

ENGINEERING REPORT COVERING
REQUEST FOR CONSTRUCTION PERMIT
ON BEHALF OF CATHOLIC RADIO NETWORK, INC.
FOR KLIM 1120 KILOHERTZ
LIMON, COLORADO

OCTOBER 2015

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SUMMARY

The engineering exhibit of which this statement is part was prepared on behalf of Catholic Radio Network, Inc., hereinafter referred to as "CRN", in support of an application for construction permit for AM station KLIM Limon, Colorado. CRN is the assignee of KLIM. KLIM is licensed to operate daytime only on a frequency of 1120 kilohertz with power of 250 watts employing a non-directional antenna system. The purpose of this application is to request a change in transmitter site, increase daytime power to 50 kilowatts, employ a two tower directional antenna system on the presently authorized frequency of 1120 kilohertz and add critical hours operation with power of 3 kilowatts using a non-directional antenna from a separate transmitter site. No other changes are proposed.

DAYTIME ALLOCATION CONSIDERATIONS

The geographic area encompassed by the daytime allocation study is vast and as a consequence, a conventional allocation map would be hard to read. Accordingly, several maps that provide greater allocation detail in pertinent areas are provided in lieu of a conventional map.

Figure 1 is a co-channel allocation map. The first adjacent channel mapping is provided on Figure 2. Second adjacent channel mapping can be found on Figure 3 and third adjacent channel mapping is plotted on Figure 4. The proposed KLIM daytime operation will not cause or receive prohibited contour overlap with any legally qualifying North American AM radio station.

CRITICAL HOURS ALLOCATION CONSIDERATIONS

The results of a critical hours allocation study revealed Class A station KMOX St. Louis, Missouri required detailed study. Figure 5 is a map showing the KMOX 0.1 mV/m contour and the location of points used in the allocation study. Table 1 provides the study point data and shows the proposed KLIM critical hours operation will protect the KMOX 0.1 mV/m contour.

Ground wave allocation maps for the critical hours allocation study, similar to the maps provided for the daytime allocation study, can be found in Figures 6-9. The proposed KLIM critical hours operation will not cause or receive prohibited contour overlap with any legally qualifying North American AM radio station.

TECHNICAL DATA AND EXHIBITS

Figures 10 and 11 are maps of the 5 mV/m city of license service contours for the proposed KLIM daytime and critical hours operation. 100% of Limon, Colorado will receive city grade service during the daytime and critical hours. Figures 12 and 13 are maps that plot the proposed KLIM daytime and critical hours 1000 mV/m contours. The proposed KLIM operation is compliant with Section 73.24(g) of the rules, as the daytime population count is 28 persons within the 1000 mV/m contour and the critical hours population count is 0 persons. All distance to contour calculations used in plotting the various allocation maps were based on M-3 soil conductivity data.

A polar plot of the proposed KLIM day directional antenna pattern, including horizontal plane radiation tabulations, is shown in Figure 14.

GROUND SYSTEM

The ground system for the proposed KLIM day and critical hours operation will consist of 120 equally spaced #10 AWG soft drawn copper radials, 67 meters in length, running from the base of each tower and buried to a depth of 3-5 inches. Where the radials from towers intersect, they will be terminated and connected to 4 inch transverse copper strap running between the towers. All connections will be brazed or silver soldered.

SITE INFORMATION

Figure 15 is a site plan prepared by a licensed Colorado surveyor which provides pertinent site information for the daytime site. Although the results of the FCC program TOWAIR indicated that neither of the proposed towers required ASR registration, a determination of no hazard to air navigation was obtained from the FAA for each tower. The FAA study numbers are 2015-ANM-2183-OE and 2015-ANM-2184-OE.

The critical hours site is an existing registered ASR site with identification number 1037564. The site is the licensed transmitter site for FM translator stations K210CC and K220IK.

ANSI RADIATION GUIDELINES

A study of the proposed daytime facility was conducted with respect to standards set forth in FCC Bulletin OST Number 65, Edition 97-01, regarding human exposure to radiofrequency radiation. The study was based on data provided in Table 2 of Supplement A, "Predicted Distances for Compliance with FCC Limits". In order to simulate a worst case daytime scenario, it was assumed the full 50 kilowatt power would be present at each tower. Based on Table 2, a distance of 4 meters from the tower would have to be observed to achieve ANSI radiofrequency compliance.

A study of the proposed critical hours facility, which will operate from a separate site, was conducted with respect to standards set forth in FCC Bulletin OST Number 65, Edition 97-01, regarding human exposure to radiofrequency radiation. The study was based on data provided in

Tables 2 and 3 of Supplement A, “Predicted Distances for Compliance with FCC Limits”. Based on Tables 2 and 3, a distance of 1.5 meters from the tower would have to be observed to achieve ANSI radiofrequency compliance.

When it is necessary for workers to be within the hazard area near the towers, an appropriate power reduction or temporary cessation of broadcasting will be implemented. Access to the towers will be prevented by a fence with a locked gate. Signs, warning of an RF hazard, will be conspicuously posted at the site.

DECLARATION

The foregoing was prepared by or under the immediate supervision of Charles A. Hecht of Charles A. Hecht & Associates, Inc., Freehold, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. All statements herein are true and correct of his knowledge except such statements made on information and belief, and as to those statements, he believes them to be true and correct under the penalty of perjury.

Respectfully submitted,

/s/

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