

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
CLASS A TV STATION KOXO-CA  
FACILITY ID 71080  
NEWBERG, OREGON  
CH 51 95 KW

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for construction permit (CP) for Class A TV station KOXO-CA at Newberg, Oregon (Facility ID: 71080; File No. BLTTA-20031009ABT). Specifically, this application proposes to modify the KOXO-CA licensed operation by changing the transmitter site location, decreasing the non-directional effective radiated power (ERP) and increasing the antenna radiation center height above mean sea level (RCAMSL). No other changes are proposed. This application is considered a "minor change" in facilities pursuant to Section 73.3572(a)(2), as there will be no change in frequency (output channel) and the proposed 74 dBu contour will overlap a portion of the licensed 74 dBu contour (Figure 1).

It is proposed to operate on channel 51 (692-698 MHz) with a "zero" carrier frequency offset and employing a Coel non-directional CO-8U/8 panel antenna. The ERP will be 95 kW. The antenna will be mounted at the 183 meter (600 foot) level on the existing tower. The FCC Tower Registration Number for the existing tower is 1204059.

Response to Paragraph 13(a) - TV Broadcast Analog Protection

A study has been conducted using the provisions of Section 74.705 which indicates that the proposed KOXO-CA operation will not create prohibited interference to other existing, authorized or proposed NTSC full-power stations, except with respect to NTSC station KPDX(TV) on channel 49 at Vancouver, Washington, and station KWOX(TV) on channel 51 at Bellevue, Washington. However with respect to each facility, interference calculations have been made using the procedures outlined in the

FCC's OET-69 Bulletin.<sup>1</sup> Interference calculations for the proposed KOXO-CA operation are summarized below (see also Figure 2).

Protected NTSC Station	FCC Service Population	Proposed Interference Population
KPDY, Ch. 49, Vancouver, WA Licensed (BLCT-19990909AAD)	--	0 (0.00%)
KWOG, Ch. 51, Bellevue, WA Licensed (BLCT-19990810KE)	3,065,297	9 (0.00%)

The results of the OET Bulletin No. 69 interference analyses indicate that the proposed KOXO-CA operation complies with the FCC's 0.5% "rounding allowance" for such calculations (see paragraph 78 of MM Docket No. 00-10). Thus, it is believed that the KOXO-CA operation complies with the FCC's interference standards towards all NTSC stations and allotments.

#### Response to Paragraph 13(b) - DTV Station Protection

Calculations based on OET Bulletin No. 69 indicate that the proposed KOXO-CA operation on channel 51 will not cause any (0.0%) prohibited interference to any allotted, proposed or actual DTV operating facilities on channels 50 and 51. Interference calculations for the proposed KOXO-CA operation are summarized below (see also Figure 2).

#### Response to Paragraph 13(c) - LPTV/TV Translator Protection

A study has been conducted using the provisions of Section 74.707 which indicates that the KOXO-CA proposal will not create prohibited interference to other existing, authorized or proposed LPTV stations except with respect to Class A station KORS-LP on channel 36 at Salem, Oregon, 2 pending applications (BNPTTL-20000830ASC and BNPTTL-20000830AIY) for a new LPTV operation on channel 51 at Bend, Oregon, a pending application (BNPTT-20000830BGJ) for a new LPTV operation on channel 51 at Black Butte Ranch, Oregon, LPTV station KMOR-LP on channel 51 at Eugene,

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<sup>1</sup>The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed. A Sun based processor computer system was employed.

Oregon, K51EY on channel 51 at London Springs, Oregon, K51FK on channel 51 at Nehalem, Rockaway, Oregon, K51EH on channel 51 at The Dalles, Oregon, 2 pending applications (BNPTTL-20000828AHX and BNPTTL-20000828AYT) for a new LPTV operation on channel 51 at Warrenton, Oregon, LPTV station K51HW on channel 51 at Ocean Park, Washington, and LPTV station K52HY on channel 52 at Eola, Oregon. However, with respect to each station, interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin.

Interference calculations for the proposed KOXO-CA operation are summarized below (see also Figure 2).

LPTV Station	FCC Service Population	Proposed Interference Population
KORS-LP, Ch. 36, Salem, OR Licensed (BLTTA-20020722ABK)	--	0 (0.00%)
NEW, Ch. 51, Bend, OR Application (BNPTTL-20000830ASC)	--	0 (0.00%)
NEW, Ch. 51, Bend, OR Application (BNPTTL-20000830AIY)	--	0 (0.00%)
NEW, Ch. 51, Black Butte Ranch, OR Application (BNPTT-20000830BGJ)	--	0 (0.00%)
KMOR-LP, Ch. 51, Eugene, OR Licensed (BLTTL-19930204IC)	--	0 (0.00%)
K51EY, Ch. 51, London Springs, OR Licensed (BLTT-19960415IE)	--	0 (0.00%)
K51FK, Ch. 51, Nehalem, Rockaway, OR Licensed (BLTTL-19990528JF)	--	0 (0.00%)
K51EH, Ch. 51, The Dalles, OR Licensed (BLTTL-19931014JG)	--	0 (0.00%)
NEW, Ch. 51, Warrenton, OR Application (BNPTTL-20000828AHX)	--	0 (0.00%)
NEW, Ch. 51, Warrenton, OR Application (BNPTTL-20000828AYT)	--	0 (0.00%)
K51HW, Ch. 51, Ocean Park, WA Authorized CP (BNPTTL-20000828APZ)	--	0 (0.00%)
K52HY, Ch. 52, Eola, OR Authorized CP (BNPTTL-20030721ABK)	--	0 (0.00%)

The results of the OET Bulletin No. 69 interference analyses indicate that the proposed operation complies with the FCC's 0.5% "rounding allowance" for such calculations (see paragraph 78 of

MM Docket No. 00-10). Thus, it is believed that the proposed KOXO-CA operation complies with the FCC's interference standards towards all LPTV and Class A stations.

#### US-Canadian TV Agreement Compliance

The proposed channel 51 operation will be located 306 kilometers from the closest point of the US-Canadian common border. Therefore, consideration must be given to the existing US-Canadian TV Agreement (1994) and Letter of Understanding (LOU) between the FCC and Industry Canada related to DTV service along the common border (September 12, 2000). Pursuant to the existing Agreement and LOU, NTSC Low Power TV stations will be referred if the pertinent interfering contour would fall within the territory of the other country. The pertinent interfering contour applicable towards co-channel NTSC stations is the 19 dBu, F(50,10) contour. The pertinent interfering contour applicable towards co-channel DTV operations is the 31.8 dBu, F(50,10) contour. Figure 3 depicts the locations of both the 19 dBu, F(50,10) and 31.8 dBu, F(50,10) interfering contours based on the proposed NTSC channel 51 facilities. As indicated on Figure 3, neither the 19 dBu, F(50,10) nor the 31.8 dBu, F(50,10) contour overlaps Canadian land area. Therefore, it is not believed necessary to refer the proposal to Canada.

#### Response to Paragraph 14 - Environmental Protection Act

The proposed KOXO-CA facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation."<sup>2</sup> The calculated power density at the base of the tower was calculated using the appropriate equation on Page 13 of the Bulletin. Based on a conservative relative field factor of 0.4 (for angles below 60 degrees downward, a visual effective radiated power of 95 kilowatts and 10 percent aural power, the calculated power density at 2 meters above ground at the tower base will be 0.0078 mW/cm<sup>2</sup>. This is 1.7% of the recommended

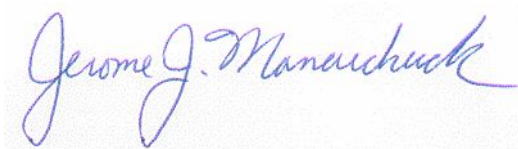
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<sup>2</sup> See *Report and Order* in ET Docket 93-62, FCC 96-326, adopted August 1, 1996, 11 FCC Rcd 15123 (1997). See also *First Memorandum Opinion and Order*, ET Docket 93-62, FCC 96-487, adopted December 23, 1996, 11 FCC Rcd 17512 (1997), and *Second Memorandum Opinion and Order and Notice of Proposed Rulemaking*, ET Docket 93-62, FCC 97-303, adopted August 25, 1997.

limit of 0.46 mW/cm<sup>2</sup> for channel 51, applicable to general population/uncontrolled exposure areas. Therefore, based on the responsibility threshold of 5%, the proposal will comply with the FCC's RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

Finally, it is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already has been provided to the FCC by the tower owner as part of the tower registration process.

