

# **ENGINEERING REPORT**

## **MINOR CHANGE CONSTRUCTION PERMIT APPLICATION**

**“Daytime Power Increase Application”**

**WGTO(AM) – 910 kHz – Cassopolis, MI**

**July, 2008**

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Exhibit 18.1 – RF Radiation Study

# Discussion

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This firm was retained to prepare this engineering report in support of a minor change construction permit application for the licensed facilities of AM broadcast station WGTO(AM), 910 kHz, Cassopolis, MI. Currently WGTO(AM) holds a Class D license for 1.0 kW of daytime directional power and 0.035 kW of authorized nighttime directional power utilizing the daytime operating parameters at a reduced power. WGTO(AM) wishes to increase daytime power to 5.7 kW through the use of an alternate set of operating parameters and supplemental ground conductivity measurements. Nighttime power will be adjusted to 0.025 kW utilizing the proposed daytime array. The facility will continue to serve Cassopolis, MI. 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 WGTO(AM) daytime/nighttime towers will remain unchanged, only the field and phase parameters will be modified. Details of the proposed antenna system are located in **Exhibit(s) 11.1-6**. The existing towers bear Antenna Structure Registration numbers 1204670 and 1204671. Neither tower will be physically modified as a result of this proposal. Maps depicting the present and proposed daytime service contours have been included in **Exhibit 11.7(a-b)**. Present and proposed day/night 1.0 V/m nighttime "Blanket" Contours have been included as **Exhibit 11.8**.

**Community Coverage.** Community coverage remains in compliance with the requirements of §73.24(i). Daytime coverage of Cassopolis, MI will serve 100% of the community as seen in **Exhibit 11.7b**. Nighttime community coverage is not required as WGTO(AM) will not meet the minimum 0.250 kW or 141 mV/m threshold.

**Main Studio Location.** The main studio location remains in compliance with the requirements of §73.1125. Studios for WGTO(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. Supplemental ground conductivity measurement information on station(s) WGTO(AM), Cassopolis, MI, WBAA(AM), West Lafayette, IN, and WPF(AM), Middletown, OH have been included in **Exhibit(s) 15.5** through **15.7**.

**Skywave Interference.** The proposed allocation will comply with the requirements of §73.182. **Exhibit 16.1** is a nighttime allocation study for the proposed WGTO(AM) operation. In response to FCC attempts to streamline the application process, 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 does not meet the minimum 250 watt and 141 mV/m RMS protection threshold, therefore, the proposal is not protected from other full-time stations. The nighttime directional standard pattern polar plot and tabulation have been included in **Exhibit(s) 16.3** to **16.4**.

**Critical Hours Interference.** The proposed allocation is in compliance with the requirements of §73.187. No Critical Hours operation is required for operation on 910 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**.