

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**Shell Communications Inc**  
**AMELIA HP, LA**  
**(E060229)**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
January 07, 2016

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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.

### 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 12/15/2015.

Company

Acadiana Cellular General Partnership  
Cleco Power LLC  
Compass Minerals  
DELTA MEDIA CORPORATION  
Dixie Electric Membership Corporation  
ENERGY XXI LLC  
Entergy Services Inc  
Greater Lafourche Port Commission  
Infrastructure Networks, Inc.  
Jefferson Parish Sheriff's Office  
LOOP LLC  
Lafayette MSA Limited Partnership  
Louisiana Dept of Transportation and Dev  
Louisiana Generating, LLC  
Louisiana RSA #7 Cell Gen Partnership  
Louisiana, State Of  
NETWORK USA  
NEW ORLEANS CITY POLICE DEPARTMENT  
New Cingular Wireless PCS, LLC - LA, GM  
New Orleans City  
Plaquemines Parish Government  
RigNet SatCom, Inc.  
STAR TELEPHONE COMPANY  
Southern Light, LLC  
Sprint Spectrum L.P.  
Sprint Spectrum LP Louisiana  
St. Tammany Parish Sheriff's Office  
T-Mobile License LLC  
TELELINK INC.  
Texas Eastern Communications, LLC  
Transcontinental Gas Pipeline Corp.  
Verizon Wireless (VAW) / LA  
Verizon Wireless Personal Comm LP-LA/MS  
WWL-TV, Inc.

## **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: 01/07/2016  
Job Number: 151215COMSGE11

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign E060229  
Licensee Code S00876  
Licensee Name Shell Communications Inc

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### Site Information

**AMELIA HP, LA**  
Venue Name  
Latitude (NAD 83) 29° 40' 54.3" N  
Longitude (NAD 83) 91° 5' 51.1" W  
Climate Zone A  
Rain Zone 1  
Ground Elevation (AMSL) 1.52 m / 5.0 ft

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### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 60° W to 143° West Longitude  
Azimuth Range 129.4° to 248.8°  
Corresponding Elevation Angles 41.6° / 24.5°  
Antenna Centerline (AGL) 3.66 m / 12.0 ft

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### Antenna Information

		Receive - FCC32	Transmit - FCC32		
Manufacturer		Andrew	Andrew		
Model		TYPR-243	TYPR-243		
Gain / Diameter		38.5 dBi / 2.4 m	42.0 dBi / 2.4 m		
3-dB / 15-dB Beamwidth		1.00° / 2.00°	1.50° / 3.00°		
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)		-19.6	4.4	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz) (dBW)		22.4	46.4	
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%	-151.8 dBW/4 kHz	20%
	Short Term	-146.0 dBW/MHz	0.01%	-130.8 dBW/4 kHz	0.0025%

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### Frequency Information

	Receive 4.0 GHz	Transmit 6.1 GHz
Emission / Frequency Range (MHz)	4M30G7W / 3700.0 - 4200.0	4M30G7W / 5925.0 - 6329.0 4M30G7W / 6362.0 - 6425.0
Max Great Circle Coordination Distance	336.0 km / 208.8 mi	135.6 km / 84.2 mi
Precipitation Scatter Contour Radius	569.7 km / 353.9 mi	100.0 km / 62.1 mi

# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### AMELIA HP, LA

Licensee Name Shell Communications Inc  
Latitude (NAD 83) 29° 40' 54.3" N  
Longitude (NAD 83) 91° 5' 51.1" W  
Ground Elevation (AMSL) 1.52 m / 5.0 ft  
Antenna Centerline (AGL) 3.66 m / 12.0 ft  
Antenna Model Andrew 2.4 meter  
Antenna Mode Receive 4.0 GHz Transmit 6.1 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20% -151.8 dBW/4 kHz 20%  
Short Term -146.0 dBW/MHz 0.01% -130.8 dBW/4 kHz 0.0025%  
Max Available RF Power -19.6 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	109.23	-10.00	285.28	-10.00	117.58
5	0.00	113.70	-10.00	285.28	-10.00	117.58
10	0.00	111.54	-10.00	285.28	-10.00	117.58
15	0.00	107.99	-10.00	285.28	-10.00	117.58
20	0.00	104.38	-10.00	285.28	-10.00	117.58
25	0.00	100.71	-10.00	285.28	-10.00	117.58
30	0.00	97.01	-10.00	285.28	-10.00	117.58
35	0.00	93.28	-10.00	285.28	-10.00	117.58
40	0.00	89.54	-10.00	285.28	-10.00	117.58
45	0.00	85.80	-10.00	285.28	-10.00	117.58
50	0.00	82.08	-10.00	285.28	-10.00	117.58
55	0.00	78.38	-10.00	285.28	-10.00	117.58
60	0.00	74.73	-10.00	285.28	-10.00	117.58
65	0.00	71.13	-10.00	285.28	-10.00	117.58
70	0.00	67.61	-10.00	285.28	-10.00	117.58
75	0.00	64.17	-10.00	285.28	-10.00	117.58
80	0.00	60.86	-10.00	285.28	-10.00	117.58
85	0.00	57.68	-10.00	285.28	-10.00	117.58
90	0.00	54.68	-10.00	285.28	-10.00	117.58
95	0.00	51.87	-10.00	285.28	-10.00	117.58
100	0.00	49.32	-10.00	285.28	-10.00	117.58
105	0.00	47.05	-9.81	286.47	-9.81	118.06
110	0.00	45.11	-9.36	289.40	-9.36	119.24
115	0.00	43.56	-8.98	291.87	-8.98	120.22
120	0.00	42.43	-8.69	293.74	-8.69	120.96
125	0.00	41.76	-8.52	294.87	-8.52	121.41
130	0.00	41.58	-8.47	295.19	-8.47	121.54
135	0.00	41.88	-8.55	294.67	-8.55	121.33
140	0.00	42.67	-8.75	293.34	-8.75	120.81
145	0.00	43.90	-9.06	291.31	-9.06	120.00
150	0.00	45.56	-9.46	288.72	-9.46	118.96
155	0.00	47.58	-9.93	285.69	-9.93	117.75
160	0.00	49.92	-10.00	285.28	-10.00	117.58
165	0.00	52.20	-10.00	285.28	-10.00	117.58
170	0.00	53.94	-10.00	285.28	-10.00	117.58
175	0.00	55.02	-10.00	285.28	-10.00	117.58
180	0.00	55.39	-10.00	285.28	-10.00	117.58
185	0.00	55.02	-10.00	285.28	-10.00	117.58



# COMSEARCH

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### Coordination Values

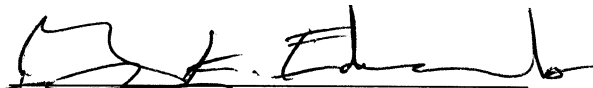
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Interference Objectives: Long Term -156.0 dBW/MHz 20% -151.8 dBW/4 kHz 20%  
Short Term -146.0 dBW/MHz 0.01% -130.8 dBW/4 kHz 0.0025%  
Max Available RF Power -19.6 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	53.93	-10.00	285.28	-10.00	117.58
195	0.00	52.20	-10.00	285.28	-10.00	117.58
200	0.00	49.92	-10.00	285.28	-10.00	117.58
205	0.00	47.19	-9.85	286.27	-9.85	117.98
210	0.00	44.09	-9.11	291.02	-9.11	119.88
215	0.00	40.71	-8.24	296.71	-8.24	122.14
220	0.00	37.11	-7.24	303.47	-7.24	124.77
225	0.00	33.63	-6.17	310.83	-6.17	127.59
230	0.00	30.52	-5.11	318.87	-5.11	130.40
235	0.00	27.90	-4.14	325.82	-4.14	133.00
240	0.00	25.94	-3.35	331.57	-3.35	133.90
245	0.00	24.78	-2.85	335.21	-2.85	135.27
250	0.00	24.53	-2.74	336.00	-2.74	135.57
255	0.00	25.24	-3.05	333.75	-3.05	134.72
260	0.00	26.81	-3.71	328.97	-3.71	134.17
265	0.00	29.11	-4.60	322.53	-4.60	131.77
270	0.00	31.98	-5.62	315.28	-5.62	129.04
275	0.00	35.28	-6.69	307.21	-6.69	126.21
280	0.00	38.91	-7.75	299.99	-7.75	123.42
285	0.00	42.77	-8.78	293.17	-8.78	120.74
290	0.00	46.81	-9.76	286.82	-9.76	118.20
295	0.00	50.98	-10.00	285.28	-10.00	117.58
300	0.00	55.26	-10.00	285.28	-10.00	117.58
305	0.00	59.61	-10.00	285.28	-10.00	117.58
310	0.00	64.02	-10.00	285.28	-10.00	117.58
315	0.00	68.48	-10.00	285.28	-10.00	117.58
320	0.00	72.97	-10.00	285.28	-10.00	117.58
325	0.00	77.48	-10.00	285.28	-10.00	117.58
330	0.00	82.02	-10.00	285.28	-10.00	117.58
335	0.00	86.56	-10.00	285.28	-10.00	117.58
340	0.00	91.11	-10.00	285.28	-10.00	117.58
345	0.00	95.66	-10.00	285.28	-10.00	117.58
350	0.00	100.20	-10.00	285.28	-10.00	117.58
355	0.00	104.72	-10.00	285.28	-10.00	117.58

## 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.

BY:   
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Gary K. Edwards  
Senior Manager  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147

DATED: January 07, 2016