EXHIBIT A

PANAMSAT LICENSEE CORP.

SPECIAL TEMPORARY AUTHORITY REQUEST

EARTH STATION KL-92

IOT SERVICES FOR INTELSAT 16 SATELLITE

JANUARY 15, 2010

Exhibit A

Compliance with FCC Report & Order (96-377) in respect to the 13.75 - 14.0 GHz Band

1. Background

This exhibit is presented to demonstrate the extent to which the PanAmSat Licensee Corp. satellite earth station in Castle Rock, CO is in compliance with FCC Report & Order 96-377. The potential interference from the earth station to U.S. Navy shipboard radiolocation operations (RADAR) and the NASA space research activities in the 13.75 - 14.0 GHz band is addressed in this exhibit. The parameters for the earth station are provided in Table 1 below.

Table 1. Earth Station Characteristics

• Coordinates (NAD83):	39° 16' 38.0" N, 104° 48' 26.9" W
• Satellite Location for Earth Station:	Intelsat IS-16 at 48.0° W
• Frequency Band:	13.75-14.5 GHz for uplink
• Polarizations:	Linear
• Emissions:	850KN0N
• Modulation:	No Modulation
• Maximum Aggregate Uplink EIRP:	85.0 dBW for all Carriers
• Transmit Antenna Characteristics	
Antenna Size:	12.5 meter in Diameter
Antenna Type/Model:	NEC
Gain:	64.0 dBi
• RF power into Antenna Flange:	21.0 dBW or or -2.3 dBW/4 kHz (Maximum)
• Minimum Elevation Angle: Castle Rock, Co.	16.7° @ 112.5° Az (Intelsat IS-16)
• Side Lobe Antenna Gain:	32 - 25*log(θ)

Because the above uplink spectrum is shared with the Federal Government, coordination in this band requires resolution data pertaining to potential interference between the earth stations and both Navy Department and NASA systems. Potential interference from the earth station could impact the Navy and/or NASA systems in two areas. These areas are noted in FCC Order 96-377 and consist of (1) Radiolocation and radionavigation, (2) Data Relay Satellites.

Summary of Coordination Issues:

1) Potential Impact to Government Radiolocation (Shipboard Radar)
2) Potential Impact to NASA Data Relay Satellite Systems (TDRSS)

2. Potential Impact to Government Radiolocation (Shipboard Radar)

Radiolocation operations (RADAR) may occur anywhere in the 13.4 - 14 GHz frequency band aboard ocean going United States Navy ships. The FCC's Order 96-377 allocates the top 250 MHz of this 600 MHz band to the Fixed Satellite Service (FSS) on a co-primary basis with the radiolocation operations and provides for an interference protection level of -167 $dBW/m^2/4$ kHz.

The closest distance to the shoreline from the Castle Rock, CO earth station is approximately 1350 km Southwest towards the Pacific Ocean.

Therefore, there should be no interference to the U.S. Navy RADAR from the Castle Rock, CO earth station due to distance and terrain blocking between the site and the shore.

3. Potential Impact to NASA's Data Relay Satellite System (TDRSS)

The geographic location of the PanAmSat Licensee Corp. earth station in Castle Rock, CO is outside the 390 km radius coordination contour surrounding NASA's White Sands, NM ground station complex. Therefore, the TDRSS space-to-earth link will not be impacted by the PanAmSat earth station in Castle Rock, CO.

The TDRSS space-to-space link in the 13.772 to 13.778 GHz band is assumed to be protected if an earth station produces an EIRP less than 71 dBW/6 MHz in this band. The 12.5 meter earth station dish will have an EIRP greater than 71 dBW/6 MHz in this band. The total EIRP for all carriers is 85.00 dBW, and the equivalent EIRP per 6 MHz segment remains at 85.0 dBW/6 MHz. Therefore, there will be interference to the TDRSS space-to-space link.

In order to meet the 71 dBW/6 MHz interference criteria, the earth station would have to be limited to an RF power density 14.0 dB lower than the maximum of –2.3 dBW/4kHz or –16.3 dBW/4kHz or and EIRP of 71.0 dBW.

4. Coordination Issue Result Summary and Conclusions

The results of the analysis and calculations performed in this exhibit indicate that compatible operation between the Castle Rock, CO earth station and the U.S. Navy and NASA systems space-to-earth link are possible. These analyses have been based on the assumption of 850 kHz bandwidth carriers. Operations in NASA systems space-to-space link (13772.0 to 13778.0 MHz) will occur at a lower EIRP value of 71 dBW. In order to meet the 71 dBW/6 MHz interference

criteria, the earth station will be limited to a maximum total EIRP of 71.0 dBW for this band. Hence, there will be no interference into TDRSS space-to-space links.

No interference to U.S. Navy RADAR operations from the Castle Rock, CO site earth station will occur.

EXHIBIT B

PANAMSAT LICENSEE CORP.

SPECIAL TEMPORARY AUTHORITY REQUEST

EARTH STATION KL-92

IOT SERVICES FOR INTELSAT 16 SATELLITE

JANUARY 15, 2010

Analysis of Non-Ionizing Radiation for a 12.5-Meter Earth Station System

This report analyzes the non-ionizing radiation levels for a 12.5-meter earth station system. The analysis and calculations performed in this report comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01. The radiation safety limits used in the analysis are in conformance with the FCC R&O 96-326. Bulletin No. 65 and the FCC R&O specifies that there are two separate tiers of exposure limits that are dependant on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. The Maximum Permissible Exposure (MPE) limits for persons in a General Population/Uncontrolled environment are shown in Table 1. The General Population/Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less. The MPE limits for persons in an Occupational/Controlled environment are shown in Table 2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less. The purpose of the analysis described in this report is to determine the power flux density levels of the earth station in the far-field, near-field, transition region, between the subreflector or feed and main reflector surface, at the main reflector surface, and between the antenna edge and the ground and to compare these levels to the specified MPEs.

Table 1. Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	0.2
300-1500	Frequency (MHz)*(0.8/1200)
1500-100,000	1.0

Table 2. Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	1.0
300-1500	Frequency (MHz)*(4.0/1200)
1500-100,000	5.0

Table 3. Formulas and Parameters Used for Determining Power Flux Densities

Parameter	Symbol	Formula	Value	Units
Antenna Diameter	D	Input	12.5	m
Antenna Surface Area	$A_{surface}$	$\pi D^2 / 4$	122.72	m^2
Subreflector Diameter	D_{sr}	Input	155.0	cm
Area of Subreflector	A_{sr}	$\pi D_{sr}^2/4$	18869.19	cm^2
Frequency	F	Input	14000	MHz
Wavelength	λ	300 / F	0.021429	m
Transmit Power	P	Input	125.90	W
Antenna Gain (dBi)	G_{es}	Input	64.0	dBi
Antenna Gain (factor)	G	$10^{Ges/10}$	2511886.4	n/a
Pi	π	Constant	3.1415927	n/a
Antenna Efficiency	η	$G\lambda^2/(\pi^2D^2)$	0.75	n/a

1. Far Field Distance Calculation

The distance to the beginning of the far field can be determined from the following equation:

Distance to the Far Field Region

$$R_{ff} = 0.60\ D^2 / \lambda \quad (1)$$
$$= 4375.0\ \text{m}$$

The maximum main beam power density in the far field can be determined from the following equation:

On-Axis Power Density in the Far Field

$$S_{ff} = G\ P / (4\ \pi\ R_{ff}^2) \quad (2)$$
$$= 1.315\ \text{W/m}^2$$
$$= 0.131\ \text{mW/cm}^2$$

2. Near Field Calculation

Power flux density is considered to be at a maximum value throughout the entire length of the defined Near Field region. The region is contained within a cylindrical volume having the same diameter as the antenna. Past the boundary of the Near Field region, the power density from the antenna decreases linearly with respect to increasing distance.

The distance to the end of the Near Field can be determined from the following equation:

Extent of the Near Field

$$R_{nf} = D^2 / (4\ \lambda) \quad (3)$$
$$= 1822.9\ \text{m}$$

The maximum power density in the Near Field can be determined from the following equation:

Near Field Power Density

$$S_{nf} = 16.0\ \eta\ P / (\pi\ D^2) \quad (4)$$
$$= 3.069\ \text{W/m}^2$$
$$= 0.307\ \text{mW/cm}^2$$

3. Transition Region Calculation

The Transition region is located between the Near and Far Field regions. The power density begins to decrease linearly with increasing distance in the Transition region. While the power density decreases inversely with distance in the Transition region, the power density decreases inversely with the square of the distance in the Far Field region. The maximum power density in the Transition region will not exceed that calculated for the Near Field region. The power density calculated in Section 1 is the highest power density the antenna can produce in any of the regions away from the antenna. The power density at a distance R_t can be determined from the following equation:

Transition Region Power Density

$$S_t = S_{nf}\ R_{nf} / R_t \quad (5)$$
$$= 0.307\ \text{mW/cm}^2$$

4. Region between the Main Reflector and the Subreflector

Transmissions from the feed assembly are directed toward the subreflector surface, and are reflected back toward the main reflector. The most common feed assemblies are waveguide flanges, horns or subreflectors. The energy between the subreflector and the reflector surfaces can be calculated by determining the power density at the subreflector surface. This can be determined from the following equation:

Power Density at the Subreflector

$$S_{sr} = 4000\ P / A_{sr} = 26.689\ mW/cm^2 \quad (6)$$

5. Main Reflector Region

The power density in the main reflector is determined in the same manner as the power density at the subreflector. The area is now the area of the main reflector aperture and can be determined from the following equation:

Power Density at the Main Reflector Surface

$$S_{surface} = 4\ P / A_{surface} = 4.104\ W/m^2 = 0.410\ mW/cm^2 \quad (7)$$

6. Region between the Main Reflector and the Ground

Assuming uniform illumination of the reflector surface, the power density between the antenna and the ground can be determined from the following equation:

Power Density between Reflector and Ground

$$S_g = P / A_{surface} = 1.026\ W/m^2 = 0.103\ mW/cm^2 \quad (8)$$

7. Summary of Calculations

Table 4. Summary of Expected Radiation levels for Uncontrolled Environment

Region		Calculated Maximum Radiation Power Density Level (mW/cm^2)	Hazard Assessment
1. Far Field (R_{ff} = 4375.0 m)	S_{ff}	0.131	Satisfies FCC MPE
2. Near Field (R_{nf} = 1822.9 m)	S_{nf}	0.307	Satisfies FCC MPE
3. Transition Region ($R_{nf} < R_t < R_{ff}$)	S_t	0.307	Satisfies FCC MPE
4. Between Main Reflector and Subreflector	S_{sr}	26.689	Potential Hazard
5. Main Reflector	$S_{surface}$	0.410	Satisfies FCC MPE
6. Between Main Reflector and Ground	S_g	0.103	Satisfies FCC MPE

Table 5. Summary of Expected Radiation levels for Controlled Environment

Region		Calculated Maximum Radiation Power Density Level (mW/cm^2)	Hazard Assessment
1. Far Field (R_{ff} = 4375.0 m)	S_{ff}	0.131	Satisfies FCC MPE
2. Near Field (R_{nf} = 1822.9 m)	S_{nf}	0.307	Satisfies FCC MPE
3. Transition Region ($R_{nf} < R_t < R_{ff}$)	S_t	0.307	Satisfies FCC MPE
4. Between Main Reflector and Subreflector	S_{sr}	26.689	Potential Hazard
5. Main Reflector	$S_{surface}$	0.410	Satisfies FCC MPE
6. Between Main Reflector and Ground	S_g	0.103	Satisfies FCC MPE

It is the applicant's responsibility to ensure that the public and operational personnel are not exposed to harmful levels of radiation.

8. Conclusions

Based on the above analysis it is concluded that harmful levels of radiation will not exist in regions normally occupied by the public or the earth station's operating personnel. The transmitter will be turned off during antenna maintenance so that the FCC MPE of 5.0 mW/cm2 will be complied with for those regions with close proximity to the reflector that exceed acceptable levels.

EXHIBIT C

PANAMSAT LICENSEE CORP.

SPECIAL TEMPORARY AUTHORITY REQUEST

EARTH STATION KL-92

IOT SERVICES FOR INTELSAT 16 SATELLITE

JANUARY 15, 2010

FCC 312

Schedule B

FEDERAL COMMUNICATIONS COMMISSION

APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS

Technical and Operational Description)

(Place an "X" in one of the blocks below)

☐ License of New Station ☐ Registration of new Domestic Receive-Only Station ☐ Amendment to a Pending Application ☐ Modification of License/Registration ☐ Notification of Minor Modification

B1. Location of Earth Station Site. If temporary-fixed, mobile, or VSAT remote facility, specify area of operation and point of contact. If VSAT hub station, give its location For VSAT networks attach individual Schedule B, Page 1 sheets for each hub station and each remote station. Individually provide the Location, Points of Communications, and Destination Points for each hub and remote station.

B1a. Station Call Sign	B1b. Site identifier (HUB, REMOTE1, etc.)	B1c. Telephone Number	B1j. Geographic Coordinates N/S, Deg. - Min. - Sec. - E/W	B1k. Lat./Lon. Coordinates are:
KL92		(303) 660 – 3004		
B1d. Mailing Street Address of Station or Area of Operation		B1e. Name of Contact Person	Lat. 39° 16' 38.0" N	☐ NAD-27
5281 East Garton Road		Gary Phillips	Lon. 104° 48' 26.9" W	☒ NAD-83

B1f. City	B1g. County	B1h. State	B1i. Zip Code	B1l. Site Elevation (AMSL)
Castle Rock	Douglas	CO	80104	2087.9 meters

B2. Points of Communications: List the names and orbit locations of all satellites with which this earth station will communicate. The entry "ALSAT" is sufficient to identify the names and locations of all satellite facilities licensed by the U.S. All non-U.S. licensed satellites must be listed individually.

