

ENGINEERING REPORT
(As Amended)

MINOR CHANGE APPLICATION
For
BL-19900305AA
KTIS(AM) – Mineapolis, MN
900 kHz

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Exhibit 18.1 – RF Radiation Study

DISCUSSION

This firm was retained to prepare this engineering report in support of a minor change application for facilities of AM broadcast station KTIS(AM), 900 kHz, Minneapolis, MN. Currently KTIS(AM) holds a license for 25.0 kW of daytime directional power and 0.300 kW of nighttime directional power. Both operations employ the same four tower array with different antenna constants. This application seeks to increase daytime power to 50.0 kW and nighttime power to 500 watts using alternate sets of operating parameters and the present four towers. In addition, a minor correction of coordinates of 2 seconds longitude is requested. The data and exhibit numbering contained herein are responsive to Section III-A of FCC Form 301.

Broadcast Facility. The broadcast facility remains in compliance with all applicable rules contained in *C.F.R. Chapter 47, Part 73, Subpart A*. The proposed KTIS(AM) antenna system will continue to consist of four common daytime and nighttime towers. Details of the proposed antenna system are located in [Exhibit\(s\) 11.1-5](#). All towers are currently registered under Antenna Structure Registration Numbers 1023286-1023289. No changes in the physical towers are proposed, therefore the FAA need not be notified. A map depicting the present 0.5 mV/m, 2.0 mV/m, and 5.0 mV/m daytime service contours for KTIS(AM) has been included as [Exhibit 11.6\(a\)](#). A map depicting the proposed daytime service contours has been included as [Exhibit 11.6\(b\)](#). Present and proposed nighttime interference free service contours have been included in [Exhibit 11.7](#). All present and proposed 1.0 V/m "Blanket" Contours have been included as [Exhibit 11.8](#).

Community Coverage. Community coverage remains in compliance with the requirements of §73.24(i). Minneapolis, MN will continue to receive daytime coverage as seen in [Exhibit\(s\) 11.6b](#). Neither the present nor proposed KTIS(AM) nighttime operations cover any of the Minneapolis city limits due to a grandfathered city coverage situation. However as noted as noted in [Exhibit 11.7](#), the proposed operation increases radiation towards Minneapolis along all relevant arcs therefore a continuance of this grandfathered situation is requested.

Main Studio Location. The main studio location remains in compliance with the requirements of §73.1125. Studios for KFNW(AM) will remain unchanged from the present facilities.

Groundwave Interference. The proposed allocation remains in compliance with the requirements of §73.37. [Exhibit\(s\) 15.1-2](#) are relevant domestic allocation studies for the present and proposed operations. All existing domestic overlaps will be maintained or reduced as seen in the provided exhibits. Region 2 studies have not been supplied as the proposed allocation is believed to have sufficient clearance from any Canadian facility.

Skywave Interference. The proposed allocation remains in compliance with the requirements of §73.182. [Exhibit 16.1](#) is a listing of all co-, 1st and 2nd adjacent channel stations employed in the nighttime channel study. A complete nighttime study has been conducted on all co- and 1st adjacent channel stations. In response to FCC attempts to streamline the application process, 1st adjacent channel and foreign nighttime protections in which the proposed operation will have a negligible effect have been omitted to reduce paperwork. A complete list of all protections will be supplied upon request. Analysis of the complete study has concluded the proposed operation will not interfere with any protected operation, however individual studies will be supplied for any station upon request. A tabulation of the proposed limitations has been supplied. The proposed nighttime operation meets the minimum 250 watt and 141 mV/m RMS protection threshold. Therefore, the proposal is protected from other full-time stations. [Exhibit 16.5](#) includes special nighttime skywave studies towards foreign Class A stations CKBL, Prince Albert, SK, Canada and XEW/0 and XEW1/A, Mexico. Protections towards CKBL have used skywave curves taken from the US-Canada Bilateral Agreement, Annex II Figure 4A. Existing skywave overlap with CKBL has been reduced. Protections towards XEW/0 and XEW1/A have used skywave curves taken from the Region 2 Annex II Figure 4 Curves. The proposed KTIS(AM) interference contour has been kept completely out of Mexico.

Critical Hours Interference. The proposed allocation is in compliance with the requirements of §73.187. No Critical Hours studies are required.

Environmental Protection Act. The proposed allocation is in compliance with OET Bulletin No. 65. Full protection is afforded by the proposal. An RF Radiation study has been included in [Exhibit 18.1](#).

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