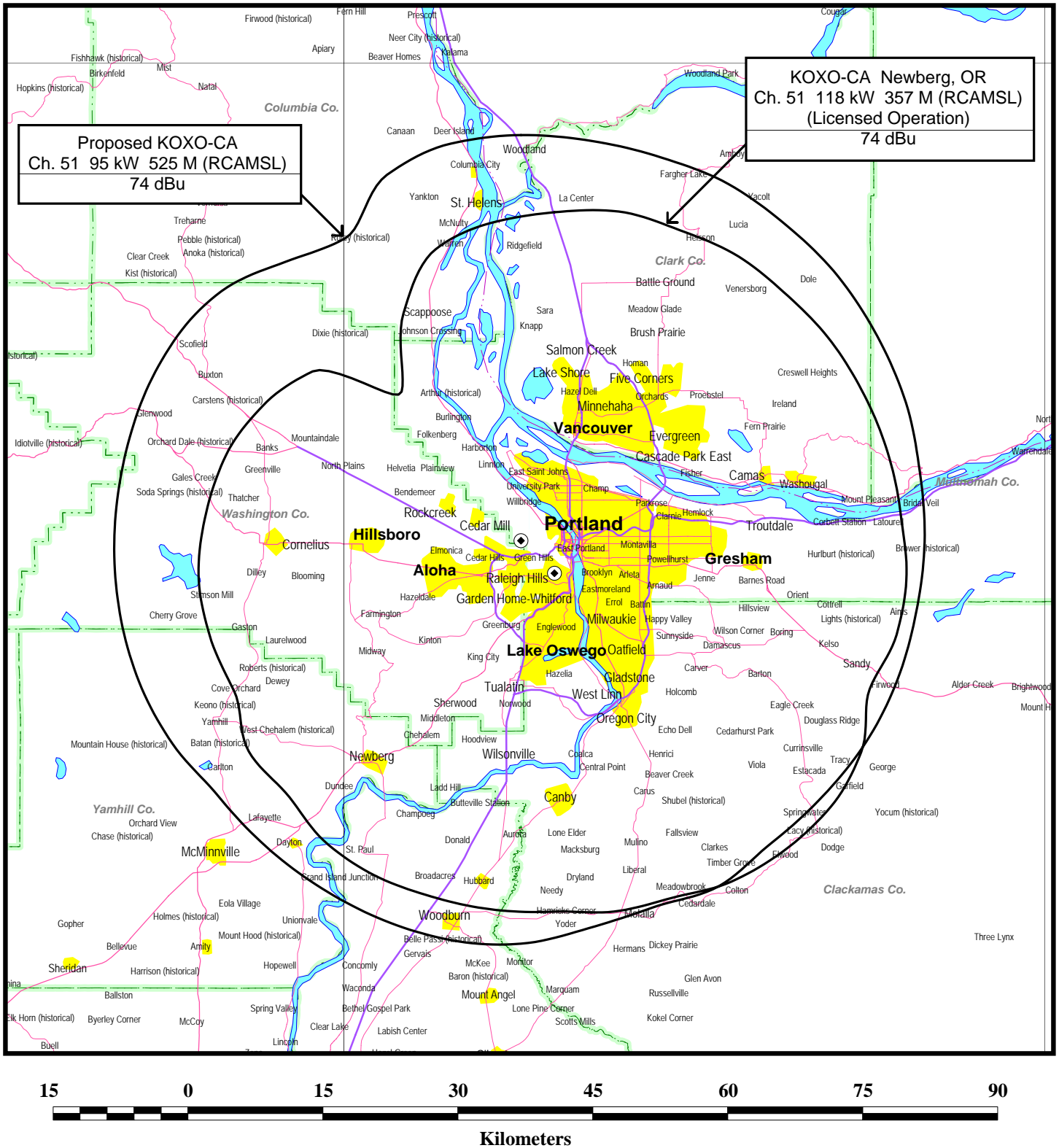


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June 3, 2004

Figure 1



## FCC PREDICTED 74 dBu CONTOURS

CLASS A STATION KXO-CA  
NEWBERG, OREGON  
CH 51 95 KW 525 M (RCAMSL)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

