

KUAC-DT CHANNEL 9 MINOR
MODIFICATION OF CONSTRUCTION
PERMIT APPLICATION FOR MAXIMIZED
POST-TRANSITION DTV OPERATION
FAIRBANKS, ALASKA
(University of Alaska)

KESSLER AND GEHMAN ASSOCIATES, INC.
TELECOMMUNICATIONS CONSULTING ENGINEERS

KG&A

20080615

Prepared by William T. Godfrey, Jr.

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Gainesville, Florida 32607



Kessler and Gehman Associates, Inc.

Telecommunications Consulting Engineers

ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY, JR. OF THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC., TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH A MINOR MODIFICATION OF CONSTRUCTION PERMIT APPLICATION (BPEDT-2008 0509AAZ) REQUESTING A CONSTRUCTION PERMIT FOR AUTHORIZATION TO OPERATE THE UNIVERSITY OF ALASKA (UOA) DIGITAL TELEVISION BROADCAST FACILITY, KUAC-DT CHANNEL 9, WITH MAXIMIZED PARAMETERS ON ITS POST-TRANSITION DIGITAL CHANNEL AS ADOPTED IN APPENDIX B.

The firm Kessler and Gehman Associates, Inc. has been retained by the University of Alaska (UOA), Fairbanks, AK to prepare engineering studies and the engineering portion of a minor modification of construction permit application (BPEDT-20080509AAZ) requesting authorization to maximize the KUAC-DT Channel 9 post-transition DTV facility pursuant to the procedures outlined in the Third Periodic Review Report and Order (MB Docket No. 07-91) and the Public Notice released on May 30, 2008 lifting the freeze on maximization application filings (DA-08-1213). The following table depicts the allotted (Appendix B), authorized (CP) and proposed (maximization) parameters respectively for the KUAC-DT post-transition DTV facility.

Facility ID	State	City	Call Sign	DTV Chan	DTV ERP (kW)	DTV HAAT (m)	DTV Antenna	DTV Latitude (DDMMSS)	DTV Longitude (DDMMSS)
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Final DTV Table of Allotments (Appendix B) Parameters:

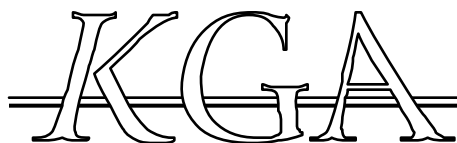
69315	AK	FAIRBANKS	KUAC	9	3.2	152.0	Directional	645442	1474638
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Authorized Parameters (BMPEDT-20080509AAZ):

69315	AK	FAIRBANKS	KUAC	9	2.8	168.9	OMNI	645442	1474638
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Proposed Maximized Parameters:

69315	AK	FAIRBANKS	KUAC	9	30.0	168.9	OMNI	645442	1474638
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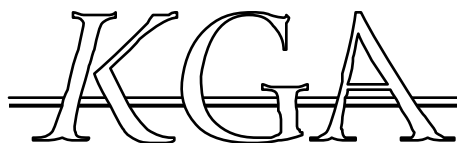
Accordingly, UOA proposes to maximize operation of the KUAC-DT Channel 9 post-transition DTV facility by making the following modifications to its existing construction permit:

- 1) Increase maximum Effective Radiated Power (ERP) from 2.8 kW to 30.0 kW.

All other operating parameters shall remain as authorized in the underlying post-transition DTV construction permit (BPEDT-20080509AAZ).

Post-Transition Interference Protection

The proposed facility satisfies the post-transition interference protection provisions of §73.616 of the FCC Rules. Exhibits 10 (Part1) and 11 (Part2) are Longley-Rice interference studies that were computed using a Sun Microsystems SPARC 5 computer work station loaded with the FCC's DTV analysis software. The interference percentages are exactly the same as the FCC calculations since the studies were performed using the same type computers and the same interference analysis software. Exhibit 10 was run to determine the interference predicted to each desired station from the proposed KUAC-DT Channel 9 post-transition DTV maximized facility. The FCC program recognized a mutually exclusive situation between the proposed KUAC-DT maximized facility and the allotted KUAC-DT Appendix B facility because they both had the same community of license (Fairbanks) and they both were assigned Channel 9. As a result, the program threw out the allotted Channel 9 facility in the "Before" studies and used the proposed Channel 9 maximized facility in the "After" studies. Therefore, only the populations in the "After" studies are used in Exhibit 10 to identify the population predicted to receive interference from the proposed maximized facility. Exhibit 11 is the exact same study as Exhibit 10 except the community of license was purposely changed from "Fairbanks" to "Fairbanks_2" for the proposed maximized facility so that the program would not throw out the allotted Channel 9 facility. Referring to Exhibit 11, it can be seen that the "Before" studies now contain the allotted Channel 9 facility so that the population predicted to be received by the desired stations from the allotted Channel 9 facility can be calculated for masking purposes. The interference studies demonstrate that the proposed facility is predicted to cause no interference (0.0%) to post-transition DTV stations considered in the culling



list. Accordingly, the 0.5% new interference standard pursuant to §V.F. (¶155) of the Third Periodic Review Report and Order has been satisfied.

Exhibits

Exhibits 1 and 2 represent KUAC's administration data, antenna and antenna structure specifications.

Exhibit 3 depicts the profile view of the proposed antenna on the antenna structure with all the appropriate elevations.

Exhibits 4 (10 deg) and 5 (90 deg) display the elevation pattern and Exhibit 6 displays the elevation pattern tabulation.

Exhibit 7 depicts the location of the KUAC-DT transmitter site on a USGS 7.5-Minute (Series) Topographic map.

Exhibit 8 is a principal community contour map demonstrating that the proposed (maximized) KUAC-DT Channel 9 post-transition DTV facility's F(50,90) 43.0 dBuV/m Principal Community contour would completely encompass the principal community of Fairbanks, AK.

Exhibit 9 is a contour map comparing the authorized KUAC-DT Channel 9 F(50,90) 36.0 dBuV/m contour (green) and the proposed (maximized) KUAC-DT Channel 9 F(50,90) 36.0 dBuV/m contour (red).

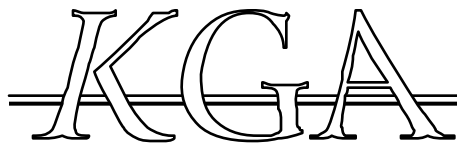
Exhibits 10 and 11 are Longley-Rice interference studies that were computed using a Sun Microsystems SPARC 5 computer work station loaded with the FCC's DTV analysis software. The exhibits demonstrate compliance with the 0.5% new interference standard.