Satellite Name and Orbit Location	Satellite Name and Orbit Location	Satellite Name and Orbit Location
Intelsat-16 (48° West Longitude)		

B3. Destination points for communications using non-U.S. licensed satellites. For each non-U.S. licensed satellite facility identified in section B2 above, specify the destination point(s) (countries) where the services will be provided by this earth station via each non-U.S. license satellite system. Use additional sheets as needed.

Satellite Name	List of Destination Points

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B: (Technical and Operational Description)

B4. Earth Station Antenna Facilities: Use additional pages as needed.

(a) Site ID*	(b) Antenna ID**	(c) Quantity	(d) Manufacturer	(e) Model	(f) Antenna Size (meters)	(g) Antenna Gain Transmit and/or Receive (____dBi at____GHz)
Castle Rock	CRK-K01	1	NEC	12.5M	12.5	62.0 dBi at 12.00 GHz 64.0 dBi at 14.00 GHz

B5. Antenna Heights and Maximum Power Limits: (The corresponding Antenna ID in tables B4 and B5 applies to the same antenna)

(a) Antenna ID**	(b) Antenna Structure Registration No.	Maximum Antenna Height (c) Above Ground Level (meters)	Maximum Antenna Height (d) Above Mean Sea Level (meters)	(e) Building Height Above Ground Level (meters)***	(f) Maximum Antenna Height Above Rooftop (meters)***	(g) Total Input Power at antenna flange (Watts)	(h) Total EIRP for all carriers (dBW)
CRK-K01		2101.9	2087.9			125.9	85.0

Notes: * If this is an application for a VSAT network, identify the site (Item B1b, Schedule B, Page 1) where each antenna is located. Also include this Site-ID on Schedule B, Page 5.

** Identify each antenna in VSAT network or multi-antenna station with a unique identifier, such as HUB, REMOTE1, A1, A2, 10M, 12M, 7M, etc. Use this same antenna ID throughout tables B4, B5, B6, and B7 when referring to the same antenna.

*** Attach sketch of site or exemption, See 47 CFR Part 17.

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B: (Technical and Operational Description)

B6. Frequency Coordination Limits: Use additional pages as needed.

(a) Antenna ID*	(b) Frequency Limits (MHz)	(c) Range of Satellite Arc Eastern Limit**	(d) Range of Satellite Arc Western Limit**	(e) Antenna Elevation Angle Eastern Limit	(f) Antenna Elevation Angle Western Limit	(g) Earth Station Azimuth Angle Eastern Limit	(h) Earth Station Azimuth Angle Western Limit	(i) Maximum EIRP Density toward the Horizon (dBW/4kHz)
CRK-K01	10700.0 – 11450.0	48.0° W.L.	48.0° W.L.	16.7°	16.7°	112.5°	112.5°	
	11700.0 – 12200.0	48.0° W.L.	48.0° W.L.	16.7°	16.7°	112.5°	112.5°	
CRK-K01	12750.0 – 12762.0	48.0° W.L.	48.0° W.L.	16.7°	16.7°	112.5°	112.5°	-0.9
CRK-K01	12788.0 – 13250.0	48.0° W.L.	48.0° W.L.	16.7°	16.7°	112.5°	112.5°	-0.9
CRK-K01	13750.0 – 13772.0	48.0° W.L.	48.0° W.L.	16.7°	16.7°	112.5°	112.5°	-0.9
CRK-K01	13778.0 – 14000.0	48.0° W.L.	48.0° W.L.	16.7°	16.7°	112.5°	112.5°	-0.9
CRK-K01	14000.0 – 14500.0	48.0° W.L.	48.0° W.L.	16.7°	16.7°	112.5°	112.5°	-0.9
CRK-K01	13772.0 – 13778.0	48.0° W.L.	48.0° W.L.	16.7°	16.7°	112.5°	112.5°	-14.9

Notes: * Provide the ANTENNA-ID from table B4 to identify the antenna to which each frequency band and orbital arc range is associated.

** If operating with geostationary satellites, give the orbital arc limits and the associated elevation and azimuth angles. If operating with non-geostationary satellites, give the notation "NON-GEO" for the satellite arc and give the minimum operational elevation angle and the maximum azimuth angle range.

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B: (Technical and Operational Description)

B7. Particulars of Operation (Full particulars are required for each r.f. carrier): Use additional pages as needed.

(a) Antenna ID*	(b) Frequency Limits (MHz)	(c) T/R Mode **	(d) Antenna Polarization (H,V,L,R)	(e) Emission Designator	(f) Maximum EIRP per Carrier (dBW)	(g) Maximum EIRP Density per Carrier (dBW/4kHz)	(h) Description of Modulation and Services
CRK-K01	10700.0 – 11450.0	R	H, V	150KN0N			TT&C and Command Carrier
	11700.0 – 12200.0	R	H, V	150KN0N			TT&C and Command Carrier
CRK-K01	12750.0 – 12762.0	T	H, V	850KN0N	85.0	61.7	TT&C and Command Carrier
	12788.0 – 13250.0	T	H, V	850KN0N	85.0	61.7	TT&C and Command Carrier
	13750.0 – 13772.0	T	H, V	850KN0N	85.0	61.7	TT&C and Command Carrier
	13778.0 – 14000.0	T	H, V	850KN0N	85.0	61.7	TT&C and Command Carrier
	14000.0 – 14500.0	T	H, V	850KN0N	85.0	61.7	TT&C and Command Carrier
	13772.0 – 13778.0	T	H, V	850KN0N	71.0	47.7	TT&C and Command Carrier

Notes: * Provide the ANTENNA-ID from table B4 to identify the antenna to which each frequency band and emission is associated. For VSAT networks, include frequencies and emissions for all HUB and REMOTE units.

** Indicate whether the earth station transmits or receives in each frequency band.

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B: (Technical and Operational Description)

If VSAT Network, provide the SITE-ID (Item B1b) of the station that B8-B13 are in response to (HUB, REMOTE1, etc.): _____

B8. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with **geostationary** satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurements? If NO, provide as an exhibit, a technical analysis showing compliance with two-degree spacing policy.	☒ YES	☐ NO	
B9. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with **non-geostationary** satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurement?	☐ YES	☐ NO	N/A
B10. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	☐ YES	☒ NO	
B11. Is frequency coordination required? If YES, attach a frequency coordination report as an exhibit.	☒ YES	☐ NO	
B12. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as an exhibit.	☐ YES	☒ NO	
B13. FAA Notification - (See 47 CFT Part 17and 47 CFT Part 25.113(c)) **Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation?** **FAILURE TO COMPLY WITH 47 CFT PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION**	☐ YES	☒ NO	

Remote Control Point Location:

B10a. Street Address			
B10b. City	B10c. County	B10.d. State/Country	B10e. Zip Code
B10f. Telephone Number	B10g. Call Sign of Control Station (if appropriate)		

EXHIBIT D

PANAMSAT LICENSEE CORP.

SPECIAL TEMPORARY AUTHORITY REQUEST

EARTH STATION KL-92

IOT SERVICES FOR INTELSAT 16 SATELLITE

JANUARY 15, 2010

Exhibit D

Prepared By

COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 http://www.comsearch.com

Prepared For

PanAmSat Licensee Corp.
CASTLE ROCK, COLORADO
Temporary Transmit/Receive Earth Station
Operation Dates: 02/02/2010 - 08/02/2010

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations. Verbal and written coordination was conducted with the below listed carriers on December 29, 2009.

Company

AIRCELL, LLC
Abraham Divestiture Company LLC
Adcom 911
Arvada, City of
Boulder, County of
CHEETAH ACCESS TECHNOLOGIES, INC
Castle Rock, Town of - Utilities
City of Aurora
City of Aurora, Water Department
Clearwire Spectrum Holdings III, LLC
Colorado RSA No. 3 Limited Partnership
Commnet Four Corners, LLC
DENVER, CITY AND COUNTY OF
Denver Educational Broadcasting Inc.
ENTRAVISION HOLDINGS, LLC
Eastern Colorado Independent Networks
El Paso County InformationTechnologies
Elbert County School District C-1
FiberTower Network Services Corp.
Intermountain Rural Electric Association
International Communications Group, Inc.
LAKEWOOD, CITY OF
LP Broadband, Inc.
MESA NETWORKS, INC
METROPOLITAN AREA NETWORKS, INC.
MOTOROLA INC
National Digital TV Ctr - Comcast Media
New Cingular Wireless PCS LLC -Colorado
Open Range Communications

Pueblo, City of

Company (Continued)

QWEST CORPORATION
RED ROCKS DATA CENTER
SUMMIT, COUNTY OF
Sangre DeCristo Cellular Inc.
Smoky Hill Cellular of Colorado LP
Sprint Communications Co., LP
State of Colorado
Stelera Wireless, LLC
Union Telephone Company, Inc.
Verizon Wireless - Mountain Region
Vyvx, LLC
Vyvx , LLC - Colorado
WESTMINSTER CITY COLORADO
WISPER TELECOMMUNICATIONS
WWC Holding Co., Inc
West Metro Fire Protection District
Aspen Television, LLC
BARRINGTON COLORADO SPRINGS LICENSE LLC
BETA BROADCASTING, INC.
CBS Television Stations
COLORADO PUBLIC TELEVISION, INC. KDBI-TV
COMMUNITY TV OF COLORADO LICENSE, LLC
Comcast of Colorado/Pennsylvania/WV LLC
DENVER DIGITAL TELEVISION, LLC
Federal Communications Commission
FRONT RANGE EDUCATIONAL MEDIA CORP.
FULL GOSPEL OUTREACH, INC.
Gray Television Licensee, Inc.
Gray Television Licensee, Inc. (KKTV)
ION MEDIA DENVER LICENSE, INC.
JONES EARTH SEGMENT INC
KWGN INC
KWGN TV, Inc.
MCGRAW-HILL BROADCASTING COMP - KMGH
Multimedia Holdings Corporation
NBC TELEMUNDO LICENSE CO.
PIKES PEAK TELEVISION, INC.
Pikes Peak Broadcasting Company Inc.
ROCKY MOUNTAIN PUBLIC BROADCASTING
SANDE FAMILY TRUST
SANGRE DE CRISTO COMMUNICATIONS, INC.
Sagamorehill Broadcasting of WY N CO LLC
Trinity Broadcasting Network Inc
Trinity Broadcasting of Denver, Inc.
WORD OF GOD FELLOWSHIP, INC.

Society of Broadcast Engineers Representatives:

Colorado – Front Range
Western Slope
Kansas – All Except Kansas City
Montana – North Central
Nebraska – Eastern Area
Mid & Western Areas
New Mexico – Entire State
Texas – Amarillo
Abilene
Utah – Salt Lake City
Wyoming – Entire State

There are no unresolved interference objections with the stations contained in this application.

The following section presents the data pertinent to the frequency coordination of the earth station that was circulated to all carriers within its coordination contours.

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 http://www.comsearch.com

Date:	01/06/2010
Job Number:	091229COMSJC05

Administrative Information

Status	TEMPORARY (Operation from 02/02/2010 to 08/02/2010)
Call Sign	TEMP08
Licensee Code	P4350
Licensee Name	Panamsat Licensee Corp.

Site Information — CASTLE ROCK, COLORADO

Venue Name	
Latitude (NAD 83)	39° 16' 38.0" N
Longitude (NAD 83)	104° 48' 26.9" W
Climate Zone	A
Rain Zone	2
Ground Elevation (AMSL)	2087.88 m / 6850.0 ft

Link Information

Satellite Type	Geostationary
Mode	TR - Transmit-Receive
Modulation	No Modulation
Satellite Arc	48° W to 48° West Longitude
Azimuth Range	112.5° to 112.5°
Corresponding Elevation Angles	16.7° / 16.7°
Antenna Centerline (AGL)	8.23 m / 27.0 ft

Antenna Information		Receive		Transmit	
Manufacturer		NEC		NEC	
Model		12.5 Meter		12.5 Meter	
Gain / Diameter		62.0 dBi / 12.5 m		64.0 dBi / 12.5 m	
3-dB / 15-dB Beamwidth		0.14° / 0.26°		0.11° / 0.20°	
Max Available RF Power	(dBW/4 kHz)			-2.3	
	(dBW/MHz)			21.7	
Maximum EIRP	(dBW/4 kHz)			61.7	
	(dBW/MHz)			85.0	
	(dBW)			85.0	
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%	-151.0 dBW/4 kHz	20%
	Short Term	-146.0 dBW/MHz	0.01%	-128.0 dBW/4 kHz	0.0025%

Frequency Information	Receive 11.0 GHz	Transmit 14.0 GHz
Emission / Frequency Range (MHz)	150KN0N / 10700.0 - 11450.0 150KN0N / 11700.0 – 12200.0	850KN0N / 12750.0 – 12762.0 850KN0N / 12788.0 – 13250.0 850KN0N / 13750.0 - 13772.0 850KN0N / 13778.0 - 14000.0 850KN0N / 14000.0 - 14500.0
Max Great Circle Coordination Distance	288.0 km / 179.0 mi	190.0 km / 118.0 mi
Precipitation Scatter Contour Radius	504.6 km / 313.5 mi	126.1 km / 78.3 mi

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 http://www.comsearch.com

Coordination Values	**CASTLE ROCK, CO**			
Licensee Name	Panamsat Licensee Corp.			
Latitude (NAD 83)	39° 16' 38.0" N			
Longitude (NAD 83)	104° 48' 26.9" W			
Ground Elevation (AMSL)	2087.88 m / 6850.0 ft			
Antenna Centerline (AGL)	8.23 m / 27.0 ft			
Antenna Model	NEC 12.5 Meter			
Antenna Mode		Receive 11.0 GHz		Transmit 14.0 GHz
Interference Objectives: Long Term		-156.0 dBW/MHz	20%	-151.0 dBW/4 kHz 20%
Short Term		-146.0 dBW/MHz	0.01%	-128.0 dBW/4 kHz 0.0025%
Max Available RF Power				-2.3 (dBW/4 kHz)

			Receive 11.0 GHz		Transmit 14.0 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	5.34	112.03	-10.00	100.00	-10.00	100.00
5	5.54	107.16	-10.00	100.00	-10.00	100.00
10	6.06	102.28	-10.00	100.00	-10.00	100.00
15	5.92	97.37	-10.00	100.00	-10.00	100.00
20	6.17	92.46	-10.00	100.00	-10.00	100.00
25	5.97	87.54	-10.00	100.00	-10.00	100.00
30	5.19	82.65	-10.00	100.00	-10.00	100.00
35	5.21	77.76	-10.00	100.00	-10.00	100.00
40	4.32	72.92	-10.00	106.24	-10.00	100.00
45	3.59	68.12	-10.00	117.18	-10.00	100.00
50	2.74	63.38	-10.00	130.73	-10.00	100.00
55	2.50	58.62	-10.00	135.48	-10.00	100.00
60	2.38	53.86	-10.00	138.08	-10.00	100.00
65	1.27	49.37	-10.00	172.60	-10.00	100.00
70	1.12	44.76	-9.27	181.28	-9.27	100.00
75	0.30	40.46	-8.18	230.00	-8.18	143.39
80	0.00	36.14	-6.95	245.37	-6.95	157.28
85	0.00	31.85	-5.58	251.95	-5.58	163.91
90	0.00	27.79	-4.10	259.31	-4.10	169.55
95	0.00	24.04	-2.52	267.38	-2.52	175.52
100	0.23	20.61	-0.85	272.87	-0.85	178.60
105	0.00	18.31	0.44	283.29	0.44	186.77
110	0.00	16.93	1.29	288.04	1.29	190.00
115	0.21	16.72	1.42	287.63	1.42	189.43
120	0.25	18.08	0.57	278.43	0.57	181.99
125	0.23	20.61	-0.85	273.45	-0.85	179.17
130	0.43	23.75	-2.39	244.52	-2.39	150.56
135	0.40	27.56	-4.01	239.64	-4.01	147.98
140	0.47	31.63	-5.50	225.68	-5.50	136.40
145	0.41	35.97	-6.90	225.07	-6.90	137.33
150	0.55	40.37	-8.15	209.32	-8.15	125.56
155	0.83	44.85	-9.29	193.57	-9.29	110.06
160	0.90	49.46	-10.00	186.73	-10.00	104.98
165	0.99	54.14	-10.00	182.25	-10.00	101.40
170	1.02	58.86	-10.00	181.03	-10.00	100.44
175	0.87	63.63	-10.00	188.71	-10.00	106.61
180	0.81	68.41	-10.00	191.33	-10.00	108.80
185	0.84	73.19	-10.00	190.07	-10.00	107.75

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 http://www.comsearch.com

Coordination Values	**CASTLE ROCK, CO**			
Licensee Name	Panamsat Licensee Corp.			
Latitude (NAD 83)	39° 16' 38.0" N			
Longitude (NAD 83)	104° 48' 26.9" W			
Ground Elevation (AMSL)	2087.88 m / 6850.0 ft			
Antenna Centerline (AGL)	8.23 m / 27.0 ft			
Antenna Model	NEC 12.5 Meter			
Antenna Mode	Receive 11.0 GHz		Transmit 14.0 GHz	
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-151.0 dBW/4 kHz	20%
Short Term	-146.0 dBW/MHz	0.01%	-128.0 dBW/4 kHz	0.0025%
Max Available RF Power			-2.3 (dBW/4 kHz)	

			Receive 11.0 GHz		Transmit 14.0 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	1.34	77.96	-10.00	170.34	-10.00	100.00
195	0.91	82.79	-10.00	186.37	-10.00	104.69
200	1.25	87.59	-10.00	173.45	-10.00	100.00
205	1.50	92.41	-10.00	162.17	-10.00	100.00
210	2.04	97.25	-10.00	145.52	-10.00	100.00
215	1.55	102.06	-10.00	160.47	-10.00	100.00
220	2.27	106.93	-10.00	140.35	-10.00	100.00
225	2.33	111.75	-10.00	139.12	-10.00	100.00
230	2.57	116.60	-10.00	134.00	-10.00	100.00
235	2.49	121.38	-10.00	135.64	-10.00	100.00
240	2.61	126.18	-10.00	133.31	-10.00	100.00
245	2.77	130.96	-10.00	130.22	-10.00	100.00
250	2.85	135.70	-10.00	130.09	-10.00	100.00
255	2.87	140.37	-10.00	129.75	-10.00	100.00
260	2.91	144.98	-10.00	128.99	-10.00	100.00
265	3.15	149.56	-10.00	124.69	-10.00	100.00
270	4.08	154.34	-10.00	109.24	-10.00	100.00
275	3.96	158.45	-10.00	110.98	-10.00	100.00
280	3.99	162.22	-10.00	110.43	-10.00	100.00
285	4.25	165.46	-10.00	107.09	-10.00	100.00
290	4.50	167.50	-10.00	104.06	-10.00	100.00
295	4.23	167.24	-10.00	107.42	-10.00	100.00
300	4.25	165.46	-10.00	107.13	-10.00	100.00
305	4.74	162.74	-10.00	101.05	-10.00	100.00
310	5.52	159.31	-10.00	100.00	-10.00	100.00
315	6.70	155.47	-10.00	100.00	-10.00	100.00
320	7.34	151.05	-10.00	100.00	-10.00	100.00
325	6.91	146.20	-10.00	100.00	-10.00	100.00
330	6.10	141.23	-10.00	100.00	-10.00	100.00
335	5.33	136.28	-10.00	100.00	-10.00	100.00
340	4.90	131.39	-10.00	100.00	-10.00	100.00
345	4.79	126.55	-10.00	100.51	-10.00	100.00
350	4.81	121.71	-10.00	100.19	-10.00	100.00
355	5.12	116.89	-10.00	100.00	-10.00	100.00

Certification

I hereby certify that I am the technically qualified person responsible for the preparation of the frequency coordination data contained in this report. I am familiar with Parts 101 and 25 of the FCC Rules and Regulations and I have either prepared or reviewed the frequency coordination data submitted with this report, and that it is complete and correct to the best of my knowledge and belief.

Jeffrey E. Cowles

Jeffrey E. Cowles
Principal Frequency Planner
COMSEARCH
19700 Janelia Farm Blvd.
Ashburn, Va. 20147

DATED: January 6, 2010

EXHIBIT E

PANAMSAT LICENSEE CORP.

SPECIAL TEMPORARY AUTHORITY REQUEST

EARTH STATION KL-92

IOT SERVICES FOR INTELSAT 16 SATELLITE

JANUARY 15, 2010

Exhibit E

FCC Form 312, Response to Question 36: Cancelled Authorizations

PanAmSat Licensee Corp. has never had an FCC license "revoked."

However, on June 26, 2000, the International Bureau "cancelled" two Ka-band satellite authorizations issued to PanAmSat Licensee Corp. based on the Bureau's finding that PanAmSat Licensee Corp. had not satisfied applicable construction milestones. *See* PanAmSat Licensee Corp., Memorandum Opinion and Order, DA 00-1266, 15 FCC Rcd 18720 (IB 2000). In that same order, the Bureau denied related applications to modify the cancelled authorizations. PanAmSat Licensee Corp. filed an application for review of the Bureau's decision, which the Commission denied, and subsequently filed an appeal with the United States Court of Appeals for the District of Columbia Circuit, which was dismissed in January 2003 at PanAmSat Licensee Corp.'s request. Notwithstanding the fact that the Bureau's action does not seem to be the kind of revocation action contemplated by question 36, PanAmSat Licensee Corp. is herein making note of the decision in the interest of absolute candor and out of an abundance of caution. In any event, the Bureau's action with respect to PanAmSat Licensee Corp. does not reflect on PanAmSat Licensee Corp's basic qualifications, which are well-established and a matter of public record.