

TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
LPTV STATION K28HI
FACILITY ID 67433
RED CLIFF, COLORADO
CH 28 0.016 KW (MAX-DA) 2770 M (RCAMSL)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for construction permit for LPTV station K28HI at Red Cliff, Colorado (Facility ID: 67433; File No. BLTTL-20030609ADH). Specifically, this application proposes to change the directional antenna system, and to decrease the maximum directional effective radiated power (ERP). No other changes are proposed. This application is considered a "minor change" in facilities pursuant to Section 73.3572(a)(2), as there will be no change in frequency (output channel) and the proposed 74 dBu contour will overlap a portion of the licensed 74 dBu contour (Figure 1).

It is proposed to operate on channel 28 (554-560 MHz) with no carrier frequency offset and employing a Scala Cl-1469 "composite" directional antenna array. The array will be comprised of two CL-1469 directional antennas, one oriented at 60° true and the other at 160° true. The transmitter power output will be 25 watts, with a 50% power split into each antenna. The maximum directional ERP will be 0.016 kW.

TV Broadcast Analog Protection

A study has been conducted using the provisions of Section 74.705 which indicates that the proposed K28HI operation will not create prohibited interference to other existing, authorized or proposed NTSC full-power stations.

DTV Station Protection

Calculations based on OET Bulletin No. 69 indicate that the proposed K28HI operation on channel 28 will not cause any (0.0%) prohibited interference to any allotted, proposed or actual DTV operating facilities on channels 27, 28 or 29.¹

¹ The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed. An Alpha based

Interference calculations for the proposed K28HI operation are summarized below.

Protected DTV Station	FCC Service Population	Proposed Interference Population
KLWY-DT, Cheyenne, WY		
DTV Allotment (Ch. 28)	331,000	0 (0.0%)
Authorized CP Operation (Ch. 28)	331,000	0 (0.0%)
KDEN-DT, Longmont, CO		
CP Operation (Ch. 29)	2,148,000	0 (0.0%)
DTV Allotment (Ch. 29)	2,148,000	0 (0.0%)

As shown above, the proposed operation complies with the FCC's 0.5% "rounding allowance" for such calculations (see paragraph 78 of MM Docket No. 00-10). Thus, it is believed that the proposed K28HI operation complies with the FCC's interference standards towards all DTV stations and allotments. Figure 2 is a printout of the OET-69 interference calculations with respect to the stations tabulated above.

LPTV/Class A/TV Translator Protection

A study has been conducted using the provisions of Section 74.707 which indicates that the K28HI proposal will not create prohibited interference to other existing, authorized or proposed LPTV, TV translator or Class A stations.

Environmental Protection Act

The proposed K28HI facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation." The calculated power density at the base of the tower was calculated using the appropriate equation on Page 13 of the Bulletin. Based on a worst case relative field field factor of 1.0, a maximum visual effective radiated power of 0.016 kilowatts and 10 percent aural power, the calculated power density at 2 meters above ground at the tower base will be 0.0052 mW/cm². This is 1.2% of the recommended limit of 0.37 mW/cm² for channel 28, applicable to general population/uncontrolled exposure areas. Therefore, based on

processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel need to enter the restricted area 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 station is at reduced power or shut down.

