August 2015 New FM Channel 229C3 Waldport, Oregon Principal Community Coverage Study

The 70 dBu contour from the proposed facility, as calculated using the standard contour prediction methodology described in §73.313 of the Commission's Rules, does not encompass the entire community of Waldport. The far side of Waldport is located approximately 28.5 kilometers from the proposed transmitter site. The standard 70 dBu contour extends approximately 22 kilometers towards Waldport. However, it is believed that a supplemental showing using alternative contour prediction methodology is justified in this instance in accordance with §73.313(e).

The entire community of Waldport is encompassed by the proposed 60 dBu contour. The attached map exhibit depicts the community boundary of Waldport as taken from the 2010 Census.

Longley-Rice

Study has been made of the predicted 70 dBu field strength over Waldport, using the Longley-Rice v1.2.2 methodology. This study has been conducted using the software program SIGNAL[™] from EDX Wireless, utilizing the 3-second terrain database.

A sample calculation has been made to a location within the community boundary of Waldport to verify the presence of 70 dBu service, using the formula:

Field Strength = *Free Space* - *Diffraction Loss* - *Clutter Where Free Space* = 106.9 + *power in dBk* - 20log(*distance in km to point of interest*)

For the path studied (9.54 dBk over a 25.9 km path), the result of this calculation is:

Radial	Free Space Field	Minus Diffraction Loss	Yields
189.8 deg	88.17 dBu	6.43 dB	81.7 dBu

Attached is a plot of the terrain path from the transmitter site to the sample location in Waldport. The attached terrain path plot includes a list of the Longley-Rice study parameters.

Hatfield & Dawson Consulting Engineers

Longley-Rice Contour

The location of the Longley-Rice 75 dBu contour (chosen to allow for 5 dB of local clutter loss at the receive locations) in the direction of Waldport has been determined for 1-degree increment radials passing through Waldport. This contour has been plotted on the attached contour map exhibit, and encompasses 96% of the area and 100% of the population of Waldport.

Radial	F(50,50) 70 dBu	L-R 75 dBu	L-R exceeds F(50,50) by
184	22.2 km	30.6 km	38%
185	22.4 km	31.0 km	38%
186	22.3 km	30.7 km	38%
187	21.8 km	28.6 km	31%
188	21.7 km	29.9 km	38%
189	21.6 km	29.3 km	36%
190	21.2 km	27.3 km	29%
191	21.1 km	27.8 km	32%
192	21.4 km	27.7 km	29%







Link end 1 ID:	NewFM	Link end 2 ID:	Waldport
Site name:	NewFM	Site name:	Waldport
Latitude:	N44°38'40.00"	Latitude:	N44°24'53.48"
Longitude:	W124°00'50.00"	Longitude:	W124°04'09.97"
Transmitter Frequency:	93.7 MHz	Received signal level:	-32.74 dBmW (81.7 dBu)
Polarization:	horizontal	Receiver noise level:	-100.63 dBmW
Antenna elevation (AMSL):	203.00 m	Antenna elevation (AMSL):	70.10 m (9.1m AGL)
Point az. to link end 2:	189.81°	Point az. to link end 1:	9.77°
Pointing elev. to link end 2:	-0.36°	Pointing elev. to link end 1:	0.18°
Antenna gain toward link end 2:	0.00 dBd		
ERPd toward link end 2:	9.54 dBkW		
Path:	NewFM -> Waldport		
Length:	25.9002 km		
Number of obstacles:	1		
Excess pathloss:	6.43 dB		
Atm. Absorption loss:	0.00 dB		

106.58 dB

-0.15

1.333

Path loss for Stats:

K factor:

Path Fresnel zone clearance: