



Bullet Proof Electronics, Inc.  
Engineering Services

### Loss of population served in excess of one percent as a result of repacking

Life of Victory, Inc., licensee of KVBI-CD (Clarkston, WA), is presently authorized effective radiated power (“ERP”) of 0.24 kW. At this level it is predicted that the captioned facility will experience a loss of population served in excess of one percent as a result of the repacking process. During a 8/1/17 telephone conversation with the Deputy Chief of the Video Division, Hossein Hashemzadeh about the ERP, he recommended that we file to change the power level during this Filing Window. KVBI-CD respectfully requests an adjustment to the presently authorized ERP to 1.54kW (1.90dBk) to achieve replacement coverage specified in the *Closing and Reassignment Public Notice* (reference 1) for the captioned facility.

This attachment explains the discrepancy in ERP between the value authorized in KVBI’s Channel Assignment letter and the value necessary to achieve replacement coverage as outlined in the Broadcast Television Spectrum Auction Incentive Auction Report and Order.

KVBI currently operates on channel 42 (641MHz center frequency) with an ERP of 2.61kW (4.17dBk). The Channel Assignment letter assigns KVBI to channel 17 (491MHz center frequency) with an ERP of 0.024kW using the present pattern and antenna height. We believe that the assigned ERP is in error as it does not preserve coverage area and population served as of February 22, 2012.

The Repacking Order (reference 2), Paragraph 19, specifically requires preservation of existing coverage for all repacked stations, as defined in OET Bulletin 69 (reference 3). OET-69 (page 3, *Planning Factors*) uses an adjustment factor of  $20 \log[615/(\text{channel mid-frequency in MHz})]$  to account for frequency-dependent coverage field strength requirements. Therefore, the adjustment from the ERP value at the present channel of KVBI (42) versus the assigned ERP on channel 17 should be:

$$20 \log[615/641] - 20 \log[615/491] = -0.360 - 1.960 = -2.32\text{dB}$$

The present power of KVBI is 4.17dBk. By adding the above result, the power for KVBI for equivalent coverage on channel 17 should be 1.85dBk. Using the Commission's rounding rules, the assigned power should be 1.90dBk, or 1.54kW.

KVBI-CD is the only independent Broadcaster in the area and has been serving portions of the populations of six counties for more than 33 years. At the current level of only 0.024 kW ERP, KVBI-CD would lose coverage of four of those counties from the service area. A significant number of viewers in the Garfield and Wallowa Counties in Washington, Lewis and Idaho Counties in Idaho would no longer be able to receive the DTV signal. In the two remaining counties (Asotin County WA and Nez Perce County Idaho) the coverage would be greatly reduced. According to the 2010 census 31.5 % of Asotin County residents live outside the incorporated towns. That's 6,811 people. In Nez Perce County 19 % residents live outside of Lewiston. That's 7,460 people. An estimated reduction of population loss could be as high as 15% based on Census data, topography maps and the noise-limited coverage contours for the present channel 42 facility.

The Repacking Order (reference 2)“... will not allow any channel assignments that, ... would reduce a station’s population served by more than a *de minimis* amount.” At 0.024 kW it is predicted that KVBI-CD will experience a loss of population served far in excess of one percent. Therefore in order to maintain equivalent service to the region, KVBI-CD Respectfully requests that this filing be accepted allowing the ERP increase from 0.024 kW to 1.54 kW.

*Figure 1* shows the noise-limited coverage contours for the present channel 42 facility, the assigned channel 17 facility (0.024kW or -16.2dBk) and a replicated facility on channel 17 using an ERP of 1.54kW (1.90dBk).

*Table 1* demonstrates the preservation of coverage using the requested ERP level, while

*Table 2* demonstrates that no new interference will be generated to other protected stations.

*Table 3* demonstrates that there will be no significant incoming interference to the proposed facility.

We understand that the protected contour for digital Class A TV stations remains at 51dBμ for all UHF channels (47 CFR § 73.6010(c)(3)).

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<sup>1</sup> DA 17-106 January 27, 2017

<sup>2</sup> FCC 14-50, GN Docket No. 12-268, released June 2, 2014

<sup>3</sup> OET Bulletin 69 of the Commission’s Office of Engineering and Technology, Longley-Rice Methodology for Evaluating TV Coverage and Interference, February 6, 2004

**KVBI-APP**

DTVBL37444

Latitude: 46-27-04.02 N

Longitude: 117-02-47.03 W

ERP: 1.54 kW

Channel: 17

Frequency: 491.0 MHz

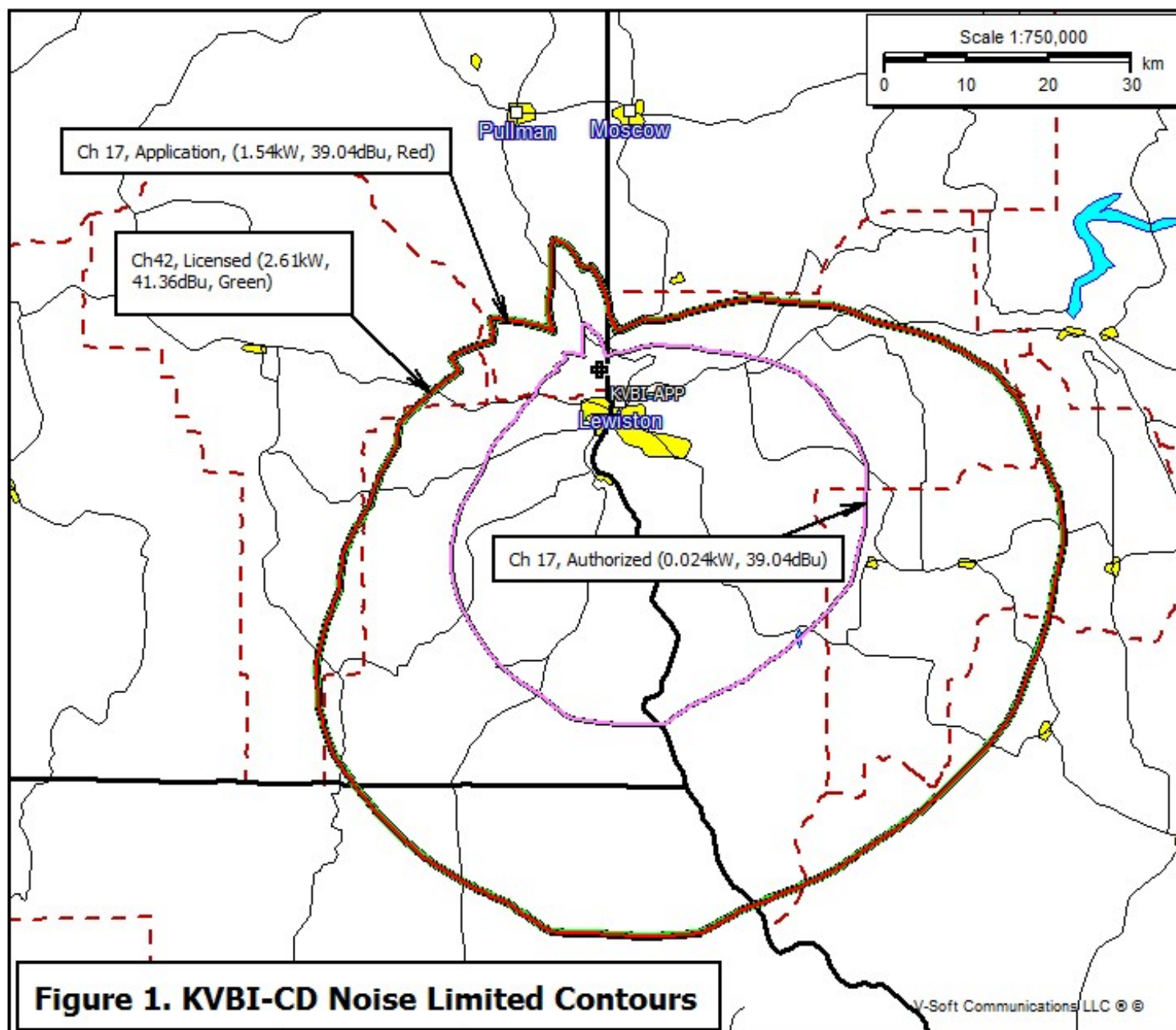
AMSL Height: 875.0 m

Elevation: 792.03 m

Horiz. Pattern: Directional

Vert. Pattern: Yes

Elec Tilt: 0.0



## Table 1. Noise-Limited Coverage

Population Report for All Contours

Population Database: 2010 US Census (PL)

			Population	Housing Units	Area (sq. km)
KVBI-APP (17)	[ Clarkston, WA ]				
FCC F(50-90)	39.04 dBu (		62,441	27,838	5388.1
KVBI-CD (42)	[ Clarkston, WA ]				
FCC F(50-90)	41.36 dBu (		62,441	27,838	5380.2

## Table 2. Outgoing Interference Population Report

KVBI-APP (17) Clarkston, WA - DTVBL37444  
 Broadcast Type: Digital Service: G [Simple Emission Mask]  
 Lat: 46-27-04.02 N Lng: 117-02-47.03 W ERP: 1.54 kW AMSL: 875.0 m  
 TV Outgoing Interference Study  
 Signal Resolution: 1.0 km  
 Consider NTSC Taboo: Yes  
 KWX error points are considered to  
 be interference free coverage.  
 Default # of radials computed for contours: 72  
 Contours calculated using 8 radial HAAT.  
 LR Profile Spacing Increment: 0.1 km  
 Masked interference points are being counted as interference free.

Study Date: 6/9/2017

TV Database Date: 6/6/2017

Primary Terrain: V-Soft 3 Second US Terrain  
 Secondary Terrain: V-Soft 30 Second World Terrain

Population Database: 2010 US Census (PL)

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 Stations Considered:

Call Letters	City	State	Dist	Azi
KCDT-A (18)	Coeur D'alene	ID	144.4	9.5
KUNP-D (16)	La Grande	OR	137.6	203.0
KEPR-TV (18)	Pasco	WA	169.9	257.4
KVBI-CD (42)	Clarkston	WA	0.0	145.3

Call	Area	HUnits	Contour	Masked Ix	Unmasked Ix	%
KCDT-A (18)	0.0	0	693,708	0	0	0.00
KUNP-D (16)	0.0	0	124,112	0	0	0.00
KEPR-TV (18)	0.0	0	451,198	0	0	0.00
KVBI-CD (42)	0.0	0	59,798	0	0	0.00

### Table 3. Incoming Interference Population Report

Study Date: 6/13/2017

TV Database Date: 6/6/2017

Primary Terrain: V-Soft 3 Second US Terrain

Secondary Terrain: V-Soft 30 Second World Terrain

Population Database: 2010 US Census (PL)

Percentages calculated using a baseline population of 93,368.

Stations which cause interference:

Call Letters	H Units	Population	%	Area (sq. km)
KUNP-D (16)	0	0	0.000	0.85

Masking Summary:

Call Letters	Total Interference Population	%	Unique Interference Population	%
KUNP-D (16)	0	0.000	0	0.000

Stations considered which do not cause interference:

CH5644-D (17)  
KCDT-A (18)  
KEPR-TV (18)

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Totals for KVBI-CD-A (17)

	Population	Area
Calculation Area Population:	183,268	[ 31405.4 sq. km ]
Not Affected by Terrain Loss:	93,368	[ 17814.7 sq. km ]
Total NTSC Interference:	0	[ 0.0 sq. km ]
DTV Only Interference:	0	[ 0.9 sq. km ]
Total DTV Interference:	0	[ 0.9 sq. km ]
Interfered Population:	0	[ 0.9 sq. km ]
Interference Free:	93,368	[ 17813.9 sq. km ]
Percent Interference:	0.00 %	
Terrain Blocked Population:	89,900	[ 13590.7 sq. km ]