

TECHNICAL EXHIBIT  
AMENDMENT TO APPLICATION FOR MINOR CHANGE  
MODIFICATION OF CONSTRUCTION PERMIT  
NEW TV STATION (FACILITY ID 86205)  
POCATELLO, IDAHO

SEPTEMBER 22, 2003

CH 15 5000 KW-DA 327 M

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Technical Narrative

This Technical Exhibit supports a minor change amendment to the application to modify the analog (NTSC) television (TV) construction permit (CP) for a new station at Pocatello, Idaho (Facility ID 86205). Pocatello Channel 15, LLC currently has a construction permit to operate on channel 15 with a zero (0) carrier offset (BPCT-19970328KK). A directional antenna (DA) system is specified with a “bent-peanut” shaped pattern. The major lobes of the antenna pattern are oriented toward 27 and 253 degrees True. The maximum visual effective radiated power (ERP) is 5000 kilowatts (kW). The antenna center of radiation is located 81 meters above ground level (AGL) and 1861 meters above mean sea level (AMSL). The antenna height above average terrain (HAAT) is 338 meters. The transmitter site coordinates are 42-51-46, 112-31-03 (NAD-27). The FCC antenna structure registration number is 1213130.

Proposed TV Facilities

This minor change amendment application proposes to modify the CP (BPCT-19970328KK). The application to modify the CP is necessary because the structure originally proposed for the TV antenna is no longer available at the authorized height. It is proposed to relocate the transmitting facilities to a nearby site on a new tower. The proposed site coordinates are 42-51-50, 112-31-10 (NAD-27). The FCC antenna structure registration number for the new tower is 1239956.

It is proposed to mount a Dielectric model TFU-31JSC-R-3BP285 directional antenna system on the new structure with the center of radiation at 79.9 meters AGL, and 1850.4 meters AMSL (see Figure 1). The proposed antenna HAAT will be 327 meters. The antenna pattern is in the shape of a “bent peanut” and the major lobes will be oriented toward 35 and 260 degrees True. The proposed maximum visual ERP is 5000 kW.

The proposed transmitter site is approximately 682 kilometers from the closest point of the Canadian border. The proposed site is more than 1100 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Livermore, California, approximately 968 kilometers to the southwest. The closest point of the National Radio Quiet Zone (VA/WV) is more than 2600 kilometers to the east. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 600 kilometers to the southeast. The closest radio astronomy site operating on TV channel 37 is at Owens Valley, California, approximately 794 kilometers to the southwest. These separations are considered sufficient to not be a coordination concern.

There are other authorized TV and FM broadcast facilities in the vicinity of the proposed site. There are no known AM stations within 5 kilometers (3 miles) of the proposed site. No adverse electromagnetic interaction is expected. The applicant recognizes that it is responsible to remedy prohibited electromagnetic problems that its proposed operation may create.

Figure 3 is a map showing the predicted City Grade (80 dBu), Grade A (74 dBu) and Grade B (64 dBu) contours for the proposed operation. The city limits of Pocatello, as defined in the 2000 US Census for Idaho, are identified. The predicted City Grade contour encompasses the Pocatello city limits as required by the FCC rules. The estimated population (2000 Census) within the predicted Grade B contour is 209,751 people.

Allocation Study

A separation study for analog channel 15 at the proposed site indicates no short-spacings to other analog assignments. With respect to digital television (DTV) assignments and allotments, interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 kilometer grid. The proposed channel 15 operation complies with the FCC's interference standards with respect to pertinent surrounding DTV assignments and allotments.

Pertinent low power television (LPTV) stations that qualify for Class A consideration and are operating within the FCC's core band (ie, 2-51) have been examined. No adverse interference problems to Class A TV assignments are predicted.

Comparison of Grade B Contours

Sheet 1 of Figure 4 is a map showing the predicted City Grade (80 dBu), Grade A (74 dBu) and Grade B (64 dBu) contours for the present CP and proposed Pocatello channel 15 operations. The following is summary of the population (2000 Census) and area within the present CP and proposed contours shown on Sheet 1 of Figure 4.

<u>Pocatello Operation</u>	<u>City Grd. Contour</u>		<u>Grade A Contour</u>		<u>Grade B Contour</u>	
	<u>Population</u>	<u>Area</u>	<u>Population</u>	<u>Area</u>	<u>Population</u>	<u>Area</u>
		sq km		sq km		sq km
CP, 5000 kW-DA, 338 m	113,487	7,404	124,234	10,490	210,845	17,960
Prop., 5000 kW-DA, 327 m	113,189	7,315	123,846	10,370	209,751	17,730

As shown on Sheet 1 of Figure 4, the proposed coverage is substantially the same as for the present CP operation.

Sheet 2 of Figure 4 shows the present CP (solid line) and proposed (dashed line) Grade B contours for the Pocatello channel 15 operation. The regions gaining predicted Grade B service from the proposed operation contains 52 people within 475 square kilometers. The regions losing predicted Grade B service from the proposed operation contains 1982 people and 715 square kilometers.

Sheet 2 of Figure 4 also shows the predicted Grade B contours for other authorized TV services in the area. The numerals shown in the predicted loss areas represent the number of other TV services available to that area. There is no “white” area (0 other services) in the predicted loss area. The number of other services available to the predicted loss area varies from 1 to 6. The following identifies the other TV services considered.

KPVI(TV), Ch.6, Pocatello, ID  
KFXP(TV), Ch.31, Pocatello, ID  
KIDK(TV), Ch.3, Idaho Falls, ID  
KISU-TV, Ch.\*10, Pocatello, ID  
KIFI-TV, Ch.8, Idaho Falls, ID  
KUTH(TV), Ch.12, Logan, UT  
KMVT(TV), Ch.11, Twin Falls, ID  
KBEO(TV), Ch.11, Jackson, WY  
KIDA(TV), Ch.5, Sun Valley, ID

Sheet 3 of Figure 4 shows the predicted Grade A and Grade B contours for the Pocatello present CP and proposed operations, and commonly owned station KBEO(TV) on channel 11 at Jackson, Wyoming (Facility ID 35103). There is no overlap between the predicted Grade A contours for the Pocatello operations and KBEO. There is some predicted Grade B contour overlap between the Pocatello operations and KBEO. The following is a summary of the populations and areas within the predicted Grade B contours and overlap area.