Environmental Impact

The proposed construction would have no significant environmental impact as defined in §1.1307 of the FCC Rules. The digital transmitter, 3-1/8 inch transmission line and elliptically polarized antenna system shall produce an ERP of 30.0 kW (30.0 kW H and 6.0 kW V). It was determined that the maximum lobe of radiation from the base of the tower would occur at approximately 32.0 feet from the base of the tower (116.0-foot radial distance from the antenna center). At approximately 32.0 feet from the base of the tower, the depression angle of the main lobe would be approximately 74° below the horizontal. At that point, the relative field is 0.132 and the power density six feet above the ground would be approximately 0.0168 mW/cm². This equates to 1.68% of the Maximum Permissible Exposure (MPE) limits for Occupational/Controlled Exposure and 8.38% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute (ANSI). Since operation of the proposed KUAC-DT Channel 9 maximized digital facility would exceed 5.0% of the MPE limit for General Population/Uncontrolled Exposure at various points on the ground, it would be considered a “contributor” to the RF exposure KUAC-DT antenna support structure must be analyzed and a composite study must be prepared to demonstrate that the total power density of all antennas mounted on the tower would not exceed 100% of the MPE allowable.

The only broadcast antennas currently mounted and operational on the KUAC-DT antenna support structure are the licensed KUAC-TV Channel 9 antenna and the licensed KUAC-DT Channel 24 antenna. However, the UOA will no longer operate the KUAC-DT facility on digital Channel 24 for post-transition operation and will no longer operate The KUAC-TV facility on analog Channel 9 after the transition. Therefore, the only broadcast antenna that will be mounted and operational on the KUAC-DT antenna support structure when the proposed KUAC-DT Channel 9 maximized facility becomes operational is the proposed KUAC-DT Channel 9 maximized facility. Accordingly, the total RF energy emanating from the KUAC-DT antenna support structure when the proposed KUAC-DT Channel 9 maximized facility is licensed and operational will be 1.68% of the MPE limits for Occupational/Controlled



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Exposure and 8.38% of the MPE limits for General Population/Uncontrolled Exposure. Therefore, the total exposure will result in levels well below the allowable exposure threshold authorized by ANSI and the FCC. It is safe to conclude that the emissions would be insignificant and well within the maximum allowable requirements.


If other antennas are placed on the tower in the future, the licensee will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from the electromagnetic radiation emanating from the antenna. It is also understood that additional antennas on the support structure could increase the overall RF exposure levels and it is the responsibility of each licensee to ensure that the total RF exposure resulting from the operation of all antennas on the support structure do not exceed the maximum permissible exposure level at any point on the ground.

Certification

This technical statement was prepared by William T. Godfrey, Telecommunications Consultant with Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and has been working in the field of radio and television broadcast consulting since 1998. He graduated from the University of North Florida with a Bachelor of Arts degree in Criminal Justice and a minor in Mathematics in 1993. As a Professional in the field of Telecommunications he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.



KESSLER AND GEHMAN ASSOCIATES, INC.


WILLIAM T. GODFREY, JR.
Telecommunications Technical Consultant

15 June, 2008

KUAC-DT CHANNEL 9 MAXIMIZED DTV FACILITY

Fairbanks, Alaska

ENGINEERING SPECIFICATIONS

A. Transmitter Site:

Geographic coordinates (NAD27):

North Latitude: _____ **64° 54' 42"**

West Longitude: _____ **147° 46' 38"**

Transmitter Site Location: **Bender Mountain off of Farmers Loop Road and
Ski Boot Hill Road
Fairbanks, AK**

B. Main Studio Address:

**University of Alaska Fairbanks
312 Tanana Drive, Suite 202
Fairbanks, AK 99775-5620**

Post-Transition Facility:

DTV Channel: _____ Number: _____ **9**
Frequency: _____ **186-192 MHz**
Offset: _____ **N/A**

C. Antenna Height:

Height of Site Above Mean Sea Level (AMSL) _____ **396.2 M**
Overall Height of Structure Above Ground _____ **42.1 M**
(including all appurtenances)
Overall Height of Structure Above Mean Sea Level _____ **438.3 M**
(including all appurtenances)
Height of Site Above Average Terrain _____ **133.1 M**
Antenna Height Radiation Center (R/C) Above Ground _____ **35.8 M**
Antenna Height R/C Above Mean Sea Level _____ **432.0 M**
Average of All Non-Odd Radials _____ **263.1 M**
Antenna Height R/C Above Average Terrain _____ **168.9 M**

D. System Parameters – Elliptical Polarization:

Transmitter Power Required: _____ **6.70 kW**
Maximum Power Input to Antenna: _____ **6.34 kW**
Transmission Line Loss: _____ **0.24 dB**
Transmission Line Efficiency: _____ **94.7%**
Peak Power Gain (H-pol): _____ **6.75 dB**
Peak Power Gain (V-pol): _____ **-0.23 dB**
Gain at Horizontal (H-pol): _____ **6.68 dB**
Gain at Horizontal (V-pol): _____ **-0.25 dB**
Maximum Effective Radiated Power: _____ **14.77 dBk**
In Beam Maximum: _____ **30.0 kW**
Maximum Effective Radiated Power: _____ **14.70 dBk**
In Horizontal Plane: _____ **29.5 kW**

