

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of SOULE VIDEO PRODUCTIONS, INC., licensee of digital Low Power Television Station KUTO-LD, Channel 15 in Logan, Utah, in support of its Application for Construction Permit to specify a new transmitter site.

It is proposed to mount a horizontally-polarized directional antenna at the 10.6-meter level of an existing 93.0 meter communications tower atop Cal Mountain. The proposed site is located only 30.3 kilometers northwest of the licensed KUTO-LD site. The proposed effective radiated power will be 1.6 kW in the horizontal plane. Exhibit B is a map upon which the predicted 51 dBu service contour of the proposed facility is plotted. The licensed and proposed service contours are plotted in Exhibit C. As shown, there is significant overlap between the two contours. Azimuth pattern data for the proposed Scala-Kathrein 4DR-4S directional antenna are included in Exhibit D.

Exhibit E contains the summary results from a TVStudy interference study, which was conducted using a cell size of 1.0 kilometer and an increment spacing of 1.0 kilometer. It concludes that the proposed KUTO-LD facility meets the Commission's de minimis interference criteria to all co-channel and adjacent-channel post-repack full-power and Class A and LPTV/translator facilities.

A detailed power density calculation is provided in Exhibit F.

Since no change in the overall height or location of the existing Cal Mountain tower is proposed herein, the Federal Aviation Administration has not been notified of this application.

EXHIBIT A

In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1234946 to this structure.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, 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 horizontal line extending from the end.

KEVIN T. FISHER

August 24, 2022

CONTOUR POPULATION
2020 U.S. CENSUS DATA
187,227 (61,729 HH)



