UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: U.S. Satellite Corporation **Call Sign:** E030277

Authorization Type: Modification of License **File Number:** SES-MOD-20130313-00248

Non Common Carrier **Grant date:** 05/07/2013 **Expiration Date:** 03/12/2019

Nature of Service: Fixed Satellite Service

Class of Station: Fixed Earth Stations

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
1)	MURRAY	935 WEST BULLION STREET MURRAY, SALT LAKE COUNTY, UT 84123	40°38'54.1"N	111°55'3.1"W	1299.97	83	

Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209

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 March 12, 2004 (3 AM Eastern Standard Time) and ending March 12, 2019 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is May 7, 2014 (3 AM Eastern Standard Time) . Grantee must file with the Commission a certification upon completion of construction and commencement of 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)	5925.0000-6425.0000	H,V,L,R	30K0F8E	Tx	56.75	53.50	C92M2		ANALOG NBFM
2)	5925.0000-6425.0000	H,V,L,R	360KF8E	Tx	67.50	53.46	C92M2		ANALOG SCPC
3)	5925.0000-6425.0000	H,V,L,R	36M0F8F	Tx	83.20	56.20	C92M2		ANALOG VIDEO & AUDIO SUBCARRIERS
4)	5925.0000-6425.0000	H,V,L,R	1M20G7D	Tx	75.07	50.30	C92M2		DIGITAL VIDEO 2.9 & DIGITAL AUDIO/DATA
5)	5925.0000-6425.0000	H,V,L,R	1M34G7D	Tx	75.55	50.30	C92M2		DIGITAL 3.3 VIDEO & DIGITAL AUDIO/DATA
6)	5925.0000-6425.0000	H,V,L,R	18M0G7D	Tx	83.20	46.66	C92M2		DIGITAL MCPC VIDEO & DIGITAL AUDIO/DATA
7)	5925.0000-6425.0000	H,V,L,R	36M0G7D	Tx	83.20	46.66	C92M2		DIGITAL MCPC VIDEO & DIGITAL AUDIO/DATA

FCC Form 488

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8)	5925.0000-6425.0000	H,V,L,R	1M23G7D	Tx	75.17	50.30	C92M2		DIGITAL OUTROUTE DATA DIGITAL AUDIO/VOICE
9)	3700.0000-4200.0000	H,V,L,R	30K0F8E	Rx			C92M2		ANALOG NBFM
10)	3700.0000-4200.0000	H,V,L,R	360KF8E	Rx			C92M2		ANALOG SCPC
11)	3700.0000-4200.0000	H,V,L,R	36M0F8F	Rx			C92M2		ANALOG VIDEO & AUDIO SUBCARRIERS
12)	3700.0000-4200.0000	H,V,L,R	1M20G7D	Rx			C92M2		DIGITAL VIDEO 2.9 & DIGITAL AUDIO/DATA
13)	3700.0000-4200.0000	H,V,L,R	1M34G7D	Rx			C92M2		DIGITAL 3.3 VIDEO & DIGITAL AUDIO/DATA
14)	3700.0000-4200.0000	H,V,L,R	2M98G7D	Rx			C92M2		DIGITAL 6.6 VIDEO & DIGITAL AUDIO/DATA
15)	3700.0000-4200.0000	H,V,L,R	18M0G7D	Rx			C92M2		DIGITAL MCPC VIDEO & DIGITAL AUDIO/DATA
16)	3700.0000-4200.0000	H,V,L,R	36M0G7D	Rx			C92M2		DIGITAL MCPC VIDEO & DIGITAL AUDIO/DATA
17)	3700.0000-4200.0000	H,V,L,R	1M23G7D	Rx			C92M2		DIGITAL OUTROUTE DATA DIGITAL AUDIO/VOICE

C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.) East Limit	Satellite Arc (Deg. Long.) West Limit	Elevation (Degrees) East Limit	Elevation (Degrees) West Limit	Azimuth (Degrees) East Limit	Azimuth (Degrees) West Limit	Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
1)	5925.0000-6425.0000	NGSO		05.1-05.4		102.1-257.6		15.5	C92M2
2)	3700.0000-4200.0000	40.2W-183.5W		05.1-05.4		102.1-257.6			C92M2

D) Points of Communications

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

1) MURRAY to Permitted Space Station List
2) MURRAY to INTELSAT AOR @ 310.0 E.L. satellite of the INTELSAT system (U.S.-licensed)
3) MURRAY to INTELSAT 805 (S2404) @ 304.5 E.L. (U.S.-licensed)

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D) Points of Communications

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

4) MURRAY to INTELSAT AOR @ 307.0 E.L. satellite of the INTELSAT system (U.S.-licensed)
5) MURRAY to INTELSAT POR @ 176.0 E.L. satellite of the INTELSAT system (U.S.-licensed)
6) MURRAY to INTELSAT POR @ 180.0 E.L. (U.S.-licensed)
7) MURRAY to SOLIDARIDAD F-1 @ 109.2 W.L. (Mexican-licensed) (Non-U.S.-licensed)
8) MURRAY to SOLIDARIDAD F-2 @ 113.0 W.L. (Mexican-licensed) (Non-U.S.-licensed)
9) MURRAY to ANIK E1 @ 118.7 degrees W.L. (Canada-licensed)
10) MURRAY to ANIK E2 (S2597) @ 111.1 degrees W.L. (Canada-licensed)
11) MURRAY to PANAMSAT 1R (PAS-1R) @ 45.0 W.L. (U.S.-licensed domestic satellite)
12) MURRAY to PANAMSAT-3R (PAS-3R @ 43.0 W.L.) satellite(s) of the PANAMSAT system. (U.S.-licensed)
13) MURRAY to PANAMSAT 9 @ 58.0 W.L. S2380 (U.S.-licensed domestic satellite)
14) MURRAY to New Skies Satellite, N.V. 513 @ 183.0 E.L. (Netherlands-licensed) (Non-U.S.-licensed)
15) MURRAY to New Skies Satellite, N.V. 806 @ 319.5 E.L. (Netherlands-licensed)[Moved to 47.5° W.L.]

E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
MURRAY	C92M2	1	9.2	SATCOM TECHNOLOGIES	920CS	1299.97	9.9 AGL/ 1299.97 AMSL	

Max Gains(s): 50.1 dBi @ 4.0000 GHz 53.0 dBi @ 6.0000 GHz
Maximum total input power at antenna flange (Watts) = 1,047.00
Maximum aggregate output EIRP for all carriers (dBW) = 83.20

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 conditions:

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.

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.

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H) Special and General Provisions

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

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.

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).

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.

5013 --- In the event of the failure of a satellite with which operations are authorized in Section D of this license, operations are authorized in conjunction with the authorized INTELSAT satellite in the affected Ocean Region that provides the services authorized herein in order to maintain the continuity of commercial service; provided that the licensee(s) immediately notify the Commission of the nature of this emergency and its expected duration; and provided that the operational limits of elevation angle and azimuth range specified in Section C of this license are not exceeded. In the event that such emergency operations require emissions not specified in Section B of this license, such emissions may be utilized provided that the EIRP's of such emissions do not exceed the limits set forth in this license.

5014 --- With respect to potential co-channel interference to or from terrestrial microwave radio stations, the transmit and receive frequency bands listed in this license have been cleared for transmissions to and from satellites located in the geostationary or non-geostationary orbit for the emissions designated in Section B of this license.

5015 --- 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.

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.

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H) Special and General Provisions

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

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

5730 --- Licensee is authorized to provide services between the United States and Canada via Satellites of ANIK system.

5737 --- In accordance with the ordering clause at paragraph 84 of the Commission's Order and Authorization, FCC 99-210, released August 6, 1999, the Ku-band frequencies on New Skies Satellite N.V. 806 have not been coordinated for operation over North America. Thus, Ku-band operations over the New Skies Satellite N.V. 806 satellite in the United States may not cause interference to, and may not claim protection from: (1) any U.S.-licensed geostationary satellite network and (2) non-U.S.-licensed geostationary satellite networks operating in conformance with international coordination agreements.

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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.