

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of RAPID BROADCASTING COMPANY, licensee of analog Low Power Television Station KKRA-LP, Channel 24 in Rapid City, South Dakota, in support of a digital companion channel Application for Construction Permit on Channel 25. No change in site location, azimuth pattern, or antenna height is proposed herein.

It is proposed to combine the KKRA-LD signal with that of KWBH-LD and utilize the licensed KWBH-LP omnidirectional slotted cylinder antenna, which is mounted at the 75.3-meter level of an existing 163.1-meter tower. The proposed effective radiated power for the facility is 2.6 kW in the horizontal plane. Exhibit B is a map upon which the predicted 51 dBu service contour is plotted.

Attached, as Exhibit C, is a summary report from a TVStudy interference analysis for the proposed facility. Our study employed both a cell size and increment spacing of 1.0 kilometer. The results indicate that the proposed digital KKRA-LD facility meets the Commission's interference requirements to all full-power and low-power co-channel and adjacent-channel facilities.

A detailed power density calculation is provided in Exhibit D.

Since no change in the overall height or location of the existing KKRA-LP supporting structure is proposed herein, the FAA has not been notified of this application. In addition, the FCC issued Antenna Structure Registration Number 1048502 to this tower.

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', is written over a horizontal line.

March 5, 2021

KEVIN T. FISHER

CONTOUR POPULATION
2018 U.S. CENSUS DATA
125,807 (53,437 HH)

Smith and Fisher, LLC

PROPOSED KKRA-LD
51 DBU CONTOUR

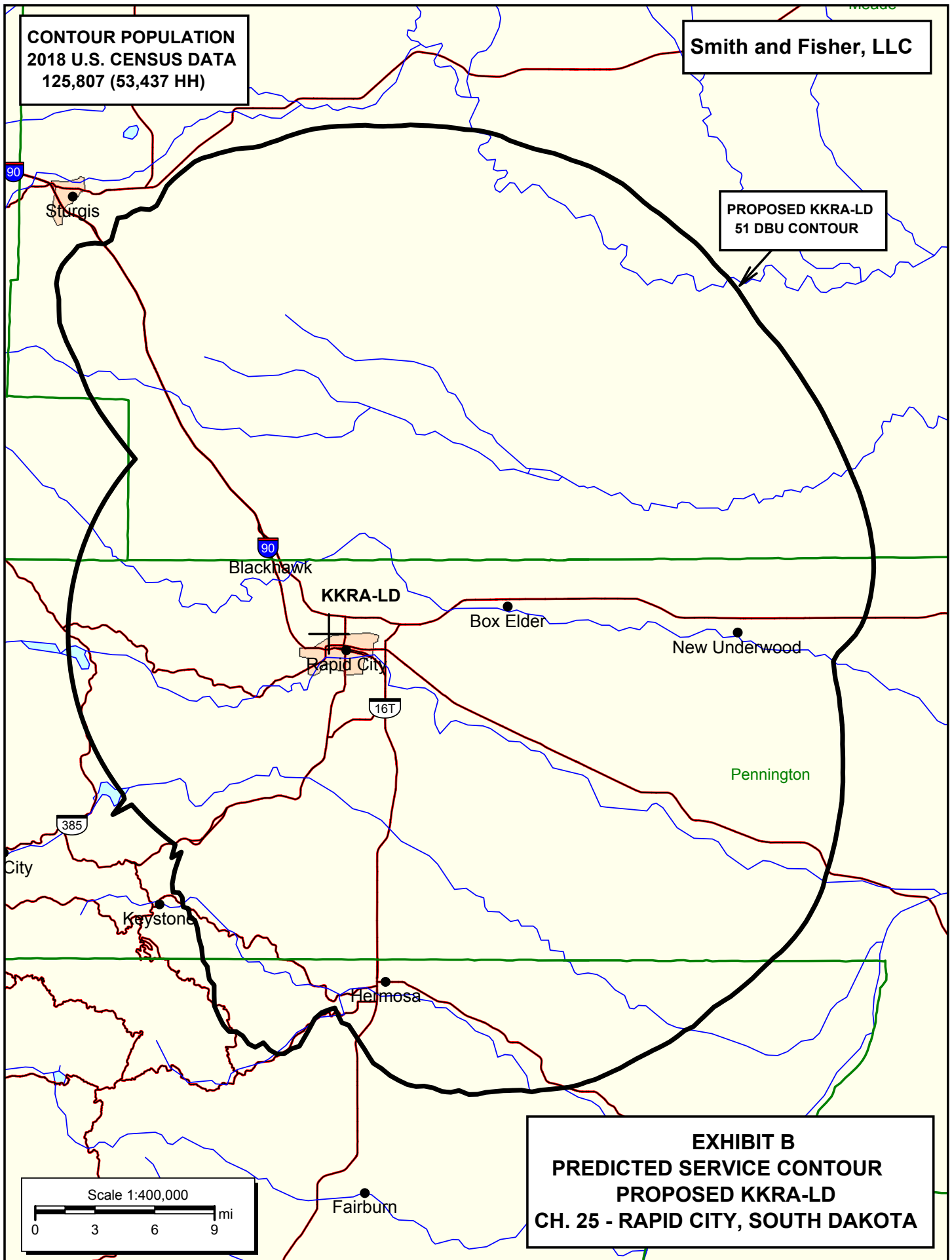


EXHIBIT B
PREDICTED SERVICE CONTOUR
PROPOSED KKRA-LD
CH. 25 - RAPID CITY, SOUTH DAKOTA

TVSTUDY INTERFERENCE ANALYSIS RESULTS
 PROPOSED KKRA-LD
 CHANNEL 25 – RAPID CITY, SOUTH DAKOTA

Study created: 2021.03.05 15:03:51

Study build station data: LMS TV 2021-01-18

Proposal: KKRA-LD D25 LD APP RAPID CITY, SD

Facility ID: 23491

Station data: User record

Record ID: 980

Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

| IX | Call | Chan | Svc | Status | City, State | File Number | Distance |
|-----|---------|------|-----|--------|--------------------|--------------------|----------|
| Yes | K24LL-D | D24 | LD | CP | WASTA, SD | BNPDTL20100510AHK | 69.6 km |
| No | KPXH-LD | D25 | LD | LIC | FORT COLLINS, CO | BLDTL20111110AJH | 425.1 |
| No | K25MO-D | D25 | LD | CP | GREAT FALLS, MT | BNPDTL20100505AHC | 358.4 |
| No | K25NU-D | D25 | LD | CP | TERRY, MT | BNPDTL20100506AEL | 336.3 |
| No | K25NX-D | D25 | LD | CP | BISMARCK, ND | BNPDTL20100505AMG | 365.2 |
| No | K25MC-D | D25 | LD | CP | SENTINEL BUTTE, ND | BNPDTL20100506ACK | 312.9 |
| No | K25GM-D | D25 | LD | LIC | NEWPORT, NE | BLDTL20120618ABD | 356.4 |
| No | KNPL-LD | D25 | LD | LIC | NORTH PLATTE, NE | BLANK0000125163 | 381.3 |
| No | K25ME-D | D25 | LD | CP | CASPER, WY | BNPDTL20100510ACS | 270.6 |
| No | KWYM-LP | D25z | LD | CP | LARAMIE, WY | BLANK0000071846 | 362.4 |
| No | K25MY-D | D25 | LD | CP | SUNDANCE, WY | BDISDTL20110811ABJ | 99.0 |
| No | K25NC-D | D25 | LD | CP | WHEATLAND, WY | BNPDTL20100510AEN | 279.8 |
| No | K25LI-D | D25 | LD | LIC | WRIGHT, WY | BLDTT20100617AJX | 215.0 |
| No | K26MO-D | D26 | LD | CP | KADOKA, SD | BNPDTL20100510AHV | 164.5 |
| Yes | KBHE-TV | D26 | DT | LIC | RAPID CITY, SD | BLEDT20081121AKE | 4.5 |
| No | KWBH-LP | N27 | TX | LIC | RAPID CITY, SD | BLTTL19970801JA | 0.0 |

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D25

Mask: Stringent

Latitude: 44 5 33.00 N (NAD83)

Longitude: 103 14 55.00 W

Height AMSL: 1221.3 m

HAAT: 0.0 m

Peak ERP: 2.60 kW

Antenna: Omnidirectional

Elev Pattn: Generic

49.9 dBu contour:

| Azimuth | ERP | HAAT | Distance |
|---------|---------|---------|----------|
| 0.0 deg | 2.60 kW | 202.0 m | 42.2 km |
| 45.0 | 2.60 | 244.2 | 44.6 |
| 90.0 | 2.60 | 230.8 | 43.9 |
| 135.0 | 2.60 | 245.2 | 44.6 |
| 180.0 | 2.60 | 73.2 | 31.8 |
| 225.0 | 2.60 | 20.4 | 22.5 |
| 270.0 | 2.60 | -48.2 | 22.5 |
| 315.0 | 2.60 | 55.4 | 28.9 |

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 128 m

Distance to Canadian border: 545.4 km

Distance to Mexican border: 1397.7 km

Conditions at FCC monitoring station: Grand Island NE

Bearing: 130.1 degrees Distance: 529.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 201.1 degrees Distance: 467.2 km

Study cell size: 1.00 km

Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

No IX check failures found.

POWER DENSITY CALCULATION

PROPOSED KKRA-LD
CHANNEL 25 – RAPID CITY, SOUTH DAKOTA

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Rapid City facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 2.6 kW, an antenna radiation center 75.3 meters above ground, and assuming a maximum relative field value of 40 percent at the steeper elevation angles for the licensed Antenna Concepts ACS32E antenna, a maximum power density value two meters above ground of 0.0026 mW/cm^2 is calculated to occur near the base of the tower. Since this is only 0.7 percent of the 0.36 mW/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 25 (536-542 MHz), a grant of this proposal may be considered a minor environmental action 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.