

**October 2008  
New FM Channel 205A  
Allocation Study**

**Description of Amendment**

The instant filing amends BNPED-20071018ARZ by returning the proposed technical facilities to those originally filed during the October 2007 filing window for new non-commercial FM stations in the reserved band. A June 2008 amendment had reduced the directional pattern at certain azimuths in order to eliminate a mutual exclusivity.

The original Sedro-Woolley 205A proposal BNPED-20071018ARZ was mutually-exclusive with an application for Monroe 206C1 (BNPED-20071019BDA) filed during the October 2007 filing window by Spirit Communications, Inc. ("Spirit"). The Sedro-Woolley 205A application was included in MX Group #442 on the June 18, 2008 Public Notice.<sup>1</sup> While that MX group includes 13 applications, the only known conflict for Sedro-Woolley 205A was with the Monroe 206C1 application.

While the June 2008 amendment at Sedro-Woolley employed a revised directional antenna pattern which eliminated the conflict with Monroe 206C1, that revised pattern is no longer necessary. The Monroe 206C1 application was dismissed by delegated authority on August 20, 2008 owing to a violation by Spirit of the 10-application limit.<sup>2</sup> That action is now believed to be final. It is therefore believed that the instant amended Channel 205A proposal for Sedro-Woolley is a singleton and can proceed expeditiously toward grant.

It should be noted that the revised directional antenna pattern does not increase power towards Canada in any direction. Therefore, if Canadian concurrence has already been sought for the original Sedro-Woolley 205A application, it should not be necessary to re-send this amendment to Canada for concurrence.

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<sup>1</sup> "Media Bureau Identifies Groups of Mutually Exclusive Applications Submitted in the October 2007 Filing Window for Noncommercial Educational FM Stations", DA 08-1437, June 18, 2008.

<sup>2</sup> See Letter to A. Wray Fitch III, Esq., and John Shumate, Sr., DA 08-1936, released on August 20, 2008.

The attached spacing study shows the co-channel and adjacent channel spacing between stations and demonstrates that the proposed operation meets the adjacent channel spacing requirements to existing stations on IF channels as prescribed in §73.207 of the Commission's Rules. The attached allocation study exhibits demonstrate requisite contour protection for the following domestic stations:

First-adjacent:	New	206C1	Skykomish	BNPED-20071012ATS
Second-adjacent:	KPLU-FM KUGS KUGS	203C 207A 207A	Tacoma Bellingham (License) Bellingham (CP)	
Third-adjacent:	KNHC	208C1	Seattle	

#### **CBUX-FM-1 Channel 205C1 Victoria, British Columbia**

The proposed operation is short-spaced to Canadian station CBUX-FM-1 which operates on Channel 205C1 at Victoria, British Columbia. Under the terms of the Working Arrangement for the Allotment and Assignment of FM Broadcasting Channels Under the Agreement Between the Government of Canada and the Government of the United States of America Relating to the FM Broadcasting Service, as amended in 1997 ("Working Arrangement"), the required cochannel Class A to Class C1 spacing is 243 kilometers, whereas the distance between the proposed New 205A site and the CBUX-FM-1 site is 92 kilometers. Because the proposed New 205A 34 dBu F(50,10) contour will overlap the CBUX-FM-1 54 dBu F(50,50) contour over Canadian land areas, a detailed study of the interference zone has been conducted following the instructions in Annex III of the Working Arrangement. The results of that study are depicted on the attached map exhibit, and demonstrate that no interference will be caused to CBUX-FM-1 over Canadian land areas.

#### **Waiver Requested re Overlap Received From CBUX-FM-1**

The proposed Sedro-Woolley Channel 205A facility will receive overlap from the CBUX-FM-1 40 dBu F(50,10) contour, amounting to 100% of the proposed Sedro-Woolley 205A 60 dBu F(50,50) contour land area.

Because the received overlap in this case is not from a domestic station or allotment, the received overlap prohibitions of §73.509 are not strictly applicable to the overlap received by Sedro-Woolley 205A from CBUX-FM-1. Application of §73.509 is limited to "overlap of signal strength contours

with any other station *licensed by the Commission* and operating in the reserved band..." (emphasis added). Therefore, waiver of the received overlap prohibitions of §73.509 is not believed to be an absolute requirement. However, if the staff determines that a waiver of the applicable portions of §73.509 is required, it is explicitly requested for the contour overlap which would be received by the proposed Sedro-Woolley 205A facility.

The predicted interference received from CBUX-FM-1 would limit the new non-commercial service which the applicant proposes, but not eliminate it. Much of the Sedro-Woolley 205A coverage area would be preserved despite the predicted interference (much of which would in any case occur over water areas of the Strait of Juan de Fuca). Furthermore, the attached map exhibit demonstrates that 90% of the city of Sedro-Woolley is calculated per the Annex III methodology to receive interference-free service, despite the predicted interference from CBUX-FM-1.

In Northern Sound Public Radio, 4 FCC Rcd 5495 (1989), the Commission permitted the creation of a new non-commercial educational FM station, receiving interference from an operating Canadian station, despite 100% overlap from a Canadian station's interfering contour. The 100% overlap sought herein is substantially identical to the 100% waiver granted in Northern Sound Public Radio.

Similar waivers (either explicit or implicit) in the Puget Sound area have been subsequently granted to KBCS 217C3 Bellevue for co-channel interference (see BPED-19880712MW, BPED-19960520MA, BPED-20000721ABJ, BMPED-20010119AFC, and BPED-20020816AAM), to KSER 214A for first-adjacent-channel interference (see BPED-19970515MB), and to KEXP 212C3 for first-adjacent-channel interference (see BPED-20011016AAR and BPED-20050331BCK).

