TECHNICAL STATEMENT
LAZER LICENSES, LLC
KSTV-LP 15.0 KW-DA 278.8 M AMSL CH. 32
SACRAMENTO, CALIFORNIA

INTRODUCTION

Lazer Licenses, LLC ("Lazer"), the licensee of analog television translator KSTV-LP, Facility ID No. 34570, seeks to avoid displacement as a result of the TV repack by making certain minor changes to its existing facilities that will bring the station into compliance with the interference rules. More specifically, Lazer proposes to eliminate the excessive interference predicted to full-service station KCNS on its post-auction channel by transitioning KSTV-LP to digital operation.[1] Lazer further proposes to operate KSTV-LP at the maximum effective radiated power (ERP) of 15 kW using the station's existing directional antenna system and a full service out-of-channel emission mask filter.

PROPOSED TRANSITION TO DIGITAL OPERATION

As stated above, it is proposed that KSTV-LP will flash-cut to digital operation with 15 kW ERP and will install a full service mask bandpass filter. It is further proposed that the station will operate using its existing directional antenna pattern with no change in rotation. The antenna radiation center height will remain at 278.8 meters above mean sea level (AMSL).

INTERFERENCE PROTECTION AND OET-69 ANALYSIS SETTINGS

A copy of the *TVStudy* analysis summary is provided in Figure 1. This summary indicates that no interference check failures were found and therefore the proposal is not

[1] KCNS in San Francisco, CA, Facility ID No. 71586, was reassigned to Channel 32 in the Incentive Auction Closing and Channel Reassignment Public Notice ("CCRPN"), 32 FCC Rcd 2786 (2017).

predicted to cause new interference beyond the normal tolerance to any existing or post-auction stations.[2] The summary further reflects that the following analysis settings were used:

Study cell size:	0.5 kilometer
Profile point spacing:	0.5 kilometer

ENVIRONMENTAL IMPACT

The construction permit application specifies an existing FCC registered tower that was constructed before March 16, 2001.[3] Given that KSTV-LP will continue to utilize its existing antenna, the criteria outlined in 47 CFR § 1.1307(a) for certain types of facilities that may significantly affect the environment do not apply. With regard to the rules for limiting human exposure to radio-frequency (RF) energy in 47 CFR § 1.1307(b), this application seeks authority to operate a low power television broadcast antenna in full compliance with those guidelines as described in more detail below. The following technical specifications are proposed:

Frequency :	578 - 584 MHz (UHF Channel 32)
Effective Radiated Power:	15.0 kW
Antenna Type:	SCA 6X2KBBU
Antenna Polarization:	Horizontal
Antenna Height:	26.7 meters AGL
Location coordinates:	38-38-53.0 N, 121-05-54.3 (NAD83)
Site elevation:	128.1 meters AMSL
Overall tower height:	91.4 meters AGL
FCC ASRN:	1033381; Constructed in 1993

[2] *TVStudy* Program, Version 2.2.4. Although the LMS database contains a record for the expansion application that is currently on-file for KCNS, FCC File No. 0000034679, it is missing the underlying CP that was obtained for KCNS in the initial 90-day filing window, FCC File No. 0000029156. Therefore, the parameters authorized for KCNS in its original CP were included in the referenced TVStudy analysis as a user record.

[3] 47 CFR Part 1, App. B, § III.A. *"An antenna may be mounted on an existing tower constructed on or before March 16, 2001 without such collocation being reviewed through the Section 106 process set forth in the NPA, unless: 1. The mounting of the antenna will result in a substantial increase in the size of the tower as defined in Stipulation I.E, above; or, 2. The tower has been determined by the FCC to have an adverse effect on one or more historic properties, where such effect has not been avoided or mitigated through a conditional no adverse effect determination, a Memorandum of Agreement, a programmatic agreement, or a finding of compliance with Section 106 and the NPA; or, 3. The tower is the subject of a pending environmental review or related proceeding before the FCC involving compliance with Section 106 of the National Historic Preservation Act; or, 4. The collocation licensee or the owner of the tower has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties."*

Using the methodology for predicting power density levels for UHF broadcast antennas outlined in *FCC OET Bulletin No. 65, Edition 97-01,* (OET-65), it was determined that the proposed digital operation on Channel 32 will produce a maximum power density of 12.6 μW/cm² at points 2 meters above ground (approximate human head height). This worst-case exposure level was calculated using 12.4 percent antenna relative field, which is a value that the manufacturer's calculated elevation pattern does not exceed at angles greater than 30 degrees below the horizontal as depicted in Figure 2. The maximum exposure limits applicable to Channel 32, as established for uncontrolled and controlled situations in 47 CFR § 1.1310, are 385 μW/cm² and 1,927 μW/cm² respectively. Because the worst-case exposure level determined for KSTV-LP is not more than 5% of those guidelines and considering that the existing tower location is fenced and suitable warning signs are posted, no further showing of compliance is necessary. Accordingly, this application complies with the RF exposure limits and is categorically excluded from environmental processing by 47 CFR § 1.1306.

Steps to limit exposure to persons authorized to access the transmitter site will be consistent with the appropriate recommendations in OET-65. All maintenance and other related work to be performed at elevations higher than 2 meters above ground will be coordinated to prevent exposure to RF fields in excess of the controlled limit. Such preventative steps shall include reducing power or shutting down the facility.

Respectfully submitted,

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Attachment
Figure 1 – *TVStudy* Analysis Summary
Figure 2 – Antenna Elevation Pattern

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FIGURE 1
Analysis Summary
TVSTUDY, VERSION 2.2.4.

Study created: 2017.12.13 13:00:02

Study build station data: LMS TV 2017-12-11 (50)

Proposal: KSTV-LP D32 LD APP SACRAMENTO, CA
File number: USERRECORD01
Facility ID: 34570
Station data: User record
Record ID: 15
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

User records included:
21 KCNS D32 DT CP SAN FRANCISCO, CA BLANK0000029156

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KXVU-LP	N17-	TX	LIC	CHICO, CA	BLTTL20060303AAJ	155.3 km
No	K25HI	N25-	TX	LIC	SANTA ROSA, CA	BLTT20031103ACP	136.9
No	KRRI-LP	N25-	TX	LIC	RENO, NV	BLTTL19981028JG	152.9
No	NEW	D31	LD	APP	CHICO, CA	BNPDTL20090825BPI	153.9
No	NEW	D31	LD	APP	CHICO, CA	BNPDTL20090825APB	152.7
No	K31MN-D	D31	LD	CP	MODESTO, CA	BDCCDTT20120726ABW	111.1
No	KSMS-TV	D31	DT	LIC	MONTEREY, CA	BLCDT20120111ABM	213.2
Yes	KTVU	D31	DT	APP	OAKLAND, CA	BLANK0000034500	154.4
Yes	KTVU	D31	DT	CP	OAKLAND, CA	BLANK0000027689	154.4
No	K42HL-D	D31	LD	APP	OROVILLE, CA	BLANK0000030068	115.8
Yes	KMUM-CD	D31	DC	LIC	SACRAMENTO, CA	BLDTA20131219BOH	33.5
No	KBCW	D31	LD	APP	SAN FRANCISCO, CA	BDRTCDT20090630AEG	91.7
No	K31LJ-D	D31	LD	CP	CARSON CITY, NV	BNPDTL20090825BND	129.8
No	K31KH-D	D31	LD	CP	STATELINE, NV	BDFCDTL20090824ABT	103.5
No	K31KH-D	D31	LD	LIC	STATELINE, NV	BLDTL20110418ABC	106.2
Yes	KEMO-TV	D32	DD	LIC	FREMONT, CA	BLANK0000001594	133.1
No	KVPT	D32	DT	CP	FRESNO, CA	BLANK0000027969	265.0
No	KVPT	D32	DT	APP	FRESNO, CA	BLANK0000034281	265.0
No	KJEO-LD	D32	LD	LIC	FRESNO, CA	BLDTL20090826AAX	228.0
No	KFKK-LD	D32	LD	LIC	Modesto, CA	BLANK0000008127	120.8
No	KFKK-LD	D32	LD	CP	Modesto, CA	BLANK0000008174	111.1
Yes	KION-TV	D32	DT	APP	MONTEREY, CA	BLANK0000035685	239.4
Yes	KION-TV	D32	DT	LIC	MONTEREY, CA	BLCDT20030604ACO	239.4
Yes	K32LM-D	D32	LD	CP	REDDING, CA	BLANK0000004699	198.2
Yes	KCNS	D32	DT	APP	SAN FRANCISCO, CA	BLANK0000034679	154.4
Yes	KCNS	D32	DT	CP	SAN FRANCISCO, CA	BLANK0000029156	154.4
No	K50LZ-D	D32	DC	CP	SAN LUIS OBISPO, CA	BLANK0000034460	367.5

