

**United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE**

EXPERIMENTAL

(Nature of Service)

WE2XEW

(Call Sign)

XD MO

(Class of Station)

0013-EX-ML-2009

(File Number)

NAME HNS License Sub, LLC

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(d, f, i & j) of the Commission's Rules

Station Locations

- (1) MOBILE: CONUS and territorial coastal waters
- (2) MOBILE: CONUS and territorial coastal waters
- (3) MOBILE: CONUS and territorial coastal waters

Frequency Information

MOBILE: CONUS and territorial coastal waters

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14-14.5 GHz	MO	12M8G7D	44 kW (ERP)	0.00001 %
29.5-30 GHz	MO	800KG7D	93 kW (ERP)	

This authorization effective February 05, 2009 and
will expire 3:00 A.M. EST June 01, 2009

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

MOBILE: CONUS and territorial coastal waters

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14-14.5 GHz	MO	12M8G7D	30 kW (ERP)	0.00001 %

MOBILE: CONUS and territorial coastal waters

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14-14.5 GHz	MO	12M8G7D	25 kW (ERP)	0.00001 %

Special Conditions:

- (1) Licensee is required to file a PROGRESS REPORT every 12 months from the date of grant. This progress report shall be filed with Federal Communications Commission; Experimental Licensing Branch, MS 1300E1; 445 12 Street, S.W.; Washington, DC 20554.
- (2) All customers participating in the experiment shall be informed that this operation is for experimental purposes only and can be cancelled at any time.
- (3) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (4) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (5) In accordance with Article 4.4 of the ITU Radio Regulations, the operations authorized herein shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the ITU Constitution, the ITU Convention, and the ITU Radio Regulations.
- (6) POINTS OF COMMUNICATION: Ku-band: Galaxy 10-R, SATMEX-5, AMC-2, AMC-9, and Horizons 1; Ka-band: SpaceWay-1, SpaceWay-2, Spaceway 3, AMC-15 and AMC-16.

Special Conditions:

- (7) Prior to commencement of operation with Galaxy 10-R, SATMEX-5, AMC-2, AMC-9, or Horizons 1 pursuant to this experimental license, licensee shall obtain a certification from the owners of Galaxy 10-R, SATMEX-5, AMC-2, AMC-9, or Horizons 1 that they have notified all satellite operators with co-frequency operations within 6 degrees longitude of their respective satellite, generally describing the experimental operations authorized herein, including the term thereof, and providing a point of contact for the purpose of resolving any complaints of interference. Licensee shall obtain a similar certification from the owners of Galaxy 10-R, SATMEX-5, AMC-2, AMC-9, or Horizons 1 if, during the term of this STA, a new or different satellite operator commences co-frequency operations within 6 degrees longitude of their respective satellite. If the point of contact receives a complaint of harmful interference, the party receiving the complaint (if not the licensee) will notify licensee, and licensee shall immediately cease such operations or adjust such operations to avoid harmful interference. Licensee will submit a copy of the certification(s) to the Commission for incorporation into the record of this file.
- (8) National Science Foundation (NSF) requests that licensee:
- 1) Coordinate operation at the Taunton, MA site with the National Radio Astronomy Observatory's VLBA site at Hancock, NH. (POC Mr. Dan Mertely at Socorro, NM, Phone: 505- 835-7027 and e-mail: dmertely@nrao.edu).
- 2) Coordinate operation at the Fredericksburg, VA site with Wes Sizemore at Green Bank. (Phone: 304-456-2107, e-mail:wsizemor@nrao.edu).
- (9) Prior to operating in the 14.47-14.5 GHz frequency band within 160 km of the locations listed in footnote US203 of the Table of Frequency Allocation in 47CFR2.106, licensee will coordinate with the National Academy of Sciences (NSF) and notify the Commission of the results of that coordination.
- (10) Note that if, during the term of this authorization, NASA seeks to provide protection to a future TDRSS site that has been coordinated through the National Telecommunications and Information Administration (NTIA) Interdepartment Radio Advisory Committee (IRAC) Frequency Assignment Subcommittee process, NTIA will notify the Commission that the site is nearing operational status. Upon notice from the Commission, licensee must cease operations in the 14.0-14.2 GHz band within 125 km of the new TDRSS site until HNS has coordinated with the new site. After coordination, operations will then again be permitted in the 14.0-14.2 GHz band within 125 km of the new TDRSS site, subject to any operational constraints developed in the coordination process.
- (11) Maximum EIRP density allowed is 13.5 dBW/4kHz.
- (12) Off-axis EIRP spectral density for cross-polarized signals emitted from the earth station shall not exceed the calculations given in 47CFR25.222(a)(4).
- (13) All emissions from the earth station shall automatically cease within 100 milliseconds if the angle between the orbital location of the target satellite and the axis of the main lobe of the earth station antenna exceeds 0.5°, and transmission will not resume until such angle is less than 0.2°.

Special Conditions:

- (14) Prior to operating in the 14.0-14.2 GHz frequency band, in the listed location, licensee will coordinate with National Aeronautics and Space Administration (NASA) and notify the Commission of the results of that coordination:
Within 125 km of the NASA TDRSS facilities in White Sands, New Mexico (latitude 32° 20' 59" N, longitude 106° 36' 31" W and latitude 32° 32' 40" N, longitude 106° 36' 48"W).
- (15) No more than six units may be used for market studies at any one time.