

ENGINEERING REPORT

**MINOR CONSTRUCTION PERMIT
APPLICATION**

“Change in Site location”

WILS(AM) – 1320 kHz – Lansing, MI

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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 construction permit application for the licensed facilities of AM broadcast station WILS(AM), 1320 kHz, Lansing, MI. Currently WILS(AM) holds a license for 5.0 kW of daytime two tower directional power and 1.0 kW of nighttime three tower directional power. A new site location is requested employing a daytime power of 25.0 kW using a two tower array and 1.9 kW of nighttime power employing a four tower array. One tower will be common between both arrays. The data and exhibit numbering contained herein is 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 WILS(AM) antenna system will consist of two daytime and four nighttime towers with one tower being common for both operations. Details of the proposed antenna system are located in **Exhibit(s) 11.1-5**. TOWAIR has been consulted and "FAA Determination of No Hazard" and FCC Antenna Structure Registration is not required. A map depicting the present 0.5 mV/m, 2.0 mV/m, and 5.0 mV/m daytime service contours for WILS(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 1.0 V/m "Blanket" Contours have been included as **Exhibit 11.7**. Present and proposed nighttime Interference Free Contour has been included as **Exhibit 11.8**.

Community Coverage. Community coverage remains in compliance with the requirements of §73.24(i). Lansing, MI will continue to receive daytime and nighttime primary service as seen in **Exhibit(s) 11.6b** and **11.8**.

Main Studio Location. The main studio location remains in compliance with the requirements of §73.1125. Studios for WILS(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 allocation studies for the present and proposed operations. There is presently existing overlap given to 1st adjacent channel stations WTRX(AM), Flint, MI and WDTW(AM), Dearborn, MI. The proposed operation will maintain or reduce the area of overlap as seen in the exhibits. Present and proposed overlap with co-channel station WOBL(AM), Oberlin, OH falls completely within Lake Erie.

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 also been included. The proposed nighttime operation meets the 250 watt and 141 mV/m RMS threshold, and is therefore protected from other full-time stations.

Critical Hours Interference. The proposed allocation is in compliance with the requirements of §73.187. No Critical Hours operation is required for operation on 1320 kHz.

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**.