

**TECHNICAL STATEMENT
CALIFORNIA OREGON BROADCASTING, INC.
K38LQ-D 0.408 KW-DA 435.5 M AMSL CH. 20
ROSEBURG, OREGON**

INTRODUCTION

California Oregon Broadcasting, Inc. (“COBI”), the licensee of digital television translator station K38LQ-D, Facility ID No. 183755, seeks authority to operate on a temporary channel in accordance with the procedures set forth in Public Notice DA 17-584 for secondary television stations “operating” on channels 38 thru 51 that are displaced prior to the Special Displacement Window.¹ Accordingly, COBI submits the following two filings to facilitate temporary operation on a post-auction television channel: (1) a displacement application to operate on Channel 20 together with a request to waive the Displacement Freeze and (2) a request for Special Temporary Authority (STA) to operate on Channel 20 as proposed in the aforementioned displacement application.

ELIGIBILITY & WAIVER REQUEST

K38LQ-D is currently operating on Channel 38, which has been repurposed for the new 600 MHz Band, and it is eligible to operate on a temporary channel for the following two reasons. First, COBI has received a 120-day notice from T-Mobile USA, Inc. (“T-Mobile”) stating that K38LQ-D is likely to cause interference in an area where it intends to commence operations by 10/31/2017. Second, this notice clearly implicates a termination of operations date for K38LQ-D that will occur before the Special Displacement Window opens. A copy of the 120-day notice from T-Mobile is attached as Figure 1.

For all the reasons indicated above, COBI requests a waiver of the Displacement Freeze to allow for the early filing of its displacement application in the Special Displacement Window and to further allow for the processing of its STA application to operate on a temporary channel.

PROPOSED FACILITY AS AMENDED

¹ *Incentive Auction Task Force And Media Bureau Set Forth Tools Available To LPTV/Translator Stations Displaced Prior To The Special Displacement Window*, Public Notice, DA 17-584 (rel. June 14, 2017)



K38LQ-D will continue to utilize its licensed transmitter site for operation on Channel 20. It will employ a new directional antenna system with 5 degrees mechanical beam tilt.² The antenna radiation center height will be 435.5 meters above mean sea level (AMSL) and the maximum effective radiated power (ERP) will be 0.408 kW. It also will employ a stringent out-of-channel emission mask. This antenna will be shared by co-owned station K41JQ-D, which is also simultaneously seeking authority to operate on a temporary channel. A plot of the manufacturer's elevation pattern that reflects the specified down tilt is shown in Figure 2.

INTERFERENCE PROTECTION AND OET-69 ANALYSIS SETTINGS

A copy of the *TVStudy* analysis summary is provided in Figure 3. This summary indicates that no interference check failures were found and therefore the proposal is not predicted to cause new interference beyond the normal tolerance to any existing or post-auction stations.³ The summary further reflects that the following analysis settings were used:

Study cell size: 1.0 kilometer
Profile point spacing: 1.0 kilometer

ENVIRONMENTAL IMPACT

The displacement application and request for STA specify an existing FCC registered tower that was constructed before March 16, 2001.⁴ Given that the application seeks to replace an existing antenna and there will be no substantial increase in the size of the existing

² The proposed antenna is a directional composite of three panel antennas, Kathrein (KAT) Model 1 x 3 75010210. Each panel will be spaced 90 degrees apart in azimuth and each one will have 5 degrees of mechanical down tilt in the direction of its main lobe.

³ *TVStudy* Program, Version 2.2.4.

⁴ 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."



antenna-supporting structure,⁵ 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), the station will continue to operate a UHF broadcast antenna in full compliance with those guidelines as described in greater detail below. The following technical specifications are proposed:

Frequency :	506 - 512 MHz (UHF Channel 20)
Effective Radiated Power:	0.408 kW
Antenna Type:	KAT 1x3 75010210
Antenna Beamtilt:	5 degrees mechanical
Antenna Polarization:	Horizontal
Antenna Height:	33.2 meters AGL
Location coordinates:	43-12-02.0 N, 123-23-02.0 (NAD83)
Site elevation:	402.3 meters AMSL
Overall tower height:	36.0 meters AGL
FCC ASRN:	1064193; Constructed in 1996

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 Channel 20 facility will produce a maximum power density of 1.26 $\mu\text{W}/\text{cm}^2$ at points 2 meters above ground (approximate human head height). This worst-case exposure level was calculated using 30 percent antenna relative field. The maximum exposure limits applicable to Channel 20, as established for uncontrolled and controlled situations in 47 CFR § 1.1310, are 337 $\mu\text{W}/\text{cm}^2$ and 1,687 $\mu\text{W}/\text{cm}^2$ respectively. Because the maximum exposure level determined for the proposed facility is not more than 5% of those guidelines, no further showing of compliance is necessary. Accordingly, this application complies with the RF

⁵ 47 CFR Part 1, App. B, § I.C. A substantial increase in size means: “(1) *The mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or (2) The mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or (3) The mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or (4) The mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.*”



exposure limits and is categorically excluded from environmental processing by 47 CFR § 1.1306.

The existing tower is located on an isolated mountaintop that is not generally accessible to the public. In addition to using suitable warning signs, steps to limit exposure to persons that are authorized to access the transmitter site will be consistent with the 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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Lohnes & Culver LLC
P.O. Box 881
Silver Spring, MD 20918-0881
Ph. 301-776-4488

January 30, 2018

Attachments
Figure 1 – 120-day notice
Figure 2 – Antenna Elevation Pattern Plot
Figure 3 – *TVStudy* Analysis Summary



VIA CERTIFIED MAIL & EMAIL

July 24, 2017

CALIFORNIA OREGON BROADCASTING, INC
PO Box 1489
Medford, OR 97501

RE: Notification of Intent to Begin 600MHz Operations

Dear K41JQ-D/ Facility ID:8316 Licensee:

T-Mobile USA, Inc. ("T-Mobile") is notifying you that T-Mobile is preparing to commence operations on its 600MHz spectrum in the Partial Economic Area ("PEA") # 70 by 11/27/2017 and your station is likely to cause harmful interference to T-Mobile's operations.

To determine if your station(s) is likely to cause interference, an interference analysis has been performed, as specified by the Federal Communications Commission's ("FCC") Inter-service Interference procedures²⁹¹, using publicly available information in the FCC's Licensing and Management System ("LMS") for your facility. This analysis predicts field strength at T-Mobile's base station and user equipment locations in the PEA # 70 market from your facility. The FCC has set the thresholds at which the predicted field strength from low power TV and translator stations creates a sufficient interference risk to wireless facilities. T-Mobile has determined that your facility exceeds those thresholds and is an interference risk to its wireless operations.

T-Mobile will commence its operations in the PEA # 70 market on 11/27/2017. This letter provides the 120 days' advance notification required by FCC regulations, 47 CFR §73.3700(g)(4). The FCC regulations also require you to cease operations or eliminate the potential for harmful interference to T-Mobile's wireless facilities in the PEA # 70 market.

The FCC will work with you to attempt find a new television channel outside of the new 600 MHz mobile band that will not interfere with T-Mobile's network. You should review the FCC's Tools Available to LPTV/Translator Station Public Notice (enclosed) released on June 14, 2017 and contact Hossein Hashemzadeh, Melvin Collins, or Barbara Kreisman at the FCC for more information about the options available in your area.²⁹²

Please email 600MhzFC@T-Mobile.com once you have determined when you will eliminate the interference. If you would like additional information regarding our findings or if it might be

²⁹¹ See 30 FCC Rcd 12049, 12071, para. 49 (2015)

²⁹² See <https://www.fcc.gov/document/iatf-mb-set-forth-tools-available-lptvtranslator-stations>

