TECHNICAL STATEMENT
CALIFORNIA OREGON BROADCASTING, INC.
K41JQ-D 0.180 KW-DA 435.5 M AMSL CH. 33
ROSEBURG, OREGON

INTRODUCTION

California Oregon Broadcasting, Inc. ("COBI"), the licensee of digital low power television station K41JQ-D, Facility ID No. 8316, 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 33 together with a request to waive the Displacement Freeze and (2) a request for Special Temporary Authority (STA) to operate on Channel 33 as proposed in the aforementioned displacement application.

ELIGIBILITY & WAIVER REQUEST

K41JQ-D is currently operating on Channel 41, 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 K41JQ-D is likely to cause interference in an area where it intends to commence operations by 11/27/2017. Second, this notice clearly implicates a termination of operations date for K41JQ-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 furthermore allow for the processing of its STA application to operate on a temporary channel.

[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)

PROPOSED FACILITY

K41JQ-D will continue to utilize its licensed transmitter site for operation on Channel 33. 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 0.180 kW. It also will employ a stringent out-of-channel emission mask. This antenna will be shared by co-owned station K38LQ-DA, which is also simultaneously seeking authority to operate on a temporary channel. Plots of the manufacturer's azimuth and elevation patterns that reflect the 5 degrees of down tilt are shown in Figure 2 and Figure 3, respectively.

INTERFERENCE PROTECTION AND OET-69 ANALYSIS SETTINGS

A copy of the *TVStudy* analysis summary is provided in Figure 4. 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:	0.5 kilometer
Profile point spacing:	0.5 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 specified antenna

[2] The proposed antenna is a directional composite of two panel antennas, Kathrein (KAT) Model 1 x 2 75010210. The panel array will be configured in such a way that the main lobes will be at 19 and 171 degrees. Each panel will have 5 degrees mechanical down tilt in the direction of its main lobe.

[3] *TVStudy* Program, Version 2.2.3.

[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. Any such complaint must be in writing and supported by substantial evidence*

replacement will not result in a substantial increase in the size of the existing 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 :	584 - 590 MHz (UHF Channel 33)
Effective Radiated Power:	0.180 kW
Antenna Type:	KAT 1x2 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 33 facility will produce a maximum power density of 0.56 μW/cm² 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 33, as established for uncontrolled and controlled situations in 47 CFR § 1.1310, are 389 μW/cm² and 1,947 μW/cm² respectively. Because the maximum exposure level

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describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register."

[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.*"

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 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.

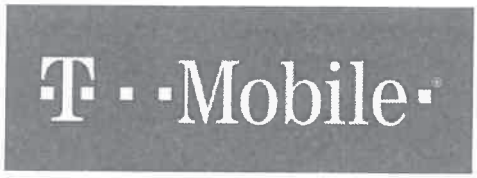
Respectfully submitted,

Scott Turpie
Technical Consultant
Lohnes & Culver LLC
P.O. Box 881
Silver Spring, MD 20918-0881
Ph. 301-776-4488

October 16, 2017

Attachments
Figure 1 – 120-day notice
Figure 2 – Antenna Azimuth Pattern Plot
Figure 3 – Antenna Elevation Pattern Plot
Figure 4 – *TVStudy* Analysis Summary

FIGURE 1



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 Commissions' ("FCC") Inter-service Interference procedures[291], 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