TECHNICAL EXHIBIT  
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NEWBERG, OREGON  
CHANNEL 51 95 KW

OET-69 ANALYSIS WITH RESPECT TO TV/DTV/LPTV/CLASS A STATIONS

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 06-01-2004 Time: 17:02:17

Record Selected for Analysis

KOXO-CA USERRECORD-01 NEWBERG OR US  
Channel 51 ERP 95. kW HAAT 475. m RCAMSL 00525 m  
Latitude 045-31-21 Longitude 0122-44-45  
Status APP Zone 2 Border Offset Z  
Last update Cutoff date Docket  
Comments  
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Not full service station

Facility meets maximum power limit

Azimuth (Deg)	ERP (kW)	HAAT (m)	74.0 dBu F(50,50) (km)
0.0	95.000	453.2	45.0
45.0	95.000	474.9	45.8
90.0	95.000	450.5	44.9
135.0	95.000	415.0	43.7
180.0	95.000	441.8	44.6
225.0	95.000	421.6	44.0
270.0	95.000	459.1	45.2
315.0	95.000	366.9	42.0

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Summary of OET-69 Analysis with Respect to TV Stations

Facility Number	Channel	Call	City, State	Status	Application Prefix	Application Reference Number
1	49	KPDX	VANCOUVER, WA	LIC	BLCT	19990909AAD
2	51	KWOG	BELLEVUE, WA	LIC	BLCT	19990810KE

Summary of Interference Analysis for Worst-Case Scenarios							
Facility Number	Interference Population Before Analysis	Interference Population After Analysis	Baseline Population	Net Change in Interference	Percent of Baseline	Permissible Percent of Baseline	Result
1	--	--	--	*	--	0.50	pass
2	14,172	14,181	3,065,297	9	0.00	0.50	pass

\* Proposal causes no interference.



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Summary of OET-69 Analysis with Respect to LPTV/TV Translator Stations

Facility Number	Channel	Call	City State	Status	Application Prefix	Application Reference Number
1	36	KORS-LP	SALEM, OR	LIC	BLTTA	20020722ABK
2	51	NEW	BEND, OR	APP	BNPTTL	20000830ASC
3	51	NEW	BEND, OR	APP	BNPTTL	20000830AIY
4	51	NEW	BLACK BUTTE RANCH, OR	APP	BNPTT	20000830BGY
5	51	KMOR-LP	EUGENE, OR	LIC	BLTTL	19930204IC
6	51	K51EY	LONDON SPRINGS, OR	LIC	BLTT	19960415IE
7	51	K51FK	NEHALEM, ROCKAWAY, OR	LIC	BLTTL	19990528JF
8	51	K51EH	THE DALLES, OR	LIC	BLTTL	19931014JG
9	51	NEW	WARRENTON, OR	APP	BNPTTL	20000828AHX
10	51	NEW	WARRENTON, OR	APP	BNPTTL	20000828AYT
11	51	K51HW	OCEAN PARK, WA	CP	BNPTTL	20000828APZ
12	52	K52HY	EOLA, OR	CPMOD	BMPTTL	20030721ABK

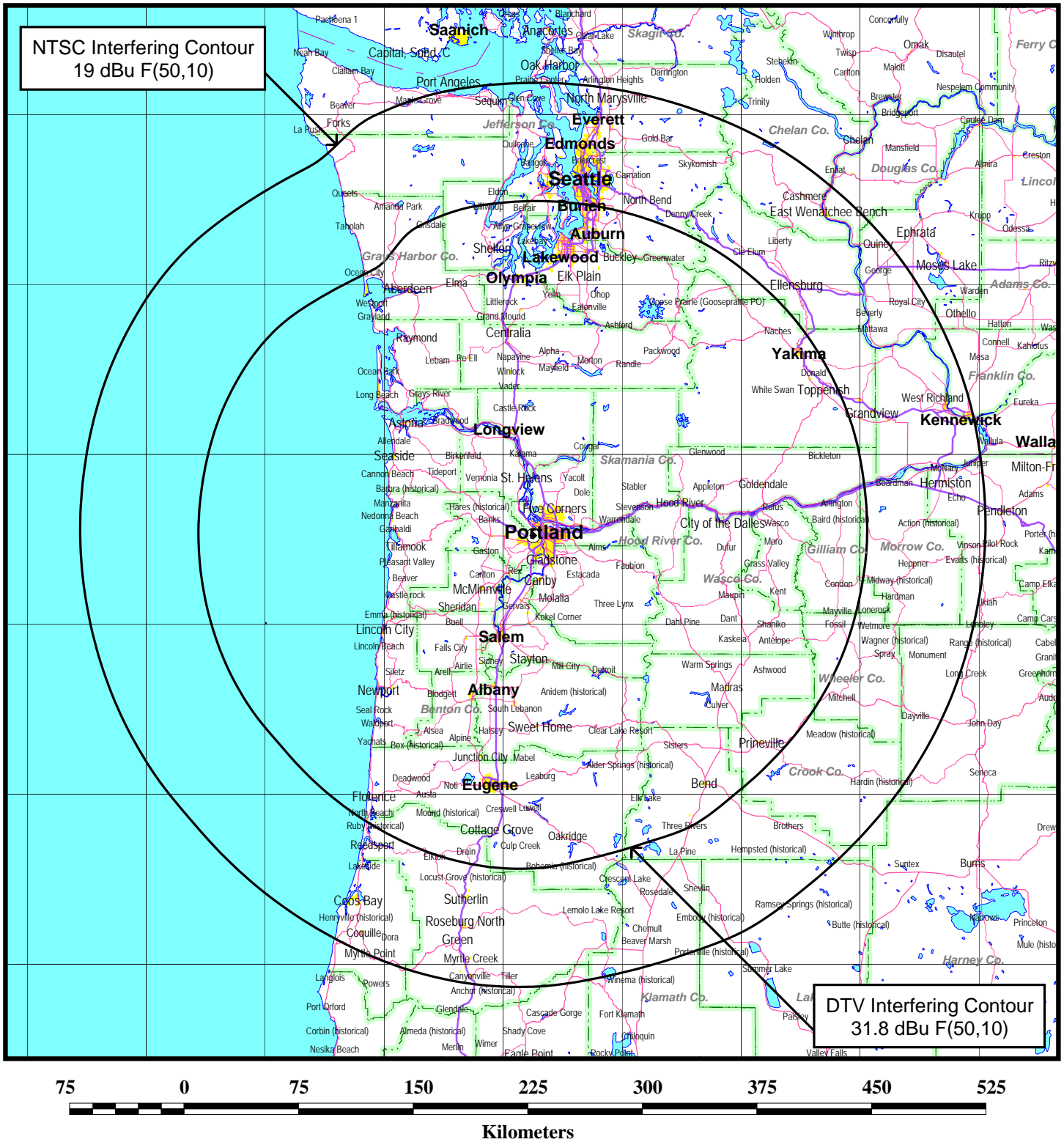
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Summary of OET-69 Analysis with Respect to LPTV/TV Translator Stations

Summary of Interference Analysis for Worst-Case Scenarios							
Facility Number	Interference Population Before Analysis	Interference Population After Analysis	Baseline Population	Net Change in Interference	Percent of Baseline	Permissible Percent of Baseline	Result
1	--	--	--	*	--	0.50	pass
2	--	--	--	*	--	0.50	pass
3	--	--	--	*	--	0.50	pass
4	--	--	--	*	--	0.50	pass
5	--	--	--	*	--	0.50	pass
6	--	--	--	*	--	0.50	pass
7	--	--	--	*	--	0.50	pass
8	--	--	--	*	--	0.50	pass
9	--	--	--	*	--	0.50	pass
10	--	--	--	*	--	0.50	pass
11	--	--	--	*	--	0.50	pass
12	--	--	--	*	--	0.50	pass

\* Proposal causes no interference.

Figure 3



## CANADIAN NTSC/DTV ALLOCATION STUDY

CLASS A STATION KEXO-CA

NEWBERG, OREGON

CH 51 95 KW 525 M (RCAMSL)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida