

ENGINEERING STATEMENT

This exhibit supports this application to modify the licensed facility of KBCB, Channel 19, Bellingham, Washington, Facility ID 53586, FCC file number BLCDT-20040128AKD, licensed to the Applicant herein.

The Applicant proposes to change the ERP. The proposed horizontal effective radiated power for the facility is 208 kW. Attachment A is a map upon which the predicted service contours are plotted. As shown, the community of Bellingham is completely encompassed by the proposed 48 dBu city-grade service contour.

The Applicant propose to use the existing authorized antenna at the existing authorized location. The antenna is a directional horizontally-polarized RFS RD32UA16 oriented at 0 degrees. The elevation and azimuth pattern information for the existing authorized antenna are provided in Attachment B.

Since no change in the antenna or the overall height or location of the existing tower is proposed herein, the Federal Aviation Administration has not been notified of this application. In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1032381 to this tower.

The proposed facility was studied using TVStudy v2.2.3 using the following parameters and the results are shown in Attachment C:

- Study cell size: 2.0 km
- Profile point spacing: 0.5 km

The study was conducted to protect the Baseline facilities as well as the non-Baseline facilities and the non-US facilities. The proposal is within coordination distance of FCC monitoring station, see below:

Conditions at FCC monitoring station: Ferndale WA
Bearing: 34.4 degrees Distance: 37.3 km
ERP: 37.0 kW HAAT: 792.6 m Field strength: 77.1 dBu, 7.1 mV/m

The study concludes that the proposed KBCB facility meets the Commission's de minimis interference criteria to all co-channel and adjacent-channel post-repack full-power and Class A facilities.

It is believed that the proposed facility complies with the requirements of 47 C.F.R. Sections 73.616, 73.622(i), 73.623(e), 73.625, 73.1030, and 73.1125 and other applicable parts of the Rules and Regulations of the Federal Communications Commission.

Canadian Coordination

This proposal is 15.6 km from the Canadian border and therefore coordination with Canada is required. The proposed facility causes 0.13% interference within the US borders and 0.0%

within Canadian borders to CHNM-DT, Channel 20, Vancouver, BC, File FCC Number BLANKCANADA93. This level of interference is de minimis.

Digital TV and Class A Station Protection

Except as referenced in Exhibit A, the proposed facility causes less than 0.5% interference to surrounding digital and Class A television stations and allotments and facilities (i.e., “*de minimis*”) based on TVStudy v2.2.3. It is believed that the proposed operation is in compliance with the spirit and intent of the FCC’s interference standards.

Environment Effect

The proposed facility is deemed individually and cumulatively to have no significant effect on the quality of the human environment and are categorically excluded from environmental processing as defined by 47 C.F.R. § 1.1306. Additionally, the Applicant certifies that it will reduce power or cease operation as necessary to protect any persons from having RF exposure in excess of FCC guidelines.

KBCB 19 Proposed F(50,90) 41 dBu Noise Limited Service Contour.

City of Bellingham

WHATCOM

SKAGIT


SNOHOMISH

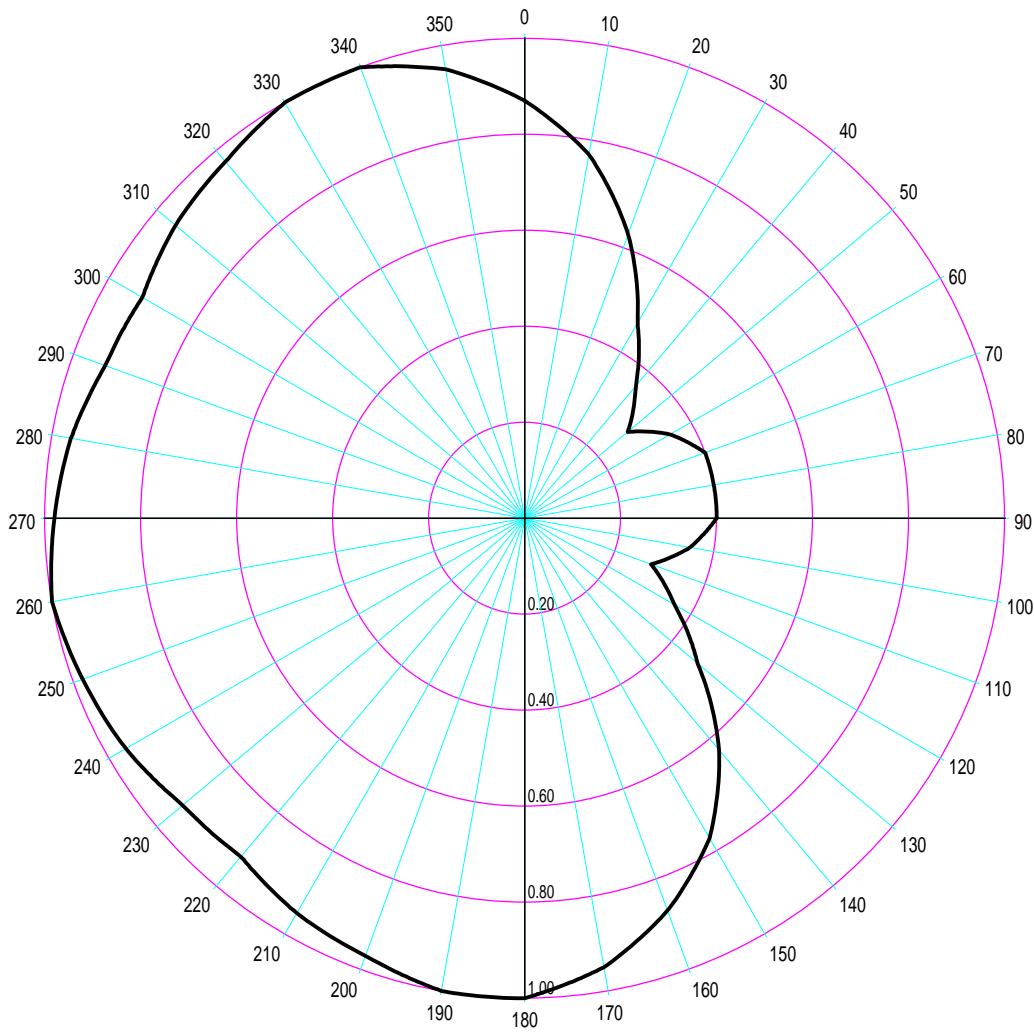
JEFFERSON

KBCB 19 Proposed F950,90) 48 dBu Principal Community Contour

Population within Noise Limited Contour: 1,323,222

 National Borders
 County Borders
 State Borders
 City Borders
 Highways

 Lat/Lon Grid

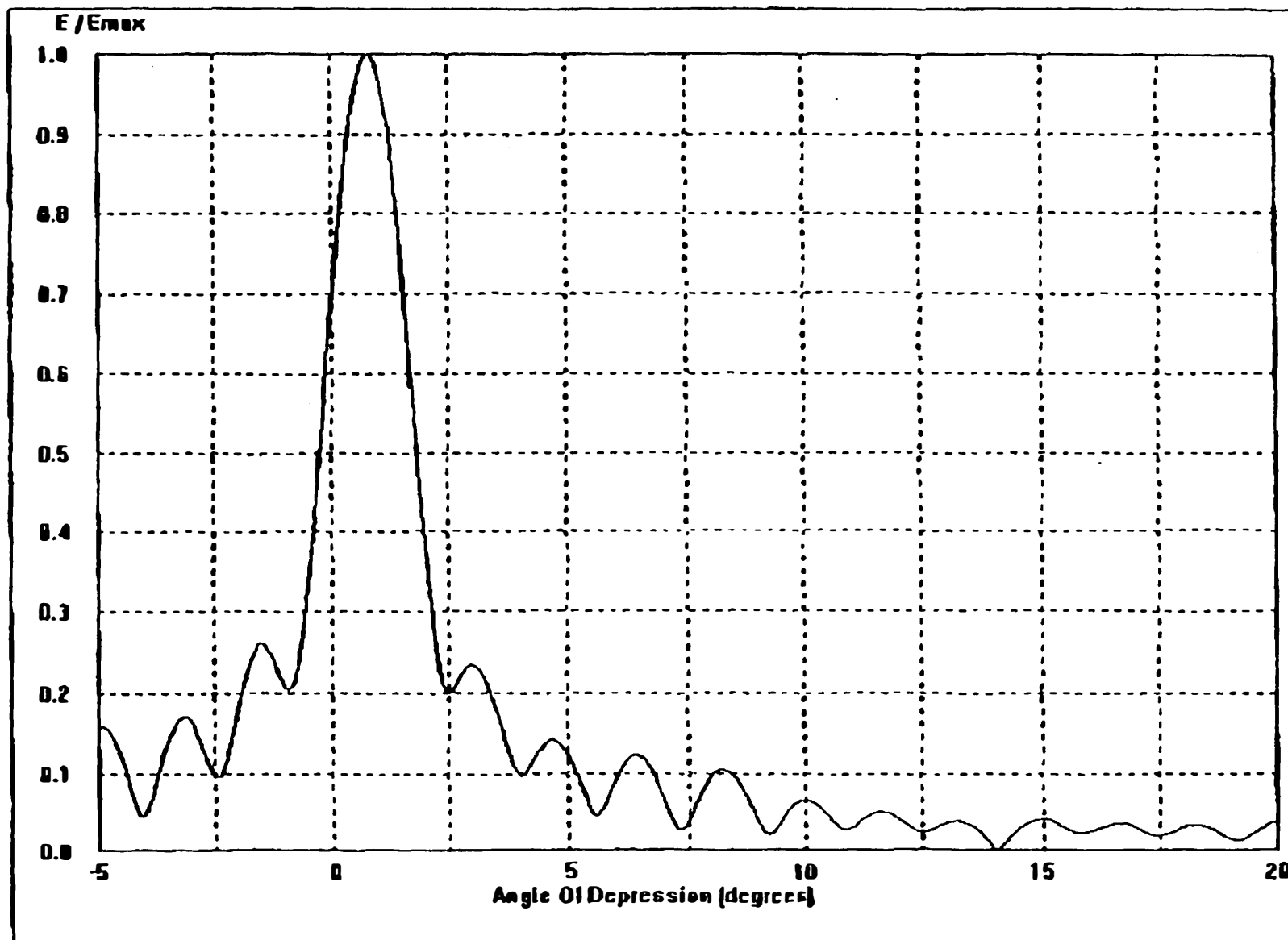


Azim	Rel.FS ERP [kW]		dBk
0.0	0.870	124.888	20.965
5.0	0.820	110.946	20.451
10.0	0.770	97.828	19.905
15.0	0.700	80.850	19.077
20.0	0.630	65.488	18.162
25.0	0.550	49.912	16.982
30.0	0.470	36.448	15.617
35.0	0.415	28.417	14.536
40.0	0.360	21.384	13.301
45.0	0.320	16.896	12.278
50.0	0.280	12.936	11.118
55.0	0.315	16.372	12.141
60.0	0.350	20.212	13.056
65.0	0.375	23.203	13.655
70.0	0.400	26.400	14.216
75.0	0.400	26.400	14.216
80.0	0.400	26.400	14.216
85.0	0.400	26.400	14.216

Azim	Rel.FS ERP [kW]		dBk
90.0	0.400	26.400	14.216
95.0	0.375	23.203	13.655
100.0	0.350	20.212	13.056
105.0	0.315	16.372	12.141
110.0	0.280	12.936	11.118
115.0	0.320	16.896	12.278
120.0	0.360	21.384	13.301
125.0	0.415	28.417	14.536
130.0	0.470	36.448	15.617
135.0	0.550	49.912	16.982
140.0	0.630	65.488	18.162
145.0	0.700	80.850	19.077
150.0	0.770	97.828	19.905
155.0	0.820	110.946	20.451
160.0	0.870	124.888	20.965
165.0	0.910	136.636	21.356
170.0	0.950	148.912	21.729
175.0	0.975	156.853	21.955

Azim	Rel.FS ERP [kW]		dBk
180.0	1.000	165.000	22.175
185.0	1.000	165.000	22.175
190.0	1.000	165.000	22.175
195.0	0.985	160.087	22.044
200.0	0.970	155.248	21.910
205.0	0.960	152.064	21.820
210.0	0.950	148.912	21.729
215.0	0.935	144.247	21.591
220.0	0.920	139.656	21.451
225.0	0.925	141.178	21.498
230.0	0.930	142.708	21.544
235.0	0.945	147.349	21.683
240.0	0.960	152.064	21.820
245.0	0.970	155.248	21.910
250.0	0.980	158.466	21.999
255.0	0.990	161.716	22.088
260.0	1.000	165.000	22.175
265.0	0.990	161.716	22.088

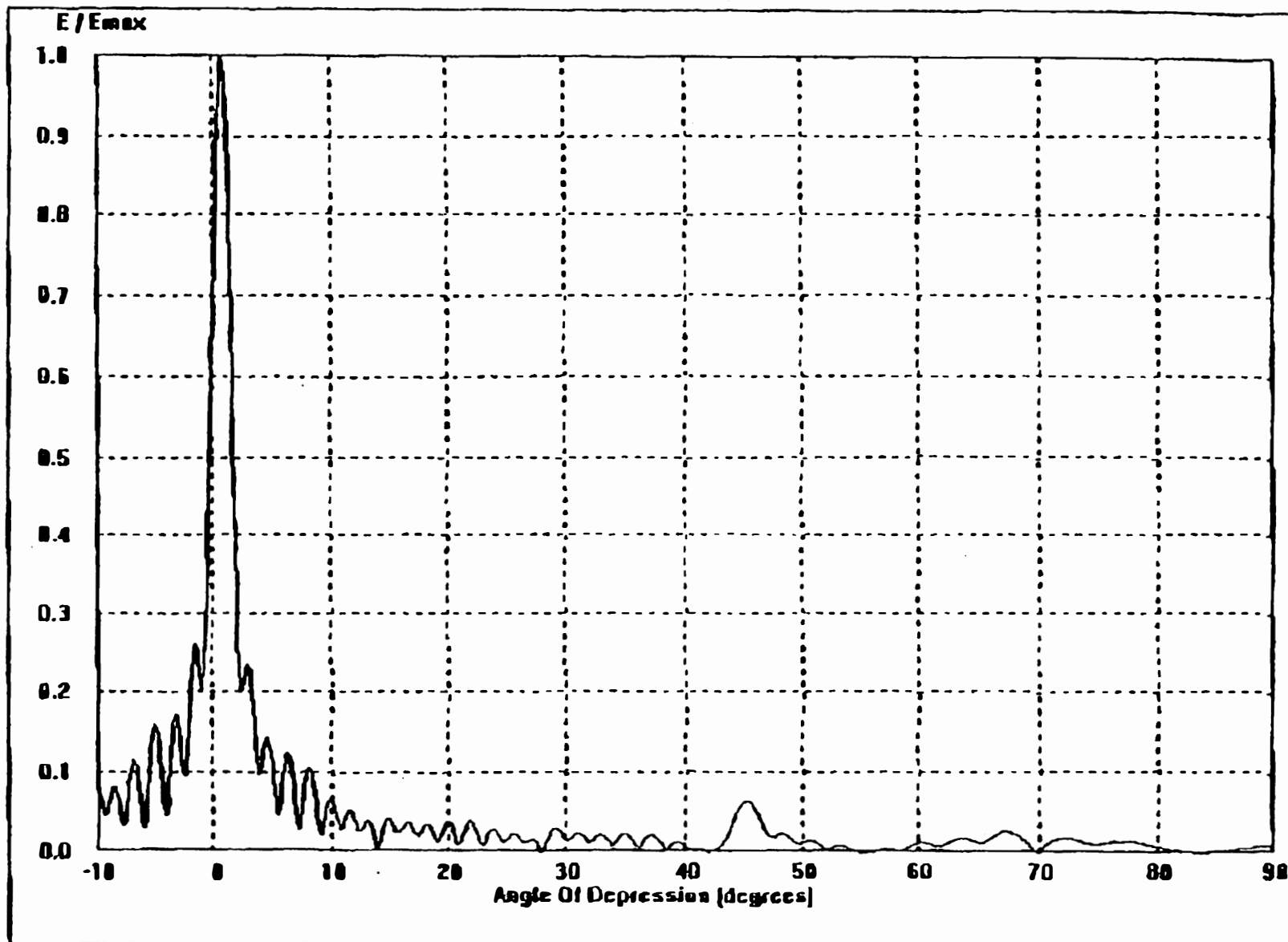
Azim	Rel.FS ERP [kW]		dBk
270.0	0.980	158.466	21.999
275.0	0.970	155.248	21.910
280.0	0.960	152.064	21.820
285.0	0.945	147.349	21.683
290.0	0.930	142.708	21.544
295.0	0.925	141.178	21.498
300.0	0.920	139.656	21.451
305.0	0.935	144.247	21.591
310.0	0.950	148.912	21.729
315.0	0.960	152.064	21.820
320.0	0.970	155.248	21.910
325.0	0.985	160.087	22.044
330.0	1.000	165.000	22.175
335.0	1.000	165.000	22.175
340.0	1.000	165.000	22.175
345.0	0.975	156.853	21.955
350.0	0.950	148.912	21.729
355.0	0.910	136.636	21.356



RD32U Elevation Radiation Pattern CH 24

Beam Tilt: 0.75°

Vertical Gain at beam peak: 15.4 dBd



RD32U Elevation Radiation Pattern CH 24

Beam Tilt: 0.75°

Vertical Gain at beam peak: 15.4 dBd

tvstudy v2.2.3 (DAezul)
Database: localhost, Study: KBCB 19 208KW BLCDT20040128AKD NB NUS 2.0 0.5, Model: Longley-Rice
Start: 2017.11.01 22:54:00

Study created: 2017.11.01 22:53:45

Study build station data: LMS TV 2017-11-01 (26)

Proposal: KBCB D19 DT LIC BELLINGHAM, WA
File number: KBCB 19 208KW BLCDT20040128AKD
Facility ID: 53586
Station data: User record
Record ID: 851
Country: U.S.
Zone: II

Build options:
Protect records not on baseline channel

Search options:
Non-U.S. records included
Stations affected by proposal:

Call	Chan	Svc	Status	City, State	File Number	Distance
KCKA	D19	DT	LIC	CENTRALIA, WA	BLEDT20101217ABA	236.7 km
CHNM-DT	D20	DT	LIC	VANCOUVER, BC	BLANKCANADA93	75.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D19
Latitude: 48 40 45.00 N (NAD83)
Longitude: 122 50 36.00 W
Height AMSL: 792.6 m
HAAT: 757.0 m
Peak ERP: 208 kW
Antenna: RFS-RD32UA16 (ID 43180) 0.0 deg
Elev Pattrn: Generic
Elec Tilt: 0.75

39.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	157 kW	792.3 m	115.4 km
45.0	21.3	792.6	96.7
90.0	33.3	740.0	99.1
135.0	62.9	700.4	103.5
180.0	208	749.1	116.3
225.0	178	711.7	113.3
270.0	200	767.6	116.7
315.0	192	786.3	117.0

Database HAAT does not agree with computed HAAT
Database HAAT: 757 m Computed HAAT: 755 m

**Proposal service area extends beyond baseline plus 1.0%
Proposal service area population is more than 95.0% of baseline

**Proposal is within coordination distance of Canadian border
Distance to Canadian border: 15.6 km

Distance to Mexican border: 1843.8 km

**Proposal is within coordination distance of FCC monitoring station
Conditions at FCC monitoring station: Ferndale WA
Bearing: 34.4 degrees Distance: 37.3 km
ERP: 37.0 kW HAAT: 792.6 m Field strength: 77.1 dBu, 7.1 mV/m

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 117.7 degrees Distance: 1681.3 km

No land mobile station failures found

Study cell size: 2.00 km
Profile point spacing: 0.50 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KCKA	D19	DT	LIC	CENTRALIA, WA	BLEDT20101217ABA	
Undesireds:	KBCB	D19	DT	BL	BELLINGHAM, WA	DTVBL53586	236.8 km

KBCB		D19	DT	LIC	BELLINGHAM, WA		KBCB 19 208KW BLC		DT200	236.7
KOXI-CD		D20	DC	LIC	PORTLAND, OR		BLANK0000001497			117.2
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
23058.1	953,680	18042.1	793,878		17526.2	658,575	17514.1	658,703	0.07	-0.02
Undesired		Total IX		Unique IX, before		Unique IX, after				
KBCB D19 DT BL		464.2	133,706		464.2	133,706				
KBCB D19 DT LIC		476.2	133,578				476.2	133,578		
KOXI-CD D20 DC LIC		51.7	1,597		51.7	1,597	51.7	1,597		

Interference to BLANKCANADA93 LIC, scenario 1										
Desired:		Call	Chan	Svc	Status	City, State	File Number		Distance	
		CHNM-DT	D20	DT	LIC	VANCOUVER, BC	BLANKCANADA93			
Undesireds:		KBCB	D19	DT	BL	BELLINGHAM, WA	DTVBL53586		75.8 km	
		KBCB	D19	DT	LIC	BELLINGHAM, WA	KBCB 19 208KW BLC		DT200 75.8	
		CFEG-TV	D19	DC	LIC	ABBOTSFORD, BC	BLANKCANLP18		55.9	
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
3448.4	205,880	3260.2	203,396		3131.8	202,763	3123.8	202,490	0.26	0.13 (in U.S.)
14238.5	2,802,392	11974.1	2,659,810		11681.4	2,614,640	11677.3	2,614,640	0.03	0.00
Undesired		Total IX		Unique IX, before		Unique IX, after				
KBCB D19 DT BL		128.4	633		128.4	633			(in U.S.)	
KBCB D19 DT LIC		136.4	906				136.4	906	(in U.S.)	
KBCB D19 DT BL		280.8	23,888		276.8	19,334				
KBCB D19 DT LIC		284.8	23,888				280.8	19,334		
CFEG-TV D19 DC LIC		16.0	25,836		11.9	21,282	11.9	21,282		

Interference to proposal, scenario 1										
2.90% interference										
Desired:		Call	Chan	Svc	Status	City, State	File Number		Distance	
		KBCB	D19	DT	LIC	BELLINGHAM, WA	KBCB 19 208KW BLC		DT200	
Undesireds:		KCKA	D19	DT	LIC	CENTRALIA, WA	BLEDT20101217ABA		236.7 km	
		CFEG-TV	D19	DC	LIC	ABBOTSFORD, BC	BLANKCANLP18		55.4	
Service area		Terrain-limited		IX-free		Percent IX				
19448.6	1,323,222	17859.4	1,298,400		17655.3	1,260,786	1.14	2.90		
18599.5	3,147,023	16682.6	3,097,781		16614.7	3,041,805	0.41	1.81	(in Canada)	
Undesired		Total IX		Unique IX		Prcnt Unique IX				
KCKA D19 DT LIC		192.1	37,614		192.1	37,614	1.08	2.90		
CFEG-TV D19 DC LIC		12.0	0		12.0	0	0.07	0.00		
CFEG-TV D19 DC LIC		67.9	55,976		67.9	55,976	0.41	1.81	(in Canada)	