TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
TELEVISION STATION KRMU-DT
DURANGO, COLORADO

September 29, 2003

CHANNEL 20 46 KW (MAX-DA) 130 M

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Technical Statement

This Technical Exhibit was prepared on behalf of Rocky Mountain Public Broadcasting ("RMPB") in support of an application for construction permit for a new digital television broadcast station as a substitute for the existing analog construction permit of KRMU(TV), Durango, Colorado. KRMU(TV) was not assigned a paired DTV transitional channel by the FCC. Therefore, RMPB proposes to convert the KRMU(TV) Channel 20 analog construction permit assignment to a digital television facility (See FCC File No. BPET-19961001KP).*

The KRMU(TV) analog facility is authorized for operation on Channel 20 with a nominal non-directional peak visual effective radiated power of 8.51 kW with an antenna radiation center height above average terrain of 94 m. By means of this proposal the transmitter site will be relocated 0.2 km to an existing tower employed by KREZ-TV/DT, Durango, Colorado. The proposed facility will operate on Channel 20 with a maximum average effective radiated power of 46 kW with an antenna radiation center height above average terrain of 130 m.

* This is consistent with the FCC policy to permit, on application, analog television facilities to convert to digital at any point up to the end of the DTV transition period. *See Order on Reconsideration of the Third Report and Order* in MM Docket No. 00-39, Released: September 17, 2001, FCC 01-258.

It is proposed that KRMU-DT will share its transmitting antenna with the existing television translator facility K29CZ at Durango, Colorado. K29CZ is licensed for operation on Channel 29 with a maximum peak visual effective radiated power of 0.6 kW. It is anticipated the proposed KRMU-DT transmitting antenna will replace the present K29CZ antenna within its aperture on the existing KREZ-TV/DT antenna supporting structure.

As described in detail herein, the proposed Channel 20 operation meets the *de minimis* interference protection requirements as outlined FCC's DTV Processing Guidelines,[†] the FCC's *Second Memorandum Opinion and Order*,[‡] and the DTV *Report and Order and Further Notice of Proposed Rule Making*.[§] Technical specifications for the proposed operation are included herein as Figure 1.

Proposed Facilities

The proposed transmitting antenna will be side-mounted on the existing KREZ-TV/DT tower located on Smelter Mountain in Durango, Colorado. The geographic coordinates of the proposed transmitter site are: 37°15'46" North Latitude, 107°53'58" West Longitude based on NAD27 datum. The transmitter site elevation is 2,347.6 m AMSL and the antenna structure has an overall height of 56.9 m above ground level. The antenna center of radiation will be located at 15 m above ground level (2348 m AMSL).

[†] See FCC *Public Notice*, "Additional Application Processing Guidelines for Digital Television (DTV)", Released: August 10, 1998.
[‡] See *Second Memorandum Opinion and Order on Reconsideration of the Fifth and Sixth Report and Orders*, FCC-98-315, Released: December 18, 1998.
[§] See *Report and Order and Further Notice of Proposed Rule Making* in MM Docket No. 00-39, FCC 01-24, released January 19, 2001.

The proposed facility provides minimum 48 dBu, f(50,90), coverage of Durango in compliance with Section 73.625(a)(1) of the FCC Rules, as adopted by the FCC in MM Docket No. 00-39. Figure 2 herein is a map depicting the predicted coverage contours of the proposed facility.

It is noted that the predicted 41 dBu, f(50,90) noise limited coverage contour of the proposed Channel 20 digital facility, fully encompasses the predicted Grade B coverage contour of the analog KRMU(TV) facility. In fact, the instant proposal will result in a significant increase in predicted coverage with respect to the authorized analog facility.

The proposed facility meets the maximum permissible ERP requirements for UHF DTV stations as outlined in Section 73.623(f)(8)(i) of the FCC Rules. According to this section of the Rules, considering a proposed antenna height above average terrain for the proposed KRMU-DT facility of 130 m, the maximum permissible ERP is 1000 kW.

The proposed transmitter is located well beyond the international border coordination distances with Canada and Mexico. The closest FCC Monitoring station is located at Douglas, Arizona at a distance of 661 km at a bearing of 195°True. The facility is located more than 391 km from the Table Mountain Radio Quiet Zone. The proposal is located more than 3.2 km from the closest AM broadcast facility.

No adverse electromagnetic impact is expected as a result of the proposed operation. However, the applicant recognizes its responsibility to correct objectionable electromagnetic interference problems that result from its proposed operation.

Tower Registration

The antenna is to be mounted on an existing structure for which antenna structure registration is not required.

Domestic Allocation Considerations

The proposed KRMU-DT Channel 20 facility meets the requirements of Section 73.623 of the FCC Rules concerning predicted interference to other existing U.S. NTSC facilities and U.S. DTV allotments and assignments. Longley-Rice interference analyses were conducted pursuant to the requirements of the FCC Rules; OET Bulletin No. 69; and published FCC guidelines for preparation of such interference analyses. The Longley-Rice interference analyses were conducted using the software maintained by du Treil, Lundin & Rackley, Inc. based on the FCC published software routines.** Stations selected for analysis were determined pursuant to the distance requirements outlined in the FCC DTV Processing Guidelines Public Notice. Accordingly, co-channel DTV and NTSC stations within 429 km and 407 km, respectively, were examined for potential interference; and first-adjacent DTV and NTSC stations within 229 km and 207 km, respectively, were examined for potential interference. Analog taboo-related NTSC stations within 142 km were examined for potential interference. The results of the interference analyses for the proposed WEDN-DT facility are summarized herein at Figure 3. As indicated therein, the proposed facility will meet the 2%/10% criterion outlined in the FCC Rules and published guidelines with respect to all considered stations.††

** The duTreil, Lundin & Rackley, Inc. DTV interference analysis program is a precise implementation of the 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.

†† While it is not clear that it applies in this situation, it is noted that the proposal meets the separation requirements of Section 73.623(d) of the FCC Rules. Also, there are no nearby land mobile allotments of concern in this case.

With respect to Class A TV station protection, the proposal has been evaluated according to the requirements of Section 73.623(c)(5) of the FCC Rules. The analysis reveals no potentially affected Class A TV stations.

Environmental Considerations

An evaluation was conducted for the proposed facility concerning compliance with Section 1.1307(b) of the FCC Rules regarding human exposure to radio frequency (RF) energy.[‡‡]

There are other broadcast facilities to be located on the tower or within close proximity of the tower site. Preliminary calculations indicate that the proposed facility may exceed the 5% MPE exclusion level for certain points on the ground in the vicinity of the proposed transmitter site. Therefore, the applicant shall conduct RF power density measurements throughout the transmitter site area to confirm compliance with the FCC specified guidelines for human exposure to RF energy.

The transmitter site is to be restricted from access. In the event that personnel are required to enter the restricted area or climb the tower structure, the

[‡‡] See FCC Office of Engineering and Technology Bulletin No. 56 for background information on non-ionizing RF energy of the type discussed here. Internet web reference: http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

proposed KRMA-DT transmissions shall be reduced or terminated as necessary to prevent RF exposure above the FCC recommended limits.

Louis Robert du Treil, Jr.

du Treil, Lundin & Rackley, Inc.
201 Fletcher Ave.
Sarasota, FL 34237-6019

September 29, 2003

Figure 1

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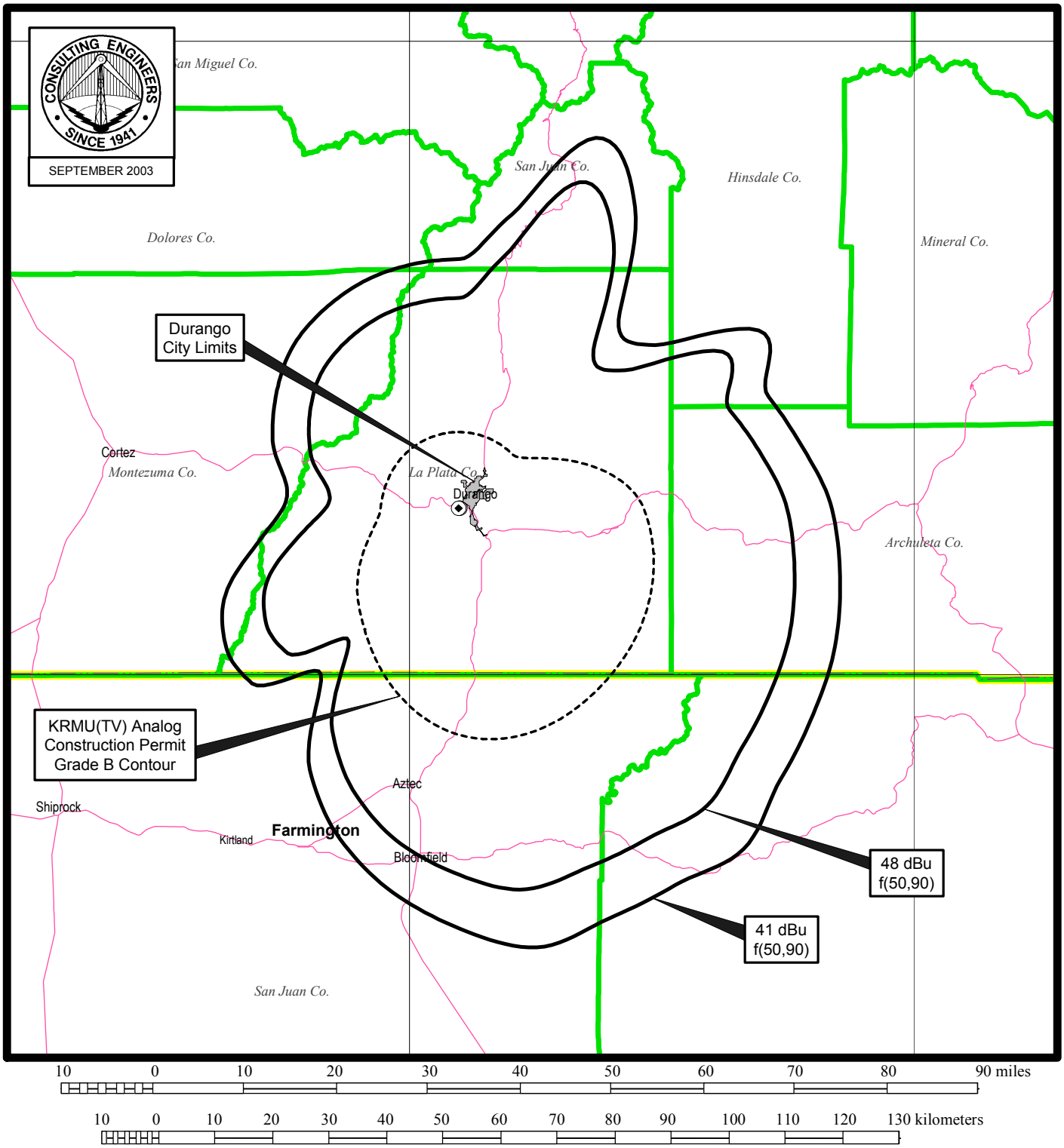
Technical Specifications

Channel / Frequency Band	20 / 506-512 MHz
Site Coordinates (NAD 27)	37°15'46" North Latitude 107°53'58" West Longitude
Site elevation	2,347.6 m AMSL
Average elevation of standard eight radials, 3 to 16 km	2,233 m AMSL
Overall height of existing structure	56.9 m AGL / 2,404.5 m AMSL
Height of antenna radiation center	15 m AGL / 2,363 m AMSL
Antenna radiation center HAAT	130 m
ASRN	not required

Proposed Operation	
Parameter	DTV
Transmitter power output	7.6 dBk (5.7 kW)
Combiner loss (estimated)	0.20 dB
Transmission line loss (Andrew, model HJ8-50B 3-inch 50-ohm flexible coaxial, line, 25 meter, 80-ft)	0.30 dB
Antenna input power	7.1 dBk
Antenna gain (RFS, model RD4UA)	9.5 dB
Effective radiated power (ERP)	16.6 dBk (46 kW)



PREDICTED COVERAGE CONTOURS

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

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Summary of Allocation Analysis

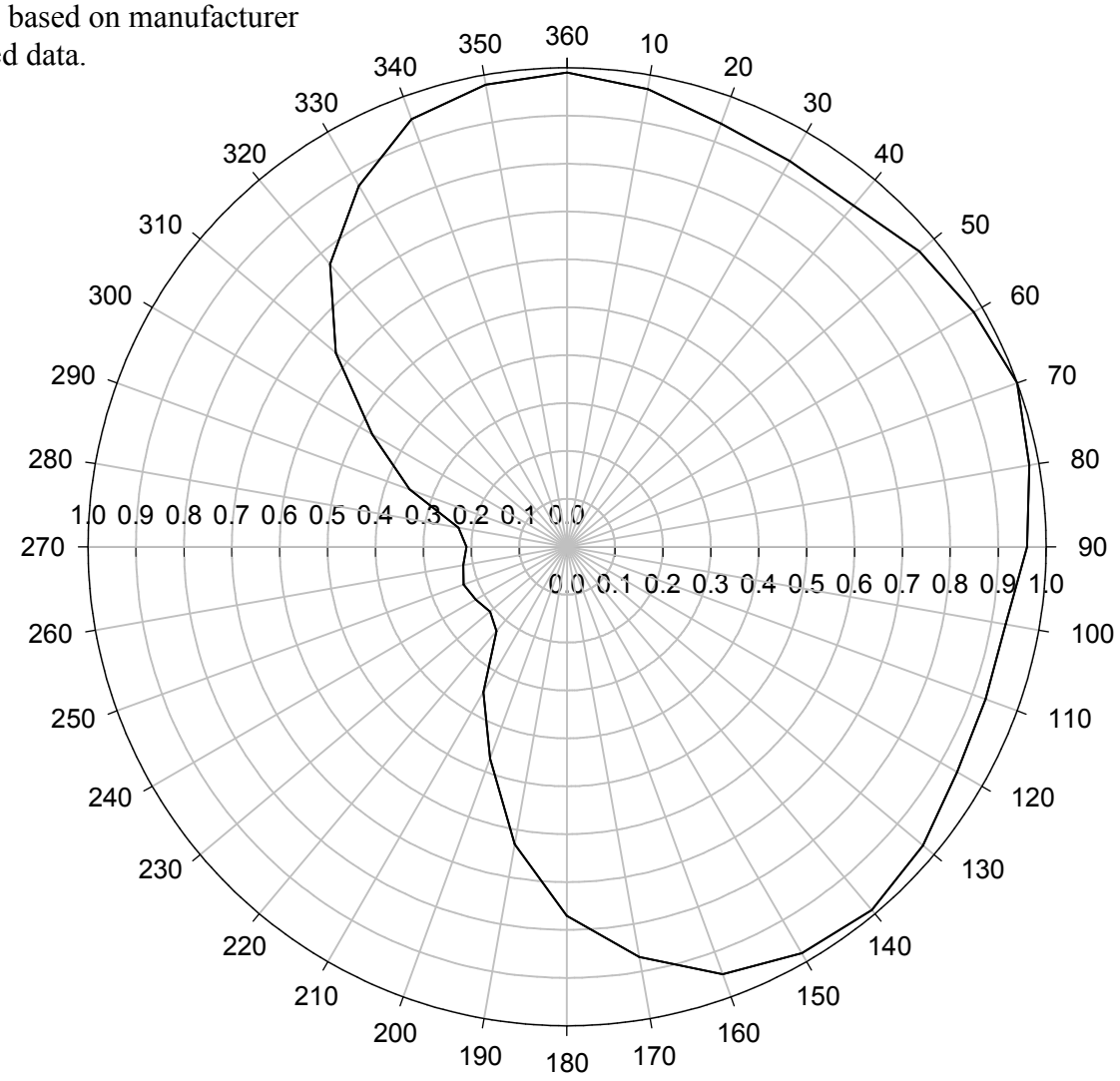
Stations Potentially Affected by Proposed Station							
Facility Number	Channel	Call	City State	Distance (km)	Status	Application Prefix	Application Reference Number
1	20	KTVD	DENVER	CO	359.3	APP	BMPCT
2	20	KTVD	DENVER	CO	355	LIC	BLCT
3	20	KTVD	DENVER	CO	359.1	CP	BPCT

Summary of Interference Analysis for Worst-Case Scenarios							
Facility Number	Interference Population Before Analysis	Interference Population After Analysis	Baseline Population	Net Change in Interference	Percent of Baseline	Permissible Percent of Baseline	Result
1	--	--	--	--	0.000*	--	pass
2	--	--	--	--	0.000*	--	pass
3	--	--	--	--	0.000*	--	pass

* Proposal causes no interference.

Figure 3
Sheet 1 of 1

RFS, Model RD4UA
Pattern based on manufacturer supplied data.



Tabulation of relative field pattern by azimuth

0	0.99	70	1.00	140	0.99	210	0.35	280	0.23
10	0.97	80	0.98	150	0.98	220	0.23	290	0.35
20	0.94	90	0.96	160	0.95	230	0.21	300	0.47
30	0.93	100	0.93	170	0.87	240	0.22	310	0.63
40	0.93	110	0.93	180	0.77	250	0.23	320	0.77
50	0.96	120	0.94	190	0.63	260	0.22	330	0.87
60	0.98	130	0.97	200	0.47	270	0.21	340	0.95
								350	0.98

PROPOSED ANTENNA AZIMUTHAL PLANE PATTERN

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