

**TECHNICAL STATEMENT  
CALIFORNIA OREGON BROADCASTING, INC.  
K43DI-D 0.132 KW-DA 1048 M AMSL CH. 35  
CANYONVILLE, ETC., OREGON**

**INTRODUCTION**

California Oregon Broadcasting, Inc. ("COBI"), the licensee of digital low power television station K43DI-D, Facility ID No. 8318, 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.<sup>1</sup> 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 35 together with a request to waive the Displacement Freeze and (2) a request for Special Temporary Authority (STA) to operate on Channel 35 as proposed in the aforementioned displacement application.

**ELIGIBILITY & WAIVER REQUEST**

K43DI-D is currently operating on Channel 43, 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 K43DI-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 K43DI-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.

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<sup>1</sup> *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

K43DI-D will continue to utilize its licensed transmitter site for operation on Channel 35. It will employ a new directional antenna system with no electrical beam tilt. The antenna radiation center height will be 1,048 meters above mean sea level (AMSL) and the maximum effective radiated power (ERP) will be 0.132 kW. It also will employ a simple out-of-channel emission mask. A plot of the new azimuth pattern 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.<sup>2</sup> 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 are categorically excluded from environmental processing by 47 CFR § 1.1306. Specifically, the criteria outlined in 47 CFR § 1.1307(a) for certain types of facilities that may significantly affect the environment do not apply since the specified replacement antenna will be co-located on an existing non-registered broadcast tower and the proposed Channel 35 facility will comply with the rules in 47 CFR § 1.1307(b) concerning human exposure to radio-frequency (RF) energy as demonstrated below.

The following technical specifications are proposed for K43DI-D:

Frequency :	596 - 602 MHz (UHF Channel 35)
Effective Radiated Power:	0.132 kW
Antenna Type:	KAT 4DR-4-2HW; 350 degrees rotation
Antenna Polarization:	Horizontal
Antenna Height:	15 meters AGL
Location coordinates:	42-54-07.6 N, 123-17-10.0 (NAD83)
Site elevation:	1033.0 meters AMSL
Overall tower height:	18.0 meters AGL
FCC ASRN:	Not required

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<sup>2</sup> *TVStudy* Program, Version 2.2.3.



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 35 facility will produce a maximum power density of  $2.35 \mu\text{W}/\text{cm}^2$  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 35, as established for uncontrolled and controlled situations in 47 CFR § 1.1310, are  $397 \mu\text{W}/\text{cm}^2$  and  $1,987 \mu\text{W}/\text{cm}^2$  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 exposure limits and is categorically excluded from environmental processing by 47 CFR § 1.1306.

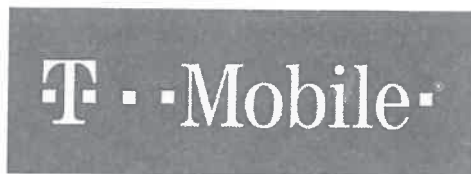
The existing tower is located on an isolated mountaintop that is not generally accessible to the public. In addition to using suitable warning signs, steps to limit exposure to persons that are authorized to access the transmitter site will be consistent with the recommendations in OET-65. All maintenance 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 4, 2017

Attachments  
Figure 1 – 120-day notice  
Figure 2 – Directional Antenna 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 K43DI-D/ Facility ID:8318 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<sup>293</sup>, 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.<sup>294</sup>

Please email [600MhzFC@T-Mobile.com](mailto: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

<sup>293</sup> See 30 FCC Rcd 12049, 12071, para. 49 (2015)

<sup>294</sup> See <https://www.fcc.gov/document/iatf-mb-set-forth-tools-available-lptvtranslator-stations>

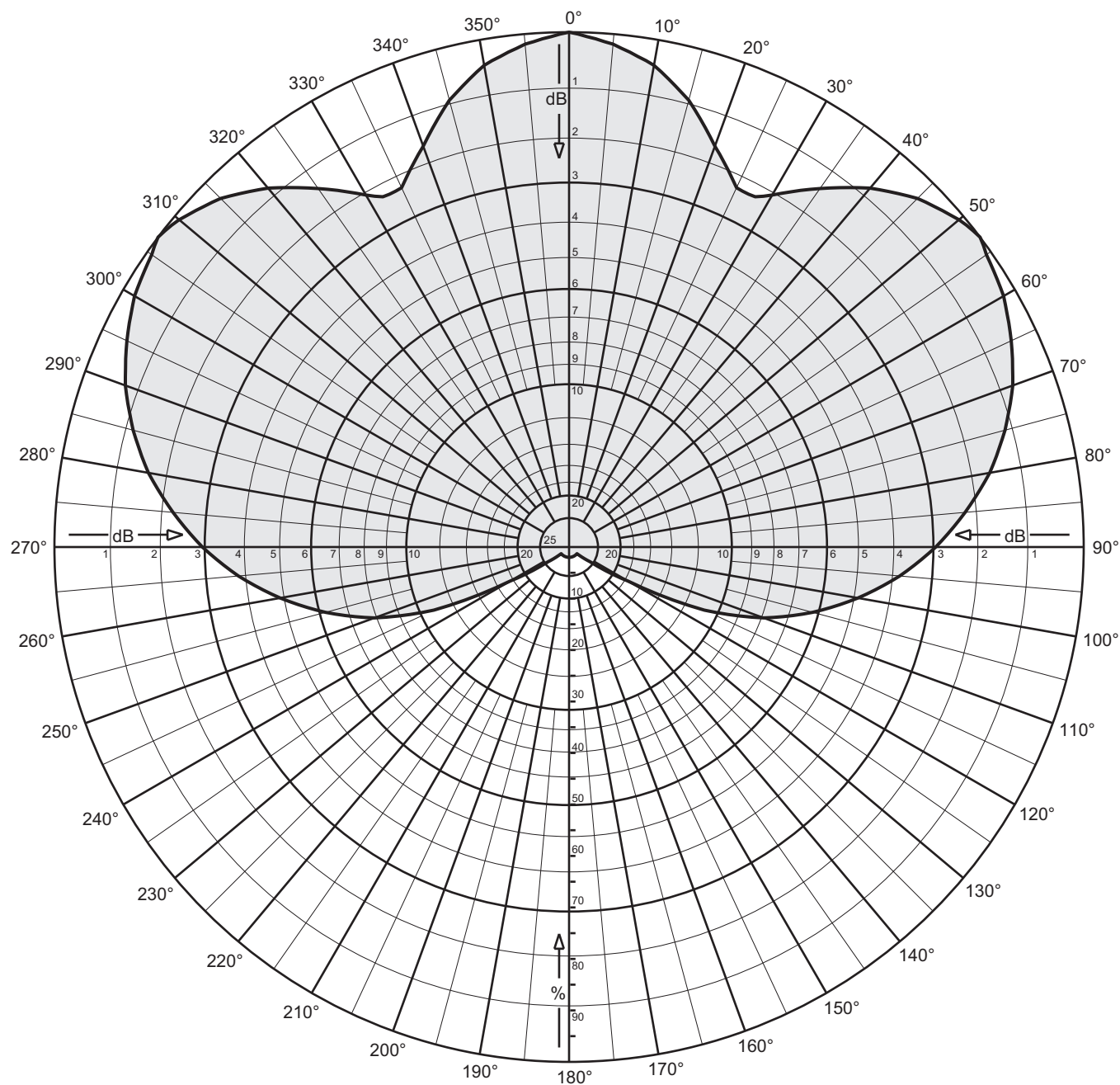
possible to coordinate our operations, please submit a request to Dan Wilson, Sr. Manager, Spectrum Engineering, at [600MhzFC@T-Mobile.com](mailto:600MhzFC@T-Mobile.com).

Sincerely,

/s/ Dan Wilson

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

**FIGURE 2**



**4DR-4-2HW**

**Ch-35**

Maximum gain: 6.0 dBd

Horizontal polarization

Horizontal plane pattern

**KATHREIN**  
USA



TELECOMMUNICATIONS CONSULTING

P.O. Box 881 Silver Spring, MD 20918-0881  
Ph. 301-776-4488  
Fax 301-776-4499

### FIGURE 3 Analysis Summary TVSTUDY, VERSION 2.2.3.

Study created: 2017.10.04 09:54:12

Study build station data: LMS TV 2017-10-03 (29)

Proposal: K43DI-D D35 LD APP CANYONVILLE, ETC, OR  
Facility ID: 8318  
Station data: User record  
Record ID: 307  
Country: U. S.

Stations affected by proposal:

Call	Chan	Svc	Status	City, State	File Number	Distance
KTCW	D36	DT	CP	ROSEBURG, OR	BLANK0000027677	34.4 km
K36JZ-D	D36	LD	LIC	ROSEBURG, OR	BLDTL20140221ACK	34.3

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D35  
Mask: Simple  
Latitude: 42 54 7.60 N (NAD83)  
Longitude: 123 17 10.00 W  
Height AMSL: 1048.0 m  
HAAT: 0.0 m  
Peak ERP: 0.132 kW  
Antenna: SCA 4DR-4-2HW 350.0 deg  
Elev Pattn: Generic

50.8 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.119 kW	689.7 m	38.8 km
45.0	0.127	735.3	39.9
90.0	0.043	405.2	26.9
135.0	0.000	364.8	3.7
180.0	0.000	394.7	3.8
225.0	0.000	296.1	8.5
270.0	0.091	569.5	35.2

315.0 0.095 627.2 36.4

Database HAAT does not agree with computed HAAT  
Database HAAT: 0 m Computed HAAT: 510 m

Distance to Canadian border: 591.9 km

Distance to Mexican border: 1254.4 km

Conditions at FCC monitoring station: Livermore CA  
Bearing: 166.8 degrees Distance: 589.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 95.4 degrees Distance: 1528.2 km

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%

Proposal receives 6.11% interference from scenario 1  
No IX check failures found.