<u>Description</u>	<u>Grade B Population</u>	<u>Grade B Area</u>
Pocatello CP, Ch.15, 5000 kW-DA, 338 m	210,845	17,960 sq km
Proposed, Ch.15, 5000 kW-DA, 327 m	209,751	17,730
KBEO(TV), Ch.11, 21.9 kW-DA, 327 m	27,692	13,890
Prop. Pocatello & KBEO Predicted Grade B Overlap	22	192
Overlap as percentage of Prop. Pocatello Grade B	0.01%	1.08%
Overlap as percentage of KBEO Grade B	0.08%	1.38%

Sheet 3 of Figure 4, showing the small amount of predicted Grade B overlap between the proposed Pocatello operation and station KBEO, is shown on a terrain relief base map. There is significant terrain between the proposed Pocatello and KBEO sites, inferring that significant signal attenuation can be expected. Sheet 4 of Figure 4 is a terrain profile using the 3 second digitized terrain database and showing the path between the Proposed Pocatello site and the KBEO site. A line has been drawn between the proposed Pocatello antenna radiation center and the KBEO antenna radiation center. As shown, there is considerable terrain obstruction in the path.

Sheet 5 of Figure 4 is a map showing the calculated Grade B service areas using the Longley-Rice propagation model and a USGS 3 second digitized terrain database. At each location studied a receiving antenna height of 9.1 meters (30 feet) was assumed. To be conservative, no consideration was given to a “land use/clutter” attenuation factor (ie, 0 dB, best case from calculated coverage standpoint). Portions of the respective predicted Grade B contours and overlap are shown. Although there may be predicted Grade B contours overlap, when the actual nature of the terrain is consider using the Longley-Rice propagation model the proposed and KBEO calculated Grade B service areas do not overlap.

If necessary, a waiver of the predicted Grade B contour overlap between the proposed Pocatello and KBEO operations is respectfully requested based on the above showing.

Radiofrequency Electromagnetic Field Exposure

The proposed facilities were 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 antenna is located 79.9 meters above ground level. The proposed maximum visual ERP is 5000 kW and 10% aural power is assumed. A relative field value of 0.08 was assumed for the antenna's downward radiation (see Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is  $0.0881 \text{ mW/cm}^2$ . This is less than 28% of the FCC's recommended limit of  $0.32 \text{ mW/cm}^2$  for channel 15 for an "uncontrolled" environment. The calculated power density is less than 6% of the FCC's recommended limit for a "controlled" environment.

The antenna for a new low power television (LPTV) station on channel 49 at Pocatello, Idaho will be mounted on the proposed tower (BNPTTL-20000831CER, Facility ID 130434, KM Communications, Inc.). The center of radiation for the channel 49 antenna is 61.6 meters above ground level. The proposed maximum visual ERP is 150 kW and 10% aural power is assumed. A relative field value of 0.2 was assumed for the downward radiation for the proposed channel 49 antenna (Dielectric TLP-16M). The calculated power density at a point 2 meters above ground level is  $0.0282 \text{ mW/cm}^2$ . This is less than 7% of the FCC's recommended limit of  $0.46 \text{ mW/cm}^2$  for channel 49 in an "uncontrolled" environment. It is less than 2% of the FCC's limit for a "controlled" environment.

The combination of the proposed TV channel 15 and LPTV channel 49 RF energy contributions represent less than 35% of the FCC's limit for an "uncontrolled" environment, and less than 8% of the FCC's limit for a "controlled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this is a multi-user site an agreement will control access. 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. Such measures include reducing the average exposure by spreading out the work

over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

If there are questions concerning the technical portion of this application, please contact the office of the undersigned.

John A. Lundin

du Treil, Lundin & Rackley, Inc.

201 Fletcher Avenue

Sarasota, Florida 34237

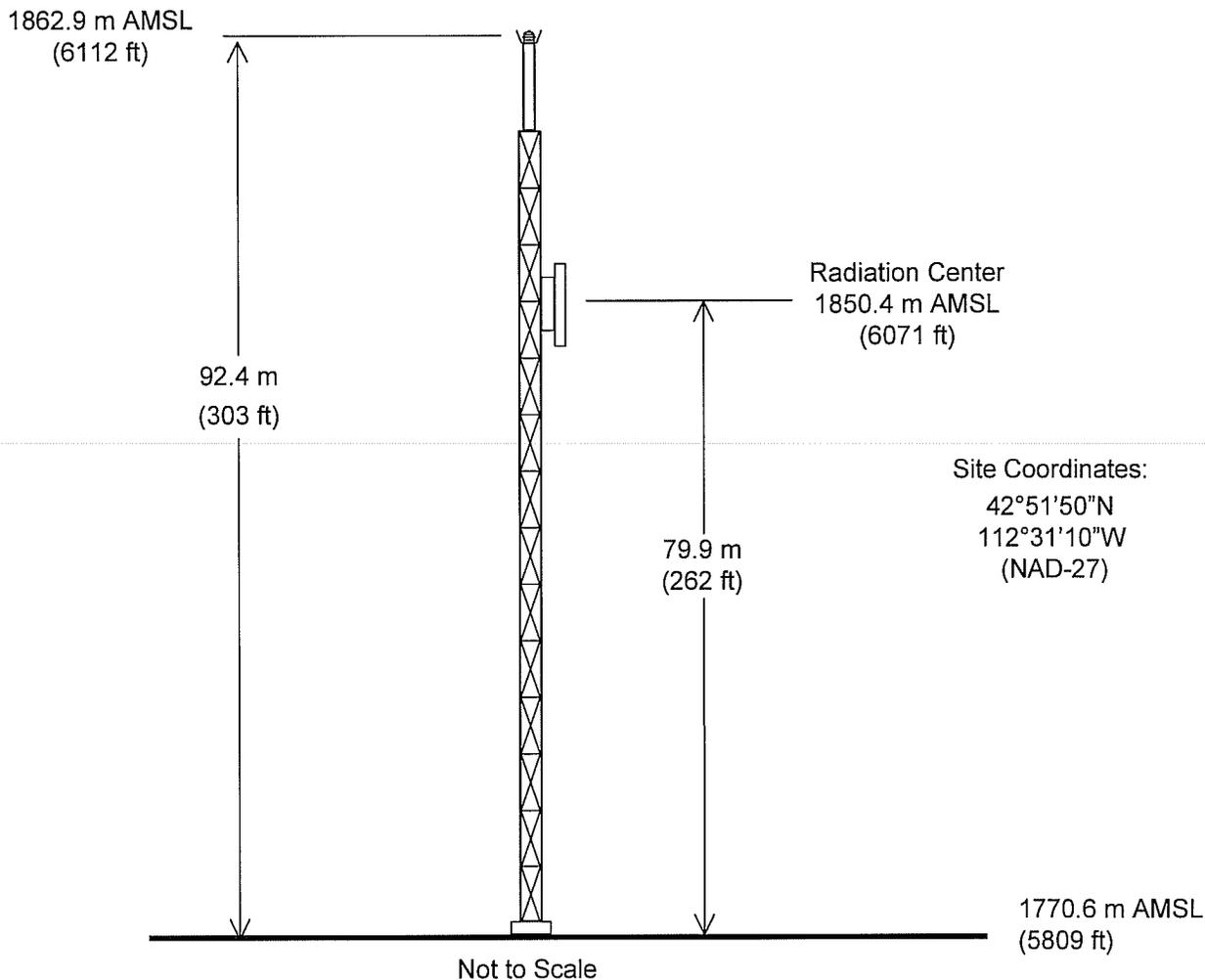
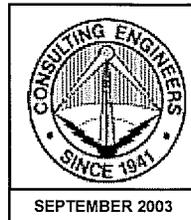
(941) 329-6000 voice

