

Comprehensive Engineering Exhibit
Minor Modification
BNPH20050103ACI
Facility ID No. 164240 Lindsborg, Kansas

By this application it is sought to relocate the facility to a nearby tower, lower the antenna mounting height, and modify the effective radiated power.

The applicant wishes to co-locate on the support tower of station KQNS-FM, the web tool "Towair" was used to determine that this 54.9 meter structure does not require registration. The proposed height of the antenna is 45.4 meters above ground level, 1.6 meters below the center of the KQNS antenna. From this location the facility will be spaced in accordance with Section 73.207 to all known allocations, authorizations, and applications with the exception of the co-channel class A facility of KVOE-FM Emporia, Kansas to which authorization utilizing Section 73.215 is requested. Attached below is a map demonstrating that use of a non-directional antenna operating at 16 kilowatts will not cause prohibited contour overlap. As the proposed operation will exceed the normal C3 class height by 25 meters HAAT the web tool "FMpower" was utilized to determine the allowable power of 16 kilowatts.

The Proposed facilities were evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation." Calculations were made using the micro-computer program FM Model.

The proposed antenna system is a Shively 6813, 6- bay, full wave spaced antenna, mounted with its center of radiation 45 meters above ground level, and will operate with an effective radiated power of 16 Kilowatts in both the horizontal and vertical planes. Within 100 meters of this location 2 additional operating non-exempt facilities exist, KQNS-FM and KCVS(FM) with 15,500 and 11,500 watts of power respectively. For this determination it was assumed that the combined 43,000 watts were being emitted from the antenna located closest to the ground. At 2 meters above ground, at 14.8 meters from the base of the tower, this proposal will contribute worst case, 79.1 microwatts per square centimeter, or 7.9 percent of the allowable ANSI limit for controlled exposure, and 39.5 percent of the allowable limit for uncontrolled exposure. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

Principal Community Contours

