

ENGINEERING STATEMENT  
AMENDMENT OF  
DTV BROADCAST ENGINEERING DATA  
ON BEHALF OF  
KTRV-DT, NAMPA, IDAHO  
CHANNEL 13c 17 KW ERP 829 METERS

JUNE 2004

COHEN, DIPPELL AND EVERIST, P.C.  
CONSULTING ENGINEERS  
RADIO AND TELEVISION  
WASHINGTON, D.C.



COHEN, DIPPELL AND EVERIST, P. C.

City of Washington                    )  
  ) ss  
District of Columbia                )

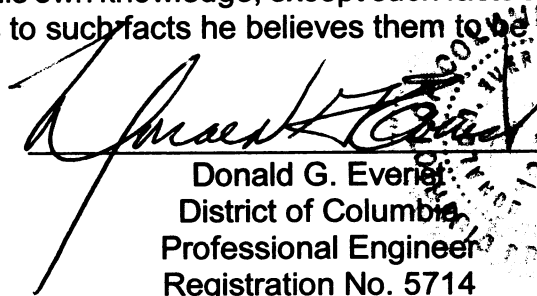
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

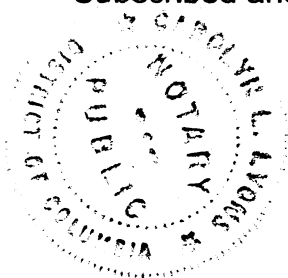
That his qualifications are a matter of record in the Federal Communications Commission;

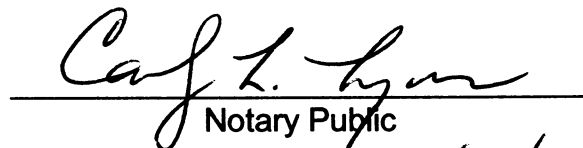
That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

  
Donald G. Everist  
District of Columbia  
Professional Engineer  
Registration No. 5714

Subscribed and sworn to before me this 9<sup>th</sup> day of June, 2004.



  
Notary Public

My Commission Expires: 2/28/2008



This engineering statement has been prepared on behalf of Idaho Independent Television, Inc. The purpose of this engineering statement is to accompany its request to amend its pending application for digital television ("DTV"), specifically that data required in FCC Form 301, Section III-D.

Idaho Independent Television, Inc. operates Television Station KTRV(TV) on Television Channel 12 with a maximum visual effective radiated power (ERP) of 178 kW and an antenna height above average terrain (HAAT) of 829 meters. Television Station KTRV(TV) has been allocated DTV Channel 44 with facilities of 525.4 kW and HAAT of 829 meters in the revised DTV Table of Allotments.<sup>1</sup> KTRV(TV) has been authorized to change its DTV allotment to from Channel 44 to Channel 13. KTRV(TV) proposes to construct on Channel 13 DTV facilities of 17 kW non-directional (horizontal polarization) and at a height above average terrain of 829 meters and is identical to the technical parameters authorized in MM Docket No. 01-54 to "maximize" the KTRV-DT facilities in accordance with the Community Broadcasters Protection Act.

Interference studies are not performed for the proposed facilities since the facilities herein requested are identical to that authorized by the *Report and Order*.

#### Existing KTRV(TV) Tower

The KTRV-DT facilities will be diplexed, by replacing the existing KTRV(TV) antenna with an antenna of the same height. Overall, the structure height will remain unchanged. The transmitter site is located at the Deer Point Communications site. The tower registration is 1053967.

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<sup>1</sup>"In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service", MM Docket No. 87-286, Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order (FCC 98-24), 2/12/98, DTV Table of Allotments, p. B-19.



The geographic coordinates of this tower are:

North Latitude: 43° 45' 18"

West Longitude: 116° 05' 52"

NAD-27

Non-Directional Antenna Data

The proposed antenna, Type ABW6V4-HTO-12/13 with one degree electrical beam tilt will be diplexed to emit the NTSC and DTV signals. The vertical plane pattern and other exhibits required by Section 73.625(c) are attached in Exhibit E-2.

Power Data

Transmitter output (includes combiner)	3.10 kW	4.92 dBk
Transmission line loss (3-1/8 inch 50 ohm)	0.27 kW	0.395 dB
Input power to the antenna	2.833 kW	4.523 dBk
Antenna power gain, Main Lobe	6.0	7.78 dB
Effective Radiated Power, Maximum	17 kW	12.3 dBk

Elevation Data

Elevation of site above mean sea level	2145.8 meters (7040 feet)
Overall height above ground of the	79.2 meters



existing antenna structure (including beacon) (260 feet)

Overall height above mean sea level of existing tower (including beacon)	2225.0 meters (7300 feet)
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Center of radiation of Channel 13 antenna above ground	74.0 meters (243 feet)
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Center of radiation of Channel 13 antenna above mean sea level	2219.8 meters (7283 feet)
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Antenna height above average terrain	829 meters
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NOTE: Slight height differences result due to conversion to metric.

#### Allocation

An allocation study from the proposed site is unchanged from that authorized in MM Docket No. 01-54.

#### Principal Community Coverage

In MM Docket No. 00-39, the Commission adopted rules to require DTV stations to place a stronger TV signal over the principal community.

The DTV operation proposed by Station KTRV-DT places a predicted 43 dBu contour over Nampa.

#### Topographic Data

The average elevation data each radial separated every 45 degrees in azimuth from 3.2 to 16.1 kilometers, are based on the NGDC 3-second computerized terrain database.

#### Contour Data



Utilizing the formula in Section 73.625(b)(2) for the effective heights shown on the attached tabulation, the depression angle  $A_h$ , for each azimuth has been calculated. The maximum radiation value has been used to calculate ERP where the vertical radiation pattern at these angles is greater than 90% of the maximum.

Table I provides the distances along each of the radials every 45 degrees in azimuth angle for the predicted F(50,90) 43 and 36 dBu contours, the average elevations, and the effective antenna heights. There is a slight variance with the elevation data that established the NTSC facility and since it is proposed to use a common antenna, the NTSC HAAT value of 829 meters is specified.

