

**DELAWDER COMMUNICATIONS, INC.**

5568 General Washington Drive, Suite A-218

Alexandria, Virginia 22312

(703) 658-5390

**ENGINEERING REPORT**

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Minnesota Valley TV Improvement Corporation  
Granite Falls, MN (Channel 39 Displacement Application)

**EXHIBIT EE & EXHIBIT NO. 6**

**LPTV MODIFICATION APPLICATION**

**I. INTRODUCTION**

1. This Engineering Exhibit has been prepared on behalf of Minnesota Valley TV Improvement Corporation (MVTVI) in support of a modification to Low Power TV station K26DG, Granite Falls, Minnesota, which is currently licensed on Channel 26(+). By this application, MVTVI is seeking "DTV displacement relief" by proposing to migrate its LPTV operation from Channel 26(+) to Channel 39(+), and by specifying various technical changes necessary to facilitate use of Channel 39(+). Pursuant to 47 C.F.R. Section 74.3572(a)(2)(ii), this application proposes a change in output channel, together with other technical changes which are necessary to avoid interference and, therefore, is not a major change modification.

**II. CHANNEL DISPLACEMENT OF LICENSED CHANNEL 26 FACILITY**

2. KDLV-TV, Mitchell, South Dakota has been allotted use of Channel 26 for Digital TV (DTV) from its transmitter site located 193.3 kilometers southwest of the authorized K26DG transmitter site at Granite Falls. KMSP-TV, Minneapolis, Minnesota has been allotted use of Channel 26 for DTV from its transmitter site located 195.3 kilometers east of the authorized K26DG transmitter site. Pursuant to 47 C.F.R. Section 73.3572(a)(2)(iii), because the K26DG transmitter site is located less than 265 kilometers from the KDLV-TV and KMSP-TV transmitter sites, K26DG qualifies for displacement relief.

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**III. GENERAL EXHIBITS SUPPORTING APPLICATION**

3. The following engineering exhibits are attached in support of this application:

EXHIBIT NO. 6: Interference Studies (Included in this exhibit)

EXHIBIT NO. 7: Environmental Statement

4. All terrain averages are determined using USGS/DMA three arc-second data.

**IV. INTERFERENCE STUDIES**

5. Protection to the following stations may cause various design constraints to the proposed Channel 39 transmit facility:

a. K24CS, Granite Falls, MN, Licensed LPTV Channel 24+;

b. K39CH, Redwood Falls, MN, Licensed LPTV Channel 39-.

6. A discussion and/or a detailed interference study to each station listed above was previously provided in BPTTL-19990427JG. While those discussions are included herein, the interference are unchanged and will be submitted only at the request of the FCC.

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7. The following is a list of the licensed and proposed transmit facilities for K26DG:

	<u>Licensed</u>	<u>Proposed</u>
Channel:	26	39
Offset:	plus	plus
N Latitude (NAD 27):	44° 48' 17"	no change
W Longitude (NAD 27):	95° 34' 49"	no change
City, State:	Granite Falls, MN	no change
Trans. Output Power:	0.100 kW (-10.0 dBk)	0.0795 kW (-11.0 dBk)
Line Loss:	1.27 dB	0.716 dB
Antenna Type:	Bogner B16UO (omni)	MCi 955116
Antenna Orientation:	N/A (omni)	no change
Antenna Beamtilt:	none	no change
Antenna Gain:	13.5 dB	13.7 dB
Max. ERP:	1.65 kW (2.17 dBk)	1.58 kW (2.00 dBk)
Ground Elevation:	309.37 meters AMSL	no change
Radiation Center:	95.10 meters AGL	no change

8. The use of frequency offset is required in order to protect one or more co-channel NTSC TV or NTSC LPTV stations. The applicant will maintain the requested offset per 47 C.F.R. Section 74.761 by use of a precision oscillator supplied by the transmitter manufacturer.

Regarding K24CS, Granite Falls, MN, Channel 24+

9. MVTVI is also the licensee of collocated LPTV station K24CS. K24CS is licensed for an ERP of 1.65 kW (2.17 dBk), and otherwise specifies the same transmit

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facilities as herein proposed for K26DG. Although K24CS is located 15 channels below the proposed facility (and requires protection from the proposed facility), interference is not predicted to occur to K24CS by this proposal. Furthermore, K24CS may eventually be displaced from channel 24 due to another DTV station (a nearby cochannel DTV allotment has been made); and a displacement application for K24CS has been or likely will be filed by MVTVI in the near future.

Regarding K39CH, Redwood Falls, MN, Channel 39-

10. In accordance with 47 C.F.R. Section 74.707(d)(1), a cochannel LPTV UHF station is protected to a C/I ratio that is no less than 28 dB for offset carrier frequency operation. As demonstrated by Exhibit No. 7 (that of BPTTL-19990427JG and not here), the 46 dBu (F50,10) interference contour for the proposed facility will not overlap with the 74 dBu (F50,50) service contour of K39CH. Since offset is proposed between the two cochannel stations, adequate protection to K39CH will exist.