

# **ENGINEERING REPORT**

**Minor Construction Permit Modification  
Application for New AM Facility**

**KFJL.C - File No. BMP-20091118AGY  
1400 kHz – Central Point, OR**

**“Request for KINSTAR© Antenna”**

**July 2011**

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Exhibit 19.1 – RF Radiation Study

## Discussion

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This firm was retained to prepare this engineering report in support of this minor construction permit modification application for KFJL.C (AM) – Central Point, OR 1400 kHz, granted Construction Permit File No. BMP-20091118AGY. Previously, this facility was an Auction 84 Long Form 301-AM Filing for a new AM facility awarded a 307(b) preference over competing applications. This proposal will remain at the existing authorized site, but requests a change in non-directional radiating elements from a standard base-insulated vertical radiator to a non-directional KINSTAR® antenna system. Power will remain unchanged with 1.0 kW of daytime and nighttime non-directional power from the existing tower location. 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 1400 kHz antenna system will consist of one single non-directional KINSTAR® antenna system for both day and night operations. The common daytime/nighttime antenna system consists of one (1) non-directional KINSTAR® antenna system. The KINSTAR® antenna consists of five (5) wood poles mounted with a central pole and four poles at 90° perpendicular angles representing the cardinal bearings of north, south, east and west. The radiating element(s) consist of 28.8° electrical degree folded unipole four wire skirt mounted on the central tower with 61.2° electrical degree top-loaded wires running to each of the four perpendicular towers. Additional details of the antenna system are located in **Exhibit(s) 12.1-5**. TOWAIR has been consulted and Antenna Structure Registration is required for the KINSTAR® array. A map depicting the present and proposed 0.5 mV/m, 2.0 mV/m, and 5.0 mV/m daytime service contours has been included in **Exhibit 12.6**. The present and proposed nighttime interference free service contours have been included in **Exhibit 12.7**. The 1.0 V/m "Blanket" Contour Study has been included as **Exhibit 12.8**.

**Community Coverage.** Community coverage will be in compliance with the requirements of §73.24(i). Central Point, OR will continue to receive daytime and nighttime primary service as seen in **Exhibit(s) 12.6** and **12.7**.

**Main Studio Location.** The main studio location will be in compliance with the requirements of §73.1125. The FCC will be notified should main studio location cease to be in compliance with the requirements of §73.1125.

**Groundwave Interference.** The proposed allocation will be in compliance with the requirements of §73.37. The proposed facility will not result in contour overlap to any valid concerns within the allocation. The proposed allocation study has been included in **Exhibit(s) 16.1** and **16.2**. Full protection will be afforded all allocation concerns.

**Skywave Interference.** The proposed allocation will comply with the requirements of §73.182. As operation on a Class C channel is proposed, sufficient daytime allocation showings merit an automatic grant of 1.0 kW of nighttime operation. **Exhibit 17.1** is a nighttime RSS Limitation study establishing the 22.4 mV/m Nighttime Interference Free (N.I.F.) contour. Community coverage with the N.I.F. contour has previously been established through the **Exhibit 12.7** showing. The proposed nighttime operation meets the minimum 250 watt and 141 mV/m RMS protection thresholds. Therefore, the proposal is 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 on 1400 kHz.

**Environmental Protection Act.** The proposed allocation is in compliance with Federal Communications Commission *Public Notice DA 05-2741* and its associated *Attachment A* which have been based on OET Bulletin No. 65. Full protection is afforded by the proposal. An RF Radiation study has been included in **Exhibit 19.1**.