

**DIGITAL COMPANION APPLICATION**  
**JOSEPH W. SHAFFER**  
**KTDF-LP LPTV STATION**  
**CH 4 - 66-72 MHZ - 0.3 KW**  
**SAN ANTONIO, TEXAS**  
**August 2011**

**EXHIBIT B**

**Radio Frequency Assessment**

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 utilizes the appropriate formulas contained in the OET Bulletin. The KTDF-LP antenna is to be mounted on an existing building. The building roof is 128.0 meters (419.9 feet) above ground. The antenna will be mounted 140.2 meters (460.0 feet) above ground and 12.2 meters (40.0 feet) above the roof of the building. In addition to the proposed KTDF-LP, Class A LPTV station KNIC-CA and the licensed KTDF-LP analog facility are operating from this location and will be considered a contributor to the RF environment on the roof.<sup>1</sup>

The proposed KTDF-LP digital Channel 4 antenna system will be mounted with its center of radiation 12.2 meters (40.0 feet) above the roof and will operate with an effective radiated power of 0.3 kilowatt in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 29, the typical VHF antenna system has a downward radiated field of 0.2. As such, the calculations of the KTDF-LP antenna are based on a power of 0.012 kilowatt. At 2.0 meters

---

1) KNIC-CA is operating pursuant to Special Temporary Authorization (STA) on Channel 34 (BDISTT-20070615ADF). KNIC-CA is no longer operating on its licensed Channel 17 (having been displaced). Therefore, only the KNIC-CA STA facility will be considered.

above the roof, the proposed KTDF-LP antenna system will contribute  $0.0015 \text{ mw/cm}^2$ . Based on exposure limitations for a controlled environment, 0.2% of the allowable ANSI limit is reached at 2.0 meters above the roof. For the uncontrolled environment, 0.8% of the limit is reached at 2.0 meters above the roof.

The authorized KTDF-LP analog Channel 23 antenna system is mounted with its center of radiation 12.2 meters (40.0 feet) above the roof and operates with an effective radiated power of 12.0 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiated field of 0.1. As such, the calculations of the KTDF-LP antenna are based on a power of 0.12 kilowatt. At 2.0 meters above the roof, the KTDF-LP antenna system will contribute  $0.0239 \text{ mw/cm}^2$ . Based on exposure limitations for a controlled environment, 1.4% of the allowable ANSI limit is reached at 2.0 meters above the roof. For the uncontrolled environment, 6.8% of the limit is reached at 2.0 meters above the roof.

The authorized KNIC-CA Channel 34 STA antenna system is mounted with its center of radiation 39.1 meters (128.0 feet) above the roof and operates with an effective radiated power of 9.99 kilowatts in the horizontal plane.<sup>2</sup> As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiated field of 0.1. As such, the calculations of the KNIC-CA antenna are based on a power of 0.099 kilowatt. At 2.0 meters above the roof, the proposed KNIC-CA antenna system contributes  $0.0015 \text{ mw/cm}^2$ . Based on

---

2) The KNIC-CA STA antenna center of radiation above sea level is 372.0 meters. Subtracting the site elevation (204.8 meters) and the height of the roof above ground (128.0 meters) from the AMSL elevation places the KNIC-CA antenna at 39.2 meters above the roof.

exposure limitations for a controlled environment, 0.1% of the allowable ANSI limit is reached at 2.0 meters above the roof. For the uncontrolled environment, 0.4% of the limit is reached at 2.0 meters above the roof.

Combining the contributions of the proposed KTDF-LP (digital), licensed KTDF-LP (analog), and KNIC-CA, a total of 8.0% of the uncontrolled limit is reached at 2.0 meters above the roof. Therefore, the proposed KTDF-LP digital is believed to be in compliance with the radio frequency radiation exposure limits, as required by the Federal Communications Commission. Further, Shaffer will post warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, Shaffer will reduce the power of the facility or cease operation, in cooperation and coordination with other site users, as necessary, to protect persons having access to the site, structure or antenna from radio frequency radiation in excess of FCC guidelines.