FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

Shell Communications
Brazos-19 (Oil Platform), Gulf of Mexico

Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Virginia 20147
March 1, 2010

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1. CONCLUSIONS

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier microwave environment. Further, there will be no restrictions of its operation due to interference considerations.

2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. Each of the cases, which exceeded the interference objective on a line-of-sight basis, was profiled and the propagation losses estimated using NBS TN101 (Revised) techniques. The losses were found to be sufficient to reduce the signal levels to acceptable magnitudes in every case.

The following companies reported potential great circle interference conflicts that did not meet the objectives on a line-of-sight basis. When over-the-horizon losses are considered on the interfering paths, sufficient blockage exists to negate harmful interference from occurring with the proposed transmit-receive earth station.

Company

None

No carriers reported potential interference cases.

3. SUPPLEMENTAL SHOWING

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.

Coordination data for this earth station was sent to the below listed carriers with a letter dated January 29, 2010.

Company

CENTERPOINT ENERGY INC
GTE Mobilnet of South Texas LTD Partners
Harris County ITC
METROPOLITAN AREA NETWORKS, INC.
San Antonio MTA, L.P.
Stelera Wireless, LLC
Texas RSA 18 Limited Partnership

4. EARTH STATION COORDINATION DATA

This section presents the data pertinent to frequency coordination of the proposed 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:	03/01/2010
Job Number:	100129COMSJC04

Administrative Information

Status	ENGINEER PROPOSAL
Call Sign	
Licensee Code	SHEINT
Licensee Name	Shell Communications

Site Information — BRAZOS-19 (Oil Platform), GULF of MEXICO

Venue Name	
Latitude (NAD 83)	28° 10' 30.0" N
Longitude (NAD 83)	95° 35' 7.2" W
Climate Zone	B
Rain Zone	2
Ground Elevation (AMSL)	0.0 m / 0.0 ft

Link Information

Satellite Type	Geostationary
Mode	TR - Transmit-Receive
Modulation	Digital
Satellite Arc	60° W to 143° West Longitude
Azimuth Range	123.4° to 246.5°
Corresponding Elevation Angles	39.1° / 29.0°
Antenna Centerline (AGL)	30.48 m / 100.0 ft

Antenna Information

	Receive	Transmit
Manufacturer	Andrew Corporation	Andrew Corporation
Model	Type 243	Type 243
Gain / Diameter	38.0 dBi / 2.4 m	42.0 dBi / 2.4 m
3-dB / 15-dB Beamwidth	2.16° / 4.00°	1.36° / 2.54°

			1M81G7W to 4M30G7W
Max Available RF Power	(dBW/4 kHz)		-20.6 -20.6
	(dBW/MHz)		3.4 3.4
Maximum EIRP	(dBW/4 kHz)		21.4 21.4
	(dBW/MHz)		45.4 45.4
	(dBW)		48.0 51.7
Interference Objectives:	Long Term	-156.0 dBW/MHz 20%	-154.0 dBW/4 kHz 20%
	Short Term	-146.0 dBW/MHz 0.01%	-131.0 dBW/4 kHz 0.0025%

Frequency Information

	Receive 4.0 GHz	Transmit 6.1 GHz
Emission / Frequency Range (MHz)	1M81G7W - 4M30G7W / 3700.0 - 4200.0	1M81G7W - 4M30G7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	484.7 km / 301.1 mi	141.5 km / 87.9 mi
Precipitation Scatter Contour Radius	490.2 km / 304.6 mi	100.0 km / 62.1 mi

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Earth Station Data Sheet

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Coordination Values	**BRAZOS-19 (Oil Platform), GM**			
Licensee Name	Shell Communications			
Latitude (NAD 83)	28° 10' 30.0" N			
Longitude (NAD 83)	95° 35' 7.2" W			
Ground Elevation (AMSL)	0.0 m / 0.0 ft			
Antenna Centerline (AGL)	30.48 m / 100.0 ft			
Antenna Model	Andrew Corporation Type 243			
Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz	
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power			-20.6 (dBW/4 kHz)	

			Receive 4.0 GHz		Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	110.37	-10.00	412.20	-10.00	123.44
5	0.00	111.69	-10.00	412.20	-10.00	123.44
10	0.00	107.98	-10.00	412.20	-10.00	123.44
15	0.00	104.21	-10.00	412.20	-10.00	123.44
20	0.00	100.38	-10.00	412.20	-10.00	123.44
25	0.00	96.53	-10.00	412.20	-10.00	123.44
30	0.00	92.66	-10.00	412.20	-10.00	123.44
35	0.00	88.77	-10.00	412.20	-10.00	123.44
40	0.00	84.90	-10.00	412.20	-10.00	123.44
45	0.00	81.03	-10.00	412.20	-10.00	123.44
50	0.00	77.20	-10.00	412.20	-10.00	123.44
55	0.00	73.41	-10.00	412.20	-10.00	123.44
60	0.00	69.67	-10.00	412.20	-10.00	123.44
65	0.00	66.01	-10.00	412.20	-10.00	123.44
70	0.00	62.43	-10.00	412.20	-10.00	123.44
75	0.00	58.98	-10.00	412.20	-10.00	123.44
80	0.00	55.67	-10.00	412.20	-10.00	123.44
85	0.00	52.53	-10.00	412.20	-10.00	123.44
90	0.00	49.60	-10.00	412.20	-10.00	123.44
95	0.00	46.93	-9.79	414.87	-9.79	124.07
100	0.00	44.56	-9.22	421.96	-9.22	125.77
105	0.00	42.54	-8.72	428.39	-8.72	127.31
110	0.00	40.95	-8.31	433.79	-8.31	128.63
115	0.00	39.81	-8.00	437.80	-8.00	129.61
120	0.00	39.18	-7.83	440.09	-7.83	130.17
125	0.00	39.08	-7.80	440.46	-7.80	130.26
130	0.00	39.52	-7.92	438.86	-7.92	129.87
135	0.00	40.47	-8.18	435.45	-8.18	129.03
140	0.00	41.90	-8.56	430.52	-8.56	127.83
145	0.00	43.77	-9.03	424.42	-9.03	126.36
150	0.00	46.01	-9.57	417.54	-9.57	124.71
155	0.00	48.58	-10.00	412.20	-10.00	123.44
160	0.00	51.35	-10.00	412.20	-10.00	123.44
165	0.00	53.74	-10.00	412.20	-10.00	123.44
170	0.00	55.57	-10.00	412.20	-10.00	123.44
175	0.00	56.72	-10.00	412.20	-10.00	123.44
180	0.00	57.12	-10.00	412.20	-10.00	123.44
185	0.00	56.72	-10.00	412.20	-10.00	123.44

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Licensee Name	Shell Communications			
Latitude (NAD 83)	28° 10' 30.0" N			
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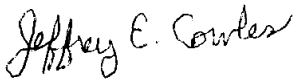
Ground Elevation (AMSL)	0.0 m / 0.0 ft			
Antenna Centerline (AGL)	30.48 m / 100.0 ft			
Antenna Model	Andrew Corporation Type 243			
Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz	
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power			-20.6 (dBW/4 kHz)	

			Receive 4.0 GHz		Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	55.57	-10.00	412.20	-10.00	123.44
195	0.00	53.74	-10.00	412.20	-10.00	123.44
200	0.00	51.35	-10.00	412.20	-10.00	123.44
205	0.00	48.49	-10.00	412.20	-10.00	123.44
210	0.00	45.28	-9.40	419.75	-9.40	125.24
215	0.00	41.82	-8.53	430.81	-8.53	127.90
220	0.00	38.53	-7.64	442.52	-7.64	130.76
225	0.00	35.57	-6.78	454.23	-6.78	133.67
230	0.00	33.04	-5.98	464.70	-5.98	136.45
235	0.00	31.04	-5.30	474.29	-5.30	138.88
240	0.00	29.69	-4.81	481.30	-4.81	140.66
245	0.00	29.06	-4.58	484.68	-4.58	141.53
250	0.00	29.21	-4.64	483.86	-4.64	141.32
255	0.00	30.13	-4.97	478.98	-4.97	140.07
260	0.00	31.74	-5.54	470.85	-5.54	138.01
265	0.00	33.96	-6.27	461.18	-6.27	135.41
270	0.00	36.66	-7.11	449.76	-7.11	132.55
275	0.00	39.76	-7.99	437.99	-7.99	129.65
280	0.00	43.15	-8.88	426.39	-8.88	126.83
285	0.00	46.79	-9.75	415.27	-9.75	124.17
290	0.00	50.60	-10.00	412.20	-10.00	123.44
295	0.00	54.56	-10.00	412.20	-10.00	123.44
300	0.00	58.63	-10.00	412.20	-10.00	123.44
305	0.00	62.78	-10.00	412.20	-10.00	123.44
310	0.00	67.00	-10.00	412.20	-10.00	123.44
315	0.00	71.27	-10.00	412.20	-10.00	123.44
320	0.00	75.59	-10.00	412.20	-10.00	123.44
325	0.00	79.93	-10.00	412.20	-10.00	123.44
330	0.00	84.28	-10.00	412.20	-10.00	123.44
335	0.00	88.65	-10.00	412.20	-10.00	123.44
340	0.00	93.03	-10.00	412.20	-10.00	123.44
345	0.00	97.39	-10.00	412.20	-10.00	123.44
350	0.00	101.74	-10.00	412.20	-10.00	123.44
355	0.00	106.08	-10.00	412.20	-10.00	123.44

5. CERTIFICATION

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



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DATED: March 1, 2010