TECHNICAL EXHIBIT
MINOR CHANGE APPLICATION FOR CONSTRUCTION PERMIT
CLASS A STATION KOXO-CA
FACILITY ID 71080
NEWBERG, OREGON
CH 51 150 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of a minor change application to modify the construction permit of Class A station KOXO-CA at Newberg, Oregon (Facility ID: 71080; File No. BPTTL-19980601WV). Specifically, this application proposes to change KOXO-CA's antenna system and increase its maximum directional effective radiated power (ERP) to 150 kilowatts. 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 CO-18U/8 directional antenna system. The maximum ERP will be 150 kW. The antenna will remain at the 15 meter level on the existing tower.

Analog TV Broadcast Station 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 the licensed and authorized construction permit (CP) facilities of NTSC station KPDX on channel 49 at Vancouver, Washington, the authorized CP of station KWOG on channel 51 at Bellevue, Washington, and a proposed Rule Making (BPRM-20000717ABX) on channel 58 at Portland, Oregon. Therefore, waiver of Section 74.705 is requested with respect to each of these facilities. Justification for each waiver request is provided below.

Station KPDX operates on a second lower adjacent channel to the proposed KOXO-CA operation. Section 74.705 specifies a minimum distance separation of 32 kilometers towards KPDX for Class A stations operating in excess of 50 kW, whereas the actual distance to the KPDX operations is less than 32 kilometers. Therefore, the proposed KOXO-CA operation will be short-spaced to the KPDX operations.

The 32 kilometer separation requirement between second adjacent (KPDX) channel full service NTSC and LPTV stations is designed to prevent “cross modulation” and “intermodulation” interference. In cross modulation interference, the modulation of the undesired channel is superimposed on the modulation of the desired channel. The potential for cross modulation interference was analyzed based on OET Bulletin No. 69 which indicates that no interference is calculated to occur to KPDX (See Figure 2 attached).

Intermodulation interference results from the combination of the proposed KOXO-CA channel 51 and KPDX channel 49 signals in a receiver to generate a signal which falls within the pass-band of a “desired” third signal. For the KOXO-CA channel 51/KPDX channel 49 combination, the desired signal will not be either channel 51 or 49. For the KOXO-CA channel 51/KPDX channel 49 combination, the intermodulation products fall on channels 47 and 53. If there are viewable signals on those channels in the vicinity of the proposed KOXO-CA channel 51 service area there will be a potential for interference. Our studies indicate that there are no viewable full-service NTSC signals on these channels in the area and, therefore, interference is not likely to occur.

The proposed KOXO-CA operation is involved in prohibited contour overlap with full-service co-channel NTSC station KWOG. However, interference studies were prepared with respect to KWOG based on OET Bulletin No. 69, and it was determined that no prohibited interference is calculated to occur to KWOG (See Figure 2 attached).

The proposed operation is also short-spaced to a pending NTSC Rulemaking Petition (BPRM-20000717ABX) on channel

58 at Portland, Oregon. This is a plus seven channel, local oscillator taboo. Interference studies with respect to the pending Rulemaking indicate that the proposed KOXO-CA operation will not cause prohibited interference to the channel 58 proposal (See Figure 2 atttached).

DTV Station and DTV Table of Allotments Protection

A DTV within search revealed that station KWOG on channel 50 at Bellevue, Washington is the only allotted, proposed or operating DTV facility on channel 51, 52 or 53 within 500 kilometers of the proposed KOXO-CA site. Based on our studies the proposed KOXO-CA would not be involved in prohibited contour overlap with station KWOG. Therefore, it is believed that the proposed KOXO-CA operation will comply with the FCC's interference standards towards all DTV stations and allotments.

LPTV/TV Translator/Class A 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/Class A stations except with respect to LPTV stations KORS-LP on channel 36 at Salem, Oregon, KMOR-LP on channel 51 at Eugene, 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, K58CO on channel 58 at Portland, Oregon, and pending applications on channel 51 at Black Butte Ranch, Oregon (BNPTT-20000830BGJ), channel 51 at Warrenton, Oregon (BNPTTL-20000828AHX), channel 51 at Warrenton, Oregon (BNPTTL-20000830AYT), and channel 51 at Ocean Park, Washington (BNPTTL-20000828APZ). However, with respect to each station, interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin. The results of the OET Bulletin No. 69 interference analyses indicate that the proposed operation complies with the FCC's 0.5% "rounding allowance". Thus, it is believed that the proposed KOXO-CA operation complies with the FCC's interference standards towards all LPTV and Class A stations. Figure 3 is a printout of the OET-69 interference calculations with respect to the pertinent LPTV and Class A stations discussed above.

Land Mobile Station Protection

The proposed KOXO-CA operation does not cause interference to land mobile radio stations (LMRS).

US-Canadian TV Agreement Compliance

The proposed channel 51 operation will be located 361.6 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 4 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 4, 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.

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."[1] The calculated power density at the base of the tower was calculated using the appropriate equation on Page 13 of the Bulletin. The vertical relative field pattern and tabulation for the proposed antenna are shown

[1] 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.

on Figure 5. Based on a relative field factor of 0.07 (for angles below 60 degrees downward, a maximum visual effective radiated power of 150 kilowatts and 10 percent aural power, the calculated power density at 2 meters above ground at the tower base will be 0.0727 mW/cm^2. This is 15.7% of the recommended limit of 0.46 mW/cm^2 for channel 51, applicable to general population/uncontrolled exposure areas. If necessary, measurements will be taken to show compliance with the new RF emission rules.

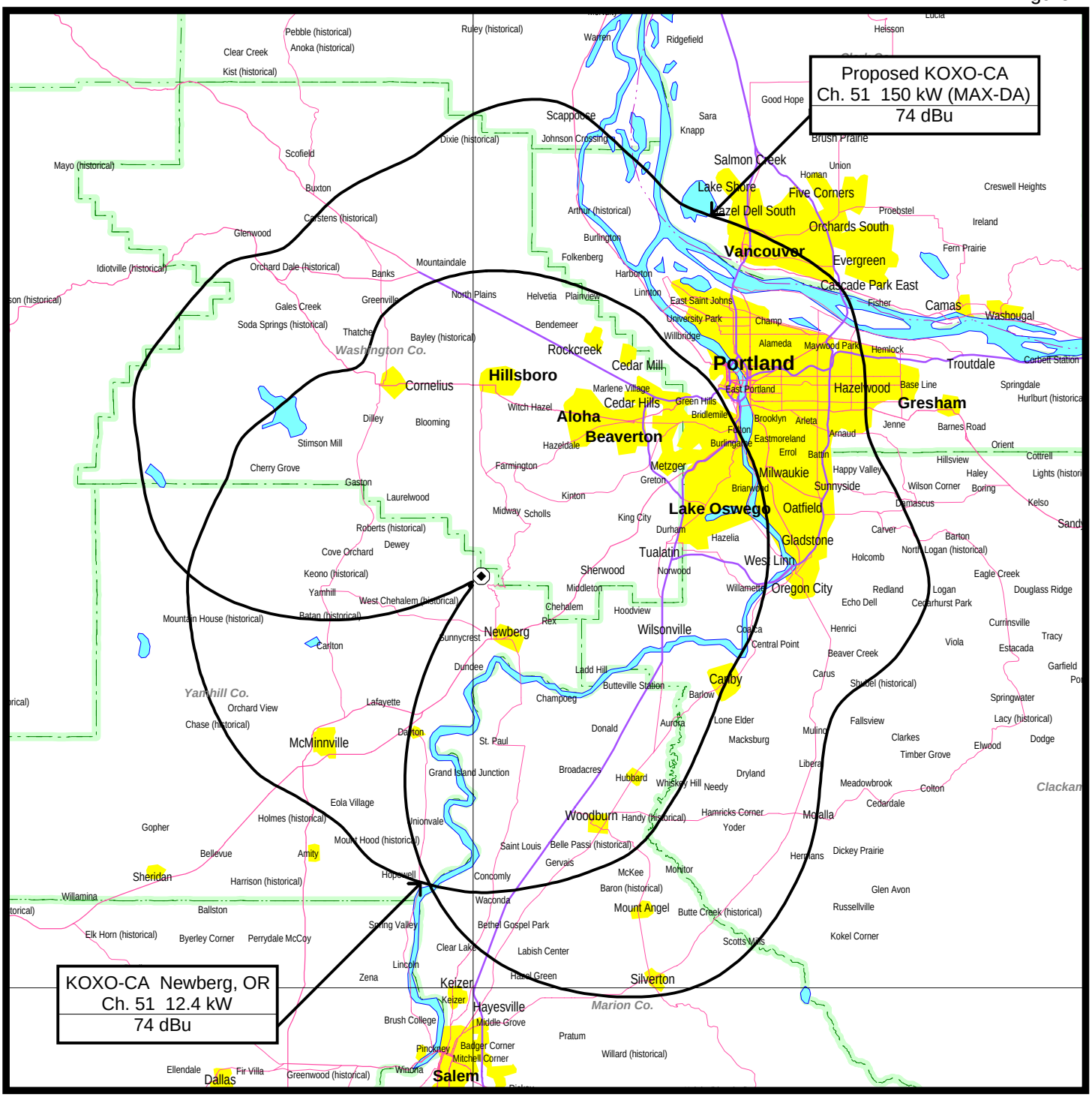
Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures 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.

In addition, it appears that the existing tower is otherwise excluded from environmental processing as it complies with all the criteria for such an exclusion in Section 1.1306.

Jerome J. Manarchuck

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237

December 20, 2001



PREDICTED COVERAGE CONTOURS

LPTV STATION KOXO-CA
NEWBERG, OREGON
CH 51 150 KW (MAX-DA)

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

OET-69 FULL-SERVICE NTSC INTERFERENCE CAUSED STUDY

Study Date: 20011213
CELL SIZE : 2.00
Per 6th Report & Order and FCC OET-69 Bulletin

****
KPDX2 45-31-23 122-45-07 49(-) 2950.000 kW DA 615 m RCAMSL 50.0 % 64.9 dBu
VANCOUVER WA 16628 1743 FCC NTSC BL: 1834757 FCC IX POP%: 0.0
CP MOD BMPCT19981112KI
0.86 0.88 0.90 0.90 0.86 0.83 0.84 0.90 0.96 1.00 0.99 0.94
0.88 0.84 0.84 0.87 0.93 0.98 1.00 0.97 0.91 0.85 0.83 0.85
0.89 0.90 0.89 0.86 0.85 0.83 0.82 0.81 0.81 0.82 0.83 0.85
Ref Az: 0.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	26178.45	1909860
not affected by terrain losses	19439.09	1784394

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: -29.00

	Area	**Pop**
Interference	**0**	**0**

****
KPDX 45-31-23 122-45-07 49(-) 2950.000 kW DA 615 m RCAMSL 50.0 % 64.9 dBu
VANCOUVER WA 16628 1743 FCC NTSC BL: 1834757 FCC IX POP%: 0.0
LIC BLCT19990909AAD
0.86 0.88 0.90 0.90 0.86 0.83 0.84 0.90 0.96 1.00 0.99 0.94
0.88 0.84 0.84 0.87 0.93 0.98 1.00 0.97 0.91 0.85 0.83 0.85
0.89 0.90 0.89 0.86 0.85 0.83 0.82 0.81 0.81 0.82 0.83 0.85
(92.0 1.00)
Ref Az: 0.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	26178.45	1909860
not affected by terrain losses	19443.08	1784394

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: -29.00

	Area	**Pop**
Interference	**0**	**0**

OET-69 FULL-SERVICE NTSC INTERFERENCE CAUSED STUDY

KWOG 47-30-17 121-58-04 51(+) 3800.000 kw DA 952 m RCAMSL 50.0 % 65.0 dBu
BELLEVUE WA 21087 2949 FCC NTSC BL: 2974668 FCC IX POP%: 0.4
CP MOD BMPCT19990125KE

0.86 0.76 0.65 0.52 0.38 0.25 0.20 0.25 0.31 0.34 0.31 0.25
0.20 0.25 0.38 0.52 0.65 0.76 0.86 0.93 0.98 1.00 1.00 0.97
0.94 0.89 0.87 0.87 0.87 0.89 0.94 0.97 1.00 1.00 0.98 0.93
Ref Az: 0.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	29140.50	3067405
not affected by terrain losses	25107.82	3018433

****

KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

****

NEW2 45-31-25 122-40-30 58(Z) 5000.000 kW 700 m RCAMSL 50.0 % 65.5 dBu
PORTLAND OR
ADD BPRM20000717ABX
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	33423.21	1954729
not affected by terrain losses	23028.88	1810412

****

KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: -30.00

	Area	**Pop**
Interference	**0**	**0**

OET-69 FULL-SERVICE NTSC INTERFERENCE CAUSED STUDY

NEW 45-30-58 122-43-59 59(Z) 5000.000 kW 516 m RCAMSL 50.0 % 65.6 dBu
PORTLAND OR
ADD BPRM20000717ABY
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	25603.64	1900953
not affected by terrain losses	18950.13	1775104

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV

0.79	0.68	0.86	0.94	0.85	0.70	0.81	1.00	0.92	0.71	0.78	0.92
0.93	0.86	0.75	0.60	0.44	0.28	0.14	0.05	0.00	0.00	0.00	0.05
0.14	0.28	0.44	0.60	0.75	0.86	0.93	0.92	0.78	0.72	0.92	1.00

Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: -32.00

	Area	**Pop**
Interference	**0**	**0**

INTERFERENCE SUMMARY:

Facility	Channel	Type	Baseline	Permissible	IX	%Base
KPDX2, VANCOUVER, WA	49	TV	1834757	2.0	0	0.00
KPDX, VANCOUVER, WA	49	TV	1834757	2.0	0	0.00
KWOG, BELLEVUE, WA	51	TV	2974668	2.0	0	0.00
NEW2, PORTLAND, OR	58	TV	2974668	2.0	0	0.00
NEW, PORTLAND, OR	59	TV	2974668	2.0	0	0.00

OET-69 LPTV/CLASS INTERFERENCE CAUSED STUDY

Study Date: 20011213
CELL SIZE : 2.00
Per 6th Report & Order and FCC OET-69 Bulletin

****
KORS-2 44-58-59 123-08-39 36(-) 150.000 kW DA 375 m RCAMSL 50.0 % 73.8 dBu
SALEM OR
CP MOD BMPTTA20010814ABM
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 0.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	3655.440	304550
not affected by terrain losses	3316.898	279652

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: -9.00

	Area	**Pop**
Interference	**12.09**	**421(0.1%)**

****
KORS-L 44-58-58 123-08-43 36(-) 10.300 kW DA 375 m RCAMSL 50.0 % 73.8 dBu
SALEM OR
CP BPTTL20000609ACE
1.00 0.99 0.99 0.97 0.94 0.91 0.85 0.78 0.73 0.68 0.66 0.65
0.65 0.66 0.68 0.69 0.70 0.71 0.72 0.70 0.69 0.67 0.65 0.64
0.64 0.65 0.66 0.69 0.74 0.79 0.85 0.89 0.93 0.96 0.98 0.99
Ref Az: 120.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	1613.608	213621
not affected by terrain losses	1516.791	211930

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: -9.00

	Area	**Pop**
Interference	**0**	**0**

OET-69 LPTV/CLASS INTERFERENCE CAUSED STUDY

****
NEW7 46-09-50 123-54-37 51(Z) 2.000 kW 16.8 m RCAMSL 50.0 % 75.0 dBu
WARRENTON OR
APP BNPTTL20000828AYT
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	84.71407	4319
not affected by terrain losses	84.71407	4319

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV

0.79	0.68	0.86	0.94	0.85	0.70	0.81	1.00	0.92	0.71	0.78	0.92
0.93	0.86	0.75	0.60	0.44	0.28	0.14	0.05	0.00	0.00	0.00	0.05
0.14	0.28	0.44	0.60	0.75	0.86	0.93	0.92	0.78	0.72	0.92	1.00

Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

****
NEW6 46-32-04 123-52-49 51(Z) 10.000 kW 110.8 m RCAMSL 50.0 % 75.0 dBu
OCEAN PARK WA
APP BNPTTL20000828APZ
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	372.6133	2478
not affected by terrain losses	360.5935	2478

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV

0.79	0.68	0.86	0.94	0.85	0.70	0.81	1.00	0.92	0.71	0.78	0.92
0.93	0.86	0.75	0.60	0.44	0.28	0.14	0.05	0.00	0.00	0.00	0.05
0.14	0.28	0.44	0.60	0.75	0.86	0.93	0.92	0.78	0.72	0.92	1.00

Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

OET-69 LPTV/CLASS INTERFERENCE CAUSED STUDY

****
NEW5 46-09-50 123-54-37 51(Z) 2.000 kW 16.8 m 50.0 % 75.0 dBu
WARRENTON OR
APP BNPTTL20000828AHX
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	84.71407	4319
not affected by terrain losses	84.71407	4319

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV

0.79	0.68	0.86	0.94	0.85	0.70	0.81	1.00	0.92	0.71	0.78	0.92
0.93	0.86	0.75	0.60	0.44	0.28	0.14	0.05	0.00	0.00	0.00	0.05
0.14	0.28	0.44	0.60	0.75	0.86	0.93	0.92	0.78	0.72	0.92	1.00

Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

****
NEW4 46-32-04 123-52-49 51(Z) 10.000 kW 110.8 m 50.0 % 75.0 dBu
OCEAN PARK WA
APP BNPTTL20000828APZ
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	372.6133	2478
not affected by terrain losses	360.5935	2478

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV

0.79	0.68	0.86	0.94	0.85	0.70	0.81	1.00	0.92	0.71	0.78	0.92
0.93	0.86	0.75	0.60	0.44	0.28	0.14	0.05	0.00	0.00	0.00	0.05
0.14	0.28	0.44	0.60	0.75	0.86	0.93	0.92	0.78	0.72	0.92	1.00

Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

OET-69 LPTV/CLASS INTERFERENCE CAUSED STUDY

****
KMOR-L 44-00-11 123-06-48 51(N) 10.900 kW DA 494 m RCAMSL 50.0 % 75.0 dBu
EUGENE OR
LIC BLTTL19930204IC

1.00	0.94	0.83	0.80	0.93	1.00	0.98	0.92	0.83	0.71	0.58	0.41
0.14	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.13	0.40	0.56	0.71	0.82	0.92	0.98	0.98	0.89	0.78	0.83	0.95

Ref Az: 10.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	1077.511	218358
not affected by terrain losses	1033.449	217213

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV

0.79	0.68	0.86	0.94	0.85	0.70	0.81	1.00	0.92	0.71	0.78	0.92
0.93	0.86	0.75	0.60	0.44	0.28	0.14	0.05	0.00	0.00	0.00	0.05
0.14	0.28	0.44	0.60	0.75	0.86	0.93	0.92	0.78	0.72	0.92	1.00

Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

****
NEW3 44-23-59 121-38-00 51(+) 2.230 kW 1976.2 m RCAMSL 50.0 % 75.0 dBu
BLACK BUTTE RANCH OR
APP BNPTT20000830BGJ
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	2251.758	4489
not affected by terrain losses	2010.066	4480

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV

0.79	0.68	0.86	0.94	0.85	0.70	0.81	1.00	0.92	0.71	0.78	0.92
0.93	0.86	0.75	0.60	0.44	0.28	0.14	0.05	0.00	0.00	0.00	0.05
0.14	0.28	0.44	0.60	0.75	0.86	0.93	0.92	0.78	0.72	0.92	1.00

Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

OET-69 LPTV/CLASS INTERFERENCE CAUSED STUDY

****
NEW2 43-58-55 121-20-02 51(Z) 1.000 kW DA 1265.7 m RCAMSL 50.0 % 75.0 dBu
BEND OR
APP BNPTTL20000830ASC
1.00 0.98 0.96 0.93 0.93 0.94 0.97 0.99 0.98 0.95 0.87 0.77
0.63 0.47 0.35 0.23 0.21 0.22 0.23 0.22 0.21 0.23 0.35 0.47
0.63 0.77 0.87 0.95 0.98 0.99 0.97 0.94 0.93 0.93 0.96 0.98
Ref Az: 110.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	88.25037	20439
not affected by terrain losses	88.25037	20439

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

****
NEW 43-58-55 121-20-02 51(Z) 1.000 kW 1265.7 m RCAMSL 50.0 % 75.0 dBu
BEND OR
APP BNPTTL20000830AIY
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	112.3138	23262
not affected by terrain losses	112.3138	23262

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

OET-69 LPTV/CLASS INTERFERENCE CAUSED STUDY

****
K51EY 43-38-10 123-05-34 51(N) 0.012 kW DA 362 m RCAMSL 50.0 % 75.0 dBu
LONDON SPRINGS OR
LIC BLTT19960415IE
1.00 0.95 0.89 0.97 0.97 0.89 0.95 1.00 0.95 0.82 0.63 0.37
0.10 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.10 0.37
0.63 0.82 0.95 1.00 0.95 0.82 0.63 0.45 0.45 0.63 0.82 0.95
Ref Az: 150.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	39.91597	237
not affected by terrain losses	31.93278	237

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

****
K51FK 45-44-27 123-56-10 51(-) 0.266 kW DA 498 m RCAMSL 50.0 % 75.0 dBu
NEHALEM ROCKAWAY OR
LIC BLTTL19990528JF
1.00 0.87 0.62 0.32 0.13 0.16 0.20 0.19 0.17 0.14 0.10 0.07
0.04 0.03 0.02 0.03 0.06 0.08 0.08 0.08 0.06 0.03 0.02 0.04
0.06 0.08 0.10 0.12 0.16 0.19 0.20 0.18 0.12 0.33 0.62 0.88
Ref Az: 170.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	60.36905	1436
not affected by terrain losses	40.24603	872

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

OET-69 LPTV/CLASS INTERFERENCE CAUSED STUDY

****
K51EH 45-42-43 121-06-58 51(-) 12.000 kW DA 976 m RCAMSL 50.0 % 75.0 dBu
THE DALLES OR
LIC BLTTL19931014JG
1.00 0.97 0.95 0.93 0.92 0.94 0.98 1.00 0.98 0.95 0.88 0.77
0.63 0.47 0.35 0.23 0.22 0.22 0.23 0.22 0.22 0.23 0.35 0.47
0.63 0.77 0.88 0.95 0.98 1.00 0.98 0.94 0.92 0.93 0.95 0.97
Ref Az: 160.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	2603.094	32418
not affected by terrain losses	2381.469	28310

****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	**Pop**
Interference	**0**	**0**

****
K58CO 45-27-17 122-33-01 58(N) 1.020 kW DA 351 m RCAMSL 50.0 % 75.5 dBu
PORTLAND OR
LIC BLTT19910923IA
1.00 0.94 0.83 0.80 0.93 1.00 0.98 0.92 0.83 0.71 0.58 0.41
0.14 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02
0.13 0.40 0.56 0.71 0.82 0.92 0.98 0.98 0.89 0.78 0.83 0.95
(53.0 1.00)(307.0 1.00)
Ref Az: 315.0
Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	255.8216	406524
not affected by terrain losses	247.8272	405012

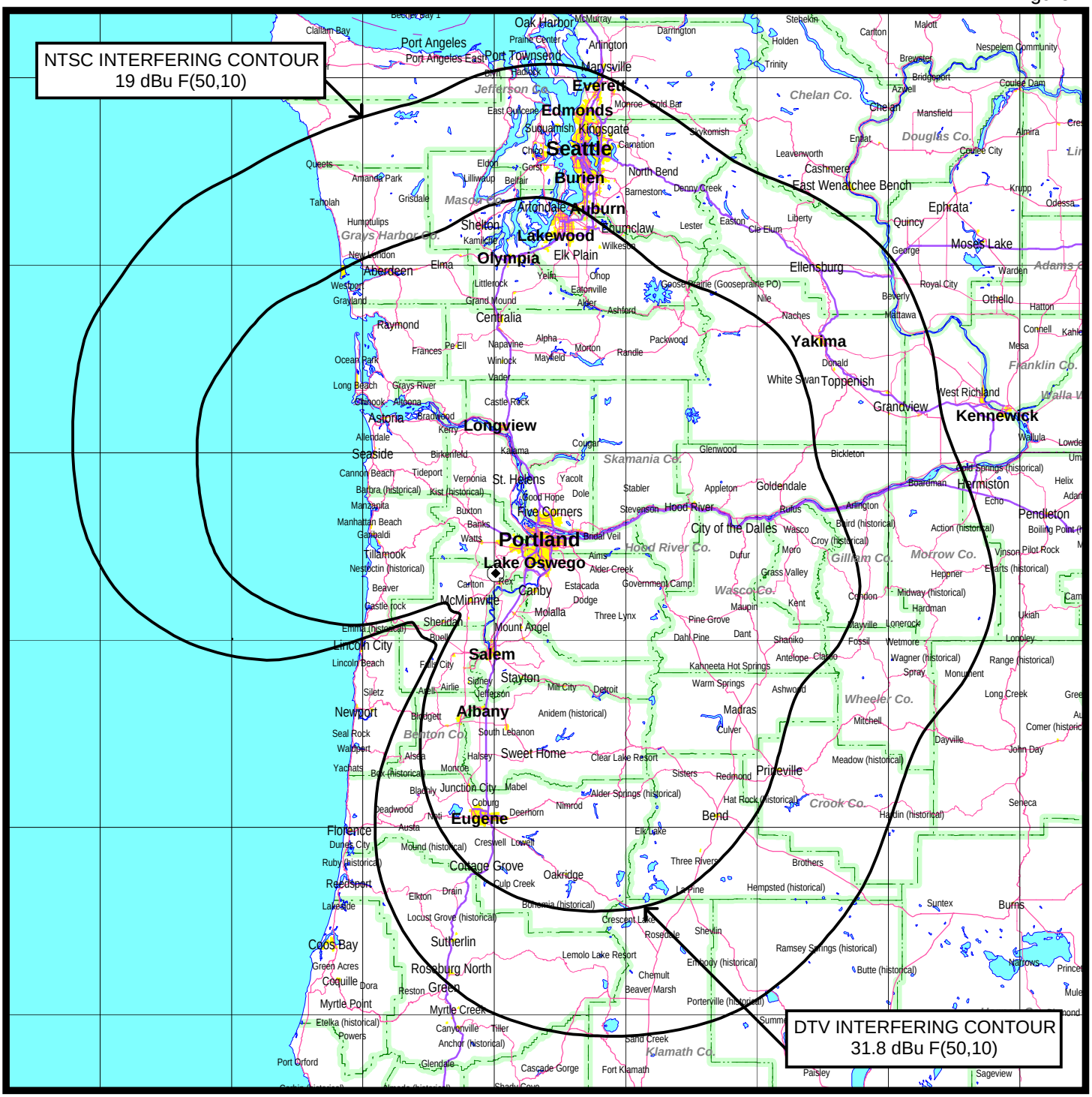
****
KOXO-C 45-21-17 122-59-23 51(Z) 150.000 kw 453 m DA 10.0 % 75.0
NEWBERG OR
CP BPTTL19980601WV
0.79 0.68 0.86 0.94 0.85 0.70 0.81 1.00 0.92 0.71 0.78 0.92
0.93 0.86 0.75 0.60 0.44 0.28 0.14 0.05 0.00 0.00 0.00 0.05
0.14 0.28 0.44 0.60 0.75 0.86 0.93 0.92 0.78 0.72 0.92 1.00
Ref Az: 20.0
Using DEFAULT vertical antenna pattern

D/U Baseline: -30.00

	Area	**Pop**
Interference	**0**	**0**

INTERFERENCE SUMMARY:

Facility	Channel	Type	Baseline	Permissible	IX	%Base
KORS-2, SALEM, OR	36	TV	304550	2.0	421	0.14
KORS-L, SALEM, OR	36	TV	213621	2.0	0	0.00
NEW7, WARRENTON, OR	51	TV	4319	2.0	0	0.00
NEW6, OCEAN PARK, WA	51	TV	2478	2.0	0	0.00
NEW5, WARRENTON, OR	51	TV	4319	2.0	0	0.00
NEW4, OCEAN PARK, WA	51	TV	2478	2.0	0	0.00
KMOR-L, EUGENE, OR	51	TV	218358	2.0	0	0.00
NEW3, BLACK BUTTE RANCH	51	TV	4489	2.0	0	0.00
NEW2, BEND, OR	51	TV	20439	2.0	0	0.00
NEW, BEND, OR	51	TV	23262	2.0	0	0.00
K51EY, LONDON SPRINGS,	51	TV	237	2.0	0	0.00
K51FK, NEHALEM ROCKAWA	51	TV	1436	2.0	0	0.00
K51EH, THE DALLES, OR	51	TV	32418	2.0	0	0.00
K58CO, PORTLAND, OR	58	TV	406524	2.0	0	0.00

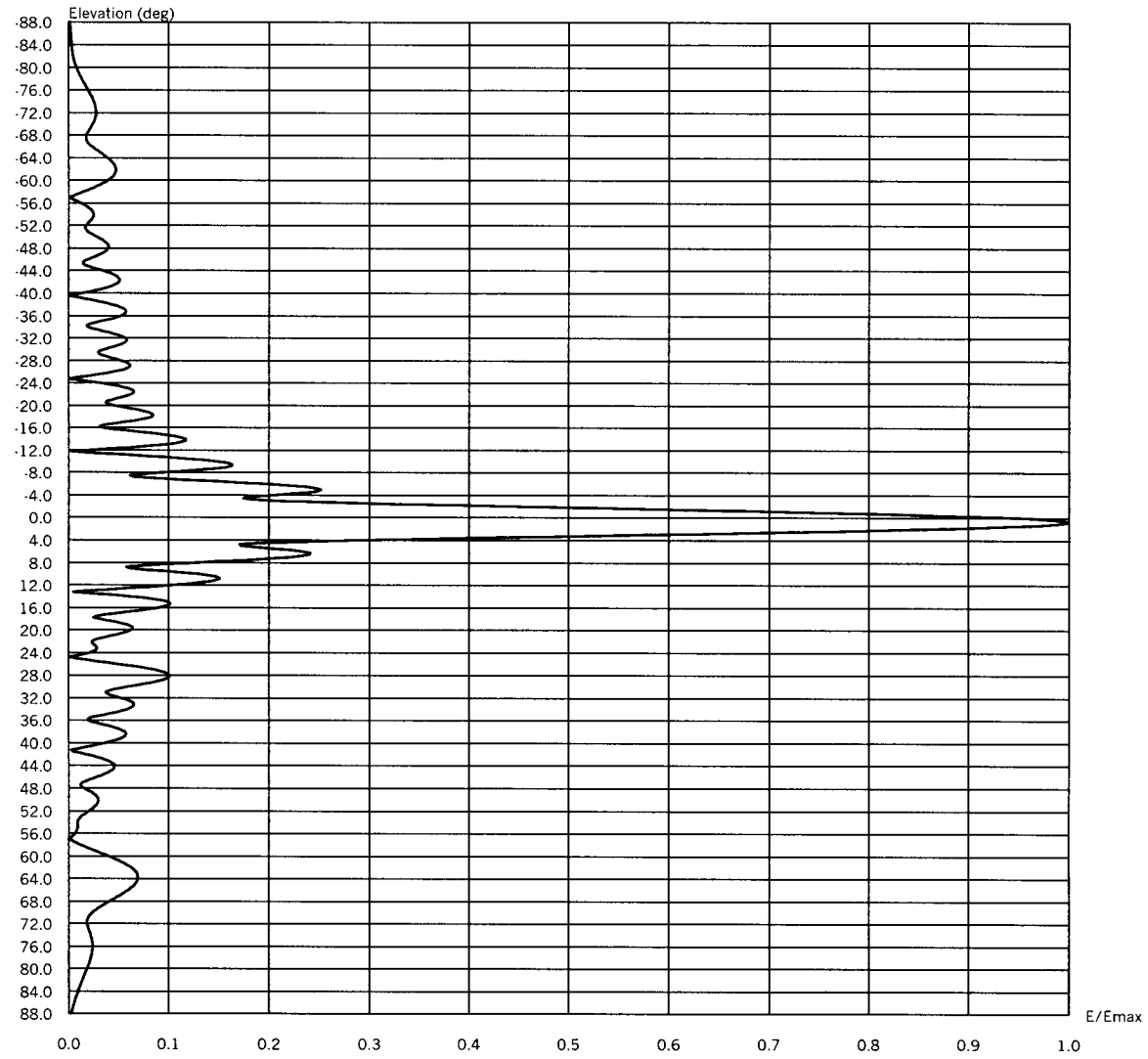


CANADIAN NTSC/DTV ALLOCATION STUDY

LPTV STATION KOXO-CA
NEWBERG, OREGON
CH 51 150 KW (MAX-DA)

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

COMPUTED VERTICAL PATTERN



Frequency = 603.250 MHz · Pol. H · Azimuth = 42°
G = 14.9 dBd Elevation = +0.8°
Normalization : 1 on the diagram corresponding to 30.7 times gain
3D Diagram : Gmax = 14.9 dBd Elevation = +0.6° Azimuth = 42°

(Gains referred to half-wave dipole)

Data: 23/05/01	V. 0	UHF TV TRANSMITTING ANTENNA TYPE CO-18U/8	**N.873A-19A/1**
Firma: AG			