

K284AY
Tooele, UT

Proposed Minor Modification
of Licensed Translator Facility

Application Overview:

The Applicant proposes to modify BLFT-20060112AET using the following parameters:

Tech Box:

Channel:	284
Antenna Coordinates:	N40-39-35, W112-12-07 (NAD 27)
ASRN:	N/A
Tower Site Base AMSL:	2753 m
Overall Tower Height AGL:	8 m
COR AGL:	7 m
ERP:	Vertically Polarized 0.04 kW
Directional Antenna:	Yes - SCA CL-FM(V) Rotated 215 Deg

Primary Station and Translator Protected Contour Relationship:

Exhibit 1 demonstrates that the proposed fill-in translator facility's protected contour is completely encompassed by the protected contour of the primary station being rebroadcast.

Interference Study (Fully Spaced):

Exhibit 2 is a contour overlap study demonstrating that the proposed antenna site provides requisite contour protection towards all applications, authorizations, and permits pursuant to Section 74.1204.

Interference Study (Adjacent Stations):

Exhibit 2 is a contour overlap study demonstrating that the proposed antenna site provides requisite contour protection towards all applications, authorizations, and permits pursuant to Section 74.1204 with the exception of the following:

- KSOP-FM (BLH-20040205AAJ) on its second adjacent channel
- KUDD(FM) (BLH-20151130CJH) on its second adjacent channel

Section 74.1204(a) states that “an application for an FM translator station will not be accepted for filing if the proposed operation would involve overlap of predicted field strength contours with any other station, including commercial and noncommercial educational FM stations, FM translators and Class D (secondary) noncommercial educational FM stations.” However, Section 74.1204(d) states, “the provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or other such factors as may be applicable.” Using the undesired-to-desired ratio method regarding interference to a second or third adjacent frequency, interference is predicted to occur where the translator’s undesired signal exceeds the protection station’s desired signal by more than 40 dB. The free space formula was used to determine the signal strength of the proposed facility, in dBu, at the antenna site of the adjacent station(s).

The signal strength of KSOP-FM at the proposed site is calculated to be 145.9 dBu. As such, the interfering contour of the proposed facility is its F(50,10) 185.9 dBu contour which extends less than 1 meter from the antenna and does not reach the ground.

The signal strength of KUDD(FM) at the proposed site is calculated to be 146.9 dBu. As such, the interfering contour of the proposed facility is its F(50,10) 186.9 dBu contour which extends less than 1 meter from the antenna does not reach the ground.

Therefore, due to the absence of “potential listeners” within the interference contour, no interference is expected to occur.

Downward Radiation Study (FM Model):

The proposed FM Facility has been evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level in accordance with OET Bulletin No. 65, Evaluating Compliance with FCC Specified Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (OET Bulletin 65, Second Edition 97-01, August, 1997). The Commission’s FM Model Power Density Prediction program was employed to determine the Field. Using the Phelps-Dodge "Ring Stub" Worst Case antenna with 1 sections and 1 wavelength spacing, and the AGL height and ERP proposed in this application, the highest predicted power density 2 meters above ground is less than 25.5% of the Uncontrolled Standard with a Power Density of 50.94 microwatts per square centimeter 3.8 meters from the base of the tower.

Even though the site will fully comply with the Uncontrolled Site Standards, access to the transmitting site will be restricted and appropriately marked with warning signs. When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radiofrequency radiation will not exceed the FCC guidelines.

Existing Structure:

The proposed facility is exempt from environmental processing because the facility is not located at a location specified in Section 1.1307(a)(1)-(8) of the Commission's Rules and since the tower in question already exists.

