FM Translator K226AN
Montesano, Washington Channel 225D
Allocation Study
May 2006

The attached spacing study shows the spacing between the proposed fill-in translator site and the location of cochannel and adjacent channel stations and proposals. This study was made with the Commission's Class A spacing requirements, and individual situations were examined to determine the lack of prohibited contour overlap per the requirements of §74.1204 of the Rules. The attached allocation study maps demonstrate compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

The attached spacing study demonstrates compliance with §73.207 of the Commission's Rules regarding spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation.

FMSTUDY.EXE Copyright 2004, Hatfield & Dawson, LLC Version 1.70

SEARCH PARAMETERS FM Database Date: 060515

Channel: 225A 92.9 MHz

Latitude: 46 57 31

Longitude: 123 35 18

Safety Zone: 32 km

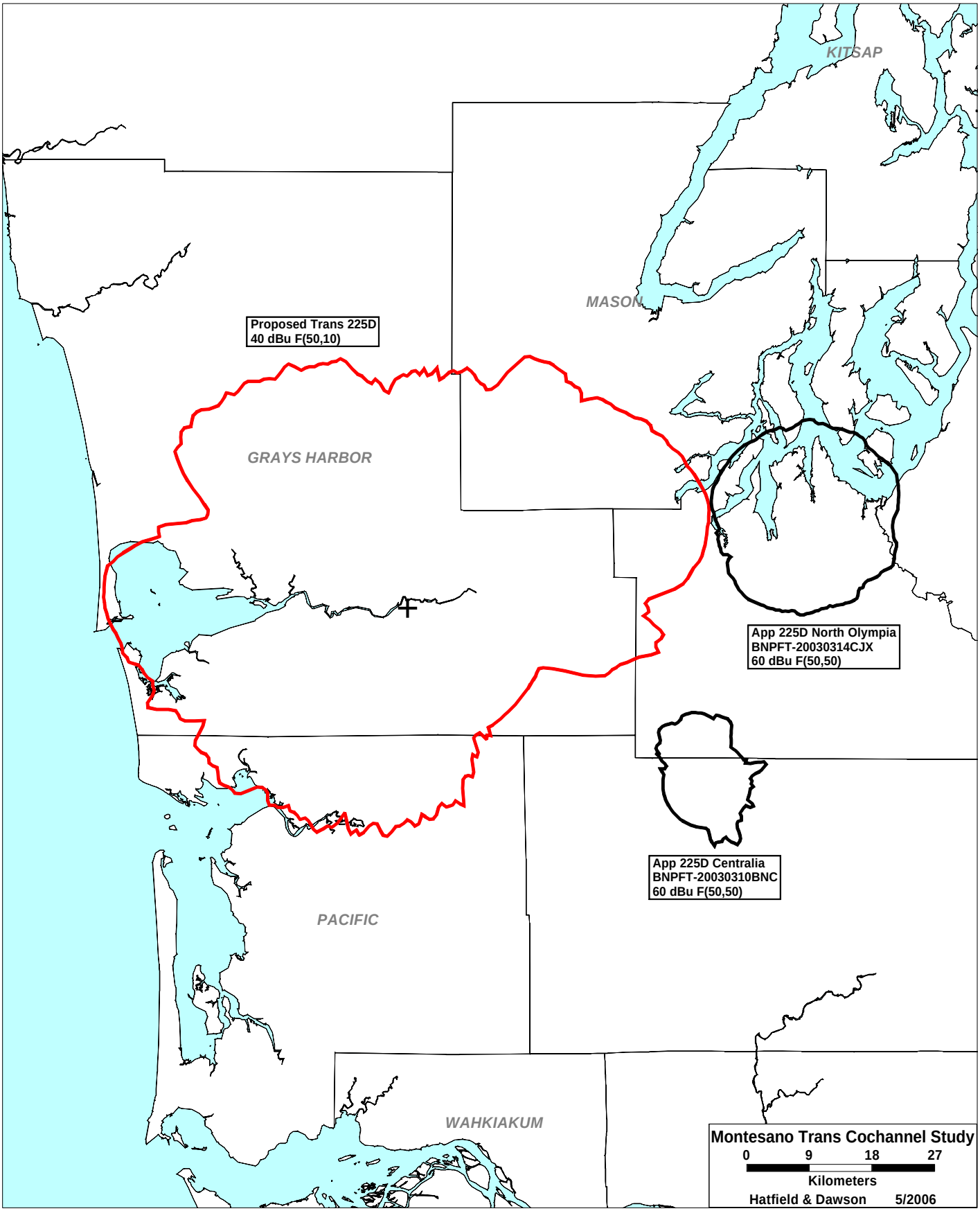
Job Title: 225D AT MONT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)		Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
NEW-T	MALONE		222D	0.005		46-53-30	119.6	15.06	0
APP	WA	BNPFT-030314AHY	92.3	1013.0		123-24-59		0.00	TRANS
NEW-T	OCEAN SHORES		222D	0.250		47-00-32	277.6	43.68	0
APP	WA	BNPFT-030312BCJ	92.3	41.0		124-09-28		0.00	TRANS
NEW-T	OCEAN SHORES		222D	0.250	DA	46-57-46	270.8	43.79	0
APP	WA	BNPFT-030314AXO	92.3	15.0		124-09-49		0.00	TRANS
K223AV	WOODLAWN		223D	0.001		46-58-22	274.6	20.19	0
CP	WA	BNPFT-030829AYX	92.5	45.0		123-51-10		0.00	TRANS
	LONG BEACH		224A	0.000		46-18-51	206.5	79.95	72
ADD	WA	RM-10668	92.7	0.0		124-03-07		7.95	CLOSE
	ASTORIA		225C1	0.000		46-10-56	190.8	87.85	200
DEL	OR	RM-10668	92.9	0.0		123-48-09		-112.15	SHORT
	CLATSKANIE		225C3	0.000		46-17-44	159.9	78.47	142
VAC	OR	RM-11124	92.9	0.0		123-14-13		-63.53	SHORT
KISM	BELLINGHAM		225C	50.000		48-40-48	16.0	199.43	226
LIC	WA	BLH-5235	92.9	744.0		122-50-24		-26.57	SHORT
NEW-T	CENTRALIA		225D	0.150		46-43-52	120.3	49.90	0
APP	WA	BNPFT-030310BNC	92.9	0.0		123-01-28		0.00	TRANS
NEW-T	NORTH OLYMPIA		225D	0.140		47-03-44	78.4	58.78	0
APP	WA	BNPFT-030314CJX	92.9	182.0		122-49-49		0.00	TRANS
K225AX	WHITE CENTER		225D	0.085		47-36-57	52.4	121.36	0
LIC	WA	BLFT-050607AAE	92.9	154.0		122-18-27		0.00	TRANS
K226AN	MONTESANO		226D	0.250		46-57-31	0.0	0.00	0
LIC	WA	BLFT-050513ABT	93.1	145.0		123-35-18		0.00	TRANS

