

# GREG BEST CONSULTING, INC.

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## Supplemental Engineering Statement

KDIN proposes to operate its post transition DTV facilities using an antenna it currently uses for analog transmission. It is an omni directional antenna with a field value of 1.0 at all azimuth angles. The FCC appendix B antenna record for KDIN indicates only one azimuth with a field value of 1.0 and other angles at very close to the value of 1.0 and not less than .98. Technically, assuming that KDIN operates with the omnidirectional antenna, the ERP compared with FCC Appendix B antenna, would be 0.11 dB higher and some increase in coverage would be possible but far less than the 5 mile factor the FCC staff may consider in evaluating the proposed DTV facilities. Therefore, KDIN requests a waiver to the "expansion freeze" and rapid processing of this DTV construction permit based upon the FCC 3<sup>rd</sup> Periodic Report and Order three criteria of 1) use of an existing antenna, 2) the expansion of coverage is less than 5 miles, and 3) the result causes less than 0.5% additional interference to allotted facilities.

Attached is a coverage map indicating the 36 dBu F (50,90) contours of the transmission facilities with the Appendix B antenna pattern and with the existing analog antenna. The red contour indicates the allocated facilities while the green contour indicates the facilities using the analog antenna. The red contour can just barely be seen underneath the red contour. From the map it is quite obvious the coverage expansion is minimal and well short of the 5 miles coverage expansion limit.

The following exhibit address the possible issue of increasing interference beyond the "0.5% additional interference" indicated in the FCC rules. Based upon the evaluation done below, no new interference (i.e. interference above 0.5% the amount allocated in Appendix B using the 2000 census) is expected to occur.

In evaluating the proposed facility for KDIN-DT, an evaluation of possible interference according to FCC rules for post transition operation was conducted.

### PROPOSED STATION EVALUATION TO POSSIBLE INTERFERENCE CRITERIA

Proposed facility does not interfere with FCC Monitoring Stations

Proposed facility does not interfere with West Virginia quiet zone

Proposed facility does not interfere with Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

There are spacing and/or contour concerns with full service, digital, and Class A stations.

An evaluation according to OET-69 is presented to support this proposed facility. In evaluating the proposed facility for KDIN-DT, an outgoing interference study was executed using the OET-69 Longley Rice Methodology using a signal resolution of 2 km and a terrain spacing increment of 1.0 km with an ERP of 19.8 kW. The following FCC allocation facilities were considered in the study:

Call Sign	City	State	Distance	Bearing
WMSN-D (11)	Madison	WI	363.1	66.2
KIIN-D.R (12)	IOWA CITY	IA	189.3	92.2
KTWU-D.R (11)	TOPEKA	KS	355.1	211.6
KARE-D.R (11)	MINNEAPOLIS	MN	363.4	5.9
KELO-D.R (11)	SIOUX FALLS	SD	305.5	309.4
WMSN-D.R (11)	MADISON	WI	363.1	66.2

Each of the above stations was evaluated for incoming interference using the OET-69 Longley Rice methodology. The following table identifies the actual percentage interference from the incoming interference analyses.

Call Sign	Percentage Interference
WMSN-D (11)	0.0 %
KIIN-D.R (12)	0.0 %
KTWU-D.R (11)	0.1 %
KARE-D.R (11)	0.1 %
KELO-D.R (11)	0.9 %**
WMSN-D.R (11)	0.0 %

\*\*This is not additional interference. It is the interference already included in the expected interference indicated in FCC Appendix B for the KELO allocation.

Should you have any questions concerning this analysis, please contact me and I will be happy to help.

Sincerely,



President  
Attachment