Based on the foregoing, grant of the waiver requested in this application would be consistent with precedent established in the Northern Sound Public Radio, KBCS, KSER, and KEXP cases, and should be granted for precisely the same reasons that the previous waivers were granted. Therefore, the applicant respectfully requests waiver, if required, of the received interference provisions of §73.509 of the Commission's Rules with respect to CBUX-FM-1 Channel 205C1 Victoria.

### **Channel 205C at Saturna Island, British Columbia**

The spacing study indicates an apparent short-spacing to a vacant Canadian allotment on Channel 205C at Saturna Island, British Columbia. That short-spacing is moot, however, as that allotment has been deleted by Canadian authorities in connection with its relocation to Victoria, where it now operates as CBUX-FM-1. Interference protection vis-a-vis CBUX-FM-1 is discussed above.

### **TV Channel 6**

Section 73.525 of the Commission's Rules specifies a threshold distance of 225 kilometers for FM stations operating on Channel 205. There are no domestic TV Channel 6 stations located within this threshold distance.

FMSTUDY.EXE Copyright 2006, Hatfield & Dawson, LLC Version 1.80  
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 SEARCH PARAMETERS FM Database Date: 081009  
 Channel: 205A 88.9 MHz Page 1  
 Latitude: 48 32 30  
 Longitude: 122 17 43  
 Safety Zone: 32 km  
 Job Title: SEDRO-WOOLLEY 205A

Call Status	City	Channel	ERP(kW)	Latitude	Bearing	Dist	Req
St	FCC File No.	Freq.	HAAT(m)	Longitude	deg-True	(km)	(km)
CIVL-FM BC	ABBOTSFORD	203A 88.5	0.300 337.0	DA 49-03-48 122-12-55	5.7 SS	58.31 7.31	51 CLOSE
CHILLIWACK		203A 88.5	0.000 0.0	49-06-36 121-50-47	27.3	71.28 20.28	51 CLEAR
CHILLIWACK		203A 88.5	0.000 0.0	49-06-36 121-50-47	27.3	71.28 20.28	51 CLEAR
KPLUaux LIC	TACOMA WA BMLED-900402KD	203C 88.5	30.000 189.0	47-28-50 122-31-58	188.6	119.31 0.00	0 AUX
KPLU-FM LIC	TACOMA WA BLED-080715ADJ	203C 88.5	68.000 707.0	DA 47-30-14 121-58-29	168.2	117.84 22.84	95 CLEAR
KPLU-FM LIC	TACOMA WA BLED-890925KA	203C 88.5	58.000 714.0	DA 47-30-14 121-58-29	168.2	117.84 22.84	95 CLEAR
NOTE: SUPERSEDED BY BLED-20080715ADJ, ABOVE							
KPLUaux LIC	TACOMA WA BXLED-010126AAO	203C 88.5	50.000 388.0	DA 47-32-35 122-06-25	172.7	111.92 0.00	0 AUX
NEW	ABBOTSFORD	204D 88.7	0.004 13.0	49-04-16 122-18-54	358.6	58.90 0.00	0 CLS=D
NEW	NEW WESTMINSTER	204D 88.7	0.000 0.0	49-12-43 122-55-32	328.5	87.71 0.00	0 TRANS
NEW	NEW WESTMINSTER	204D 88.7	0.004 18.0	49-12-43 122-55-32	328.5	87.71 0.00	0 CLS=D
K204BI CP	BELLINGHAM WA BPFT-041213ABN	204D 88.7	0.030 194.0	DA 48-48-04 122-27-40	337.2	31.33 0.00	0 TRANS
K204BI LIC	BELLINGHAM WA BLFT-891127TA	204D 88.7	0.019 188.0	DA 48-48-04 122-27-40	337.2	31.33 0.00	0 TRANS
CBTKFM	KELOWNA	205C 88.9	4.700 511.0	49-58-00 119-31-40	50.7	256.34 9.34	247 CLOSE
SATURNA BC	ISLAND	205C 88.9	0.000 0.0	48-46-28 123-10-10	292.3	69.41 -177.59	247 SHORT

