FCC 312 Schedule S	FEDERAL COMMUNICATIONS COMMISSION SATELLITE SPACE STATION AUTHORIZATIONS (Technical and Operational Description)	Page 1: General, Frequency Bands, and GSO Orbit

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name:		e. Estimated Date of Placement into Service:	i Will the space station(s) operate on a Common Carrier Basis:
SE-KA 61W		11/1/2016	N
b. Construction Commencement Date:		f. Estimated Lifetime of Satellite(s):	j. Number of transponders offered on a common carrier basis:
11/1/2014		15 Years	
c. Construction Completion Date:		g. Total Number of Transponders:	k. Total Common Carrier Transponder Bandwidth:
5/1/2016		96	MHz
d1. Est Launch Date Begin:	d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth)	l. Orbit Type: Mark all boxes that apply:
7/1/2016	10/1/2016	3072 MHz	[X] GSO [ ] NGSO

S2. OPERATING FREQUENCY BANDS Identify the frequency range and transmit/receive mode for all frequency bands in which this station will oper
Also indicate the nature of service(s) for each frequency band.

Frequency Band Limits				e. T/R Mode	f. Nature of Service(s): List all that apply to this band
Lower Frequency (_Hz)		Upper Frequency (_Hz)			
a. Numeric	b. Unit (K/M/G)	c. Numeric	d. Unit (K/M/G)		
18.3	G	19.3	G	T	Fixed Satellite Service
19.7	G	20.2	G	T	Fixed Satellite Service
28.1	G	29.1	G	R	Fixed Satellite Service
29.5	G	30.0	G	R	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W):	b. Alternate Orbital Longitude (Degrees E/W):	c. Reason for orbital location selection:
60.85 W		The SE-KA 61W satellite will operate at the 60.85° W.L. orbital location and will provide fixed-satellite service ("FSS") to North, Central and South America, as well as Hawaii and the Caribbean. The Ka-band spectrum at the nominal 61°W.L. location is unassigned. The 0.15 degree ofset was chosen in order to avoid physical collision with a C-/Ku-band satellite that operates nominally at 61W.L.
Longitudinal Tolerance or E/W Station-Keeping: d. Toward West: 0.05 Degrees e. Toward East: 0.05 Degrees	f. Inclination Excursion or N/S Station-Keeping Tolerance: 0.05 Degrees	Range of orbital are in which adequate service can be provided (Optional): Degrees E/W g. Westernmost: h. Easternmost:
i. Reason for service are selection (Optional):		

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S4. ORBITAL INFORMATION FOR NON-GEOSTATIONARY SATELLITES ONLY

S4a. Total Number of Satellites in Network or System:

S4b. Total Number of Orbital Planes in Network or System:

S4c. Celestial Reference Body (Earth, Sun, Moon, etc.):

S4d. Orbit Epoch Date:

For each Orbital Plane Provide:

(e) Orbital Plane No.	(f) No. of Satellites in Plane	(g) Inclination Angle (degrees)	(h) Orbital Period (Seconds)	(i) Apogee (km)	(j) Perigee (km)	(k) Right Ascension of the Ascending Node (Deg.)	(l) Argument of Perigee (Degrees)	Active Service Arc Range (Degrees)		
								(m) Begin Angle	(n) End Angle	(o) Other

S5. INITIAL SATELLITE PHASE ANGLE For each satellite in each orbital plane, provide the intital phase angle.

(a) Orbital Plane No.	(b) Satellite Number	(c) Initial Phase Angle (Degrees)

NO NGSO DATA FILED

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S6. SERVICE AREA CHARACTERISTICS for each service area provide:

(a) Service Area ID	(b) Type of Associated Station (Earth or Space)	(c) Service Area Diagram File Name (GXT File)	(d) Service Area Description. Provide list of geographic areas (state postal codes or ITU 3-ltr codes), satellites or Figure No. of Service Area Diagram.
GLOBAL	S		All visible areas of the Earth

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S7. SPACE STATION ANTENNA BEAM CHARACTERISTICS For each antenna beam provide:

(a) Beam ID	(b) T/R Mode	Isotropic Antenna Gain		(e) Pointing Error (Degrees)	(f) Rotational Error (Degrees)	(g) Min. Cross-Polar Isolation (dB)	(h) Polarization Switchable? (Y/N)	(i) Polarization Alignment Rel. Equatorial Plane (Degrees)	(j) Service Area ID	Transmit			Receive				
		(c) Peak (dBi)	(d) Edge (dBi)							(k) Input Losses (dB)	(l) Effective Output Power (W)	(m) Max. EIRP (dBW)	(n) System Noice Temp (k)	(o) G/T Max. Gain Pt. (db/K)	(p) Min. Saturation Flux Density (dBW/m2)	Input Attenuator (dB)	
																(q) Max. Value	(r) Step Size
SU1	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU2	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU3	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU4	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU5	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU6	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU7	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU8	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU9	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU10	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU11	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU12	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU13	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU14	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
GDA	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
GDA	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
GDB	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
GDB	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
OMN	R	2	-4.5			30	N		GLOBAL				3162	-39.5	-70		
OMN	T	2	-4			30	N		GLOBAL	2	82	21.1					
TCO	R	40	36	0.2	0.1	30	N		GLOBAL				31623	-9	-90		
TMO	T	40	36	0.2	0.1	30	N		GLOBAL	6	1.3	41					
SU15	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU16	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU17	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU18	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU19	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU20	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU21	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2

SU22	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU23	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU24	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU25	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU26	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU27	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU28	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU29	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU30	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU31	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU32	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU33	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU34	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU35	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU36	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU37	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU38	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU39	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SU40	R	40	36	0.2	0.1	30	N		GLOBAL				501	13	-100	16	2
SD1	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD2	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD3	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD4	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD5	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD6	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD7	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD8	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD9	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD10	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD11	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD12	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD13	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD14	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD15	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD16	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD17	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD18	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD19	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					
SD20	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56					

SD21	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD22	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD23	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD24	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD25	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD26	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD27	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD28	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD29	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD30	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD31	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD32	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD33	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD34	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD35	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD36	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD37	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD38	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD39	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
SD40	T	40	36	0.2	0.1	30	N		GLOBAL	3	39.8	56						
GUA	R	40	36	0.2	0.1	30	N		GLOBAL				1000	10	-95	16	1	
GUA	R	40	36	0.2	0.1	30	N		GLOBAL				1000	10	-95	16	1	
GUB	R	40	36	0.2	0.1	30	N		GLOBAL				1000	10	-95	16	1	
GUB	R	40	36	0.2	0.1	30	N		GLOBAL				1000	10	-95	16	1	

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S8. ANTENNA BEAM DIAGRAMS For each beam pattern provide the reference to the graphic image and numerical data:
Also provide the power flux density levels in each beam that result from the emission with the highest power flux density.

(a) Beam ID	(b) T/R Mode	(c) Co-or Cross Polar Mode ("C" or" X")	(d) GSO Ref. Orbital Longitude (Deg. E/W)	(e) NGSO Antenna Gain Contour Description (Figure/Table/ Exhibit)	(f) GSO Antenna Gain Contour Data (GXT File)	Max. Power Flux Density (dBW/M2/Hz) At Angle of Arrival above horizontal (for emission with highest PFD)				
						(g) 5 Deg	(h) 10 Deg	(i) 15 Deg	(j) 20 Deg	(k) 25 Deg
SU1	R	C	-60.85							
SU2	R	C	-60.85							
SU3	R	C	-60.85							
SU4	R	C	-60.85							
SU5	R	C	-60.85							
SU6	R	C	-60.85							
SU7	R	C	-60.85							
SU8	R	C	-60.85							
SU9	R	C	-60.85							
SU10	R	C	-60.85							
SU11	R	C	-60.85							
SU12	R	C	-60.85							
SU13	R	C	-60.85							
SU14	R	C	-60.85							
SU15	R	C	-60.85							
SU16	R	C	-60.85							
SU17	R	C	-60.85							
SU18	R	C	-60.85							
SU19	R	C	-60.85							
SU20	R	C	-60.85							
SU21	R	C	-60.85							
SU22	R	C	-60.85							
SU23	R	C	-60.85							
SU24	R	C	-60.85							
SU25	R	C	-60.85							
SU26	R	C	-60.85							
SU27	R	C	-60.85							
SU28	R	C	-60.85							

SU29	R	C	-60.85							
SU30	R	C	-60.85							
SU31	R	C	-60.85							
SU32	R	C	-60.85							
SU33	R	C	-60.85							
SU34	R	C	-60.85							
SU35	R	C	-60.85							
SU36	R	C	-60.85							
SU37	R	C	-60.85							
SU38	R	C	-60.85							
SU39	R	C	-60.85							
SU40	R	C	-60.85							
SD1	T	C	-60.85			-127	-126.5	-125.4	-124	-123
SD2	T	C	-60.85			-136	-134	-132	-129.5	-126
SD3	T	C	-60.85			-137	-136.8	-136	-134.5	-130.5
SD4	T	C	-60.85			-140	-139.8	-139.2	-137.5	-137
SD5	T	C	-60.85			-143	-142.5	-142	-141	-140
SD6	T	C	-60.85			-143	-142.5	-142	-141	-140
SD7	T	C	-60.85			-139	-138	-137	-136	-129
SD8	T	C	-60.85			-123	-122	-121.5	-121	-122
SD9	T	C	-60.85			-124.5	-124	-123.3	-122	-121
SD10	T	C	-60.85			-125	-124.3	-123.5	-122	-121
SD11	T	C	-60.85			-123.7	-123.2	-122.5	-121	-121
SD12	T	C	-60.85			-132	-131	-128.8	-126.5	-124.5
SD13	T	C	-60.85			-122	-122	-122	-123	-124
SD14	T	C	-60.85			-145	-144	-143	-142	-141
SD15	T	C	-60.85			-145	-145	-145	-145	-145
SD16	T	C	-60.85			-145	-145	-145	-145	-145
SD17	T	C	-60.85			-145	-145	-145	-145	-145
SD18	T	C	-60.85			-145	-145	-145	-145	-144
SD19	T	C	-60.85			-145	-145	-145	-145	-145
SD20	T	C	-60.85			-145	-145	-145	-145	-145
SD21	T	C	-60.85			-145	-145	-145	-145	-145
SD22	T	C	-60.85			-145	-145	-145	-145	-145
SD23	T	C	-60.85			-145	-145	-145	-145	-145
SD24	T	C	-60.85			-145	-144	-143	-140	-133
SD25	T	C	-60.85			-137	-135	-132	-129	-126
SD26	T	C	-60.85			-145	-145	-145	-145	-145
SD27	T	C	-60.85			-145	-145	-145	-145	-145

SD28	T	C	-60.85			-143	-142	-141	-140	-134
SD29	T	C	-60.85			-125	-124.5	-123.6	-122.5	-121.5
SD30	T	C	-60.85			-145	-145	-145	-145	-145
SD31	T	C	-60.85			-144	-143	-142	-141	-138
SD32	T	C	-60.85			-128	-127	-125.6	-124	-122.8
SD33	T	C	-60.85			-145	-142	-140	-138	-133
SD34	T	C	-60.85			-127.5	-126.5	-125.3	-123.9	-122.6
SD35	T	C	-60.85			-133	-132	-129.4	-127	-124.8
SD36	T	C	-60.85			-124.5	-123.9	-123.2	-122.5	-122
SD37	T	C	-60.85			-123.9	-123.5	-122.8	-122	-121.5
SD38	T	C	-60.85			-123.7	-123.4	-123	-122	-122
SD39	T	C	-60.85			-144	-143	-142	-141	-137
SD40	T	C	-60.85			-143	-142	-141	-137	-132
GUA	R	C	-60.85							
GUA	R	C	-60.85							
GUB	R	C	-60.85							
GUB	R	C	-60.85							
GDA	T	C	-60.85			-130	-130	-130	-130	-130
GDA	T	C	-60.85			-130	-130	-130	-130	-130
GDB	T	C	-60.85			-130	-130	-130	-130	-130
GDB	T	C	-60.85			-130	-130	-130	-130	-130
TCO	R	C	-60.85							
TMO	T	C	-60.85			-121	-121	-121	-121	-121
OMN	T	C	-60.85			-141	-141	-141	-141	-141

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S9. SPACE STATION CHANNELS For each frequency channel provide:

(a) Channel No.	(B) Assigned Bandwidth (kHz)	(c) T/R Mode	(d) Center Frequency (MHz)	(e) Polarization (H, V, L, R)	(f) TTC or Comm Channel (T or C)
GU1L	32000	R	28140	L	C
GU1R	32000	R	28140	R	C
GU2L	32000	R	28180	L	C
GU2R	32000	R	28180	R	C
GU3L	32000	R	28220	L	C
GU3R	32000	R	28220	R	C
GU4L	32000	R	28260	L	C
GU4R	32000	R	28260	R	C
GU5L	32000	R	28300	L	C
GU5R	32000	R	28300	R	C
GU6L	32000	R	28340	L	C
GU6R	32000	R	28340	R	C
GU7L	32000	R	28380	L	C
GU7R	32000	R	28380	R	C
GU8L	32000	R	28420	L	C
GU8R	32000	R	28420	R	C
GU9L	32000	R	28460	L	C
GU9R	32000	R	28460	R	C
GU10L	32000	R	28500	L	C
GU10R	32000	R	28500	R	C
GU11L	32000	R	28540	L	C
GU11R	32000	R	28540	R	C
GU12L	32000	R	28580	L	C
GU12R	32000	R	28580	R	C
GU13L	32000	R	28620	L	C
GU13R	32000	R	28620	R	C
GU14L	32000	R	28660	L	C
GU14R	32000	R	28660	R	C
GU15L	32000	R	28700	L	C
GU15R	32000	R	28700	R	C

S10. SPACE STATION TRANSPONDERS For each transponder provide:

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
F1	121.6	GU1L	GUAL	UD1	SD1
F2	121.6	GU1L	GUBL	UD1	SD1
F3	121.6	GU2L	GUAL	UD2	SD1
F4	121.6	GU2L	GUBL	UD2	SD1
F5	121.6	GU3L	GUAL	UD3	SD1
F6	121.6	GU3L	GUBL	UD3	SD1
F7	121.6	GU7L	GUAL	UD7	SD2
F8	121.6	GU7L	GUBL	UD7	SD2
F9	121.6	GU8L	GUAL	UD8	SD2
F10	121.6	GU8L	GUBL	UD8	SD2
F11	121.6	GU9L	GUAL	UD9	SD2
F12	121.6	GU9L	GUBL	UD9	SD2
F13	121.6	GU13L	GUAL	UD1	SD3
F14	121.6	GU13L	GUBL	UD1	SD3
F15	121.6	GU14L	GUAL	UD2	SD3
F16	121.6	GU14L	GUBL	UD2	SD3
F17	121.6	GU15L	GUAL	UD3	SD3
F18	121.6	GU15L	GUBL	UD3	SD3
F19	121.6	GU10L	GUAL	UD10	SD4
F20	121.6	GU10L	GUBL	UD10	SD4
F21	121.6	GU11L	GUAL	UD11	SD4
F22	121.6	GU11L	GUBL	UD11	SD4
F23	121.6	GU12L	GUAL	UD12	SD4
F24	121.6	GU12L	GUBL	UD12	SD4
F25	121.6	GU4L	GUAL	UD4	SD5
F26	121.6	GU4L	GUBL	UD4	SD5
F27	121.6	GU5L	GUAL	UD5	SD5
F28	121.6	GU5L	GUBL	UD5	SD5
F29	121.6	GU6L	GUAL	UD6	SD5
F30	121.6	GU6L	GUBL	UD6	SD5

GU16L	32000	R	28740	L	C
GU16R	32000	R	28740	R	C
GU17L	32000	R	28780	L	C
GU17R	32000	R	28780	R	C
GU18L	32000	R	28820	L	C
GU18R	32000	R	28820	R	C
GU19L	32000	R	28860	L	C
GU19R	32000	R	28860	R	C
GU20L	32000	R	28900	L	C
GU20R	32000	R	28900	R	C
GU21L	32000	R	28940	L	C
GU21R	32000	R	28940	R	C
GU22L	32000	R	28980	L	C
GU22R	32000	R	28980	R	C
GU23L	32000	R	29020	L	C
GU23R	32000	R	29020	R	C
GU24L	32000	R	29060	L	C
GU24R	32000	R	29060	R	C
GD1L	32000	T	18340	L	C
GD1R	32000	T	18340	R	C
GD2L	32000	T	18380	L	C
GD2R	32000	T	18380	R	C
GD3L	32000	T	18420	L	C
GD3R	32000	T	18420	R	C
GD4L	32000	T	18460	L	C
GD4R	32000	T	18460	R	C
GD5L	32000	T	18500	L	C
GD5R	32000	T	18500	R	C
GD6L	32000	T	18540	L	C
GD6R	32000	T	18540	R	C
GD7L	32000	T	18580	L	C
GD7R	32000	T	18580	R	C
GD8L	32000	T	18620	L	C
GD8R	32000	T	18620	R	C
GD9L	32000	T	18660	L	C
GD9R	32000	T	18660	R	C
GD10L	32000	T	18700	L	C
GD10R	32000	T	18700	R	C
GD11L	32000	T	18740	L	C

F31	121.6	GU22L	GUAL	UD10	SD6
F32	121.6	GU22L	GUBL	UD10	SD6
F33	121.6	GU23L	GUAL	UD11	SD6
F34	121.6	GU23L	GUBL	UD11	SD6
F35	121.6	GU24L	GUAL	UD12	SD6
F36	121.6	GU24L	GUBL	UD12	SD6
F37	121.6	GU19L	GUAL	UD7	SD7
F38	121.6	GU19L	GUBL	UD7	SD7
F39	121.6	GU20L	GUAL	UD8	SD7
F40	121.6	GU20L	GUBL	UD8	SD7
F41	121.6	GU21L	GUAL	UD9	SD7
F42	121.6	GU21L	GUBL	UD9	SD7
F43	121.6	GU10R	GUAR	UD10	SD8
F44	121.6	GU10R	GUBR	UD10	SD8
F45	121.6	GU11R	GUAR	UD11	SD8
F46	121.6	GU11R	GUBR	UD11	SD8
F47	121.6	GU12R	GUAR	UD12	SD8
F48	121.6	GU12R	GUBR	UD12	SD8
F49	121.6	GU16L	GUAL	UD4	SD9
F50	121.6	GU16L	GUBL	UD4	SD9
F51	121.6	GU17L	GUAL	UD5	SD9
F52	121.6	GU17L	GUBL	UD5	SD9
F53	121.6	GU18L	GUAL	UD6	SD9
F54	121.6	GU18L	GUBL	UD6	SD9
F55	121.6	GU22R	GUAR	UD10	SD10
F56	121.6	GU22R	GUBR	UD10	SD10
F57	121.6	GU23R	GUAR	UD11	SD10
F58	121.6	GU23R	GUBR	UD11	SD10
F59	121.6	GU24R	GUAR	UD12	SD10
F60	121.6	GU24R	GUBR	UD12	SD10
F61	121.6	GU4R	GUAR	UD4	SD11
F62	121.6	GU4R	GUBR	UD4	SD11
F63	121.6	GU5R	GUAR	UD5	SD11
F64	121.6	GU5R	GUBR	UD5	SD11
F65	121.6	GU6R	GUAR	UD6	SD11
F66	121.6	GU6R	GUBR	UD6	SD11
F67	121.6	GU1R	GUAR	UD1	SD12
F68	121.6	GU1R	GUBR	UD1	SD12
F69	121.6	GU2R	GUAR	UD2	SD12

GD11R	32000	T	18740	R	C
GD12L	32000	T	18780	L	C
GD12R	32000	T	18780	R	C
GD13L	32000	T	18820	L	C
GD13R	32000	T	18820	R	C
GD14L	32000	T	18860	L	C
GD14R	32000	T	18860	R	C
GD15L	32000	T	18900	L	C
GD15R	32000	T	18900	R	C
GD16L	32000	T	18940	L	C
GD16R	32000	T	18940	R	C
GD17L	32000	T	18980	L	C
GD17R	32000	T	18980	R	C
GD18L	32000	T	19020	L	C
GD18R	32000	T	19020	R	C
GD19L	32000	T	19060	L	C
GD19R	32000	T	19060	R	C
GD20L	32000	T	19100	L	C
GD20R	32000	T	19100	R	C
GD21L	32000	T	19140	L	C
GD21R	32000	T	19140	R	C
GD22L	32000	T	19180	L	C
GD22R	32000	T	19180	R	C
GD23L	32000	T	19220	L	C
GD23R	32000	T	19220	R	C
GD24L	32000	T	19260	L	C
GD24R	32000	T	19260	R	C
UU1	32000	R	29540	R	C
UU2	32000	R	29580	R	C
UU3	32000	R	29620	R	C
UU4	32000	R	29660	R	C
UU5	32000	R	29700	R	C
UU6	32000	R	29740	R	C
UU7	32000	R	29780	R	C
UU8	32000	R	29820	R	C
UU9	32000	R	29860	R	C
UU10	32000	R	29900	R	C
UU11	32000	R	29940	R	C
UU12	32000	R	29980	R	C

F70	121.6	GU2R	GUBR	UD2	SD12
F71	121.6	GU3R	GUAR	UD3	SD12
F72	121.6	GU3R	GUBR	UD3	SD12
F73	121.6	GU10L	GUAL	UD10	SD13
F74	121.6	GU10L	GUBL	UD10	SD13
F75	121.6	GU23L	GUAL	UD11	SD13
F76	121.6	GU23L	GUBL	UD11	SD13
F77	121.6	GU12R	GUAR	UD12	SD13
F78	121.6	GU12R	GUBR	UD12	SD13
F79	121.6	GU16R	GUAR	UD4	SD14
F80	121.6	GU16R	GUBR	UD4	SD14
F81	121.6	GU17R	GUAR	UD5	SD14
F82	121.6	GU17R	GUBR	UD5	SD14
F83	121.6	GU18R	GUAR	UD6	SD14
F84	121.6	GU18R	GUBR	UD6	SD14
F85	121.6	GU7R	GUAR	UD7	SD15
F86	121.6	GU7R	GUBR	UD7	SD15
F87	121.6	GU8R	GUAR	UD8	SD15
F88	121.6	GU8R	GUBR	UD8	SD15
F89	121.6	GU9R	GUAR	UD9	SD15
F90	121.6	GU9R	GUBR	UD9	SD15
F91	121.6	GU1L	GUAL	UD1	SD16
F92	121.6	GU1L	GUBL	UD1	SD16
F93	121.6	GU14L	GUAL	UD2	SD16
F94	121.6	GU14L	GUBL	UD2	SD16
F95	121.6	GU3R	GUAR	UD3	SD16
F96	121.6	GU3R	GUBR	UD3	SD16
F97	121.6	GU19R	GUAR	UD7	SD17
F98	121.6	GU19R	GUBR	UD7	SD17
F99	121.6	GU20R	GUAR	UD8	SD17
F100	121.6	GU20R	GUBR	UD8	SD17
F101	121.6	GU21R	GUAR	UD9	SD17
F102	121.6	GU21R	GUBR	UD9	SD17
F103	121.6	GU13R	GUAR	UD1	SD18
F104	121.6	GU13R	GUBR	UD1	SD18
F105	121.6	GU14R	GUAR	UD2	SD18
F106	121.6	GU14R	GUBR	UD2	SD18
F107	121.6	GU15R	GUAR	UD3	SD18
F108	121.6	GU15R	GUBR	UD3	SD18

UD1	32000	T	19740	L	C
UD2	32000	T	19780	L	C
UD3	32000	T	19820	L	C
UD4	32000	T	19860	L	C
UD5	32000	T	19900	L	C
UD6	32000	T	19940	L	C
UD7	32000	T	19980	L	C
UD8	32000	T	20020	L	C
UD9	32000	T	20060	L	C
UD10	32000	T	20100	L	C
UD11	32000	T	20140	L	C
UD12	32000	T	20180	L	C
CMD1	1000	R	29505	R	T
CMD2	1000	R	29507.5	R	T
TLM1	1000	T	19705	L	T
TLM2	1000	T	19707.5	L	T

F109	121.6	GU4L	GUAL	UD4	SD19
F110	121.6	GU4L	GUBL	UD4	SD19
F111	121.6	GU17L	GUAL	UD5	SD19
F112	121.6	GU17L	GUBL	UD5	SD19
F113	121.6	GU6R	GUAR	UD6	SD19
F114	121.6	GU6R	GUBR	UD6	SD19
F115	121.6	GU22L	GUAL	UD10	SD20
F116	121.6	GU22L	GUBL	UD10	SD20
F117	121.6	GU11R	GUAR	UD11	SD20
F118	121.6	GU11R	GUBR	UD11	SD20
F119	121.6	GU24R	GUAR	UD12	SD20
F120	121.6	GU24R	GUBR	UD12	SD20
F121	121.6	GU12L	GUAL	UD12	SD21
F122	121.6	GU12L	GUBL	UD12	SD21
F123	121.6	GU10R	GUAR	UD10	SD21
F124	121.6	GU10R	GUBR	UD10	SD21
F125	121.6	GU23R	GUAR	UD11	SD21
F126	121.6	GU23R	GUBR	UD11	SD21
F127	121.6	GU13L	GUAL	UD1	SD22
F128	121.6	GU13L	GUBL	UD1	SD22
F129	121.6	GU2R	GUAR	UD2	SD22
F130	121.6	GU2R	GUBR	UD2	SD22
F131	121.6	GU15R	GUAR	UD3	SD22
F132	121.6	GU15R	GUBR	UD3	SD22
F133	121.6	GU7L	GUAL	UD7	SD23
F134	121.6	GU7L	GUBL	UD7	SD23
F135	121.6	GU20L	GUAL	UD8	SD23
F136	121.6	GU20L	GUBL	UD8	SD23
F137	121.6	GU9R	GUAR	UD9	SD23
F138	121.6	GU9R	GUBR	UD9	SD23
F139	121.6	GU16L	GUAL	UD4	SD24
F140	121.6	GU16L	GUBL	UD4	SD24
F141	121.6	GU5R	GUAR	UD5	SD24
F142	121.6	GU5R	GUBR	UD5	SD24
F143	121.6	GU18R	GUAR	UD6	SD24
F144	121.6	GU18R	GUBR	UD6	SD24
F145	121.6	GU3L	GUAL	UD3	SD25
F146	121.6	GU3L	GUBL	UD3	SD25
F147	121.6	GU1R	GUAR	UD1	SD25

F148	121.6	GU1R	GUBR	UD1	SD25
F149	121.6	GU14R	GUAR	UD2	SD25
F150	121.6	GU14R	GUBR	UD2	SD25
F151	121.6	GU6L	GUAL	UD6	SD26
F152	121.6	GU6L	GUBL	UD6	SD26
F153	121.6	GU4R	GUAR	UD4	SD26
F154	121.6	GU4R	GUBR	UD4	SD26
F155	121.6	GU17R	GUAR	UD5	SD26
F156	121.6	GU17R	GUBR	UD5	SD26
F157	121.6	GU11L	GUAL	UD11	SD27
F158	121.6	GU11L	GUBL	UD11	SD27
F159	121.6	GU24L	GUAL	UD12	SD27
F160	121.6	GU24L	GUBL	UD12	SD27
F161	121.6	GU22R	GUAR	UD10	SD27
F162	121.6	GU22R	GUBR	UD10	SD27
F163	121.6	GU5L	GUAL	UD5	SD28
F164	121.6	GU5L	GUBL	UD5	SD28
F165	121.6	GU18L	GUAL	UD6	SD28
F166	121.6	GU18L	GUBL	UD6	SD28
F167	121.6	GU16R	GUAR	UD4	SD28
F168	121.6	GU16R	GUBR	UD4	SD28
F169	121.6	GU10L	GUAL	UD10	SD29
F170	121.6	GU10L	GUBL	UD10	SD29
F171	121.6	GU11R	GUAR	UD11	SD29
F172	121.6	GU11R	GUBR	UD11	SD29
F173	121.6	GU24R	GUAR	UD12	SD29
F174	121.6	GU24R	GUBR	UD12	SD29
F175	121.6	GU2L	GUAL	UD2	SD30
F176	121.6	GU2L	GUBL	UD2	SD30
F177	121.6	GU15L	GUAL	UD3	SD30
F178	121.6	GU15L	GUBL	UD3	SD30
F179	121.6	GU13R	GUAR	UD1	SD30
F180	121.6	GU13R	GUBR	UD1	SD30
F181	121.6	GU19L	GUAL	UD7	SD31
F182	121.6	GU19L	GUBL	UD7	SD31
F183	121.6	GU8R	GUAR	UD8	SD31
F184	121.6	GU8R	GUBR	UD8	SD31
F185	121.6	GU21R	GUAR	UD9	SD31
F186	121.6	GU21R	GUBR	UD9	SD31

F187	121.6	GU1L	GUAL	UD1	SD32
F188	121.6	GU1L	GUBL	UD1	SD32
F189	121.6	GU2R	GUAR	UD2	SD32
F190	121.6	GU2R	GUBR	UD2	SD32
F191	121.6	GU15R	GUAR	UD3	SD32
F192	121.6	GU15R	GUBR	UD3	SD32
F193	121.6	GU22L	GUAL	UD10	SD33
F194	121.6	GU22L	GUBL	UD10	SD33
F195	121.6	GU12R	GUAR	UD12	SD33
F196	121.6	GU12R	GUBR	UD12	SD33
F197	121.6	GU23R	GUAR	UD11	SD33
F198	121.6	GU23R	GUBR	UD11	SD33
F199	121.6	GU4L	GUAL	UD4	SD34
F200	121.6	GU4L	GUBL	UD4	SD34
F201	121.6	GU5R	GUAR	UD5	SD34
F202	121.6	GU5R	GUBR	UD5	SD34
F203	121.6	GU18R	GUAR	UD6	SD34
F204	121.6	GU18R	GUBR	UD6	SD34
F205	121.6	GU13L	GUAL	UD1	SD35
F206	121.6	GU13L	GUBL	UD1	SD35
F207	121.6	GU3R	GUAR	UD3	SD35
F208	121.6	GU3R	GUBR	UD3	SD35
F209	121.6	GU14R	GUAR	UD2	SD35
F210	121.6	GU14R	GUBR	UD2	SD35
F211	121.6	GU9L	GUAL	UD9	SD36
F212	121.6	GU9L	GUBL	UD9	SD36
F213	121.6	GU7R	GUAR	UD7	SD36
F214	121.6	GU7R	GUBR	UD7	SD36
F215	121.6	GU20R	GUAR	UD8	SD36
F216	121.6	GU20R	GUBR	UD8	SD36
F217	121.6	GU16L	GUAL	UD4	SD37
F218	121.6	GU16L	GUBL	UD4	SD37
F219	121.6	GU6R	GUAR	UD6	SD37
F220	121.6	GU6R	GUBR	UD6	SD37
F221	121.6	GU17R	GUAR	UD5	SD37
F222	121.6	GU17R	GUBR	UD5	SD37
F223	121.6	GU8L	GUAL	UD8	SD38
F224	121.6	GU8L	GUBL	UD8	SD38
F225	121.6	GU21L	GUAL	UD9	SD38

F226	121.6	GU21L	GUBL	UD9	SD38
F227	121.6	GU19R	GUAR	UD7	SD38
F228	121.6	GU19R	GUBR	UD7	SD38
F229	121.6	GU7L	GUAL	UD7	SD39
F230	121.6	GU7L	GUBL	UD7	SD39
F231	121.6	GU8R	GUAR	UD8	SD39
F232	121.6	GU8R	GUBR	UD8	SD39
F233	121.6	GU21R	GUAR	UD9	SD39
F234	121.6	GU21R	GUBR	UD9	SD39
F235	121.6	GU11L	GUAL	UD11	SD40
F236	121.6	GU11L	GUBL	UD11	SD40
F237	121.6	GU24L	GUAL	UD12	SD40
F238	121.6	GU24L	GUBL	UD12	SD40
F239	121.6	GU22R	GUAR	UD10	SD40
F240	121.6	GU22R	GUBR	UD10	SD40
R1	126.9	UU1	SU1	GD1L	GDAL
R2	126.9	UU1	SU1	GD1L	GDBL
R3	126.9	UU2	SU1	GD2L	GDAL
R4	126.9	UU2	SU1	GD2L	GDBL
R5	126.9	UU3	SU1	GD3L	GDAL
R6	126.9	UU3	SU1	GD3L	GDBL
R7	126.9	UU7	SU2	GD7L	GDAL
R8	126.9	UU7	SU2	GD7L	GDBL
R9	126.9	UU8	SU2	GD8L	GDAL
R10	126.9	UU8	SU2	GD8L	GDBL
R11	126.9	UU9	SU2	GD9L	GDAL
R12	126.9	UU9	SU2	GD9L	GDBL
R13	126.9	UU1	SU3	GD13L	GDAL
R14	126.9	UU1	SU3	GD13L	GDBL
R15	126.9	UU2	SU3	GD14L	GDAL
R16	126.9	UU2	SU3	GD14L	GDBL
R17	126.9	UU3	SU3	GD15L	GDAL
R18	126.9	UU3	SU3	GD15L	GDBL
R19	126.9	UU10	SU4	GD10L	GDAL
R20	126.9	UU10	SU4	GD10L	GDBL
R21	126.9	UU11	SU4	GD11L	GDAL
R22	126.9	UU11	SU4	GD11L	GDBL
R23	126.9	UU12	SU4	GD12L	GDAL
R24	126.9	UU12	SU4	GD12L	GDBL

R25	126.9	UU4	SU5	GD4L	GDAL
R26	126.9	UU4	SU5	GD4L	GDBL
R27	126.9	UU5	SU5	GD5L	GDAL
R28	126.9	UU5	SU5	GD5L	GDBL
R29	126.9	UU6	SU5	GD6L	GDAL
R30	126.9	UU6	SU5	GD6L	GDBL
R31	126.9	UU10	SU6	GD22L	GDAL
R32	126.9	UU10	SU6	GD22L	GDBL
R33	126.9	UU11	SU6	GD23L	GDAL
R34	126.9	UU11	SU6	GD23L	GDBL
R35	126.9	UU12	SU6	GD24L	GDAL
R36	126.9	UU12	SU6	GD24L	GDBL
R37	126.9	UU7	SU7	GD19L	GDAL
R38	126.9	UU7	SU7	GD19L	GDBL
R39	126.9	UU8	SU7	GD20L	GDAL
R40	126.9	UU8	SU7	GD20L	GDBL
R41	126.9	UU9	SU7	GD21L	GDAL
R42	126.9	UU9	SU7	GD21L	GDBL
R43	126.9	UU10	SU8	GD10R	GDAR
R44	126.9	UU10	SU8	GD10R	GDBR
R45	126.9	UU11	SU8	GD11R	GDAR
R46	126.9	UU11	SU8	GD11R	GDBR
R47	126.9	UU12	SU8	GD12R	GDAR
R48	126.9	UU12	SU8	GD12R	GDBR
R49	126.9	UU4	SU9	GD16L	GDAL
R50	126.9	UU4	SU9	GD16L	GDBL
R51	126.9	UU5	SU9	GD17L	GDAL
R52	126.9	UU5	SU9	GD17L	GDBL
R53	126.9	UU6	SU9	GD18L	GDAL
R54	126.9	UU6	SU9	GD18L	GDBL
R55	126.9	UU10	SU10	GD22R	GDAR
R56	126.9	UU10	SU10	GD22R	GDBR
R57	126.9	UU11	SU10	GD23R	GDAR
R58	126.9	UU11	SU10	GD23R	GDBR
R59	126.9	UU12	SU10	GD24R	GDAR
R60	126.9	UU12	SU10	GD24R	GDBR
R61	126.9	UU4	SU11	GD4R	GDAR
R62	126.9	UU4	SU11	GD4R	GDBR
R63	126.9	UU5	SU11	GD5R	GDAR

R64	126.9	UU5	SU11	GD5R	GDBR
R65	126.9	UU6	SU11	GD6R	GDAR
R66	126.9	UU6	SU11	GD6R	GDBR
R67	126.9	UU1	SU12	GD1R	GDAR
R68	126.9	UU1	SU12	GD1R	GDBR
R69	126.9	UU2	SU12	GD2R	GDAR
R70	126.9	UU2	SU12	GD2R	GDBR
R71	126.9	UU3	SU12	GD3R	GDAR
R72	126.9	UU3	SU12	GD3R	GDBR
R73	126.9	UU10	SU13	GD10L	GDAL
R74	126.9	UU10	SU13	GD10L	GDBL
R75	126.9	UU11	SU13	GD23L	GDAL
R76	126.9	UU11	SU13	GD23L	GDBL
R77	126.9	UU12	SU13	GD12R	GDAR
R78	126.9	UU12	SU13	GD12R	GDBR
R79	126.9	UU4	SU14	GD16R	GDAR
R80	126.9	UU4	SU14	GD16R	GDBR
R81	126.9	UU5	SU14	GD17R	GDAR
R82	126.9	UU5	SU14	GD17R	GDBR
R83	126.9	UU6	SU14	GD18R	GDAR
R84	126.9	UU6	SU14	GD18R	GDBR
R85	126.9	UU7	SU15	GD7R	GDAR
R86	126.9	UU7	SU15	GD7R	GDBR
R87	126.9	UU8	SU15	GD8R	GDAR
R88	126.9	UU8	SU15	GD8R	GDBR
R89	126.9	UU9	SU15	GD9R	GDAR
R90	126.9	UU9	SU15	GD9R	GDBR
R91	126.9	UU1	SU16	GD1L	GDAL
R92	126.9	UU1	SU16	GD1L	GDBL
R93	126.9	UU2	SU16	GD14L	GDAL
R94	126.9	UU2	SU16	GD14L	GDBL
R95	126.9	UU3	SU16	GD3R	GDAR
R96	126.9	UU3	SU16	GD3R	GDBR
R97	126.9	UU7	SU17	GD19R	GDAR
R98	126.9	UU7	SU17	GD19R	GDBR
R99	126.9	UU8	SU17	GD20R	GDAR
R100	126.9	UU8	SU17	GD20R	GDBR
R101	126.9	UU9	SU17	GD21R	GDAR
R102	126.9	UU9	SU17	GD21R	GDBR

R103	126.9	UU1	SU18	GD13R	GDAR
R104	126.9	UU1	SU18	GD13R	GDBR
R105	126.9	UU2	SU18	GD14R	GDAR
R106	126.9	UU2	SU18	GD14R	GDBR
R107	126.9	UU3	SU18	GD15R	GDAR
R108	126.9	UU3	SU18	GD15R	GDBR
R109	126.9	UU4	SU19	GD4L	GDAL
R110	126.9	UU4	SU19	GD4L	GDBL
R111	126.9	UU5	SU19	GD17L	GDAL
R112	126.9	UU5	SU19	GD17L	GDBL
R113	126.9	UU6	SU19	GD6R	GDAR
R114	126.9	UU6	SU19	GD6R	GDBR
R115	126.9	UU10	SU20	GD22L	GDAL
R116	126.9	UU10	SU20	GD22L	GDBL
R117	126.9	UU11	SU20	GD11R	GDAR
R118	126.9	UU11	SU20	GD11R	GDBR
R119	126.9	UU12	SU20	GD24R	GDAR
R120	126.9	UU12	SU20	GD24R	GDBR
R121	126.9	UU12	SU21	GD12L	GDAL
R122	126.9	UU12	SU21	GD12L	GDBL
R123	126.9	UU10	SU21	GD10R	GDAR
R124	126.9	UU10	SU21	GD10R	GDBR
R125	126.9	UU11	SU21	GD23R	GDAR
R126	126.9	UU11	SU21	GD23R	GDBR
R127	126.9	UU1	SU22	GD13L	GDAL
R128	126.9	UU1	SU22	GD13L	GDBL
R129	126.9	UU2	SU22	GD2R	GDAR
R130	126.9	UU2	SU22	GD2R	GDBR
R131	126.9	UU3	SU22	GD15R	GDAR
R132	126.9	UU3	SU22	GD15R	GDBR
R133	126.9	UU7	SU23	GD7L	GDAL
R134	126.9	UU7	SU23	GD7L	GDBL
R135	126.9	UU8	SU23	GD20L	GDAL
R136	126.9	UU8	SU23	GD20L	GDBL
R137	126.9	UU9	SU23	GD9R	GDAR
R138	126.9	UU9	SU23	GD9R	GDBR
R139	126.9	UU4	SU24	GD16L	GDAL
R140	126.9	UU4	SU24	GD16L	GDBL
R141	126.9	UU5	SU24	GD5R	GDAR

R142	126.9	UU5	SU24	GD5R	GDBR
R143	126.9	UU6	SU24	GD18R	GDAR
R144	126.9	UU6	SU24	GD18R	GDBR
R145	126.9	UU3	SU25	GD3L	GDAL
R146	126.9	UU3	SU25	GD3L	GDBL
R147	126.9	UU1	SU25	GD1R	GDAR
R148	126.9	UU1	SU25	GD1R	GDBR
R149	126.9	UU2	SU25	GD14R	GDAR
R150	126.9	UU2	SU25	GD14R	GDBR
R151	126.9	UU6	SU26	GD6L	GDAL
R152	126.9	UU6	SU26	GD6L	GDBL
R153	126.9	UU4	SU26	GD4R	GDAR
R154	126.9	UU4	SU26	GD4R	GDBR
R155	126.9	UU5	SU26	GD17R	GDAR
R156	126.9	UU5	SU26	GD17R	GDBR
R157	126.9	UU11	SU27	GD11L	GDAL
R158	126.9	UU11	SU27	GD11L	GDBL
R159	126.9	UU12	SU27	GD24L	GDAL
R160	126.9	UU12	SU27	GD24L	GDBL
R161	126.9	UU10	SU27	GD22R	GDAR
R162	126.9	UU10	SU27	GD22R	GDBR
R163	126.9	UU5	SU28	GD5L	GDAL
R164	126.9	UU5	SU28	GD5L	GDBL
R165	126.9	UU6	SU28	GD18L	GDAL
R166	126.9	UU6	SU28	GD18L	GDBL
R167	126.9	UU4	SU28	GD16R	GDAR
R168	126.9	UU4	SU28	GD16R	GDBR
R169	126.9	UU10	SU29	GD10L	GDAL
R170	126.9	UU10	SU29	GD10L	GDBL
R171	126.9	UU11	SU29	GD11R	GDAR
R172	126.9	UU11	SU29	GD11R	GDBR
R173	126.9	UU12	SU29	GD24R	GDAR
R174	126.9	UU12	SU29	GD24R	GDBR
R175	126.9	UU2	SU30	GD2L	GDAL
R176	126.9	UU2	SU30	GD2L	GDBL
R177	126.9	UU3	SU30	GD15L	GDAL
R178	126.9	UU3	SU30	GD15L	GDBL
R179	126.9	UU1	SU30	GD13R	GDAR
R180	126.9	UU1	SU30	GD13R	GDBR

R181	126.9	UU7	SU32	GD19L	GDAL
R182	126.9	UU7	SU31	GD19L	GDBL
R183	126.9	UU8	SU31	GD8R	GDAR
R184	126.9	UU8	SU31	GD8R	GDBR
R185	126.9	UU9	SU31	GD21R	GDAR
R186	126.9	UU9	SU31	GD21R	GDBR
R187	126.9	UU1	SU32	GD1L	GDAL
R188	126.9	UU1	SU32	GD1L	GDBL
R189	126.9	UU2	SU32	GD2R	GDAR
R190	126.9	UU2	SU32	GD2R	GDBR
R191	126.9	UU3	SU32	GD15R	GDAR
R192	126.9	UU3	SU32	GD15R	GDBR
R193	126.9	UU10	SU33	GD22L	GDAL
R194	126.9	UU10	SU33	GD22L	GDBL
R195	126.9	UU12	SU33	GD12R	GDAR
R196	126.9	UU12	SU33	GD12R	GDBR
R197	126.9	UU11	SU33	GD23R	GDAR
R198	126.9	UU11	SU33	GD23R	GDBR
R199	126.9	UU4	SU34	GD4L	GDAL
R200	126.9	UU4	SU34	GD4L	GDBL
R201	126.9	UU5	SU34	GD5R	GDAR
R202	126.9	UU5	SU34	GD5R	GDBR
R203	126.9	UU6	SU34	GD18R	GDAR
R204	126.9	UU6	SU34	GD18R	GDBR
R205	126.9	UU1	SU35	GD13L	GDAL
R206	126.9	UU1	SU35	GD13L	GDBL
R207	126.9	UU3	SU35	GD3R	GDAR
R208	126.9	UU3	SU35	GD3R	GDBR
R209	126.9	UU2	SU35	GD14R	GDAR
R210	126.9	UU2	SU35	GD14R	GDBR
R211	126.9	UU9	SU36	GD9L	GDAL
R212	126.9	UU9	SU36	GD9L	GDBL
R213	126.9	UU7	SU36	GD7R	GDAR
R214	126.9	UU7	SU36	GD7R	GDBR
R215	126.9	UU8	SU36	GD20R	GDAR
R216	126.9	UU8	SU36	GD20R	GDBR
R217	126.9	UU4	SU37	GD16L	GDAL
R218	126.9	UU4	SU37	GD16L	GDBL
R219	126.9	UU6	SU37	GD6R	GDAR

R220	126.9	UU6	SU37	GD6R	GDBR
R221	126.9	UU5	SU37	GD17R	GDAR
R222	126.9	UU5	SU37	GD17R	GDBR
R223	126.9	UU8	SU38	GD8L	GDAL
R224	126.9	UU8	SU38	GD8L	GDBL
R225	126.9	UU9	SU38	GD21L	GDAL
R226	126.9	UU9	SU38	GD21L	GDBL
R227	126.9	UU7	SU38	GD19R	GDAR
R228	126.9	UU7	SU38	GD19R	GDBR
R229	126.9	UU7	SU39	GD7L	GDAL
R230	126.9	UU7	SU39	GD7L	GDBL
R231	126.9	UU8	SU39	GD8R	GDAL
R232	126.9	UU8	SU39	GD8R	GDBL
R233	126.9	UU9	SU39	GD21R	GDAR
R234	126.9	UU9	SU39	GD21R	GDBR
R235	126.9	UU11	SU40	GD11L	GDAL
R236	126.9	UU11	SU40	GD11L	GDBL
R237	126.9	UU12	SU40	GD24L	GDAL
R238	126.9	UU12	SU40	GD24L	GDBL
R239	126.9	UU10	SU40	GD22R	GDAR
R240	126.9	UU10	SU40	GD22R	GDBR
CMDA		CMD1	OMNR		
CMDB		CMD2	OMNR		
CMDC		CMD1	TCOS		
CMDD		CMD2	TCOS		
TLMA				TLM1	OMNT
TLMB				TLM2	OMNT
TLMC				TLM1	TMOS
TLMD				TLM2	TMOS

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S11. DIGITAL MODULATION PARAMETERS For each digital emission provide:

(a) Digital Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) No. of Phases	(e)Uncoded Data Rate (kbps)	(f) FEC Error Correction Coding Rate	(g) CDMA Processing Gain (dB)	(h) Total C/N Performance Objective (dB)	(i) Single Entry C/I Objective (dB)
1	32M0G7W	32000	4	57236	0.9		6.5	18.7
2	32M0G7W	32000	4	42312	0.67		3.2	15.4
3	3M78G7W	3780	4	4112	0.68		4	16.2
4	3M78G7W	3780	4	3616	0.6		2.9	15.1

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SATELLITE SPACE STATION AUTHORIZATIONS

FCC Form 312 - Schedule S: (Technical and Operational Description)

S12. ANALOG MODULATION PARAMETERS For each analog emission provide:

(a) Analog Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) Signal Type	(e) Channels per Carrier	Multi-channel Telephony				(j) Video Standard NTSC, PAL, etc.	(k) Video Noise-Weighting (dB)	(l) Video and SCPC/FM Modulation Index	(m) SCPC/FM Compander, Preemphasis, and Noise Weighting (dB)	(n) Total C/N Performance Objective (dB)	(o) Single Entry C/I Objective (dB)
					(f) Ave. Companded Talker Level (dBm0)	(g) Bottom Baseband Freq. (MHz)	(h) Top Baseband Freq. (MHz)	(i) RMS Modulation Index						
CMD	1M00F2D	1000		1									10	22.2
TLM	1M00G2D	1000		1									9	21.2

FEDERAL COMMUNICATIONS COMMISSION
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S13. TYPICAL EMISSIONS For each planned type of emission provide:

Associated Transponder ID Range		Modulation ID		(e) Carriers per Transponder	(f) Carrier Spacing (kHz)	(g)Noise Budget Reference (Table No.)	(h) Energy Dispersal Bandwidth (kHz)	Receive Band (Assoc. Transmit Stn)			Transmit Band (This Space Station)			
								(i)Assoc. Stn. Max. Antenna Gain (dBi)	Assoc. Station Transmit Power (dBW)		EIRP (dBW)		(n) Max. Power Flux Density (dBW/m2/Hz)	(o)Assoc. Stn Rec. G/T (dB/K)
(a) Start	(b) End	(c) Digital (Table S11)	(d) Analog (Table S12)						(j) Min.	(k) Max.	(l) Min.	(m) Max.		
F1	F240	1		1		LNK-FWD1.xls		64	8.4	12.4	51	56	-121	16.1
F1	F240	2		1		LNK-FWD1.xls		64	19	23	51	56	-121	16.1
R1	R240	3		8	4000	LNK-RTN1.xls		43.6	1.7	5.7	33.8	37.8	-130	36.2
R1	R240	4		8	4000	LNK-RTN1.xls		43.6	6.5	10.5	33.8	37.8	-130	36.2
CMDA	CMDB		CMD	1		TCTO LB.xls		68	12	25				
CMDC	CMDD		CMD	1		TCOS LB.xls		64	-4	16				
TLMA	TLMB		TLM	1		TMTO LB.xls					12.1	21.1	-141	42.5
TLMC	TLMD		TLM	1		TMOS LB.xls					30	41	-121	36.2

S14. Is the space station(s) controlled and monitored remotely? If Yes, provide the location and telephone number of the TT and C control point(s): Yes

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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a: Mass of spacecraft without fuel (kg): 2500	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 3000		
S15c. Mass of spacecraft and fuel at launch (kg): 5500	S15f. Length (m): 16	S15i. Payload: 0.91
S15d. Mass of fuel, in orbit, at beginning of life (kg): 900	S15g. Width (m): 5	S15j. Bus: 0.85
S15e. Deployed Area of Solar Array (square meters): 65	S15h. Height (m): 6	S15k. Total: 0.77

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

Spacecraft Subsystem	Electrical Power (Watts) At Beginning of Life		Electrical Power (Watts) At End of Life	
	At Equinox	At Solstice	At Equinox	At Solstice
Payload (Watts):	(a): 9168	(f): 9168	(k): 9168	(p): 9168
Bus (Watts):	(b): 3118	(g): 1751	(l): 3118	(q): 1751
Total (Watts):	(c): 12286	(h): 10919	(m) 12286	(r): 10919
Solar Array (Watts):	(d): 14690	(i): 13317	(n): 13355	(s): 12107
Depth of Battery Discharge (%):	(e) 68.3 %	(j) 0 %	(o) 68.3 %	(t) 0 %

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?:	X	**YES**		**NO**		**N/A**
b. Are the appropriate service area coverage requirements of § 25.143(b)(ii) and (iii), or § 25.145(c)(1) and (2) met?		**YES**		**NO**	X	**N/A**
c. Are the frequency tolerances of § 25.202(e) and the out-of-band emission limits of § 25.202(f)(1), (2) and (3) met?	X	**YES**		**NO**		**N/A**

In addition to the information required in this Form, the space station applicant is required to provide all the information specified in Section 25.114 of the Commission's rules, 47 C.F.R § 25.114.