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Engineering Statement
Digital Displacement Application for K67GJ
Channel 47 at Point Pulley, etc., WA
October 2006

This Engineering Statement has been prepared on behalf of KIRO-TV, Inc., licensee of TV translator station K67GJ at Point Pulley, etc., Washington. This material has been prepared in connection with a digital displacement application.

I. Allocation Study

Study has been made of all cochannel and adjacent-channel facilities in the vicinity of the proposed operation, including a detailed Longley-Rice interference study to demonstrate that the proposed operation will not cause interference to any facilities with which contour overlap exists. This study was performed using the SunDTV program from V-Soft Communications and a 1 km grid spacing. The SunDTV program identically duplicates the FCC's OET-69 processing program.

The results of this study indicate that the proposed facility is predicted to cause zero additional interference to any of the listed stations. A Channel 47 application for K57HB is discussed separately.

Based on the foregoing allocation and interference study, it is believed that the proposed facility can operate without risk of interference to other stations.

Summary Study

1990 Census data selected
TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 08-16-2006 Time: 17:38:49

Record Selected for Analysis

K67GJ USERRECORD-03 POINT PULLEY WA US
Channel 47 ERP 1.1 kW HAAT 51. m RCAMSL 00092 m STRINGENT MASK
Latitude 047-25-43 Longitude 0122-26-16
Status APP Zone 2 Border Offset z
Dir Antenna Make usr Model USRPAT03 Beam tilt N Ref Azimuth 90.
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 1.0 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)	51.0 dBu F(50,90) (km)
0.0	0.555	90.0	24.7
45.0	0.970	36.6	18.2
90.0	1.100	33.1	17.8
135.0	1.014	49.4	21.7
180.0	0.562	80.0	23.5
225.0	0.000	54.5	3.3
270.0	0.000	33.0	2.6
315.0	0.000	33.0	2.6

Contour Overlap to Proposed Station

Contour Overlap Evaluation to Proposed Station Complete

LANDMOBILE SPACING VIOLATIONS FOUND

NONE

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountian

Proposed facility is within the Canadian coordination distance
Distance to border = 112.1km

Proposed facility is beyond the Mexican coordination distance

Proposed station is 2.27km from AM station

BURIEN-SEATTLE WA KGNW Status: L Antenna: DA2

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Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
47	K67GJ	POINT PULLEY WA	USERRECORD03

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
33	KWPX	BELLEVUE WA	36.3	LIC	BLCT	-19990312KE
33	KWPX	BELLEVUE WA	36.3	CP	BPCT	-20050428AAJ
40	K68DL	SEATTLE WA	23.0	CP	BPTTL	-20050907ABO
43	KDNB-LP	BELLINGHAM WA	141.8	CP	BNPTTL	-20000831CLI
45	KHCV	SEATTLE WA	36.3	LIC	BLCT	-20000906AAM
45	KHCV	SEATTLE WA	36.3	CP	BPCT	-20060126ARD
46	NEW	SEATTLE WA	36.3	APP	BSFDTL	-20060630BXS
47	KQUP-LP	COEUR D'ALENE ID	383.8	LIC	BLTTL	-20051020AED
47	NEW	BEND OR	392.6	APP	BNPTTL	-20000830AIW
47	NEW	BEND OR	382.2	APP	BNPTTL	-20000810AAY
47	NEW	BEND OR	382.2	APP	BNPTTL	-20000807AEH
47	NEW	BEND OR	392.6	APP	BNPTTL	-20000830ASA
47	NEW	COLLEGE HILL, ETC. OR	384.4	APP	BSFDTT	-20060630DBJ
47	K47DD	ELGIN OR	400.1	LIC	BLTT	-19890131IL
47	KPOU-LP	PORTLAND OR	213.4	CP MOD	BMPTTL	-20060120ACF
47	K47JJ	RAINIER OR	143.9	CP	BNPTT	-20000829ASE
47	K47CD	ROCKAWAY OR	219.6	LIC	BLTT	-20030610AAF
47	NEW	WARM SPRINGS OR	296.9	APP	BNPTTL	-20000831CBS
47	KDNH-LP	HOQUIAM WA	132.2	CP	BNPTTL	-20000831CKS
47	K47JB	OCEAN PARK WA	147.8	CP	BNPTTL	-20000828AZY
47	NEW	REPUBLIC WA	308.3	CP	BNPTTL	-20000830ASQ
47	KWWO-LP	WALLA WALLA WA	359.6	LIC	BLTTL	-19961015JF
47	KWCC-LP	WENATCHEE, ETC. WA	166.6	LIC	BLTTL	-19960617JC
47	KYVE	YAKIMA WA	176.9	LIC	BMLET	-20041005ACC
47	KYVE	YAKIMA WA	176.9	CP	BPET	-20050531BJR
48	K48BY	QUINCY WA	198.9	LIC	BLTT	-19870929ID
48	KING-TV	SEATTLE WA	23.5	LIC	BLCDT	-19981026KE
49	K54GS	PUYALLUP WA	31.2	APP	BDISTTL	-20051221AJD
51	KWOG	BELLEVUE WA	36.3	LIC	BLCT	-19990810KE
54	K54AO	BREMERTON WA	31.9	LIC	BLTT	-20000510AAI
54	K54GS	PUYALLUP WA	31.2	LIC	BLTTL	-20011115ACS

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Study of this proposal found the following interference problem(s):

NONE.

II. NIER Study

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.

$$S(\mu W/cm^2) = \frac{[(0.4)\,VERP + AERP] \times 1.64 \times 2.56 \times 100 \times F^2}{4 \times B \times (Distance)^2}$$

Where: VERP = total peak visual ERP in Watts
AERP = aural ERP in Watts
F = relative field factor in the downward direction
Distance = distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 1000 meters. Values past this point are increasingly negligible.

Power density levels produced by the proposed facility were calculated for an elevation of 2 meters above ground level, using the manufacturer's vertical plane pattern for the Scala 4DR-16-2HW antenna. The highest calculated power density from the proposed antenna alone occurs 38 meters from the base of the antenna support structure. At this point the power density is calculated to be 1.6 μW/cm², which is 0.4% of 446 μW/cm² (the FCC standard for uncontrolled environments at the Channel 47 visual carrier frequency).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 1000 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities

or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicants proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 et seq and no further analysis of non-ionizing radiation at this site is required in this application.

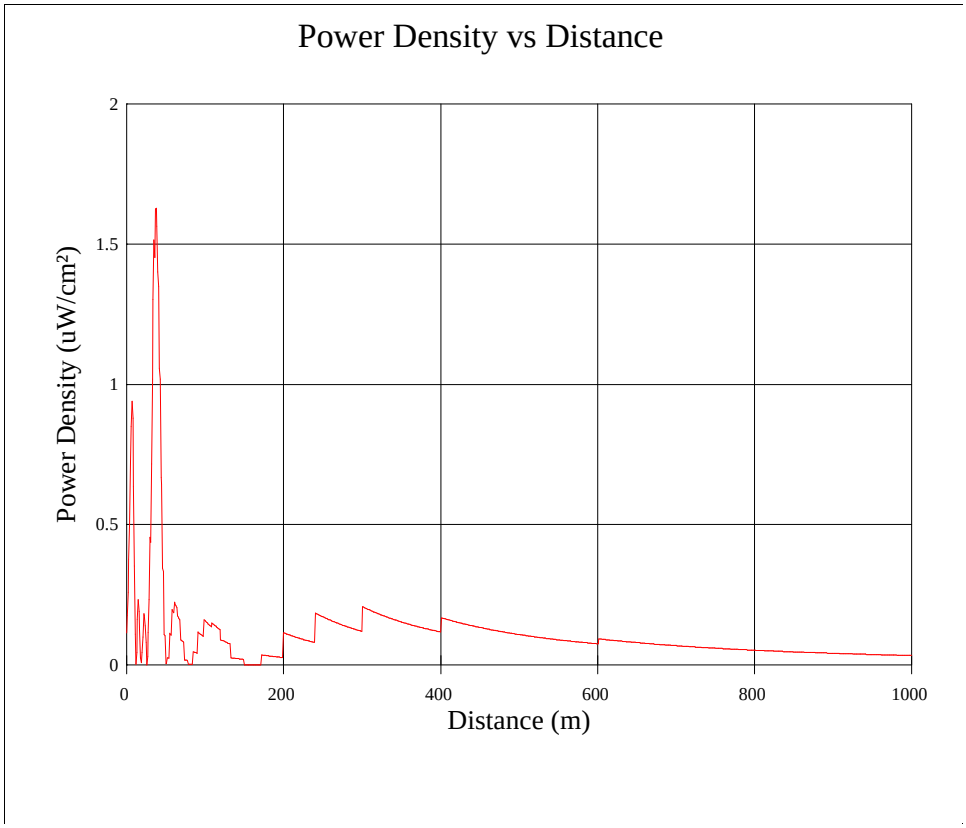
Public access to the transmitter site is restricted. Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance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

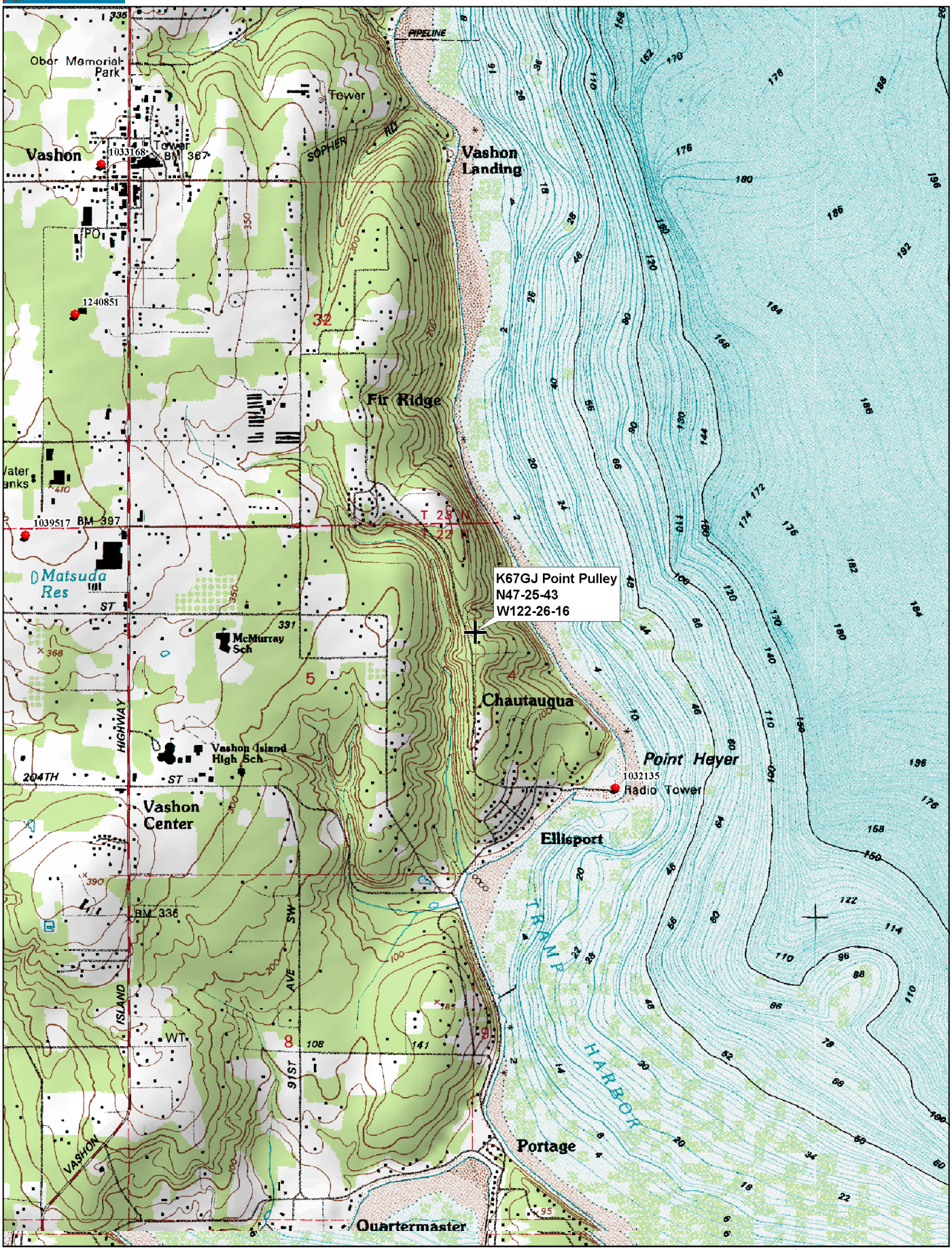
October 4, 2006

Erik C. Swanson

K67GJ (Ch 47) Point Pulley - Scala 4DR-16-2HW

ERP	1100	Watts H (avg)	
	0	Watts V (avg)	
AGL	23	less 2m is	21 meters
Maximum is	1.63	uW/cm² at	38 meters





TN
MN (17.5°E)

Scale 1 : 24,000

0 600 1200 1800 2400 3000 ft
0 200 400 600 800 1000 m

1" = 609.6 m Data Zoom 13-1