PROPOSED FCC 51 DBU
SERVICE CONTOUR

Proposed Site



Cache

Scale 1:400,000

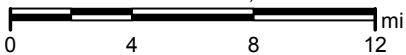
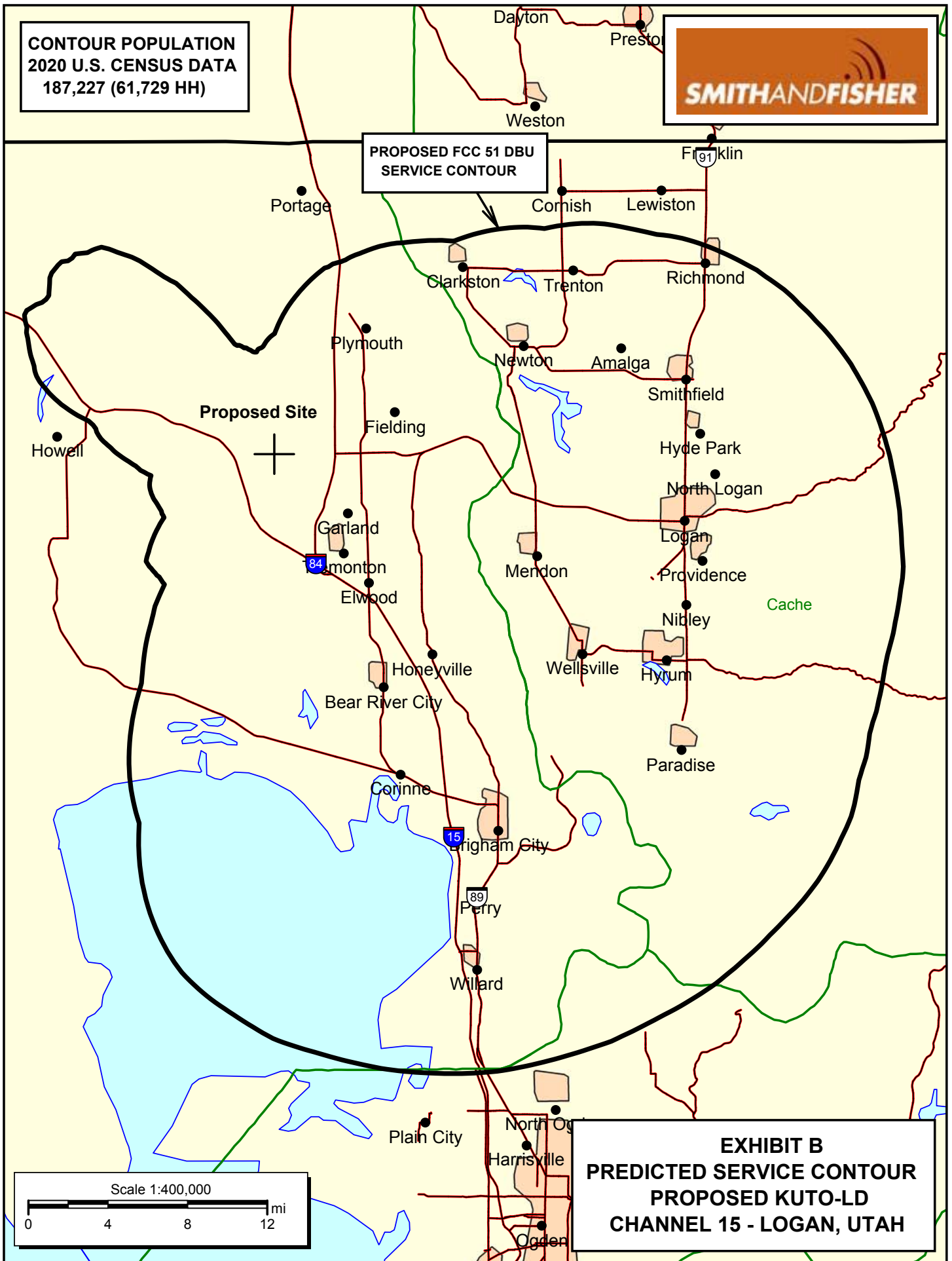
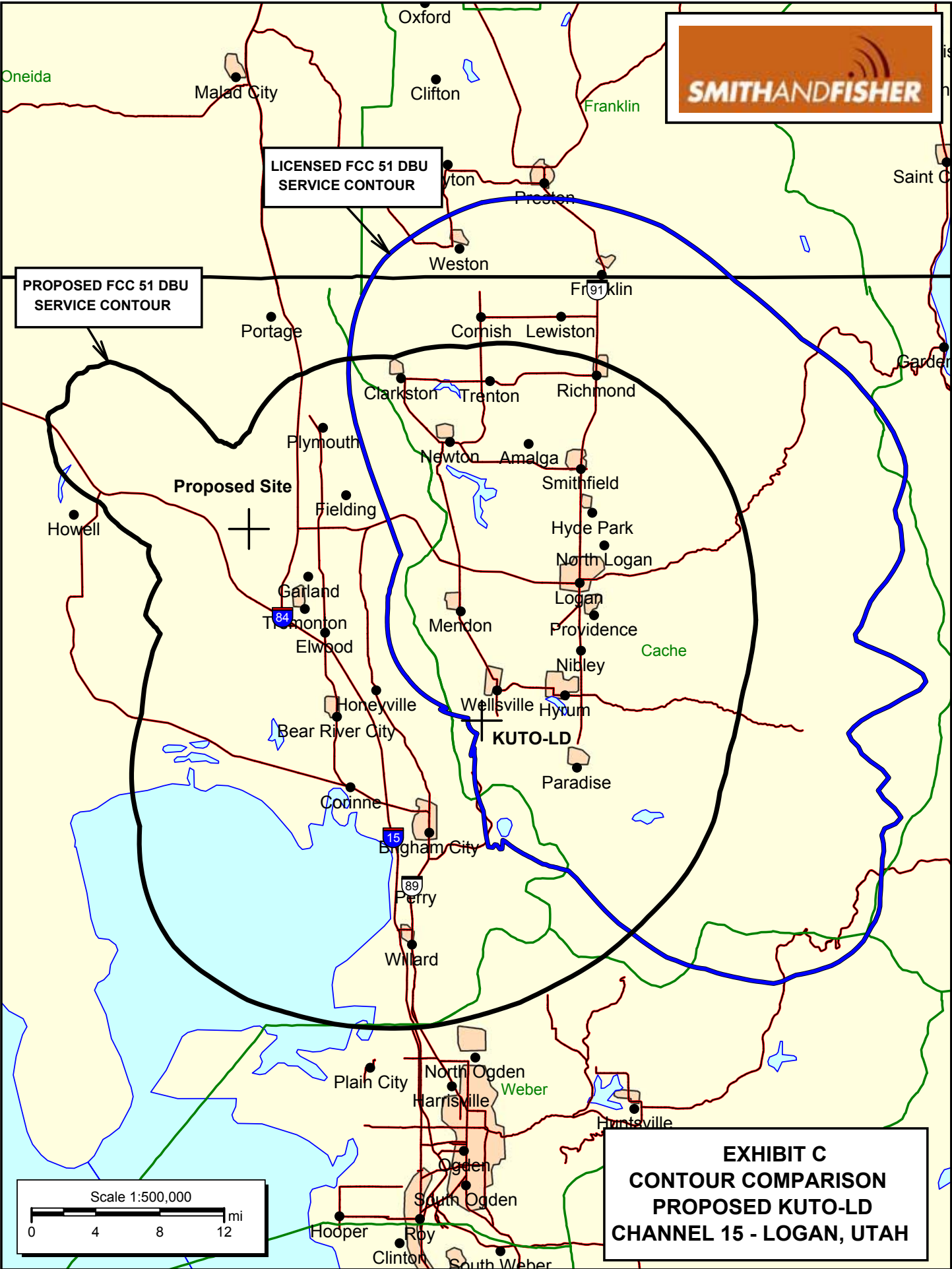


EXHIBIT B
PREDICTED SERVICE CONTOUR
PROPOSED KUTO-LD
CHANNEL 15 - LOGAN, UTAH





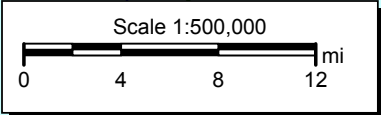
LICENSED FCC 51 DBU
SERVICE CONTOUR

PROPOSED FCC 51 DBU
SERVICE CONTOUR

Proposed Site

KUTO-LD

EXHIBIT C
CONTOUR COMPARISON
PROPOSED KUTO-LD
CHANNEL 15 - LOGAN, UTAH

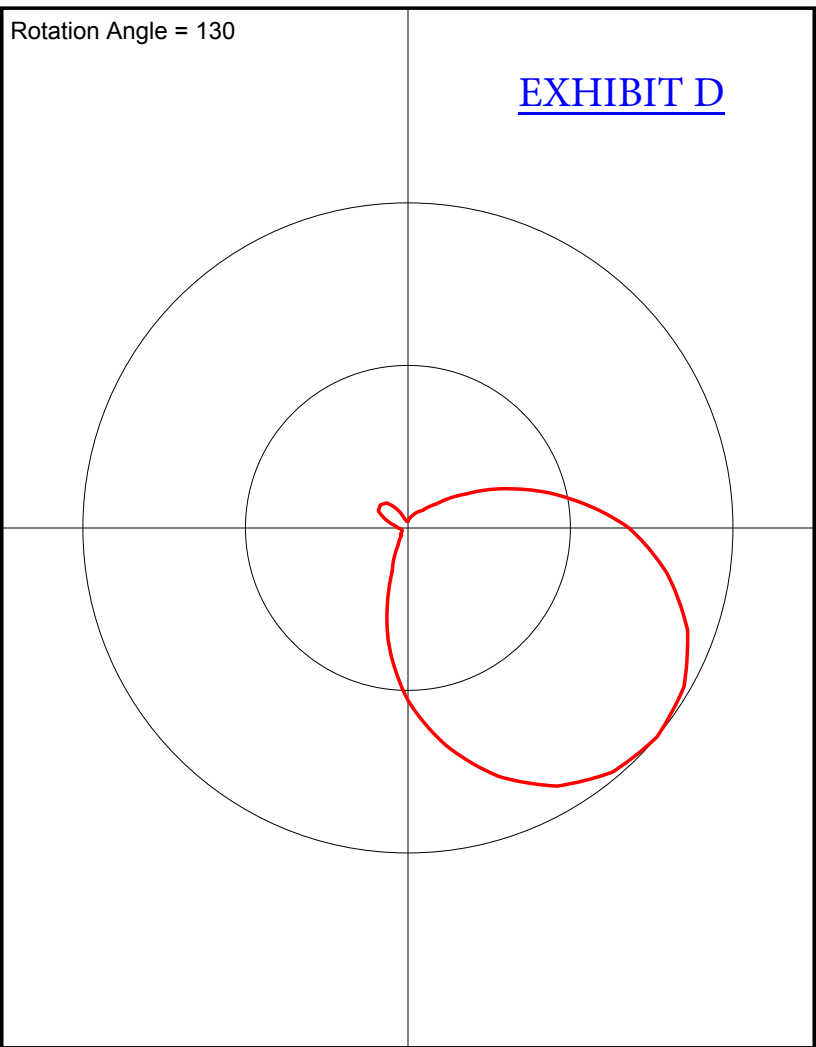


KUTO Antenna Pattern
Pre-Rotation Antenna Pattern....

Rotation Angle = 130

EXHIBIT D

| Azimuth (deg) | Relative Field |
|---------------|----------------|
| 0.0 | 1.0 |
| 10.0 | 0.98 |
| 20.0 | 0.917 |
| 30.0 | 0.813 |
| 40.0 | 0.68 |
| 50.0 | 0.53 |
| 60.0 | 0.35 |
| 70.0 | 0.14 |
| 80.0 | 0.06 |
| 90.0 | 0.03 |
| 100.0 | 0.03 |
| 110.0 | 0.02 |
| 120.0 | 0.02 |
| 130.0 | 0.02 |
| 140.0 | 0.03 |
| 150.0 | 0.04 |
| 160.0 | 0.07 |
| 170.0 | 0.105 |
| 180.0 | 0.11 |
| 190.0 | 0.1 |
| 200.0 | 0.065 |
| 210.0 | 0.03 |
| 220.0 | 0.02 |
| 230.0 | 0.02 |
| 240.0 | 0.03 |
| 250.0 | 0.04 |
| 260.0 | 0.055 |
| 270.0 | 0.07 |
| 280.0 | 0.115 |
| 290.0 | 0.21 |
| 300.0 | 0.35 |
| 310.0 | 0.51 |
| 320.0 | 0.68 |
| 330.0 | 0.81 |
| 340.0 | 0.915 |
| 350.0 | 0.98 |



TVSTUDY INTERFERENCE ANALYSIS RESULTS
 PROPOSED KUTO-LD
 CHANNEL 15 – LOGAN, UTAH

Study created: 2022.08.23 14:07:14

Study build station data: LMS TV 2022-07-26

Proposal: KUTO-LD D15 LD LIC LOGAN, UT

File number: BLANK0000195065

Facility ID: 182217

Station data: User record

Record ID: 1461

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 |
|-----|---------|------|-----|--------|-------------------------|-------------------|----------|
| No | K14IC-D | D14 | LD | LIC | BURLEY, ID | BLDTT20100915AAY | 135.6 km |
| No | K14MC-D | D14 | LD | LIC | LAVA HOT SPRINGS, ID | BLDTT20110526AID | 94.0 |
| No | K14RY-D | D14 | LD | LIC | MALAD & SURROUNDING, ID | BLANK0000074790 | 33.0 |
| No | K14OA-D | D14 | LD | LIC | PRESTON, ID | BLDTT20111005AJC | 53.5 |
| No | KSVT-LD | D14 | LD | LIC | TWIN FALLS, ID | BLDTL20120702AAO | 208.0 |
| No | K14RM-D | D14 | LD | LIC | LAKETOWN, ETC., UT | BLANK0000093599 | 80.5 |
| No | KULX-CD | D14 | DC | LIC | OGDEN, UT | BLDTL20110323ABX | 125.0 |
| No | K14PF-D | D14 | LD | LIC | PEOA, OAKLEY, UT | BLDTT20120130ADQ | 138.5 |
| No | K14RL-D | D14 | LD | LIC | SAMAK, UT | BLANK0000093235 | 151.7 |
| No | K14QS-D | D14 | LD | LIC | WANSHIP, UT | BLANK0000093247 | 129.0 |
| No | KFQX | D15 | DT | LIC | GRAND JUNCTION, CO | BLCDDT20061020ACO | 422.1 |
| No | KKJB | D15 | DT | LIC | BOISE, ID | BLANK0000063943 | 385.7 |
| No | K15GO-D | D15 | LD | LIC | GEORGETOWN, ID | BLDTT20091005ABK | 108.4 |
| No | K15HR-D | D15 | LD | LIC | MACKAY, ID | BLANK0000012101 | 265.6 |
| Yes | K15IB-D | D15 | LD | LIC | MALAD, ID | BLDTT20110419ABH | 33.0 |
| Yes | KPIF | D15 | DT | LIC | POCATELLO, ID | BLANK0000112831 | 122.3 |
| No | KXLF-TV | D15 | DT | APP | BUTTE, MT | BLANK0000177550 | 469.7 |
| No | K15EE-D | D15 | LD | LIC | ELKO, NV | BLANK0000156398 | 308.9 |
| No | K15LY-D | D15 | LD | LIC | RUTH, NV | BLANK0000087547 | 363.9 |