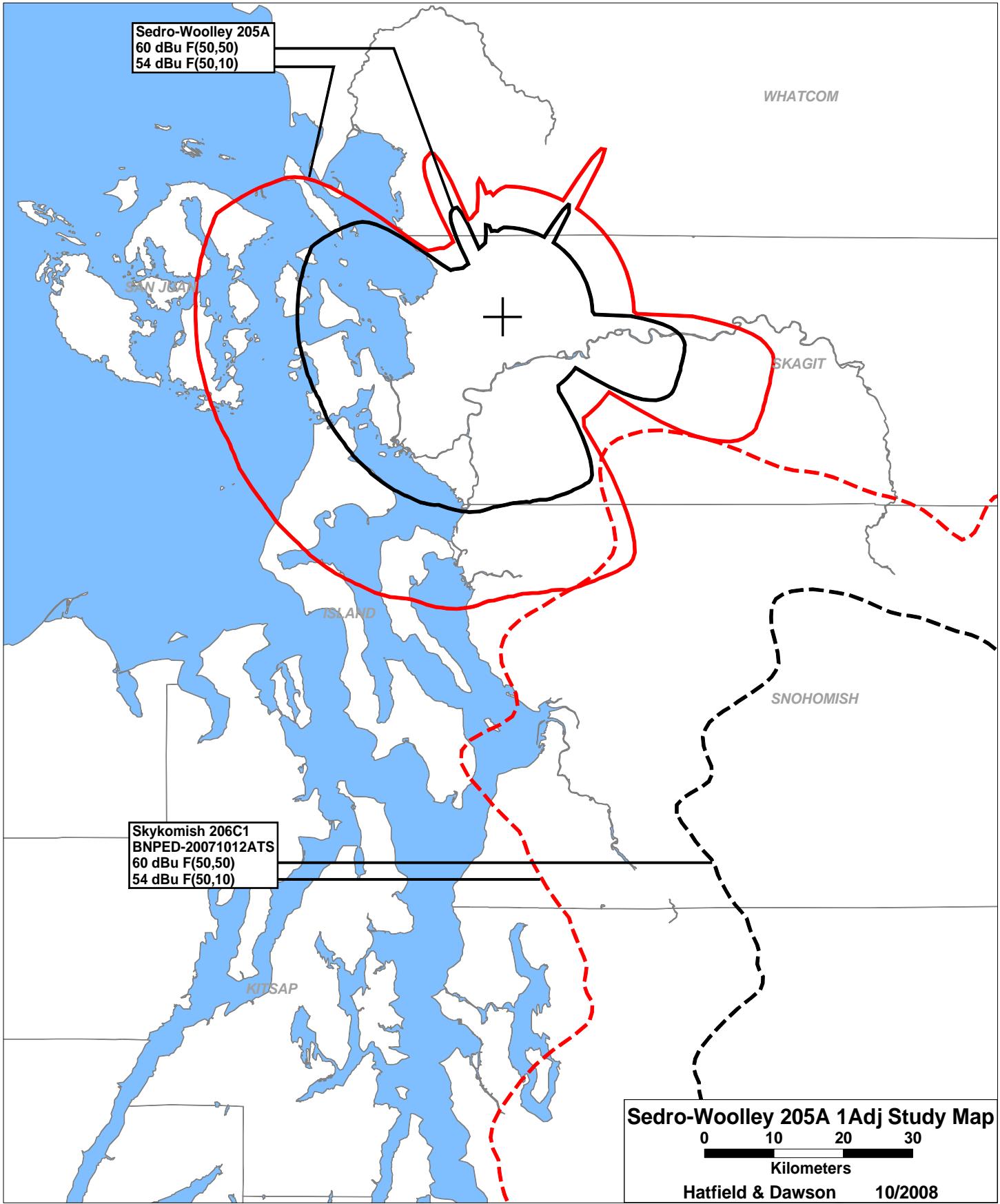
FMSTUDY.EXE Copyright 2006, Hatfield & Dawson, LLC Version 1.80  
 ======  
 SEARCH PARAMETERS FM Database Date: 081009  
 Channel: 205A 88.9 MHz Page 2  
 Latitude: 48 32 30  
 Longitude: 122 17 43  
 Safety Zone: 32 km  
 Job Title: SEDRO-WOOLLEY 205A

Call Status	City St	FCC File No.	Channel	ERP(kW)	Latitude	Bearing	Dist (km)	Req (km)
				Freq. HAAT(m)	Longitude	deg-True		
NEW	SURREY BC -		205D	0.034	49-02-24	328.7	65.01	0
				88.9	73.0	122-45-28	0.00	CLS=D
	VICTORIA BC -		205C1	0.000	48-35-41	274.1	92.32	243
				88.9	0.0	123-32-37	-150.68	SHORT
NEW	VICTORIA BC -		205D	0.050	48-25-21	260.8	80.02	0
				88.9	41.0	123-21-46	0.00	CLS=D
CBUXFM1	VICTORIA BC -		205C1	5.900 DA	48-35-41	274.1	92.32	243
				88.9	454.0	123-32-37	-150.68	SHORT
NOTE: LICENSED WITH 6.7 KW ERP								
KMIH CP	MERCER ISLAND WA BPED-060327AIM		205D	0.030	47-34-21	176.9	107.92	0
				88.9	69.0	122-13-05	0.00	CLS=D
KMIH APP	MERCER ISLAND WA BMPED-071228ABS		205A	0.030	47-34-21	176.9	107.92	115
				88.9	69.0	122-13-05	-7.08	SHORT
NEW APP	SEDRO-WOOLLEY WA BNPED-071018ARZ		205A	2.500 DA	48-32-30	0.0	0.00	115
				88.9	29.0	122-17-43	-115.00	SHORT
K206DO LIC	CAPE GEORGE WA BLFT-060727AAU		206D	0.002 DA	48-00-58	218.8	74.86	0
				89.1	687.0	122-55-32	0.00	TRANS
K206DL LIC	GRANITE FALLS/EVERETT WA BLFT-050314AAS		206D	0.005 DA	48-03-06	149.3	63.33	0
				89.1	639.0	121-51-37	0.00	TRANS
K206CU LIC	MOUNT VERNON WA BLFT-051121AIC		206D	0.008 DA	48-22-03	177.1	19.39	0
				89.1	505.0	122-16-55	0.00	TRANS
NEW APP	SKYKOMISH WA BNPED-071012ATS		206C1	23.000 DA	47-45-25	133.9	125.07	133
				89.1	306.0	121-05-28	-7.93	SHORT
	CHILLIWACK BC -		207A	0.000	49-06-35	27.2	71.21	51
				89.3	0.0	121-50-52	20.21	CLEAR
	CHILLIWACK BC -		207A	0.000	49-06-36	27.3	71.28	51
				89.3	0.0	121-50-47	20.28	CLEAR

