

Family Stations, Inc.

Minor Modification of License – Comprehensive Exhibit

Facility ID 20716, KUFR, Salt Lake, City, UT – Channel 219

40-45-48.0 N, 111-53-26.0 W, RCAGL 135 meters, RC HAAT -63 meters, ERP 0.130 kW (H&V)

Overview

The instant application is being filed for a minor modification of construction permit for Facility ID 20716, KUFR, Salt Lake, City, UT.

Frequency Allocation and Interference Consideration

The facility specified in the proposed modification is compliant with all relevant spacing and interference regulations.

There is existing co-channel interference overlap with Facility ID 1169, KOHS, Orem, UT. The KOHS construction permit application ARN BMPED-20160325AAK, that is the basis for their current license ARN BLED-20160511AAZ states:

“As was the case in the application for CP being instantly modified. The proposed KOHS facility would continue to prohibitively overlap with the licensed facilities of KUFR(FM) Salt Lake City on Channel 219A in the same manner. Currently, KOHS(FM)’s licensed facilities and KUFR(FM) both create outgoing interference to the other facility. However, as can be seen in Exhibit 3A, as a result of the instantly proposed application, the number of persons receiving prohibited overlap will decrease.”

Accordingly, the applicant submits the following regarding the instant application:

The proposed KUFR facility would continue to prohibitively overlap with the licensed facilities of KOHS Orem UT on Channel 219A in the same manner. Currently, KUFR’s licensed facilities and KOHS(FM) both create outgoing interference to the other facility. However, as can be seen in the exhibit map attached, as a result of the instantly proposed application, the number of persons receiving prohibited overlap will decrease and the area of overlap also decreases.

Census 2020 population in existing licensed KUFR f(50,10) 40 dBu contour overlap with KOHS f(50,50) 60 dBu contour = 126,971 Persons

Census 2020 population in proposed KUFR f(50,10) 40 dBu contour overlap with KOHS f(50,50) 60 dBu contour = 111,492 Persons

Contour overlap area in existing licensed KUFR f(50,10) 40 dBu contour overlap with KOHS f(50,50) 60 dBu contour = 127.37 square kilometers

Contour overlap area in proposed KUFR f(50,10) 40 dBu contour overlap with KOHS f(50,50) 60 dBu contour = 106.34 square kilometers

Class of Service

The applicant has proposed Class A as the FM class of service. The proposed Height Above Average Terrain is -63 meters and the proposed ERP is 0.130 KW, non-directional.

Height Above Average Terrain Calculations

The applicant has specified a height above average terrain of -63 meters. Using the FCC online HAAT calculator using the FCC terrain database and the 8 cardinal radials, the figures are shown here.

0°	-28.4 m
45°	-619.1 m
90°	-280.2 m
135°	-137.8 m
180°	142.6 m
225°	122.7 m
270°	142.0 m
315°	152.7 m

HAAT = -63 meters

Channel Study

Below is a channel study showing that no overlap exists for the proposed facility, other than that addressed in the reduced overlap showing.

ComStudy 2.2 search of channel 219 (91.7 MHz Class A) at 40-45-48.0 N, 111-53-26.0 W.

<u>CALL</u>	<u>CITY</u>	<u>ST CHN CL</u>	<u>DIST</u>	<u>SEP</u>	<u>BRNG</u>	<u>CLEARANCE</u>
KOHS	OREM	UT 219 A	55.51	115.0	158.0	-8.53 dB

See Exhibit Map and Statement Regarding Pre-Existing Overlap

KUSU-FM	LOGAN	UT 218 C	125.64	165.0	353.1	1.10 dB
KPCW	PARK CITY	UT 219 A	32.31	115.0	106.0	2.30 dB
KDUT-FM2	SALT LAKE CITY	UT 272 D	4.96	0.0	0.1	5.0
KDUT-FM1	BOUNTIFUL	UT 272 D	8.14	0.0	13.3	8.1
NCE-MXG-211	GENOLA	UT 217 C	114.53	95.0	166.5	9.87 dB
KPMD	EVANSTON	WY 220 A	105.34	72.0	51.2	18.20 dB
KEYV	VERNAL	UT 219 C3	186.98	142.0	97.0	19.07 dB
KEYP	PRICE	UT 220 C2	154.62	106.0	152.3	22.06 dB
KEYR	RICHFIELD	UT 219 C1	266.72	200.0	188.3	25.45 dB
K221GK	SALT LAKE CITY	UT 221 D	29.06	0.00	245.1	29.1

