

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
The Boeing Company
MILFORD, OH
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
March 23, 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.

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 03/22/2010.

Company

AMERICAN ELECTRIC POWER SERVICE CORP.
BOONE COUNTY DEPARTMENT OF PUBLIC SAFETY
Butler County Sheriff - Communications
Cellco Partnership - Kentucky
City of Cincinnati
DAYTON POWER & LIGHT COMPANY
Duke Energy Carolinas LLC
East Kentucky Power Cooperative, Inc.
FELHC, Inc.
Federal Communications Commission
Hoosier Energy Rec, Inc.
Indiana, State of (IPSC)
International Communications Group, Inc.
KENTUCKY UTILITIES COMPANY
Kentucky Commonwealth of KY Emerg Warnin
LB Tower Company LLC
LOUISVILLE GAS & ELECTRIC COMPANY
METROPOLITAN AREA NETWORKS, INC.
New Par
OHIO VALLEY ELECTRIC COMPANY
PATHNET, INC. - DEBTOR IN POSSESSION
Springfield Cellular Telephone Company
Texas Eastern Communications, 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: 03/23/2010
Job Number: 100322COMSGE01

Administrative Information

Status: TEMPORARY (Operation from 03/29/2010 to 05/21/2010)
Call Sign:
Licensee Code: S00114
Licensee Name: The Boeing Company

Site Information

MILFORD, OH
Venue Name:
Latitude (NAD 83): 39° 10' 53.8" N
Longitude (NAD 83): 84° 17' 2.4" W
Climate Zone: A
Rain Zone: 2
Ground Elevation (AMSL): 176.1 m / 577.8 ft

Link Information

Satellite Type: Geostationary
Mode: TO - Transmit-Only
Modulation: Digital
Satellite Arc: 127° W to 127° West Longitude
Azimuth Range: 235.6° to 235.6°
Corresponding Elevation Angles: 27.0° / 27.0°
Antenna Centerline (AGL): 3.66 m / 12.0 ft

Antenna Information

Transmit - FCC32
Manufacturer: Prodelin
Model: 1244
Gain / Diameter: 42.0 dBi / 2.4 m
3-dB / 15-dB Beamwidth: 1.20° / 2.40°

Max Available RF Power: (dBW/4 kHz) -25.8
(dBW/MHz) -1.8
Maximum EIRP: (dBW/4 kHz) 16.2
(dBW/MHz) 40.2
Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%

Frequency Information

Transmit 6.1 GHz
Emission / Frequency Range (MHz): 1M28G7D / 5927.0 - 5963.0

Max Great Circle Coordination Distance: 100.0 km / 62.1 mi
Precipitation Scatter Contour Radius: 100.0 km / 62.1 mi

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Coordination Values

MILFORD, OH

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Antenna Model Prodelin 1244, 2.4 meter
Antenna Mode Transmit 6.1 GHz
Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -25.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.58	120.39	-10.00	100.00
5	1.69	125.01	-10.00	100.00
10	1.69	129.23	-10.00	100.00
15	2.14	133.55	-10.00	100.00
20	2.80	137.88	-10.00	100.00
25	2.70	141.68	-10.00	100.00
30	2.36	145.07	-10.00	100.00
35	2.64	148.52	-10.00	100.00
40	2.77	151.45	-10.00	100.00
45	2.77	153.70	-10.00	100.00
50	2.60	155.03	-10.00	100.00
55	3.19	156.21	-10.00	100.00
60	3.18	155.83	-10.00	100.00
65	3.19	154.53	-10.00	100.00
70	3.06	152.31	-10.00	100.00
75	3.06	149.58	-10.00	100.00
80	2.65	146.10	-10.00	100.00
85	2.66	142.57	-10.00	100.00
90	2.59	138.74	-10.00	100.00
95	2.60	134.75	-10.00	100.00
100	2.61	130.62	-10.00	100.00
105	2.50	126.33	-10.00	100.00
110	2.01	121.87	-10.00	100.00
115	1.80	117.44	-10.00	100.00
120	1.79	113.03	-10.00	100.00
125	1.75	108.57	-10.00	100.00
130	1.47	104.06	-10.00	100.00
135	1.19	99.55	-10.00	100.00
140	0.67	95.03	-10.00	100.00
145	0.44	90.55	-10.00	100.00
150	0.45	86.08	-10.00	100.00
155	0.38	81.62	-10.00	100.00
160	0.42	77.16	-10.00	100.00
165	0.71	72.68	-10.00	100.00
170	0.73	68.26	-10.00	100.00
175	0.77	63.88	-10.00	100.00
180	0.92	59.51	-10.00	100.00
185	0.99	55.22	-10.00	100.00

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Coordination Values

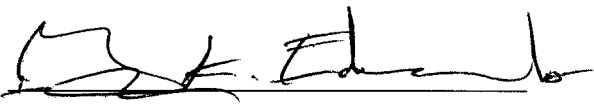
MILFORD, OH

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Max Available RF Power -25.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.82	51.11	-10.00	100.00
195	0.78	47.07	-9.82	100.00
200	0.84	43.12	-8.87	100.00
205	0.96	39.34	-7.87	100.00
210	1.38	35.58	-6.78	100.00
215	1.56	32.28	-5.72	100.00
220	1.27	29.80	-4.85	100.00
225	1.15	27.78	-4.09	100.00
230	0.76	26.76	-3.69	100.00
235	0.86	26.11	-3.42	100.00
240	0.88	26.43	-3.55	100.00
245	1.00	27.50	-3.98	100.00
250	1.09	29.36	-4.70	100.00
255	1.24	31.81	-5.57	100.00
260	1.55	34.65	-6.49	100.00
265	1.97	37.84	-7.45	100.00
270	2.19	41.47	-8.44	100.00
275	2.35	45.36	-9.42	100.00
280	2.09	49.59	-10.00	100.00
285	1.87	53.88	-10.00	100.00
290	1.55	58.27	-10.00	100.00
295	1.36	62.66	-10.00	100.00
300	1.43	67.04	-10.00	100.00
305	1.47	71.47	-10.00	100.00
310	1.46	75.94	-10.00	100.00
315	1.38	80.44	-10.00	100.00
320	1.30	84.94	-10.00	100.00
325	1.18	89.45	-10.00	100.00
330	1.04	93.94	-10.00	100.00
335	0.87	98.42	-10.00	100.00
340	0.82	102.89	-10.00	100.00
345	0.45	107.28	-10.00	100.00
350	0.34	111.66	-10.00	100.00
355	0.48	116.05	-10.00	100.00

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: 

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

DATED: March 23, 2010