The distances along each radial to the limits of F(50,90) 43 dBu and 36 dBu contours were determined as specified in Section 73.625(b) by reference to the propagation data for Channels 7-13, as published by the Commission in Figures 10 and 10a, Section 73.699 of its rules.

#### Other Licensed and Broadcast Facilities

There are no AM stations within 3.2 km of the proposed KTRV(TV) tower site. There are numerous FM and TV broadcast stations operating within 100 meters of the proposed site.

No adverse technical effect is anticipated by the proposed DTV operation to any other FCC licensed facility. If required, the licensee of KTRV-DT will install filters or take other measures as necessary to resolve the problem.

#### Radio Frequency Field Level

The licensee proposes to diplex the DTV signal into new ERI/Andrew antenna, Type ABW6V4-HTO-12/13 KTRV(TV) antenna.

For the proposed DTV operation, the antenna manufacturer representative indicates that the elevation pattern for this antenna shows a maximum relative field of less than 0.2 towards the ground



in the vicinity of the tower (angles 60° to 90° below the horizontal). Using this relative field factor and the procedures prescribed in OET Bulletin No. 65 and Appendix A, the maximum RFF resulting from the present operation at two meters above the base of the tower will be approximately 4.4  $\mu\text{W}/\text{cm}^2$ . This is approximately 2.2% of the 200  $\mu\text{W}/\text{cm}^2$  maximum uncontrolled exposure to RFF recommended by the current FCC guidelines for the general population.

The applicant proposes to operate the proposed KTRV-DT facilities at the same location as the current licensed facilities, located just north of the Deer Point mountain top antenna farm. The existing tower has allowed several of the broadcast stations to relocate their antennas to help alleviate high radio frequency field ("RFF") levels at a certain "hot" spot located at the site.

A sketch of the Deer Point antenna farm is included as Exhibit E-4. The sketch shows the location of the existing tower.

The Deer Point antenna farm is a rugged mountainous area accessible only by regular vehicle by traversing a 4 kilometer unpaved road. During colder periods, the site can only be accessed by snow mobile. Access to the site is controlled via a locked gate.

A comprehensive study of the radiofrequency field ("RFF") level at the site was performed in 1997 by Hatfield and Dawson. Hatfield and Dawson recommended fencing the perimeter of the antenna farm in order to bring the site into full compliance.

However, the terrain at the site is very rugged and the site receives high snowfalls in the winter time. Therefore, any fence constructed around the perimeter would be crushed by the snow.

Therefore, in a December 1998 memo to all the broadcasters located at the site, Dr. Robert Cleveland and Jerry Ulcek, of the Commission's Office of Engineering and Technology, recommended that signs be placed that post the perimeter of the areas where general population/uncontrolled



guidelines are exceeded. In addition, Dr. Cleveland recommended fencing a small area around Tower labeled “C” in the diagram because the occupational RFF limit is exceeded.

The Deer Point site is currently marked every 15.2 meters (50 feet) with dual level warning signs. The dual level signs permit the warnings to be observed in the winter as well as the summer. The orange construction fence around Tower C may no longer be necessary.

RFF Level at the Base of the Tower:

The theoretical RFF level contribution by the addition of the proposed KTRV-DT facilities is as follows:

Channel 13	Freq:	210-216 MHz Range
	ERP =	17 kW
	Polarization =	Horizontal
	RCAGL - 2 meters =	72 meters
$S = \frac{33.4 (F^2) \text{ Tot ERP}}{R^2}$		Tot ERP = 17 kW (Horizontal Only)
	R =	72 meters
	F =	0.2 (field factor)
$S = 4.4 \mu\text{W}/\text{cm}^2$		

Therefore, at the base of the existing tower, KTRV-DT contributes 4.4 uW/cm<sup>2</sup> at 2 meters above the ground.

The limit for an uncontrolled environment is 200 uW/cm<sup>2</sup> for a station broadcasting on VHF Channel 13.

Therefore, KTRV-DT's proposed facility will contribute less than 2.2% of the limit for an uncontrolled environment two meters above the ground at the base of the tower site.



Finally, provisions will be made to reduce power or to terminate the transmitter emissions as appropriate when it is necessary for authorized personnel to access the site. All facilities operating at the Deer Point antenna farm will coordinate to ensure that workers will not be subjected to radio frequency field levels in excess of the current FCC guidelines listed in OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A.

#### Environmental Assessment

An environmental assessment ("EA") is categorically excluded under Section 1.1306 of the FCC Rules and Regulations since the applicant indicates:

- (a)(1) The existing tower is not located in an officially designated wilderness area.
- (a)(2) The existing facilities on an existing communications site are not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The proposed facilities will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The proposed facilities are not located near any known Indian religious sites.
- (a)(6) The proposed facilities are not located in a flood plain.
- (a)(7) The installation of the DTV facilities on the proposed self-supporting tower will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) It is not proposed to equip the tower with high intensity white lights unless required by the FAA.



- (b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines in accordance with OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A.