KUAC-DT CHANNEL 9 MAXIMIZED DTV FACILITY

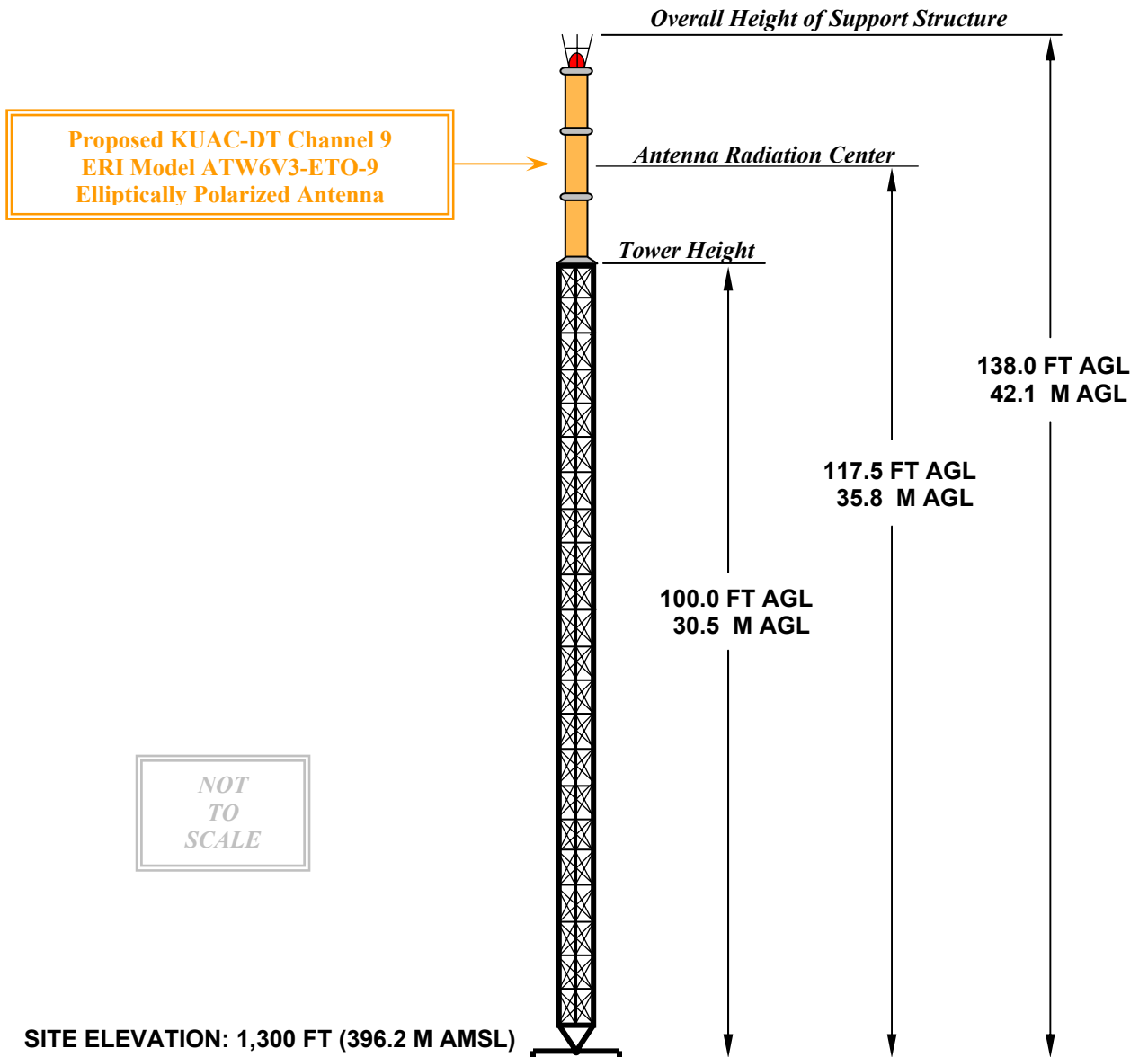
Fairbanks, Alaska

DATA FOR PROPOSED NONDIRECTIONAL TRANSMITTING ANTENNA

- A. **Antenna:** ERI Model ATW6V3-ETO-9, Elliptically Polarized, Nondirectional, Coaxial Slotted Array Antenna.
- B. **Electrical Beam Tilt:** 0.75 degrees
- C. **Mechanical Beam Tilt:** None
- D.

<u>Peak Power Gain</u>	<u>H-Polarization</u>	<u>V-Polarization</u>
Maximum:	4.74 (6.75 dBd)	0.95 (-0.23 dBd)
Horizontal:	4.65 (6.68 dBd)	0.94 (-0.25 dBd)
- E. **Length:** 35.0 feet (10.7 meters) not including beacon and lightning rods.
- F. **Transmitter Power Output (TPO):** 6.70 kW
- G. **Transmission Line:** 3-1/8" 50-ohm Rigid (MACX350)
- H. **Transmission Line Efficiency:** 94.7%
- I. **Transmission Line Length:** 180 feet (110' V + 70' H)
- J. **Transmission Line Loss:** 0.132 dB/100 ft
- K. **Transmission Line Attenuation:** 0.24 dB

KUAC-DT CHANNEL 9 TOWER ELEVATION VIEW



OVERALL HEIGHT AGL: 42.1 M
OVERALL HEIGHT AMSL: 438.3 M
RADIATION CENTER AGL: 35.8 M
RADIATION CENTER AMSL: 432.0 M
RADIATION CENTER HAAT: 168.9 M
AVG OF ALL NON-ODD RADIALS: 263.1 M
SITE HAAT: 133.1 M

COORDINATES (NAD 27):
N. LATITUDE 64° 54' 42"
W. LONGITUDE 147° 46' 38"
Antenna Structure Registration Number:
1007727

NOTE: NOT TO SCALE

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KUAC-DT CHANNEL 9
FAIRBANKS, ALASKA

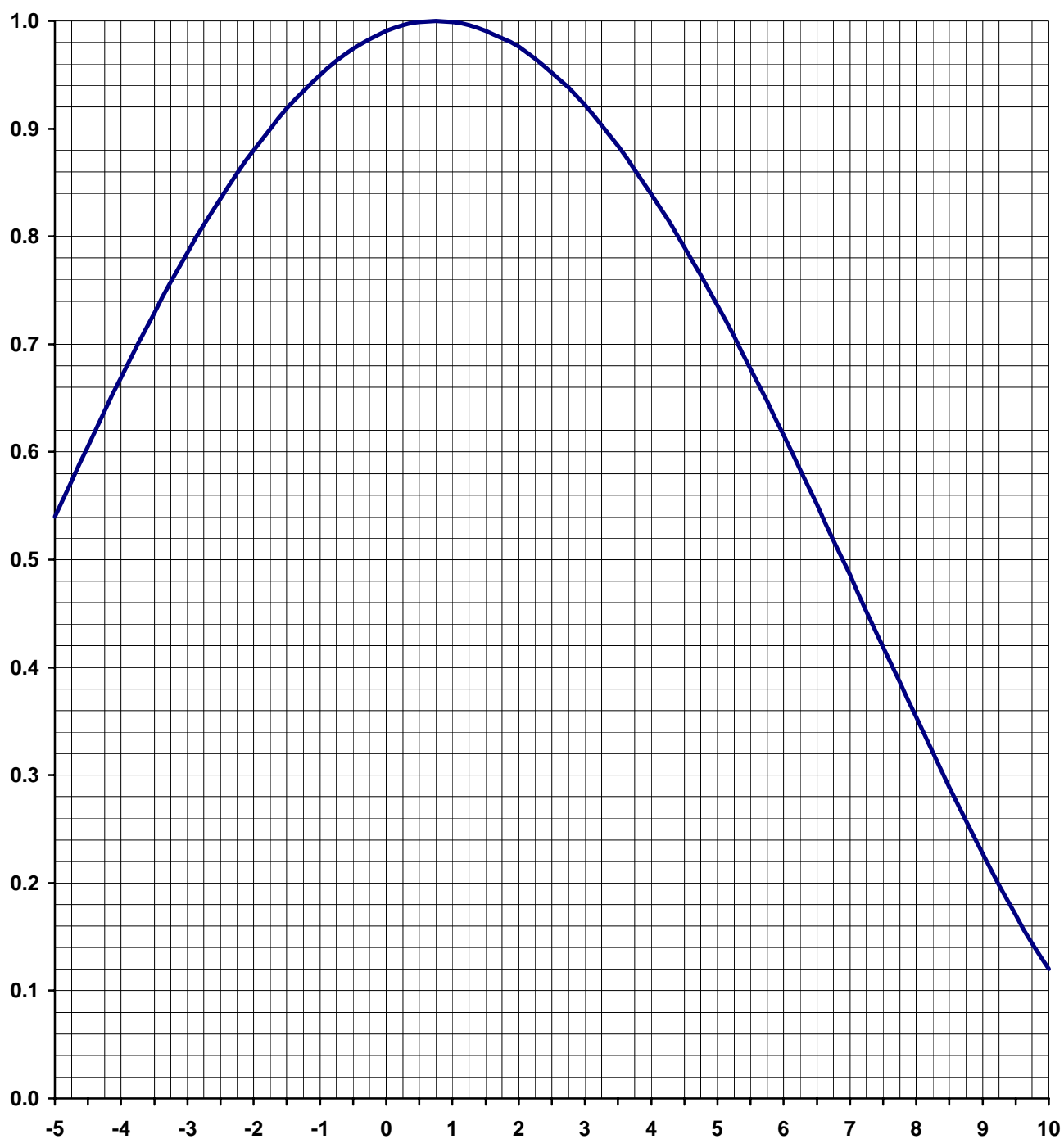
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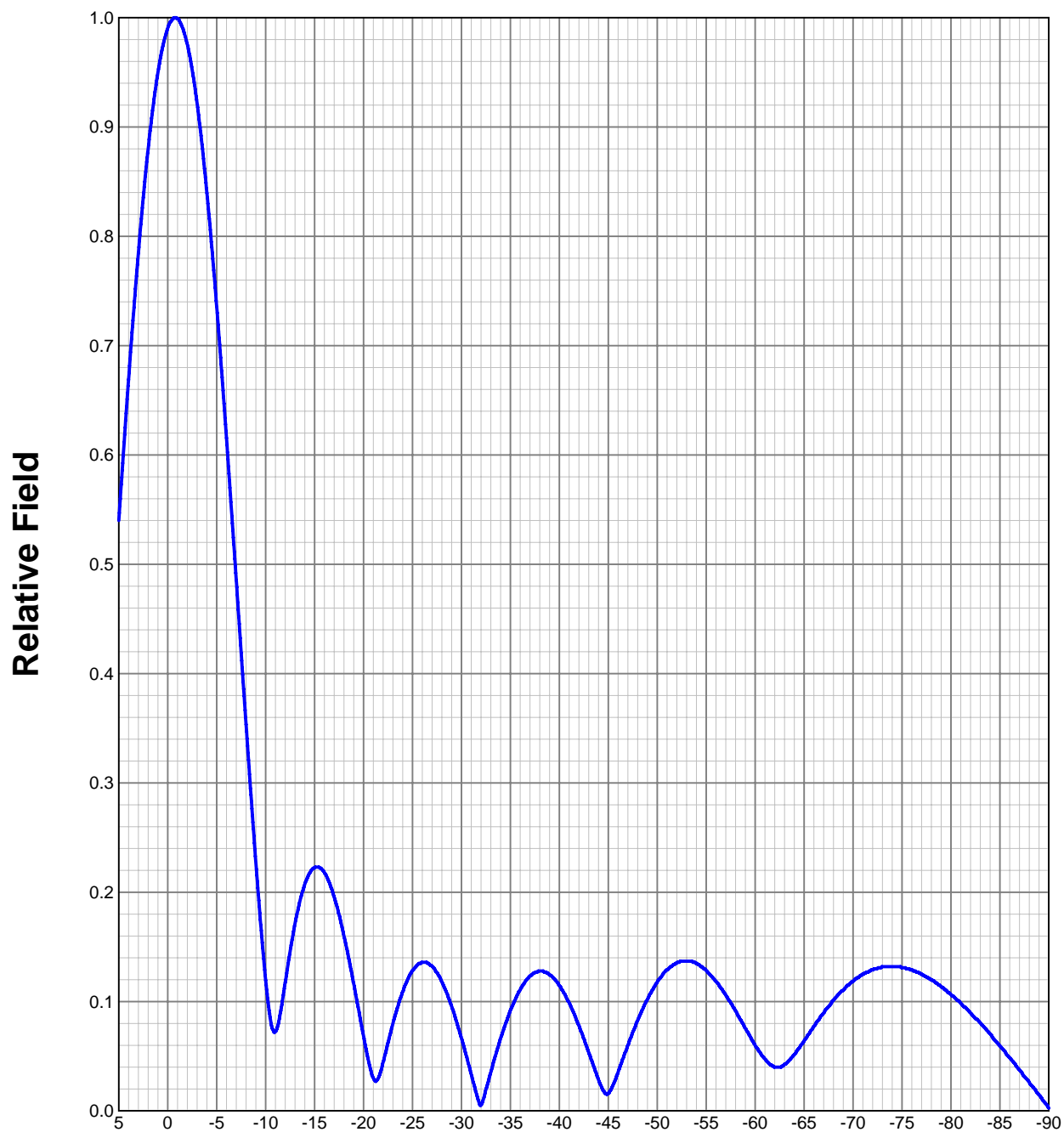
EXHIBIT 3

ELEVATION PATTERN

TYPE:	ATW6V3H	
Directivity:	Numeric	dBd
Main Lobe:	6.00	7.78
Horizontal:	5.89	7.70

