

TECHNICAL EXHIBIT
APPLICATION FOR FM CONSTRUCTION PERMIT
FM BOOSTER
RADIO STATION KWKD(FM)
BOUNTIFUL, UTAH
CH 272 0.099 KW (MAX-DA)

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Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for construction permit to modify the KWKD-1 FM booster located at Bountiful, Utah.¹ This application seeks to modify the transmitter site location, directional antenna pattern and radiation center. Since the 60 dBu contours of the proposed and authorized booster facilities overlap, this application should be considered as a minor change. The primary station remains KWKD(FM) on Channel 272C at Randolph, Utah.

The proposal would not be subject to environmental processing in accordance with Section 1.1306 of the Commission's Rules. An existing supporting structure with an FCC Tower Registration Number is proposed.

Proposed Transmitter Location

The directional transmitting antenna will be a circular polarized 3 bay ½-wavelength spaced Shively 6016 Master antenna side-mounted on an existing tower. Contained within the Appendix are the antenna manufacturer's specifications. Ultimately, several stations will be diplexed onto this antenna system.

¹ This amendment modifies FCC File Number: BMPFTB-20001006AAM.

The antenna will be mounted on a tower uniquely described by the following geographic coordinates:

40° 50' 05" North Latitude
111° 52' 03" West Longitude

A map showing the transmitter location is included herein as Figure 1. A sketch showing the proposed antenna and supporting structure is shown on Figure 2.

Coverage Contours

Figure 3 is a map showing the proposed booster station's 60 dBu (1.0 mV/m) coverage contour encompassed by the primary station's (KWKD(FM), Channel 272C, Randolph) 60 dBu protected contour.²

Allocation Study

The proposed booster facility appears to satisfy the protection requirements toward first adjacent channel stations as required by Section 74.1204(i) of the Commission's Rules.

Radiofrequency Electromagnetic Field Exposure

The proposed booster facility was evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed Shively 6016 3 bay ½-wavelength spaced antenna

² The KWKD(FM) construction permit, BMPH-20020214AAM, is used to define the primary station.

is located 19 meters above ground level. The proposed circular polarized effective radiated power is 0.099 kilowatt. Using a conservative downward relative field value of 0.5, the predicted ground level power density is 0.006 mW/cm^2 . This is less than 5 percent of the FCC's recommended limit of 0.2 mW/cm^2 for FM frequencies for an "uncontrolled" environment. Since the predicted contribution is less than five percent, the calculation of the contribution of other uses is not required.

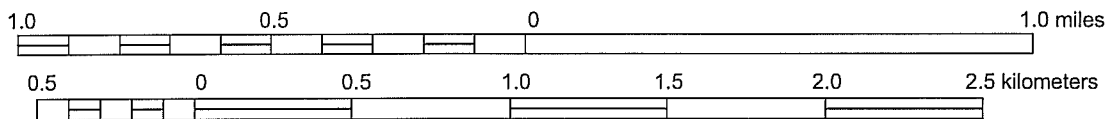
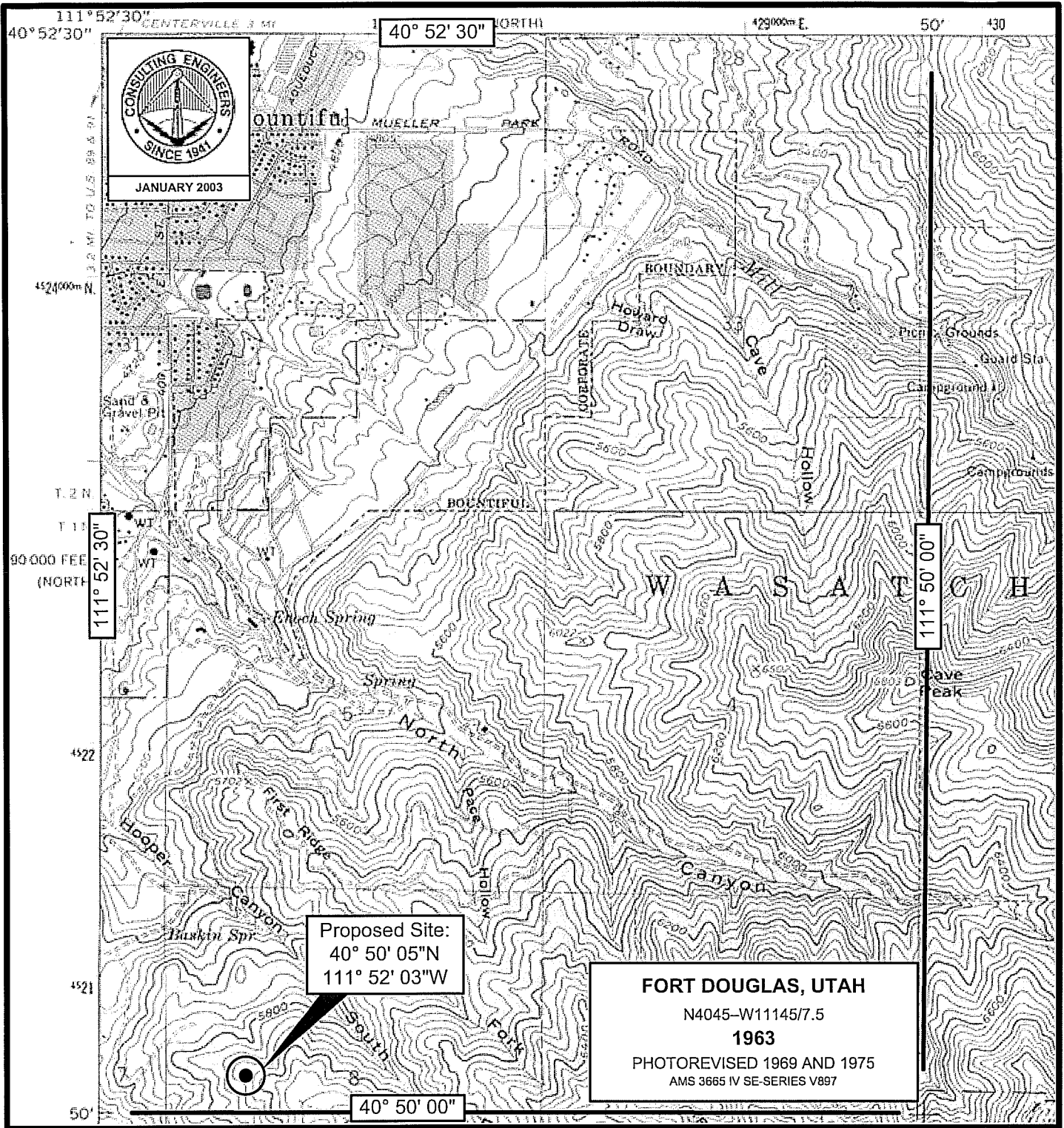
Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure.

