 GHz		
	Maximum total input power at antenna flange (Watts) =				550.00		
	Maximum aggregate output EIRP for all carriers (dBW) =				84.70		
HUB-F 5.6M	HubF 5.6M	1	5.6	ANDREW	ES56-1	28.9 AGL/ 172.2 AMSL	
	Max Gains(s):	55.4 dBi @	12.0000 GHz	56.8 dBi @	14.0000 GHz		
	Maximum total input power at antenna flange (Watts) =				125.00		
	Maximum aggregate output EIRP for all carriers (dBW) =				77.70		
HUB-G 4.6M	HubG 4.6M	1	4.6	VERTEX	4.57KPK	5.2 AGL/ 102.4 AMSL	
	Max Gains(s):	53.2 dBi @	12.0000 GHz	54.5 dBi @	14.0000 GHz		
	Maximum total input power at antenna flange (Watts) =				2.00		
	Maximum aggregate output EIRP for all carriers (dBW) =				57.50		

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RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

E) Antenna Facilities

Site/Elevation:

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
MESH 1.2M	MESH 1.2M	5000	1.2	HUGHES NETWORK SYTEMS	PES-RFT-120		

Max Gains(s): 41.5 dBi @ 12.0000 GHz 43.1 dBi @ 14.0000 GHz
Maximum total input power at antenna flange (Watts) = 1.50
Maximum aggregate output EIRP for all carriers (dBW) = 45.00

MESH 1.8M	MESH 1.8M	5000	1.8	HUGHES NETWORK SYSTEMS	PES-RFT-180		

Max Gains(s): 45.0 dBi @ 12.0000 GHz 46.7 dBi @ 14.0000 GHz
Maximum total input power at antenna flange (Watts) = 1.50
Maximum aggregate output EIRP for all carriers (dBW) = 48.60

MESH 2.4M	MESH 2.4M	5000	2.4	HUGHES NETWORK SYSTEMS	PES-RFT-240		

Max Gains(s): 47.1 dBi @ 12.0000 GHz 48.8 dBi @ 14.0000 GHz
Maximum total input power at antenna flange (Watts) = 3.10
Maximum aggregate output EIRP for all carriers (dBW) = 53.70

MESH 3.5M	MESH 3.5M	5000	3.5	COMTECH	846400G1		

Max Gains(s): 50.9 dBi @ 12.0000 GHz 52.3 dBi @ 14.0000 GHz
Maximum total input power at antenna flange (Watts) = 24.60
Maximum aggregate output EIRP for all carriers (dBW) = 66.20

R1.2M	R1.2	10	1.2	PRODELIN	1134		

Max Gains(s): 41.5 dBi @ 11.9500 GHz
Maximum total input power at antenna flange (Watts) =
Maximum aggregate output EIRP for all carriers (dBW) =

~~Rx-only-0.66M RO/0.66M 15000 0.66 CHANNEL MASTER 646101~~

DELETE

~~Max Gains(s): 36.7 dBi @ 11.9500 GHz~~
~~Maximum total input power at antenna flange (Watts) =~~
~~Maximum aggregate output EIRP for all carriers (dBW) =~~

~~Rx-only-0.74M RO74 10000 0.74 PRODELIN HANT-91R~~

DELETE

~~Max Gains(s): 37.7 dBi @ 11.9500 GHz~~
~~Maximum total input power at antenna flange (Watts) =~~
~~Maximum aggregate output EIRP for all carriers (dBW) =~~

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E) Antenna Facilities

Site/Elevation:

Site ID	Antenna ID	Diameter (meters)	Units	Manufacturer	Model	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
TF TR 1.2M	TF TR 1.2	1.2	50000	PRODELIN	1134		

Max Gains(s): 41.5 dBi @ 11.9500 GHz 43.1 dBi @ 14.2500 GHz
Maximum total input power at antenna flange (Watts) = 2.00
Maximum aggregate output EIRP for all carriers (dBW) = 46.10

TF TR 74CM	TF TR 74	0.74	60200	PRODELIN	HANT-91TR		

Max Gains(s): 37.7 dBi @ 11.9500 GHz 39.0 dBi @ 14.2500 GHz
Maximum total input power at antenna flange (Watts) = 2.00
Maximum aggregate output EIRP for all carriers (dBW) = 42.00