Frequency:	9 (Digital)
Location:	Fairbanks, AK
Beam Tilt:	0.75
Polarization:	Horizontal



ELEVATION PATTERN**Type:****ATW6V3H****Channel:****9****Directivity:****Numeric****dBd****Location:****Main Lobe:****6.00****7.78****Beam Tilt:****-0.75****Horizontal:****5.89****7.70****Polarization:****Horizontal***Preliminary, subject to final design and review.*

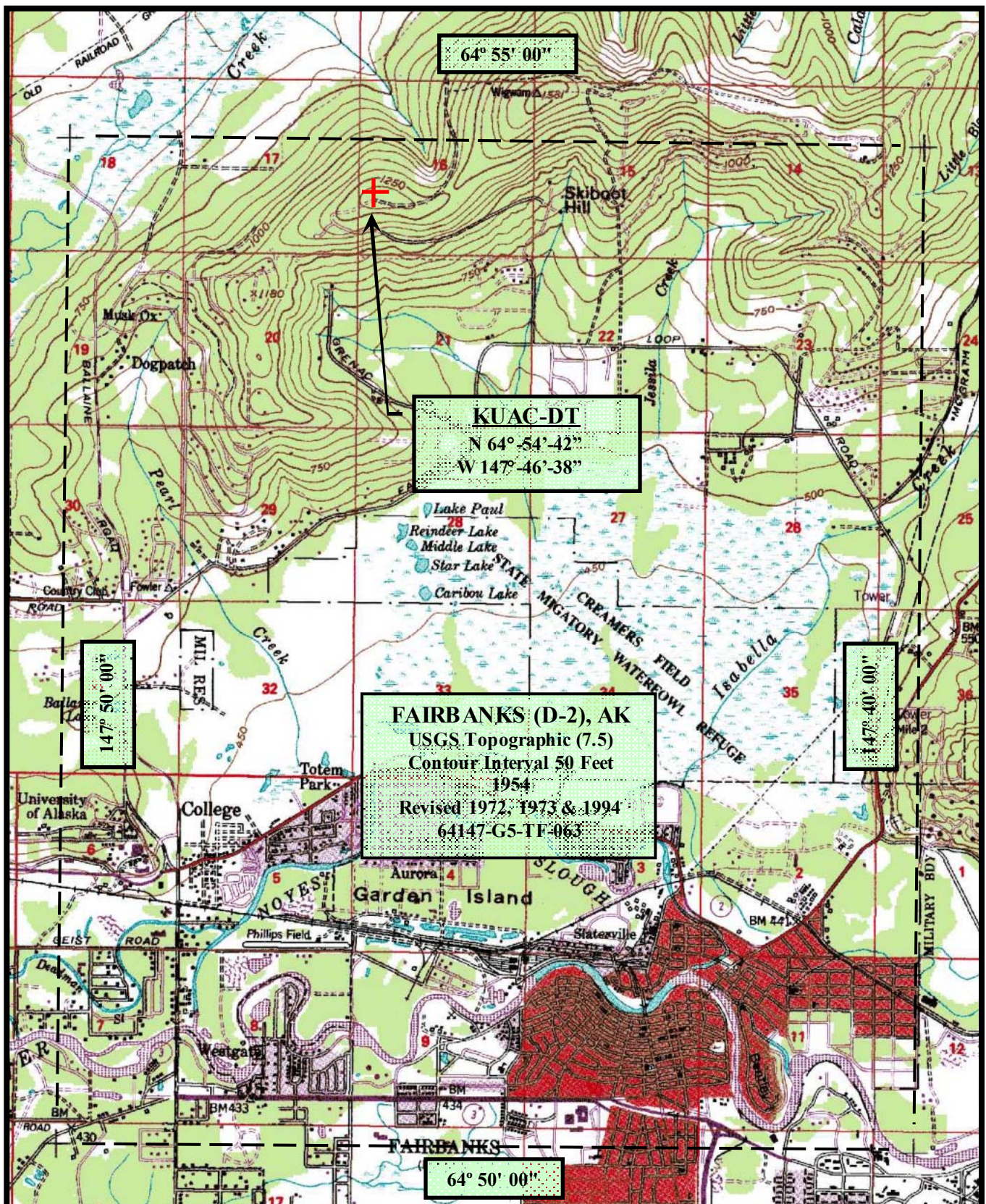
TABULATED DATA FOR ELEVATION PATTERN

TYPE: ATW6V3H

-5 to 10 degrees in 0.25 increments

10 to 90 degrees in 0.50 increments

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
-5.00	0.540	-5.35	6.75	0.518	-5.71	27.00	0.133	-17.52	50.50	0.124	-18.13	74.00	0.132	-17.59
-4.75	0.573	-4.84	7.00	0.486	-6.27	27.50	0.127	-17.92	51.00	0.129	-17.79	74.50	0.132	-17.59
-4.50	0.605	-4.36	7.25	0.452	-6.90	28.00	0.118	-18.56	51.50	0.133	-17.52	75.00	0.131	-17.65
-4.25	0.638	-3.90	7.50	0.419	-7.56	28.50	0.108	-19.33	52.00	0.136	-17.33	75.50	0.130	-17.72
-4.00	0.669	-3.49	7.75	0.386	-8.27	29.00	0.096	-20.35	52.50	0.137	-17.27	76.00	0.129	-17.79
-3.75	0.700	-3.10	8.00	0.354	-9.02	29.50	0.082	-21.72	53.00	0.137	-17.27	76.50	0.127	-17.92
-3.50	0.729	-2.75	8.25	0.321	-9.87	30.00	0.067	-23.48	53.50	0.137	-17.27	77.00	0.125	-18.06
-3.25	0.758	-2.41	8.50	0.289	-10.78	30.50	0.051	-25.85	54.00	0.135	-17.39	77.50	0.123	-18.20
-3.00	0.785	-2.10	8.75	0.258	-11.77	31.00	0.034	-29.37	54.50	0.132	-17.59	78.00	0.120	-18.42
-2.75	0.811	-1.82	9.00	0.227	-12.88	31.50	0.017	-35.39	55.00	0.129	-17.79	78.50	0.117	-18.64
-2.50	0.835	-1.57	9.25	0.198	-14.07	32.00	0.006	-44.44	55.50	0.124	-18.13	79.00	0.114	-18.86
-2.25	0.859	-1.32	9.50	0.170	-15.39	32.50	0.020	-33.98	56.00	0.119	-18.49	79.50	0.111	-19.09
-2.00	0.880	-1.11	9.75	0.144	-16.83	33.00	0.036	-28.87	56.50	0.113	-18.94	80.00	0.107	-19.41
-1.75	0.900	-0.92	10.00	0.120	-18.42	33.50	0.052	-25.68	57.00	0.106	-19.49	80.50	0.103	-19.74
-1.50	0.919	-0.73	10.50	0.083	-21.62	34.00	0.067	-23.48	57.50	0.099	-20.09	81.00	0.099	-20.09
-1.25	0.935	-0.58	11.00	0.073	-22.73	34.50	0.080	-21.94	58.00	0.092	-20.72	81.50	0.095	-20.45
-1.00	0.950	-0.45	11.50	0.090	-20.92	35.00	0.092	-20.72	58.50	0.084	-21.51	82.00	0.090	-20.92
-0.75	0.963	-0.33	12.00	0.118	-18.56	35.50	0.102	-19.83	59.00	0.076	-22.38	82.50	0.085	-21.41
-0.50	0.974	-0.23	12.50	0.146	-16.71	36.00	0.111	-19.09	59.50	0.068	-23.35	83.00	0.081	-21.83