Charles A. Cooper

January 10, 2003

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
941.329.6000

Figure 1



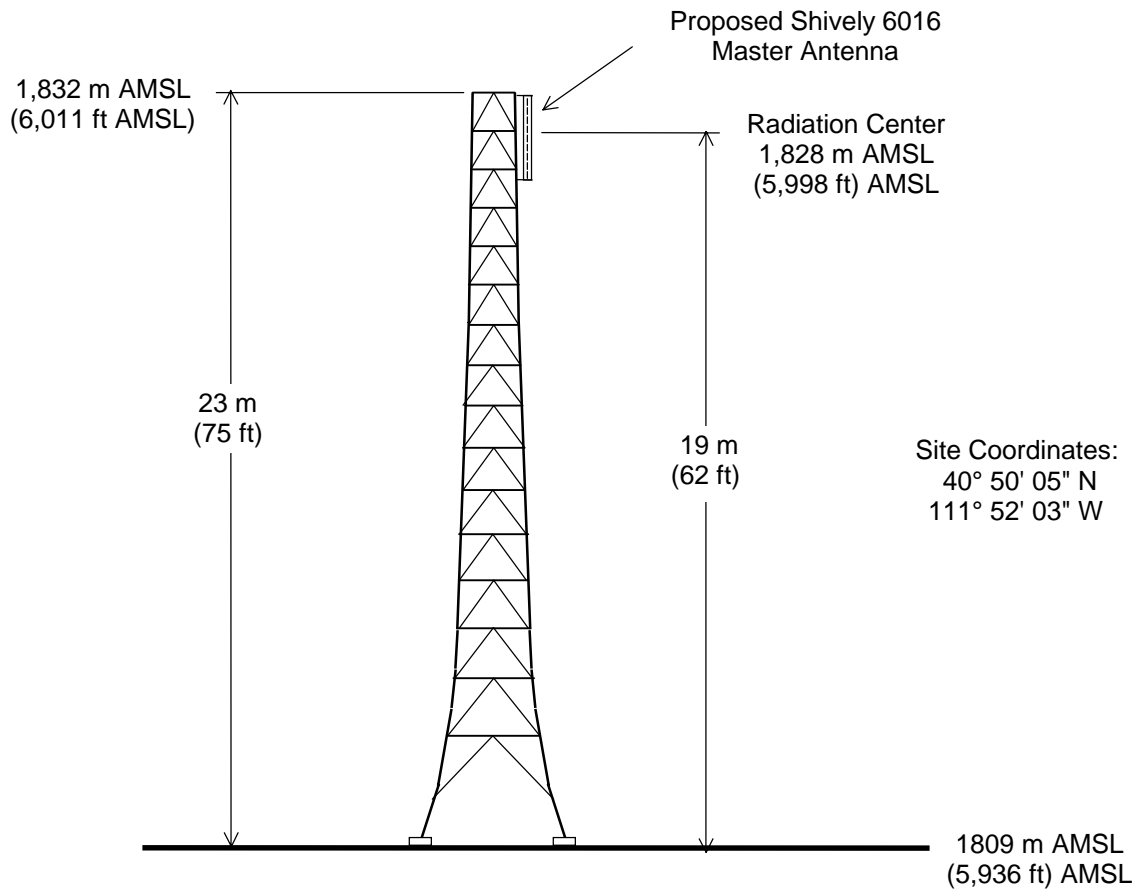
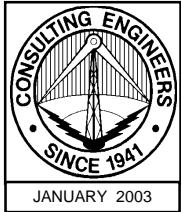
PROPOSED TRANSMITTER SITE

FM BOOSTER STATION KWKD(FM)

BOUNTIFUL, UTAH

CH 272 0.099 KW (MAX-DA)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



ANTENNA AND SUPPORTING STRUCTURE

FM BOOSTER STATION KWKD(FM)

BOUNTIFUL, UTAH

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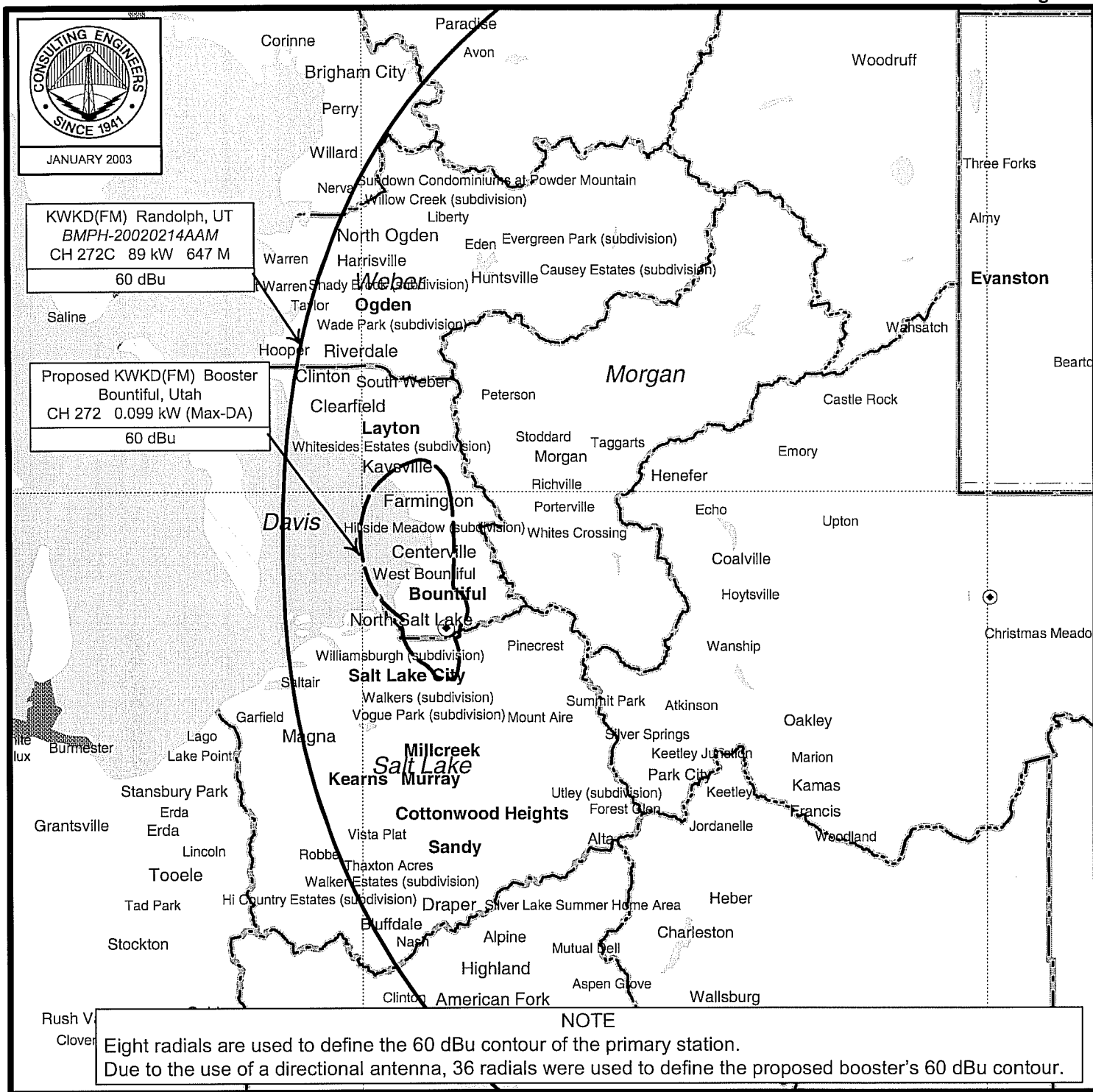
JANUARY 2003

KWKD(FM) Randolph, UT
BMPH-20020214AAM
CH 272C 89 kW 647 M

60 dBu

Proposed KWKD(FM) Booster
Bountiful, Utah
CH 272 0.099 kW (Max-DA)

60 dBu



The image displays two horizontal number lines. The top number line is labeled 'miles' at the right end and has major tick marks at 10, 20, 30, 40, 50, and 60. The bottom number line is labeled 'kilometers' at the right end and has major tick marks at 10, 20, 40, 60, and 80. Both lines are divided into segments by vertical grid lines. The top line has 6 segments of 10 miles each. The bottom line has 8 segments of 10 kilometers each. The segments are shaded in alternating colors: light blue, light green, light red, and light yellow.

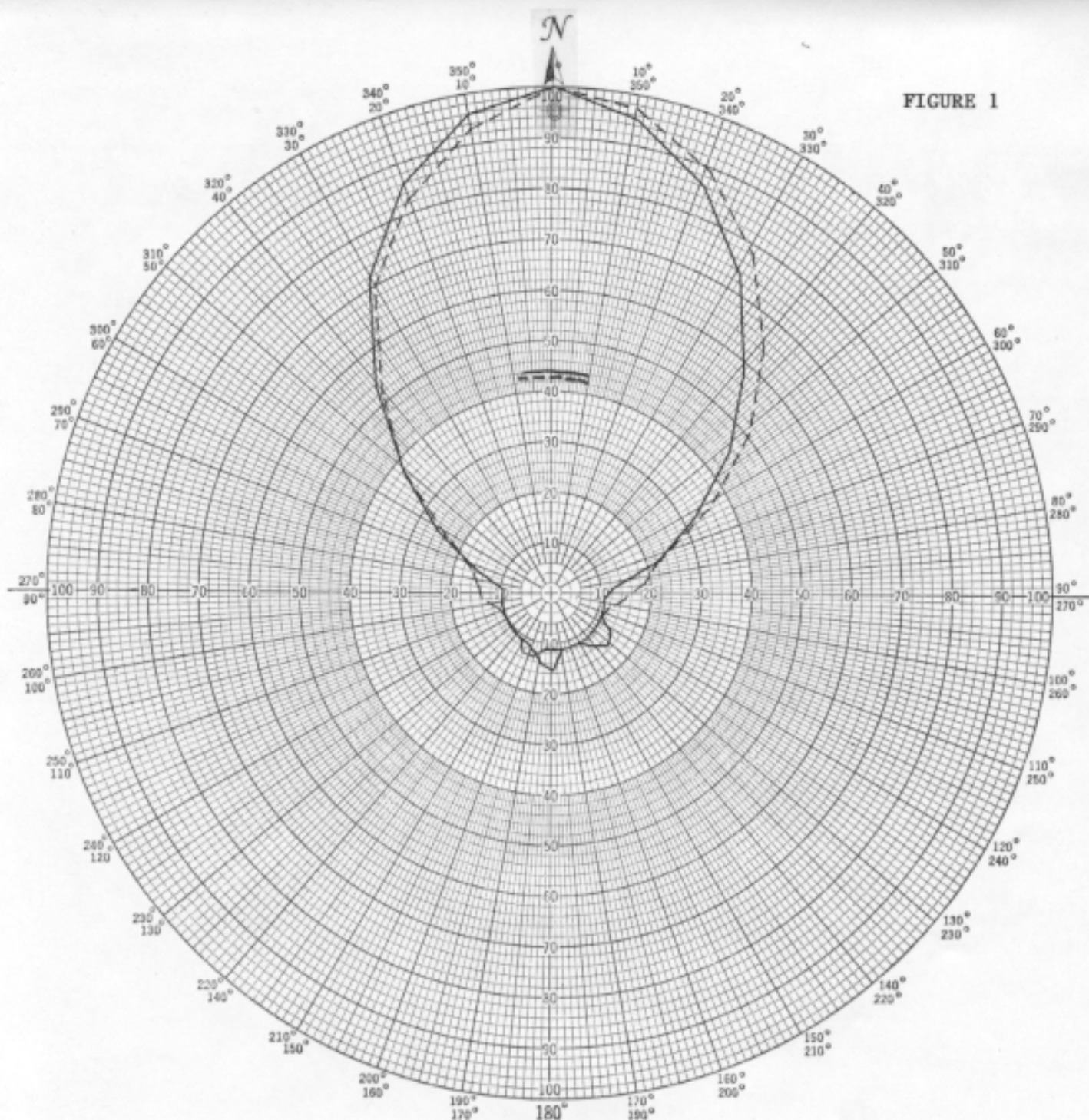
RADIO STATION KWKD(FM) BOOSTER
BOUNTIFUL, UTAH
CH 272 0.099 KW (MAX-DA)

du Treil, Lundin & Rackley, Inc., Sarasota, Florida

APPENDIX

MANUFACTURER DIRECTIONAL ANTENNA SPECIFICATIONS

FIGURE 1



Shively Labs

PROJECT NAME MULTI-STATION BOUNTIFUL, UTPROJECT NUMBER D00457 DATE 01/22/03MODEL (X) FULL SCALE () FREQUENCY MULTIPOLARIZATION HORT ——— VERT ———CURVE PLOTTED IN: VOLTAGE (X) POWER () DB ()OBSERVER RASANTENNA TYPE 6014-1/1PATTERN TYPE HORIZONTAL AZIMUTH

REMARKS:

Figure 1A

TABULATION OF HORIZONTAL POLARIZATION
D00457 Shively Labs Model 6014-1/1

DEGREE	RELATIVE FIELD	DEGREE	RELATIVE FIELD
0	1.000	180	0.14
10	0.950	190	0.130
20	0.860	200	0.110
30	0.730	210	0.100
40	0.580	220	0.100
45	0.530	225	0.100
50	0.450	230	0.100
60	0.320	240	0.100
70	0.220	250	0.100
80	0.120	260	0.100
90	0.100	270	0.100
100	0.100	280	0.100
110	0.100	290	0.160
120	0.130	300	0.260
130	0.140	310	0.380
135	0.135	315	0.450
140	0.120	320	0.540
150	0.100	330	0.720
160	0.100	340	0.860
170	0.100	350	0.960

Figure 1B

TABULATION OF VERTICAL POLARIZATION
D00457 Shively Labs Model 6014-1/1

DEGREE	RELATIVE FIELD	DEGREE	RELATIVE FIELD
0	1.000	180	0.100
10	0.970	190	0.100
20	0.890	200	0.120
30	0.780	210	0.120
40	0.640	220	0.100
45	0.585	225	0.100
50	0.500	230	0.100
60	0.350	240	0.100
70	0.220	250	0.100
80	0.180	260	0.110
90	0.140	270	0.140
100	0.110	280	0.150
110	0.100	290	0.170
120	0.100	300	0.240
130	0.100	310	0.380
135	0.100	315	0.445
140	0.100	320	0.215
150	0.100	330	0.700
160	0.100	340	0.830
170	0.100	350	0.930