SMITH AND FISHER

| | | | | | | |
|-----|----------|------|--------|-------------------------|------------------|-------|
| No | K15KQ-D | D15 | LD LIC | COALVILLE, UT | BLANK0000093258 | 118.3 |
| No | K15LO-D | D15 | LD LIC | FRUITLAND, UT | BLANK0000095191 | 208.3 |
| No | K15HH-D | D15 | LD LIC | GREEN RIVER, UT | BLDTT20080123ACJ | 357.1 |
| No | K15LE-D | D15 | LD LIC | HEBER CITY, UT | BLANK0000146998 | 149.8 |
| No | K15KZ-D | D15 | LD LIC | KOOSHAREM, UT | BLANK0000084389 | 369.0 |
| No | K15LL-D | D15 | LD LIC | LEAMINGTON, UT | BLANK0000125321 | 250.4 |
| No | K15CD-D | D15 | LD LIC | MAYFIELD, UT | BLDTT20090811AAA | 299.5 |
| No | K15FQ-D | D15 | LD LIC | MILFORD, ETC., UT | BLDTT20070228ABG | 373.6 |
| No | K15HG-D | D15 | LD LIC | MOUNT PLEASANT, UT | BLDTT20080722ABC | 259.5 |
| No | K15LQ-D | D15 | LD LIC | ORANGEVILLE, UT | BLANK0000094683 | 300.6 |
| No | K15FL-D | D15 | LD LIC | PARK CITY, UT | BLDTT20090414AFN | 136.0 |
| No | K15KY-D | D15 | LD LIC | RICHFIELD, ETC., UT | BLANK0000064384 | 350.4 |
| No | K15LP-D | D15 | LD LIC | RURAL CARBON COUNTY, UT | BLANK0000093969 | 248.5 |
| No | K15KT-D | D15 | LD LIC | RURAL SEVIER COUNTY, UT | BLANK0000083226 | 365.7 |
| Yes | KBTU-LD | D15+ | LD LIC | SALT LAKE CITY, UT | BLANK0000145158 | 122.5 |
| No | K15LK-D | D15 | LD LIC | SCIPIO, UT | BLANK0000139801 | 287.0 |
| No | K15LW-D | D15 | LD LIC | UTAHN, UT | BLANK0000095150 | 198.9 |
| No | K27NO-D | N15 | TX LIC | VERNAL, UT | BLTT19940328JF | 303.9 |
| No | K15GZ-D | D15 | LD LIC | WENDOVER, UT | BLDTT20110928ADG | 190.2 |
| No | K16HQ-D | D16 | LD APP | GEORGETOWN, ID | BLDTT20111115AGU | 97.0 |
| No | K16MW-D | D16 | LD LIC | MALAD CITY, ID | BLANK0000074791 | 33.0 |
| No | K16NQ-D | D16 | LD LIC | POCATELLO, ID | BLANK0000149778 | 122.3 |
| No | K16NQ-D | D16 | LD CP | POCATELLO, ID | BLANK0000177426 | 122.3 |
| No | K16IX-D | D16 | LD LIC | PRESTON, ID | BLDTT20111005AJB | 53.5 |
| No | DKCJY-LP | D16z | LD APP | TWIN FALLS, ID | BLANK0000054144 | 208.1 |
| No | KMVT | D16 | DT APP | TWIN FALLS, ID | BLANK0000158301 | 208.0 |
| No | K16MK-D | D16 | LD LIC | LAKETOWN, ETC., UT | BLANK0000093606 | 80.5 |
| No | KULU-LD | D16 | LD LIC | PARK CITY, UT | BLDTL20120618AAV | 120.9 |
| No | K43JV | D16- | LD CP | PROVO, UT | BLANK0000049057 | 169.9 |
| No | K16HW-D | D16 | LD LIC | EVANSTON, ETC., WY | BLANK0000093968 | 121.0 |

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D15

Mask: Full Service

Latitude: 41 47 2.70 N (NAD83)

Longitude: 112 13 57.80 W

Height AMSL: 2104.7 m (Adjusted based on actual ground elevation calculation)

HAAT: 0.0 m

Peak ERP: 1.60 kW

Antenna: KUTO new 0.0 deg

Elev Pattn: Generic

48.8 dBu contour:

| Azimuth | ERP | HAAT | Distance |
|---------|----------|---------|----------|
| 0.0 deg | 0.000 kW | 500.4 m | 11.5 km |
| 45.0 | 0.014 | 702.8 | 28.7 |
| 90.0 | 0.740 | 698.7 | 53.1 |
| 135.0 | 1.57 | 753.7 | 59.1 |
| 180.0 | 0.449 | 727.6 | 50.4 |
| 225.0 | 0.001 | 601.0 | 15.8 |
| 270.0 | 0.001 | 510.0 | 15.1 |
| 315.0 | 0.018 | 443.1 | 25.5 |

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 617 m

Distance to Canadian border: 801.9 km

Distance to Mexican border: 1031.2 km

Conditions at FCC monitoring station: Livermore CA

Bearing: 244.1 degrees Distance: 929.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 104.9 degrees Distance: 612.9 km

No land mobile station failures found

Proposal is not within the Offshore Radio Service protected area

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 KUTO-LD
CHANNEL 15 – LOGAN, UTAH

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Logan facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 1.6 kW (H), an antenna radiation center 10.6 meters above ground, and assuming a vertical relative field value of 20 percent at the steeper elevation angles for the proposed Scala-Kathrein 4DR-4S antenna, maximum power density two meters above ground of 0.029 mW/cm^2 is calculated to occur near the base of the tower. Since this value is but only 9.0 percent of the 0.32 mW/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 15 (476-482 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.