

CONTOUR OVERLAP AND
LONGLEY-RICE INTERFERENCE STUDIES
PROPOSED LOW POWER TELEVISION STATION K57IF
CHANNEL 47 - SALEM, OREGON
[AMENDMENT TO BPTTL-20011019AAS]

We conducted a computer analysis of the interference situation for the proposed facility, the results of which are shown in Exhibit D-2. The study is based on contour protection requirements of Sections 74.705, 74.706, and 74.707 of the FCC's Rules with respect to analog full-power, digital full-power, and low power television stations, respectively. It concludes that the facility proposed herein meets these requirements except in twelve instances.

We then conducted detailed interference studies using the Longley-Rice methodology contained in the Commission's *OET Bulletin No. 69*, with respect to these potentially affected facilities. The software utilizes a 2-square kilometer cell size, calculates signal strength at 1.0 kilometer increments along each radial studied, and employs the 2000 U.S. Census to count population within cells, unless otherwise noted. In addition, the program does not attribute interference to the proposed facility in cells within the protected contour of the station under study where interference from another source (other than the proposed Channel 47 facility) already is predicted to exist (also known as "masking"). The results of these studies are provided in Exhibit D-3. They conclude that the facility proposed herein causes no significant new interference to any of the stations of concern.

EXHIBIT D-1

As a result, waivers of Section 74.705 of the Commission's Rules with respect to interference to KWBK, KYVE and KPDX; Section 74.706 with regard to KGW-DT and KPDX-DT; and, Section 74.707 with respect to K47CD and K47AV are requested and believed to be justified based on the aforementioned Longley-Rice studies.

Due to the fact that the proposed facility specifies an effective radiated power in excess of 50 kw, further study is required with respect to intermodulation interference to second-adjacent KPDX. Intermodulation interference is predicted to occur when analog stations separated by two UHF channels exist in the same market and create a condition where the signal levels of both stations could be extremely high at any given receive location in close proximity to the two transmitter sites. The interference occurs within the television set's tuner, which produces interference products on channels that are mathematically related to the aural and visual frequencies of the two stations. If those products land on channels that are viewable in the market, reception of those channels will be impaired at that receiver location.

K57IF, as proposed herein on Channel 47, is located at the site of KPDX, Channel 49 in Vancouver, Washington. The FCC-required separation in this instance is 32 kilometers in order to avoid potential intermodulation interference. We then determined the interference products generated under the conditions described above. The products land on the following frequencies: 652.75, 657.25, 661.75, 666.25, 688.75, 693.25, 697.75, and 702.25 MHz. These frequencies fall within Channels 44,

EXHIBIT D-1

45, 46, 50, 51, and 52, respectively. A study reveals that there are no full-power analog stations authorized to operate on these channels that would be viewable in close proximity to the KPDX/K57IF site. In addition, the area surrounding this site is uninhabited. Therefore, no viewers could be affected anyway. While there are digital television stations in the Portland market that will ultimately occupy some of these channels, it has not been demonstrated that DTV tuners or television sets are susceptible to generating intermodulation interference. Accordingly, a waiver of the FCC's intermodulation interference Rules of Section 74.705 with respect to KPDX is respectfully requested.

SMITH AND FISHER

EXHIBIT D-2

PROPOSED K57IF
CH. 47 - SALEM OREGON

REFERENCE

45 31 23 N

LPTV Pwr = 100 kW, HAMS L COR= 600 M

122 45 07 W

DISPLAY DATES

DATA 11-12-02

SEARCH 11-12-02

..... Channel 47+, 668 MHz

Call	Channel	Location	Dist	Azi	FCC	Margin
KGW-DT*CPM	46	Portland	OR	0.48	97.4	> 138.98 -138.50
KGW-DT*LI	46	Portland	OR	0.46	97.8	> 138.95 -138.49
KPDX-D*CPM	48	Vancouver	WA	0.03	180.0	> 139.64 -136.84
KPDX-D*LI	48	Vancouver	WA	0.00	0.0	> 125.07 -125.07
KWBP* LI	32Z	Salem	OR	65.97	150.2	> 169.55 -103.31
KWBP* CPM	32Z	Salem	OR	65.65	150.3	> 169.32 -102.31
K47CD* LI	47Z	Rockaway	OR	95.46	285.2	> 161.88 -65.55
KYVE* LI	47Z	Yakima	WA	206.76	56.2	> 267.08 -60.32
K47AV* LI	47N	Cottage Grove	OR	195.37	186.9	> 254.49 -59.12
K47CD* CP	47Z	Rockaway	OR	95.81	285.3	> 159.12 -57.95
KPDX CPM	49-	Vancouver	WA	0.00	0.0	> 032.00 -32.00
KPDX LI	49-	Vancouver	WA	0.00	0.0	> 032.00 -32.00
K47EW* LI	47N	Wenatchee, Etc.	WA	282.54	42.4	> 246.25 36.53
K57HB* AP	47Z	Seattle	WA	236.45	7.3	> 185.62 50.83
K57HB* AP	47Z	Seattle	WA	236.45	7.3	> 185.62 50.83
K47BB* LI	47+	Joyce	WA	300.42	346.9	> 243.64 56.99

* Actual radials antenna height and directional patterns used (if any)

INTERFERENCE SUMMARY

PROPOSED LOW-POWER TELEVISION STATION K57IF
 CHANNEL 47 - SALEM, OREGON
 [AMENDMENT TO BPTTL-20011019AAS]

<u>Call Sign</u>	<u>Status</u>	<u>City, State</u>	<u>Ch.</u>	<u>Longley-Rice Service Population</u>	<u>Unmasked Interference From Proposed Facility</u>	<u>%</u>
KGW-DT	CP	Portland, OR BMPCDT-19990525KI	46	1,957,461	0	0
KGW-DT	Lic.	Portland, OR BLCDT-20000314ABB	46	2,458,702	0	0
KPDX-DT	CP	Vancouver, WA BMPCDT-19990902AAJ	48	2,455,533	0	0
KPDX-DT	Lic.	Vancouver, WA BLCDT-19991102ABP	48	2,345,779	0	0
KWBP	Lic.	Salem, OR BLCT-19891116KH	32	2,378,830	276	0.01*
KWBP	CP	Salem, OR BMPCT-19981117KI	32	2,363,147	1,367	0.06*
K47CD	Lic.	Rockaway, OR BLTT-19871103IC	47	4,504	0	0
KYVE	Lic.	Yakima, WA BLET-419	47	229,584	0	0
K47AV	Lic.	Cottage Grove, OR BLTT-19860113IE	47	14,178	0	0
K47CD	CP	Rockaway, OR BPTT-20000524AEB	47	2,628	0	0
KPDX	CP	Vancouver, WA BMPCT-19981112KI	49	2,254,670	0	0
KPDX	Lic.	Vancouver, WA BLCT-19990909AAD	49	2,254,670	0	0

* Additional interference masked by KWBP-DT (CP); 1 km cell size used with 0.1 km increment spacing.