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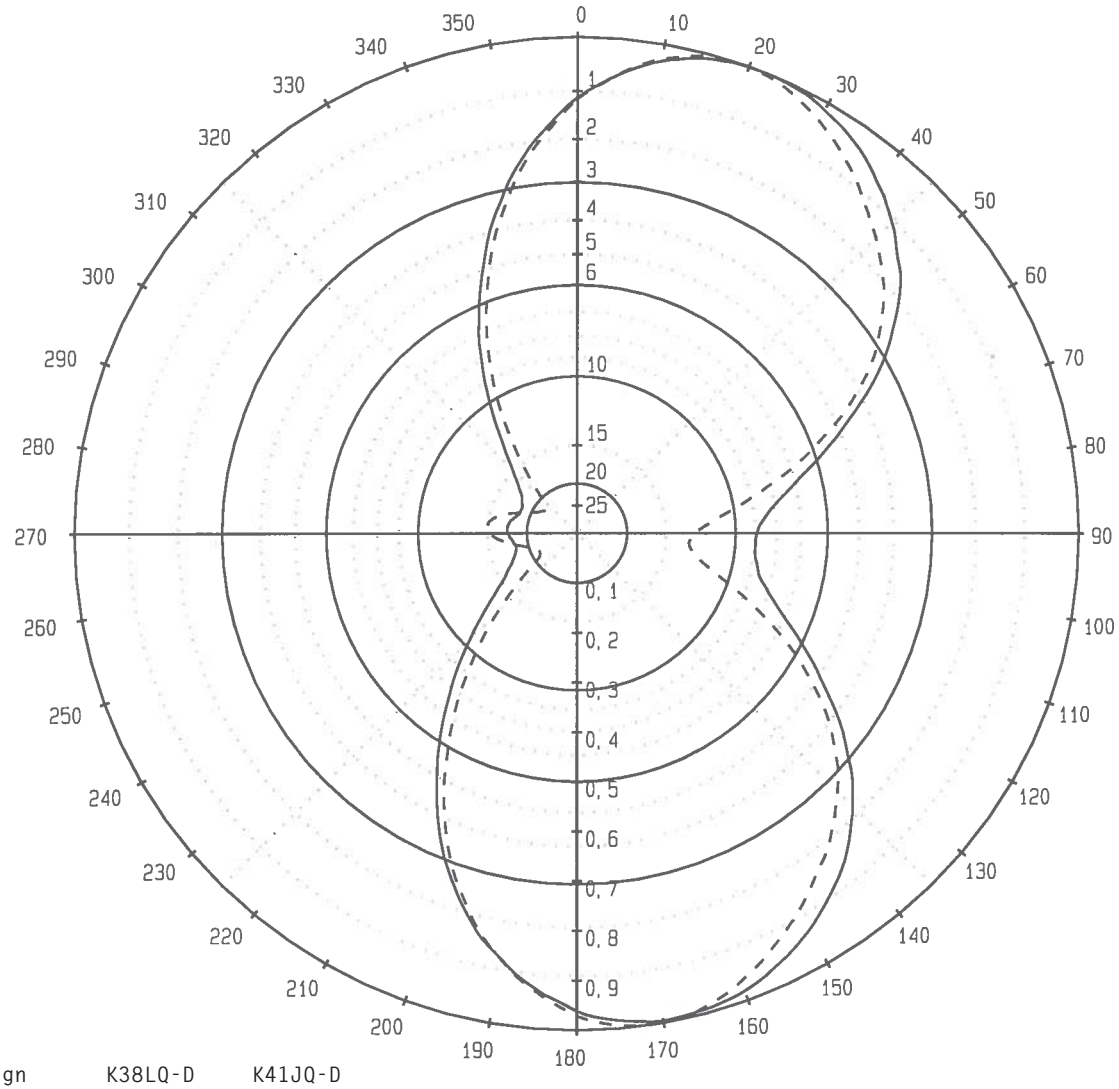
[291] *See* 30 FCC Rcd 12049, 12071, para. 49 (2015)
[292] *See* https://www.fcc.gov/document/iatf-mb-set-forth-tools-available-lptvtranslator-stations

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



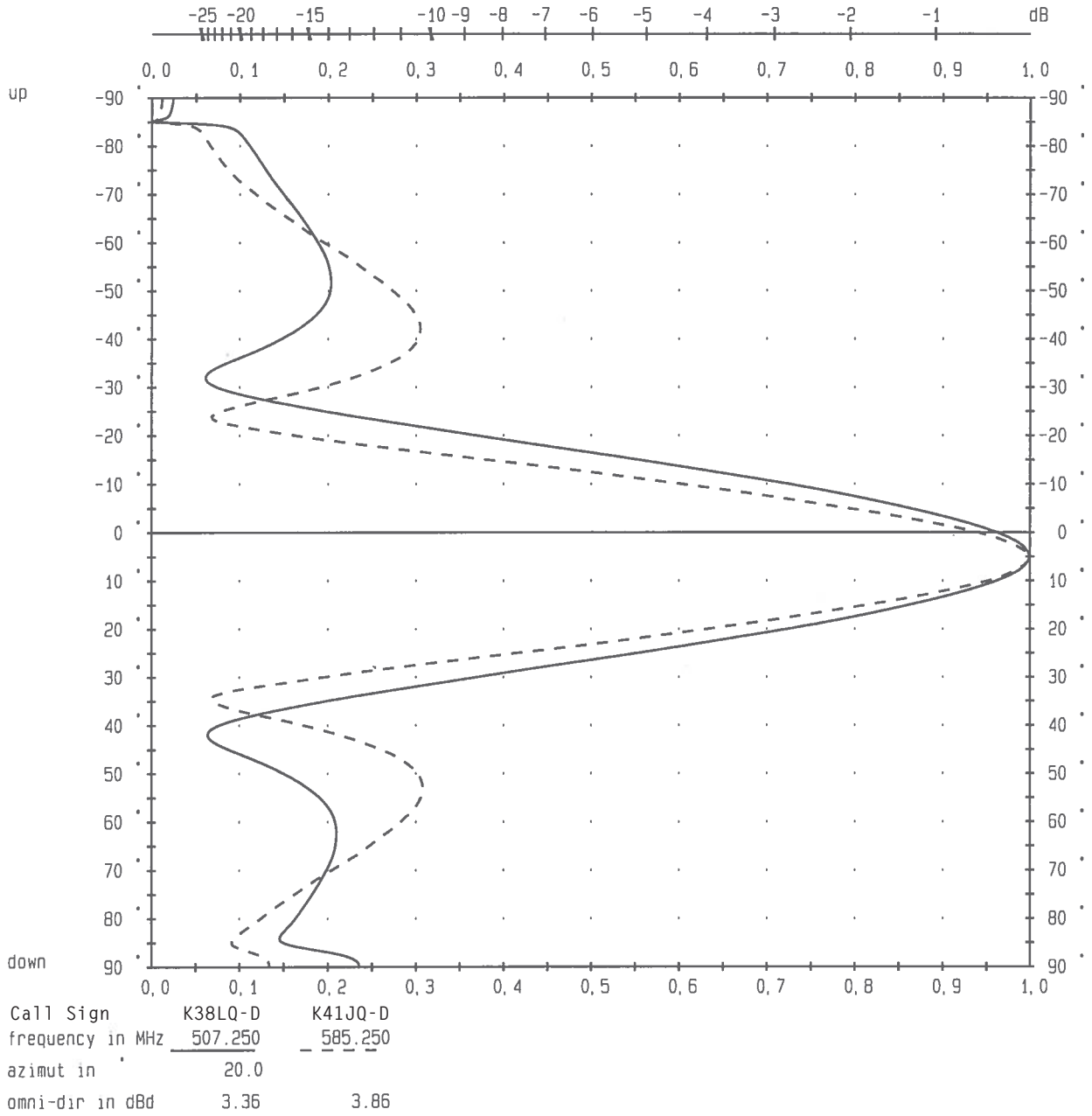
Call Sign	K38LQ-D	K41JQ-D
frequency in MHz	507.250	585.250
down-tilt in °	5.0	
max / mean in dB	3.84	4.18

California & Oregon Broadcasting

S C A L A Medford Oregon	1 x 2 750 10210 (formerly K723147)	Typ Nr.
MB 3.10.17 14:30	CH: 20 & 33 5 deg mech down-tilt	Bl.:

simulation with typical exactness of +/- 8% of max signal

FIGURE 3



California & Oregon Broadcasting

S C A L A Medford Oregon	1 x 2 750 10210 (formerly K723147)	Typ Nr.
MB 3.10.17 14:28	CH: 20 & 33 5 deg mech down-tilt	Bl.:

LOHNES & CULVER
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Ph. 301-776-4488
Fax 301-776-4499

FIGURE 4
Analysis Summary
TVSTUDY, VERSION 2.2.3.

Study created: 2017.10.16 14:20:51

Study build station data: LMS TV 2017-10-16 (38)

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    Proposal: K41JQ-D D33 LD APP ROSEBURG, OR
 Facility ID: 8316
Station data: User record
   Record ID: 328
     Country: U.S.
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Build options:
Protect records not on baseline channel

Stations affected by proposal:

Call	Chan	Svc	Status	City, State	File Number	Distance
K33GJ-D	D33	LD	LIC	MERLIN, OR	BLDTL20110527ALR	66.8 km
K34IC-D	D34	LD	LIC	GLIDE, OR	BLDTL20120605ABA	32.2

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

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    Channel: D33
       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: 0.180 kW
    Antenna: KAT 1x2 75010210 0.0 deg
Elev Pattrn: KAT 1x2 75010210
  Mech Tilt: 5.00 @ 20.0 deg
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50.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.092 kW	215.1 m	24.8 km
45.0	0.085	137.2	19.8
90.0	0.008	171.6	12.3
135.0	0.092	52.1	12.4
180.0	0.170	210.8	27.7
225.0	0.010	213.7	14.2
270.0	0.005	100.1	8.4
315.0	0.002	211.0	9.4

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

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.