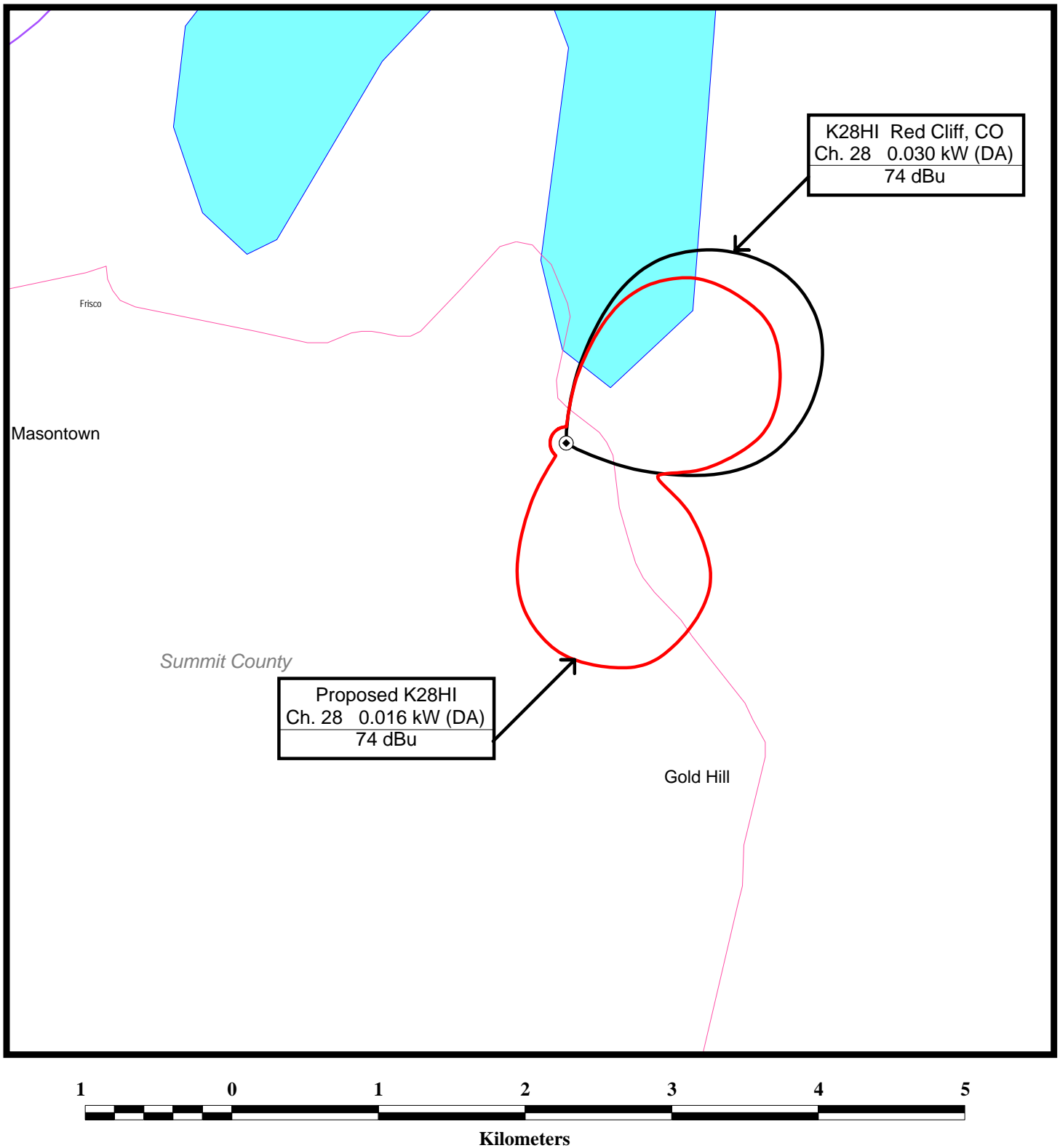
It is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be provided to the FCC by the tower owner as part of the tower registration process.

A handwritten signature in blue ink that reads "Jerome J. Manarchuck". The signature is fluid and cursive, with the first name "Jerome" and last name "Manarchuck" clearly legible.

Jerome J. Manarchuck

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December 10, 2003



PREDICTED 74 dBu COVERAGE CONTOURS

LPTV STATION K28HI
RED CLIFF, COLORADO
CH 28 0.016 kW (DA)

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

OET-69 DTV Interference Analysis

Study Date: 20031205
INTERFERENCE CAUSED
CELL SIZE : 2.00
Using offset in determining thresholds

KLWY 41-02-55 104-53-28 28(N) 500.000 kw 2120 m 90.0 % 40.1 dBu
CHEYENNE WY 13238 331 DTVSERVICE: 331000 NTSCSERVICE: 329000
CP BPCDT20000110AAD

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	21504.277344	384979
not affected by terrain losses	20140.904297	353179

K28HI 39-33-57 106-03-17 28(N) 0.016 kw 2770 m DA 10.0 % 73.1
RED CLIFF CO

PROPOSED

0.02	0.09	0.37	0.62	0.81	0.95	1.00	0.95	0.81	0.62	0.37	0.17
0.37	0.62	0.81	0.95	1.00	0.95	0.81	0.62	0.37	0.09	0.02	0.02
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	Pop
Interference	0	0

DKLWY 41-02-55 104-53-28 28(0) 173.000 kw 2135 m DA 90.0 % 40.1 dBu
CHEYENNE WY 13238 331 DTVSERVICE: 331000 NTSCSERVICE: 329000

DTVALT DTV ALLOTMENT

0.37	0.56	0.79	0.96	0.99	0.92	0.74	0.41	0.29	0.27	0.26	0.24
0.25	0.27	0.27	0.37	0.69	0.90	0.98	0.99	0.89	0.65	0.41	0.28
0.19	0.14	0.11	0.10	0.12	0.12	0.12	0.10	0.11	0.12	0.17	0.25

(186.0 1.00)

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	14038.698242	339741
not affected by terrain losses	13531.857422	336570

K28HI 39-33-57 106-03-17 28(N) 0.016 kw 2770 m DA 10.0 % 73.1
RED CLIFF CO

PROPOSED

0.02	0.09	0.37	0.62	0.81	0.95	1.00	0.95	0.81	0.62	0.37	0.17
0.37	0.62	0.81	0.95	1.00	0.95	0.81	0.62	0.37	0.09	0.02	0.02
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	Pop
Interference	0	0

OET-69 DTV Interference Analysis

KDEN 40-05-47 104-54-04 29(N) 200.000 kw 1810 m DA 90.0 % 40.2 dBu
LONGMONT CO 17790 2148 DTVSERVICE: 2148000 NTSCSERVICE: 2144000
CP BPCDT19991018AAS
0.92 0.98 0.99 1.00 1.00 0.97 0.94 0.94 0.96 0.99 0.99 0.99
0.97 0.94 0.94 0.96 0.99 0.99 0.99 0.97 0.92 0.81 0.69 0.60
0.50 0.36 0.23 0.19 0.19 0.19 0.23 0.35 0.50 0.60 0.69 0.80

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	19502.662109	2158839
not affected by terrain losses	18789.886719	2142923

K28HI 39-33-57 106-03-17 28(N) 0.016 kw 2770 m DA 10.0 % 73.1
RED CLIFF CO
PROPOSED
0.02 0.09 0.37 0.62 0.81 0.95 1.00 0.95 0.81 0.62 0.37 0.17
0.37 0.62 0.81 0.95 1.00 0.95 0.81 0.62 0.37 0.09 0.02 0.02
0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -48.00

	Area	Pop
Interference	0	0

DKDEN 40-05-47 104-54-04 29(0) 234.100 kw 1844 m DA 90.0 % 40.2 dBu
LONGMONT CO 17790 2148 DTVSERVICE: 2148000 NTSCSERVICE: 2144000
DTVALT DTV ALLOTMENT
0.95 0.99 0.97 0.86 0.72 0.57 0.43 0.32 0.26 0.24 0.24 0.25
0.27 0.32 0.41 0.55 0.71 0.86 0.97 1.00 0.97 0.85 0.69 0.52
0.40 0.31 0.22 0.08 0.03 0.15 0.25 0.31 0.40 0.54 0.71 0.85

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	18953.876953	2169555
not affected by terrain losses	18043.832031	2148475

K28HI 39-33-57 106-03-17 28(N) 0.016 kw 2770 m DA 10.0 % 73.1
RED CLIFF CO
PROPOSED
0.02 0.09 0.37 0.62 0.81 0.95 1.00 0.95 0.81 0.62 0.37 0.17
0.37 0.62 0.81 0.95 1.00 0.95 0.81 0.62 0.37 0.09 0.02 0.02
0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -48.00

	Area	Pop
Interference	0	0

Study end time: 14:02:03

OET-69 DTV Interference Analysis

Facility	Channel	Type	Baseline	Permissible	IX	%Base
KLWY, CHEYENNE, WY	28	DTV	331000	0.5	0	0.00
DKLWY, CHEYENNE, WY	28	DTV	331000	0.5	0	0.00
KDEN, LONGMONT, CO	29	DTV	2148000	0.5	0	0.00
DKDEN, LONGMONT, CO	29	DTV	2148000	0.5	0	0.00