(941) 329-6030 fax

[john@DLR.com](mailto:john@DLR.com) e-mail

September 22, 2003

FCC Tower ID: 1239956



# PROPOSED ANTENNA AND SUPPORTING STRUCTURE

NEW TV STATION  
POCATELLO, IDAHO  
CH 15 5000 KW-DA 327 M

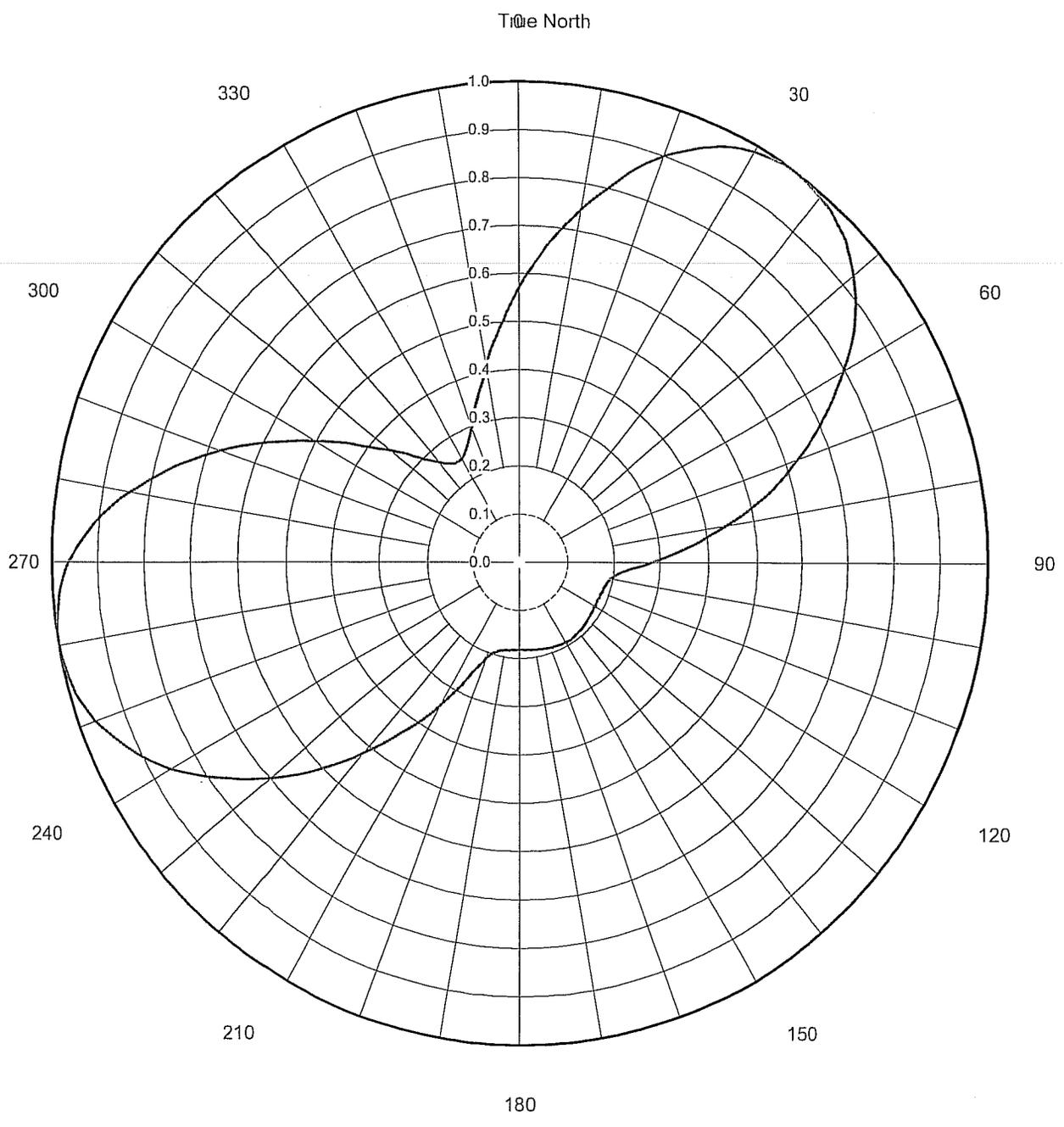
du Treil, Lundin & Rackley, Inc. Sarasota, Florida



Proposal Number 1158:6:204506 Revision: 3  
Date 4-Sep-03  
Call Letters Channel 15  
Location Pocatello, ID  
Customer  
Antenna Type TFU-31JSC-R 3BP285

### AZIMUTH PATTERN

Gain 2.85 (4.55 dB) Frequency 479.00 MHz  
Calculated / Measured Calculated Drawing # TFU-3BP285-15

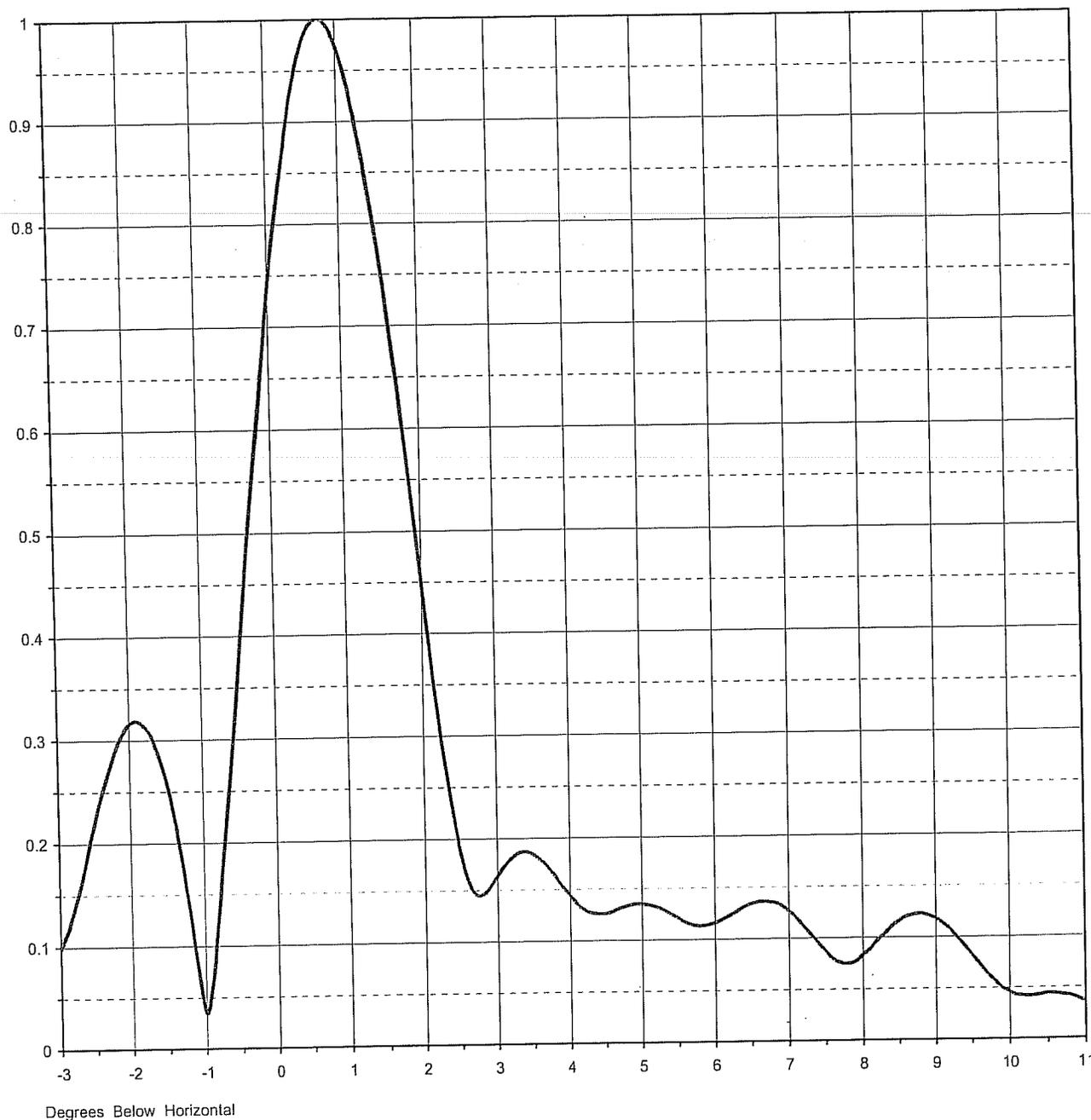




Proposal Number 1158:6:204506 Revision: 3  
Date 4-Sep-03  
Call Letters Channel 15  
Location Pocatello, ID  
Customer  
Antenna Type TFU-31JSC-R 3BP285

### ELEVATION PATTERN

RMS Gain at Main Lobe	27.90 (14.46 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	15.10 (11.79 dB)	Frequency	479.00 MHz
Calculated / Measured	Calculated	Drawing #	31Y279075



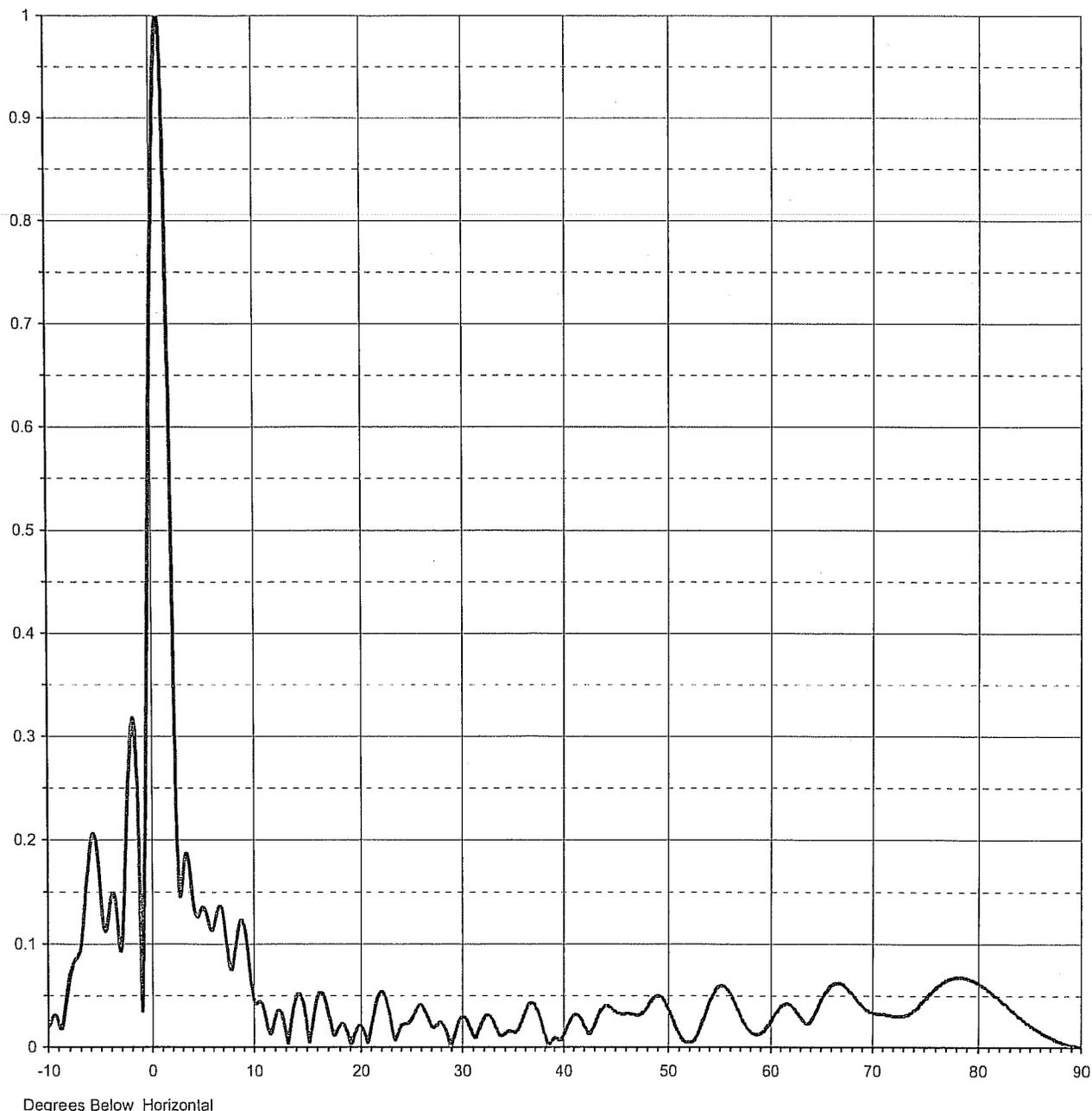
Degrees Below Horizontal



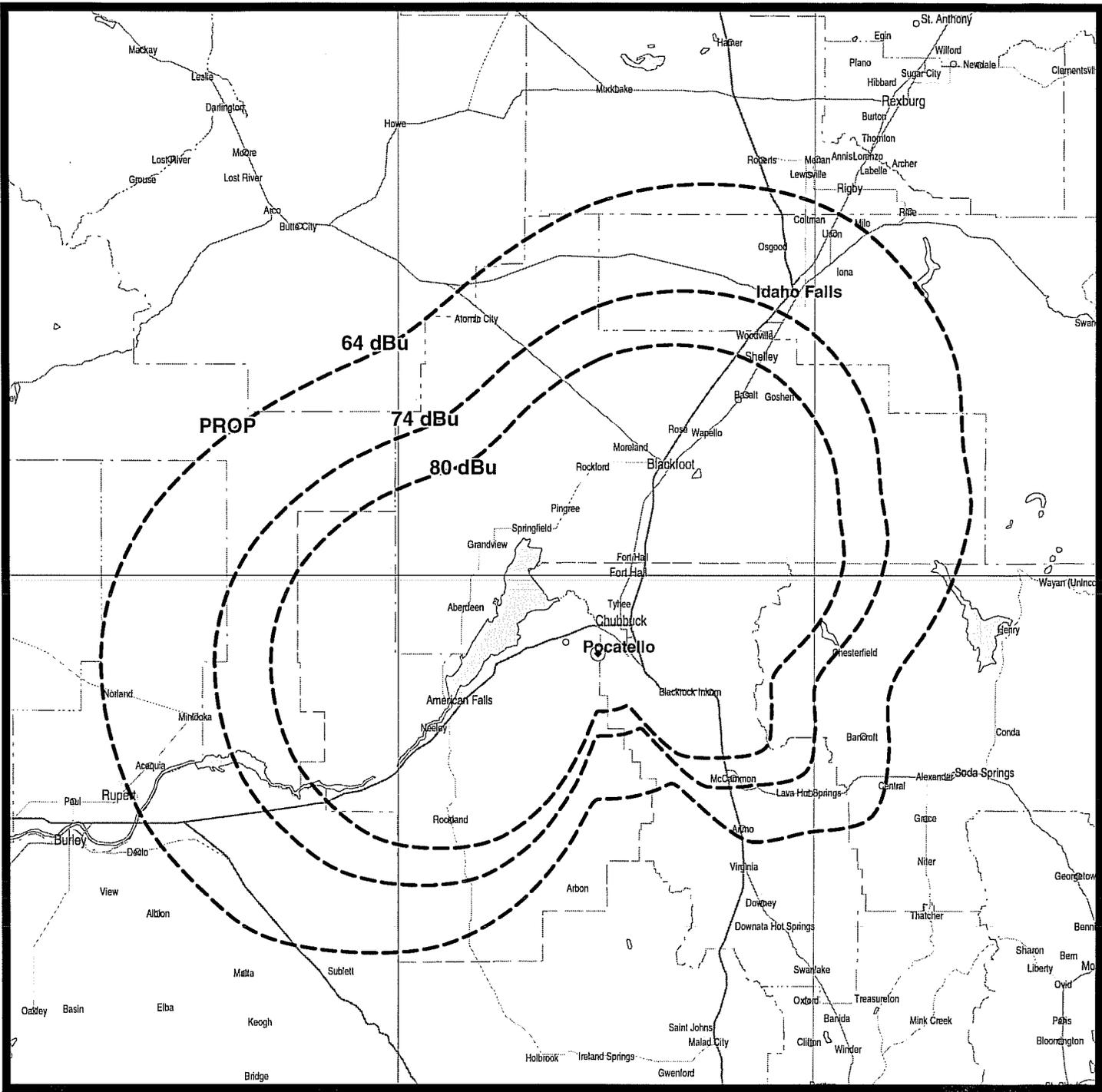
Proposal Number 1158:6:204506 Revision: 3  
 Date 4-Sep-03  
 Call Letters Channel 15  
 Location Pocatello, ID  
 Customer  
 Antenna Type TFU-31JSC-R 3BP285

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>27.90 (14.46 dB)</b>	Beam Tilt	<b>0.75 deg</b>
RMS Gain at Horizontal	<b>15.10 (11.79 dB)</b>	Frequency	<b>479.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>31Y279075-90</b>



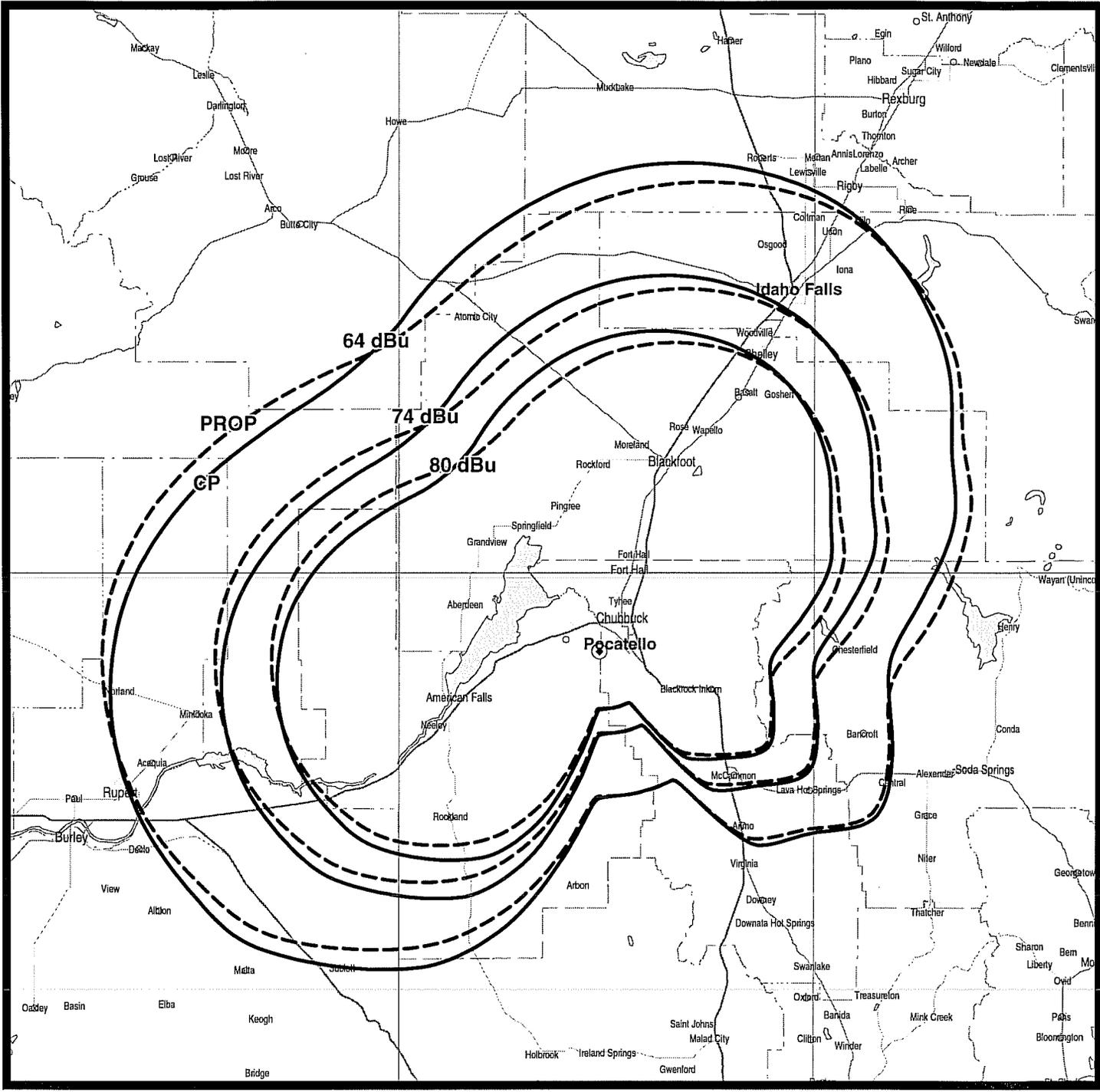
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**PREDICTED TV COVERAGE CONTOURS**

NEW TV STATION  
POCATELLO, IDAHO  
CH 15 5000 KW-DA 327 M

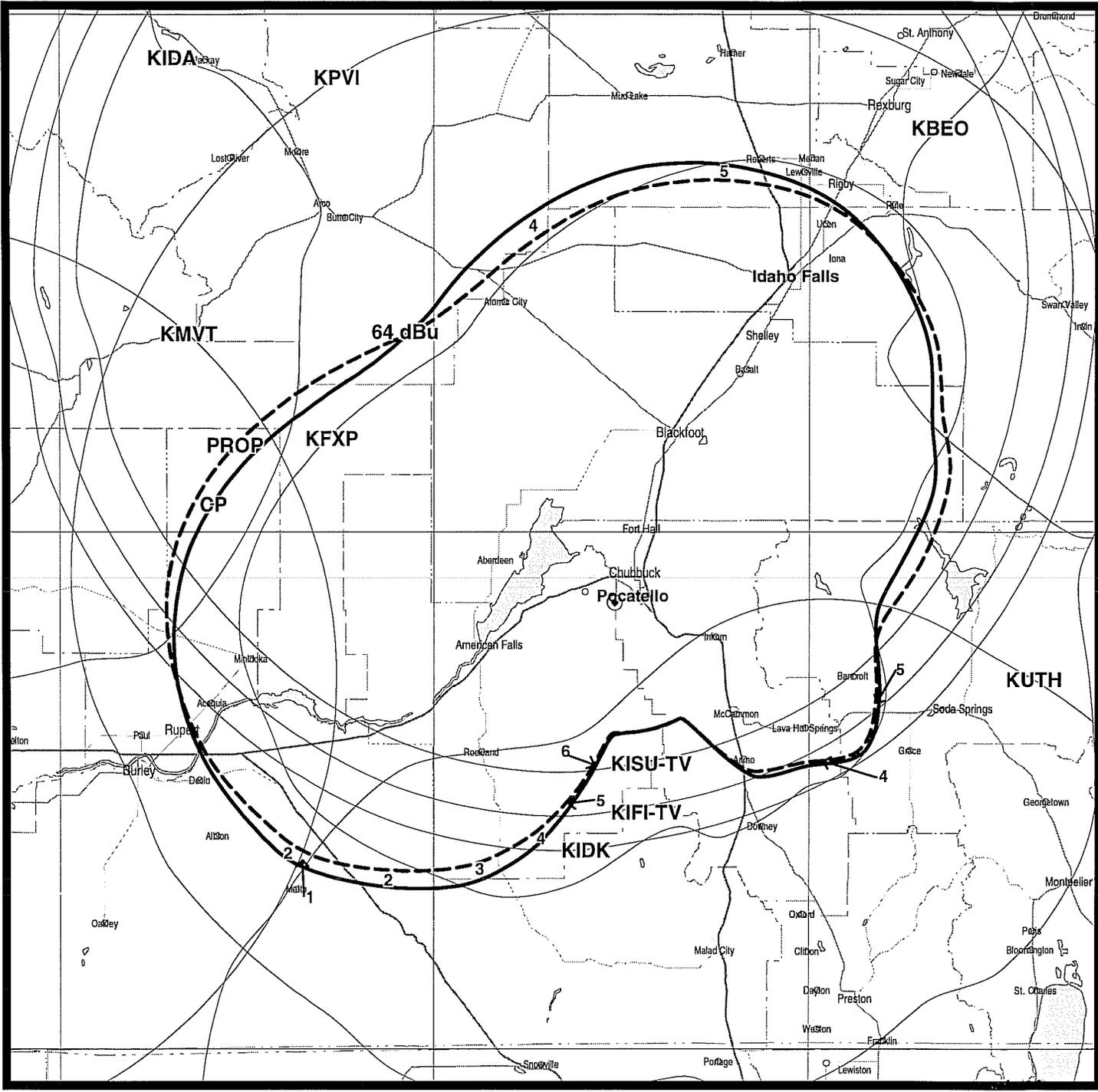
du Treil, Lundin & Rackley, Inc. Sarasota, Florida



**PRESENT CP & PROPOSED CONTOURS**

NEW TV STATION  
POCATELLO, IDAHO  
CH 15 5000 KW-DA 327 M

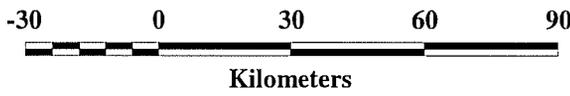
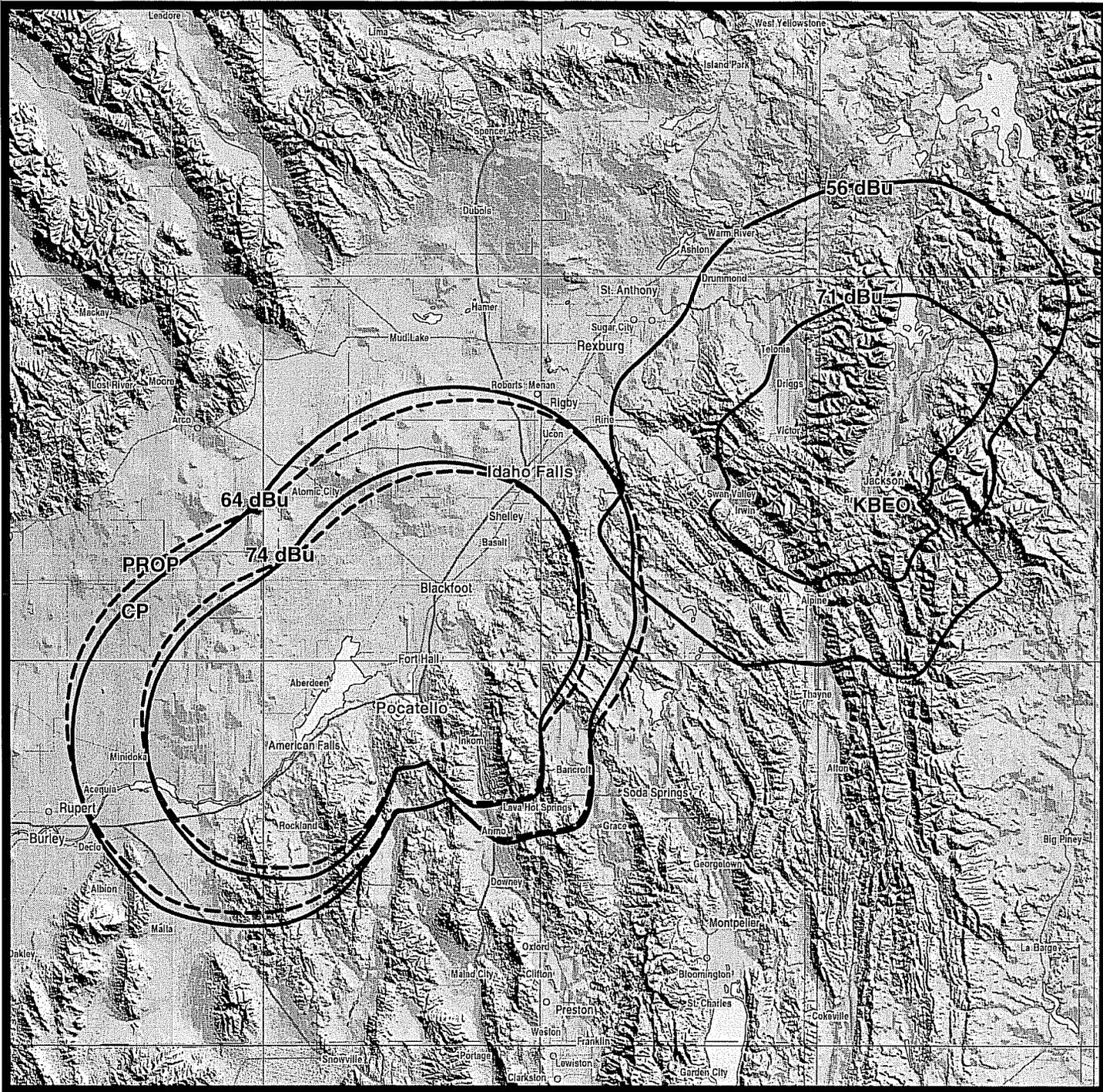
du Treil, Lundin & Rackley, Inc. Sarasota, Florida



**OTHER GRADE B TV SERVICES AVAILABLE**

NEW TV STATION  
POCATELLO, IDAHO  
CH 15 5000 KW-DA 327 M

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



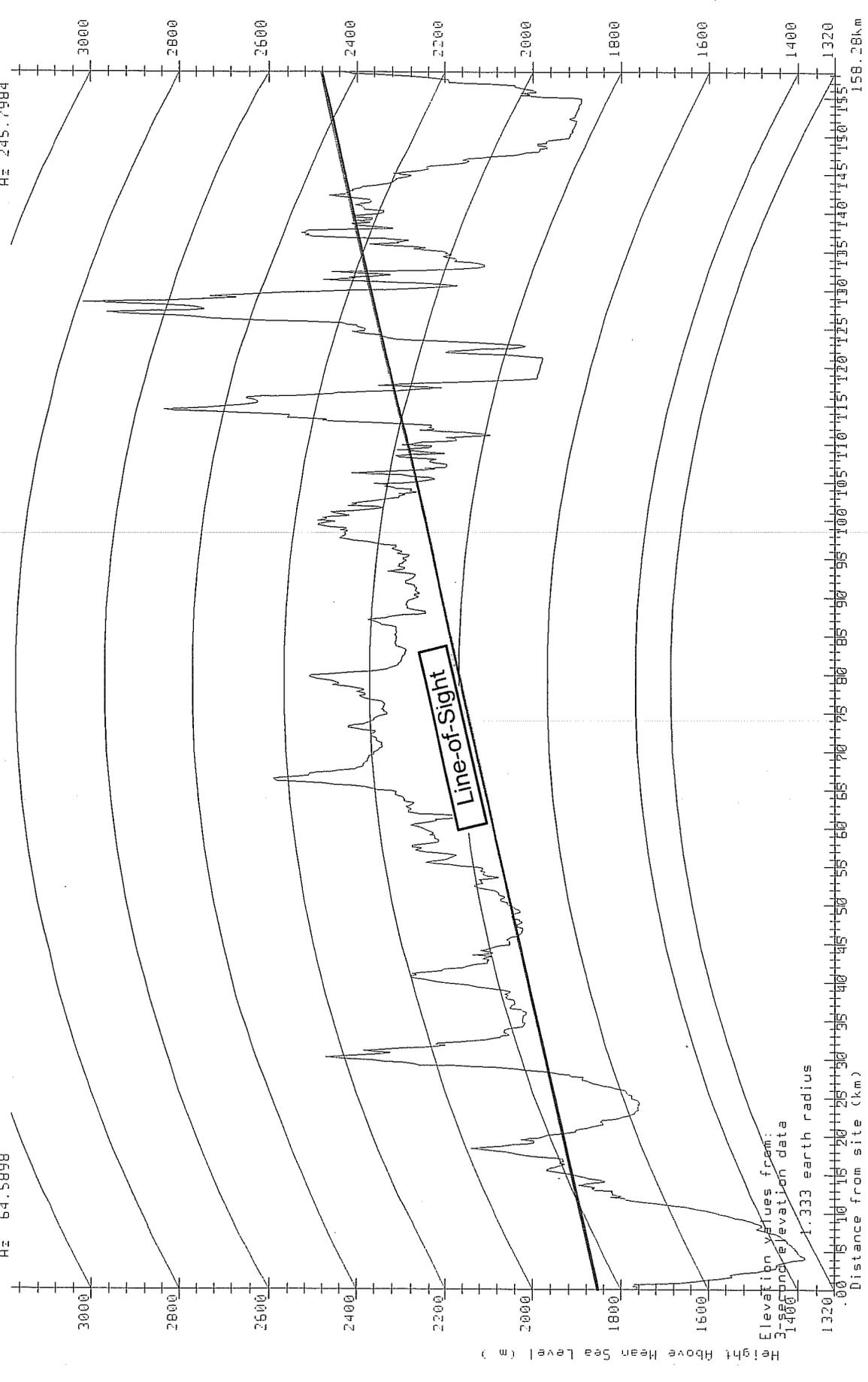
**PRESENT CP & PROPOSED CONTOURS**

NEW TV STATION  
POCATELLO, IDAHO  
CH 15 5000 KW-DA 327 M

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

Proposed Pocatello  
42:51:50.0N 1770.50 MSL \* 79.90 AGL  
112:31:10.0W 1850.40 MSL  
Az 64.5898

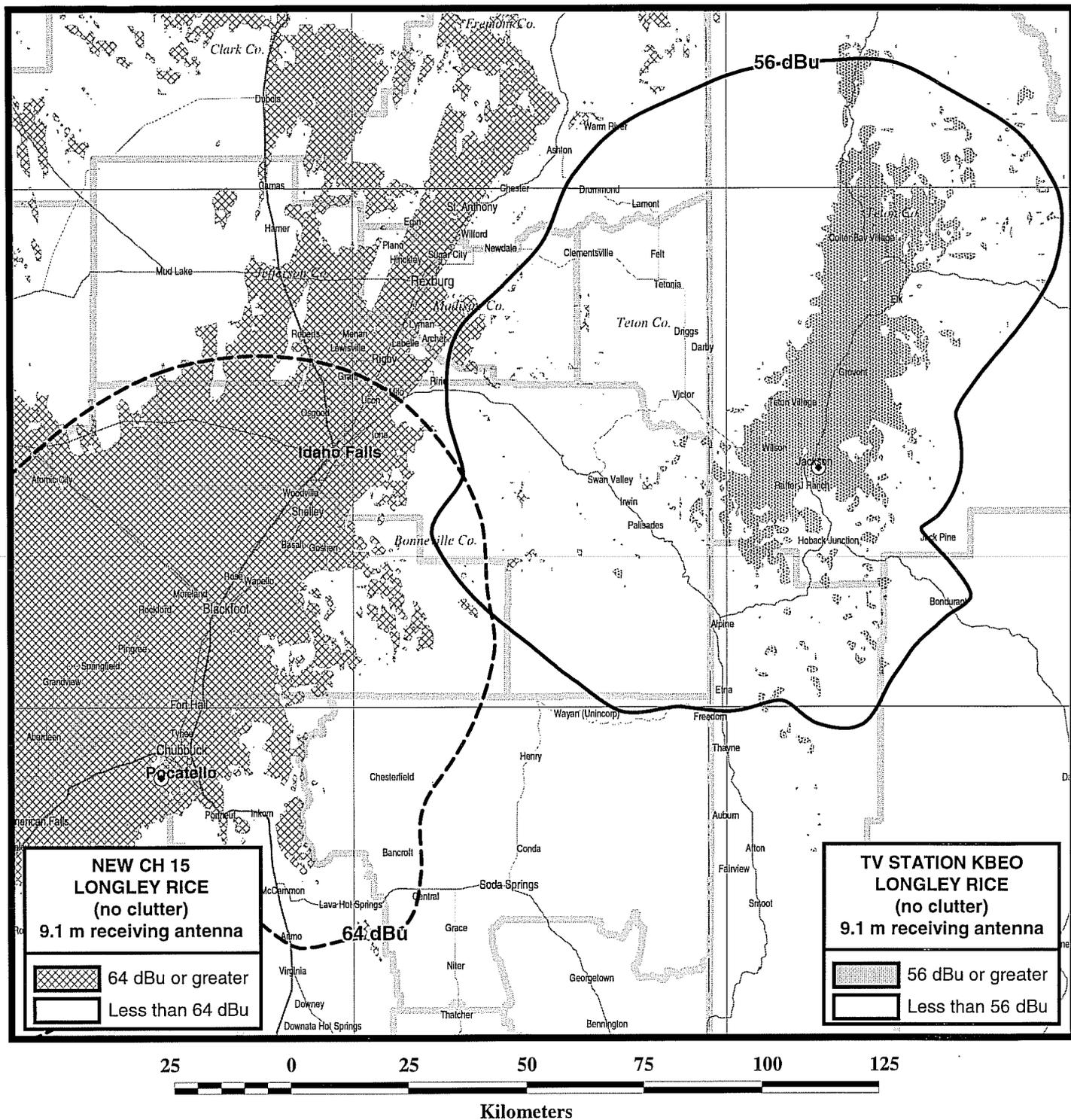
KBEO  
2421.50 MSL \* 57.50 AGL 43:27:42.0N  
2479.00 MSL  
Az 245.7984



**TERRAIN PROFILE**  
NEW TV STATION

POCATELLO, IDAHO

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



**PROPOSED & KBE0 GRADE B SERVICE  
USING LONGLEY RICE PROPAGATION MODEL**

**NEW TV STATION  
POCATELLO, IDAHO  
CH 15 5000 KW (MAX-DA) 327 M**

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