

MODIFY BMPH-20010212ACB
105.1 FM, LLC
KGAR (FM) RADIO STATION
CH 286C1 - 105.3 MHZ - 69.0 KW
GARDEN CITY, MISSOURI
April 2001

EXHIBIT B

Radio Frequency and Environmental Assessment

Due to the co-located FM and TV stations, compliance with the Commission's radio frequency radiation limits cannot be determined using the RFR worksheets. Therefore, a study has been made to determine whether this proposal is in compliance with 47 C.F.R. §1.1307 of the Commission's rules and with OET Bulletin #65, dated August 1997 ("Bulletin"), regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. This study considers all nearby stations and utilizes the appropriate formulas contained in the Bulletin.

Environmental Analysis

The tower proposed for the KGAR relocation does not involve the use of high intensity white lighting (strokes) in a residential neighborhood. The structure is not located in an officially designated wilderness area or wildlife preserve, nor does it threaten the existence or habitat of endangered species. The facility does not affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed in the National Register of Historic Places, or are eligible for listing, nor does it affect Indian religious sites. Further, the site is not located in a floodplain and did not, to the knowledge of the applicant, require significant change in surface features (wetland fill, deforestation or water diversion) at the time of construction.

Radio Frequency Radiation Study

This radio frequency radiation study is being conducted to determine whether this proposal is in compliance with OET Bulletin Number 65, dated August 1997, regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. This study considers all nearby contributing stations, specifically co-located FM station KSRC⁵, television stations KTAJ-DT, KSMO-DT, KSMO-TV and KMCI-DT, and utilizes the appropriate formulas contained in the OET Bulletin.⁶

The proposed KGAR antenna system will be mounted with its center of radiation 341.2 meters (1,119.3 feet) above the ground at the proposed tower location and operate with an effective radiated power of 69.0 kilowatts in the horizontal and vertical planes (circularly polarized). At two meters, the height of an average person, above the ground at the base of the tower, the proposed KGAR antenna system will contribute 0.0241 mw.⁷ Based on exposure limitations for a controlled environment, 2.4% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 12.1% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The proposed KSRC antenna system will be mounted with its center of radiation 331.5 meters (1,087.6 feet) above the ground at the tower location and will operate with an effective radiated power of 100.0 kilowatts in the horizontal and vertical planes (circularly polarized). At two meters, the height of an average person, above the ground at the base of the tower, the

5) Including the KSRC auxiliary facility.

6) The FMModel program was used for all FM calculations. The EPA dipole antenna was used, unless otherwise noted.

7) This level occurs at 92.0 meters out from the base of the tower and is considered worst case.

KSRC antenna system contributes 0.0370 mw.⁸ Based on exposure limitations for a controlled environment, 3.7% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 18.5% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The authorized KSRC auxiliary antenna system will be mounted with its center of radiation 332.5 meters (1,090.8 feet) above the ground at the tower location and will operate with an effective radiated power of 20.0 kilowatts in the horizontal and vertical planes (circularly polarized). At two meters, the height of an average person, above the ground at the base of the tower, the KSRC auxiliary antenna system contributes 0.0382 mw.⁹ Based on exposure limitations for a controlled environment, 0.7 of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 3.7% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The KTAJ-DT Channel 21 antenna system will be mounted with its center of radiation 344.5 meters (1,130.0 feet) above the ground at the existing tower location and operate with an effective radiated power of 500 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiation field of 0.1 (1%). As such, the KTAJ-DT antenna system radio frequency radiation calculations were made based on an effective radiated power of 5.0 kilowatts. At two meters, the height of an average person, above the ground at the base of the tower, the KTAJ-DT antenna system will

8) This level occurs at 88.0 meters out from the base of the tower and is considered worst case.

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contribute 0.0009 mw. Based on exposure limitations for a controlled environment, 0.1% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 0.3% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The KSMO-DT Channel 47 antenna system will be mounted with its center of radiation 331.5 meters (1,087.6 feet) above the ground at the existing tower location and operate with an effective radiated power of 1000 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiation field of 0.1 (1%). As such, the KSMO-DT antenna system radio frequency radiation calculations were made based on an effective radiated power of 10.0 kilowatts. At two meters, the height of an average person, above the ground at the base of the tower, the KSMO-DT antenna system will contribute 0.0009 mw. Based on exposure limitations for a controlled environment, 0.1% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 0.4% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The KSMO-TV Channel 62 antenna system will be mounted with its center of radiation 329.5 meters (1,081.0 feet) above the ground at the existing tower location and operate with an effective radiated power of 5000 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiation field of 0.1 (1%). As such, the KSMO-TV antenna system radio frequency radiation calculations were

made based on an effective radiated power of 50.0 kilowatts. At two meters, the height of an average person, above the ground at the base of the tower, the KSMO-TV antenna system will contribute 0.0009 mw. Based on exposure limitations for a controlled environment, 0.4% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 1.9% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The KMCI-DT Channel 36 antenna system will be mounted with its center of radiation 332.5 meters (1,090.8 feet) above the ground at the existing tower location and operate with an effective radiated power of 500 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiation field of 0.1 (1%). As such, the KMCI-DT antenna system radio frequency radiation calculations were made based on an effective radiated power of 5.0 kilowatts. At two meters, the height of an average person, above the ground at the base of the tower, the KMCI-DT antenna system will contribute 0.0009 mw. Based on exposure limitations for a controlled environment, <0.1% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 0.2% of the ANSI limit is reached at two meters above the ground at the base of the tower.

Combining the contributions of FM station KGAR, KSRC¹⁰, and television stations KTAJ-DT, KSMO-DT, KSMO-TV and KMCI-DT, a total of 37.1% of the uncontrolled environment limit is reached at two meters above the ground at the base of the tower. Since this

10) Including the KSRC auxiliary facility.

level is well below the 100% limit defined by the Commission, the proposed KGAR facility is believed to be in compliance with the radio frequency radiation exposure limits as is required by the Federal Communications Commission. Further, 105.1 FM. LLC ("105") will verify that warning signs are posted in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, 105 will reduce the power of the proposed facility or cease operation, in cooperation and coordination with other tower users, as necessary, to protect persons having access to the site, tower or antenna from radio frequency radiation in excess of FCC guidelines. Based on the above factors, this proposal is categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.