ONE-STEP UPGRADE /
MINOR CHANGE APPLICATION
CUMULUS LICENSING LLC
KUSB (FM) RADIO STATION
CH 277C0 - 103.3 MHZ - 100.0 KW
HAZELTON, NORTH DAKOTA
October 2006

EXHIBIT C

Radio Frequency Assessment

Since the proposed KUSB will share an antenna with co-located FM stations KBYZ, KKCT and KACL and is located within 315 meters of several TV stations, the use of the worksheets to demonstrate compliance with the radio frequency radiation rules is not possible. Therefore, this 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, specifically KBYZ (proposed) KKCT (proposed), KACL (proposed)[1], construction permit for new FM at Cannon Ball ("Cannon Ball"), construction permit for new FM at Flasher ("Flasher"), KVLQ, and TV stations KNDX, K64GN and K44HU, and utilizes the appropriate formulas contained in the Bulletin.[2]

The proposed KUSB antenna system will be mounted with its center of radiation 210.3 meters (690.0 feet) above the ground at the existing tower location and will operate with an

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1) Since the upgrade of KUSB will be made at the same time as that of stations KBYZ, KKCT and KACL (shared antenna), only the proposed facilities of KBYZ, KKCT and KACL are considered in this study.

2) The FM Model program was used to calculate the FM stations' contributions. The EPA single bay dipole was used unless otherwise noted. Any broadcast facilities within 315 meters of the proposed site are considered a contributor, and further, will be considered co-located for the purposes of this instant review.

effective radiated power of 100.0 kilowatts in the horizontal and vertical planes (circularly polarized). The proposed KUSB antenna is a Dielectric DCRM twelve bay, 0.75 wavelength spaced system (FCC/EPA Type #7). At 2.0 meters, the height of an average person above the ground at the base of the tower, the KUSB antenna system will contribute 0.0003 mw/cm^2.[3] Based on exposure limitations for a controlled environment, <0.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 0.2% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The proposed KBYZ antenna system will be mounted with its center of radiation 210.3 meters (690.0 feet) above the ground at the existing tower location and will operate with an effective radiated power of 100.0 kilowatts in the horizontal and vertical planes (circularly polarized). The proposed KBYZ antenna is a Dielectric DCRM twelve bay, 0.75 wavelength spaced system (FCC/EPA Type #7). At 2.0 meters, the height of an average person above the ground at the base of the tower, the KBYZ antenna system will contribute 0.0003 mw/cm^2.[4] Based on exposure limitations for a controlled environment, <0.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 0.2% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

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3) This level of field occurs at 138.0 meters out from the base of the tower and is considered worst case.

4) This level of field occurs at 138.0 meters out from the base of the tower and is considered worst case.

The proposed KACL antenna system will be mounted with its center of radiation 210.3 meters (690.0 feet) above the ground at the existing tower location and will operate with an effective radiated power of 100.0 kilowatts in the horizontal and vertical planes (circularly polarized). The proposed KACL antenna is a Dielectric DCRM twelve bay, 0.75 wavelength spaced system (FCC/EPA Type #7). At 2.0 meters, the height of an average person above the ground at the base of the tower, the KACL antenna system will contribute 0.0003 mw/cm^2.[5] Based on exposure limitations for a controlled environment, <0.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 0.2% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The proposed KKCT antenna system will be mounted with its center of radiation 210.3 meters (690.0 feet) above the ground at the existing tower location and will operate with an effective radiated power of 100.0 kilowatts in the horizontal and vertical planes (circularly polarized). The proposed KKCT antenna is a Dielectric DCRM twelve bay, 0.75 wavelength spaced system (FCC/EPA Type #7). At 2.0 meters, the height of an average person above the ground at the base of the tower, the KKCT antenna system will contribute 0.0003 mw/cm^2.[6] Based on exposure limitations for a controlled environment, <0.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 0.2% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

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5) This level of field occurs at 138.0 meters out from the base of the tower and is considered worst case.

6) This level of field occurs at 138.0 meters out from the base of the tower and is considered worst case.

The authorized KVLQ antenna system is mounted with its center of radiation 118.0 meters (387.2 feet) above the ground at the existing tower location and operates with an effective radiated power of 0.95 kilowatt in the horizontal and vertical planes (circularly polarized). The KVLQ antenna is an Electronics Research, Inc., rototiller type system (FCC/EPA Type #3). At 2.0 meters, the height of an average person above the ground at the base of the tower, the KVLQ antenna system contributes 0.0010 mw/cm^2.[7] Based on exposure limitations for a controlled environment, 0.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 0.5% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The authorized Cannon Ball antenna system will be mounted with its center of radiation 175.0 meters (574.1 feet) above the ground at the existing tower location and will operates with an effective radiated power of 100.0 kilowatts in the horizontal and vertical planes (circularly polarized). The proposed Cannon Ball antenna is a twelve bay, 0.9 wavelength spaced Jampro Double V style (FCC/EPA Type #2).[8] At 2.0 meters, the height of an average person, above the ground at the base of the tower, the Cannon Ball antenna system will contribute 0.0012 mw/cm^2.[9] Based on exposure limitations for a controlled environment, 0.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 0.6% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

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7) This level of field occurs at 116.0 meters out from the base of the tower and is considered worst case.

8) Based on the information contained in the Cannon Ball application for permit, BNPH-20060309ABC.

9) This level of field occurs at 41.0 meters out from the base of the tower and is considered worst case.

The authorized Flasher antenna system will be mounted with its center of radiation 179.0 meters (587.2 feet) above the ground at the existing tower location and will operate with an effective radiated power of 100.0 kilowatts in the horizontal and vertical planes (circularly polarized). The proposed Flasher antenna is a ten bay, 0.5 wavelength spaced Electronics Research, Inc.[10] At 2.0 meters, the height of an average person, above the ground at the base of the tower, the Flasher antenna system will contribute 0.0013 mw/cm^2.[11] Based on exposure limitations for a controlled environment, 0.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 0.7% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The authorized KNDX Channel 26+ antenna system is mounted with its center of radiation 202.0 meters (662.7 feet) above the ground at the existing tower location and operates with an effective radiated power of 741 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. As such, the KNDX antenna system radio frequency radiation calculations were made based on an effective radiated power of 7.41 kilowatts. At 2.0 meters, the height of an average person above the ground at the base of the tower, the KNDX antenna system contributes 0.0012 mw/cm^2. Based on exposure limitations for a controlled environment, 0.2% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 1.1% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

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10) Based on the information contained in the Cannon Ball application for permit, BNPH-20060309ABC.

11) This level of field occurs at 85.0 meters out from the base of the tower and is considered worst case.

The authorized K64GN Channel 64Z antenna system is mounted with its center of radiation 180.0 meters (590.6 feet) above the ground at the existing tower location and operates with an effective radiated power of 100 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. As such, the K64GN antenna system radio frequency radiation calculations were made based on an effective radiated power of 1.0 kilowatts. At 2.0 meters, the height of an average person above the ground at the base of the tower, the K64GN antenna system contributes 0.0007 mw/cm^2. Based on exposure limitations for a controlled environment, <0.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, <0.1% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The authorized K44HU Channel 44+ antenna system is mounted with its center of radiation 177.0 meters (580.7 feet) above the ground at the existing tower location and operates with an effective radiated power of 20 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. As such, the K44HU antenna system radio frequency radiation calculations were made based on an effective radiated power of 0.2 kilowatt. At 2.0 meters, the height of an average person above the ground at the base of the tower, the K44HU antenna system contributes 0.0001 mw/cm^2. Based on exposure limitations for a controlled environment, <0.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For

uncontrolled environments, <0.1% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

Combining the contributions of KUSB, KBYZ (proposed), KKCT (proposed), KACL (proposed), KVLQ, Cannon Ball, Flasher, KNDX, K64GN and K44HU, a total of 3.9% of the uncontrolled environment limit is reached at 2.0 meters above ground at the base of the tower. Since this level for uncontrolled environments is well below the 100% limit defined by the Commission, the proposed KUSB facility is believed to be in compliance with the radio frequency radiation exposure limits as is required by the Federal Communications Commission. Further, Cumulus will posted warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, Cumulus will reduce the power of the 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.