The facility proposed in the instant application is compliant with 47 CFR Section 73.207 as shown below:

<u>Call</u>	<u>Channel</u>	<u>Location</u>	<u>Azimuth</u>	<u>Distance</u>	<u>FCC</u>	<u>Margin</u>
KTCE LIC-Z	221A	Payson UT	175.5	75.09	31.0	44.1
KDUT LIC	272C	Randolph UT	80.7	76.41	29.0	47.4

Community of License Coverage

Attached is a map showing that the f(50,50) 60 dBu contour of the proposed facility covers more than 50 percent of both the population and land area of Salt Lake City, Utah.

Minor Change Statement

The f(50,50) 60 dBu contours of applicant's proposed KUFR facility and the licensed facility of KUFR are overlapped. No frequency change is specified. Thus, the instant application is a minor change.

Environmental Statement

The antenna proposed in the instant application is to be located on an existing registered communications tower or structure. In this case the structure is a tall building with a 11 meter pipe-mast mounted on the roof of the building. The height of the proposed facility above the roof-line is 10 meters. The applicant has proposed an ERP of 0.130 kW (Horizontal & Vertical) using a Nicom BKG77 single bay antenna mounted with a proposed center of radiation at 10 meters above the roof-line. Using the FCC Computer Program FM Model, and the EPA Type 2: Opposed-V and the specified ERP and height, the maximum non-ionizing RF radiation level predicted to occur 2 meters above the roof-line (to account for average human head height) is 37.338 microwatts-per-centimeter-squared located at the 8.2 meter horizontal roof distance from the tower base.

There is one other additional continuously transmitting VHF antenna located at the transmitter site and tower.

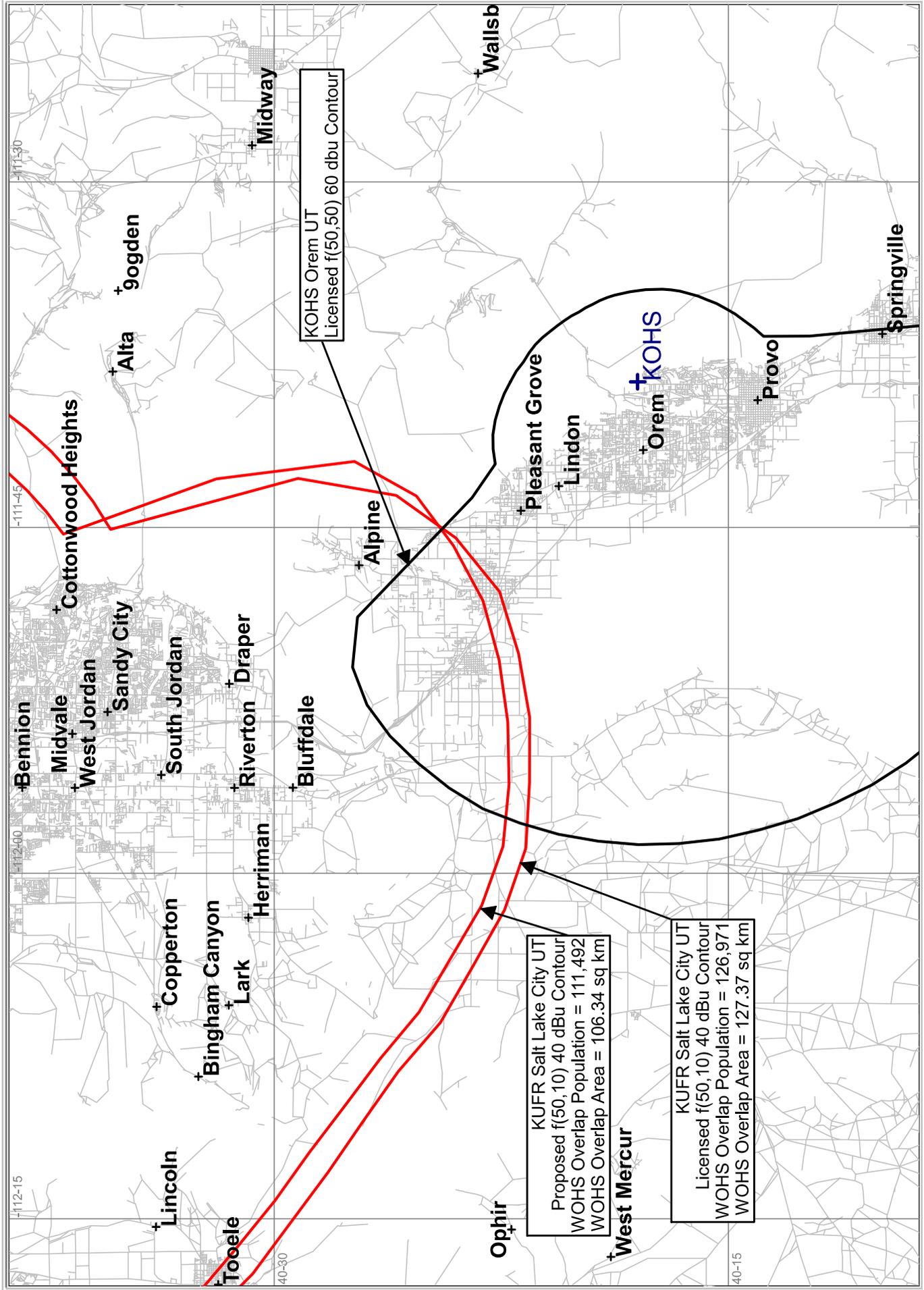
Facility ID 195081, KUAA-LP, Salt Lake City, UT