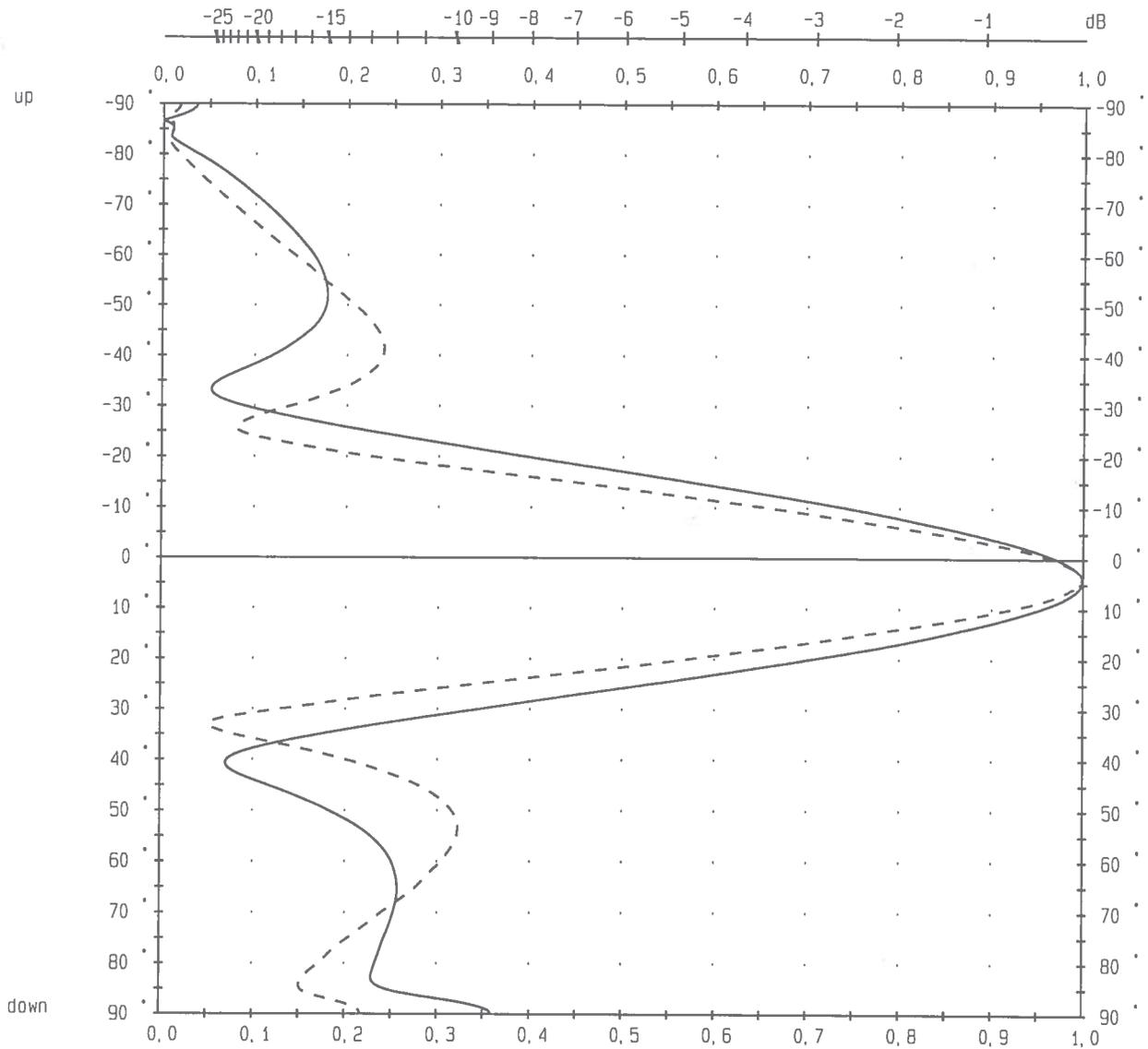
possible to coordinate our operations, please submit a request to Dan Wilson, Sr. Manager, Spectrum Engineering, at 600MhzFC@T-Mobile.com.

Sincerely,

/s/ Dan Wilson

Sr. Manager, Spectrum Engineering, T-Mobile USA, Inc.

FIGURE 2



Call Sign	K38LQ-D	K41JQ-D
frequency in MHz	507.250	585.250
azimut in °	42.0	
omni-dir in dBd	3.34	3.93

KOBI NEBO

<p>SCALA Medford Oregon</p>	<p>1 x 3 750 10210 Panel Array</p>	<p>Typ Nr.</p>
	<p>CH: 20 & 33. AZ 350-80-170</p>	<p>B1.:</p>
<p>MB 16.1.18 14:35</p>		

FIGURE 3 Analysis Summary TVSTUDY, VERSION 2.2.4.

Study created: 2018.01.30 20:21:08

Study build station data: LMS TV 2018-01-26 (56)

Proposal: K38LQ-D D20 LD APP ROSEBURG, OR
File number: 0000033809-Amended
Facility ID: 183755
Station data: User record
Record ID: 40
Country: U.S.

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

Search options:
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	K39EO-D	D19	LD	APP	CRESCENT CITY, CA	BLANK0000029580	162.9 km
No	K19GH-D	D19	DC	LIC	EUGENE, ETC., OR	BLDTA20091211AEO	106.3
No	K19HS-D	D19	LD	LIC	GRANTS PASS, OR	BLDTT20080714ACF	79.4
No	K19HS-D	D19	LD	CP	GRANTS PASS, OR	BPDTT20111107ALN	88.1
No	K19EC-D	D19	LD	LIC	MAPLETON, OR	BLDTL20100223ACV	98.3
No	KFBI-LD	D19	LD	APP	MEDFORD, OR	BLANK0000029258	112.8
Yes	KPIC	D19	DT	LIC	ROSEBURG, OR	BLCDT20120423ABP	6.3
No	K20DE-D	D20	LD	LIC	ALTURAS/LIKELY, CA	BLDTT20080826AAS	325.0
No	KNVN	D20	DT	CP	CHICO, CA	BLANK0000027885	344.2
No	KNVN	D20	DT	APP	CHICO, CA	BLANK0000034865	344.2
No	K20CN	N20z	TX	LIC	FORTUNA, RIO DELL, CA	BLTTL19891012JL	314.5
No	KCVU	D20	DT	LIC	PARADISE, CA	BLCDT20081222AAV	385.9
No	K20DD-D	D20	LD	LIC	ALBANY, ETC., OR	BLDTL20120524AIN	148.9
No	KORE-LD	D20	LD	LIC	BEND, OR	BLDTL20120523ACJ	238.4
Yes	K20IR-D	D20	LD	LIC	COTTAGE GROVE, OR	BLDTT20090303ACH	69.8
No	K20EH-D	D20	LD	LIC	HOOD RIVER, OR	BLDTL20130311AAW	316.6
No	K20KV-D	D20	LD	CP	MEDFORD, OR	BNPDTL20100301ADM	88.0
No	K20BI-D	D20	LD	LIC	NESIKA BEACH, OR	BLDTT20120607ADI	119.9
No	KOXI-CD	D20	DC	LIC	PORTLAND, OR	BLANK000001497	263.0
No	K20LL-D	D20	LD	LIC	REEDSPORT, OR	BLDTT20120613AAT	81.6
No	K20HT-D	D20	LD	LIC	ROCKAWAY BEACH, OR	BLDTT20120514ABZ	286.1
No	K21LW-D	D21	LD	LIC	GAZELLE, CA	BLDTT20130912ADD	171.1
No	KTVZ	D21	DT	LIC	BEND, OR	BLCDT20100122ABM	191.7
No	K21KB-D	D21	LD	LIC	BROOKINGS, OR	BLDTL20120612AAW	141.3
Yes	K21KE-D	D21	LD	LIC	CANYONVILLE, OR	BLDTL20120606AAJ	34.2
No	K21JI-D	D21	LD	LIC	CAVE JUNCTION, ETC., OR	BLDTT20091118ACE	107.1
No	K21FS-D	D21	LD	LIC	EUGENE, OR	BLDTT20101029ACP	115.3
No	K21KO-D	D21	LD	CP	GRANTS PASS, OR	BNPDTL20090825BGL	67.3

No	K21BG-D	D21	LD	LIC	JACKSONVILLE, OR	BLDTT20090521AFG	112.8
No	K21LB-D	D21	LD	CP	LINCOLN CITY, OR	BNPDTL20100324ACD	200.2
No	K21LY-D	D21	LD	LIC	MAPLETON, OR	BLDTT20120615ADJ	101.5
No	K21MB-D	D21	LD	LIC	SCOTTSBURG, OR	BLDTT20120607ADE	61.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D20
Mask: Stringent
Latitude: 43 12 2.00 N (NAD83)
Longitude: 123 23 2.00 W
Height AMSL: 435.5 m
HAAT: 0.0 m
Peak ERP: 0.408 kW
Antenna: KAT 1x3 75010210 0.0 deg
Elev Pattn: KAT 1x3 75010210
Mech Tilt: 5.00 @ 33.0 deg

49.4 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.248 kW	215.1 m	31.3 km
45.0	0.257	137.2	27.0
90.0	0.246	171.6	28.9
135.0	0.361	52.1	19.1
180.0	0.324	210.8	32.5
225.0	0.044	213.7	22.4
270.0	0.023	100.1	13.0
315.0	0.143	211.0	28.3

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 164 m

Distance to Canadian border: 558.6 km

Distance to Mexican border: 1287.8 km

Conditions at FCC monitoring station: Livermore CA
Bearing: 166.7 degrees Distance: 624.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 96.5 degrees Distance: 1539.5 km

No land mobile station failures found

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.