-0.25	0.983	-0.15	13.00	0.172	-15.29	36.50	0.118	-18.56	60.00	0.060	-24.44	83.50	0.076	-22.38
0.00	0.991	-0.08	13.50	0.192	-14.33	37.00	0.124	-18.13	60.50	0.054	-25.35	84.00	0.071	-22.97
0.25	0.996	-0.03	14.00	0.208	-13.64	37.50	0.127	-17.92	61.00	0.048	-26.38	84.50	0.065	-23.74
0.50	0.999	-0.01	14.50	0.218	-13.23	38.00	0.128	-17.86	61.50	0.042	-27.54	85.00	0.060	-24.44
0.75	1.000	0.00	15.00	0.223	-13.03	38.50	0.127	-17.92	62.00	0.040	-27.96	85.50	0.055	-25.19
1.00	0.999	-0.01	15.50	0.223	-13.03	39.00	0.125	-18.06	62.50	0.040	-27.96	86.00	0.049	-26.20
1.25	0.996	-0.03	16.00	0.218	-13.23	39.50	0.121	-18.34	63.00	0.042	-27.54	86.50	0.044	-27.13
1.50	0.991	-0.08	16.50	0.209	-13.60	40.00	0.115	-18.79	63.50	0.047	-26.56	87.00	0.038	-28.40
1.75	0.984	-0.14	17.00	0.196	-14.15	40.50	0.108	-19.33	64.00	0.052	-25.68	87.50	0.032	-29.90
2.00	0.976	-0.21	17.50	0.180	-14.89	41.00	0.099	-20.09	64.50	0.058	-24.73	88.00	0.026	-31.70
2.25	0.965	-0.31	18.00	0.160	-15.92	41.50	0.089	-21.01	65.00	0.064	-23.88	88.50	0.021	-33.56
2.50	0.952	-0.43	18.50	0.139	-17.14	42.00	0.078	-22.16	65.50	0.071	-22.97	89.00	0.015	-36.48
2.75	0.938	-0.56	19.00	0.116	-18.71	42.50	0.066	-23.61	66.00	0.078	-22.16	89.50	0.009	-40.92
3.00	0.922	-0.71	19.50	0.093	-20.63	43.00	0.054	-25.35	66.50	0.084	-21.51	90.00	0.003	-50.46
3.25	0.903	-0.89	20.00	0.069	-23.22	43.50	0.041	-27.74	67.00	0.090	-20.92			
3.50	0.884	-1.07	20.50	0.046	-26.74	44.00	0.028	-31.06	67.50	0.096	-20.35			
3.75	0.862	-1.29	21.00	0.030	-30.46	44.50	0.019	-34.42	68.00	0.102	-19.83			
4.00	0.839	-1.52	21.50	0.030	-30.46	45.00	0.016	-35.92	68.50	0.107	-19.41			
4.25	0.816	-1.77	22.00	0.045	-26.94	45.50	0.024	-32.40	69.00	0.111	-19.09			
4.50	0.790	-2.05	22.50	0.063	-24.01	46.00	0.036	-28.87	69.50	0.115	-18.79			
4.75	0.764	-2.34	23.00	0.080	-21.94	46.50	0.048	-26.38	70.00	0.119	-18.49			
5.00	0.736	-2.66	23.50	0.096	-20.35	47.00	0.060	-24.44	70.50	0.122	-18.27			
5.25	0.707	-3.01	24.00	0.109	-19.25	47.50	0.072	-22.85	71.00	0.125	-18.06			
5.50	0.677	-3.39	24.50	0.120	-18.42	48.00	0.083	-21.62	71.50	0.127	-17.92			
5.75	0.647	-3.78	25.00	0.129	-17.79	48.50	0.093	-20.63	72.00	0.129	-17.79			
6.00	0.616	-4.21	25.50	0.134	-17.46	49.00	0.102	-19.83	72.50	0.131	-17.65			
6.25	0.583	-4.69	26.00	0.136	-17.33	49.50	0.111	-19.09	73.00	0.132	-17.59			
6.50	0.551	-5.18	26.50	0.136	-17.33	50.00	0.118	-18.56	73.50	0.132	-17.59			

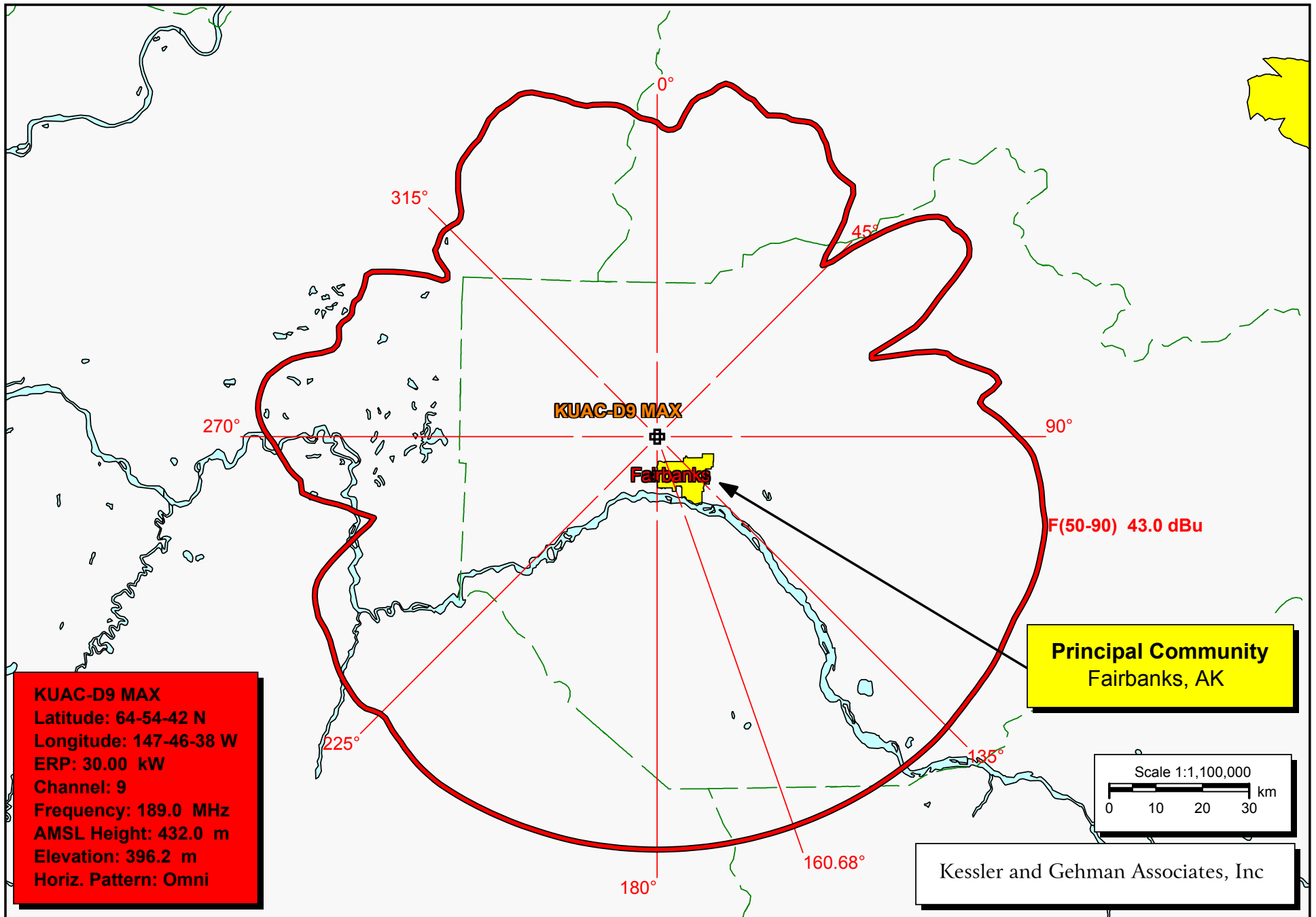


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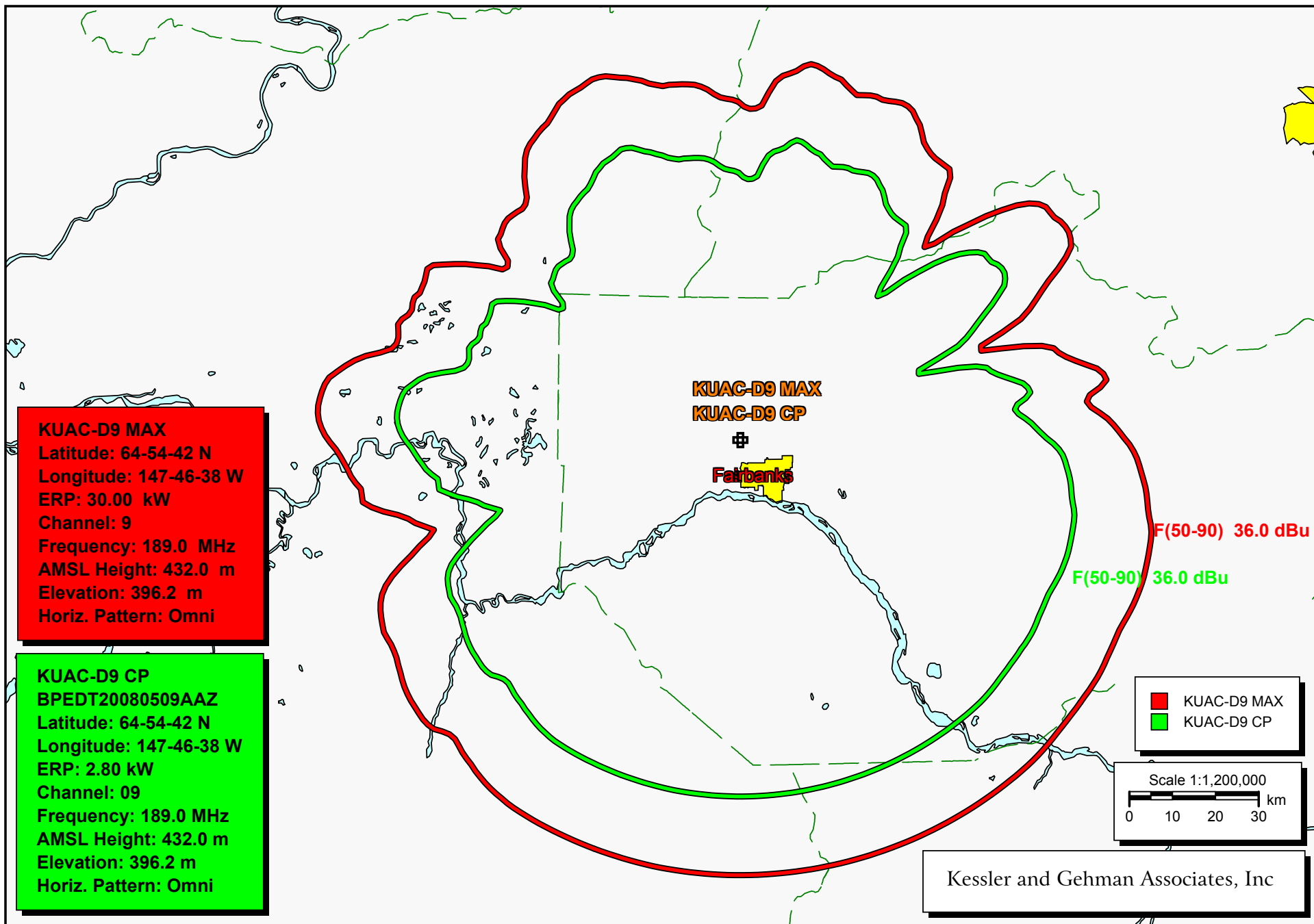
KUAC-DT CHANNEL 9
FAIRBANKS, ALASKA

20080615

EXHIBIT 7



KUAC-DT Channel 9 F(50,90) 43.0 dBuV/m Principal Community Contour



KUAC-D9 CP (green) vs. KUHT-D9 Proposed (red)

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 06-14-2008 Time: 09:58:49

Record Selected for Analysis

KUAC-D9 USERRECORD-01 FAIRBANKS AK US
Channel 09 ERP 30. kW HAAT 30. m RCAMSL 00432 m
Latitude 064-54-42 Longitude 0147-46-38
Status APP Zone 2 Border
Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth 0.
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)
0.0	30.000	33.0	61.1
45.0	30.000	33.0	61.1
90.0	30.000	33.0	61.1
135.0	30.000	33.0	61.1
180.0	30.000	33.0	61.1
225.0	30.000	33.0	61.1
270.0	30.000	33.0	61.1
315.0	30.000	33.0	61.1

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

KUAC-D9 09 FAIRBANKS AK USERRECORD01

and station

SHORT TO: KUACTV 09 FAIRBANKS AK BDTV 0011
 64 -54-42 147 -46-38
 Req. separation 273.6 Actual separation 0.0 Short 273.6 km

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountain

Proposed facility is within the Canadian coordination distance
 Distance to border = 318.8km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
09	KUAC-D9	FAIRBANKS AK	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
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Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application Ref. No.
09	KUAC-D9	FAIRBANKS AK	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
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Total scenarios = 1

Result key: 1
 Scenario 1 Affected station 1
 Before Analysis

Results for: 9A AK FAIRBANKS USERRECORD01 APP
 HAAT 30.0 m, ATV ERP 30.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	82488	11713.6
not affected by terrain losses	82488	11713.6

lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	0	0.0

Potential Interfering Stations Included in above Scenario 1

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TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 06-14-2008 Time: 10:01:04

Record Selected for Analysis

KUAC-D9 USERRECORD-01 FAIRBANKS_2 AK US
Channel 09 ERP 30. kW HAAT 30. m RCAMSL 00432 m
Latitude 064-54-42 Longitude 0147-46-38
Status APP Zone 2 Border
Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth 0.
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)
0.0	30.000	33.0	61.1
45.0	30.000	33.0	61.1
90.0	30.000	33.0	61.1
135.0	30.000	33.0	61.1
180.0	30.000	33.0	61.1
225.0	30.000	33.0	61.1
270.0	30.000	33.0	61.1
315.0	30.000	33.0	61.1

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

KUAC-D9 09 FAIRBANKS_2 AK USERRECORD01

and station

SHORT TO: KUACTV 09 FAIRBANKS AK BDTV 0011
 64 -54-42 147 -46-38
 Req. separation 273.6 Actual separation 0.0 Short 273.6 km

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountain

Proposed facility is within the Canadian coordination distance
 Distance to border = 318.8km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
09	KUAC-D9	FAIRBANKS_2 AK	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	KUACTV	FAIRBANKS AK	0.0	LIC	BDTV -0011

%%%

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application Ref. No.
09	KUACTV	FAIRBANKS AK	BDTV -0011

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	KUAC-D9	FAIRBANKS_2 AK	0.0	APP	USERRECORD-01

Total scenarios = 2

Result key: 1
 Scenario 1 Affected station 1
 Before Analysis

Results for: 9A AK FAIRBANKS BDTV 0011 LIC
 HAAT 152.0 m, ATV ERP 3.2 kW
 POPULATION AREA (sq km)

within Noise Limited Contour	82864	16612.7
not affected by terrain losses	82864	16612.7
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	0	0.0

Potential Interfering Stations Included in above Scenario 1

After Analysis

Results for:	9A AK FAIRBANKS	BDTV	0011	LIC
	HAAT 152.0 m, ATV ERP 3.2 kW			
		POPULATION	AREA (sq km)	
	within Noise Limited Contour	82864	16612.7	
	not affected by terrain losses	82864	16612.7	
	lost to NTSC IX	0	0.0	
	lost to additional IX by ATV	111	4.0	
	lost to ATV IX only	111	4.0	
	lost to all IX	111	4.0	

Potential Interfering Stations Included in above Scenario 1

9A AK FAIRBANKS_2	USERRECORD01	APP	
*Percent Service lost without proposal:	0.0	to BDTV	0011
*Percent Service lost with proposal:	0.1	to BDTV	0011

Result key: 2
 Scenario 2 Affected station 1
 Before Analysis

Results for:	9A AK FAIRBANKS	BDTV	0011	LIC
	HAAT 152.0 m, ATV ERP 3.2 kW			
		POPULATION	AREA (sq km)	
	within Noise Limited Contour	82864	16612.7	
	not affected by terrain losses	82864	16612.7	
	lost to NTSC IX	0	0.0	
	lost to additional IX by ATV	0	0.0	
	lost to ATV IX only	0	0.0	
	lost to all IX	0	0.0	

Potential Interfering Stations Included in above Scenario 2

After Analysis

Results for:	9A AK FAIRBANKS	BDTV	0011	LIC
	HAAT 152.0 m, ATV ERP 3.2 kW			
		POPULATION	AREA (sq km)	
	within Noise Limited Contour	82864	16612.7	
	not affected by terrain losses	82864	16612.7	
	lost to NTSC IX	0	0.0	
	lost to additional IX by ATV	111	4.0	
	lost to ATV IX only	111	4.0	
	lost to all IX	111	4.0	

Potential Interfering Stations Included in above Scenario 2

9A AK FAIRBANKS_2 USERRECORD01 APP
*Percent Service lost without proposal: 0.0 to BDTV 0011
*Percent Service lost with proposal: 0.1 to BDTV 0011

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Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application Ref. No.
09	KUAC-D9	FAIRBANKS_2 AK	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	KUACTV	FAIRBANKS AK	0.0	LIC	BDTV -0011

Total scenarios = 1

Result key: 3
Scenario 1 Affected station 2
Before Analysis

Results for: 9A AK FAIRBANKS_2 USERRECORD01 APP
HAAT 30.0 m, ATV ERP 30.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	82488	11713.6
not affected by terrain losses	82488	11713.6
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	0	0.0

Potential Interfering Stations Included in above Scenario 1

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