

FREQUENCY COORDINATION AND INTERFERENCE  
ANALYSIS REPORT

PREPARED FOR  
U.S. SATELLITE CORPORATION  
MURRAY, UT  
SATELLITE EARTH STATION  
(9.2 Meter)

PREPARED BY  
COMSEARCH  
2002 EDMUND HALLEY DRIVE  
RESTON, VIRGINIA 20191  
August 18, 1999

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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  
RE: PART 25.203(C)

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 JULY 16, 1999.

ALL WEST COMMUNICATIONS, INC.  
AMERICAN RURAL CELLULAR, INC.  
AT&T COMMUNICATIONS  
AT&T COMMUNICATIONS OF MOUNTAIN STATES  
CELLULAR INC., NETWORK CORPORATION  
CITIZENS COMMUNICATIONS CO. OF UTAH  
DESERET GENERATION & TRANSMISSION COOP  
EMERY TELEPHONE  
IHC HOSPITALS, INC.  
LEGACY WORLDCOM  
MCCAW COMM. OF THE MIDSOUTH - PROVO  
MCCAW COMM. OF THE MIDSOUTH - SALT LAKE  
MCCAW COMM. OF THE MIDSOUTH - UT 1 BOX E  
METRO TRAFFIC CONTROL INC  
PACIFICORP UTAH POWER CORPORATION  
PEAK CABLEVISION  
PILOT BUTTE TRANSMISSION CO., INC.  
QUESTAR INFOCOMM, INC.  
SPECIALTY ANTENNA SITE RESOURCES, INC.  
UA CABLE OF CENTRAL WYOMING - CASPER  
UNION TELEPHONE COMPANY, INC.  
US WEST COMMUNICATIONS, INC.  
UTAH COMMUNICATIONS INC  
UTAH STATE  
UTAH STATE HIGHWAY PATROL  
VOICESTREAM PCS BTA 1 LICENSE CORP.  
WESTERN TELE-COMMUNICATIONS, INC.

#### 4. EARTH STATION COORDINATION DATA

THIS SECTION PRESENTS THE DATA PERTINENT TO FREQUENCY COORDINATION OF THE PROPOSED EARTH STATION WHICH WAS CIRCULATED TO ALL COMMON CARRIERS WITHIN ITS COORDINATION CONTOURS.

SATELLITE EARTH STATION  
 FREQUENCY COORDINATION DATA  
 07/16/99

Company	U.S. SATELLITE CORPORATION	
Owner code	P9025	
Earth Station Name, State	MURRAY, UT	
Latitude (DMS)	40 38 53.3 N	
Longitude (DMS)	111 55 00.4 W	
Ground Elevation AMSL (Ft/m)	4265.0 / 1299.9	
Antenna Centerline AGL (Ft/m)	16.0 / 4.9	
Receive Antenna Type:	R40924	SATCOM TECH.
		920CS
4 GHz Gain (dBi) / Diameter (m)	50.1 /	9.2
3 dB / 15 dB Half Beamwidth	0.26 /	0.53
Transmit Antenna Type:	R60924	SATCOM TECH.
		920CS
6 GHz Gain (dBi) / Diameter (m)	53.0 /	9.2
3 dB / 15 dB Half Beamwidth	0.19 /	0.39
Operating Mode	TRANSMIT AND RECEIVE	
Modulation	ANALOG & DIGITAL	
Emissions: 30K0G8E, 360KF8E, 1M20G7D, 1M23G7D, 1M34G7D, 2M98G7D, 18M0G7D, 36M0G7D, 36M0F8W		
Receive Band (MHz)	3700.0000 - 4200.0000	
Transmit Band (MHz)	5925.0000 - 6425.0000	
Max. Available RF Power (dBW)/4 kHz	6.60	
(dBW)/MHz	30.60	
Max. EIRP	59.60	
(dBW)/4 kHz	83.60	
(dBW)/MHz	0.00	
(dBW)		
Max permissible Interference Power		
4 GHz, 20% (dBW/1 MHz)	-150.0	
4 GHz, 0.0100% (dBW/1 MHz)	-130.0	
6 GHz, 20% (dBW/4 kHz)	-154.0	
6 GHz, 0.0025% (dBW/4 kHz)	-131.0	
Range of Satellite Arc (Geostationary)		
Degrees Longitude	40.0 W / 184.0 W	
Azimuth Range (Min/Max)	102.0 / 258.1	
Corresponding Elevation Angles	5.0 / 4.8	
Radio Climate	A	
Rain Zone	5	
Max Great Circle Coordination Distance (Mi/Km)		
4 GHz	297.9 / 479.5	
6 GHz	318.0 / 511.8	
Precipitation Scatter contour radius (Mi/Km)		
4 GHz	80.8 / 130.0	
6 GHz	91.0 / 146.5	

Table of Earth Station Coordination Values  
07/16/99

Earth Station Name MURRAY UT  
 Owner U.S. SATELLITE CORPORATION  
 Latitude 40 38 53.3 N  
 Longitude 111 55 00.4 W  
 Ground Elevation (Ft/m) 4265.0 / 1299.9 AMSL ACL 16.0 Feet AGL  
 Antenna Model SATCOM TECH. 920CS  
 Objectives: Receive -150.0 (dBW /1 MHz)  
 Transmit -154.0 (dBW /4 kHz) TX Power 6.6 (dBW/4 kHz)

