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BEFORE THE

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Federal Communications Commission

WASHINGTON, D.C.

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OCT 28 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)	
)	
Amendment of Section 73.622(b))	
Digital Television Table of Allotments)	MM Docket No. 99-___
Lead, South Dakota)	RM-___

To: Chief, Allocations Branch

PETITION FOR RULE MAKING

Duhamel Broadcasting Enterprises ("Duhamel"), licensee of television station KHSD-TV (NTSC Channel 11), Lead, South Dakota, by its undersigned attorneys and pursuant to Section 1.401 of the Commission's rules, hereby petitions the Commission to amend Section 73.622(b) of its rules to substitute DTV Channel 10 for DTV Channel 30 at Lead, South Dakota, as the digital television channel assigned to KHSD-TV.

1. As demonstrated by the attached Technical Narrative which supports KHSD-TV's future application for a digital construction permit should the instant Petition be granted, DTV Channel 10 can be allotted to KHSD-TV for digital television using the station's authorized NTSC transmitter site, in full compliance with all applicable coverage and allocation criteria. Specifically, the allocation of DTV Channel 10 to Lead, South Dakota at the KHSD-TV site will permit coverage of the entire community of Lead with the requisite 36 dBu contour. In addition, the allocation will not increase interference to more than an additional two percent of the population served by any other analog or digital television station.

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2. Should the Commission allocate the channel requested herein, Duhamel will promptly apply for a construction permit for the facility and undertake to build and operate the station if the permit is granted.

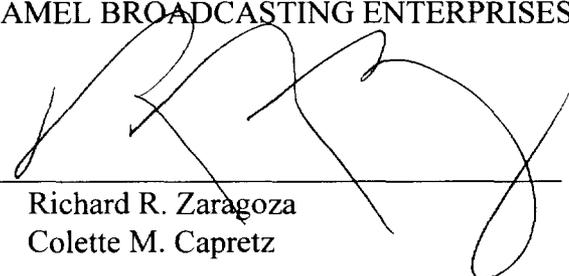
3. Allotment of a VHF channel, rather than a UHF channel, is necessary to facilitate the introduction of digital television service to the vast, sparsely populated, rural area served by KHSD-TV. The assignment of UHF Channel 30 to KHSD-TV's digital operation will require Duhamel to construct a new tower facility which is capable of supporting the UHF antenna. This is because the tower KHSD-TV's NTSC operation currently utilizes cannot support the weight of an additional UHF antenna (although it would support the weight of a VHF antenna). If Duhamel could avoid building a new tower for its DTV antenna, it could more expeditiously begin operations of its digital television station in Lead. Eliminating the need to build a new tower would also avoid any local zoning and aeronautical controversies and viewer disruption due to antenna orientation problems and permit Duhamel to allocate its resources toward the investment in other equipment and facilities necessary to get the DTV facility on the air. In addition, the assignment of Channel 30 will necessitate Duhamel installing a significantly larger and more costly transmitter and transmission line and operating with a considerably higher and more costly power output level than would be required for VHF DTV operations, in order to serve this large, but sparsely populated market. Thus, the greatly increased cost involved in constructing the new tower required to support a UHF DTV operation, and the increased equipment costs and sustained operating costs required to operate a UHF DTV facility present a real impediment to the implementation of digital television in this small television market, an impediment that can be removed by substituting DTV Channel 10 for DTV Channel 30. In addition, adoption of the proposed substitution would result in service to a greater number of

removed by substituting DTV Channel 10 for DTV Channel 30. In addition, adoption of the proposed substitution would result in service to a greater number of people than would operation from the station's current DTV allocation. Finally, it should be noted that the Lead market historically has been served by VHF facilities. Thus, the assignment of Channel 10 is expected to facilitate viewer reception of KHSD-DT.

For the foregoing reasons, Duhamel respectfully requests that the Commission promptly initiate the rule making requested herein and that it substitute DTV Channel 10 for DTV Channel 30 at Lead, South Dakota as the digital television channel assigned to KHSD-TV.

Respectfully submitted,

DUHAMEL BROADCASTING ENTERPRISES

By: 

Richard R. Zaragoza
Colette M. Capretz

Its Attorneys

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(202) 659-3494

Dated: October 28, 1999

J:\DATA\CLIENT\40\4065\4065000P.027

EXHIBIT A

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name Jerome J. Manarchuck		Relationship to Applicant (e.g., Consulting Engineer) Technical Consultant	
Signature <i>Jerome J. Manarchuck</i>		Date October 21, 1999	
Mailing Address 201 Fletcher Ave.			
City Sarasota		State or Country (if foreign address) FL	ZIP Code 34237
Telephone Number (include area code) (941) 329-6000		E-Mail Address (if available) jerry@dlr.com	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT
(U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT
(U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

SECTION III-D - DTV Engineering

Complete Questions 1-5 of the Certification Checklist and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.

Certification Checklist: A correct answer of "Yes" to all of the questions below will ensure an expeditious grant of a construction permit. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:
 - (a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622. Yes No
 - (b) It will operate from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622. Yes No
 - (c) It will operate with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622. Yes No
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. Yes No
Applicant must **submit the Exhibit** called for in Item 13.
3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community. Yes No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable. Yes No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require reregistration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7. Yes No

SECTION III-D - DTV Engineering

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel Number: DTV 10 Analog TV, if any 11

2. Zone: I II III

3. Antenna Location Coordinates: (NAD 27)
44 ° 19 ' 36 " N S Latitude
103 ° 50 ' 12 " E W Longitude

4. Antenna Structure Registration Number: 1042361
 Not applicable FAA Notification Filed with FAA

5. Antenna Location Site Elevation Above Mean Sea Level: 2,125.5 meters

6. Overall Tower Height Above Ground Level: 184.6 meters

7. Height of Radiation Center Above Ground Level: 177.5 meters

8. Height of Radiation Center Above Average Terrain: 576 meters

9. Maximum Effective Radiated Power (average power): 34.8 kW

10. Antenna Specifications:

Manufacturer	Model
a. GE	TY70H

b. Electrical Beam Tilt: _____ degrees Not Applicable

c. Mechanical Beam Tilt: _____ degrees toward azimuth _____ degrees True Not Applicable

Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). Exhibit No.

d. Polarization: Horizontal Circular Elliptical

TECH BOX

e. Directional Antenna Relative Field Values: Not applicable (Nondirectional)
 Rotation _____ ° No rotation

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0		60		120		180		240		300	
10		70		130		190		250		310	
20		80		140		200		260		320	
30		90		150		210		270		330	
40		100		160		220		280		340	
50		110		170		230		290		350	
Additional Azimuths											

If a directional antenna is proposed, the requirements of 47 C.F.R. Section 73.625(c) must be satisfied. **Exhibit required.**

Exhibit No.

11. Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)? (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") Yes No

If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers.

Exhibit No.
n/a

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if **Certification Checklist** Item 3 is answered "No.")

Exhibit No.
n/a

13. **Environmental Protection Act. Submit in an Exhibit** the following:

Exhibit No.
Tech.

a. If **Certification Checklist** Item 3 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.

By checking "Yes" to **Certification Checklist** Item 3, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

If **Certification Checklist** Item 3 is answered "No," an Environmental Assessment as required by 47 C.F.R. Section 1.1311.

PREPARER'S CERTIFICATION IN SECTION III MUST BE COMPLETED AND SIGNED.

TECHNICAL EXHIBIT
APPLICATION FOR DTV CONSTRUCTION PERMIT
STATION KHSD-DT
LEAD, SOUTH DAKOTA

October 21, 1999

CH 10 34.8 KW 576 M

TECHNICAL EXHIBIT
APPLICATION FOR DTV CONSTRUCTION PERMIT
STATION KHSD-DT
LEAD, SOUTH DAKOTA
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TECHNICAL EXHIBIT
APPLICATION FOR DTV CONSTRUCTION PERMIT
STATION KHSD-DT
LEAD, SOUTH DAKOTA
CH 10 34.8 KW 576 M

Technical Narrative

This Technical Exhibit supports an application for television (TV) station KHSD-TV on NTSC (analog) channel 11 at Lead, South Dakota. This application requests a construction permit (CP) for a digital television (DTV) operation on channel 10 at Lead. The Federal Communications Commission (FCC) assigned channel 30 as KHSD-TV's DTV allotment in the Memorandum, Opinion and Order (MO&O) concerning reconsideration of the 6th Report and Order in MM Docket No. 87-268.

The FCC assigned an ERP of 793 kW-DA at an antenna HAAT of 576 meters for the DTV allotment on channel 30. However, station KHSD-DT proposes to use channel 10 for its DTV facility.

Station KHSD-DT wishes to operate on channel 10 for the following reasons. First, the proposed facility would operate on the lower first adjacent channel to the current NTSC operation (Ch 11). Therefore, KHSD-TV could duplex both operations (NTSC and DTV) into the existing GE TY70H non-directional antenna, and reduce the tower loading.

Secondly, if authorized, the proposed facility would provide FCC predicted noise limited coverage to an

area of 46,841 square kilometers in which 154,513 persons reside. Conversely, if KHSD-DT must operate on its allotted UHF channel (30), it intends to construct a minimal non-directional UHF facility which would comply with the FCC's city coverage requirement. In doing so, the coverage area would decrease to approximately 202 square kilometers and the service population would decrease to 4,569 persons. This is a reduction of approximately 99% in coverage area and 97% in population.

In addition, the use of channel 10 would make it easier for current KHSD-TV viewers to locate the DTV operation, as normal viewing is on the VHF band.

Finally, the use of a VHF channel would allow for a substantially less transmitter power and smaller antenna to serve approximately the same coverage area as a comparable UHF DTV facility. This would reduce the applicants initial capital investment as well as overhead costs. Thus, the additional resources would be available for investment in DTV programming.

For the above reasons, the FCC is respectfully requested to change KHSD-TV's DTV allotment from channel 30 to channel 10.

Station KHSD-TV proposes to operate DTV channel 10 at its allotted DTV site (44-19-36 N, 103-50-12 W). It is proposed to operate with a non-directional DTV ERP of 34.8 kW. The antenna HAAT for the channel 10 DTV operation will be 576 meters.

The proposed KHSD-TV DTV facilities (34.8 kW, 576 m) comply with Section 73.622(f)(6) of the FCC's rules concerning maximum allowable ERP and antenna height for DTV stations.

A site map is not being submitted since this information is already on file for the KHSD-TV analog operation. A sketch of antenna and pertinent elevations are included as Figure 1. The FCC antenna registration number for the existing structure is 1042361.

There are no known authorized full service AM stations within 5 kilometers (3 miles) of the KHSD-TV transmitter site. The following is a list of known authorized full service FM and TV stations within 16 kilometers (10 miles) of the proposed DTV site.

<u>Station</u>	<u>Channel</u>	<u>Bearing (°True)</u>	<u>Distance (km)</u>
KZZI, Belle Fourche, SD	240C	0	0.0
KDDX, Spearfish, SD	266C	0	0.0
KSLT, Spearfish, SD	297C	0	0.0
KSQY, Deadwood, SD	236C	6.3	0.4
KIWW-TV, Lead, SD	5	193	0.2

Although no adverse electromagnetic impact is expected, the applicant recognizes its responsibility to correct problems that result from its proposed DTV operation.

The KHSD-TV transmitter site is approximately 520 kilometers from the closest point of the Canadian border. The site is more than 1,414 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Grand Island, Nebraska, approximately 582 kilometers to the southeast. The closest point of the National Radio Quiet Zone (VA/WV) is more than 2,000

kilometers to the east. The closest point of the Table Mountain Radio Quiet Zone (CO) is approximately 478 kilometers to the south. The closest radio astronomy site operating on TV channel 37 is at Los Alamos, New Mexico, approximately 973 kilometers to the south. These separations are sufficient to not be a concern for coordination purposes.

Figure 2 is a map showing the DTV predicted coverage contour. The map provides the predicted 36 dBu f(50,90) noise limited contour. The extent of the contour has been calculated using the normal FCC prediction method. The Lead city limits were derived from information contained in the 1990 U.S. Census for South Dakota. The population within the predicted 36 dBu contour is based on 1990 Census information. The U.S. land area within the predicted 36 dBu contour is based on the use of a computer algorithm. Figure 2 also shows the predicted 41 dBu f(50,90) noise limited contour for a hypothetical minimal UHF facility operating on channel 30.

Figure 3 is the separation study for DTV channel 10 at the KHSD-TV site. The study has been used to determine those assignments requiring interference studies using the procedures outlined in the FCC's OET-69 bulletin.¹

¹ The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures adopted by the FCC in the Sixth Report and Order and subsequent Memorandum Opinion and Order. The principles outlined in OET Bulletin No. 69 are employed except that annular sector cells are employed instead of square grid cells of 4 square kilometers in area. The annular sector cells are 1-arc degree by 1 kilometer in dimension. The annular sector cell areas vary from approximately 0.02 square kilometer close to the station transmitter site to 2 square kilometers at the greatest extent of a station's protected contour. In some instances, the resulting higher cell resolution of the DLR routine produces different results than the standard FCC 4-square-kilometer FCC grid method. However, the DLR routine results have been found to closely agree with the FCC results when the FCC uses higher resolution (i.e. smaller grid cell area) in its program.

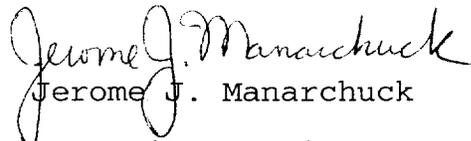
Interference calculations for the proposed KHSD-TV DTV operation are summarized below.

<u>Station</u>	<u>Channel</u>	<u>FCC Service Population</u>	<u>Prop. DTV Interference Population</u>
KBHE-TV, Rapid City, SD	NTSC-9	115,865	2423 (2.1%)
KBHE-TV (CP)	NTSC-9	116,233	2230 (1.9%)
KSTF, Scottsbluff, NE	NTSC-10	76,616	497 (0.6%)
KTSD-TV, Pierre, SD	NTSC-10	63,490	193 (0.3%)

Station KBHE-TV on analog channel 9 receives calculated interference to 2,423 people (2.1% of FCC service population) from the proposed KHSD-DT operation. However, more than half of this interference is masked by interference caused by NTSC station KDSE (CH 9, Dickinson, ND). Therefore, new calculated interference will be caused to only 911 people within the KBHE-TV service area (0.8%). The proposed KHSD-TV DTV operation does not cause prohibited interference to any other analog or DTV assignment. Therefore, the proposal complies with the FCC's 2%/10% interference standard.

The proposed KHSD-TV DTV 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 KHSD-TV DTV antenna is located 172 meters above ground level. The maximum DTV ERP is 34.8 kW. A relative field value of 0.2 is presumed for the antenna's downward radiation (appropriate for the proposed batwing antenna). The calculated power density at ground level is 0.0016 mW/cm². This is 0.1% of the FCC's recommended limit of 0.2 mW/cm² for channel 10 for an "uncontrolled" 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 to the site. 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. The proposed KHSD-TV DTV operation appears to be otherwise categorically excluded from environmental processing.

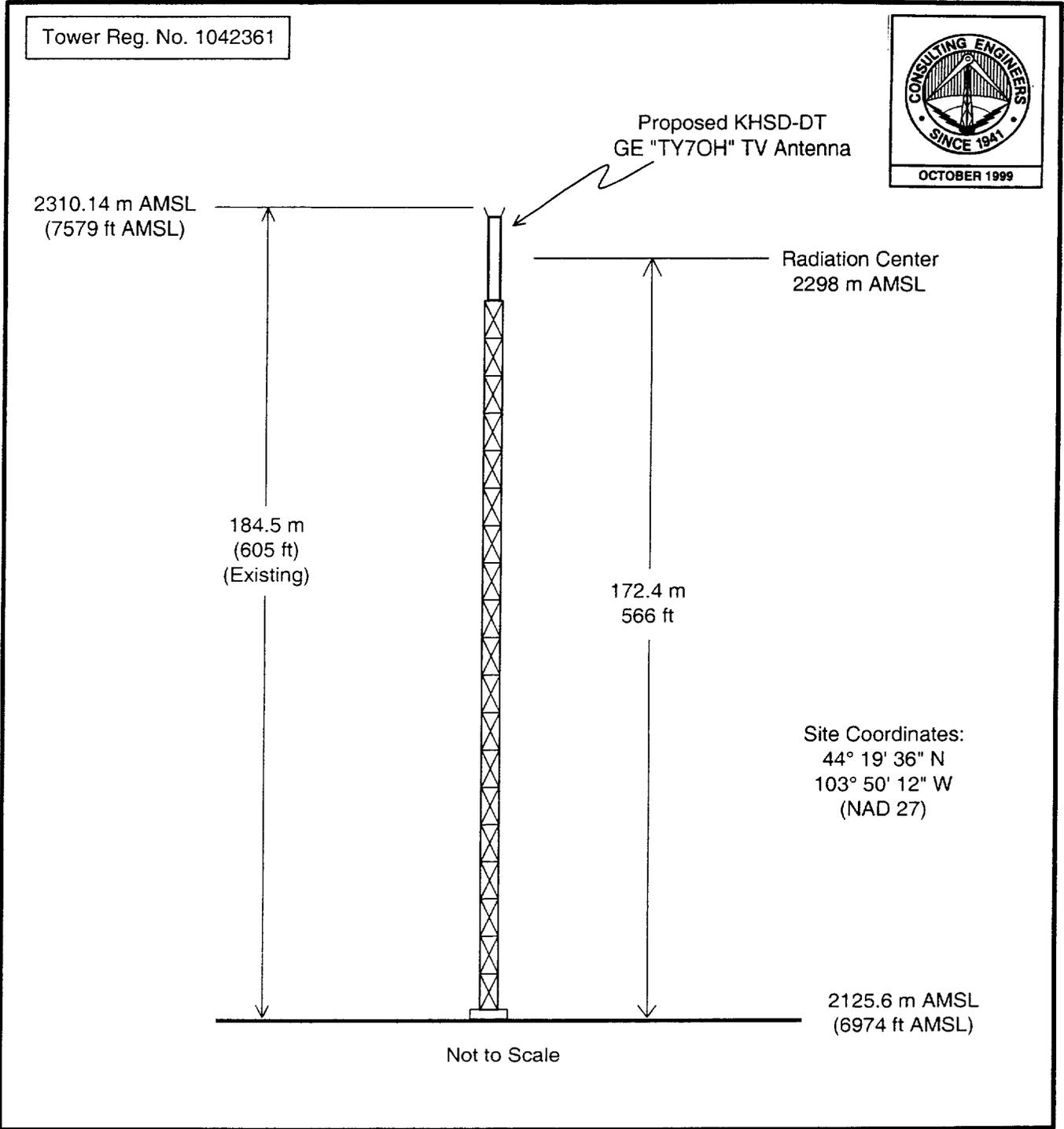


Jerome J. Manarchuck

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

October 21, 1999

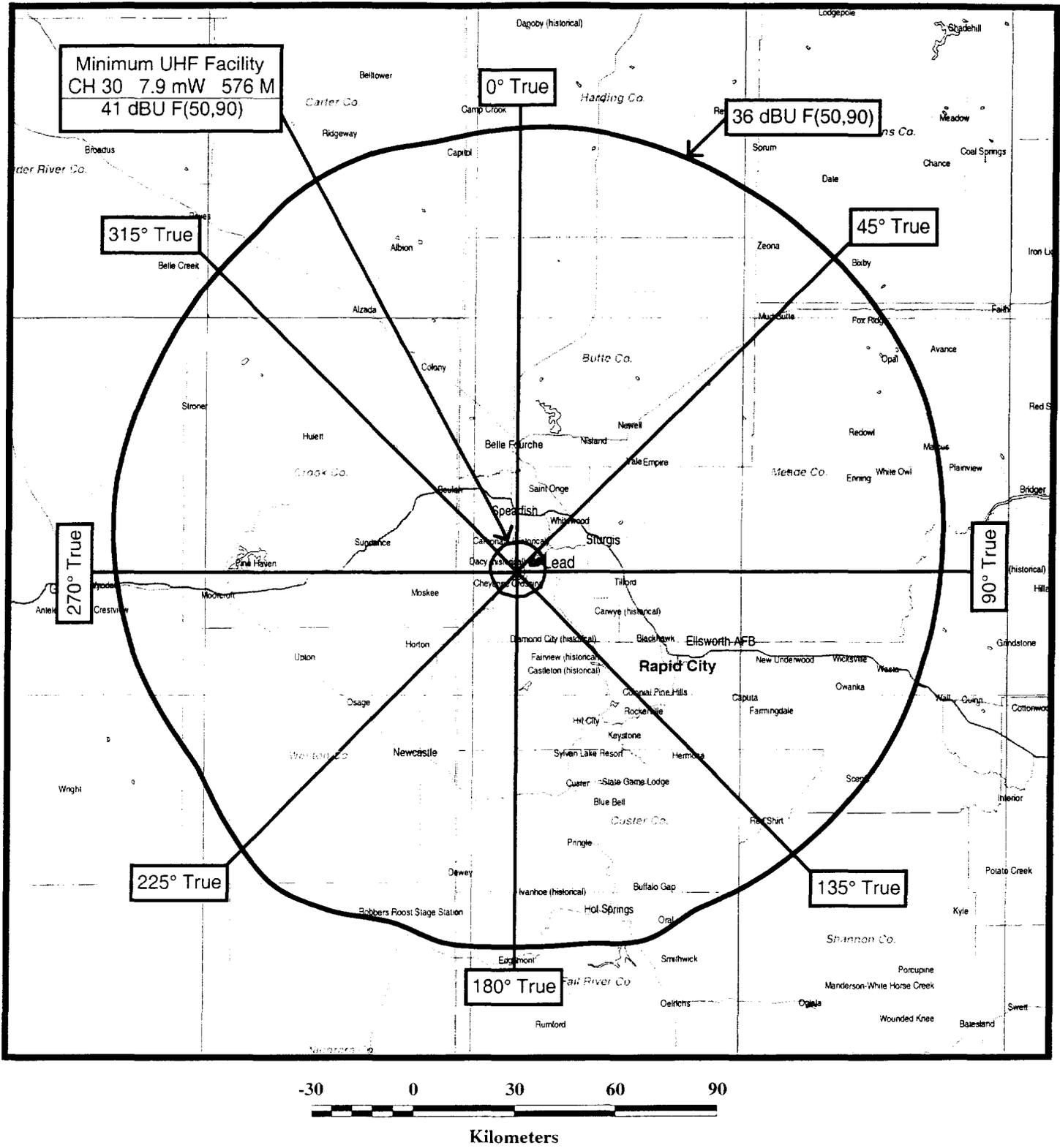
Figure 1



PROPOSED ANTENNA AND SUPPORTING STRUCTURE

STATION KHSD-DT
LEAD, SOUTH DAKOTA
CH 10 34.8 KW 576 M

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



PREDICTED NOISE- LIMITED COVERAGE CONTOUR

STATION KHSD-DT
LEAD, SOUTH DAKOTA
CH 10 34.8 KW 576 M

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

DTV - TV Separation Study

Job Title : KHSD-TV
 Zone : 2
 Channel 10 (192-198 MHz)

Separation Buffer 161 km
 FCC TV DB Date : 07/23/99
 Coordinates : 44-19-36 103-50-12

Call Status	City St	FCC File No.	Channel Zone	ERP(kW) HAAT(m)	Latitude Longitude	Bear. True	Dist. (km)	Req. (km)
KBHETV LIC	RAPID CITY SD	BLET-184	* 9(o) II	39.8 198	44-03-09 103-14-38	122.6	56.35 -45.35	11.0/125 SHORT ¹
KBHETV CP	RAPID CITY SD	BPET-930920KG	* 9(o) II	45.7 202	44-03-07 103-14-36	122.6	56.42 -45.42	11.0/125 SHORT ¹
KBJL CP	SHERIDAN WY	BPCT-891030KN	9(+) II	1.78 362	44-37-20 107-06-55	278.3	262.94 137.94	11.0/125 CLEAR
KDSE LIC	DICKINSON ND	BLET-880125KS	* 9(-) II	214. 246	46-43-34 102-54-56	14.7	276.23 151.23	11.0/125 CLEAR
KSTF LIC	SCOTTSBLUFF NE	BLCT-841	10(-) II	240 256	41-59-58 103-39-55	176.9	258.93 -14.67	273.6 SHORT
ALLOC.	MILES CITY MT	-	*10(o) II	0	46-24-34 105-50-30	326.6	279.75 6.15	273.6 CLOSE
KTSDTV LIC	PIERRE SD	BLET-264	*10(+) II	316 488	43-57-55 99-35-56	95.3	341.44 67.84	273.6 CLEAR
KFNE LIC	RIVERTON WY	BLCT-910429KF	10(+) II	170. DA 526	43-27-26 108-12-02	256.1	363.72 90.12	273.6 CLEAR
KHSDTV LIC	LEAD SD	BLCT-1984	11(+) II	316 576	44-19-36 103-50-12	0.0	0.00 11.00	11.0/125 CLOSE

** End of TV Separation Study for Channel 10 **

¹ Using the procedures outlined in the FCC's OET-69 Bulletin, the proposed KHSD-DT operation complies with the FCC's 2%/10% interference standards (See Technical Narrative).

DTV - DTV Separation Study

Job Title :KHSD-TV
Zone : 2
Channel 10 (192-198 MHz)

Separation Buffer 161 km
FCC DTV DB Date: 12/18/98
Coordinates : 44-19-36 103-50-12

Call	City	Channel	ERP(kW)	Latitude	Bear.	Dist.	Req.
Status	St	FCC File No.	Zone	HAAT(m)	Longitude	True (km)	(km)

No DTV records located on this channel & within
the required separation plus a safety factor.