

TECHNICAL EXHIBIT  
AMENDMENT TO  
PENDING APPLICATION  
(FCC FILE NO. BNPTTL-20000829AQZ)  
NEW TV TRANSLATOR STATION  
FACILITY ID 130787  
TILLAMOOK, OREGON  
CH 26 14 KW (DA-MAX)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an amendment to the pending application for a new TV translator station at Tillamook, Oregon (Facility ID: 130787; File No. BNPTTL-20000829AQZ). The amendment has been prepared in response to an FCC letter dated December 8, 2003 from Hossein Hashemzadeh, Associate Chief, Video Division, Media Bureau (1800El-TN) to demonstrate that the proposed operation, as amended, will provide interference protection to K26DB on channel 26 at Astoria, OR as well as all other pertinent LPTV assignments.

Proposed Operation

The currently pending application (BNPTTL-20000829AQZ) proposes operation on channel 26 with a "zero" (z) carrier frequency offset and a directional antenna maximum effective radiated power (ERP) of 60 kW. An Andrew ALP16L2-HSP "off-the-shelf" directional antenna (Antenna ID 16532) is proposed to be used with a main lobe orientation of 100 degrees true. The antenna radiation center height above mean sea level (RCMSL) is 463 meters.

This instant amendment proposes to decrease the proposed ERP toward the radio horizon, to modify the directional antenna system and to correct the proposed site coordinates to conform to the FCC's tower registration coordinates for the existing structure (FCC Registration No 1018405). Specifically, it is proposed to operate on channel 26 (542-548 MHz) with a "zero" carrier frequency offset and employing an Andrew ALP16L2-HSP directional antenna system oriented at 100° and incorporating 1.8° of electrical beam tilt. The ERP towards the radio horizon will be reduced to 14 kW, and the maximum ERP at any horizontal or vertical angle will be 30 kilowatts. The proposed site location is described by the following NAD27 coordinates, N 45°27'59", W 123° 55' 11".

No other changes are proposed, including no change in channel (26), frequency offset designation (z), or community of license. Furthermore, the proposed 74 dBu contour will encompass a portion of the 74 dBu contour for the pending application.

The proposal would not be subject to environmental processing in accordance with Section 1.1306. It is believed that the instant application conforms to all other applicable rules and regulations of the Federal Communications Commission.

#### Minor Change Application

Figure 1 depicts the pending and herein proposed 74 dBu contours for the proposed translator station. As indicated, the proposed 74 dBu contour encompasses a portion of the pending 74 dBu contour. Therefore, the proposed amendment is considered a "minor" change in facilities pursuant to Section 73.3572.

#### 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 proposal will not create prohibited interference to other existing, authorized or proposed NTSC full-power stations.

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

Calculations based on OET Bulletin No. 69 indicate that the proposed operation on channel 26 complies with the FCC's 0.5% interference threshold criteria to all allotted, proposed or actual DTV operating facilities on channels 25, 26 and 27.<sup>1</sup> Interference calculations for the proposed LPTV operation are summarized below.

Protected DTV Station	FCC Service Population	Proposed Interference Population
KOPB-DT, Ch. 27, Portland, OR DTV Allotment	1,969,331	0 (0.0%)
KOPB-DT, Ch. 27, Portland, OR Construction Permit	2,010,196	0 (0.0%)

As shown above, 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 operation complies with the FCC's interference standards towards all DTV stations and allotments. Figure 2 is a printout of the OET-69 interference calculations with respect to the facilities tabulated above.

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 proposal will not create prohibited interference to other existing, authorized or proposed LPTV/TV translator stations except with respect to the authorized construction permit (BPTTL-20000728AEO) of LPTV station K58CO on channel 26 at Portland, Oregon and to the licensed (BLTT-19911916IG) operation of LPTV station K26DB on channel 26 at Astoria, Oregon. However, with respect to these stations, interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin.<sup>1</sup> The interference calculations with respect to the stations are summarized below.

Protected LPTV Station	FCC Service Population	Proposed Interference Population
K58CO, Ch. 26, Portland, OR Construction Permit	1,126,878	0 (0.00%)
K26DB, Ch. 26, Astoria, OR Licensed Operation	35,484	171 (0.48%)

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 operation complies with the FCC's interference standards towards all LPTV/TV translator stations. Figure 2 is a printout of the OET-69 interference calculations with respect to station K58CO and K26DB.