No	K32LQ-D	D32	LD	LIC	YREKA, CA	BLANK0000017048	365.8
No	K32GW-D	D32	LD	LIC	CARSON CITY, NV	BLDTT20070529ADO	138.2
No	K32LD-D	D32	LD	CP	LOVELOCK, NV	BNPDTL20100512AHA	261.1
No	K32CQ-D	D32	LD	LIC	SHURZ, NV	BLDTT20110609AAT	194.5
No	K33MZ-D	D33	LD	CP	GUSTINE, CA	BNPDTL20100513ADO	161.5
No	K33NA-D	D33	LD	CP	ORLAND, CA	BNPDTL20100514AAE	145.5
Yes	KTXL	D33	DT	CP	SACRAMENTO, CA	BLANK0000025062	54.9
No	KMTP-TV	D33	DT	LIC	SAN FRANCISCO, CA	BLEDT20100216ABJ	154.4
No	KKPX-TV	D33	DT	APP	SAN JOSE, CA	BLANK0000029965	158.2
No	KNPB	D33	LD	LIC	RENO, NV	BLEDT20111026AAC	114.1
No	K33ER-D	D33	LD	LIC	VERDI/MOGUL, NV	BLDTT20140618ABM	143.7
No	K33ER-D	D33	LD	CP	VERDI/MOGUL, NV	BDFCDTT20080922AEY	143.7

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D32
Mask: Full Service
Latitude: 38 38 53.00 N (NAD83)
Longitude: 121 5 54.30 W
Height AMSL: 278.8 m
HAAT: 96.5 m
Peak ERP: 15.0 kW
Antenna: SCA-6X2KBBU (ID 20760) 255.0 deg
Elev Pattrn: Generic

50.5 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	1.01 kW	97.0 m	29.3 km
45.0	0.202	-86.9	11.5
90.0	0.033	-72.0	7.4
135.0	0.257	68.7	18.7
180.0	6.42	183.6	45.1
225.0	9.91	195.6	48.0
270.0	9.16	211.3	48.5
315.0	13.0	174.9	48.2

Distance to Canadian border: 1082.4 km

Distance to Mexican border: 749.0 km

Conditions at FCC monitoring station: Livermore CA
Bearing: 209.4 degrees Distance: 117.5 km