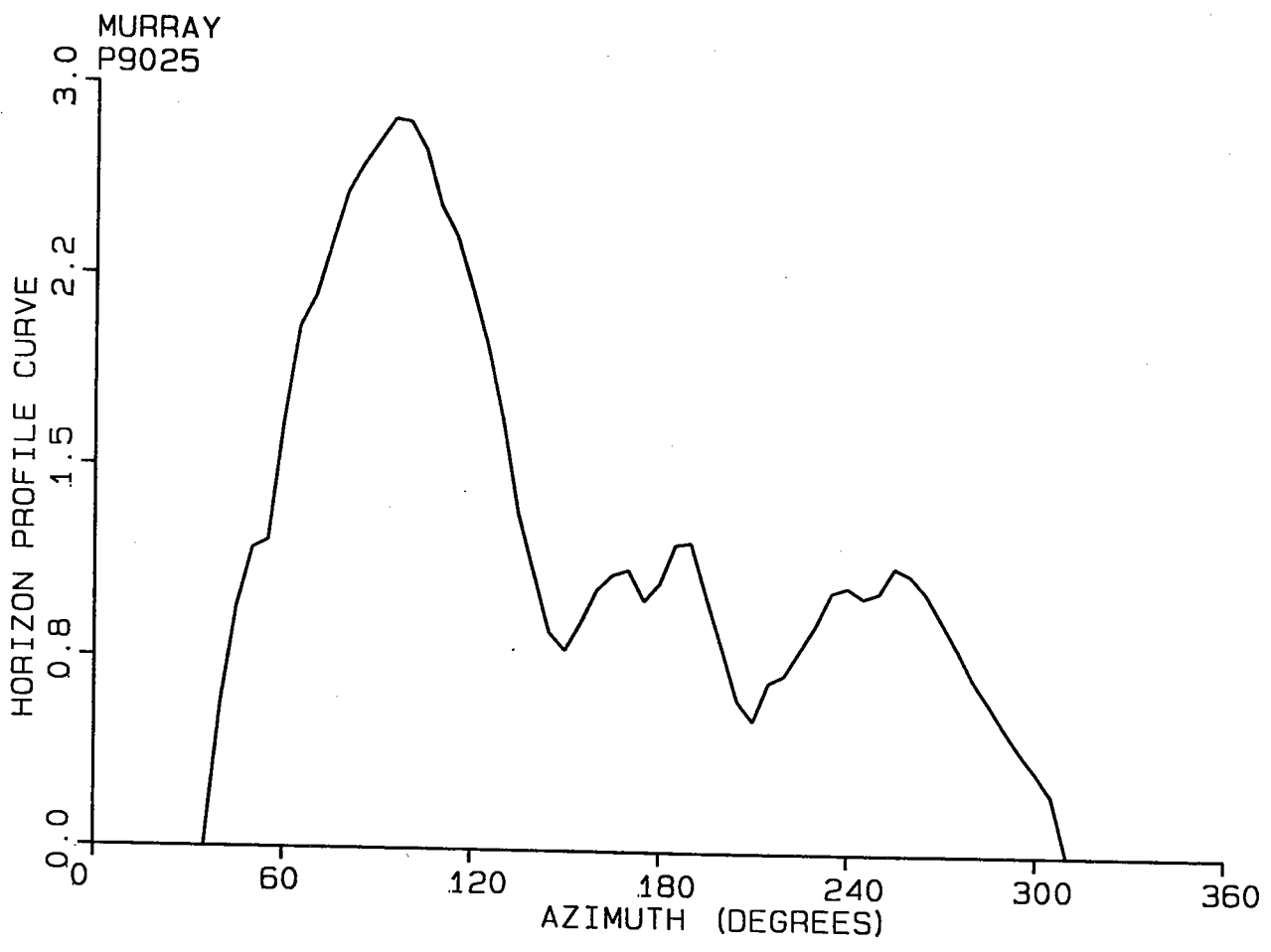
Azimuth (Deg)	Horizon Elevation Angle (Deg)	Antenna Disc. Angle (Deg)	4 GHz		6 GHz	
			Antenna Gain (dBi)	Coordination Distance (Km)	Antenna Gain (dBi)	Coordination Distance (Km)
0	0.00	101.85	-9.90	204.7	-12.37	197.3
5	0.00	96.98	-9.90	204.7	-12.00	198.8
10	0.00	92.00	-9.90	204.7	-12.00	198.8
15	0.00	87.02	-9.90	204.7	-12.00	198.8
20	0.00	82.04	-9.90	204.7	-12.00	198.8
25	0.00	77.06	-9.90	204.7	-12.00	198.8
30	0.00	72.08	-9.90	204.7	-12.00	198.8
35	0.00	67.10	-9.90	204.7	-12.00	198.8
40	0.00	62.12	-9.90	204.7	-11.27	201.5
45	0.20	57.14	-9.90	204.7	-10.00	204.8
50	0.20	52.16	-9.90	204.7	-10.00	204.8
55	0.20	47.19	-9.34	206.8	-9.44	206.9
60	0.30	42.22	-8.34	203.7	-7.89	205.1
65	0.30	37.26	-7.35	205.1	-5.90	211.5
70	0.30	32.31	-6.36	209.1	-4.46	217.7
75	0.30	27.38	-5.38	213.2	-2.95	224.3
80	0.20	22.49	-4.40	227.7	-1.00	243.9
85	0.30	17.62	-3.90	219.6	0.95	242.9
90	0.30	12.87	-3.38	222.0	4.00	258.3
95	0.40	8.35	8.10	274.0	8.00	270.1
100	0.50	4.89	11.55	474.9	11.23	508.4
105	0.60	5.28	10.54	352.8	10.72	368.9
110	0.60	8.82	8.10	255.8	8.00	253.1
115	0.70	12.36	-1.36	204.1	4.00	226.8
120	0.70	15.91	-3.90	193.4	1.64	215.4
125	0.70	19.36	-3.90	193.4	0.26	209.1
130	0.80	22.62	-4.42	185.9	-1.05	200.0
135	0.80	25.82	-5.06	183.1	-2.33	194.4
140	0.70	28.92	-5.68	185.7	-3.57	194.3
145	0.60	31.83	-6.27	188.5	-4.37	196.1
150	0.60	34.41	-6.78	186.3	-4.88	193.9
155	0.50	36.80	-7.26	189.7	-5.72	195.7
160	0.30	38.95	-7.69	206.2	-6.58	208.7
165	0.30	40.55	-8.01	205.0	-7.22	206.1
170	0.20	41.83	-8.27	211.0	-7.73	213.7
175	0.00	42.76	-8.45	210.3	-8.10	212.2
180	0.00	43.00	-8.50	210.1	-8.20	211.8

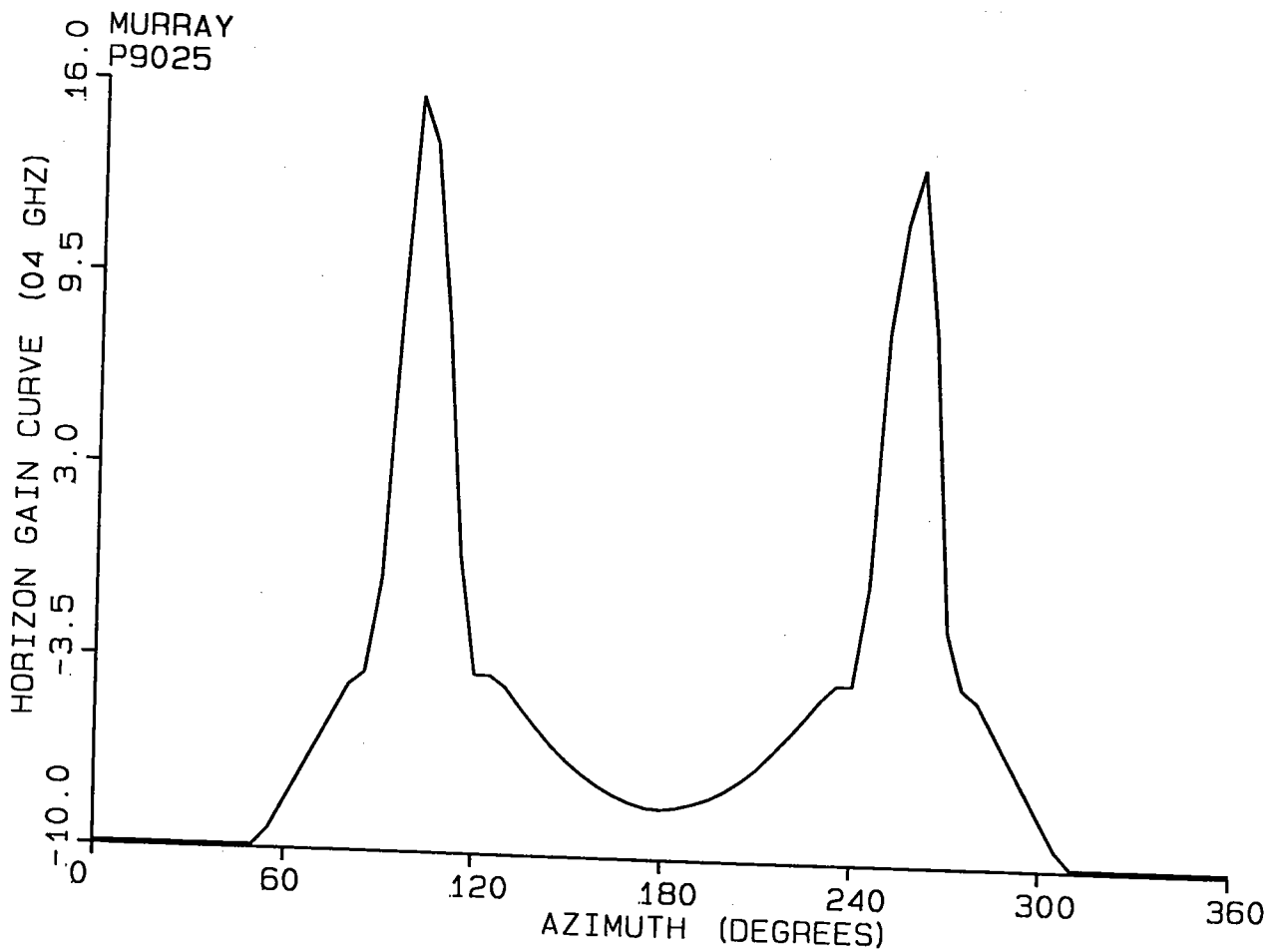


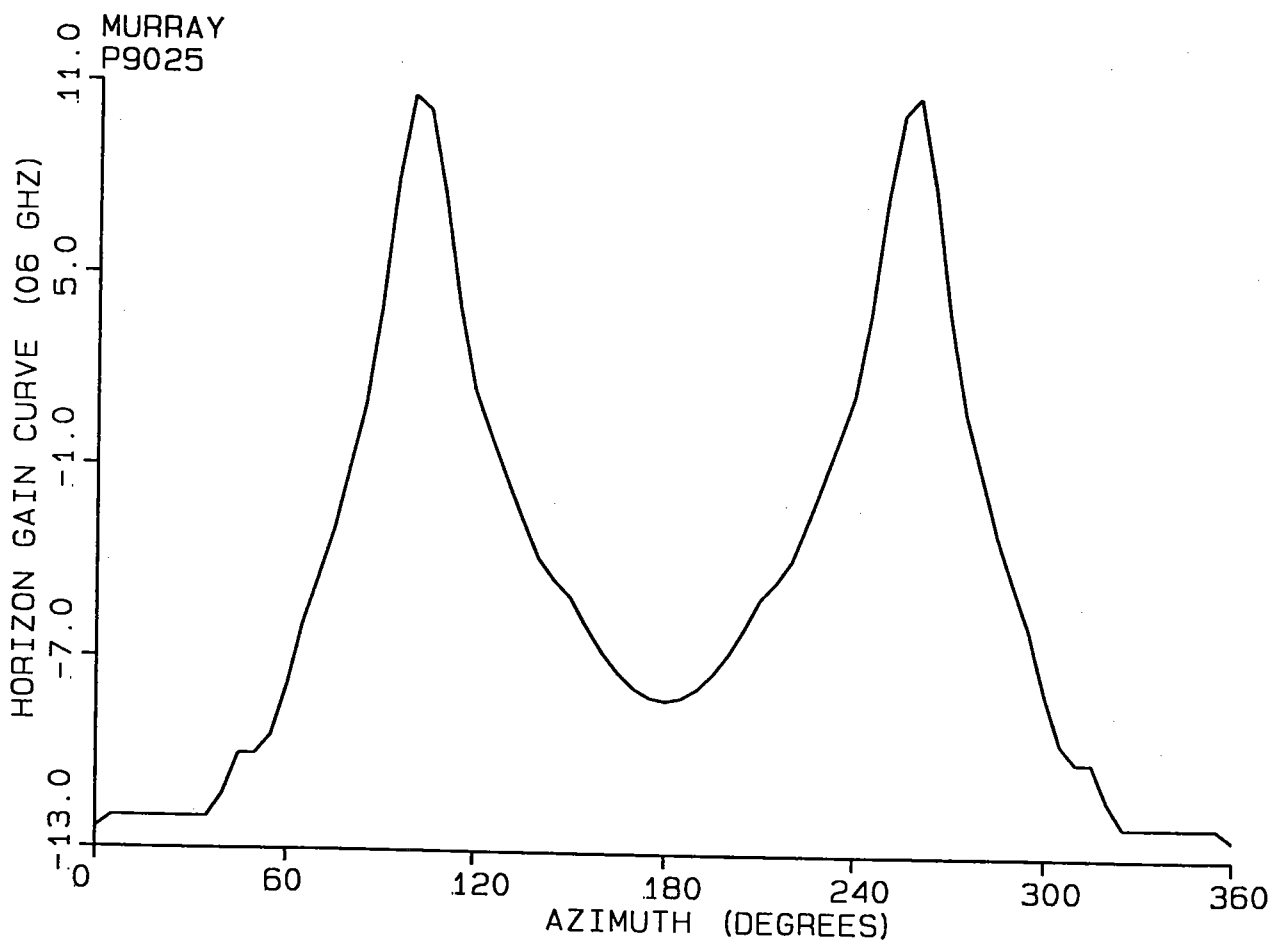
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 Longitude 111 55 00.4 W  
 Ground Elevation (Ft/m) 4265.0 / 1299.9 AMSL ACL 16.0 Feet AGL  
 Antenna Model SATCOM TECH. 920CS  
 Objectives: Receive -150.0 (dBW /1 MHz)  
 Transmit -154.0 (dBW /4 kHz) TX Power 6.6 (dBW/4 kHz)

Azimuth (Deg)	Horizon Elevation Angle (Deg)	Antenna Disc. Angle (Deg)	4 GHz		6 GHz	
			Antenna Gain (dBi)	Coordination Distance (Km)	Antenna Gain (dBi)	Coordination Distance (Km)
185	0.00	42.76	-8.45	210.3	-8.10	212.2
190	0.20	41.83	-8.27	211.0	-7.73	213.7
195	0.30	40.55	-8.01	205.0	-7.22	206.1
200	0.40	38.86	-7.67	197.2	-6.54	201.3
205	0.50	36.80	-7.26	189.7	-5.72	195.7
210	0.50	34.49	-6.80	191.7	-4.90	199.2
215	0.60	31.83	-6.27	188.5	-4.37	196.1
220	0.90	28.77	-5.65	174.9	-3.51	184.0
225	0.90	25.74	-5.05	177.8	-2.30	189.4
230	0.90	22.55	-4.41	180.6	-1.02	195.1
235	0.90	19.22	-3.90	182.9	0.31	201.0
240	0.90	15.77	-3.90	182.9	1.69	205.5
245	0.90	12.22	-0.80	196.6	4.00	216.2
250	0.90	8.62	8.10	237.1	8.00	236.4
255	0.90	5.01	11.09	350.4	10.99	366.8
260	0.90	4.36	13.37	479.4	12.27	511.7
265	1.00	7.88	8.10	231.3	8.12	231.6
270	0.90	12.52	-1.98	191.4	4.00	216.2
275	0.80	17.36	-3.90	188.2	1.06	207.6
280	0.70	22.26	-4.35	191.5	-0.91	205.7
285	0.60	27.20	-5.34	192.5	-2.88	202.4
290	0.50	32.16	-6.33	193.7	-4.43	201.2
295	0.40	37.12	-7.32	198.6	-5.85	204.2
300	0.30	42.09	-8.32	203.8	-7.84	205.3
305	0.00	47.09	-9.32	206.9	-9.42	207.0
310	0.00	52.06	-9.90	204.7	-10.00	204.8
315	0.00	57.03	-9.90	204.7	-10.00	204.8
320	0.00	62.00	-9.90	204.7	-11.20	201.8
325	0.00	66.98	-9.90	204.7	-12.00	198.8
330	0.00	71.96	-9.90	204.7	-12.00	198.8
335	0.00	76.94	-9.90	204.7	-12.00	198.8
340	0.00	81.92	-9.90	204.7	-12.00	198.8
345	0.00	86.91	-9.90	204.7	-12.00	198.8
350	0.00	91.89	-9.90	204.7	-12.00	198.8
355	0.00	96.87	-9.90	204.7	-12.00	198.8







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  
MANAGER SATELLITE SERVICES  
COMSEARCH  
2002 EDMUND HALLEY DRIVE  
RESTON, VIRGINIA 20191

DATED: August 18, 1999

FREQUENCY COORDINATION AND INTERFERENCE  
ANALYSIS REPORT

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MURRAY, UT  
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(10 Meter)

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## 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.

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RE: PART 25.203(C)

PURSUANT TO PART 25.203(C) OF THE FCC RULES AND REGULATIONS,  
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COORDINATION DATA FOR THIS EARTH STATION WAS SENT TO THE  
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AT&T COMMUNICATIONS  
AT&T COMMUNICATIONS OF MOUNTAIN STATES  
CELLULAR INC., NETWORK CORPORATION  
CITIZENS COMMUNICATIONS CO. OF UTAH  
DESERET GENERATION & TRANSMISSION COOP  
EMERY TELEPHONE  
IHC HOSPITALS, INC.  
LEGACY WORLDCOM  
MCCAW COMM. OF THE MIDSOUTH - PROVO  
MCCAW COMM. OF THE MIDSOUTH - SALT LAKE  
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METRO TRAFFIC CONTROL INC  
PACIFICORP UTAH POWER CORPORATION  
PEAK CABLEVISION  
PILOT BUTTE TRANSMISSION CO., INC.  
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#### 4. EARTH STATION COORDINATION DATA

THIS SECTION PRESENTS THE DATA PERTINENT TO FREQUENCY COORDINATION OF THE PROPOSED EARTH STATION WHICH WAS CIRCULATED TO ALL COMMON CARRIERS WITHIN ITS COORDINATION CONTOURS.

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 FREQUENCY COORDINATION DATA  
 07/16/99

Company	U.S. SATELLITE CORPORATION	
Owner code	P9025	
Earth Station Name, State	MURRAY, UT	
Latitude (DMS)	40 38 53.3 N	
Longitude (DMS)	111 55 00.4 W	
Ground Elevation AMSL (Ft/m)	4265.0 / 1299.9	
Antenna Centerline AGL (Ft/m)	16.0 / 4.9	
Receive Antenna Type:	S41001	SCIENTIFIC-ATLANTA
4 GHz Gain (dBi) / Diameter (m)		8002-SHORT MOUNT
3 dB / 15 dB Half Beamwidth		50.8 / 10.0
		0.30 / 0.50
Transmit Antenna Type:	S61001	SCIENTIFIC-ATLANTA
6 GHz Gain (dBi) / Diameter (m)		8002-SHORT MOUNT
3 dB / 15 dB Half Beamwidth		53.5 / 10.0
		0.16 / 0.35
Operating Mode	TRANSMIT AND RECEIVE	
Modulation	ANALOG & DIGITAL	
Emissions: 30K0G8E, 360KF8E, 1M20G7D, 1M23G7D, 1M34G7D, 2M98G7D		
18M0G7D, 36M0G7D, 36M0F8W		
Receive Band (MHz)	3700.0000 - 4200.0000	
Transmit Band (MHz)	5925.0000 - 6425.0000	
Max. Available RF Power (dBW)/4 kHz	6.10	
(dBW)/MHz	30.10	
Max. EIRP (dBW)/4 kHz	59.60	
(dBW)/MHz	83.60	
Max permissible Interference Power		
4 GHz, 20% (dBW/1 MHz)	-150.0	
4 GHz, 0.0100% (dBW/1 MHz)	-130.0	
6 GHz, 20% (dBW/4 kHz)	-154.0	
6 GHz, 0.0025% (dBW/4 kHz)	-131.0	
Range of Satellite Arc (Geostationary)		
Degrees Longitude	70.0 W / 145.0 W	
Azimuth Range (Min/Max)	126.0 / 225.0	
Corresponding Elevation Angles	26.6 / 32.1	
Radio Climate		
Rain Zone	A	
	5	
Max Great Circle Coordination Distance (Mi/Km)		
4 GHz	143.1 / 230.4	
6 GHz	141.0 / 226.9	
Precipitation Scatter contour radius (Mi/Km)		
4 GHz	75.4 / 121.3	
6 GHz	78.8 / 126.9	

Note: Horizon is less than 0.2 degrees at all azimuths

Table of Earth Station Coordination Values  
07/16/99

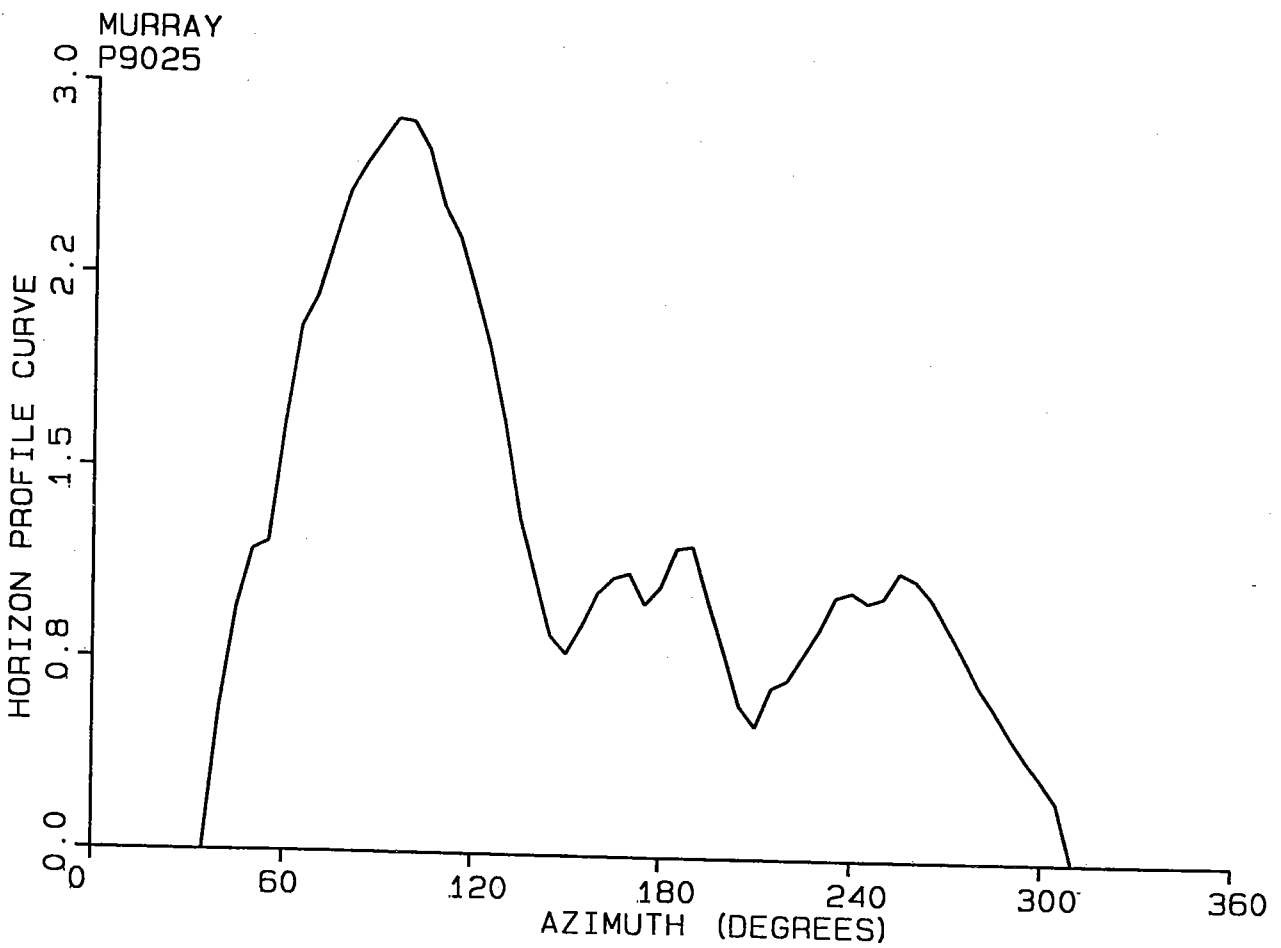
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 Longitude 111 55 00.4 W  
 Ground Elevation (Ft/m) 4265.0 / 1299.9 AMSL ACL 16.0 Feet AGL  
 Antenna Model SCIENTIFIC-ATLANTA 8002-SHORT MOUNT  
 Objectives: Receive -150.0 (dBW /1 MHz)  
 Transmit -154.0 (dBW /4 kHz) TX Power 6.1 (dBW/4 kHz)

Azimuth (Deg)	Horizon Elevation Angle (Deg)	Antenna Disc. Angle (Deg)	4 GHz		6 GHz	
			Antenna Gain (dBi)	Coordination Distance (Km)	Antenna Gain (dBi)	Coordination Distance (Km)
0	0.00	121.68	-10.20	206.0	-13.17	192.4
5	0.00	117.39	-10.20	206.0	-10.93	200.9
10	0.00	113.05	-10.20	206.0	-9.50	204.8
15	0.00	108.66	-10.20	206.0	-9.50	204.8
20	0.00	104.24	-10.20	206.0	-9.50	204.8
25	0.00	99.79	-10.20	206.0	-9.50	204.8
30	0.00	95.33	-10.20	206.0	-9.50	204.8
35	0.00	90.86	-10.20	206.0	-9.50	204.8
40	0.00	86.39	-10.20	206.0	-9.50	204.8
45	0.00	81.93	-10.20	206.0	-9.50	204.8
50	0.00	77.48	-10.20	206.0	-9.50	204.8
55	0.00	73.05	-10.20	206.0	-9.50	204.8
60	0.00	68.64	-10.20	206.0	-9.50	204.8
65	0.00	64.28	-10.20	206.0	-9.50	204.8
70	0.00	59.97	-10.20	206.0	-9.50	204.8
75	0.00	55.73	-10.20	206.0	-9.50	204.8
80	0.00	51.57	-10.20	206.0	-9.50	204.8
85	0.00	47.53	-9.71	205.4	-9.50	204.8
90	0.00	43.64	-8.93	208.4	-9.23	205.8
95	0.00	39.94	-8.19	211.3	-8.48	208.7
100	0.00	36.50	-7.50	214.1	-7.10	214.2
105	0.00	33.39	-6.56	218.1	-6.18	218.1
110	0.00	30.72	-5.49	222.7	-5.64	220.3
115	0.00	28.62	-4.65	226.6	-4.95	223.3
120	0.00	27.22	-4.09	229.2	-4.39	225.8
125	0.00	26.62	-3.85	230.3	-4.15	226.9
130	0.00	26.88	-3.95	229.8	-4.25	226.4
135	0.00	27.99	-4.39	227.7	-4.69	224.4
140	0.00	29.84	-5.13	224.3	-5.43	221.2
145	0.00	32.30	-6.12	220.0	-5.96	219.0
150	0.00	34.90	-7.16	215.5	-6.48	216.8
155	0.00	37.23	-7.65	213.5	-7.39	213.1
160	0.00	39.22	-8.04	211.9	-8.19	209.9
165	0.00	40.83	-8.37	210.6	-8.67	208.0
170	0.00	42.02	-8.60	209.7	-8.90	207.0
175	0.00	42.76	-8.75	209.1	-9.05	206.5
180	0.00	43.00	-8.80	208.9	-9.10	206.3

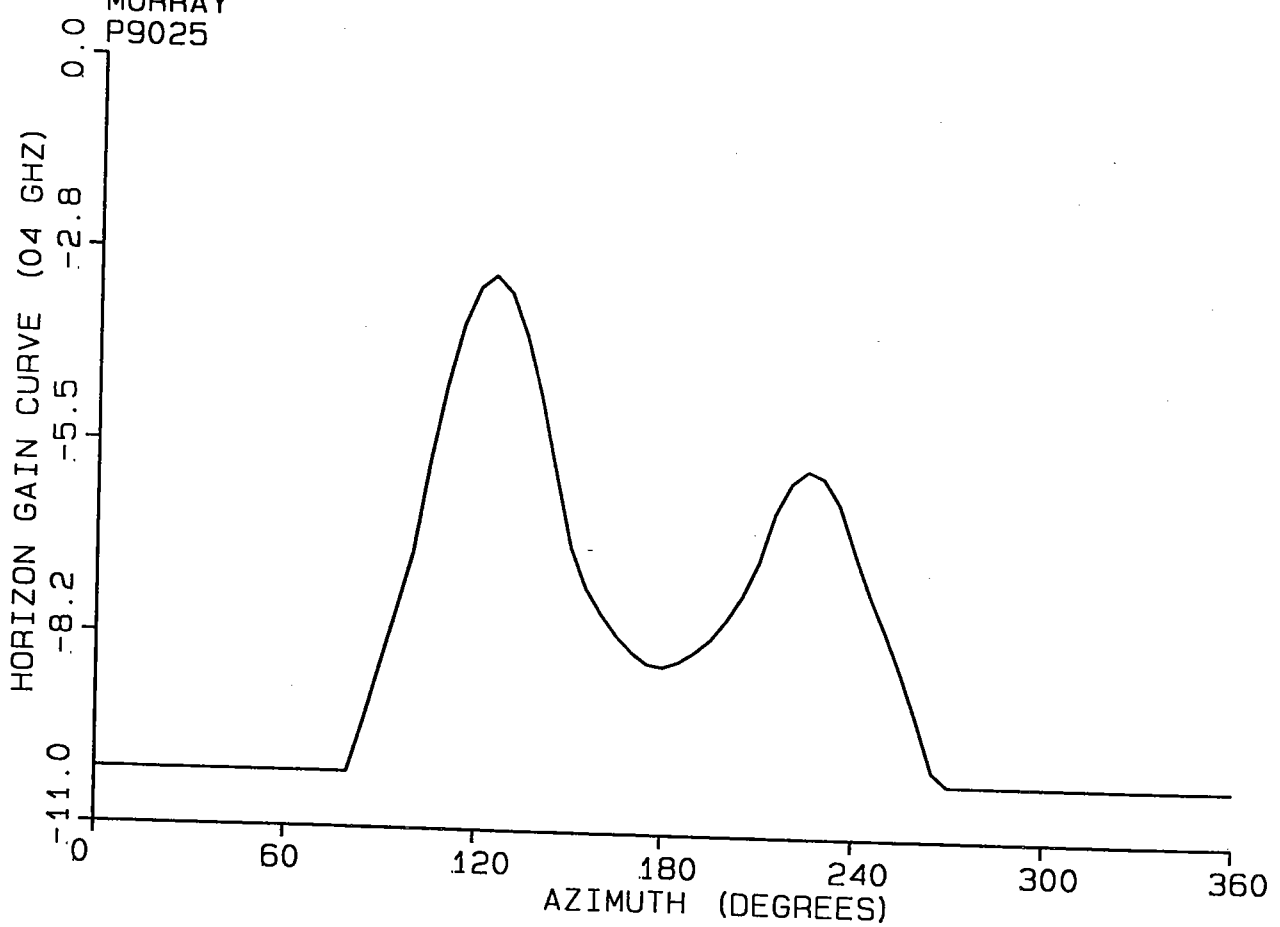
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 Latitude 40 38 53.3 N  
 Longitude 111 55 00.4 W  
 Ground Elevation (Ft/m) 4265.0 / 1299.9 AMSL ACL 16.0 Feet AGL  
 Antenna Model SCIENTIFIC-ATLANTA 8002-SHORT MOUNT  
 Objectives: Receive -150.0 (dBW /1 MHz)  
 Transmit -154.0 (dBW /4 kHz) TX Power 6.1 (dBW/4 kHz)

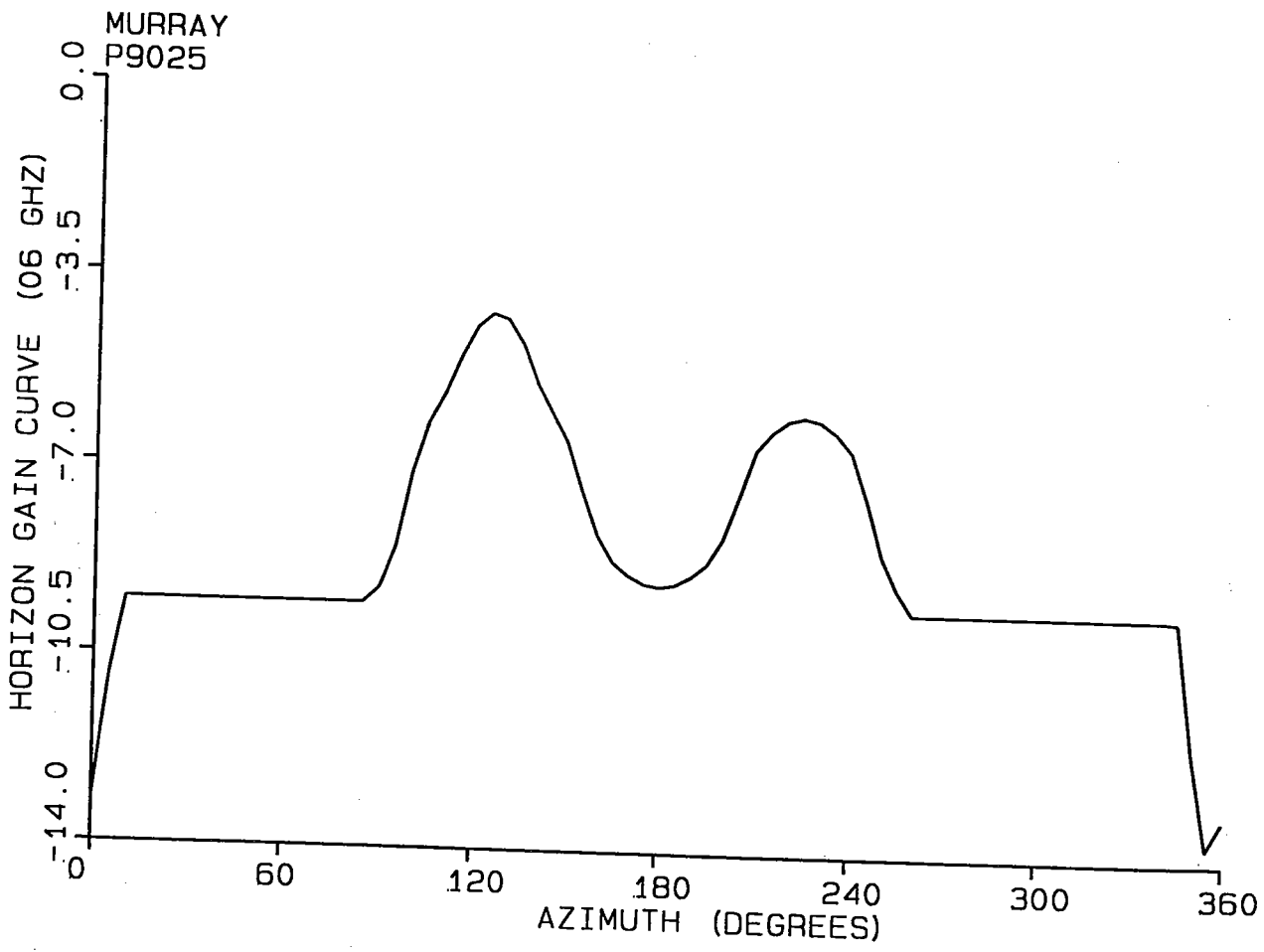
Azimuth (Deg)	Horizon Elevation Angle (Deg)	Antenna Disc. Angle (Deg)	4 GHz		6 GHz	
			Antenna Gain (dBi)	Coordination Distance (Km)	Antenna Gain (dBi)	Coordination Distance (Km)
185	0.00	42.76	-8.75	209.1	-9.05	206.5
190	0.00	42.02	-8.60	209.7	-8.90	207.0
195	0.00	40.83	-8.37	210.6	-8.67	208.0
200	0.00	39.22	-8.04	211.9	-8.19	209.9
205	0.00	37.23	-7.65	213.5	-7.39	213.1
210	0.00	35.10	-7.22	215.3	-6.54	216.6
215	0.00	33.48	-6.59	217.9	-6.20	218.0
220	0.00	32.46	-6.18	219.7	-5.99	218.9
225	0.00	32.11	-6.05	220.3	-5.92	219.1
230	0.00	32.46	-6.18	219.7	-5.99	218.9
235	0.00	33.48	-6.59	217.9	-6.20	218.0
240	0.00	35.10	-7.22	215.3	-6.54	216.6
245	0.00	37.26	-7.65	213.5	-7.40	213.0
250	0.00	39.86	-8.17	211.4	-8.44	208.8
255	0.00	42.82	-8.76	209.0	-9.06	206.4
260	0.00	46.07	-9.41	206.5	-9.50	204.8
265	0.00	49.55	-10.11	206.3	-9.50	204.8
270	0.00	53.21	-10.20	206.0	-9.50	204.8
275	0.00	57.01	-10.20	206.0	-9.50	204.8
280	0.00	60.93	-10.20	206.0	-9.50	204.8
285	0.00	64.94	-10.20	206.0	-9.50	204.8
290	0.00	69.03	-10.20	206.0	-9.50	204.8
295	0.00	73.16	-10.20	206.0	-9.50	204.8
300	0.00	77.34	-10.20	206.0	-9.50	204.8
305	0.00	81.54	-10.20	206.0	-9.50	204.8
310	0.00	85.77	-10.20	206.0	-9.50	204.8
315	0.00	90.00	-10.20	206.0	-9.50	204.8
320	0.00	94.23	-10.20	206.0	-9.50	204.8
325	0.00	98.46	-10.20	206.0	-9.50	204.8
330	0.00	102.66	-10.20	206.0	-9.50	204.8
335	0.00	106.84	-10.20	206.0	-9.50	204.8
340	0.00	110.97	-10.20	206.0	-9.50	204.8
345	0.00	115.06	-10.20	206.0	-9.53	204.6
350	0.00	119.07	-10.20	206.0	-11.94	197.1
355	0.00	122.99	-10.20	206.0	-13.69	190.4



MURRAY  
P9025








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  
MANAGER SATELLITE SERVICES  
COMSEARCH  
2002 EDMUND HALLEY DRIVE  
RESTON, VIRGINIA 20191

DATED: August 18, 1999