ABOVE MEAN SEA LEVEL

ABOVE GROUND

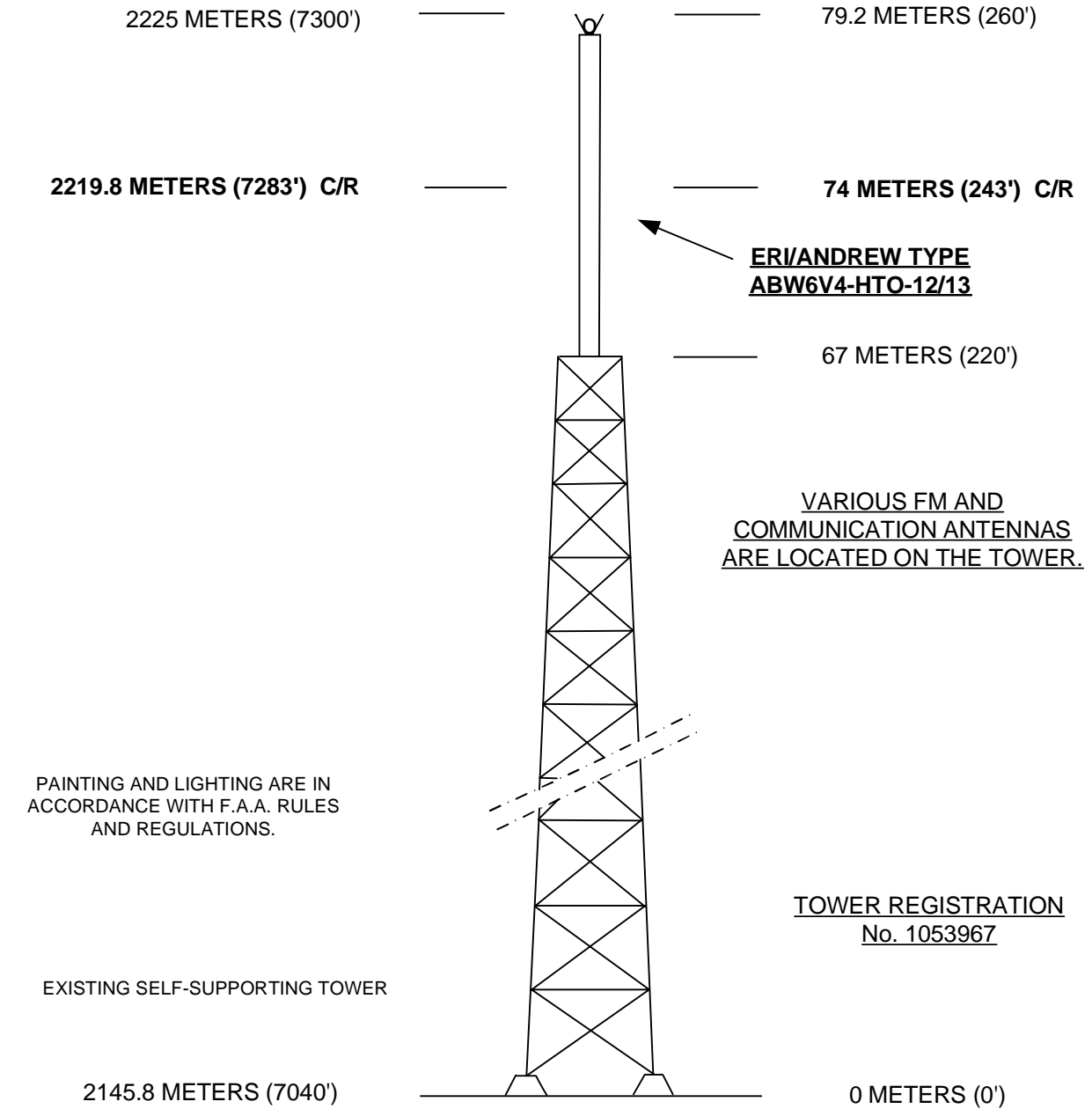


EXHIBIT E - 1  
EXISTING TOWER  
FOR THE PROPOSED OPERATION OF  
KTRV-DT, NAMPA, IDAHO  
CHANNEL 13 17 kW ERP 829 METERS HAAT  
JUNE 2004



EXHIBIT E-2

ANTENNA  
MANUFACTURER  
DATA



***PRELIMINARY SPECIFICATION FOR  
ANDREW HORIZONTALLY POLARIZED  
VHF BATWING ANTENNA***

*Prepared For  
Station KTRV-TV & DT Channel 12 & 13 Nampa-Boise-Caldwell, ID  
September 20, 2001*

**ANTENNA TYPE:**  
**ABW6V4-HTO-12/13**

**SPECIFICATION NO.:**  
**AG080601-967**



**Andrew Corporation**  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462

**AG080601-967 -1-**



# **PRELIMINARY SPECIFICATION FOR ANDREW HORIZONTALLY POLARIZED VHF BATWING ANTENNA**

## **ELECTRICAL CHARACTERISTICS:**

CHANNEL:	NTSC:	12
	DTV:	13
FREQUENCY RANGE:	Channel 12	204 to 210 MHz
	Channel 13	210 to 216 MHz
AZIMUTH PATTERN NUMBER:	Non Directional	
ELEVATION PATTERN NUMBER:	NTSC:	ABW6V4H-12
	DTV:	ABW6V4H-13
AZIMUTH DIRECTIVITY:	1.00 ( 0.00 dB)	
ELEVATION DIRECTIVITY:	6.00 (7.78 dBd)	
PEAK POWER GAIN:	6.00 (7.78 dBd)	
GAIN AT HORIZONTAL:	5.87 (7.69 dBd)	
ELECTRICAL BEAM TILT:	1.00 Degrees	
POWER HANDLING:	27.67 kW Peak Visual plus 10% aural and 2.833 kW Average Power, 8VSB Digital	
INPUT TYPE:	3-1/8 inch EIA, 50 ohm	
VSWR (MAXIMUM):	NTSC:	1.05 Visual + 0.5 MHz 1.08 Chroma 1.10 Remainder of Channel
	DTV:	1.10 Over 6 MHz Channel





# **PRELIMINARY SPECIFICATION FOR ANDREW HORIZONTALLY POLARIZED VHF BATWING ANTENNA**

## **MECHANICAL CHARACTERISTICS:**

**MOUNTING CONFIGURATION:** Top Mount\*  
*\*(Tower Interface supplied and  
installed by others.)*

HEIGHT OF ANTENNA (H1): 31.0 feet

HEIGHT OF CENTER OF  
RADIATION (APPROX.) (H2): 16.0 feet

HEIGHT OF CENTER OF  
PRESSURE (APPROX.) (H3): 15.5 feet

OVERALL HEIGHT (A): 34.5 feet  
*(Includes one 3.5 foot Lightning  
Conductor)*

DEICING: Radome Enclosure for Feed Elements

NUMBER OF BAYS: 6

CLIMBING DEVICE: Not Applicable

CALCULATED WEIGHT<sup>1</sup> 1,430 lbs.

ANTENNA AREA:  $C_A A_A$ : 46.0 square feet

***This antenna is designed to be supported by a structure that can resist the antenna base reactions and which provides a support that is rigid in the three translational and three rotational degrees of freedom.***

***1*** Calculated weight is based on the **PRELIMINARY** design of the antenna. The actual weight of the antenna will be within  $\pm 10\%$  of the calculated weight. The actual weight will be given in the technical manual that accompanies the antenna. This figure is for the antenna and an allowance for mounting structure.

***2*** The aerodynamic area is in accordance with **EIA/TIA-RS222-F**.

**NOTE:** Localized conditions may require higher wind speed specifications than TIA/EIA specifications. Check with local authorities to verify wind speed requirements.





# Broadcast Antenna System

## Power Analysis

**KTRV-TV & DT Channel 13**  
**Nampa-Boise-Caldwell, ID**  
**Type: ABW6V4-HTO-12/13**

### ANTENNA PARAMETERS:

#### Azimuth Directivity:

Hor Pol: 1.00 ( 0.00 dBd)

#### Elevation Directivity:

Hor Pol: 6.00 (7.78 dBd)

### TRANSMISSION LINE:

#### VERTICAL RUN:

Type: 3-1/8" 50 Ohm MACXLine®

Length: 220 ft.

Attenuation: 0.1410 dB/100 ft.

#### HORIZONTAL RUN:

Type: 3-1/8" 50 Ohm MACXLine®

Length: 60 ft.

Attenuation: 0.1410 dB/100 ft.

Efficiency: 91.31%

### ERP:

kW: 17.00

dBk: 12.30

### POWER GAIN:

Ratio: 6.00

dBd: 7.78

### ANTENNA INPUT:

kW: 2.833

dBk: 4.523

### LINE LOSS:

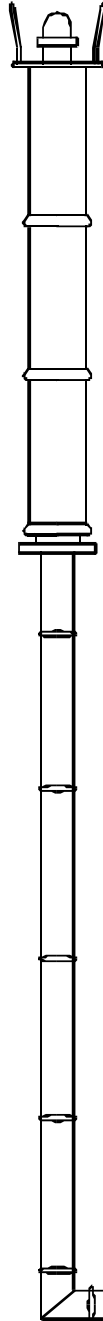
kW: 0.27

dB: 0.395

### TRANSMITTER POWER:

kW: 3.10

dBk: 4.92

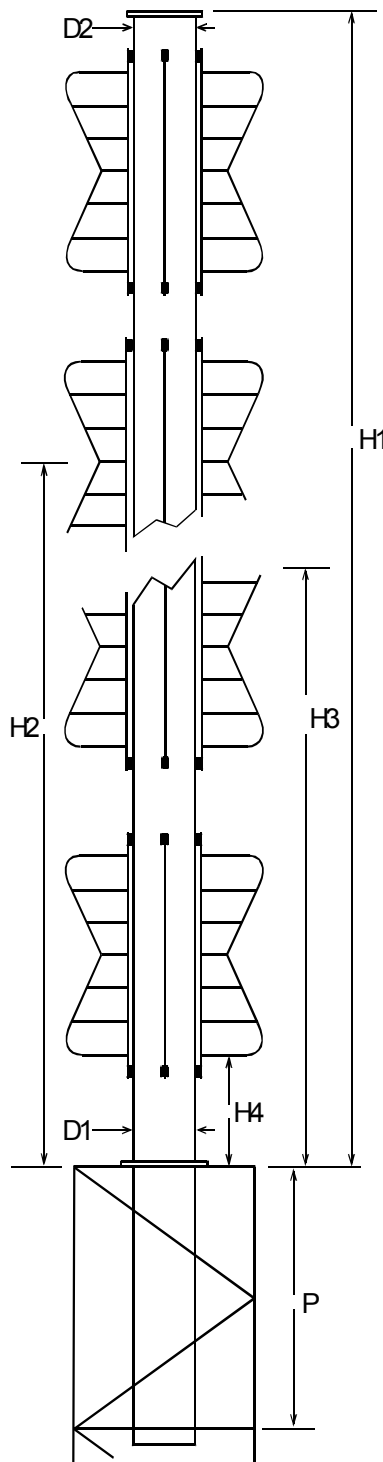


**Andrew Corporation**  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462

AG080601-967 -5-



## Illustration of typical antenna configuration



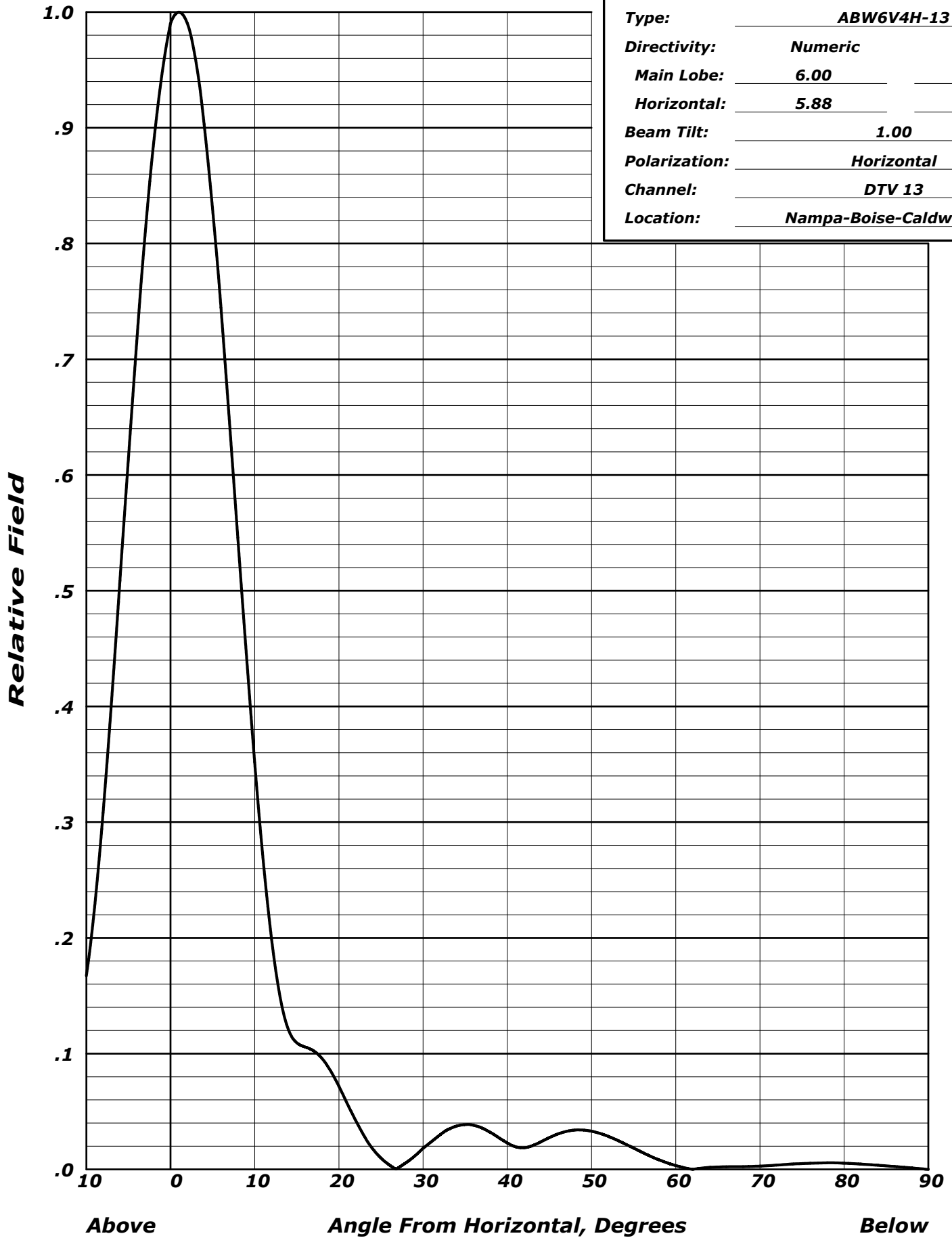
- \*H1 Height of pole above tower top
- H2 Height of centre of radiation above tower top
- H3 Height of wind pressure center above tower top
- H4 Clearance of lowest radiator above tower top
- P Pole penetration into tower top
- D1 Diameter of largest pole section
- D2 Diameter of smallest pole section

\*Excluding lightning conductor 1.1m (3.5ft.)



**ANDREW**  
**ELEVATION PATTERN**

Type:	ABW6V4H-13	
Directivity:	Numeric	dBd
Main Lobe:	6.00	( 7.78)
Horizontal:	5.88	( 7.69)
Beam Tilt:	1.00	
Polarization:	Horizontal	
Channel:	DTV 13	
Location:	Nampa-Boise-Caldwell, ID	







**TABULATED DATA FOR ELEVATION PATTERN**  
**TYPE : ABW6V4H-13**

<b>Angle</b>	<b>Field</b>	<b>dB</b>	<b>Angle</b>	<b>Field</b>	<b>dB</b>	<b>Angle</b>	<b>Field</b>	<b>dB</b>	<b>Angle</b>	<b>Field</b>	<b>dB</b>
<b>-5 To 10</b>			<b>10 To 90</b>								
<b>In 0.25 Increments</b>			<b>In 0.5 Increments</b>								
-5.00	0.597	-4.48	8.75	0.444	-7.05	35.00	0.035	-29.19	62.50	0.001	-60.00
-4.75	0.624	-4.10	9.00	0.420	-7.55	35.50	0.034	-29.42	63.00	0.001	-60.00
-4.50	0.651	-3.73	9.25	0.395	-8.06	36.00	0.032	-29.84	63.50	0.001	-60.00
-4.25	0.677	-3.39	9.50	0.371	-8.62	36.50	0.030	-30.37	64.00	0.001	-60.00
-4.00	0.703	-3.06	9.75	0.347	-9.19	37.00	0.028	-30.96	64.50	0.001	-58.42
-3.75	0.729	-2.74	10.00	0.324	-9.78	37.50	0.026	-31.70	65.00	0.001	-56.48
-3.50	0.755	-2.44	10.50	0.281	-11.01	38.00	0.024	-32.43	65.50	0.002	-54.89
-3.25	0.778	-2.18	11.00	0.243	-12.30	38.50	0.022	-33.19	66.00	0.002	-53.56
-3.00	0.801	-1.93	11.50	0.209	-13.61	39.00	0.020	-33.89	66.50	0.003	-52.04
-2.75	0.823	-1.69	12.00	0.179	-14.93	39.50	0.019	-34.29	67.00	0.003	-50.75
-2.50	0.844	-1.47	12.50	0.156	-16.16	40.00	0.019	-34.33	67.50	0.003	-49.63
-2.25	0.864	-1.27	13.00	0.138	-17.22	40.50	0.020	-34.07	68.00	0.004	-48.64
-2.00	0.882	-1.09	13.50	0.126	-18.03	41.00	0.021	-33.43	68.50	0.004	-47.74
-1.75	0.900	-0.92	14.00	0.118	-18.55	41.50	0.023	-32.69	69.00	0.005	-46.74
-1.50	0.916	-0.76	14.50	0.115	-18.82	42.00	0.025	-31.90	69.50	0.005	-45.85
-1.25	0.931	-0.62	15.00	0.113	-18.94	42.50	0.028	-31.12	70.00	0.006	-45.19
-1.00	0.945	-0.49	15.50	0.112	-19.00	43.00	0.030	-30.40	70.50	0.006	-44.58
-0.75	0.958	-0.37	16.00	0.111	-19.08	43.50	0.032	-29.79	71.00	0.006	-44.15
-0.50	0.970	-0.26	16.50	0.110	-19.21	44.00	0.035	-29.24	71.50	0.007	-43.74
-0.25	0.981	-0.17	17.00	0.107	-19.44	44.50	0.036	-28.78	72.00	0.007	-43.22
0.00	0.990	-0.09	17.50	0.103	-19.77	45.00	0.038	-28.45	72.50	0.007	-42.85
0.25	0.994	-0.05	18.00	0.098	-20.20	45.50	0.039	-28.18	73.00	0.007	-42.50
0.50	0.998	-0.02	18.50	0.092	-20.76	46.00	0.040	-27.98	73.50	0.008	-42.16
0.75	0.999	-0.01	19.00	0.085	-21.43	46.50	0.040	-27.87	74.00	0.008	-42.05
1.00	1.000	0.00	19.50	0.077	-22.25	47.00	0.041	-27.83	74.50	0.008	-41.94
1.25	0.999	-0.01	20.00	0.069	-23.19	47.50	0.041	-27.85	75.00	0.008	-41.83
1.50	0.997	-0.03	20.50	0.061	-24.28	48.00	0.040	-27.96	75.50	0.008	-41.83
1.75	0.994	-0.06	21.00	0.053	-25.53	48.50	0.039	-28.11	76.00	0.008	-41.72
2.00	0.989	-0.10	21.50	0.045	-26.88	49.00	0.038	-28.34	76.50	0.008	-41.72
2.25	0.983	-0.15	22.00	0.038	-28.38	49.50	0.037	-28.64	77.00	0.008	-41.72
2.50	0.975	-0.22	22.50	0.031	-30.03	50.00	0.036	-28.97	77.50	0.008	-41.72
2.75	0.965	-0.31	23.00	0.025	-31.90	50.50	0.034	-29.40	78.00	0.008	-41.72
3.00	0.954	-0.41	23.50	0.020	-33.98	51.00	0.032	-29.84	78.50	0.008	-41.72
3.25	0.942	-0.52	24.00	0.016	-36.08	51.50	0.030	-30.37	79.00	0.008	-42.05
3.50	0.928	-0.64	24.50	0.012	-38.42	52.00	0.028	-31.00	79.50	0.008	-42.38
3.75	0.912	-0.80	25.00	0.009	-41.01	52.50	0.026	-31.63	80.00	0.007	-42.73
4.00	0.895	-0.96	25.50	0.006	-44.15	53.00	0.024	-32.36	80.50	0.007	-43.10
4.25	0.877	-1.14	26.00	0.004	-48.40	53.50	0.022	-33.15	81.00	0.007	-43.48
4.50	0.858	-1.33	26.50	0.001	-57.08	54.00	0.020	-34.02	81.50	0.006	-44.01
4.75	0.838	-1.53	27.00	0.001	-58.42	54.50	0.018	-34.99	82.00	0.006	-44.44
5.00	0.818	-1.75	27.50	0.004	-47.96	55.00	0.016	-35.97	82.50	0.006	-45.04
5.25	0.796	-1.98	28.00	0.007	-43.48	55.50	0.014	-37.14	83.00	0.005	-45.51
5.50	0.774	-2.22	28.50	0.010	-40.18	56.00	0.012	-38.34	83.50	0.005	-46.20
5.75	0.752	-2.48	29.00	0.013	-37.65	56.50	0.010	-39.66	84.00	0.005	-46.94
6.00	0.727	-2.77	29.50	0.017	-35.60	57.00	0.009	-41.21	84.50	0.004	-47.54
6.25	0.702	-3.07	30.00	0.020	-33.85	57.50	0.007	-42.73	85.00	0.004	-48.40
6.50	0.677	-3.39	30.50	0.023	-32.77	58.00	0.006	-44.44	85.50	0.003	-49.37
6.75	0.651	-3.73	31.00	0.026	-31.80	58.50	0.005	-46.38	86.00	0.003	-50.17
7.00	0.625	-4.08	31.50	0.028	-30.96	59.00	0.004	-48.64	86.50	0.003	-51.37
7.25	0.599	-4.45	32.00	0.031	-30.26	59.50	0.003	-51.06	87.00	0.002	-52.77
7.50	0.573	-4.84	32.50	0.033	-29.68	60.00	0.002	-53.98	87.50	0.002	-54.42
7.75	0.547	-5.25	33.00	0.034	-29.32	60.50	0.001	-57.08	88.00	0.002	-56.48
8.00	0.521	-5.67	33.50	0.035	-29.14	61.00	0.001	-60.00	88.50	0.001	-58.42
8.25	0.495	-6.11	34.00	0.035	-29.04	61.50	0.001	-60.00	89.00	0.001	-60.00
8.50	0.469	-6.57	34.50	0.035	-29.07	62.00	0.001	-60.00	89.50	0.001	-60.00



Cohen, Dippell and Everist, P.C.

TABLE I  
COMPUTED COVERAGE DATA  
FOR THE PROPOSED DTV OPERATION OF  
KTRV, NAMPA, IDAHO  
CHANNEL 13 17 KW 829 METERS HAAT  
JUNE 2004

<u>Radial</u> <u>Bearing</u> N ° E, T	<u>Average*</u> <u>Elevation</u> <u>3.2 to 16.1 km</u> meters	<u>Effective</u> <u>Height</u> meters	<u>ERP at</u> <u>Radio</u> <u>Horizon</u> kW	<u>Distance to Contour F(50,90)</u>	
				<u>43 dBu</u> <u>City Grade</u> km	<u>36 dBu</u> <u>Noise-Limited</u> km
0	1583.8	636.1	17.0	104.4	118.7
45	1529.1	691.0	17.0	105.9	121.1
90	1303.8	916.1	17.0	110.5	125.8
135	1372.6	847.4	17.0	109.3	124.7
180	1573.3	646.7	17.0	104.7	119.2
225	1138.5	1081.9	17.0	113.6	129.3
270	1249.9	969.9	17.0	111.5	126.9
315	1294.0	925.3	17.0	110.7	126.0

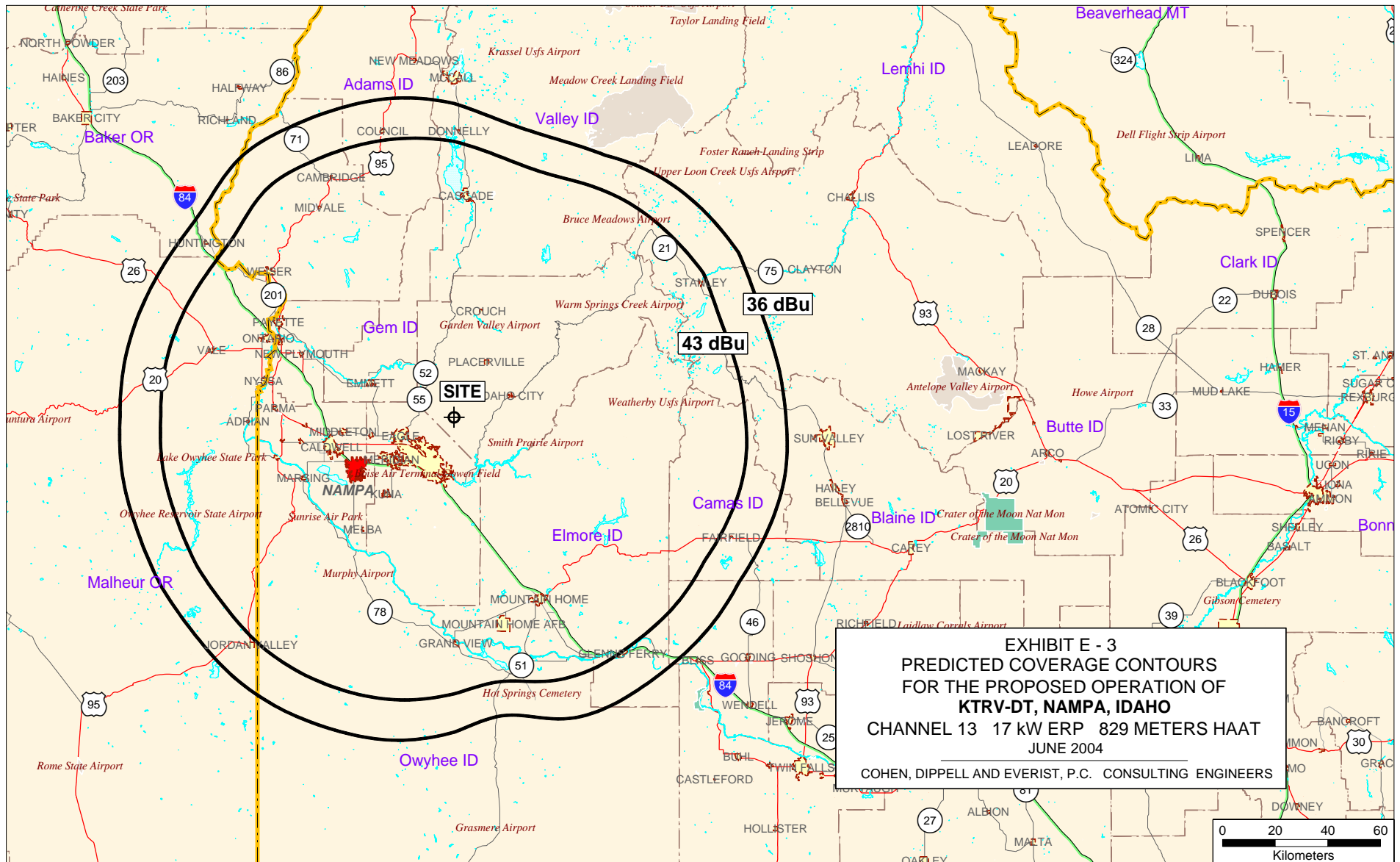
\*Based on data from FCC 3-second data base—NOTE: This data is at slight variance with the elevation data to establish this facility. Therefore, the HAAT height of 829 meters is specified.

DTV Channel 13 (210-216 MHz)  
Average Elevation 3.2 to 16.1 km 1380.6 meters AMSL  
Center of Radiation 2220 meters AMSL  
Antenna Height Above Average Terrain 829 meters  
Max. Effective Radiated Power 17 kW (12.3 dBk) Max.

North Latitude: 43° 45' 18"  
West Longitude: 116° 05' 52"

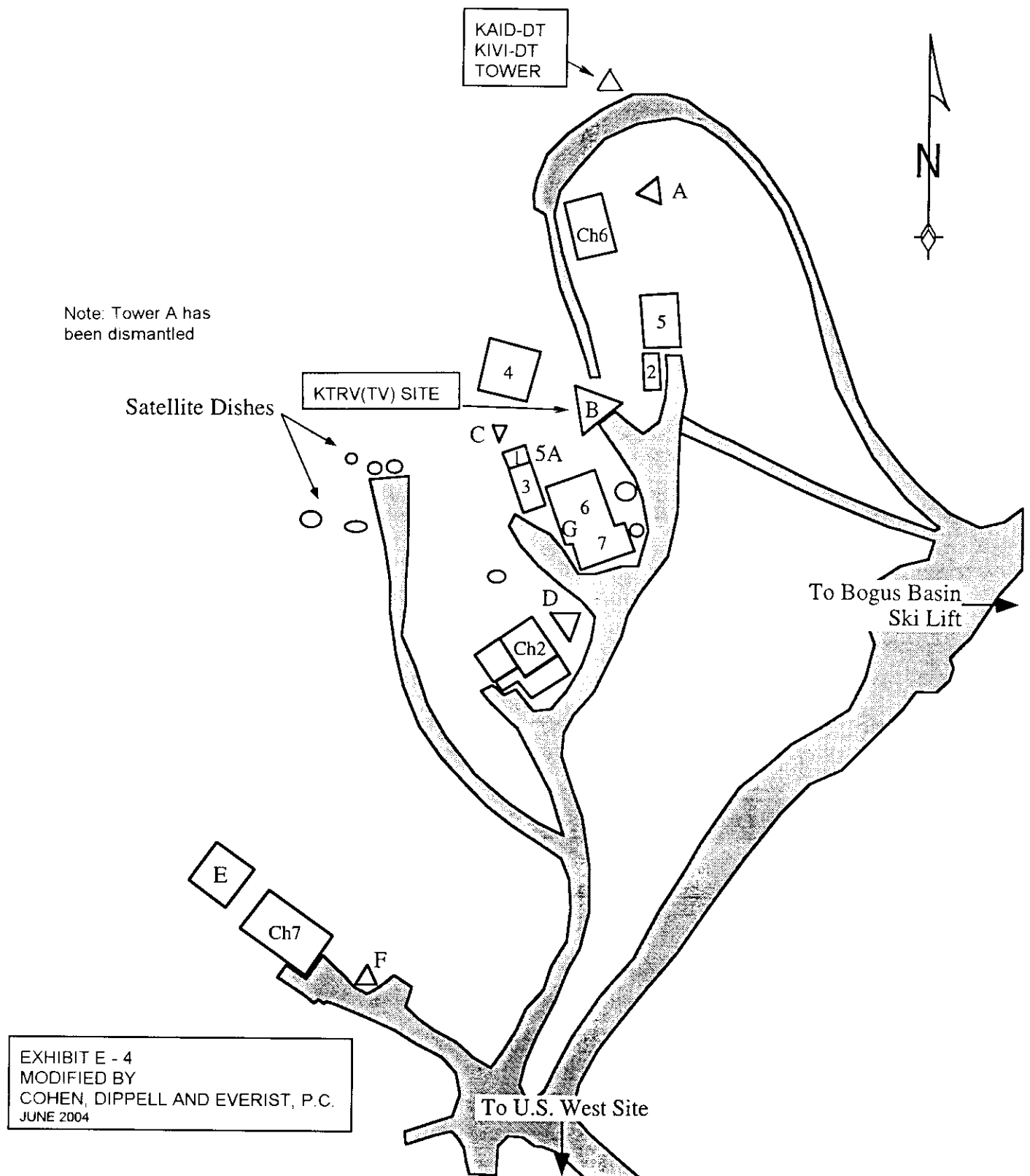
(NAD-27)







### Sketch of Site Showing Tower Lettering and Building Numbering



**HAMMETT & EDISON, INC.**  
CONSULTING ENGINEERS  
SAN FRANCISCO

970905  
Figure 2B



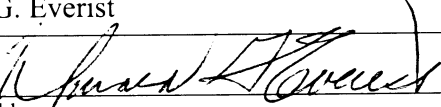
I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing	Typed or Printed Title of Person Signing
Signature	Date

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

### SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name Donald G. Everist	Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer		
Signature 	Date June 9, 2004		
Mailing Address Cohen, Dippell and Everist, P.C., 1300 L Street, NW, Suite 1100			
City Washington	State or Country (if foreign address) DC	ZIP Code 20005	
Telephone Number (include area code) (202) 898-0111	E-Mail Address (if available) cde@attglobal.net		

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).



## SECTION III-D - DTV Engineering

**Complete Questions 1-5 of the Certification Checklist and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.**

**Certification Checklist:** A correct answer of "Yes" to all of the questions below will ensure an expeditious grant of a construction permit. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:

- (a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
  - (b) It will operate from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
  - (c) It will operate with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. ☐ Yes ☐ No

Applicant must **submit the Exhibit** called for in Item 13.

- ☐ Yes ☐ No
3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community. ☐ Yes ☐ No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable. ☐ Yes ☐ No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require reregistration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7. ☐ Yes ☐ No



### SECTION III-D DTV Engineering

#### TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

#### TECH BOX

1. Channel Number: DTV \_\_\_\_\_ Analog TV, if any \_\_\_\_\_
2. Zone: ☐ I ☐ II ☐ III
3. Antenna Location Coordinates: (NAD 27)
- \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " ☐ N ☐ S Latitude  
\_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " ☐ E ☐ W Longitude
4. Antenna Structure Registration Number: \_\_\_\_\_
- ☐ Not applicable ☐ FAA Notification Filed with FAA
5. Antenna Location Site Elevation Above Mean Sea Level: \_\_\_\_\_ meters
6. Overall Tower Height Above Ground Level: \_\_\_\_\_ meters
7. Height of Radiation Center Above Ground Level: \_\_\_\_\_ meters
8. Height of Radiation Center Above Average Terrain: \_\_\_\_\_ meters
9. Maximum Effective Radiated Power (average power): \_\_\_\_\_ kW
10. Antenna Specifications:
- a. 

Manufacturer	Model
--------------	-------
- b. Electrical Beam Tilt: \_\_\_\_\_ degrees ☐ Not Applicable
- c. Mechanical Beam \_\_\_\_\_ degrees toward azimuth \_\_\_\_\_ degrees True ☐ Not Applicable
- Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). Exhibit No.
- d. Polarization: ☐ Horizontal ☐ Circular ☐ Elliptical



## TECH BOX

e. Directional Antenna Relative Field Values: ☐ Not applicable (Nondirectional)

Rotation: \_\_\_\_\_ ° ☐ No rotation

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0		60		120		180		240		300	
10		70		130		190		250		310	
20		80		140		200		260		320	
30		90		150		210		270		330	
40		100		160		220		280		340	
50		110		170		230		290		350	
Additional Azimuths											

If a directional antenna is proposed, the requirements of 47 C.F.R. Section 73.625(c) must be satisfied. **Exhibit required.**

Exhibit No.

11. Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)? (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") ☐ Yes ☐ No

If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers.

Exhibit No.

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if **Certification Checklist** Item 3 is answered "No.")

Exhibit No.

13. **Environmental Protection Act. Submit in an Exhibit** the following:

Exhibit No.

- a. If **Certification Checklist** Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.

By checking "Yes" to **Certification Checklist** Item 2, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

If **Certification Checklist** Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R. Section 1.1311.

**PREPARER'S CERTIFICATION IN SECTION III MUST BE COMPLETED AND SIGNED.**