

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of TTBG/KPTH LICENSE SUB LLC, licensee of analog low power television station KBVK-LP, on Channel 52 in Spencer, Iowa, in support of this application for modification of Construction Permit BDISTDTL-20110830AAB, which authorizes digital operation on Channel 21 from the licensed KBVK-LP site. This purpose of this modification is to specify a reduction in effective radiated power from 15.0 kW to 6.8 kW. No change in site location, antenna type or antenna height is proposed herein.

It is proposed to mount a standard PSI omnidirectional antenna at the 118-meter level of the existing 122-meter communications tower on which the present analog KBVK-LP antenna is located. Exhibit B is a map upon which the predicted service contour is plotted. It is important to note that the proposed 51 dBu contour encompasses the station's city of license, as well as the entirety of the KBVK-LP Grade A contour. Population data within the service contour is based on the 2010 U.S. Census data. Operating parameters for the proposed facility are tabulated in Exhibit C. An interference study is provided in Exhibit D, and a power density calculation follows as Exhibit E.

Because no change in the overall height or location of the existing tower is proposed, the Federal Aviation Administration has not been notified of this application. In addition, the Federal Communications Commission has issued Antenna Structure Registration Number 1051821 to this tower.

EXHIBIT A

I declare under penalty of perjury that the foregoing statements and the attached exhibits are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "K. T. Fisher", with a stylized, elongated final letter.

KEVIN T. FISHER

March 1, 2013

**CONTOUR POPULATION
2010 U.S. CENSUS DATA
50,627 (29,118 HOUSEHOLDS)**

SMITHANDFISHER

**FCC 51 DBU
CONTOUR**

KBVK-LD

**EXHIBIT B
PREDICTED SERVICE CONTOUR
PROPOSED KBVK-LD
CHANNEL 21 - SPENCER, IOWA**

Scale 1:500,000

0 4.0 8.0 12 mi

PROPOSED OPERATING PARAMETERS

PROPOSED KBVK-LD
CHANNEL 21 – SPENCER, IOWA
[MODIFICATION OF BDISTDTL-20110830AAB]

Transmitter Power Output:	0.5 kW
Transmission Line Efficiency:	63.3%
Antenna Power Gain – Main Lobe:	21.49
Effective Radiated Power – Main Lobe:	6.8 kW
Transmitter Make and Model:	Type-accepted
Rated Output	0.5 kW
Transmission Line Make and Model:	Andrew HJ7-50A
Size and Type:	1-5/8" air heliax
Length:	410 feet
Antenna Make and Model:	PSI PSILP-OI (12-bay)
Orientation	omnidirectional
Beam Tilt	0.3 degrees
Radiation Center Above Ground:	118 meters
Radiation Center Above Mean Sea Level:	537 meters

LONGLEY-RICE INTERFERENCE STUDIES
PROPOSED KBVK-LD
CHANNEL 21 – SPENCER, IOWA
[MODIFICATION OF BDISTDTL-20110830AAB]

We conducted detailed interference studies using the Longley-Rice methodology contained in the Commission's *OET Bulletin No. 69*, with respect to all facilities of concern. The software utilizes a 1-square kilometer cell size, calculates signal strength at 1.0 kilometer increments along each radial studied, and employs the 2000 U.S. Census to count population within cells. In addition, the program does not attribute interference to the proposed facility in cells within the protected contour of the station under study where interference from another source (other than proposed KBVK-LD) already is predicted to exist (also known as "masking"). It is important to note that the study is also based on the applicant's intended use of a full-power emission mask. The results of these studies are provided in Exhibit D-2. They conclude that the facility proposed herein causes no significant new interference to any of the potentially affected stations.

As a result, it is believed that the proposed KBVK-LD facility complies with the requirements of Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030 of the Commission's Rules.

EXHIBIT D-2

INTERFERENCE SUMMARY

PROPOSED K18KG-D
CHANNEL 18 – SPENCER, IOWA
[MODIFICATION OF BDISDTL-20110819AAM]

<u>Call Sign</u>	<u>Status</u>	<u>City, State</u>	<u>Ch.</u>	Longley-Rice Service <u>Population</u>	Unmasked Interference From <u>Proposed Facility</u>	<u>%</u>
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[NO STATIONS AFFECTED]

POWER DENSITY CALCULATION

PROPOSED KBVK-LD
CHANNEL 21 – SPENCER, IOWA
[MODIFICATION OF BDISTDTL-20110830AAB]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Spencer facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 6.8 kW, an antenna radiation center 118 meters above ground, and the vertical pattern of a standard 12-bay UHF slotted cylinder antenna, maximum power density two meters above ground of 0.00015 mw/cm^2 is calculated to occur 49 meters from the base of the tower. Since this is less than 0.1 percent of the 0.35 mw/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 21 (522-528 MHz), this proposal may be excluded from consideration with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.