

**TECHNICAL STATEMENT
KEVU-CD 7.66 KW-DA 378 M HAAT CH. 23
EUGENE, OREGON**

INTRODUCTION

California Oregon Broadcasting, Inc. ("COBI"), the licensee of digital Class A television station KEVU-CD, Facility ID No. 8241, proposes a minor modification during the temporary lifting of the freeze by the Media Bureau to increase KEVU-CD's protected contour beyond the station's authorized facilities.¹ More specifically, COBI seeks to expand the contour through an increase in effective radiated power (ERP) to 7.66 kW. A full service emission mask filter will be utilized in connection with the proposed power increase. No other changes to KEVU-CD's existing facility are proposed.

INTERFERENCE PROTECTION AND OET-69 ANALYSIS SETTINGS

A copy of the *TVStudy* analysis is provided in [Figure 1](#). This summary indicates no interference check failures were found and therefore the proposal is not predicted to cause new interference beyond the normal tolerance to any other post-auction primary or secondary stations.² The summary further reflects that the following analysis settings were used:

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

¹ *Media Bureau Temporarily Lifts the Freeze on the Filing of Minor Modifications Applications That Expand the Contour of Full Power and Class A Television Stations From November 28 Through December 7, 2017*, Public Notice, DA 17-1086 (rel. Nov. 6, 2017).

² *TVStudy* Program, Version 2.2.3.



ENVIRONMENTAL IMPACT

The construction permit application specifies an existing FCC registered tower that was constructed before March 16, 2001.³ Given that KEVU-CD 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:	524 - 530 MHz (UHF Channel 23)
Effective Radiated Power:	7.66 kW
Emission Mask Filter:	Full Service
Antenna Type:	KAT 4X3 K723147
Antenna Polarization:	Horizontal
Antenna Height:	176.8 meters above ground level (AGL)
Location coordinates:	44-00-03.0 N, 123-06-49.0 W (NAD83)
Site elevation:	395.0 meters above mean sea level (AMSL)
Overall tower height:	199.0 meters AGL
FCC ASRN:	1034933; Constructed in 1987

Using the methodology for predicting power density levels for television broadcast antennas outlined in *FCC OET Bulletin No. 65, Edition 97-01*, (OET-65), the proposed increase in KEVU-CD's facilities is calculated to produce a maximum power density of 8.38 $\mu\text{W}/\text{cm}^2$ at points 2 meters above ground (approximate human head height). This exposure level was determined assuming the worst-case scenario of 100 percent antenna relative field.

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."



The maximum exposure limits applicable to Channel 23, as determined in accordance with 47 CFR § 1.1310 for uncontrolled and controlled situations, are 349 $\mu\text{W}/\text{cm}^2$ and 1,747 $\mu\text{W}/\text{cm}^2$ respectively. Because the worst-case exposure level determined for KEVU-CD is not more than 5% of those guidelines and considering warning signs are posted to establish awareness of the potential for exposure, 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 Results

FIGURE 1
Analysis Summary
TVSTUDY, VERSION 2.2.3.

Study created: 2017.11.27 14:22:08

Study build station data: LMS TV 2017-11-26 (36)

Proposal: KEVU-CD D23 DC APP EUGENE, OR

File number: USERRECORD01

Facility ID: 8241

Station data: User record

Record ID: 11

Country: U.S.

Build options:

Protect records not on baseline channel

Protect LPTV records from Class A

Stations affected by proposal:

Call	Chan	Svc	Status	City, State	File Number	Distance
K22HO-D	D22	LD	LIC	COTTAGE GROVE, OR	BLD TT20090330AAP	25.4 km
KPXG-TV	D22	DT	LIC	SALEM, OR	BLCDT20110715ACN	171.6
K23KD-D	D23	LD	LIC	COOS BAY, ETC., OR	BLD TT20110524AGT	106.1
KEZI	D23	LD	LIC	EUGENE, OR	BLCDT20120620AAA	54.1
K44JP-D	D24	LD	APP	COTTAGE GROVE, OR	BLANK0000029346	25.4
KATU	D24	DT	CP	PORTLAND, OR	BLANK0000025678	171.1
KATU	D24	DT	APP	PORTLAND, OR	BLANK0000033626	171.1
KATU	D24	DT	BL	PORTLAND, OR	DTVBL21649	171.0

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel : D23
Mask: Full Service
Latitude : 44 0 3.00 N (NAD83)
Longitude: 123 6 49.00 W
Height AMSL: 571.8 m
HAAT: 0.0 m
Peak ERP: 7.66 kW
Antenna: KAT-4X3 K723147 (ID 100453) 0.0 deg

Elev Pattern: Generic
Elec Tilt: 1.40

49.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	4.60 kW	451.9 m	57.5 km
45.0	7.55	395.2	58.1
90.0	4.09	362.2	53.3
135.0	0.609	372.8	42.9
180.0	0.061	253.7	25.6
225.0	0.439	332.7	39.2
270.0	5.65	415.4	57.3
315.0	4.18	438.8	56.4

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 378 m

**Proposal service area extends beyond baseline plus 1.0%
Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 470.6 km

Distance to Mexican border: 1359.9 km

Conditions at FCC monitoring station: Ferndale WA

Bearing: 4.2 degrees Distance: 552.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 100.0 degrees Distance: 1530.8 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%

No IX check failures found.