TF TR 98CM	TF TR 98	0.98	54000	PRODELIN	9008668		

Max Gains(s): 39.9 dBi @ 11.9500 GHz 41.3 dBi @ 14.2500 GHz
Maximum total input power at antenna flange (Watts) = 2.00
Maximum aggregate output EIRP for all carriers (dBW) = 44.30

TFTR 74-2CM	TFTR 74-2C	0.74	50000	RAVEN	HNS-1035610		

Max Gains(s): 37.9 dBi @ 11.9500 GHz 39.0 dBi @ 14.2500 GHz
Maximum total input power at antenna flange (Watts) = 2.00
Maximum aggregate output EIRP for all carriers (dBW) = 41.70

TR 1.0M	TR 1.0	1	10000	PRODELIN CORP. (135 cm x 58 cm)	1102		

Max Gains(s): 39.8 dBi @ 11.9500 GHz 41.0 dBi @ 14.2500 GHz
Maximum total input power at antenna flange (Watts) = 2.00
Maximum aggregate output EIRP for all carriers (dBW) = 44.00

TR 1.2M	TR 1.2M	1.2	10000	PRODELIN CORP.	1134		

Max Gains(s): 41.5 dBi @ 11.9500 GHz 43.1 dBi @ 14.2500 GHz
Maximum total input power at antenna flange (Watts) = 2.00
Maximum aggregate output EIRP for all carriers (dBW) = 46.10

TR 1.8M	TR 1.8	1.8	50000	PRODELIN CORP.	1184		

Max Gains(s): 45.0 dBi @ 11.9500 GHz 46.7 dBi @ 14.2500 GHz
Maximum total input power at antenna flange (Watts) = 2.00
Maximum aggregate output EIRP for all carriers (dBW) = 49.70

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E) Antenna Facilities

Site/Elevation:

Site ID	Antenna ID	Diameter (meters)	Units		Manufacturer	Model	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
TR 2.4M	TR 2.4M	11000	2.4		PRODELIN CORP.	1244	0 AGL	

Max Gains(s): 47.7 dBi @ 11.9500 GHz 49.2 dBi @ 14.2500 GHz
Maximum total input power at antenna flange (Watts) = 2.00
Maximum aggregate output EIRP for all carriers (dBW) = 52.20

TR 74-2 CM TR 74-2 50000 0.74 RAVEN HNS-1035610

Max Gains(s): 36.7 dBi @ 11.9500 GHz 38.7 dBi @ 14.2500 GHz
Maximum total input power at antenna flange (Watts) = 2.00
Maximum aggregate output EIRP for all carriers (dBW) = 41.70

~~TR 75 CM TR 75 CM 10000 0.75 HUGHES NETWORK SYSTEMS 3000179~~ DELETE

~~Max Gains(s): 37.0 dBi @ 12.0000 GHz 38.8 dBi @ 14.0000 GHz~~
~~Maximum total input power at antenna flange (Watts) = 1.00~~
~~Maximum aggregate output EIRP for all carriers (dBW) = 38.80~~

~~Tx & Rx~~ 6 TR74 35000 0.74 PRODELIN HANT-91TR
~~0.74M~~ 6
TR 74CM

Max Gains(s): 37.9 dBi @ 11.9500 GHz 39.0 dBi @ 14.5000 GHz
Maximum total input power at antenna flange (Watts) = 2.00
Maximum aggregate output EIRP for all carriers (dBW) = 42.00

TR 98CM TR98 60000 0.98 PRODELIN 9008668

Max Gains(s): 1 39.9 dBi @ 11.95 GHz 41.3 dBi 14.25 GHz 6
~~37.9 dBi @ 11.9500 GHz 39.0 dBi @ 14.5000 GHz~~
Maximum total input power at antenna flange (Watts) = ~~1.00~~ 6 1 2.00
Maximum aggregate output EIRP for all carriers (dBW) = ~~41.30~~ 44.3 1

F) Remote Control Point:

MESH 1.2M 11717 EXPLORATION LANE **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

301-428-5500

MESH 1.8M 11717 EXPLORATION LANE **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

301-428-5500

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Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

F) Remote Control Point:

MESH 2.4M 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

301-428-5500

MESH 3.5M 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

301-428-5500

TF TR 1.2M 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

301-428-5500

TF TR 74CM 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

(301) 428-5500

TF TR 98CM 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

(301) 428-5500

TFTR 74-2CM 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

301-428-5500

TR 1.0M 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

(301) 428-5500

TR 1.2M 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

(301) 428-5500

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F) Remote Control Point:

TR 1.8M — 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

(301) 428-5500

TR 2.4M — 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

301-428-5500

TR 74-2 CM — 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

301-428-5500

~~TR 75 CM~~ — ~~11717 EXPLORATION LANE~~ — ~~**Call Sign:** E000166~~

DELETE

~~GERMANTOWN, MONTGOMERY, MD 20876~~

~~301-428-5500~~

TR 98CM — 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

(301) 428-5500

~~Tx & Rx 0.74M~~ TR 74CM — 11717 EXPLORATION LANE — **Call Sign:** E000166

GERMANTOWN, MONTGOMERY, MD 20876

(301) 428-5500

G) Antenna Structure marking and lighting requirements:

None unless otherwise specified under Special and General Provisions

H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general

1010 --- Applicable to all receiving frequency bands. Emission designator indicates the maximum bandwidth of received signal at associated station(s). Maximum EIRP and maximum EIRP density are not applicable to receive operations.

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H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general

1900 --- Applicable to all transmitting frequency bands. Authority is granted to transmit any number of RF carriers with the specified parameters on any discrete frequencies within associated band in accordance with the other terms and conditions of this authorization, subject to any additional limitations that may be required to avoid unacceptable levels of inter-satellite interference.

2010 --- This authorization is issued pursuant to the Commission's Second Report and Order adopted June 16, 1972 (35 FCC 2d 844) and Memorandum, Opinion and Order adopted December 21, 1972 (38 FCC 2d 665) in Docket No. 16495 and is subject to the policies adopted in that proceeding.

2300 --- Authority is granted to operate this station by remote control provided that: (1)The parameters of the transmissions of this station monitored at the remote control point, and the operational functions sufficient to insure that the operations of this station are in full compliance with the station authorization at all times; (2) upon detection by the grantee, or upon notification from the Commission, of a deviation of the operation of this station shall be immediately suspended until the deviation is corrected, except the transmissions concerning the immediate safety of life or property may be conducted for the duration of such emergency; and (3) the grantee shall have available, at all times, the technical personnel necessary to perform the technical servicing and maintenance of this station expeditiously. See also Public Notice "The International Bureau Provides Guidance Concerning the Relocation of Earth Station Remote Control Points", DA 06-978 (rel. May 4, 2006).

2325 --- Antennas and all antenna supporting structures used under this authorization shall not exceed 20 feet in height.

2633 --- This authorization is subject to all actions taken by the Commission and currently effective with respect to provision of service by Intelsat to ensure Intelsat's operations are consistent with the requirements of the Open-Market Reorganization for the Betterment of International Telecommunications Act, Pub. Law 106-180, 114 Stat. 48 (2000), most recently amended by Pub. Law 108-371, 118 Stat. 1752 (2004) (ORBIT Act).

2635 --- In communications from Horizons I in the 11.7-12.2 GHz band, the licensee is only authorized to operate with emissions that do not exceed the maximum e.i.r.p. and e.i.r.p. densities authorized in this license and cannot exceed a bandwidth of 35.9 megahertz for digital or analog carriers. The maximum downlink e.i.r.p. density of the digital carrier shall not exceed +10 dBW/4kHz from Horizons 1.

2636 --- In communications from Horizons I in the 11.7-12.2 GHz band, the licensee cannot exceed a bandwidth of 35.9 megahertz for digital or analog carriers. See also PanAmSat Licensee Corporation, Order and Authorization, DA 05-0007, (released January 4, 2005).

2916 --- Transmitter(s) must be turned off during antenna maintenance to ensure compliance with the FCC-specified safety guidelines for human exposure to radiofrequency radiation in the region between the antenna feed and the reflector. Appropriate measures must also be taken to restrict access to other regions in which the earth station's power flux density levels exceed the specified guidelines.

2939 --- Upon completion of construction each licensee must file with the Commission a certification including the following information: name of the licensee, file number of the application, call sign of the antenna, date of the license and certification that the facility as authorized has been completed, that each antenna facility has been tested and is within 2 dB of the pattern specified in Section 25.209, and that the station is operational including the date of commencement of service, and will remain operational during the license period unless the license is submitted for cancellation. In addition, each licensee must file a certification once the network is put into operation.

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H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general

3212 --- The licensee shall take extraordinary measures to ensure that multiple antennas co-located at the same site do not create potential exposure to radiofrequency radiation in excess of FCC safety guidelines. Antennas shall be surrounded by a fence, at least 2 meters tall with a locked gate, to prevent human exposure in excess of the FCC-specified safety limit of 1 mW/cm2. Warning signs, such as those discussed in the FCC's OET Bulletin 65, shall be posted informing members of the public to keep outside the locked area. All operations must be in compliance with Section 1.1307 (b)(3) of the Commission's Rules. (See 47 CFR 1.1307 (b) (3)).

3214 --- All operations must be in compliance with Section 1.1307 (b)(3) of the Commission's Rules. (See 47 CFR 1.1307 (b) (3))

3219 --- All existing transmitting facilities, operations and devices regulated by the Commission must be in compliance with the Commission's radiofrequency (RF) exposure guidelines, pursuant to Section 1.1307(b)(1) through (b)(3) of the Commission's rules, or if not in compliance, file an Environmental Assessment (EA) as specified in Section 1.1311. See 47 CFR 1.1307 (b) (5).

3220 --- Licensee shall ensure that the antenna does not create the potential for exposure of persons who may be within the immediate vicinity to radiofrequency radiation in excess of FCC safety guidelines defined in 47 C.F.R. Section 1.1307(b)(1) and 1.1310. Licensee shall take precautions to ensure compliance with FCC guidelines for exposure to RF radiation. This will include use of a warning label on the transmitting antennas, and a radome or an automatic shut off system. Only technically trained professionals shall install the antennas. These installers shall place the antennas only at locations that are not readily accessible to the general public.

3415 --- The licensee shall take extraordinary measures to ensure that antenna does not create potential exposure to radiofrequency radiation in the region between the antenna feed and the reflector. Antenna shall be surrounded by a physical barrier or fence at least 2 meters tall with a locked gate, to prevent human exposure in excess of the FCC-specified safety limit of 1 mW/cm2. Warning signs, such as those discussed in the FCC's OET Bulletin 65, shall be posted informing members of the public to keep outside the physical barrier or the locked area.

3420 --- The licensee shall take extraordinary measures to ensure that the antenna does not create a potential for harmful non-ionizing radiation to persons who may be within the immediate vicinity since this earth station may exceed the radiation hazard level of 1 mW/cm2. This shall includle but not be limited to establishing a physical barrier or roping off an area, where the radiation hazard level is or below 1 mW/ cm2, surrounding the antenna or the trailer on which it is mounted. During actual transmissions, warning signs shall be posted informing all persons to keep outside the physical barrier or the roped off area.

3428 --- This authorization is not to be construed as including any uplink or downlink authority in other countries.

3453 --- This authorization is subject to the continuance in force of the "protocol concerning the transmission and reception of signals from satellites for the provision of Direct-to-Home Satellites Television Services in the United States of America and the United Mexican States" signed on November 8, 1996, and "protocol concerning the transmission and reception of signals from satellites for the provision of fixed-satellites services in the United States of America and the United Mexican States" signed on October 16, 1997.

3465 --- This authorization is subject to the policies adopted in the Report and Order, "Amendment of the Commission's Regulatory Policies to allow Non-US-Licensed Space Stations to provide Domestic and International Satellite Services in the United States," IB Docket 96-111, FCC 97-399 (Released November 26, 1997). (DISCO II)

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H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general

3851 --- The receiving antenna gain pattern(s) does(do) not comply with Section 25.209 of the FCC Rules. The operation of this antenna will not be protected from harmful interference caused by other geostationary satellite networks to the extent that harmful interference would not be expected to be caused to an antenna that is compliant with the antenna performance standards of Section 25.209.

3856 --- A Waiver request to the Section 25.134(a) of the Commission's Rules is hereby granted for licensee to employ a slotted Aloha network access scheme, which poses the possibility of exceeding the EIRP and EIRP density limits set forth in the Section 25.134(a). This authorization is subject to the final outcome of Commission action on a Petition for Rulemaking, RM-9864.

5011 --- The Licensee(s) shall maintain on file with the Commission a current list or plan of the precise frequencies in use at the station, specifying for each frequency the RF center frequency, polarization, emission designator, nominal EIRP (in dBW) and maximum EIRP density (in dbW/4kHz). This list or plan may be submitted either on a station-by-station basis or on a system-wide basis and shall be updated within seven (7) days of any changes in frequency usage at this station. The Licensee(s) need not notify the Commission of temporary usage of frequencies for periods of less than seven (7) days. However, the Licensee(s) shall maintain accurate station records of the times and particulars of such temporary frequency usage.

5012 --- The authority granted here is limited to the operation of the facilities described above and does not include any authority to install and operate channelizing equipment or any other authority under Section 214 of the Communications Act of 1934, as amended, to establish channels of communications.

5017 --- Operation of this station is governed by the terms, conditions and limitations in Part 25 of the Commission's Rules and Regulations and the following additional conditions: 1. This license shall not vest in the Licensee(s) any right to operate the station or any right in the use of the frequencies designated in the license beyond its term or in any other manner than authorized in the license; 2. Neither the license nor the right granted under it shall be assigned or otherwise transferred in violation of the Commissions or otherwise transferred in violation of the Communications Act of 1934, as amended, or the Commission's Rules and Regulations issued under it; and 3. This station is subject to the right of use or control conferred by Section 706 of the Communications Act of 1934, as amended.

5018 --- This license shall be forfeited automatically if this station is not ready for operation within the time specified unless, prior to the expiration date of this license, the Commission receives an Application for Additional Time to Construct a Radio Station (FCC Form 701) filed by the Licensee(s) showing good cause why the Licensee(s) could not complete construction on time.

5216 --- All operations shall be on a non-common carrier basis.

5525 --- This authorization is issued pursuant to the Commission's Report and Order released January 22, 1996 (FCC 96-14), Disco I.

5630 --- International services shall be consistent with this emission designator, the underlying title III application(s) and the acquisition of any necessary Section 214 authority.

5723 --- All communications shall be in accordance with the satellites and services which have completed any necessary technical consultations under Article XIV (d) of the INTELSAT Agreement and which the Commission has approved.

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H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general

5735 --- Access to the SATMEX-5 satellite network shall be in compliance with the satellite coordination agreement reached between the administration of the United States and Mexico regarding the operations of the SATMEX-5 satellite network.

5736 --- Licensee is authorized to provide fixed-satellite service other than Direct-to-Home service via non-U.S. licensed satellites.

5794 --- A Waiver request to the Section 25.134(a) of the Commission's Rules is hereby granted for 1) ~~1,500,000 receive-only 0.66-meter (49-x89-cm) channel Master Model 646101 antennas~~ 2) 350,000 transmit & receive 0.74-meter (98x56 cm) Prodelin Model HANT-91TR antennas and 3) ~~1,000,000 receive-only 0.74-meter (98x56 cm) Prodelin Model HANT-91R antennas~~ 4) 60,000 transmit & receive 0.98-meter Prodelin model 9008668 antennas, 5) 54,000 temporary-fixed .98-meter Prodelin model 9008668 antennas, and 6) 60,200 temporary-fixed .74-meter Prodelin model HANT-91TR antennas to receive a maximum downlink EIRP density of +13.75 dBW/4kHz from the SatMex-5 satellite located at 116.8 West Longitude for the associated emissions 24M0G7D and 36M0G7D. Access to the SatMex-5 satellite network shall be in compliance with all international satellite coordination agreements regarding the operations of the SatMex-5 satellite network and the maximum downlink EIRP density."

5801 --- Waiver request to the Section 25.134(a) of the Commission's Rules is hereby granted for 140,000 transmit & receive 0.74-meter (98x56 cm) and 35,000 temporary-fixed 0.74-meter (98x56 cm) Prodelin Model HANT-91TR antennas, 6,000 transmit & receive 0.98-meter and 29,000 temporary-fixed 0.98-meter Prodelin model 9008668 antennas to receive a maximum downlink EIRP density of +12.0 dBW/4kHz from the Galaxy 4R satellite located at 99 degrees West Longitude, the Galaxy III-C satellite located at 95 degree West Longitude, the Galaxy XI satellite located at 91 degrees West Longitude, and the AMC-3 satellite located at 87 degrees West Longitude, for the associated emissions 24M0G7D and 36M07D."

5816 --- This authorization is conditioned upon the outcome of the Commission's Rules and Regulations in the matter of 2000 Biennial Regulatory Review, Notice of Proposed Rulemaking in IB Docket No. 00-248 (released 12/14/2000), FCC 00-435.

5837 --- The major axis of non-circular transmitting antennas (all elliptical and rectangular aperture antennas are non-circular) must be aligned parallel to the plane of the geostationary arc.

5838 --- The authorized antenna(s) does(do) not comply with the antenna gain envelope specified in Section 25.209(a) o the Commission's Rules for Theta between 1 and 2 degrees. The EIRP and EIRP density limits stated in this license are the maximum permitted for this station. No harmful interference shall be caused by the operations of this station to other lawfully operated radio stations that are compliant with the Commission's two-degree spacing rules.

5839 --- This equivalent 1.0-meter antenna complies with the antenna gain pattern as specified in Section 25.209(a) and Section 25.209(g) for off-axis angles greater than 1.25 degrees and up to 90 degrees in the GSO plane.

5867 --- Only technically trained professionals shall install and remove the authorized antennas.

9659 --- The licensee is afforded 30 days from the date of issuance of this license to decline it as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.

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File Number: SES-MFS-20050721-00951

Non Common Carrier **Grant Date** 09/22/2005 **Expiration Date:** 09/13/2010

B) This RADIO STATION AUTHORIZATION is granted subject to the additional conditions specified below:

This authorization is issued on the grantee's representation that the statements contained in the application are true and that the undertakings described will be carried out in good faith.

This authorization shall not be construed in any manner as a finding by the Commission on the question of marking or lighting of the antenna system should future conditions require. The grantee expressly agrees to install such marking or lighting as the Commission may require under the provisions of Section 303(q) of the Communications Act. 47 U.S.C. § 303(q).

Neither this authorization nor the right granted by this authorization shall be assigned or otherwise transferred to any person, firm, company or corporation without the written consent of the Commission. This authorization is subject to the right of use or control by the government of the United States conferred by Section 706 of the Communications Act. 47 U.S.C. § 706. Operation of this station is governed by Part 25 of the Commission's Rules. 47 C.F.R. Part 25.

This authorization shall not vest in the licensee any right to operate this station nor any right in the use of the designated frequencies beyond the term of this license, nor in any other manner than authorized herein.

This authorization is issued on the grantee's representation that the station is in compliance with environmental requirements set forth in Section 1.1307 of the Commission's Rules. 47 C.F.R. § 1.1307.

This authorization is issued on the grantee's representation that the station is in compliance with the Federal Aviation Administration (FAA) requirements as set forth in Section 17.4 of the Commission's Rules. 47 C.F.R.§ 17.4.

The following condition applies when this authorization permits construction of or modifies the construction permit of a radio station.

This authorization shall be automatically forfeited if the station is not ready for operation by the required date of completion of construction unless an application for modification of authorization to request additional time to complete construction is filed by that date, together with a showing that failure to complete construction by the required date was due to factors not under control of the grantee.

Licensees are required to pay annual regulatory fees related to this authorization. The requirement to collect annual regulatory fees from regulatees is contained in Public Law 103-66, "The Omnibus Budget Reconciliation Act of 1993." These regulatory fees, which are likely to change each fiscal year, are used to offset costs associated with the Commission's enforcement, public service, international and policy and rulemaking activities. The Commission issues a Report and Order each year, setting the new regulatory fee rates. Receive only earth stations are exempt from payment of regulatory fees.

ATTACHMENT 2

SES AMERICOM
An SES GLOBAL Company

June 12, 2006

Federal Communication Commission
International Bureau
445 12th Street, S.W.
Washington, D.C.

Refs: A. SES Americom Letter dated June 15th, 2005 (countersigned by Intelsat)
B. SES Americom Letter dated June 10th, 2005 (countersigned by PanAmSat)

To whom this may concern:

This letter is to supplement previous coordination letters provided to Hughes Network Systems, LLC ("HNS") by SES Americom Inc. ("SES"). In the referenced letters above, SES provided HNS with coordination letters for the operation of certain antennas that do not comply with 25.209(a) and (b) operating on AMC-3, AMC-4, AMC-6 and AMC-9. These letters allowed operation of 74 cm Raven antennas as well as 74 cm and 98 cm Prodelin antennas operating on FCC call signs E940460 and E000166.

In addition to the obligations assigned in these letters, SES further undertakes to include the subject non-conforming earth station operations in all future satellite network coordinations, as is required in Sections 25.220(d)(1)(iii) of the Commission's rules.

Sincerely,

K. Jonnalagadda

Krish Jonnalagadda
Satellite Market Development manager
SES Americom

Intelsat
inspiring connections

May 25 2006

Federal Communication Commission
International Bureau
445 12th Street, S.W.
Washington, D.C.

Refs: A. Intelsat Letter dated May 27th, 2005 (countersigned by PanAmSat)
B. Intelsat Letter dated June 15th, 2005 (countersigned by SES Americom)

To whom this may concern:

This letter is to supplement previous coordination letters provided to Hughes Network Systems, LLC ("HNS") by Intelsat Global Services Corporation ("Intelsat"). In the referenced letters above, Intelsat provided HNS with coordination letters for the operation of certain antennas that do not comply with 25.209(a) and (b) operating on IA-5 and IA-8. These letters allowed operation of 74 cm Raven antennas as well as 74 cm and 98 cm Prodelin antennas operating on FCC call signs E940460 and E000166.

In addition to the obligations identified in these letters, Intelsat further undertakes to include the subject non-conforming earth station operations in all future satellite network coordination, as is required in Sections 25.220(d)(1)(iii) of the Commission's rules.

Sincerely,

Ram Manohar
Dept. Manager, Frequency Management
Intelsat

May 23, 2006

Federal Communication Commission
International Bureau
445 12th Street, S.W.
Washington, D.C.

Refs: A. Horizons-1 Letter dated May 27th, 2005 (countersigned by Intelsat)
B. Horizons-1 Letter dated June 30th, 2005 (countersigned by Echostar)

To whom this may concern:

This letter is to supplement previous coordination letters provided to Hughes Network Systems, LLC ("HNS") by Horizons Satellite LLC (Horizons). In the referenced letters above, Horizons provided HNS with coordination letters for the operation of certain antennas that do not comply with 25.209(a) and (b) to access Horizons-1 at 127WL.

In addition to the obligations assigned in these letters, Horizons further undertakes to include the subject non-conforming earth station operations in all future satellite network coordinations, as is required in Sections 25.220(d)(1)(iii) of the Commission's rules.

Sincerely,

James Cunimale
Horizons Satellite LLC

May 23, 2006

Federal Communication Commission
International Bureau
445 12th Street, S.W.
Washington, D.C.

Refs: A. PanAmSat Letter dated May 27th, 2005 (countersigned by Intelsat)
B. PanAmSat Letter dated June 22nd, 2005 (countersigned by SES Americom)

To whom this may concern:

This letter is to supplement previous coordination letters provided to Hughes Network Systems, LLC ("HNS") by PanAmSat Corporation ("PanAmSat"). In the referenced letters above, PanAmSat provided HNS with coordination letters for the operation of certain antennas that do not comply with 25.209(a) and (b) to access Galaxy 3C, Galaxy 4R, Galaxy 10R and Galaxy 11.

In addition to the obligations assigned in these letters, PanAmSat further undertakes to include the subject non-conforming earth station operations in all future satellite network coordinations, as is required in Sections 25.220(d)(1)(iii) of the Commission's rules.

Sincerely,

Harold Ng
Director, Regulatory Engineering
PanAmSat Corporation

ATTACHMENT 3

To Be Supplied (see Section E, note 5)

ATTACHMENT 4

May 27, 2005

Federal Communications Commission
International Bureau
445 12th Street, S.W.
Washington, D.C. 20554

To whom it may concern:

This letter certifies that Horizon Satellite LLC is aware that Hughes Network Systems (HNS) is seeking FCC authorization to access Horizons 1 at 127WL, as the point of communication, using Ku-band transmit/receive antennas that are not strictly compliant with the FCC 2-degree spacing requirements for off-axis sidelobe gain.[1]

Horizons Satellite LLC (Horizons) owns and operates the Horizons 1 satellite at 127 degrees WL, which is licensed by MPHPT of Japan. The Horizons 1 satellite has been placed on the Permitted Space Station List by FCC on November 21, 2003 and, hence, can serve as the point of communication for FCC licensed earth stations, provided that the use of the earth station is consistent with the technical parameters contained in the earth station authorization.

Horizons understands that HNS will be deploying mostly 74 cm equivalent transmit/receive remote terminals (E74cm) for its two-way VSAT services working with the hubs located at Germantown, MD, and North Las Vegas, NV, under the call signs E000166 and E940460, respectively. These terminals can be deployed with either Prodelin HANT-91TR antenna or with Raven 74 cm antenna (model number HNS-1035610), where both have the same transmit gain as a 74 cm round antenna (E74cm). Horizons also understands that HNS will also deploy 98cm transmit/receive circular aperture remote terminals in the high rain or low spacecraft EIRP regions in the CONUS. The above three antennas are not compliant with FCC Section 25.209. These antennas will meet the antenna sidelobe performance at an angle slightly larger than that specified in the FCC rules. Therefore the specification of pointing accuracy is defined below in order to ensure that the operations of these non-compliant antennas, with the associated defined angle at which the antenna starts meeting the 29-25log(theta) sidelobe performance, will not cause unacceptable interference into adjacent satellites.