Proposal is not within the West Virginia quiet zone area

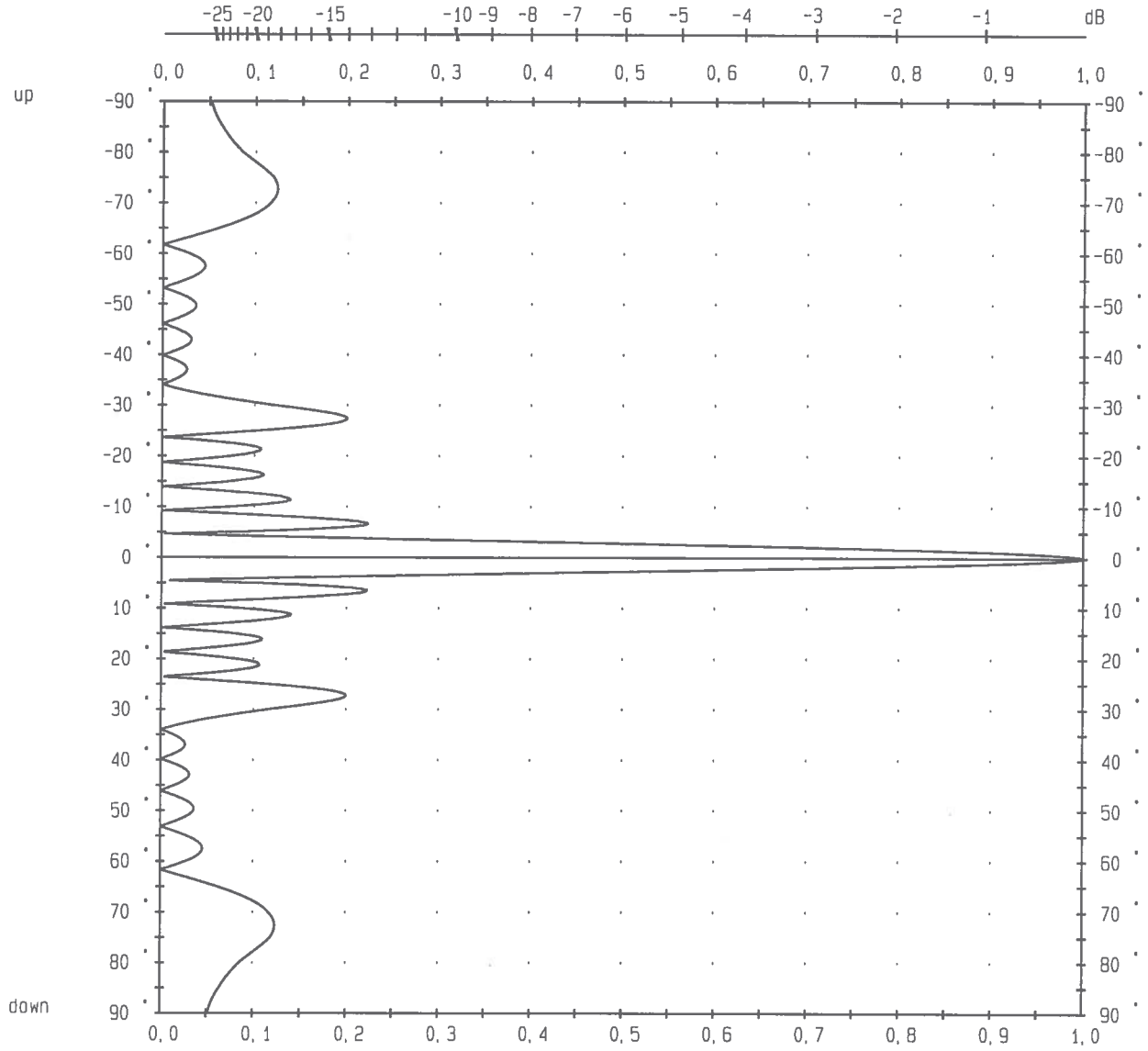
Conditions at Table Mountain receiving zone:
Bearing: 78.2 degrees Distance: 1369.1 km

Study cell size: 0.50 km
Profile point spacing: 0.50 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

No IX check failures found.

FIGURE 2



Lohnes & Culver

S C A L A Medford Oregon	6 x 2 KBBU (aka 6x2 K723147)	Typ Nr.
MB 14.12.17 12:14		Bl.: