

TECHNICAL EXHIBIT
MINOR MODIFICATION APPLICATION
STATION KMTF-DT (FACILITY ID 68717)
HELENA, MONTANA

OCTOBER 29, 2004

CH 29 43.4 KW (MAX-DA) 697 M

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Table of Contents

Technical Narrative

Figure 1	Antenna and Supporting Structure
Figure 2	Antenna Patterns
Figure 3	Coverage Map

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Technical Narrative

This Technical Exhibit was prepared on behalf of digital television broadcast station KMTF-DT at Helena, Montana. Station KMTF-DT is authorized for operation on channel 29 with a directional antenna maximum effective radiated power (ERP) of 100 kW and an antenna height above average terrain (HAAT) of 697 meters (BPCDT-19991101AJT).

The proposed facility will not result in any extension of the authorized noise-limited contour as shown in Figure 3. Therefore, the proposal meets the terms of the FCC Filing Freeze for digital television stations.¹

Proposed Facilities

This application proposes to change the directional antenna and reduce ERP. There is no proposed change in site, channel (29) or city of license (Helena). The site coordinates remain (NAD27): 46-49-35 N, 111-42-33 W. A directional antenna maximum ERP of 43.4 kW and antenna HAAT of 697 meters are proposed. It is proposed to employ the STA directional antenna at a difference azimuth for the DTV operation.

Figure 3 is a map showing the predicted noise-limited (41 dBu) and city-grade (48 dBu) contours for the proposed operation, along with the noise-limited contour for the

¹ See August 2004 Filing Freeze PN, DA 04-2446 (MB released Aug. 3, 2004).

authorized KMTF-DT operation. The Helena city limits were derived from information contained in the 2000 U.S. Census for Montana. The proposal complies with the city coverage requirements of Section 73.625(a).

There are no known authorized full service AM stations within 3.2 kilometers of the proposed transmitter site. There is no proposed change in site. Although no adverse electromagnetic impact is expected, the applicant recognizes its responsibility to correct problems that may result from its proposed operation.

Allocation Considerations

Interference calculations have been made using the procedures outlined in the FCC's OET-69 bulletin, using a 2 kilometer grid spacing. The proposed KBMY-DT operation does not cause excessive (greater than 2%, up to 10% total) calculated interference to any analog or DTV assignment. Below is the list of stations considered in the OET-69 analysis.

Stations Potentially Affected by Proposed KMTF-DT						
Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
15	NEW	HELENA MT	36.2	ADD	BPRM	-19960920AAB
26	K26DE	BOZEMAN MT	136.4	LIC	BLTTL	-19940207JC
26	KLMN	GREAT FALLS MT	85.5	LIC	BLCT	-20030611ABD

The proposed KMTF-DT operation does not cause calculated interference to any analog or DTV station. Therefore, it is believed the proposal complies with the FCC's "de minimis" interference policy.

With respect to Class A TV station protection, the proposal has been evaluated according to the requirements of Section 73.613 of the FCC Rules. The analysis reveals no potential impact to any Class A station.

Canadian Allocation Analysis

As the proposal is located within the U.S./Canada border zone (400 km), a Canadian allocation study was conducted to confirm compliance with the Canadian Letter of Understanding (LOU). A separation study indicates that the proposed operation meets the minimum separation requirements to all Canadian stations (based on Class VL for KMTF-DT). Therefore, it is not expected that Canadian coordination is necessary.

Radiofrequency Electromagnetic Field Exposure

The proposed KMTF-DT 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 27.4 meters above ground level with a maximum ERP of 43.4 kW. A downward relative field value of 0.13 was assumed for the antenna's downward radiation (see Sheet 2 of Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is 0.038 mW/cm^2 . This is 10% of the FCC's recommended limit of 0.38 mW/cm^2 for channel 29 for an "uncontrolled" environment. Since there are two other analog (KMTF & KTVH) and one digital (KTVH) station on the same tower, RF measurements will be taken to ensure compliance with the FCC's RFR standards.

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. 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.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis

will be or already have been provided to the FCC by the tower owner as part of the tower registration process.

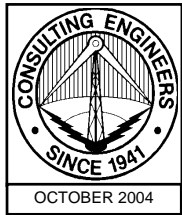


Jonathan N. Edwards

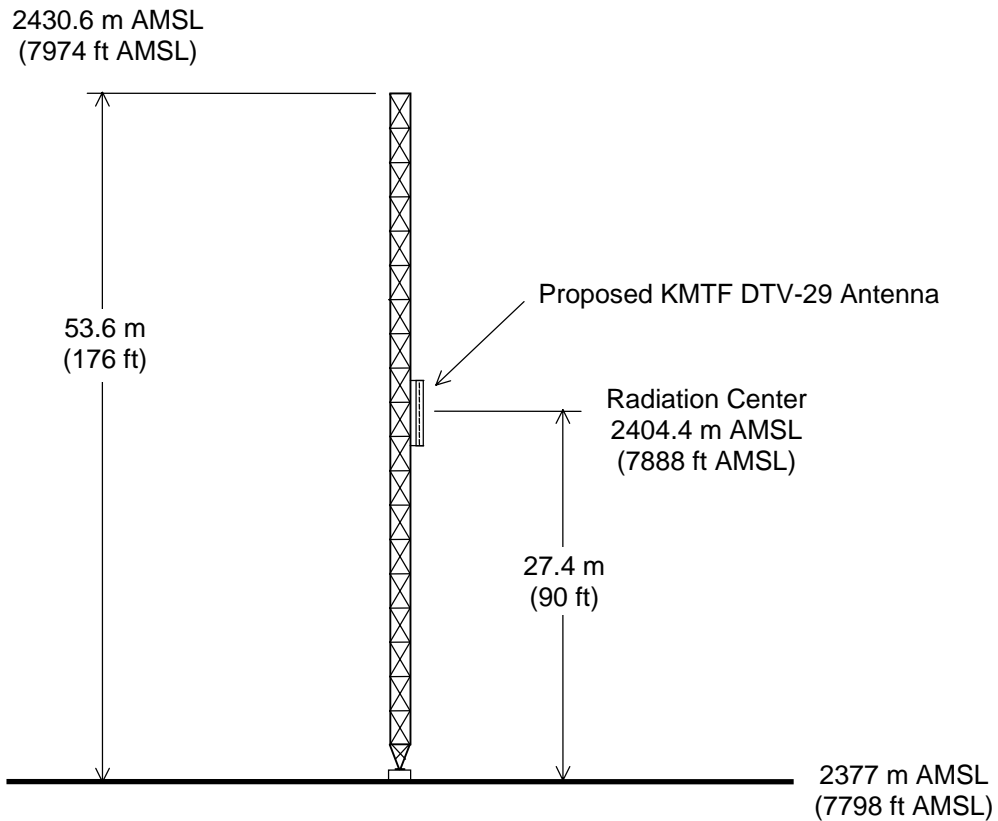
du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
(941) 329-6000

October 29, 2004

Figure 1



Site Coordinates:
46° 49' 35" N
111° 42' 33" W
(NAD 27)



Not to Scale

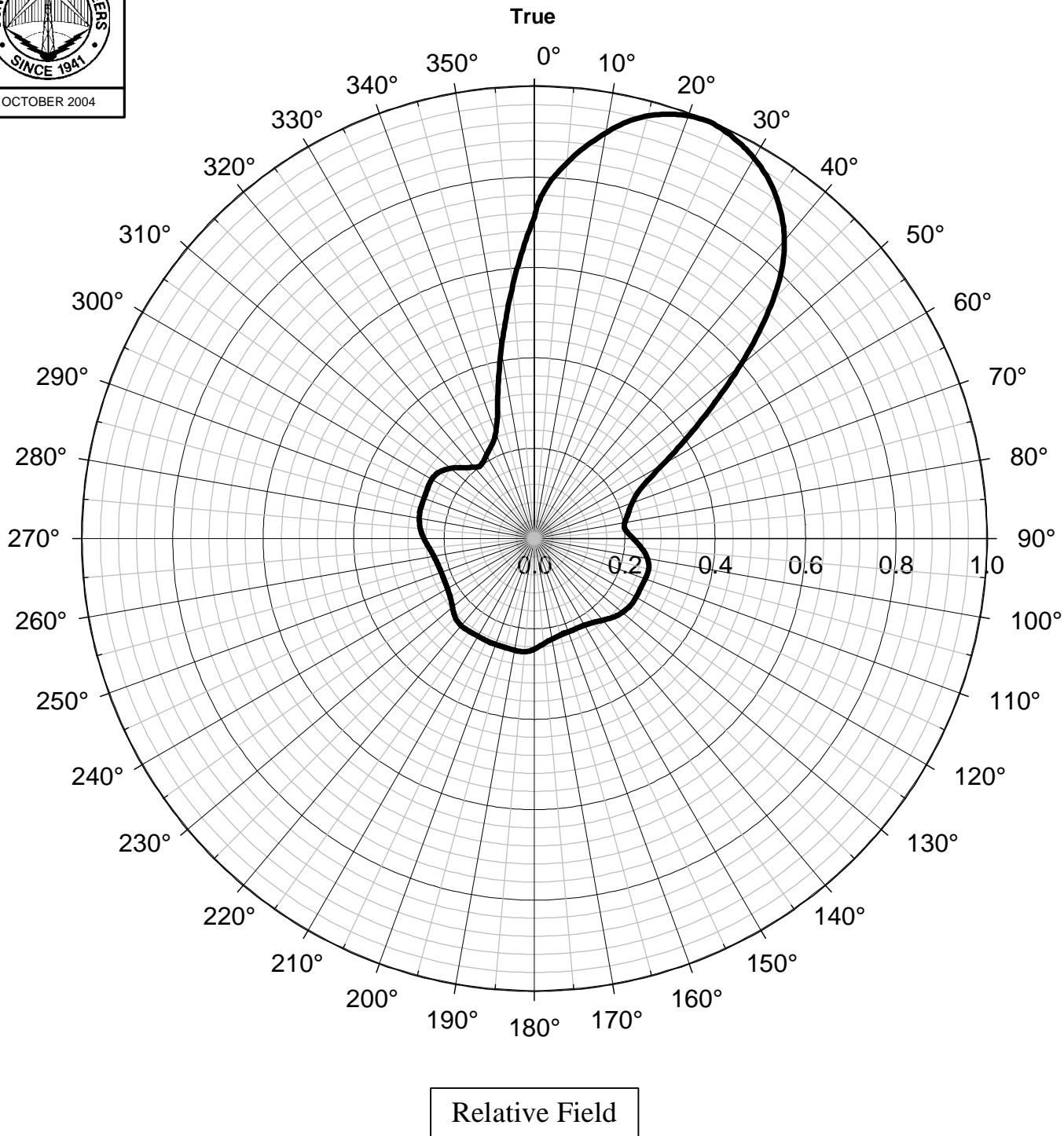
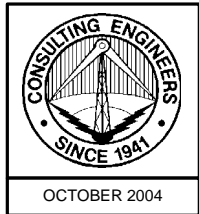
ANTENNA AND SUPPORTING STRUCTURE

STATION KMTF-DT

HELENA, MONTANA

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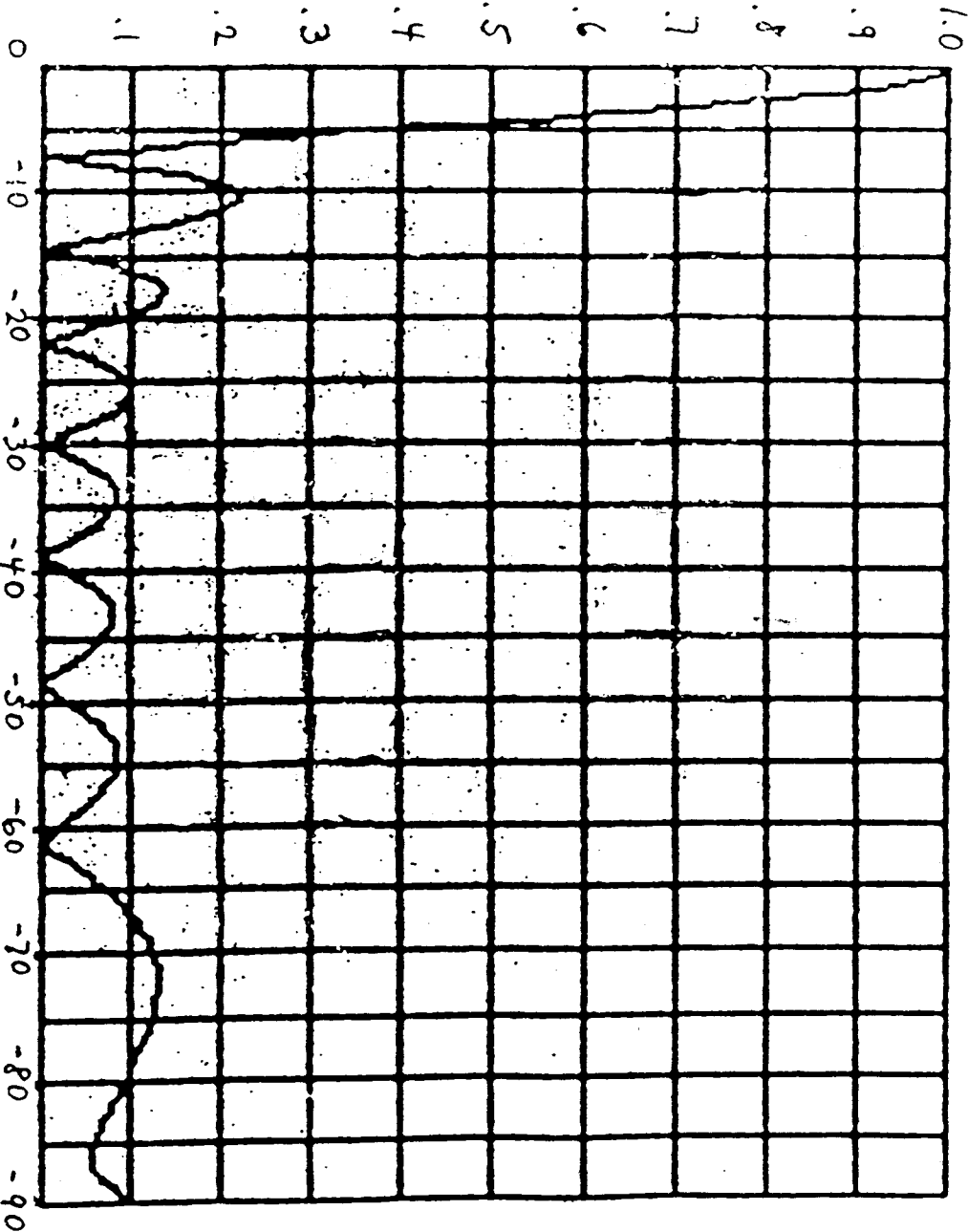


DIRECTIONAL ANTENNA AZIMUTH PATTERN

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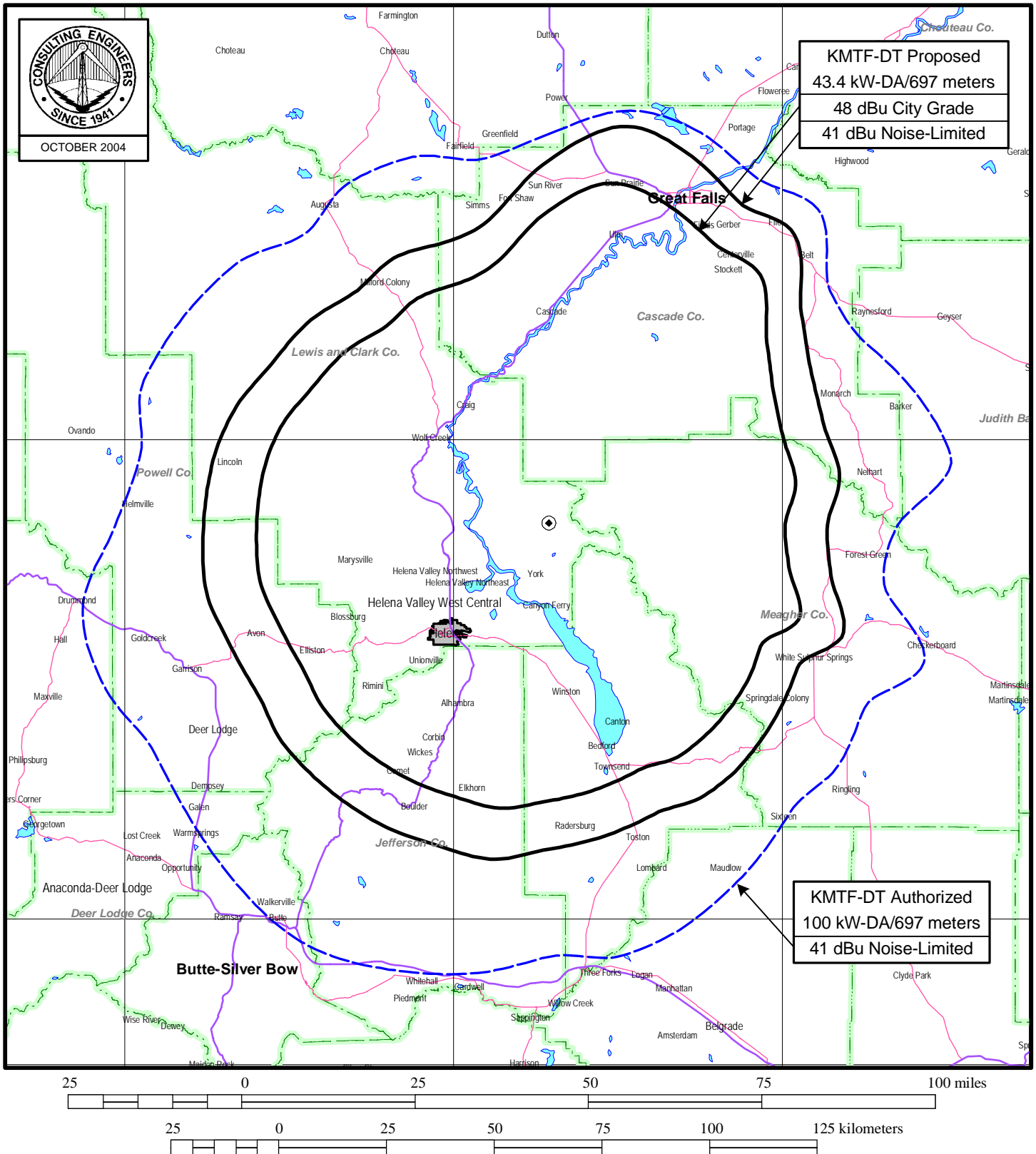
RELATIVE FIELD

LOW & MEDIUM POWER



DEGREES BELOW HORIZONTAL

Figure 3



PREDICTED F(50,90) COVERAGE CONTOURS

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