Prodelin, model number HANT-91TR, 98 by 56 cm elliptical-aperture antenna
This terminal utilizes a 98 by 56 cm elliptical-aperture antenna having the same transmit gain as a 74 cm equivalent circular-aperture (E74 cm) antenna. This antenna generally exhibits its non-compliance in the region from 1.25 to 1.44 degrees off axis from maximum gain in the transmit band, due to the width of the main gain lobe. The longer dimension of the antenna will be tangent to the geostationary satellite orbit as it appears at the particular earth station location. This antenna is to be installed with a nominal pointing accuracy of less than or equal to +/-0.56 degrees and will operate at a maximum input power density at the antenna waveguide flange of –14 dBW/4 kHz.

Raven, model number HNS-1035610, 84 by 69 cm elliptical-aperture antenna

[1] 47 CFR §25.209.

This terminal utilizes an 84 by 69 cm elliptical-aperture antenna having the same transmit gain as a 74 cm equivalent circular-aperture (E74 cm) antenna. This antenna generally exhibits its non-compliance in the region from 1.25 to 1.63 degrees off axis from maximum gain in the transmit band, due to the width of their main gain lobe. The longer dimension of the antenna will be tangent to the geostationary satellite orbit as it appears at the particular earth station location. They are compliant with the side lobe pattern requirements specified in Section 25.209 of the Commission's rules at an off-axis angle equal to or greater than 1.zzz degrees in the transmit band. These antennas are to be installed with a nominal pointing accuracy of less than or equal to +/- 0.37 degrees and will operate at a maximum input power density at the antenna waveguide flange of –14 dBW/4 kHz [2].

Prodelin, model number 9008668, 98cm circular antenna
This terminal utilizes a 98 cm circular-aperture Prodelin antenna. These antennas generally exhibit their non-compliance in the region from 1.25 to 1.6 degrees off axis from maximum gain in the transmit band, due to the width of their main gain lobe. They are compliant with the side lobe pattern requirements specified in Section 25.209 of the Commission's Rules at an off-axis angle equal to or greater than 1.6 degrees, in the transmit band. These antennas are to be installed with a nominal pointing accuracy of less than or equal to +/- 0.40 degrees and will operate at a maximum input power density at the antenna waveguide flange of -14 dBW/4 kHz [3].

The undersigned further certifies that the maximum forward downlink Satellite EIRP density is equal to or less than +13.0 dBW/4KHz. This operational level of the Ku-band VSAT network is within the levels coordinated with the adjacent satellite operators.

Furthermore, in order to prevent unacceptable interference into adjacent satellites, Horizons has been informed and HNS acknowledges that these antennas will be installed in compliance with the technical, operational and performance requirements of Part 25 of the FCC rules and any requirements set forth in the licenses granted by the FCC for the above sub-meter antennas.

Horizons and HNS acknowledge that the use of the Prodelin and Raven non-conforming antennas will not cause unacceptable interference into adjacent satellites in accordance with the FCC's 2-degree spacing policy and will not seek any additional protection compared to the case of an earth station employing an antenna conforming to the reference patterns defined in § 25.209 of the FCC rules.

Sincerely,

James Cumiale
Horizons Satellite LLC

Acceptance by HNS:

HNS testifies that the information provided to Horizons and reflected in this Affidavit letter is true and accurate to best of HNS' knowledge.

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[2] 47 CFR § 25.134
[3] 47 CFR § 25.134

David Zatloukal
Vice President, Network Services, HNS LLC

Acceptance by Intelsat:

Intelsat GSC agrees to the use of the Prodelin, model number HANT-91-TR, 98 by 56 cm elliptical-aperture (E74 cm) antenna, Prodelin, model number 9008668, 98cm circular antenna and Raven, model number HNS-1035610, 84 by 69 cm elliptical antenna with their respective azimuth angle alignment tolerances towards the intended satellite and the power density levels into the antenna flange as stated in this letter, with respect to Intelsat satellites and the associated networks located within ±6° from Horizons 1 at 127WL.

Ram Manohar
Department Manager
Frequency Management Department
Intelsat GSC