Environmental Considerations

The proposed facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in

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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. An Alpha based processor computer system was employed.

accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". The calculated power density at the base of the tower was calculated using the appropriate equation on Page 13 of the Bulletin. Using a "worst-case" vertical relative field value of 0.15, a maximum visual effective radiated power of 30 kilowatts and 10 percent aural power, the calculated power density at 2 meters above ground level at the base of the tower is 0.0125 milliwatt per square centimeter ( $\text{mW}/\text{cm}^2$ ), or less than 5 percent of the Commission's recommended limit applicable to general population/uncontrolled exposure areas ( $0.36 \text{ mW}/\text{cm}^2$  for TV channel 26). Therefore, based on the responsibility threshold of 5%, the proposal will comply with the 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.

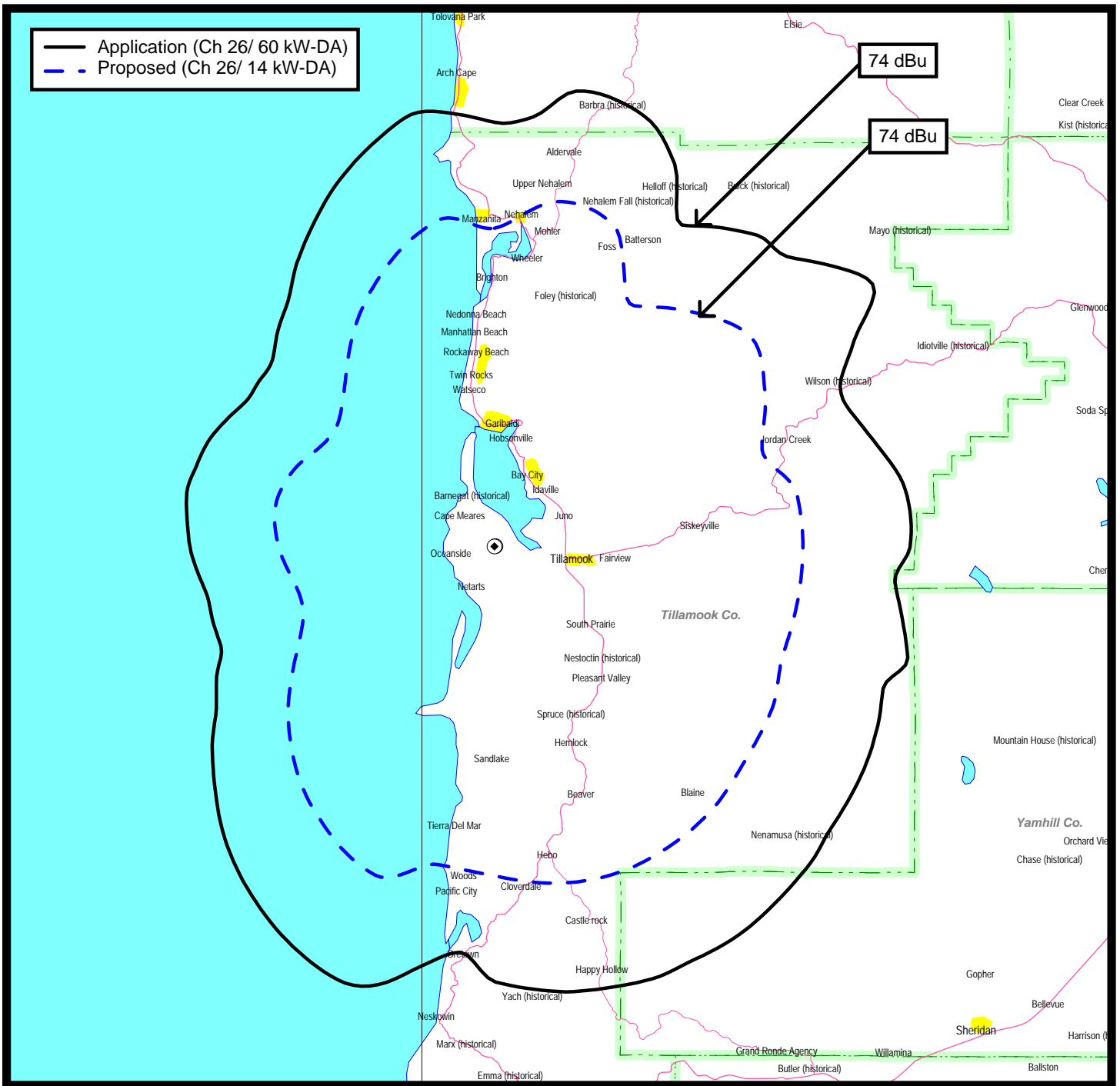


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Figure 1



10 0 10 20 30 40 50 60  
Kilometers

## PREDICTED 74 DBU COVERAGE CONTOURS

NEW TV TRANSLATOR STATION  
TILLAMOOK, OREGON  
CH 26 14 kW (DA-MAX)

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

OET-69 INTERFERENCE CAUSED STUDY

CELL SIZE : 2.00

Using offset in determining thresholds

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K26DB 46-17-10 123-53-50 26(-) 23.800 kw 419 m DA 50.0 % 72.9 dBu

ASTORIA OR

LIC BLTT19911016IG

1.00 0.96 0.81 0.61 0.45 0.35 0.26 0.20 0.20 0.21 0.22 0.22

0.21 0.20 0.20 0.24 0.30 0.43 0.60 0.78 0.94 1.00 0.96 0.85

0.65 0.41 0.40 0.40 0.37 0.38 0.40 0.40 0.43 0.65 0.88 0.98

Ref Az: 330.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	1868.419	35484
not affected by terrain losses	1723.455	34970

\*\*\*\*\*

NEW26 45-27-59 123-55-11 26(Z) 14.000 kw 463 m DA 10.0 % 72.9

TILLAMOOK OR

PROPOSED

0.73 0.74 0.78 0.83 0.90 0.95 0.99 1.00 0.97 0.92 0.83 0.72

0.58 0.45 0.33 0.26 0.26 0.29 0.31 0.29 0.26 0.26 0.33 0.45

0.58 0.72 0.83 0.92 0.97 1.00 0.99 0.95 0.90 0.83 0.78 0.74

Ref Az: 100.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	Pop
Interference	322.1	171(0.48%)

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K58CO 45-27-17 122-33-01 26(+) 25.500 kw 351 m DA 50.0 % 72.9 dBu

PORTLAND OR

CP BPTTL20000728AEO

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	1518.200	1126878
not affected by terrain losses	1342.409	1049109

\*\*\*\*\*

NEW26 45-27-59 123-55-11 26(Z) 14.000 kw 463 m DA 10.0 % 72.9

TILLAMOOK OR

PROPOSED

0.73 0.74 0.78 0.83 0.90 0.95 0.99 1.00 0.97 0.92 0.83 0.72

0.58 0.45 0.33 0.26 0.26 0.29 0.31 0.29 0.26 0.26 0.33 0.45

0.58 0.72 0.83 0.92 0.97 1.00 0.99 0.95 0.90 0.83 0.78 0.74

Ref Az: 100.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	Pop
Interference	0	0

\*\*\*\*\*

KOPB-DT 45-31-21 122-44-45 27(N) 1000.000 kw 599.5 m 90.0 % 40.0 dBu  
PORTLAND OR 29878 1962 DTVSERVICE: 1962000 NTSCSERVICE: 1882000  
CP MOD BMPEDT19990713KE

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	43183.93	2114498
not affected by terrain losses	31777.91	2010196

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NEW26 45-27-59 123-55-11 26(Z) 14.000 kw 463 m DA 10.0 % 72.9  
TILLAMOOK OR  
PROPOSED

0.73	0.74	0.78	0.83	0.90	0.95	0.99	1.00	0.97	0.92	0.83	0.72
0.58	0.45	0.33	0.26	0.26	0.29	0.31	0.29	0.26	0.26	0.33	0.45
0.58	0.72	0.83	0.92	0.97	1.00	0.99	0.95	0.90	0.83	0.78	0.74

Ref Az: 100.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -48.00

	Area	Pop
Interference	3.99	0(0.0%)

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DKOPBT 45-31-22 122-45-07 27(0) 675.500 kw 600 m DA 90.0 % 40.0 dBu  
PORTLAND OR 29878 1962 DTVSERVICE: 1962000 NTSCSERVICE: 1882000

DTVALT DTV ALLOTMENT

0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99
0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.98	0.98	0.99	0.99

( 45.0 1.00)( 46.0 1.00)( 47.0 1.00)

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	40645.61	2079999
not affected by terrain losses	30105.79	1969331

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NEW26 45-27-59 123-55-11 26(Z) 14.000 kw 463 m DA 10.0 % 72.9  
TILLAMOOK OR  
PROPOSED

0.73	0.74	0.78	0.83	0.90	0.95	0.99	1.00	0.97	0.92	0.83	0.72
0.58	0.45	0.33	0.26	0.26	0.29	0.31	0.29	0.26	0.26	0.33	0.45
0.58	0.72	0.83	0.92	0.97	1.00	0.99	0.95	0.90	0.83	0.78	0.74

Ref Az: 100.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -48.00

	Area	Pop
Interference	0	0

Facility	Channel	Type	Baseline	Permissible	IX	%Base
K26DB, ASTORIA, OR	26	TV	35484	0.5	171	0.48
K58CO, PORTLAND, OR	26	TV	1126878	0.5	0	0.00
KOPB-T, PORTLAND, OR	27	DTV	1962000	0.5	0	0.00
DKOPBT, PORTLAND, OR	27	DTV	1969331	0.5	0	0.00