

Comprehensive Technical Exhibit
Application for License
KTVH-DT - Helena, Montana
Beartooth Communications Company
September, 2010

Application for License

The following engineering statement and attached exhibits have been prepared for **Beartooth Communications Company ("BCC")**, permittee of digital television station KTVH-DT at Helena, Montana, and are in support of their application for license to cover post-transition DTV facilities.¹

On January 21, 2009, BCC was granted construction permit BPCDT-20080619ADQ for the KTVH-DT post transition facilities. BCC was authorized in the post-transition environment to utilize channel 12. The maximum ERP for the facility is 12.4 dBk (17.5 kW) at a center of radiation of 2,421 meters above mean sea level, or 713.2 meters above average terrain. KTVH-DT utilizes a non-directional antenna with one degree of electrical beamtilt and no mechanical beamtilt.

Construction of the facility, which required only the installation of a digital transmitter on channel 12 and some minor transmission line changes within the building, was completed prior to the sunset of NTSC operations. KTVH-DT commenced operation as a digital facility on channel 12, the former analog channel, at the revised NTSC sunset date. BCC, however, did not file the associated license application immediately after the commencement of digital operations. This failure to timely file the application on the part of BCC was simply an oversight on the part of the licensee.

The specified transmitter power output achieves the authorized effective radiated power. The specified transmitter power output is 0.119 dBk or 1.03 kW. The transmitter is initially to 32 feet of 1 5/8" rigid transmission line and then to 122 feet of Andrew HJ9-50A 5" diameter semi-flexible air dielectric transmission line. The rigid transmission line has an insertion loss of 0.091 dB

¹ The Facility ID for KTVH-DT at Helena, Montana is 5290.

(97.93 percent efficiency). The Heliastax has an insertion loss of 0.188 dB, which is 95.76 percent efficient. The total power loss in the transmission line is 0.279 dB, resulting in an antenna input power of -0.16 dBk. The antenna has a maximum power gain of 12.56, which yields an effective radiated power of 12.4 dBk or 17.5 kW.

The main studio location complies with the provisions of Section 73.1125 of the Commission's Rules. The main studio is located within the corporate boundaries of Great Falls, Montana. No change in the location of the main studio has been made or is proposed.

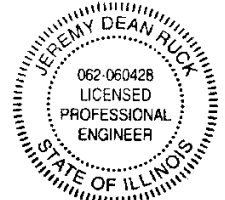
The facility was constructed as authorized in the related construction permit. Modifications pursuant to Section 73.1690 are not applicable. The construction permit, as issued by the Commission, listed two special conditions or restrictions. The applicant is in compliance with both.

The first special condition is the standard health-care notification requirement imposed on all DTV permittees. BCC has complied with the terms of this special condition through the identification and notification processes as appropriate. The second special condition pertains to the date on which the authorized facility may commence operation. This condition was imposed due to the fact that KTVH would flash-cut from analog to digital operations on channel 12. KTVH did not commence digital operations on channel 12 until June 12, 2009, although the special condition specified February 17, 2009.

The transmitter in use by the facility complies with the provisions of Section 73.1660 of the Commission's Rules. The required proof of performance on the transmitter has been completed. Documentation of this proof is maintained at the main studio, and is available upon request.

Affidavit

The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2011

Jeremy D. Ruck, PE
September 17, 2010