Exhibit 1

Primary Station Protected Contour

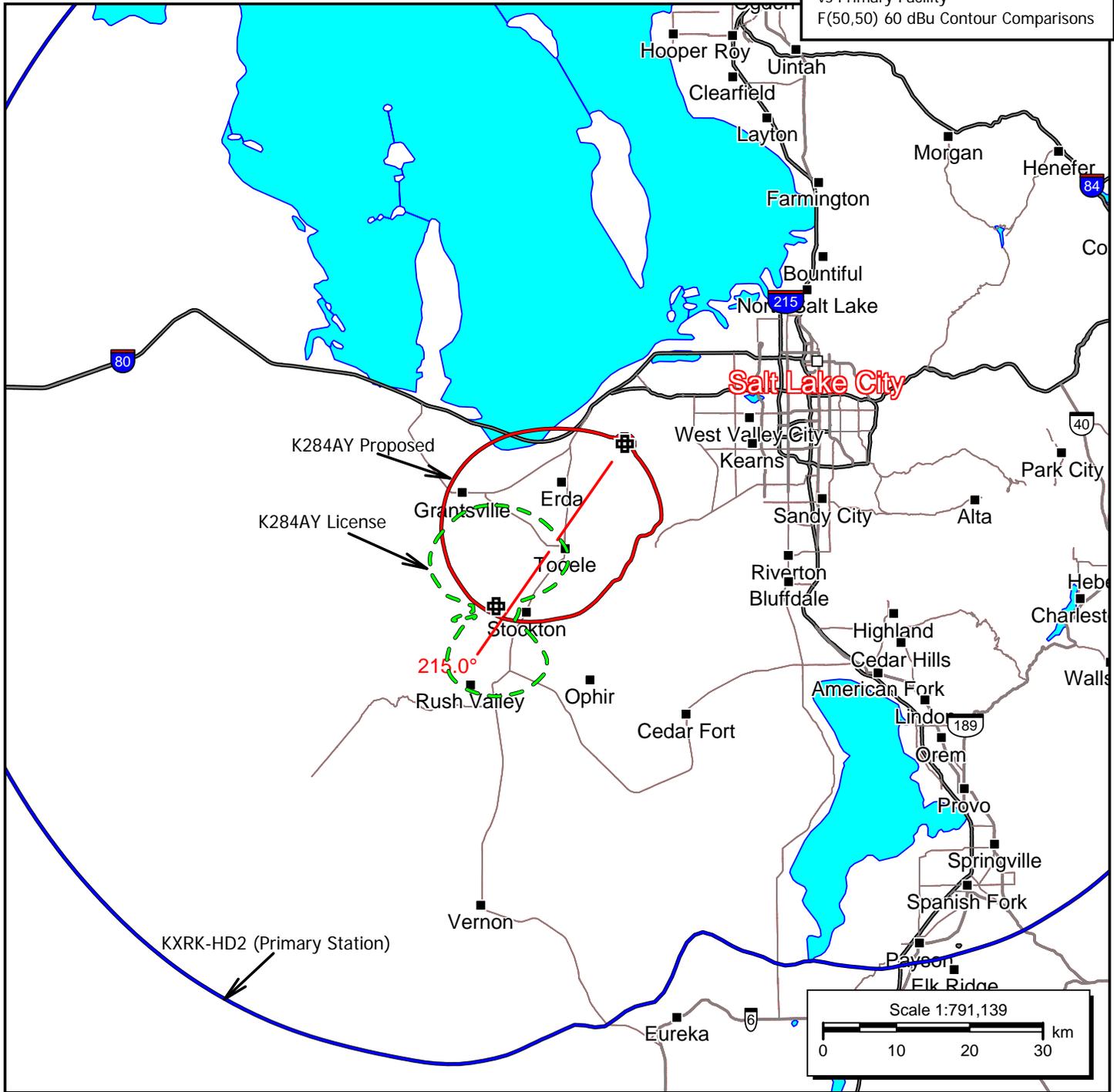
vs.

Proposed Translator Protected Contour

vs.

Translator's Authorized Protected Contour

Proposed Translator
vs Licensed Translator
vs Primary Facility
F(50,50) 60 dBu Contour Comparisons



K284AY Proposed
 Channel: 284D
 Frequency: 104.7 MHz
 Latitude: 40-39-35 N
 Longitude: 112-12-07 W
 COR AGL Height: 7.0 m
 COR AMSL Height: 2760.0 m
 Base Elevation: 2753.0 m
 COR HAAT: 1178.68 m
 ERP: 0.04 kW
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

K284AY License
 BLFT20060112AET
 Channel: 284D
 Frequency: 104.7 MHz
 Latitude: 40-27-36 N
 Longitude: 112-24-31 W
 COR AGL Height: 6.0 m
 COR AMSL Height: 2000.0 m
 Base Elevation: 1994.0 m
 COR HAAT: 297.4 m
 ERP: 0.01 kW
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

KXRK-HD2 (Primary Station)
 BLH20160119ADW
 Channel: 242C
 Frequency: 96.3 MHz
 Latitude: 40-39-35 N
 Longitude: 112-12-05 W
 COR AGL Height: 76.0 m
 COR AMSL Height: 2831.0 m
 Base Elevation: 2755.0 m
 COR HAAT: 1243.0 m
 ERP: 22.00 kW
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

Exhibit 2

Section 74.1204 Interference Tabulations

K284AY Tooele, UT

Section 74.1204 Overlap Study

REFERENCE
40 39 35.0 N.
112 12 07.0 W.

CH# 284D - 104.7 MHz, Pwr= 0.04 kW DA, HAAT= 1178.7 M,
Average Protected F(50-50)= 28.45 km
Standard Directional

COR= 2760 M DISPLAY DATES
DATA 05-31-16
SEARCH 06-17-16

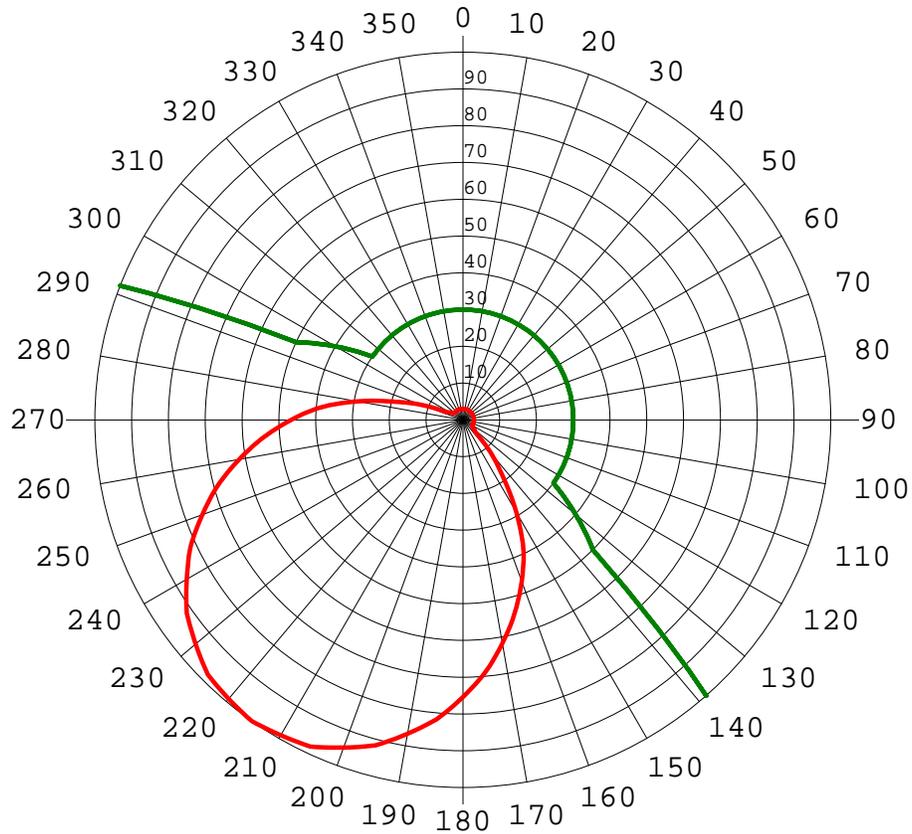
CH CITY	CALL	TYPE STATE	ANT	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
282C Salt Lake City	KSOP-FM	LIC_CX UT		123.4 303.4	0.05 BLH20040205AAJ	40 39 34.0 112 12 05.0	25.000 1140	10.1 2803	97.2 Ksop, Inc.	-11.3*	-97.3*
286C American Fork	KUDD	LIC_C_ UT		90.0 270.0	0.04 BLH20151130CJH	40 39 35.0 112 12 05.0	22.000 1243	9.5 2831	96.1 Broadway Media Ls,	-10.8*	-96.2*
284C Lyman	KNIV	LIC_HX WY		76.6 257.4	104.55 BLH20061025AFS	40 52 16.0 110 59 43.0	89.000 647	197.8 3330	92.1 Mav Media, LIc	-94.6*	0.8
284D Stockton	K284AY	LIC_V_ UT		218.2 38.1	28.25 BLFT20060112AET	40 27 36.0 112 24 31.0	0.010 297	46.9 2000	12.8 Radio Rancho, LIc	-47.9*	-74.0*
284D Salt Lake City	KNIV-FM3	LIC_DC_ UT		57.8 238.0	31.09 BLFTB20090414ABU	40 48 29.0 111 53 23.0	2.100	57.9 1827	16.6 Mav Media, LIc	-28.1*	2.6
284D Bountiful	KNIV-FM4	LIC_DC_ UT		55.3 235.5	34.28 BLFTB20090414ABS	40 50 05.0 111 52 03.0	2.200	54.3 1828	15.6 Mav Media, LIc	-21.3*	6.9
284D Provo	KNIV-FM2	LIC_DC_ UT		133.0 313.3	66.85 BLFTB20110404AAO	40 14 56.0 111 37 33.0	1.750	77.0 1647	26.5 Mav Media, LIc	-12.2*	24.1
284D Park City	KNIV-FM5	CP_C_ UT		92.6 273.1	57.92 BNPFTB20140506ABU	40 38 01.9 111 31 04.7	0.500	64.5 2681	21.1 Mav Media, LIc	-7.9*	25.2
284D Ogden	KNIV-FM1	LIC_DC_ UT		12.0 192.1	77.52 BLFTB20090414ABV	41 20 32.0 112 00 30.0	0.500	65.4 1596	21.5 Mav Media, LIc	10.8	44.2

Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
Contour distances are on direct line to and from reference station. Reference zone= , Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside restricted contour.

Exhibit 4

Proposed Directional Pattern Azimuth Tabulations

K284AY Azimuth Pattern - Scala CL-FM(V)



Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
0	1.000	-13.98	0.040	0.00	180	0.030	-44.44	0.000	-30.46
10	0.980	-14.15	0.038	-0.18	190	0.030	-44.44	0.000	-30.46
20	0.916	-14.74	0.034	-0.76	200	0.030	-44.44	0.000	-30.46
30	0.817	-15.73	0.027	-1.76	210	0.030	-44.44	0.000	-30.46
40	0.690	-17.20	0.019	-3.22	220	0.030	-44.44	0.000	-30.46
50	0.544	-19.27	0.012	-5.29	230	0.030	-44.44	0.000	-30.46
60	0.390	-22.16	0.006	-8.18	240	0.030	-44.44	0.000	-30.46
70	0.190	-28.40	0.001	-14.42	250	0.030	-44.44	0.000	-30.46
80	0.050	-40.00	0.000	-26.02	260	0.030	-44.44	0.000	-30.46
90	0.030	-44.44	0.000	-30.46	270	0.030	-44.44	0.000	-30.46
100	0.030	-44.44	0.000	-30.46	280	0.050	-40.00	0.000	-26.02
110	0.030	-44.44	0.000	-30.46	290	0.190	-28.40	0.001	-14.42
120	0.030	-44.44	0.000	-30.46	300	0.390	-22.16	0.006	-8.18
130	0.030	-44.44	0.000	-30.46	310	0.544	-19.27	0.012	-5.29
140	0.030	-44.44	0.000	-30.46	320	0.690	-17.20	0.019	-3.22
150	0.030	-44.44	0.000	-30.46	330	0.817	-15.73	0.027	-1.76
160	0.030	-44.44	0.000	-30.46	340	0.916	-14.74	0.034	-0.76
170	0.030	-44.44	0.000	-30.46	350	0.980	-14.15	0.038	-0.18

Rotation Angle = 215