SEARCH PARAMETERS FM Database Date: 060509
Channel: 225A 92.9 MHz
Latitude: 46 57 31
Longitude: 123 35 18
Safety Zone: 32 km
Job Title: 225D AT MONT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
NEW-T	FORDS PRAIRIE		228D	0.250	46-43-13	122.3	49.43	0
APP	WA	BNPFT-030314BJX	93.5	80.0	123-02-29		0.00	TRANS
KANY	OCEAN SHORES		228A	6.000 DA	46-53-04	255.8	33.32	31
CP	WA	BNPH-041228AAT	93.5	69.0	124-00-44	SS	2.32	CLOSE
K228EI	OCEAN SHORES		228D	0.250	46-52-14	256.1	40.33	0
CP	WA	BNPFT-030828ABW	93.5	51.0	124-06-07		0.00	TRANS
NEW-T	WESTPORT		278D	0.250	46-52-13	256.0	40.32	10
APP	WA	BNPFT-030317LEX	103.5	42.0	124-06-06		30.32	CLEAR
NEW-T	ABERDEEN		279D	0.090 DA	46-56-01	255.6	11.14	10
APP	WA	BNPFT-030313ASG	103.7	165.0	123-43-48		1.14	CLEAR
NEW-T	HOQUIAM		279D	0.250	46-58-22	274.6	20.19	10
APP	WA	BNPFT-030312BDS	103.7	28.0	123-51-10		10.19	CLEAR

44444 END OF FM SPACING STUDY FOR CHANNEL 225 44444


KITSAP
MASON
Proposed Trans 225D
40 dBu F(50,10)
GRAYS HARBOR
App 225D North Olympia
BNPFT-20030314CJX
60 dBu F(50,50)
App 225D Centralia
BNPFT-20030310BNC
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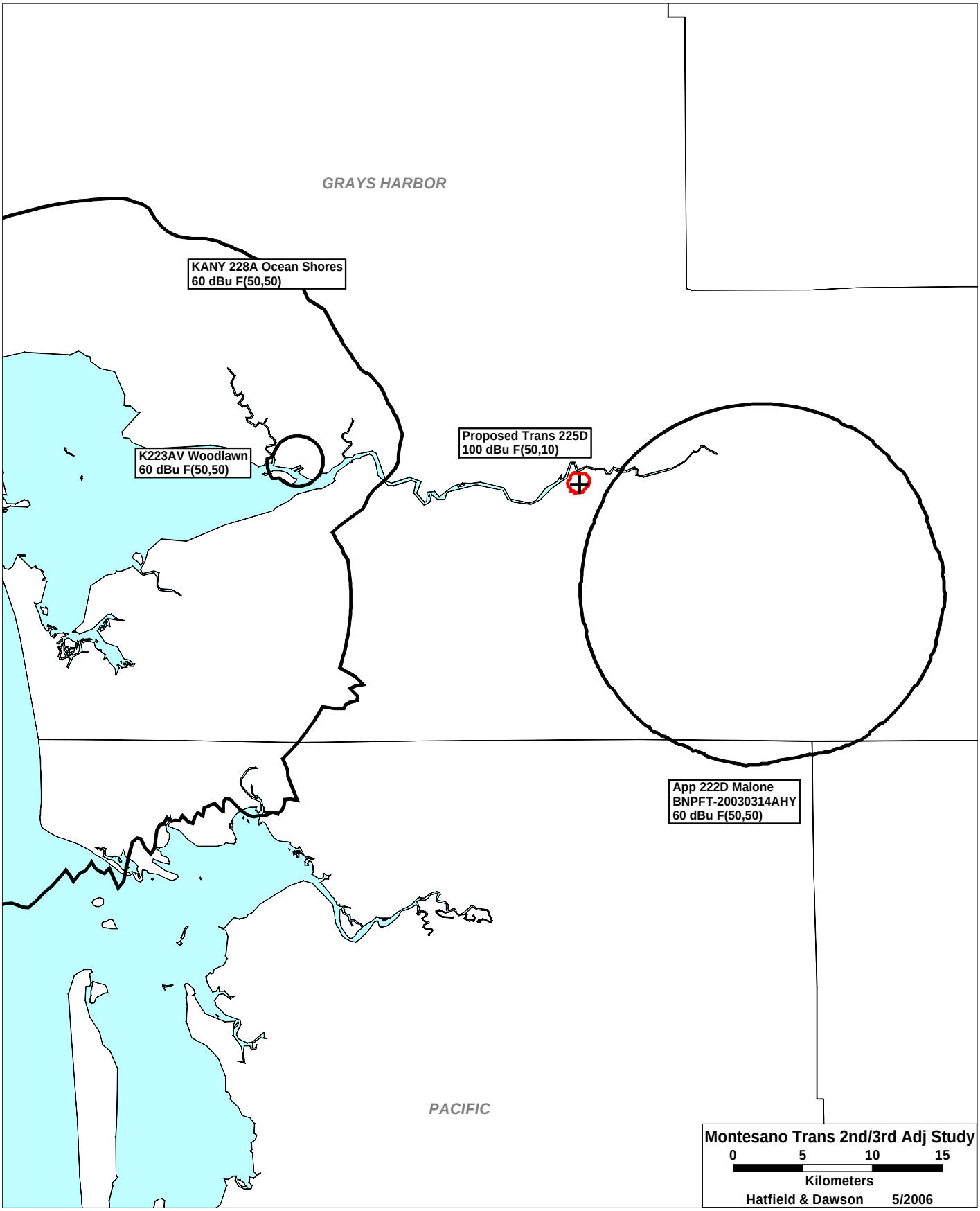
PACIFIC
WAHKIAKUM
Montesano Trans Cochannel Study
0 9 18 27
Kilometers
Hatfield & Dawson 5/2006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KANY 228A Ocean Shores
60 dBu F(50,50)
K223AV Woodlawn
60 dBu F(50,50)
Proposed Trans 225D
100 dBu F(50,10)
App 222D Malone
BNPFT-20030314AHY
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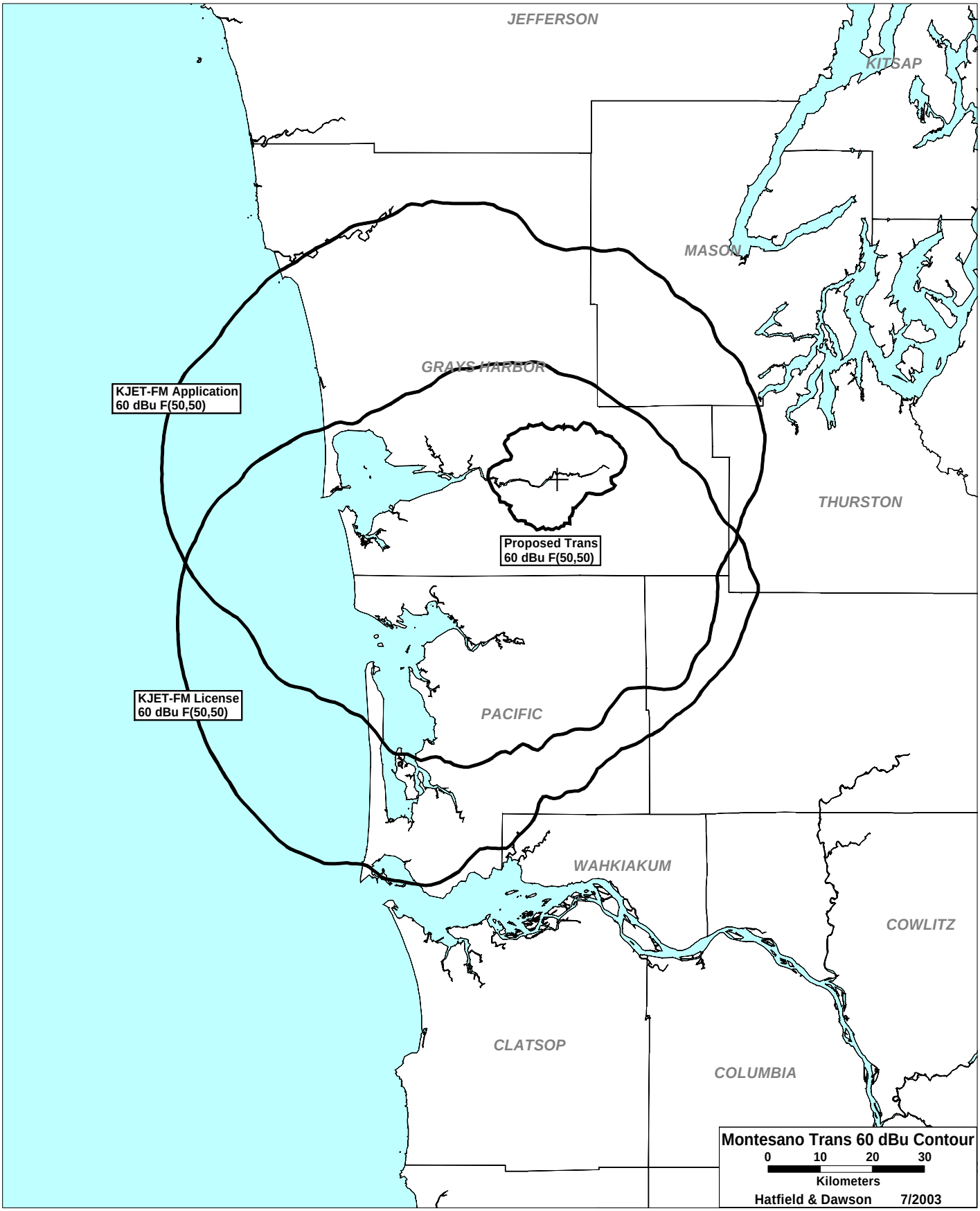
PACIFIC
Montesano Trans 2nd/3rd Adj Study
0 5 10 15
Kilometers
Hatfield & Dawson 5/2006


JEFFERSON
KITSAP
MASON
GRAYS HARBOR
THURSTON
PACIFIC
WAHKIAKUM
COWLITZ
CLATSOP
COLUMBIA
KJET-FM Application
60 dBu F(50,50)
Proposed Trans
60 dBu F(50,50)
KJET-FM License
60 dBu F(50,50)
Montesano Trans 60 dBu Contour
0 10 20 30
Kilometers
Hatfield & Dawson 7/2003

FM Translator K226AN
Montesano, Washington Channel 225D
NIER Study
August 2003

Facilities Proposed

The proposed operation will be on Channel 225D (92.9 MHz) with an effective radiated power of 0.15 kilowatts. Operation is proposed with the existing K226AN antenna mounted on the existing tower used by KSWW-FM. This tower does not exceed 60.96 meters (200 feet) above ground and does not require notification to the Federal Aviation Administration. Therefore, this structure does not require an Antenna Structure Registration Number.

NIER Calculations

Study of the area within 1000 meters of the proposed site reveals no likely sources of non-ionizing radiation other than KSWW-FM and the proposed translator.

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below, was used to calculate the ground level power density figures from each antenna.

$$S(mW/cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Calculations of the power density produced by the proposed translator antenna system assume a Type 6 element pattern, which is the element pattern for the 1-bay Shively antenna proposed for use. The highest calculated ground level power density occurs at a distance of 1 meter from the base of the antenna support structure. At this point the power density is calculated to be 2133.9 μW/cm².

Calculations of the power density produced by the KSWW antenna system assume a Type 6 element pattern, which is the element pattern for the 6-bay Shively antenna used by that station. The highest calculated ground level power density occurs at a distance of 4 meters from the base of the antenna support structure. At this point the power density is calculated to be 589.8 μW/cm².

Since KSWW and the proposed translator will be located on the same tower structure, their contributions have been summed at for every meter distant from the tower, out to 1000 meters. The results are shown on the attached graph. The FCC general public standard of 200 μW/cm²

is met at all locations beyond 10 meters from the tower. The applicant certifies that the tower site is fenced out to a distance of at least 10 meters from the tower.

The FCC occupational standard of 1000 μW/cm² is met at all locations beyond 4 meters from the tower. The applicant certifies that it will post appropriate RFR warning signs at a distance of 5 meters from the tower warning station personnel not to advance any closer to the tower unless the translator has been powered down or turned off.

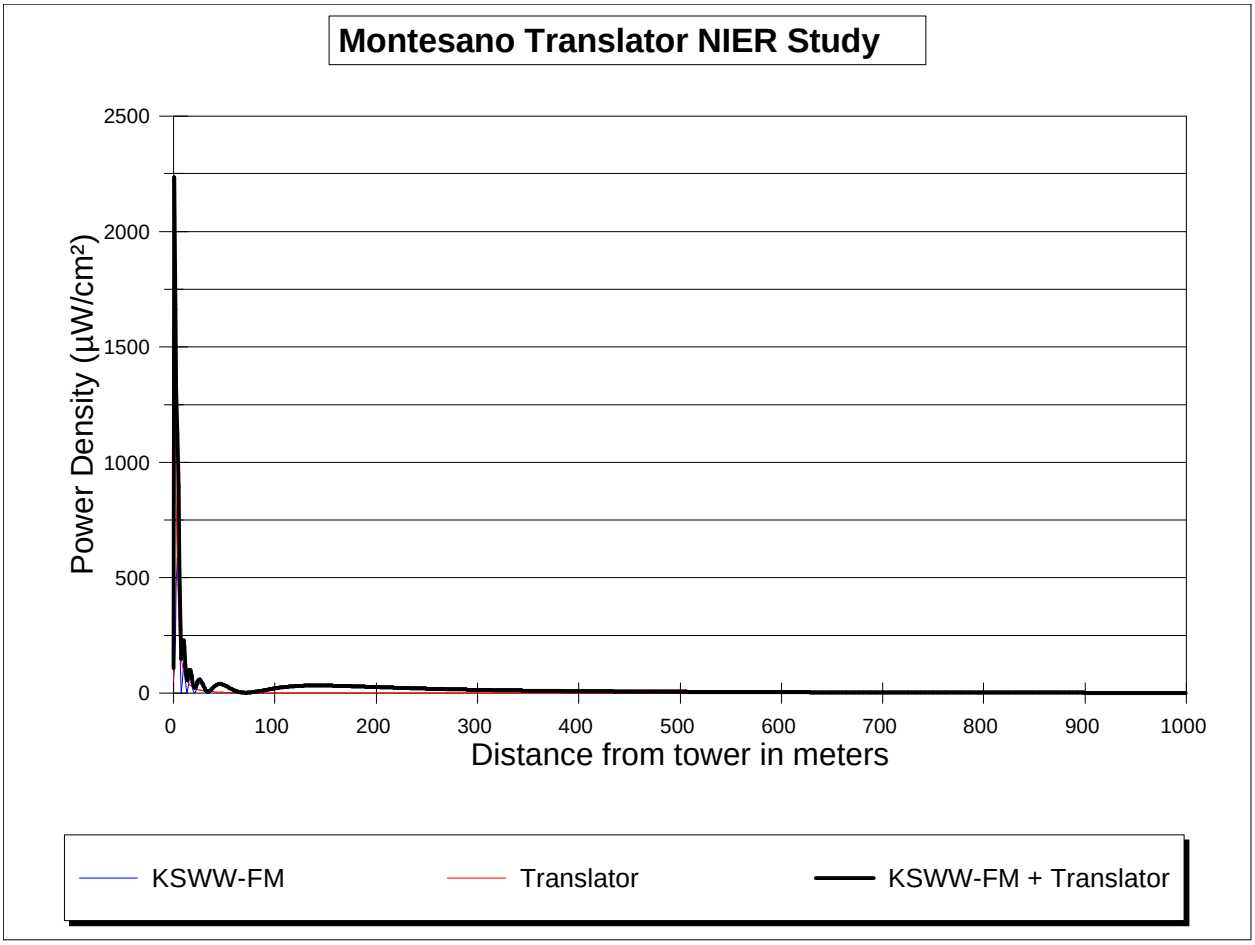
This transmitter site is fenced and is considered to be a controlled environment. The only user of this site is Jodesha Broadcasting, which is both the licensee of KSWW and the applicant for the proposed Montesano translator.

Public access to the site is restricted and the antenna tower is posted with warning signs. Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency radiation in excess of FCC guidelines.

Summation of Close-In Predicted Exposure Levels
FMModel

Distance	KSWW	Translator	Total
0	58.0 uW/cm2	50.1 uW/cm2	108.1 uW/cm2
1	101.0	2133.9	2234.9
2	229.3	1434.1	1663.4
3	470.4	851.6	1322.0
4	589.8	534.7	1124.5
5	540.3	359.7	900.0
6	322.1	257.2	579.3
7	84.7	192.1	276.8
8	0.1	148.9	149.0
9	62.1	118.7	180.8
10	132.4	96.8	229.2
11	118.4	80.4	198.8
12	51.7	67.8	119.5
13	4.5	57.9	62.4
14	7.5	50.1	57.5
15	39.4	43.7	83.1
16	64.7	38.4	103.2
17	65.5	34.1	99.6
18	45.9	30.4	76.3
19	21.1	27.4	48.4
20	4.1	24.7	28.8
21	0.3	22.4	22.7
22	7.7	20.5	28.2
23	20.7	18.7	39.4
24	33.3	17.2	50.6
25	41.8	15.9	57.7
26	44.6	14.7	59.3
27	42.1	13.6	55.7
28	35.6	12.7	48.2
29	27.0	11.8	38.8
30	18.0	11.0	29.1
31	10.2	10.3	20.6
32	4.4	9.7	14.1
33	1.0	9.1	10.1
34	0.0	8.6	8.6
35	1.1	8.1	9.2
36	3.9	7.7	11.6
37	7.9	7.3	15.1
38	12.5	6.9	19.4
39	17.3	6.5	23.8
40	21.9	6.2	28.1


Montesano Translator NIER Study
2500
2000
1500
1000
500
0
Power Density (µW/cm²)
0
100
200
300
400
500
600
700
800
900
1000
Distance from tower in meters
KSWW-FM
Translator
KSWW-FM + Translator