KUAA has an ERP of 0.1 kW (Horizontal & Vertical) using a single bay Nicom BKG-77 antenna mounted with a center of radiation at 8 meters above the roof-line. Using the FCC Computer Program FM Model, and the EPA Type 2: Opposed-V and the specified ERP and height, the maximum non-ionizing RF radiation level predicted to occur 2 meters above the roof-line (to account for average human head height) is 51.061 microwatts-per-centimeter-squared located at the 6.144 meter horizontal roof distance from the tower base.

The aggregate VHF RF contribution including the applicant's proposal is 88.399 microwatts per centimeter squared. This is clearly below both the occupational and general-public limits set forth in OET Bulletin 65 and successor documents. Therefore, the instant application is categorically excluded from environmental processing.

The applicant will reduce power or power down to protect tower climbers and workers from RF exposure exceeding statutory limits.

****END OF NARRATIVE EXHIBIT****



**KUFR Salt Lake City, UT CP Mod
Section 73.515 City Grade Exhibit**

The proposed KUFR modification complies with FCC Section 73.515 by reaching over fifty percent of the community of license with an FCC F(50,50) 60 dBu contour.

The attached V-Soft Overlap Report indicates the following:

	Total Population	Total Area
Salt Lake City, UT	199,795	332.77 sq. km.
KUFR 60 dBu reach	179,938	193.82 sq. km.
Percent Reached	90.1	67.5

All data is 2020 US Census

V-Soft Overlap Population Report
KUFR Appl. (219) / Salt Lake City, UT

Overlap Area Type: Intersection

Areas Included:

KUFR (219): FCC F(50-50) 60.00 dBu (FCC HAAT)

PLST: Salt Lake City, UT

Population Database: 2020 US Census (PL)

Total Population: 179,938

Overlap Area: 193.82 sq. km (Area determined using 0.01 km cells)

Area Description	Total Population	Total Area [sq. km]	Percent Population	Percent Area
KUFR (219): FCC F(50-50) 60.	369,138	332.77	48.7 %	58.2 %
PLST: Salt Lake City, UT	199,795	287.06	90.1 %	67.5 %

KUFR Appl.
 Salt Lake City, UT
 Latitude: 40-45-48 N
 Longitude: 111-53-26 W
 ERP: 0.13 kW
 HAAT: -68.66
 Channel: 219
 Frequency: 91.7 MHz
 AMSL Height: 1439.0 m
 Elevation: 1306.0 m
 Horiz. Pattern: Omni
 Prop Model: FCC Model
 Loc. Variability: 50.0%
 Time Variability: 50.0%
 HAAT Mthd: FCC

KUFR Salt Lake City, UT City Grade Exhibit
 FCC Section 73.515 NCE Transmitter Location
 FCC F(50,50) 60 dBu Contour
 The proposed KUFR facility F(50,50) 60 dBu contour reaches 67.5% of the area and 90.1 % of the population of Salt Lake City, UT.

FCC f(50,50) 60 dBu contour

Salt Lake City + KUFR Appl.