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 Channel: 205A 88.9 MHz Page 3  
 Latitude: 48 32 30  
 Longitude: 122 17 43  
 Safety Zone: 32 km  
 Job Title: SEDRO-WOOLLEY 205A

Call Status	City St	Channel FCC File No.	ERP(kW) Freq.	HAAT(m)	Latitude	Bearing	Dist (km)	Req (km)
					Longitude	deg-True		
KUGS LIC	BELLINGHAM WA	207A BLED-880613KA	0.100 89.3	117.0	48-44-11 122-28-47	328.0	25.57 -5.43	31 SHORT
KUGS CP	BELLINGHAM WA	207A BPED-060809AJX	0.700 89.3	147.0	48-44-11 122-28-47	328.0	25.57 -5.43	31 SHORT
	CHILLIWACK BC	208A -	0.000 89.5	0.0	49-06-36 121-50-47	27.3	71.28 29.28	42 CLEAR
NEW	CHILLIWACK BC	208A -080123CAN	1.600 89.5	188.7	49-06-36 121-50-47	27.3	71.28 29.28	42 CLEAR

**44444 END OF FM SPACING STUDY FOR CHANNEL 205 44444**



## Tabulation of Sedro-Woolley 205A 60 dBu F(50,50) Contour Distances

30 second terrain database  
DISTANCES TO CONTOURS (Kilometers):

Frequency: 88.9000 MHz  
Coordinates: N 48 32 30.00 W 122 17 43.00  
F(50,50) Curves Number of Contours: 1

AZ HAAT ERP CONTOUR LEVELS (dBu):  
(degs) (m) (dBk) 60.0

.0	-35	3.98	12.7
1.0	-40	3.98	12.7
2.0	-49	3.98	12.7
3.0	-55	3.98	12.7
4.0	-63	3.98	12.7
5.0	-77	3.98	12.7
6.0	-96	3.98	12.7
7.0	-119	3.98	12.7
8.0	-144	3.98	12.7
9.0	-168	3.98	12.7
10.0	-189	3.98	12.7
11.0	-205	3.98	12.7
12.0	-223	3.98	12.7
13.0	-244	3.98	12.7
14.0	-260	3.98	12.7
15.0	-264	3.98	12.7
16.0	-258	3.98	12.7
17.0	-245	3.98	12.7
18.0	-221	3.98	12.7
19.0	-194	3.98	12.7
20.0	-164	3.98	12.7
21.0	-134	3.98	12.7
22.0	-107	3.98	12.7
23.0	-78	3.98	12.7
24.0	-48	3.98	12.7
25.0	-21	3.98	12.7
26.0	4	3.98	12.7
27.0	25	3.98	12.7
28.0	43	3.98	15.1
29.0	57	3.98	17.4
30.0	65	3.98	18.6
31.0	65	3.98	18.7
32.0	57	3.98	17.5
33.0	41	3.98	14.8
34.0	19	3.98	12.7
35.0	-6	3.98	12.7
36.0	-32	3.98	12.7
37.0	-59	3.98	12.7
38.0	-86	3.98	12.7
39.0	-113	3.98	12.7
40.0	-140	3.98	12.7
41.0	-168	3.98	12.7
42.0	-195	3.98	12.7
43.0	-218	3.98	12.7
44.0	-236	3.98	12.7
45.0	-250	3.98	12.7
46.0	-258	3.98	12.7
47.0	-260	3.98	12.7
48.0	-261	3.98	12.7
49.0	-263	3.98	12.7
50.0	-269	3.98	12.7

51.0	-276	3.98	12.7
52.0	-283	3.98	12.7
53.0	-285	3.98	12.7
54.0	-287	3.98	12.7
55.0	-291	3.98	12.7
56.0	-300	3.98	12.7
57.0	-312	3.98	12.7
58.0	-324	3.98	12.7
59.0	-333	3.98	12.7
60.0	-337	3.98	12.7
61.0	-334	3.98	12.7
62.0	-325	3.98	12.7
63.0	-316	3.98	12.7
64.0	-314	3.98	12.7
65.0	-321	3.98	12.7
66.0	-331	3.98	12.7
67.0	-341	3.98	12.7
68.0	-345	3.98	12.7
69.0	-350	3.98	12.7
70.0	-357	3.98	12.7
71.0	-366	3.98	12.7
72.0	-374	3.98	12.7
73.0	-377	3.98	12.7
74.0	-374	3.98	12.7
75.0	-361	3.98	12.7
76.0	-342	3.98	12.7
77.0	-324	3.98	12.7
78.0	-308	3.98	12.7
79.0	-291	3.98	12.7
80.0	-266	3.98	12.7
81.0	-236	3.98	12.7
82.0	-205	3.98	12.7
83.0	-171	3.98	12.7
84.0	-132	3.98	12.7
85.0	-95	3.98	12.7
86.0	-61	3.98	12.7
87.0	-30	3.98	12.7
88.0	1	3.98	12.7
89.0	32	3.98	13.0
90.0	61	3.98	18.1
91.0	72	3.98	19.8
92.0	84	3.98	21.4
93.0	95	3.98	22.8
94.0	105	3.98	23.9
95.0	113	3.98	24.7
96.0	119	3.98	25.3
97.0	124	3.98	25.7
98.0	127	3.98	26.0
99.0	128	3.98	26.2
100.0	129	3.98	26.2
101.0	130	3.98	26.3
102.0	130	3.98	26.3
103.0	130	3.98	26.3
104.0	130	3.98	26.3
105.0	130	3.98	26.3
106.0	130	3.98	26.3
107.0	130	3.98	26.4
108.0	131	3.98	26.4
109.0	131	3.98	26.4
110.0	131	3.98	26.4
111.0	131	3.98	26.4
112.0	132	3.98	26.5
113.0	132	3.98	26.5
114.0	132	3.98	26.5

115.0	131	3.98	26.4
116.0	128	3.98	26.2
117.0	125	3.98	25.8
118.0	121	3.98	25.4
119.0	115	3.98	24.9
120.0	107	3.98	24.1
121.0	99	3.98	23.2
122.0	88	3.98	22.0
123.0	76	3.98	20.3
124.0	62	3.98	18.2
125.0	45	3.98	15.5
126.0	28	3.98	12.7
127.0	10	3.98	12.7
128.0	-9	3.98	12.7
129.0	-30	3.98	12.7
130.0	-51	3.98	12.7
131.0	-67	3.98	12.7
132.0	-74	3.98	12.7
133.0	-74	3.98	12.7
134.0	-69	3.98	12.7
135.0	-61	3.98	12.7
136.0	-51	3.98	12.7
137.0	-41	3.98	12.7
138.0	-33	3.98	12.7
139.0	-26	3.98	12.7
140.0	-18	3.98	12.7
141.0	-8	3.98	12.7
142.0	5	3.98	12.7
143.0	18	3.98	12.7
144.0	34	3.98	13.4
145.0	49	3.98	16.1
146.0	64	3.98	18.6
147.0	79	3.98	20.6
148.0	93	3.98	22.5
149.0	106	3.98	24.1
150.0	118	3.98	25.2
151.0	127	3.98	26.1
152.0	133	3.98	26.6
153.0	135	3.98	26.8
154.0	136	3.98	26.8
155.0	136	3.98	26.9
156.0	136	3.98	26.9
157.0	137	3.98	26.9
158.0	137	3.98	26.9
159.0	137	3.98	27.0
160.0	137	3.98	27.0
161.0	137	3.98	27.0
162.0	137	3.98	27.0
163.0	138	3.98	27.0
164.0	138	3.98	27.0
165.0	138	3.98	27.1
166.0	139	3.98	27.1
167.0	139	3.98	27.1
168.0	138	3.98	27.0
169.0	136	3.98	26.9
170.0	136	3.98	26.9
171.0	137	3.98	26.9
172.0	137	3.98	27.0
173.0	137	3.98	26.9
174.0	136	3.98	26.9
175.0	136	3.98	26.9
176.0	136	3.98	26.9
177.0	137	3.98	26.9
178.0	138	3.98	27.0

179.0	138	3.98	27.1
180.0	140	3.98	27.2
181.0	141	3.98	27.3
182.0	142	3.98	27.4
183.0	143	3.98	27.5
184.0	145	3.98	27.7
185.0	148	3.98	27.9
186.0	151	3.98	28.1
187.0	152	3.98	28.3
188.0	154	3.98	28.4
189.0	155	3.98	28.5
190.0	156	3.98	28.6
191.0	157	3.98	28.6
192.0	157	3.98	28.7
193.0	158	3.98	28.7
194.0	158	3.98	28.7
195.0	158	3.98	28.7
196.0	157	3.98	28.7
197.0	157	3.98	28.7
198.0	157	3.98	28.7
199.0	158	3.98	28.7
200.0	160	3.98	28.9
201.0	161	3.98	29.0
202.0	163	3.98	29.1
203.0	164	3.98	29.2
204.0	165	3.98	29.3
205.0	165	3.98	29.3
206.0	165	3.98	29.3
207.0	165	3.98	29.3
208.0	166	3.98	29.3
209.0	166	3.98	29.4
210.0	167	3.98	29.4
211.0	167	3.98	29.4
212.0	167	3.98	29.5
213.0	168	3.98	29.5
214.0	168	3.98	29.5
215.0	168	3.98	29.5
216.0	168	3.98	29.5
217.0	168	3.98	29.5
218.0	168	3.98	29.5
219.0	167	3.98	29.5
220.0	167	3.98	29.5
221.0	167	3.98	29.4
222.0	166	3.98	29.4
223.0	166	3.98	29.4
224.0	166	3.98	29.4
225.0	166	3.98	29.4
226.0	166	3.98	29.4
227.0	166	3.98	29.4
228.0	166	3.98	29.3
229.0	165	3.98	29.3
230.0	165	3.98	29.3
231.0	164	3.98	29.2
232.0	164	3.98	29.2
233.0	164	3.98	29.2
234.0	163	3.98	29.2
235.0	164	3.98	29.2
236.0	164	3.98	29.2
237.0	164	3.98	29.2
238.0	164	3.98	29.2
239.0	164	3.98	29.2
240.0	164	3.98	29.2
241.0	163	3.98	29.1
242.0	162	3.98	29.0

243.0	161	3.98	29.0
244.0	161	3.98	29.0
245.0	161	3.98	28.9
246.0	161	3.98	28.9
247.0	161	3.98	29.0
248.0	162	3.98	29.0
249.0	162	3.98	29.1
250.0	163	3.98	29.1
251.0	163	3.98	29.1
252.0	163	3.98	29.1
253.0	163	3.98	29.2
254.0	163	3.98	29.2
255.0	164	3.98	29.2
256.0	164	3.98	29.2
257.0	164	3.98	29.2
258.0	164	3.98	29.2
259.0	165	3.98	29.3
260.0	165	3.98	29.3
261.0	166	3.98	29.3
262.0	166	3.98	29.4
263.0	166	3.98	29.4
264.0	166	3.98	29.4
265.0	166	3.98	29.4
266.0	166	3.98	29.4
267.0	166	3.98	29.4
268.0	166	3.98	29.4
269.0	166	3.98	29.4
270.0	166	3.98	29.4
271.0	166	3.98	29.4
272.0	166	3.98	29.4
273.0	167	3.98	29.4
274.0	167	3.98	29.4
275.0	167	3.98	29.4
276.0	167	3.98	29.4
277.0	167	3.98	29.4
278.0	167	3.98	29.4
279.0	166	3.98	29.4
280.0	166	3.98	29.4
281.0	166	3.98	29.3
282.0	165	3.98	29.3
283.0	165	3.98	29.3
284.0	165	3.98	29.3
285.0	164	3.98	29.2
286.0	164	3.98	29.2
287.0	163	3.98	29.2
288.0	163	3.98	29.1
289.0	162	3.98	29.1
290.0	162	3.98	29.1
291.0	162	3.80	28.8
292.0	161	3.61	28.5
293.0	161	3.43	28.2
294.0	160	3.23	27.9
295.0	160	3.04	27.5
296.0	159	2.83	27.2
297.0	159	2.63	26.9
298.0	158	2.42	26.5
299.0	157	2.20	26.2
300.0	156	1.98	25.8
301.0	155	1.80	25.5
302.0	153	1.61	25.1
303.0	151	1.42	24.7
304.0	148	1.23	24.2
305.0	142	1.04	23.4
306.0	131	.83	22.3

307.0	116	.63	20.6
308.0	93	.42	18.3
309.0	67	.20	15.2
310.0	39	-.02	11.5
311.0	17	-.20	10.0
312.0	3	-.38	9.9
313.0	-6	-.57	9.8
314.0	-12	-.77	9.7
315.0	-18	-.96	9.6
316.0	-23	-1.17	9.5
317.0	-30	-1.37	9.3
318.0	-38	-1.58	9.2
319.0	-45	-1.80	9.1
320.0	-47	-2.02	9.0
321.0	-44	-2.02	9.0
322.0	-35	-2.02	9.0
323.0	-23	-2.02	9.0
324.0	-9	-2.02	9.0
325.0	7	-2.02	9.0
326.0	22	-2.02	9.0
327.0	36	-2.02	9.8
328.0	50	-2.02	11.5
329.0	62	-2.02	12.9
330.0	75	-2.02	14.2
331.0	86	-1.80	15.4
332.0	92	-1.58	16.1
333.0	95	-1.37	16.6
334.0	96	-1.17	16.8
335.0	95	-.96	17.0
336.0	94	-.77	17.1
337.0	90	-.57	16.9
338.0	80	-.38	16.0
339.0	59	-.20	14.0
340.0	32	-.02	10.3
341.0	3	.20	10.2
342.0	-22	.42	10.4
343.0	-38	.63	10.5
344.0	-40	.83	10.6
345.0	-26	1.04	10.7
346.0	-2	1.23	10.8
347.0	20	1.42	11.0
348.0	36	1.61	12.0
349.0	43	1.80	13.3
350.0	44	1.98	13.6
351.0	40	2.20	13.1
352.0	34	2.42	12.3
353.0	34	2.63	12.4
354.0	32	2.83	12.3
355.0	20	3.04	12.0
356.0	5	3.23	12.2
357.0	-8	3.43	12.3
358.0	-21	3.61	12.5
359.0	-30	3.80	12.6

## Tabulation of Skykomish 206C1 54 dBu F(50,10) Contour Distances

30 second terrain database  
DISTANCES TO CONTOURS (Kilometers):

Frequency: 89.1000 MHz  
Coordinates: N 47 45 25.00 W 121 5 28.00  
F(50,10) Curves Number of Contours: 1

AZ HAAT ERP CONTOUR LEVELS (dBu):  
(degs) (m) (dBk) 54.0

.0	315	6.67	65.8
1.0	320	6.49	65.8
2.0	325	6.31	65.8
3.0	330	6.12	65.7
4.0	331	5.93	65.3
5.0	328	5.74	64.5
6.0	323	5.54	63.4
7.0	320	5.33	62.5
8.0	308	5.12	60.7
9.0	292	4.91	58.6
10.0	279	4.69	56.8
11.0	271	4.51	55.7
12.0	267	4.33	54.9
13.0	264	4.14	54.3
14.0	261	3.95	53.5
15.0	260	3.75	53.0
16.0	265	3.55	52.9
17.0	269	3.35	52.7
18.0	271	3.14	52.4
19.0	272	2.93	51.9
20.0	277	2.71	51.8
21.0	290	2.53	52.4
22.0	311	2.35	53.5
23.0	336	2.16	55.2
24.0	355	1.97	56.2
25.0	363	1.77	56.4
26.0	366	1.58	56.1
27.0	371	1.37	56.0
28.0	379	1.16	56.0
29.0	387	.95	56.1
30.0	392	.73	56.0
31.0	392	.55	55.5
32.0	388	.37	54.7
33.0	385	.19	54.0
34.0	386	.00	53.6
35.0	391	-.20	53.4
36.0	398	-.40	53.5
37.0	408	-.60	53.7
38.0	418	-.81	53.9
39.0	430	-1.02	54.2
40.0	446	-1.24	54.8
41.0	469	-1.25	56.4
42.0	495	-1.27	58.0
43.0	519	-1.28	59.5
44.0	535	-1.29	60.5
45.0	537	-1.31	60.6
46.0	525	-1.32	59.8
47.0	501	-1.34	58.2
48.0	471	-1.35	56.2
49.0	437	-1.37	53.8
50.0	404	-1.38	51.4
51.0	375	-1.38	49.4

52.0	352	-1.38	47.7
53.0	329	-1.38	45.8
54.0	303	-1.38	43.7
55.0	271	-1.38	41.4
56.0	236	-1.38	38.8
57.0	201	-1.38	35.8
58.0	166	-1.38	32.7
59.0	139	-1.38	30.0
60.0	121	-1.38	28.0
61.0	115	-1.38	27.3
62.0	118	-1.38	27.6
63.0	120	-1.38	27.9
64.0	122	-1.38	28.2
65.0	123	-1.38	28.2
66.0	130	-1.38	29.1
67.0	147	-1.38	30.9
68.0	174	-1.38	33.5
69.0	215	-1.38	37.1
70.0	267	-1.38	41.1
71.0	325	-1.38	45.5
72.0	388	-1.38	50.2
73.0	446	-1.38	54.4
74.0	501	-1.38	58.1
75.0	555	-1.38	61.2
76.0	599	-1.38	63.3
77.0	630	-1.38	64.8
78.0	648	-1.38	65.5
79.0	651	-1.38	65.7
80.0	643	-1.38	65.3
81.0	631	-1.38	64.8
82.0	608	-1.38	63.7
83.0	560	-1.38	61.5
84.0	500	-1.38	58.0
85.0	441	-1.38	54.0
86.0	379	-1.38	49.6
87.0	322	-1.38	45.2
88.0	265	-1.38	40.9
89.0	210	-1.38	36.6
90.0	186	-1.38	34.5
91.0	166	-1.38	32.7
92.0	146	-1.38	30.8
93.0	127	-1.38	28.7
94.0	122	-1.38	28.2
95.0	110	-1.38	26.7
96.0	101	-1.38	25.5
97.0	88	-1.38	23.8
98.0	80	-1.38	22.5
99.0	73	-1.38	21.4
100.0	70	-1.38	20.9
101.0	66	-1.38	20.3
102.0	57	-1.38	18.7
103.0	50	-1.38	17.5
104.0	44	-1.38	16.3
105.0	36	-1.38	14.6
106.0	30	-1.38	13.3
107.0	34	-1.38	14.0
108.0	46	-1.38	16.7
109.0	59	-1.38	19.1
110.0	64	-1.38	20.0
111.0	57	-1.38	18.8
112.0	48	-1.38	17.0
113.0	44	-1.38	16.2
114.0	43	-1.38	16.0
115.0	36	-1.38	14.6

116.0	23	-1.38	13.3
117.0	8	-1.38	13.3
118.0	-2	-1.38	13.3
119.0	-5	-1.38	13.3
120.0	-7	-1.38	13.3
121.0	-8	-1.38	13.3
122.0	-6	-1.38	13.3
123.0	0	-1.38	13.3
124.0	10	-1.38	13.3
125.0	18	-1.38	13.3
126.0	19	-1.38	13.3
127.0	13	-1.38	13.3
128.0	3	-1.38	13.3
129.0	-7	-1.38	13.3
130.0	-13	-1.38	13.3
131.0	-9	-1.38	13.3
132.0	1	-1.38	13.3
133.0	9	-1.38	13.3
134.0	11	-1.38	13.3
135.0	13	-1.38	13.3
136.0	20	-1.38	13.3
137.0	28	-1.38	13.3
138.0	37	-1.38	14.8
139.0	48	-1.38	17.1
140.0	63	-1.38	19.8
141.0	83	-1.38	23.0
142.0	106	-1.38	26.2
143.0	133	-1.38	29.4
144.0	160	-1.38	32.1
145.0	182	-1.38	34.2
146.0	194	-1.38	35.3
147.0	195	-1.38	35.3
148.0	192	-1.38	35.0
149.0	193	-1.38	35.2
150.0	201	-1.38	35.9
151.0	214	-1.20	37.3
152.0	224	-1.02	38.6
153.0	233	-.84	39.7
154.0	243	-.67	40.9
155.0	257	-.50	42.4
156.0	271	-.33	43.9
157.0	282	-.17	45.2
158.0	286	-.01	45.9
159.0	284	.14	46.2
160.0	279	.30	46.2
161.0	273	.51	46.2
162.0	259	.72	45.5
163.0	233	.92	43.7
164.0	209	1.11	41.9
165.0	194	1.30	40.7
166.0	178	1.49	39.5
167.0	167	1.68	38.8
168.0	165	1.86	39.0
169.0	170	2.03	39.8
170.0	178	2.21	41.0
171.0	191	2.43	43.0
172.0	206	2.64	45.2
173.0	209	2.85	46.0
174.0	212	3.05	46.9
175.0	214	3.25	47.6
176.0	195	3.45	45.9
177.0	172	3.64	43.7
178.0	160	3.83	42.8
179.0	144	4.01	41.2

180.0	128	4.19	39.3
181.0	111	4.36	37.3
182.0	96	4.54	35.1
183.0	85	4.70	33.3
184.0	79	4.87	32.4
185.0	67	5.03	30.0
186.0	52	5.19	26.6
187.0	41	5.35	23.6
188.0	43	5.50	24.4
189.0	45	5.65	25.2
190.0	46	5.80	25.7
191.0	53	5.92	28.1
192.0	60	6.03	30.2
193.0	68	6.15	32.3
194.0	75	6.26	34.3
195.0	89	6.37	37.6
196.0	117	6.48	43.0
197.0	151	6.59	48.6
198.0	182	6.69	52.6
199.0	207	6.80	55.8
200.0	229	6.90	58.2
201.0	253	7.04	60.9
202.0	275	7.18	63.5
203.0	289	7.32	65.2
204.0	297	7.45	66.2
205.0	304	7.58	67.1
206.0	311	7.71	68.1
207.0	318	7.84	69.2
208.0	331	7.96	70.7
209.0	354	8.09	73.2
210.0	385	8.21	76.5
211.0	410	8.28	79.1
212.0	425	8.34	80.8
213.0	432	8.41	81.6
214.0	430	8.47	81.7
215.0	423	8.53	81.2
216.0	414	8.60	80.6
217.0	405	8.66	79.9
218.0	400	8.72	79.6
219.0	404	8.79	80.2
220.0	418	8.85	81.7
221.0	436	8.87	83.4
222.0	452	8.90	84.9
223.0	462	8.92	85.8
224.0	465	8.95	86.1
225.0	461	8.98	85.9
226.0	459	9.00	85.8
227.0	463	9.03	86.2
228.0	468	9.05	86.7
229.0	470	9.08	86.9
230.0	471	9.10	87.0
231.0	474	9.08	87.2
232.0	482	9.05	87.8
233.0	496	9.03	88.8
234.0	512	9.00	89.9
235.0	528	8.98	91.0
236.0	544	8.95	92.1
237.0	560	8.92	93.1
238.0	575	8.90	94.0
239.0	590	8.87	94.9
240.0	605	8.85	95.7
241.0	623	8.79	96.6
242.0	642	8.72	97.4
243.0	656	8.66	98.0

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244.0	664	8.60	98.2
245.0	668	8.53	98.2
246.0	671	8.47	98.2
247.0	676	8.41	98.2
248.0	677	8.34	98.0
249.0	674	8.28	97.6
250.0	668	8.21	97.1
251.0	660	8.39	97.3
252.0	645	8.57	97.1
253.0	619	8.74	96.2
254.0	584	8.91	94.6
255.0	544	9.08	92.5
256.0	507	9.24	90.4
257.0	471	9.40	88.0
258.0	430	9.56	85.0
259.0	388	9.72	81.5
260.0	357	9.87	79.0
261.0	345	10.04	78.3
262.0	337	10.21	78.0
263.0	337	10.37	78.6
264.0	336	10.54	78.9
265.0	327	10.70	78.5
266.0	320	10.85	78.2
267.0	319	11.01	78.6
268.0	319	11.16	79.1
269.0	319	11.31	79.6
270.0	320	11.45	80.1
271.0	320	11.58	80.5
272.0	327	11.72	81.7
273.0	335	11.84	82.8
274.0	342	11.97	83.9
275.0	348	12.10	84.9
276.0	355	12.22	85.9
277.0	361	12.34	86.9
278.0	365	12.46	87.6
279.0	372	12.58	88.6
280.0	391	12.69	90.8
281.0	409	12.77	93.0
282.0	426	12.85	95.0
283.0	446	12.92	97.2
284.0	458	13.00	98.7
285.0	459	13.07	99.0
286.0	448	13.15	98.2
287.0	429	13.22	96.5
288.0	409	13.29	94.6
289.0	394	13.36	93.3
290.0	390	13.43	93.1
291.0	397	13.45	93.9
292.0	413	13.47	95.7
293.0	429	13.49	97.4
294.0	437	13.51	98.3
295.0	438	13.52	98.5
296.0	435	13.54	98.2
297.0	427	13.56	97.5
298.0	418	13.58	96.5
299.0	406	13.59	95.4
300.0	398	13.61	94.5
301.0	389	13.59	93.5
302.0	381	13.56	92.5
303.0	373	13.54	91.8
304.0	369	13.51	91.3
305.0	367	13.49	91.0
306.0	367	13.46	90.9
307.0	373	13.44	91.4

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308.0	389	13.41	93.0
309.0	413	13.39	95.4
310.0	437	13.36	97.8
311.0	457	13.30	99.6
312.0	471	13.23	100.8
313.0	479	13.17	101.2
314.0	477	13.10	100.8
315.0	470	13.04	99.9
316.0	461	12.97	98.9
317.0	447	12.90	97.3
318.0	429	12.83	95.2
319.0	409	12.76	92.9
320.0	387	12.69	90.5
321.0	362	12.57	87.7
322.0	336	12.45	84.8
323.0	316	12.33	82.3
324.0	303	12.20	80.6
325.0	294	12.07	79.4
326.0	285	11.95	78.1
327.0	273	11.81	76.5
328.0	259	11.68	74.6
329.0	246	11.54	72.8
330.0	236	11.41	71.3
331.0	228	11.31	70.2
332.0	219	11.20	69.0
333.0	210	11.10	67.7
334.0	198	10.99	66.1
335.0	183	10.89	64.0
336.0	165	10.78	61.5
337.0	154	10.67	59.9
338.0	155	10.56	59.8
339.0	162	10.45	60.2
340.0	171	10.34	61.1
341.0	185	10.18	62.3
342.0	197	10.03	63.4
343.0	207	9.87	64.0
344.0	210	9.71	64.0
345.0	211	9.54	63.6
346.0	213	9.37	63.4
347.0	229	9.20	64.5
348.0	246	9.03	65.7
349.0	258	8.85	66.4
350.0	268	8.67	66.9
351.0	285	8.49	67.9
352.0	298	8.30	68.5
353.0	302	8.12	68.4
354.0	304	7.92	68.0
355.0	303	7.73	67.4
356.0	300	7.53	66.7
357.0	300	7.32	66.1
358.0	305	7.11	65.9
359.0	310	6.90	65.9

