

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**AMOCO PRODUCTION COMPANY DBA BP AMOCO**  
**NAKIKI, GM**  
**Satellite Earth Station**

Prepared By:  
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May 09, 2003

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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**

No great circle interference cases were identified within the coordination contours during the interference study of the proposed earth station. There are no unresolved interference conflicts with this proposed earth station.

### 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 05/09/2003.

Company

AT&T COMM. OF THE SOUTH CENTRAL STATES  
BELLSOUTH TELECOMMUNICATIONS, INC.  
MCI NETWORK SERVICES INC  
STRATOS OFFSHORE SERVICES COMPANY

## 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.

SATELLITE EARTH STATION  
 FREQUENCY COORDINATION DATA  
 05/08/2003

Company	AMOCO PRODUCTION COMPANY DBA BP AMOCO	
Owner code	S00048	
Earth Station Name, State	NAKIKA, GM	
Latitude (DMS) (NAD83)	28 31 15.9 N	
Longitude (DMS) (NAD83)	88 17 20.0 W	
Ground Elevation AMSL (Ft/m)	0.00 /	0.00
Antenna Centerline AGL (Ft/m)	98.43 /	30.00
Receive Antenna Type	FCC32	Channel Master
		Type 243
4.0 GHz Gain (dBi) / Diameter (m)	38.0 /	2.4
3 dB / 15 dB Half Beamwidth	0.25 /	0.50
Transmit Antenna Type	FCC32	Channel Master
		Type 243
6.0 GHz Gain (dBi) / Diameter (m)	42.0 /	2.4
3 dB / 15 dB Half Beamwidth	0.40 /	0.80
Operating Mode	TRANSMIT AND RECEIVE	
Modulation	DIGITAL	
Emission / Receive Band (MHz)	1M85G7D /	3700.0000 - 4200.0000
Emission / Transmit Band (MHz)	1M85G7D /	5925.0000 - 6425.0000
Available RF Power (dBW)/4 kHz	-12.70	
(dBW)/MHz	-11.30	
EIRP (dBW)/4 kHz	29.30	
(dBW)/MHz	53.30	
Max permissible Interference Power		
4.0 GHz, 20% (dBW/1 MHz)	-156.0	
4.0 GHz, 0.0100% (dBW/1 MHz)	-146.0	
6.0 GHz, 20% (dBW/4 kHz)	-154.0	
6.0 GHz, 0.0025% (dBW/4 kHz)	-131.0	
Range of Satellite Arc (Geostationary)		
Degrees Longitude	60.0 W / 143.0 W	
Azimuth Range (Min/Max)	131.6 / 251.3	
Corresponding Elevation Angles	44.5 / 22.5	
Radio Climate	B	
Rain Zone	1	
Max Great Circle Coordination Distance (Mi/Km)		
4.0 GHz	327.4 /	527.0
6.0 GHz	118.2 /	190.3
Precipitation Scatter Contour Radius (Mi/Km)		
4.0 GHz	356.5 /	573.8
6.0 GHz	62.1 /	100.0

Horizon is less than 0.2 degrees at all azimuths

Table of Earth Station Coordination Values  
05/08/2003

Earth Station Name      NAKIKA GM  
 Owner                    AMOCO PRODUCTION COMPANY DBA BP AMOCO  
 Latitude (DMS) (NAD83) 28 31 15.9 N  
 Longitude (DMS) (NAD83) 88 17 20.0 W  
 Ground Elevation (Ft/m)      0.00 /      0.00 AMSL  
 Antenna Centerline (Ft/m)    98.43 /      30.00 AGL  
 Antenna Model                    Channel Master 2.4 Meter  
 Objectives: Receive        -156.0 (dBW /1 MHz)  
                                   Transmit       -154.0 (dBW /4 kHz)    TX Power    -12.7 (dBW/4 kHz)

Azimuth (Deg)	Horizon Elevation Angle (Deg)	Antenna Disc. Angle (Deg)	4.0 GHz		6.0 GHz	
			Antenna Gain (dBi)	Coordination Distance (Km)	Antenna Gain (dBi)	Coordination Distance (Km)
0	0.00	107.21	-10.00	412.2	-10.00	151.1
5	0.00	111.78	-10.00	412.2	-10.00	151.1
10	0.00	111.94	-10.00	412.2	-10.00	151.1
15	0.00	108.61	-10.00	412.2	-10.00	151.1
20	0.00	105.21	-10.00	412.2	-10.00	151.1
25	0.00	101.75	-10.00	412.2	-10.00	151.1
30	0.00	98.23	-10.00	412.2	-10.00	151.1
35	0.00	94.69	-10.00	412.2	-10.00	151.1
40	0.00	91.13	-10.00	412.2	-10.00	151.1
45	0.00	87.56	-10.00	412.2	-10.00	151.1
50	0.00	84.01	-10.00	412.2	-10.00	151.1
55	0.00	80.47	-10.00	412.2	-10.00	151.1
60	0.00	76.98	-10.00	412.2	-10.00	151.1
65	0.00	73.53	-10.00	412.2	-10.00	151.1
70	0.00	70.16	-10.00	412.2	-10.00	151.1
75	0.00	66.87	-10.00	412.2	-10.00	151.1
80	0.00	63.69	-10.00	412.2	-10.00	151.1
85	0.00	60.64	-10.00	412.2	-10.00	151.1
90	0.00	57.75	-10.00	412.2	-10.00	151.1
95	0.00	55.06	-10.00	412.2	-10.00	151.1
100	0.00	52.58	-10.00	412.2	-10.00	151.1
105	0.00	50.36	-10.00	412.2	-10.00	151.1
110	0.00	48.45	-10.00	412.2	-10.00	151.1
115	0.00	46.87	-9.77	415.0	-9.77	152.1
120	0.00	45.67	-9.49	418.5	-9.49	153.2
125	0.00	44.88	-9.30	420.9	-9.30	154.0
130	0.00	44.52	-9.21	422.0	-9.21	154.4
135	0.00	44.60	-9.23	421.8	-9.23	154.3
140	0.00	45.12	-9.36	420.2	-9.36	153.8
145	0.00	46.07	-9.58	417.3	-9.58	152.8
150	0.00	47.41	-9.90	413.4	-9.90	151.5
155	0.00	49.11	-10.00	412.2	-10.00	151.1
160	0.00	51.15	-10.00	412.2	-10.00	151.1
165	0.00	53.39	-10.00	412.2	-10.00	151.1
170	0.00	55.19	-10.00	412.2	-10.00	151.1
175	0.00	56.33	-10.00	412.2	-10.00	151.1
180	0.00	56.72	-10.00	412.2	-10.00	151.1

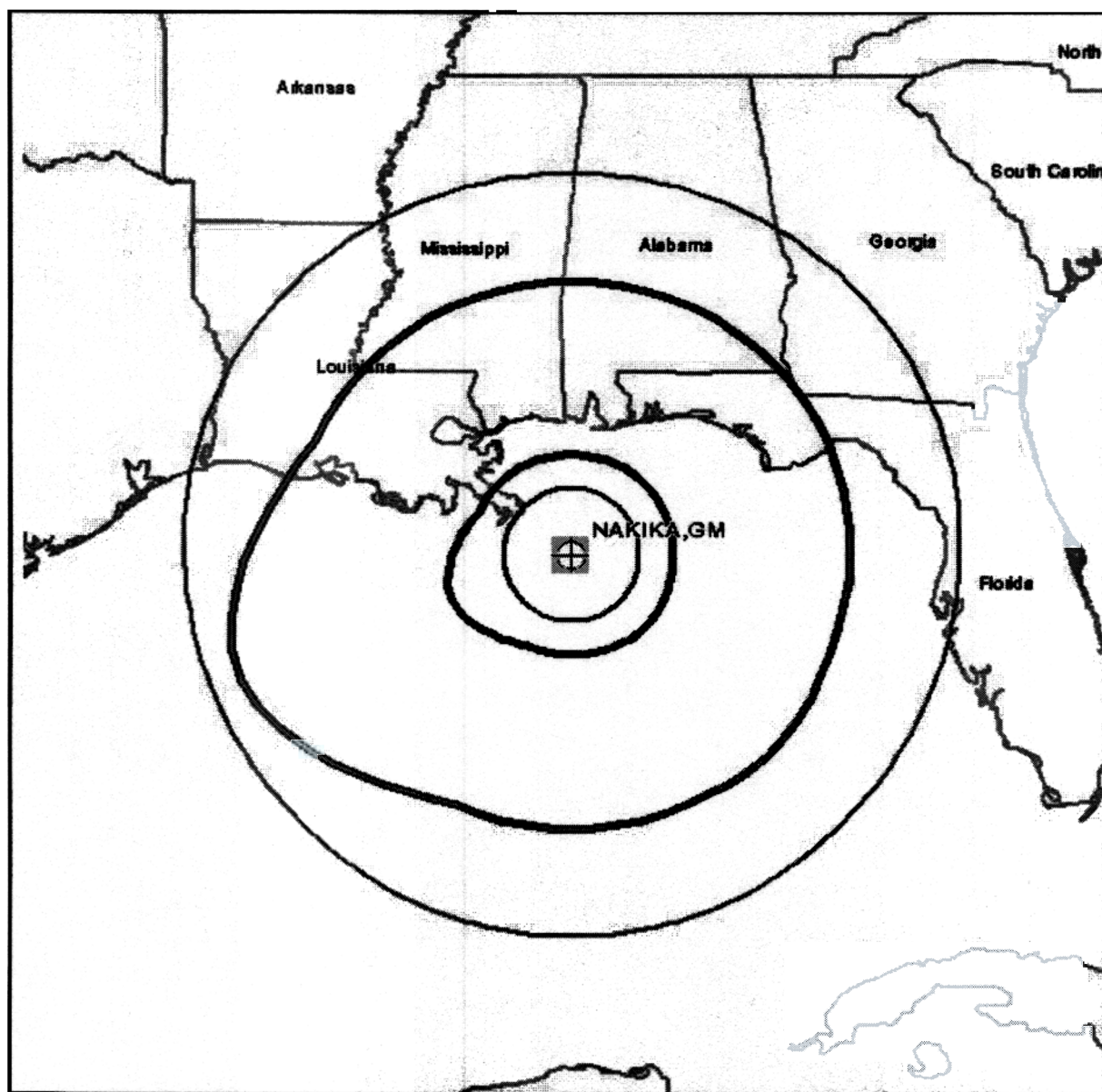


Table of Earth Station Coordination Values  
05/08/2003

Earth Station Name      **NAKIKA GM**  
 Owner                    **AMOCO PRODUCTION COMPANY DBA BP AMOCO**  
 Latitude (DMS) (NAD83) **28 31 15.9 N**  
 Longitude (DMS) (NAD83) **88 17 20.0 W**  
 Ground Elevation (Ft/m)      **0.00 /      0.00 AMSL**  
 Antenna Centerline (Ft/m)    **98.43 /      30.00 AGL**  
 Antenna Model                    **Channel Master 2.4 Meter**  
 Objectives: Receive            **-156.0 (dBW /1 MHz)**  
     **Transmit      -154.0 (dBW /4 kHz)    TX Power    -12.7 (dBW/4 kHz)**

Azimuth (Deg)	Horizon Elevation Angle (Deg)	Antenna Disc. Angle (Deg)	Antenna Gain (dBi)	4.0 GHz		6.0 GHz	
				Coordination Distance (Km)	Antenna Gain (dBi)	Coordination Distance (Km)	Antenna Gain (dBi)
185	0.00	56.33	-10.00	412.2	-10.00	151.1	-10.00
190	0.00	55.20	-10.00	412.2	-10.00	151.1	-10.00
195	0.00	53.39	-10.00	412.2	-10.00	151.1	-10.00
200	0.00	51.02	-10.00	412.2	-10.00	151.1	-10.00
205	0.00	48.19	-10.00	412.2	-10.00	151.1	-10.00
210	0.00	45.01	-9.33	420.5	-9.33	153.9	-9.33
215	0.00	41.54	-8.46	431.7	-8.46	157.7	-8.46
220	0.00	37.85	-7.45	445.0	-7.45	162.1	-7.45
225	0.00	34.08	-6.31	460.6	-6.31	167.4	-6.31
230	0.00	30.59	-5.14	476.5	-5.14	173.0	-5.14
235	0.00	27.52	-3.99	493.3	-3.99	178.8	-3.99
240	0.00	25.03	-2.96	508.9	-2.96	184.1	-2.96
245	0.00	23.30	-2.18	521.0	-2.18	188.2	-2.18
250	0.00	22.51	-1.81	527.0	-1.81	190.3	-1.81
255	0.00	22.75	-1.93	525.1	-1.93	189.6	-1.93
260	0.00	24.01	-2.51	516.0	-2.51	186.5	-2.51
265	0.00	26.12	-3.42	501.9	-3.42	181.7	-3.42
270	0.00	28.90	-4.52	485.5	-4.52	176.1	-4.52
275	0.00	32.19	-5.69	468.7	-5.69	170.4	-5.69
280	0.00	35.83	-6.86	453.1	-6.86	164.9	-6.86
285	0.00	39.73	-7.98	438.0	-7.98	159.8	-7.98
290	0.00	43.83	-9.04	424.2	-9.04	155.1	-9.04
295	0.00	48.06	-10.00	412.2	-10.00	151.1	-10.00
300	0.00	52.40	-10.00	412.2	-10.00	151.1	-10.00
305	0.00	56.81	-10.00	412.2	-10.00	151.1	-10.00
310	0.00	61.29	-10.00	412.2	-10.00	151.1	-10.00
315	0.00	65.81	-10.00	412.2	-10.00	151.1	-10.00
320	0.00	70.36	-10.00	412.2	-10.00	151.1	-10.00
325	0.00	74.94	-10.00	412.2	-10.00	151.1	-10.00
330	0.00	79.54	-10.00	412.2	-10.00	151.1	-10.00
335	0.00	84.16	-10.00	412.2	-10.00	151.1	-10.00
340	0.00	88.77	-10.00	412.2	-10.00	151.1	-10.00
345	0.00	93.39	-10.00	412.2	-10.00	151.1	-10.00
350	0.00	98.01	-10.00	412.2	-10.00	151.1	-10.00
355	0.00	102.62	-10.00	412.2	-10.00	151.1	-10.00

# AMOCO PRODUCTION COMPANY DBA BP AMOCO



**Legend:**

Scale: 1:10,000,000

Great Circle: 6.1 GHz 

4.0 GHz 

Precipitation Scatter: 6.1 GHz

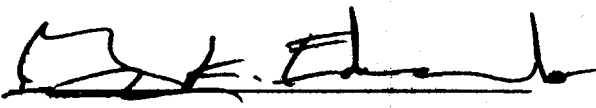
4.0 GHz



**COMSEARCH®**  
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## 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: May 09, 2003