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Allocation Study TV Translator K26AY Channel 26- at Corvallis, Oregon

A detailed allocation study has been undertaken to ensure that the proposed facility will not result in prohibited contour overlap with any existing facilities.

Co-Channel

The attached allocation study map demonstrates that the proposed facility will not cause prohibited contour overlap to any existing or currently-proposed facilities, except in cases where the proposed interfering contour will actually reduce overlap when compared with the existing interfering contour.

N+7

There are no television facilities on Channel 33 within 100 kilometers.

N-14, N-15

Protection to stations on channels 14 and 15 below K26AY is inapplicable, since those channels would be outside the UHF band.

First Adjacent

The only first-adjacent channel stations close enough to require study are the DTV operations of KVAL-DT Channel 25 Eugene and KOPB-DT Channel 27 Portland. A detailed interference study has been conducted to demonstrate that the proposed operation of K26AY will not cause additional interference to these two facilities.

The time-shared "HDTV" computer program offered by the National Telecommunications and Information Administration's *TA Services* in Boulder, Colorado was employed as the method for coverage and interference protection. The HDTV computer program has been developed in close coordination with the Commission's OET staff, and utilizes similar methodology as the computer program used by the Commission to develop the DTV Table of Allotments. Predictions included "clipping" the extent of protected coverage as specified under §73.623(c)(2) at the Grade B contour distance for analog stations per §73.684 and at the DTV coverage contour distance for DTV assignments per §73.625(b). It is believed that the HDTV program offered by *TA Services*

is compliant with the FCC's Office of Science and Technology Bulletin 69 Longley-Rice Methodology for Evaluating TV Coverage and Interference ("OET-69"), July 2, 1997.

The computer input data for the proposed K26AY facility is included as Table 1. KVAL-DT and KOPB-DT have been considered to be operating with their construction permit facilities.

The results indicate that the proposed K26AY facility is predicted to cause interference to zero percent of the population served by KVAL-DT and KOPB-DT. (Per Appendix B of the Second Memorandum Opinion and Order on Reconsideration of the Fifth and Sixth Report and Orders in MM Docket 87-268, neither of these stations is predicted to receive interference to 10% or more of its Noise Limited service population.)

Interference is predicted to be caused to 1,691 persons served by KVAL-DT. This is just 0.2% of the 680,000 persons predicted to receive service from the KVAL-DT 1000 kW construction permit facility. Since this percentage is significantly less than 0.5%, and thus rounds down to zero, it can be concluded that no additional interference will be caused to KVAL-DT.

Interference is predicted to be caused to 4,216 persons served by KOPB-DT. This is just 0.2% of the 2,318,000 persons predicted to receive service from the KOPB-DT 712 kW construction permit facility. Since this percentage is significantly less than 0.5%, and thus rounds down to zero, it can be concluded that no additional interference will be caused to KOPB-DT.

Based upon this analysis, it is believed that the proposed K26AY facility can operate without risk of interference to KVAL-DT and KOPB-DT, and waiver of §74.706 of the Commission's Rules is respectfully requested with respect to KVAL-DT and KOPB-DT to the extent required.

K26DB Ch. 26-
74 dBu

North

Tillamook
Ch. 26z 74 dBu

K26FG Ch. 26z
74 dBu

K58CO Ch. 26+
74 dBu

+ K26AY Ch. 26-

46 dBu F(50,10)
Dash = Lic
Solid = Prop

N 44 00 00
W 124 00 00

29 dBu F(50,10)
Dash = Lic
Solid = Prop

Sutherlin
Ch. 26z 74 dBu

SIGNAL (tm) : D: \CORV\CORV26.MAP

KILOMETERS
50 0 50

Allocation Study Map

Hatfield and Dawson

Ref. grid: 1 degree

Mar 2003

Exhibit

Table 1
Interference Analysis Input Data
K26AY Proposed Facility

Communications System Performance Model

Input Summary

27-Mar-03 15:56:17

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Process Filename: CS038Mar2703C.ques
1) Model: Point-to-point irregular terrain model
2) Output option: Field intensity
3) Length units: Metric (km and m)
4) Service Application: Broadcast
5) Results option: None
   FAX number: 000-000-0000
6) Location variability: 50.00 %
7) Time availability: 10.00 %
8) Situation variability: 50.00 %
10) Frequency: 545.000 MHz
    Frequency offset(-)
11) Polarization: Horizontal
12) Conductivity: 0.005 S/m
13) Dielectric constant: 15.0
14) Climate zone: Continental temperate
20) Transmitter name: CORV26
21) Transmitter location:
        Latitude Longitude
        Deg N Deg W
        44.5050 44,30,18.0 122.9592 122,57,33.1
22) Xmtr site elevation: 343.7 m 1127.6 ft
23) Xmtr ant ht AMSL: 457.00 m 1499.34 ft
23) Xmtr ant ht AGL: 113.32 m 371.77 ft
24) Transmitter radiation option: ERP
24) Effective Radiated Power: 13800.0 W
   Effective Isotropic Radiated Power: 22641.5 W
30) Transmitter ant horiz pattern: Directional

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Table 1
Interference Analysis Input Data
K26AY Proposed Facility

31) Directional ant reference azimuth: 0.0 deg E of N

Horizontal directional pattern data

No.	Azimuth (True N) (deg)	Azimuth (ref) (deg)	Relative field radiation	Gain relative to pattern maximum (dB)
---	-----	-----	-----	-----
1	0.00	0.00	0.93800	-0.56
2	10.00	10.00	0.85500	-1.36
3	20.00	20.00	0.76900	-2.28
4	30.00	30.00	0.80600	-1.87
5	40.00	40.00	0.91400	-0.78
6	50.00	50.00	0.87300	-1.18
7	60.00	60.00	0.77700	-2.19
8	70.00	70.00	0.77500	-2.21
9	80.00	80.00	0.88400	-1.07
10	90.00	90.00	0.98600	-0.12
11	100.00	100.00	1.00000	0.00
12	110.00	110.00	0.87500	-1.16
13	120.00	120.00	0.65900	-3.62
14	130.00	130.00	0.42800	-7.37
15	140.00	140.00	0.31300	-10.09
16	150.00	150.00	0.26700	-11.47
17	160.00	160.00	0.17400	-15.19
18	170.00	170.00	0.05200	-25.68
19	180.00	180.00	0.05600	-25.04
20	190.00	190.00	0.05300	-25.51
21	200.00	200.00	0.17400	-15.19
22	210.00	210.00	0.26700	-11.47
23	220.00	220.00	0.31300	-10.09
24	230.00	230.00	0.42800	-7.37
25	240.00	240.00	0.66000	-3.61
26	250.00	250.00	0.87600	-1.15
27	260.00	260.00	1.00000	0.00
28	270.00	270.00	0.98600	-0.12
29	280.00	280.00	0.88400	-1.07
30	290.00	290.00	0.77700	-2.19
31	300.00	300.00	0.77700	-2.19
32	310.00	310.00	0.87300	-1.18
33	320.00	320.00	0.91300	-0.79
34	330.00	330.00	0.80700	-1.86
35	340.00	340.00	0.76900	-2.28
36	350.00	350.00	0.85500	-1.36

Table 1
Interference Analysis Input Data
K26AY Proposed Facility

32) Transmitter ant vert pattern: Beam tilt, directional

Vertical directional pattern data

No.	Elevation (deg)	Relative field radiation	Gain relative to pattern maximum (dB)
1	-10.00	0.80000	-1.94
2	-7.50	0.87500	-1.16
3	-5.00	0.94000	-0.54
4	-2.50	0.97500	-0.22
5	0.00	1.00000	0.00
6	2.50	0.97500	-0.22
7	5.00	0.94000	-0.54
8	7.50	0.87500	-1.16
9	10.00	0.80000	-1.94

40) Rcvr ant ht above ground: 9.10 m 29.86 ft

56) Corporate name: TA Services

57) Color option: Color

58) Scale option: No Scale

59) Quality option: High

60) Plot name: LR 50/10

62) Plot center:

Latitude	Longitude
Deg N	Deg W
44.5050 44,30,18.0	122.9592 122,57,33.1
63) Plot size:	550.00 km 341.75 mi

64) Plot Roads option: No Roads

66) Field intensity contour levels:

- 1) 64.00 dBuV/m
- 2) 74.00 dBuV/m

66) Contour Legend label: Field Intensity(dBuV/m)

66) Contour labels and colors:

Contour levels	Labels	Colors
1 Less than 64.00	Less than 64.00	Blue
2 64.00 to 74.00	64.00 to 74.00	Green
3 Greater than 74.00	Greater than 74.00	Clear

67) Political boundaries: County and State

68) Landmarks: None

Table 3
Interference Analysis Results Summary

NTSC/DTV Interference study /taservice/restart/RS038Mar2703A.desc
 Undesired Station Name: CORV26 Station Type: NTSC
 City: CORVALLIS State: OR Channel: 26

Desired Station 1 Name: DKVAL-DTC Station Type: HDTV
 City: EUGENE State: OR Channel: 25 km: 57.3 mi: 35.6 bear:192.5
 Desired Station 2 Name: DKOPB-DTC Station Type: HDTV
 City: PORTLAND State: OR Channel: 27 km:114.3 mi: 71.0 bear: 8.4
 Desired Station 3 Name: DKMVU-DTC Station Type: HDTV
 City: MEDFORD State: OR Channel: 27 km:245.8 mi:152.8 bear:176.0
 Desired Station 4 Name: DKBTC Station Type: HDTV
 City: TACOMA State: WA Channel: 27 km:310.1 mi:192.7 bear: 6.3
 Desired Station 5 Name: DKNDU-DTC Station Type: HDTV
 City: RICHLAND State: WA Channel: 26 km:348.0 mi:216.2 bear: 58.0
 Desired Station 6 Name: DKTWB-DTA Station Type: HDTV
 City: SEATTLE State: WA Channel: 25 km:349.4 mi:217.1 bear: 8.0

Stations that are actually interfered with.

Name	NTSC Int	HDTV Int	Population(1990)
DKVAL-DTC	42.82 sq km	0.00 sq km	1691.
DKOPB-DTC	15.24 sq km	0.00 sq km	4216.