Exhibit #E4
Blanketing and Receiver Induced Intermodulation

CH 220
Spokane Public Radio, Inc.
Spokane, Washington

Attached as page #2 and #3 of this exhibit is a complete list of broadcast stations within 10 kilometers of the proposed facility. KSPS-TV is co-located with the proposed antenna on the same structure.

The are numerous business band repeaters and paging antennas within 10 kilometers.

Considering the mitigating factor of the relatively small proposed ERP (3,160 watts) significant intermodulation is not anticipated. Further, blanketing interference is not expected. The 115 dBu blanketing contour travels only 700 meters. There are no residents living within this distance. However, in the event blanketing or egregious intermodulation interference should occur, **Spokane Public** Radio, Inc will correct such interference, at its own expense, within the during the first year after operation has commenced. Correction shall be made by conventional means including filters and traps.

ID Stations Study at NLat 47 34 34, WLng 117 17 58, Search Distance = 10 km

Call	City	State	Chan.	Power	Coordinates	Dist-km	Azimuth	File Number
AM								
KMBI	SPOKANE	WA	1330	0005.000kW	473617N 1172127W	005.4	306.2	AM
KKPL	OPPORTUNITY	WA	0630	0001.000kW	473655N 1171457W	005.8	040.9	AM
KAQQ	SPOKANE	WA	0590	0005.000kW	473655N 1171457W	005.8	040.9	BL931105AB AM
KGA	SPOKANE	WA	1510	0050.000kW	473544N 1172215W	005.8	292.0	AM
KUDY	SPOKANE	WA	1280	0005.000kW	473627N 1172140W	005.8	307.1	AM
KEYF CP	DISHMAN	WA	1050	0005.000kW	473627N 1172140W	005.8	307.1	BP930621AC AM
KSVY	OPPORTUNITY	WA	1550	0010.000kW	473639N 1171428W	005.8	048.5	BL840104AE AM
KEYF	DISHMAN	WA	1050	0005.000kW	473558N 1172238W	006.4	294.0	BL840911AL AM
F Y	SPOKANE	WA	0920	0005.000kW	473630N 1172225W	006.6	302.8	AM
..PL CP	OPPORTUNITY	WA	0630	0000.530kW	473630N 1172225W	006.6	302.8	BP951103AA AM
KTRW	SPOKANE	WA	0970	0005.000kW	473659N 1172155W	006.7	312.2	BL800104AC AM
KJRB	SPOKANE	WA	0790	0005.000kW	473616N 1172311W	007.3	295.8	AM
FM								
KEWUFM	Cheney	WA	208C1	0010.000kW	473443N 1171750W	000.3	031.0	BLED861117 FM
KAEP	Spokane	WA	289C	0100.000kW	473444N 1171746W	000.4	039.0	BLH830830 FM
KEEH	Spokane	WA	284A	0000.320kW	473445N 1171748W	000.4	031.5	BLH930629 FM
KISC	Spokane	WA	251C	0094.000kW	473453N 1171747W	^00.6	021.3	BLH6883 FM
K. .X	Spokane	WA	255C	0100.000kW	473535N 1171746W	)01.9	007.6	BLH850910 FM
KKZX.A	Spokane	WA	255C	0001.250kW	473535N 1171746W	001.9	007.6	BPH950822 FM
KEYFFM	Cheney	WA	266C	0001.250kW	473535N 1171746W	001.9	007.6	BPH950822 FM
KEYFFM CP	Cheney	WA	266C	0100.000kW	473535N 1171746W	001.9	007.6	BPH940714 FM
KEYFFM	Cheney	WA	266C	0100.000kW	473542N 1171753W	002.1	002.8	BLH891004 FM
KZZUFM	Spokane	WA	225C	0085.000kW	473542N 1171753W	002.1	002.8	BLH781017 FM
K269ED	Spokane, etc.	WA	269D	0000.099kW	473604N 1171951W	003.6	319.8	BLFT890508 FM
AP262	Spokane, etc.	WA	262D	0000.003kW	473743N 1171848W	005.9	349.9	BPFT960313 FM
K237AT	Spokane	WA	237D	0000.083kW	473558N 1172238W	006.4	294.0	BLFT860924 FM
TV								
KSPSTV	SPOKANE	WA	07E	0316.000kW	473434N 1171758W	000.0	000.0	BLET378 TV

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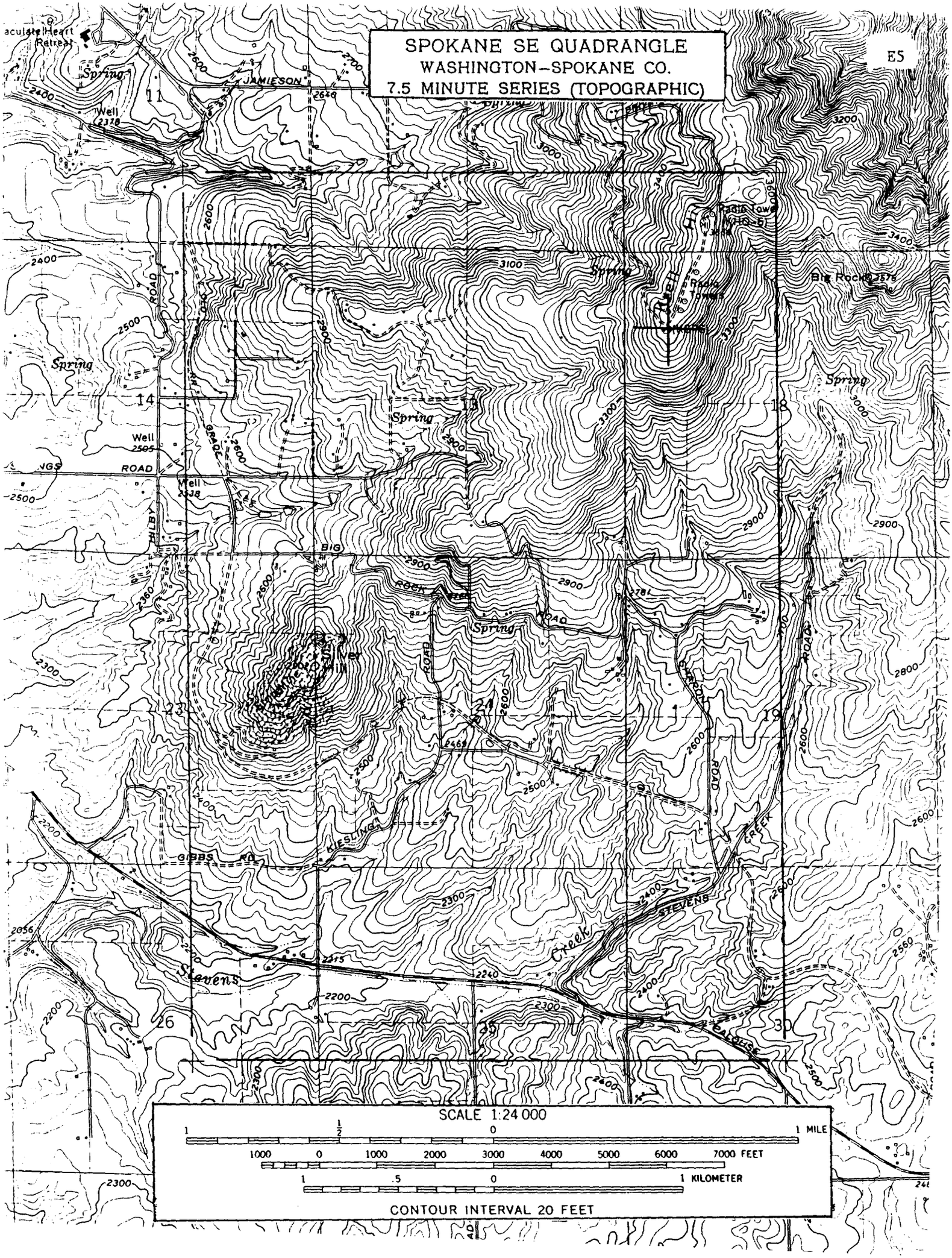
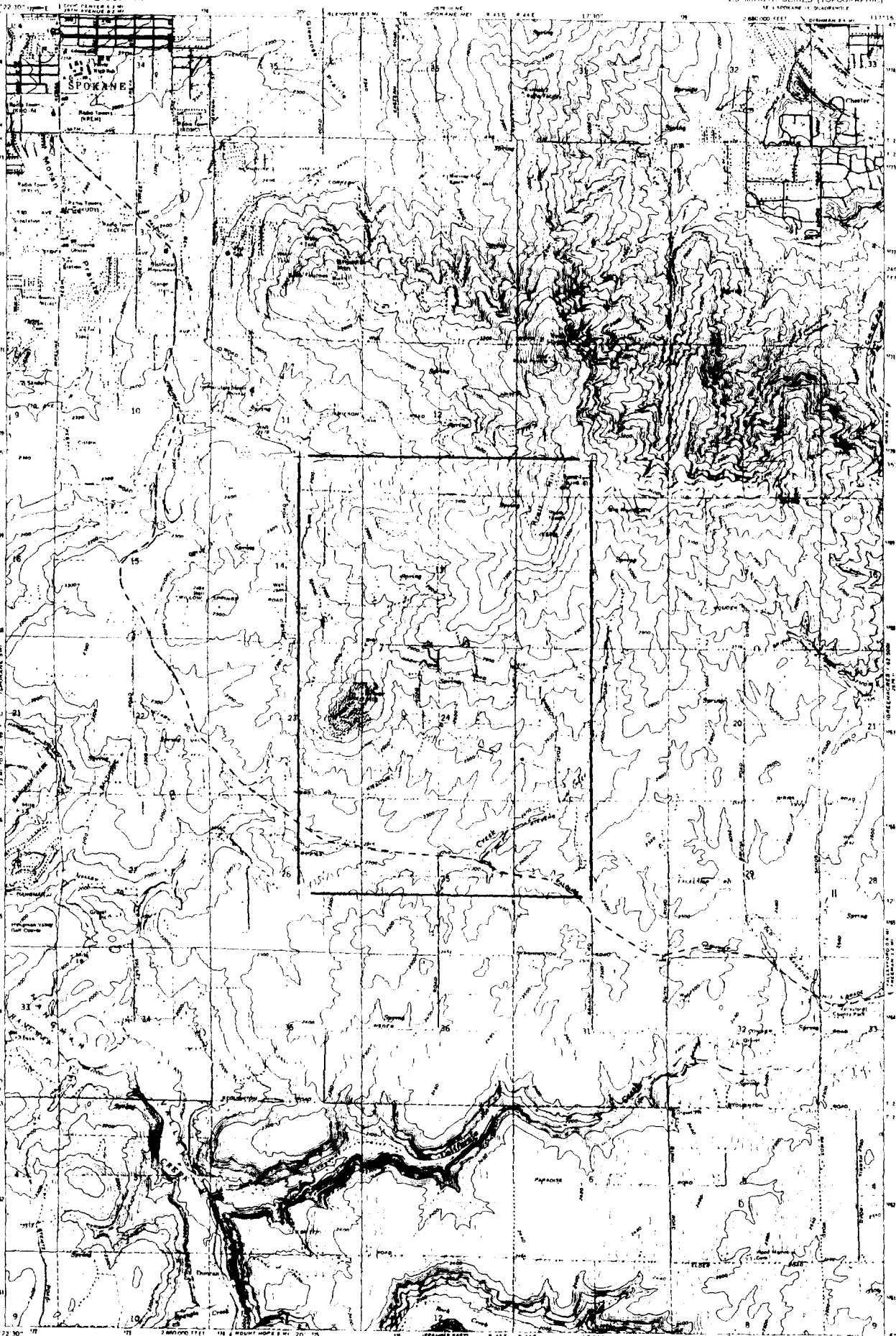
AP214            SPOKANE          WA   34C    0011.000kW  473444N 1171746W
  000.4   039.0                 BPCT960405 TV
AP218            SPOKANE          WA   34C    1450.000kW  473444N 1171746W
  000.4   039.0                 BPCT960404 TV
AP221            SPOKANE          WA   34C    0010.000kW  473444N 1171746W
  000.4   039.0                 BPCT960111 TV
KAYUTV           SPOKANE          WA   28C    2400.000kW  473444N 1171746W
  000.4   039.0                 BLCT941220 TV
KHQTV            SPOKANE          WA   06C    0087.100kW  473452N 1171747W
  000.6   022.4                BMLCT860805 TV
KSKN             SPOKANE          WA   22C    5000.000kW  473542N 1171753W
  002.1   002.8                BMPCT950714 TV
KSKN             SPOKANE          WA   22C    1410.000kW  473542N 1171753W
  002.1   002.8                 BLCT830829 TV
KREMTV           SPOKANE          WA   02C    0085.100kW  473542N 1171753W
  002.1   002.8                 BLCT1327   TV
AP208            SPOKANE          WA   34C    0010.000kW  473604N 1171753W
  002.8   002.1                 BPCT960405 TV
KSKN   CP        SPOKANE          WA   22C    0832.000kW  473604N 1171753W
  002.8   002.1                 BPCT940920 TV
AP213            SPOKANE          WA   34C    0064.600kW  473604N 1171753W
   02.8   002.1                 BPCT960405 TV
  210            SPOKANE          WA   34C    5000.000kW  473604N 1171753W
 -002.8   002.1                 BPCT960405 TV
AP219            SPOKANE          WA   34C    5000.000kW  473604N 1171753W
  002.8   002.1                 BPCT960405 TV
AP220            SPOKANE          WA   34C    5000.000kW  473604N 1171753W
  002.8   002.1                 BPCT960418 TV
K34DU            SPOKANE          WA   34C    0018.000kW  473603N 1171945W
  003.5   321.0               BMPTTL960517 TV
K34DU  CP        SPOKANE          WA   34C    0010.300kW  473604N 1171951W
  003.6   319.8               BMPTTLJF0415 TV
KHBA-L           SPOKANE          WA   63C    0018.600kW  473604N 1171951W
  003.6   319.8                BLTTL931202 TV
K09FZ            SPOKANE, ETC.    WA   09C    0000.480kW  473743N 1171848W
  005.9   349.9                BPTTV960517 TV
```


SPOKANE SE QUADRANGLE
WASHINGTON–SPOKANE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
E5
SCALE 1:24 000
1 ½ 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 .5 0 1 KILOMETER
CONTOUR INTERVAL 20 FEET
Spring
Well
JAMIESON
Radio Tower
Big Rock
ROAD
GRADE
BIG
ROCK
KIESLING
GIBBS
STEVENS
Creek
CARLISLE
11
14
13
18
23
24
19
26
25
30

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Ex #E5, Pg #2

WASHINGTON-SPOKANE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1946 and planetable surveys 1950. Revised from aerial photographs taken 1972. Field checked 1973

Projection and 10,000-foot grid ticks: Washington coordinate system, north zone (Lambert conformal conic)
1000-meter Universal Transverse Mercator grid ticks, zone 11, shown in blue. 1927 North American Datum

Red tint indicates areas in which only landmark buildings are shown

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1986 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

Revisions shown in purple compiled from aerial photographs taken 1982 and other sources
This information not field checked. Map edited 1985

ROAD CLASSIFICATION

Primary highway, hard surface — Light-duty road, hard or improved surface
Secondary highway, hard surface — Unimproved road
Interstate Route — U. S. Route — State Route

SPOKANE SE, WASH.
SPK SPOKANE 15 QUADRANGLE
47117-E3-TF-024

1973
PHOTOREVISED 1980

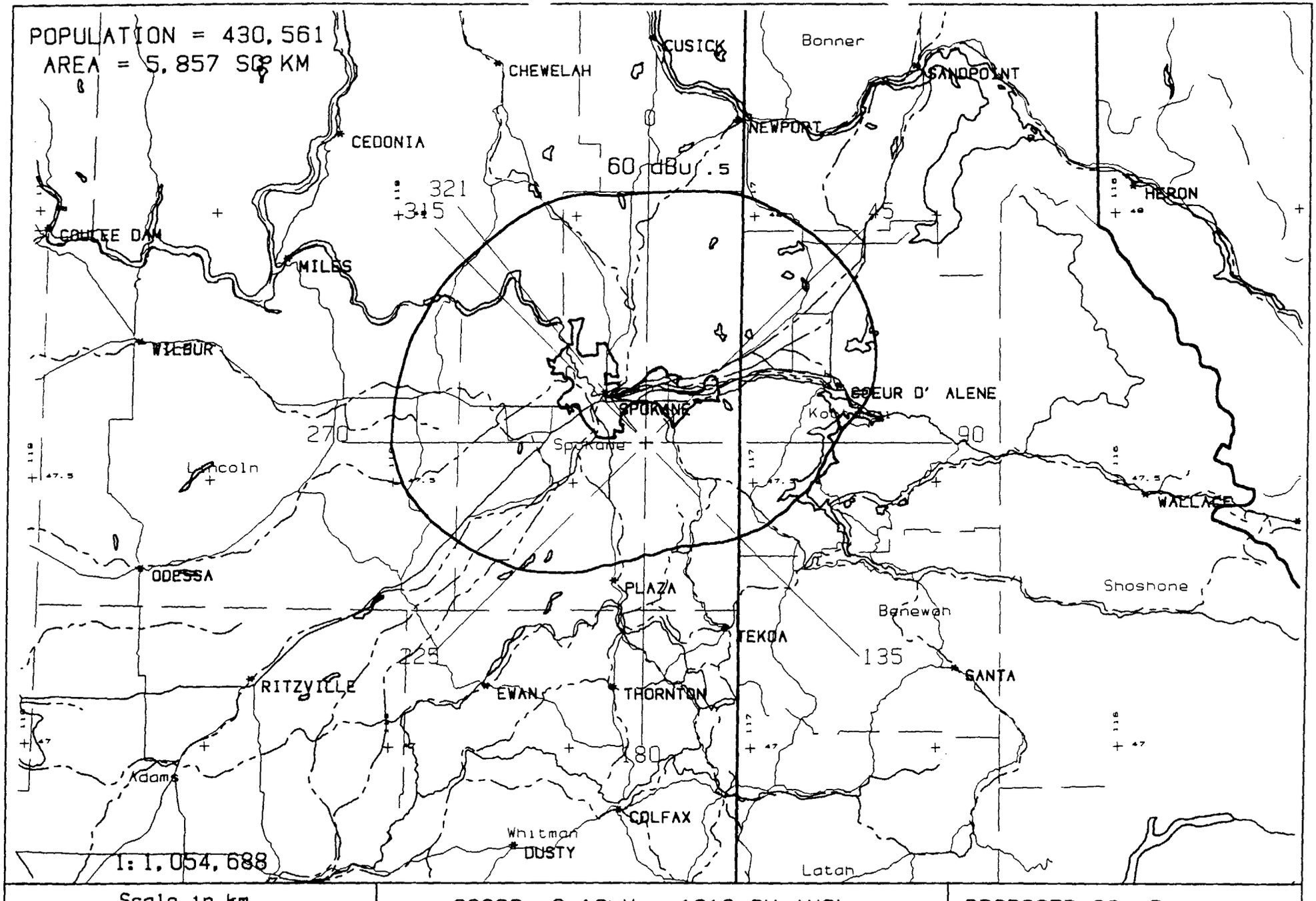


Exhibit #E6, Coverage

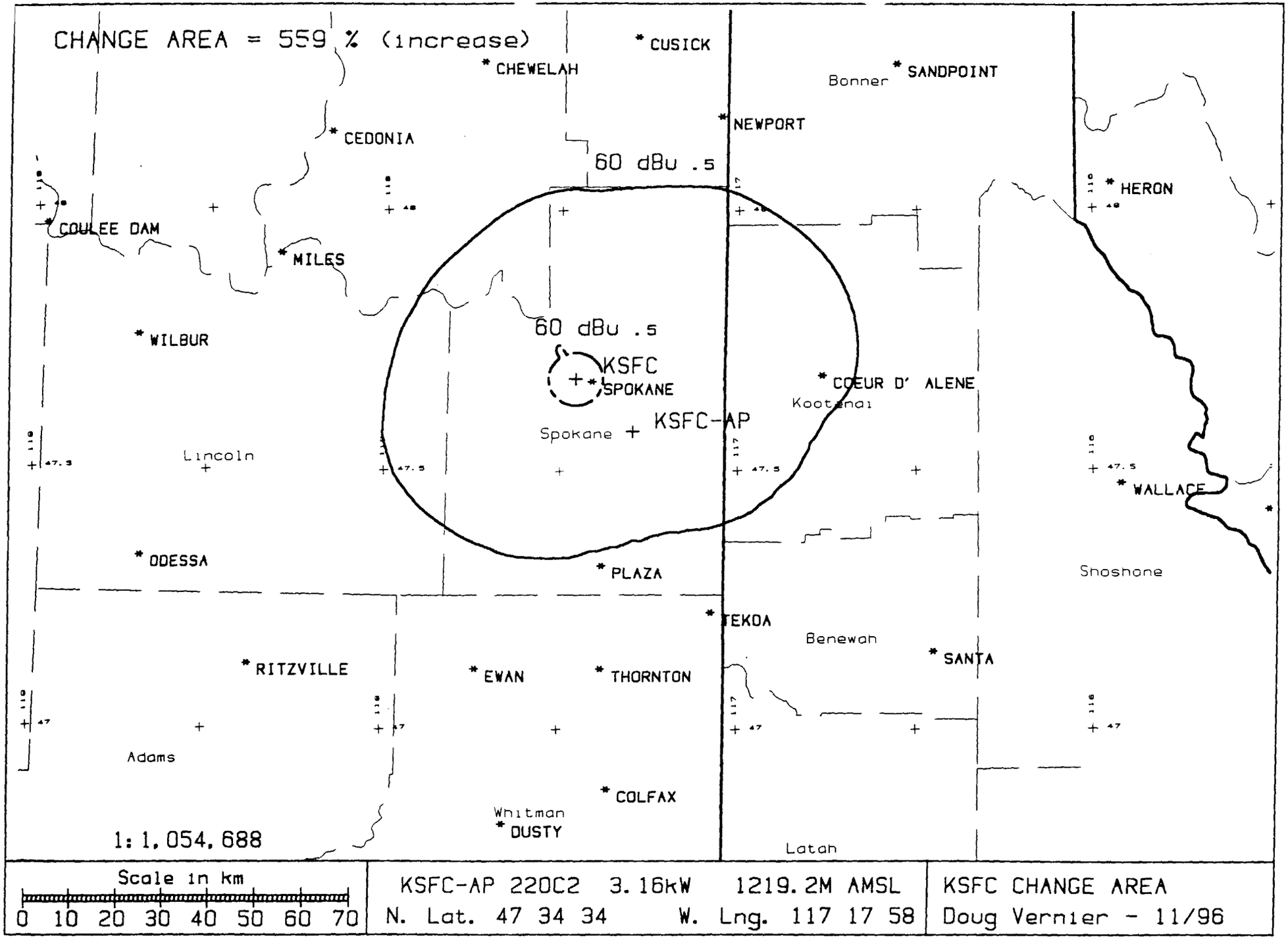


Exhibit #E7, Change Area

11-28-1996 DOUG VERNIER 319 266-8402

CH# 220C2 - 91.9 MHz
Spokane Public Radio, Inc.
INTERFERENCE CHECKS WITH TBA, SPOKANE, WA at N. LAT. 47 34 34 W. LNG. 117 17 58
PWR = 3.16 kW DA H.A.A.T. = 501.2 M C.O.R. = 1219 M AMSL
Protected F(50-50) 60 dBu = 50.94 km

F(50-10)	40 dBu = 125.67	54 dBu = 76.81	80 dBu = 18.02	100 dBu = 3.56
F(50-10)	37 dBu = 137.29	51 dBu = 85.95	77 dBu = 21.91	97 dBu = 4.79
F(50-10)	34 dBu = 149.37	48 dBu = 95.78	74 dBu = 26.19	94 dBu = 6.25

CH# CALL CITY	TYPE STATE	* IN * LICENSEE	* OUT *	BEARING <---	DISTANCE	LAT. LNG.	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) FILE #
218A KUBS *	LI	HN 12.6	43.4	15.3	68.86 km	48 10 23	0.15	2.01	6.24
Newport	WA	KUBS-FM Foundation		195.3	42.79 Mi	117 03 15	-100.8*	670	BLED830315AD
> Reference HAAT at 15.3 degrees = 560.7 M, Pwr.= 3.16 kW, Pro. Dist. = 54.21 km, Int. Dist. = 19.2 km									
219C1 KRFAFM*	LI	VN 0.4	13.3	165.8	102.53 km	46 40 54	14.50	79.20	53.98
Moscow	ID	Washington State Universit		345.8	63.71 Mi	116 58 13	306.9*	1128	BLED951103KE
FCC Comment > From Channel 219C3-Vertical Polarization Only									
Accepted by Canada									
> Reference HAAT at 165.8 degrees = 470.1 M, Pwr.= .1100008 kW, Pro. Dist. = 22.92 km, Int. Dist. = 35.3 km									
220D K220BW	LI	DHN 22.0	-42.6	95.7	87.61 km	47 29 32	0.04	14.71	4.54
Kellogg, etc.	ID	Spokane Public Radio		275.7	54.44 Mi	116 08 33	0.0	1895	BLFT880603TD
FCC Comment > TRANSLATOR FOR KPBXFM, SPOKANE, WA.									
220D K220AE	LI	DHN 73.8	8.8	33.6	138.77 km	48 36 37	0.03	14.02	4.28
Bonners Ferry	ID	Boundary County TV Transla		213.6	86.23 Mi	116 15 24	0.0	1867	BLFT901218TA
FCC Comment > Translator for KPBX, Spokane, WA									
220A KSFC	LI	HN -53.4	-114.9	313.3	16.40 km	47 40 37	0.10	18.91	5.65
Spokane	WA	Spokane Falls Community Co		133.3	10.19 Mi	117 27 31	-69.0	593	BLED811216AA
220D K220BX	LI	DVN -22.8	-87.4	76.2	42.82 km	47 40 00	0.04	14.71	4.54
Coeur d'Alene	ID	Spokane Public Radio		256.2	26.61 Mi	116 44 45	0.0	760	BLFT880603TE
FCC Comment > TRANSLATOR FOR KPBXFM, SPOKANE, WA.									
220D K220DV	LI	DVN 68.5	4.1	288.9	134.42 km	47 57 16	0.05	15.02	4.63
Grand Coulee	WA	Spokane Public Radio		108.9	83.52 Mi	119 00 09	0.0	596	BLFT940215TA
FCC Comment > Translator for KPBXFM, Spokane, WA-									
Vertical Polarization Only									
221A AP221	AP	CN 106.0 R	32.8 M	33.6	138.77 km	48 36 37	0.07	43.94	28.60
Bonners Ferry	ID	Spokane Public Radio, Inc.		213.6	86.23 Mi	116 15 24	838.0	1873	BPH950719MD
221A ALOPEN	AL	N 106.0 R	38.0 M	30.1	144.03 km	48 41 29	6.00	43.29	28.29
Bonners Ferry	ID		WO= 941	210.1	89.50 Mi	116 18 55	100.0	0	
FCC Comment > Class B1 with respect to Canada-Accepted by Canada 901105									
First Come First Serve Allotment									
221A AD221 *	AD	106.0 R	-44.1 M	117.8	61.87 km	47 18 54	6.00	74.03	49.65
St. Maries	ID	Pentacle Investments, Inc.		297.8	38.44 Mi	116 34 30	368.3*	1034	RM8926
FCC Comment > Canadian Concurrence Required									
> Reference HAAT at 117.8 degrees = 400.7 M, Pwr.= .001 kW, Pro. Dist. = 5.44 km, Int. Dist. = 8.9 km									

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CH#   CALL          TYPE       * IN *   * OUT *    BEARING  DISTANCE    LAT.        PWR(kW)   INT(km)  PRO(km)
CITY                STATE    LICENSEE               <---                LNG.        HAAT(M)   COR(M)   FILE #
-----------------------------------------------------------------------------------------------------------------

221D   K221CI       LI DHN    -30.6    -54.5        69.7    26.96 km   47 39 35    0.05      6.63    4.67
Post Falls          ID  Rook Broadcasting of Idaho 249.7    16.75 Mi   116 57 46        0.0    1344 BLFT860721TA
FCC Comment > TRANSLATOR FOR KCDA, COEUR D'ALENE, ID.

221D   K221DC       LI  HN      8.6    -15.7       277.4    64.63 km   47 38 51    0.02      5.04    3.51
Davenport           WA  Gerald E. Clayburn          97.4    40.16 Mi   118 09 09        0.0     790 BLFT870904TB
FCC Comment > TRANSLATOR FOR KEYGFM, GRAND COULEE, WA.

221A   KCRK         LI  CN    106.0 R    8.4 M      336.9   114.42 km   48 31 15    3.00     19.97   13.60
Colville            WA  Tri-County Broadcasting    156.9    71.10 Mi   117 54 28     -241.0     532 BLH820302AD
FCC Comment > Specially negotiated, short-spaced allotment

I.F. RELATIONSHIPS:
273C3  KRAO.C       CP  CN     17.0 R   62.9 M      173.1    79.95 km   46 51 44    2.20      2.90   38.64
Colfax              WA  Dakota Communications A Lt 353.1    49.68 Mi   117 10 20      329.0    1106 BPH940511JZ
FCC Comment > Proposed to Canada as Class B 950126-Accepted by Canada 950331

Nearest CH 6 Grade B =KHQTV  at-128.42 km, Distance=  .6  Azimuth =  22.4 Deg. T.
-----------------------------------------------------------------------------------------------------------------
* Uses actual antenna radial HAAT and power toward reference
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HOW TO READ THE FM COMPUTER PRINT-OUT

The computer print-out should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. The 60 dBu protected contour is predicted from the Commission's F(50-50) table, while the 40, 54, 80 and 100 dBu contours are interference contours derived from the Commission's F(50-10) table. Contour distances are in kilometers and are predicted using spline interpolation from data points identical to those published in Report No. RS 76-01 by Gary C. Kalagian. Critical contour distances are determined using the Commission's TVFMINT FORTRAN subroutine. When interference contour distances are less than 16 kilometers the F(50-50) tables are used. If signal contour distances are less than 1.6 km the free-space equation is used.

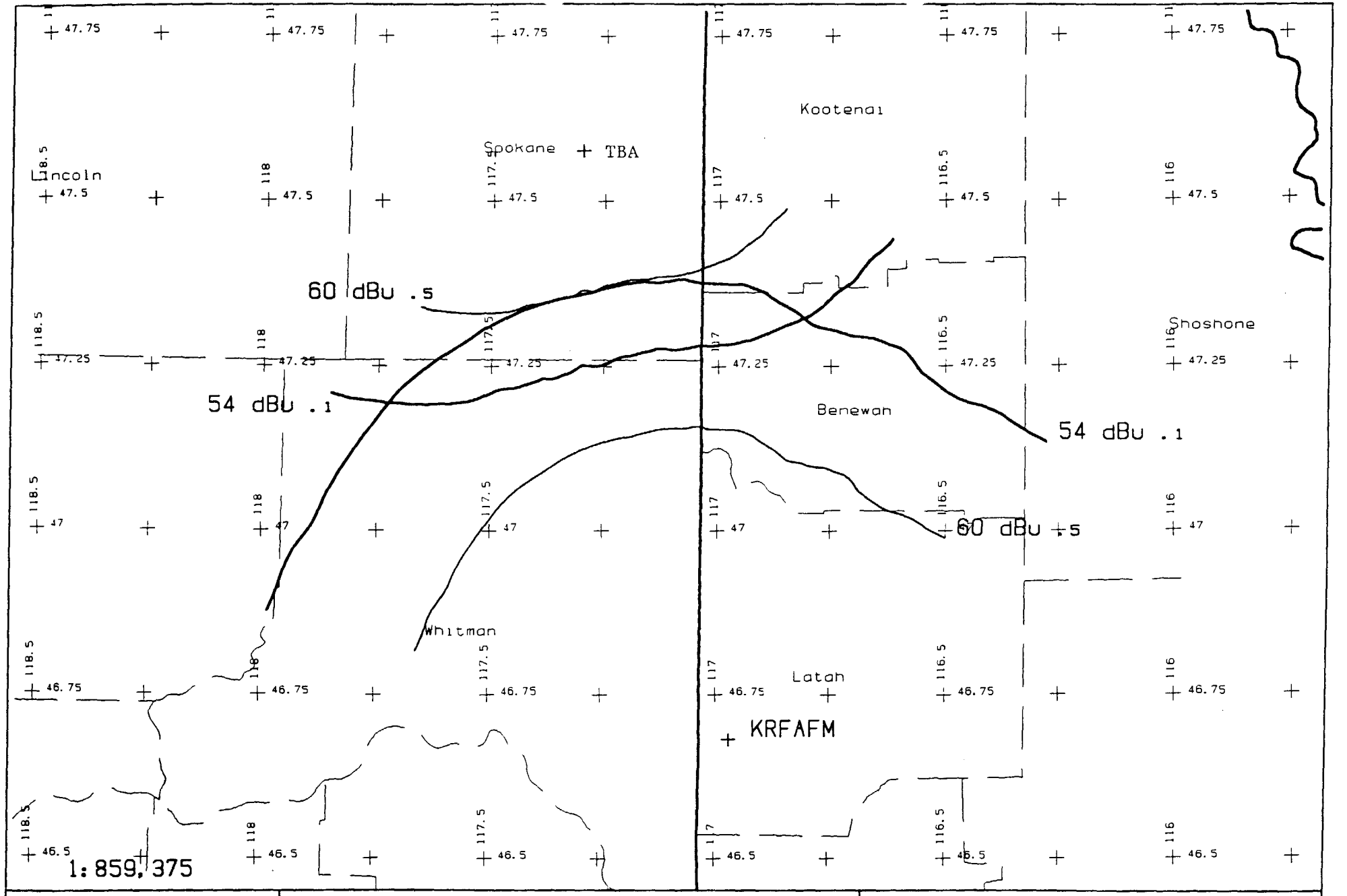
The column listed "* IN *" is the sum of the reference station's 60 dBu protected contour and the data file station's interference contour subtracted from the distance between the stations. (All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90.) Therefore, the column is a measure of incoming interference. Negative distances in this column indicate the presence of interference. Listed antenna heights are the average heights of eight standard radials as found in the Commission's records unless otherwise noted, in which case the specific antenna heights along the azimuths between the reference station and the database station are used and visa versa. The column labeled "* OUT *" shows the distance of kilometers of overlap or clearance between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing interference.

Under the "BEARING" column, the first row of numbers indicate the bearings from true north of the data base stations in relationship with the reference station, while the numbers in the second row indicate the reverse bearings from the database station to the reference station.

The columns labeled "INT" and "PRO" hold the distance in kilometers of the appropriate interference contour and the protected contour of a data base station.

For I.F. relationships the "IN" and "OUT" columns change their significance. The letter "R" stands for the minimum **required** distance in kilometers, while the letter "M" in the next column follows the **available clear space** separation in kilometers. Minimum separation distances when displayed are taken from Sec 73.207 of the rules as amended. Canadian and Mexican separation distances, U/D ratios and protected contour values are from the US/Mexican Working Agreement and the US/Canada Working Agreement".

The first three letters of the "TYPE" column identify the current F.C.C. status of the stations. The fourth letter will be a "D" or "Z" (Sec. 73.215) if the facility is directional. The fifth letter will be an E, H or V depending on the type of antenna polarization. The sixth letter will be a "Y" if the antenna uses beam tilt.



Scale in km
0 10 20 30 40

220C2 3.16kW 1219.2M AMSL
KRFAFM 219C1 14.5kW 1128M AMSL

New vs KRFAFM
Doug Vernier - 11/96

Exhibit #E8, Pg #4

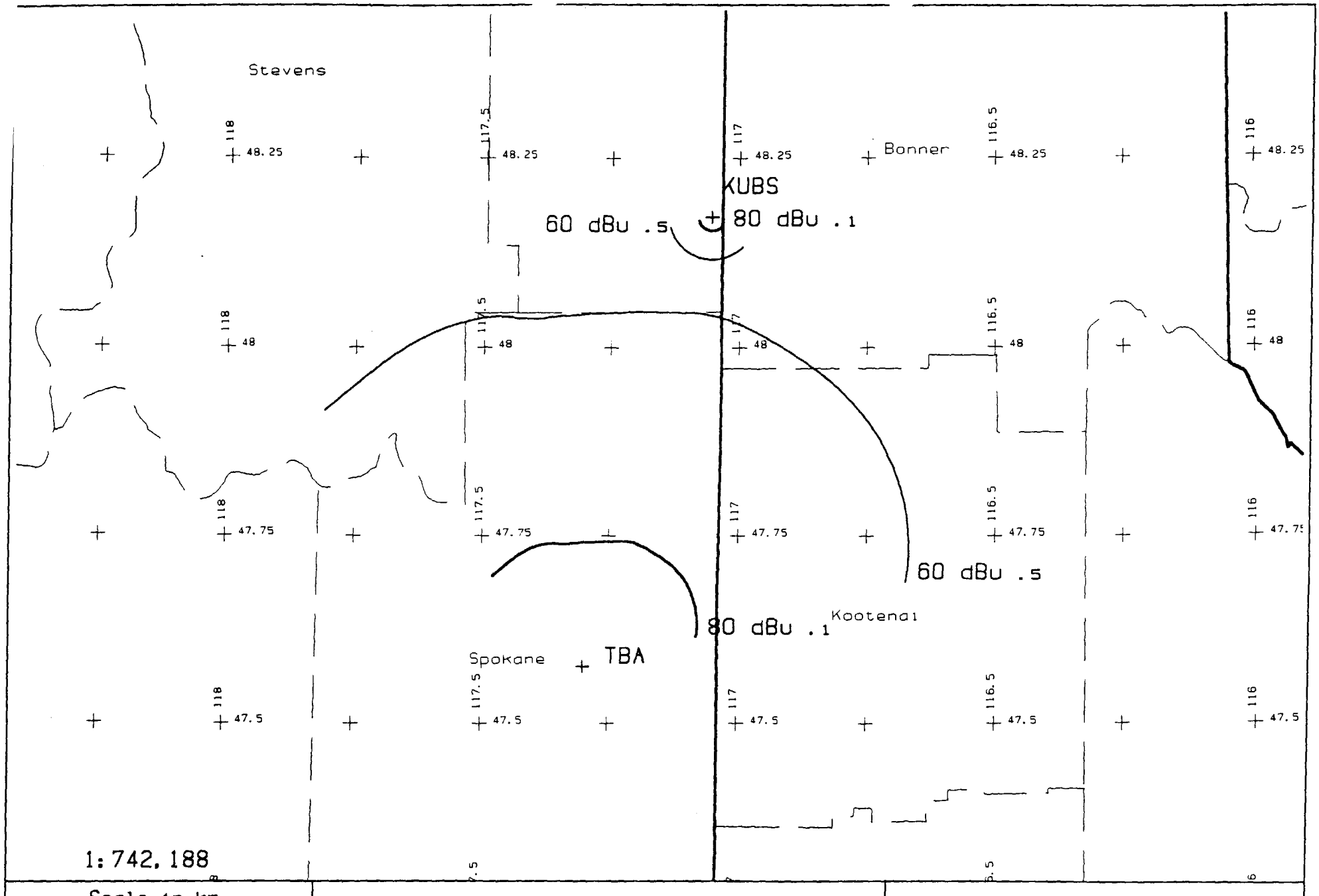
Channel = 220C2
Max ERP = 3.16 kW
RCAMSL = 1219.2 M
N. Lat = 473434
W. Lng = 1171758

Protected
60 dBu

KRFAFM BLED951103KE
Channel = 219C1
Max ERP = 14.5 kW
RCAMSL = 1128 M
N. Lat = 46 40 54
W. Lng = 116 58 13

Interfering
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	
160.0	000.1100	473.4	023.0	347.7	014.5000	305.4	079.7	53.8	
161.0	000.1100	473.4	023.0	347.4	014.5000	305.7	079.6	53.8	
162.0	000.1100	472.3	023.0	347.1	014.5000	306.0	079.6	53.8	
163.0	000.1100	470.5	022.9	346.8	014.5000	306.4	079.6	53.8	
4.0	000.1100	469.6	022.9	346.5	014.5000	306.7	079.6	53.8	
165.0	000.1100	470.0	022.9	346.3	014.5000	306.8	079.6	53.9	
56.0	000.1100	470.3	022.9	346.0	014.5000	306.9	079.6	53.9	
167.0	000.1100	469.8	022.9	345.7	014.5000	306.9	079.6	53.9	
168.0	000.1100	469.0	022.9	345.4	014.5000	307.0	079.7	53.8	
169.0	000.1100	468.8	022.9	345.1	014.5000	307.0	079.7	53.8	
170.0	000.1100	470.0	022.9	344.8	014.5000	307.1	079.7	53.8	
171.0	000.1100	473.3	023.0	344.5	014.5000	307.1	079.6	53.9	
172.0	000.1100	476.9	023.1	344.3	014.5000	307.1	079.6	53.9	
173.0	000.1100	482.7	023.3	343.9	014.5000	307.1	079.5	53.9	
174.0	000.1100	488.3	023.4	343.6	014.5000	307.0	079.4	53.9	
175.0	000.1100	493.2	023.6	343.3	014.5000	307.0	079.3	54.0	
176.0	000.1100	493.4	023.6	343.0	014.5000	307.1	079.4	53.9	
177.0	000.1100	491.9	023.5	342.8	014.5000	307.2	079.6	53.9	
178.0	000.1100	489.9	023.5	342.5	014.5000	307.3	079.7	53.8	
179.0	000.1100	489.1	023.5	342.2	014.5000	307.5	079.9	53.8	
180.0	000.1100	488.3	023.4	341.9	014.5000	307.8	080.0	53.8	
1.0	000.1124	492.4	023.7	341.6	014.5000	308.3	079.9	53.8	
32.0	000.1148	497.6	024.0	341.3	014.5000	308.9	079.8	53.9	
183.0	000.1172	503.4	024.3	340.9	014.5000	309.8	079.7	53.9	
184.0	000.1197	504.2	024.4	340.6	014.5000	310.6	079.7	54.0	
185.0	000.1221	506.2	024.6	340.3	014.5000	311.6	079.7	54.0	
186.0	000.1246	509.7	024.8	339.9	014.5000	312.5	079.7	54.0	*
187.0	000.1272	511.7	025.0	339.6	014.5000	313.4	079.7	54.0	*
188.0	000.1297	510.8	025.1	339.3	014.5000	314.1	079.9	54.0	*
189.0	000.1323	507.7	025.1	339.0	014.5000	314.6	080.1	54.0	
190.0	000.1349	506.5	025.2	338.7	014.5000	315.1	080.2	53.9	
191.0	000.1410	506.7	025.5	338.3	014.5000	315.7	080.2	53.9	
192.0	000.1472	505.9	025.7	338.0	014.5000	316.1	080.3	53.9	
193.0	000.1536	505.1	025.9	337.6	014.5000	316.6	080.3	53.9	
194.0	000.1601	505.6	026.2	337.2	014.5000	317.2	080.4	53.9	
195.0	000.1667	506.1	026.5	336.9	014.5000	317.8	080.4	53.9	
196.0	000.1734	505.4	026.7	336.5	014.5000	318.4	080.6	53.9	
197.0	000.1803	502.8	026.9	336.2	014.5000	319.0	080.7	53.9	
198.0	000.1874	500.9	027.1	335.9	014.5000	319.5	080.9	53.8	
199.0	000.1945	501.2	027.3	335.5	014.5000	320.0	081.0	53.8	
200.0	000.2018	503.7	027.6	335.1	014.5000	320.5	081.1	53.8	



TBA 220C2 3.16kW 1219.2M AMSL
KUBS 218A .15kW 670M AMSL

TBA vs KUBS
Doug Vernier - 11/96

Exhibit #E8, Pg #6

NEW
Channel = 220C2
Max ERP = 3.16 kW
RCAMSL = 1219.2 M
N. Lat = 473434
W. Lng = 1171758

KUBS BLED830315AD
Channel = 218A
Max ERP = .15 kW
RCAMSL = 670 M
N. Lat = 48 10 23
W. Lng = 117 03 15

Protected
60 dBu

Interfering
80 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)
015.0	003.1600	559.4	054.1
016.0	003.1600	564.9	054.4
017.0	003.1600	570.6	054.7
018.0	003.1600	575.2	054.9
9.0	003.1600	578.6	055.0
020.0	003.1600	581.7	055.1
21.0	003.1600	584.2	055.2
022.0	003.1600	585.9	055.3
023.0	003.1600	586.7	055.3
024.0	003.1600	586.8	055.3
025.0	003.1600	586.7	055.3
026.0	003.1600	586.5	055.3
027.0	003.1600	586.1	055.3
028.0	003.1600	585.5	055.3
029.0	003.1600	585.0	055.3
030.0	003.1600	584.6	055.2
031.0	003.1600	584.4	055.2
032.0	003.1600	584.3	055.2
033.0	003.1600	584.3	055.2
034.0	003.1600	584.5	055.2
035.0	003.1600	584.8	055.3
6.0	003.1600	585.1	055.3
37.0	003.1600	585.5	055.3
038.0	003.1600	585.8	055.3
039.0	003.1600	586.0	055.3
040.0	003.1600	586.1	055.3
041.0	003.1600	585.8	055.3
042.0	003.1600	584.9	055.3
043.0	003.1600	583.8	055.2
044.0	003.1600	582.6	055.2
045.0	003.1600	581.6	055.1
046.0	003.1600	580.5	055.1
047.0	003.1600	579.2	055.0
048.0	003.1600	577.8	055.0
049.0	003.1600	576.2	054.9
050.0	003.1600	574.4	054.8

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
197.0	000.1500	-106.3	014.7	45.1
193.1	000.1500	-111.4	014.5	45.4
189.2	000.1500	-114.9	014.3	45.6
185.3	000.1500	-097.4	014.3	45.6
181.4	000.1500	-074.2	014.4	45.5
177.7	000.1500	-048.8	014.6	45.2
174.1	000.1500	-044.6	014.9	44.9
170.8	000.1500	-043.1	015.3	44.5
167.8	000.1500	-050.1	015.8	44.1
165.0	000.1500	-073.1	016.4	43.6
162.5	000.1500	-101.3	017.0	43.1
160.3	000.1500	-117.6	017.7	42.5
158.2	000.1500	-131.7	018.4	41.9
156.4	000.1500	-147.6	019.2	41.3
154.7	000.1500	-163.2	020.0	40.6
153.3	000.1500	-181.0	020.8	40.0
151.9	000.1500	-195.7	021.6	39.4
150.6	000.1500	-205.9	022.4	38.8
149.5	000.1500	-222.5	023.3	38.1
148.5	000.1500	-241.4	024.1	37.5
147.6	000.1500	-257.6	025.0	36.9
146.8	000.1500	-270.2	025.9	36.3
146.0	000.1500	-279.9	026.8	35.8
145.3	000.1500	-287.1	027.7	35.2
144.8	000.1500	-292.6	028.6	34.7
144.3	000.1500	-297.2	029.6	34.2
143.9	000.1500	-300.4	030.5	33.8
143.5	000.1500	-302.5	031.5	33.3
143.3	000.1500	-303.7	032.4	33.0
143.1	000.1500	-304.4	033.4	32.6
142.9	000.1500	-304.7	034.3	32.2
142.8	000.1500	-304.8	035.3	31.9
142.7	000.1500	-304.7	036.3	31.5
142.7	000.1500	-304.6	037.2	31.2
142.6	000.1500	-304.6	038.2	30.9
142.7	000.1500	-304.7	039.1	30.6

EXHIBIT #E9
CHANNEL SIX STUDY
November 1996

Concerning the Application of
Spokane Public Radio Inc.

This engineering statement shows the applicant's compliance with the Commission's rules, adopted June 30, 1985, relating to channel-six interference which may be caused as a result of the proposed facilities. Under section 73.525 (Table A) of the Commission's Rules and Regulations, FM stations operating on channel 220, 91.9 MHz. must be located at least 154 km from any channel-six television station in order to set aside the specific process of determining whether interference may be caused. In the case of the instant proposal, there is only one station within this distance, KHQ-TV, Spokane, Washington. The KHQ-TV antenna site is located at a distance of 600 meters from the proposed facility. The following study therefore considers the interference implications.

Page #2 of this exhibit is a channel-six interference map study for the proposed station. As per section 73.525 of the rules a section of a standard US Census Counties and Counties Sub-division map was used. The study power used was 3.239 kW. This power equates to the operational powers of 3.16 kW vertical and 3.16 kW horizontal. (3.239 kW = 3.16 kW V/40 + 3.16 kW H. Note: **40 is used as a divisor** of the horizontal power because the resulting area of interference does not touch a city having a population of 50,000 or greater.)

Page # 3 of this exhibit plots the 103.5 dB interference contour over a photo-reduction of the Spokane S.E. 1:24,000 topographical quadrangle map. It should be noted that the interference area is totally over rugged mountain-top. The map shows some twenty to thirty buildings of some type within the contour. Page #5 is a map of the interference area with an overlay of US Census Group blocks centroids. There are no centroids within the interference contour nor within several kilometers of the contour. Page #6 of this exhibit is a tabulation of the pertinent contour distances of the proposed facility.

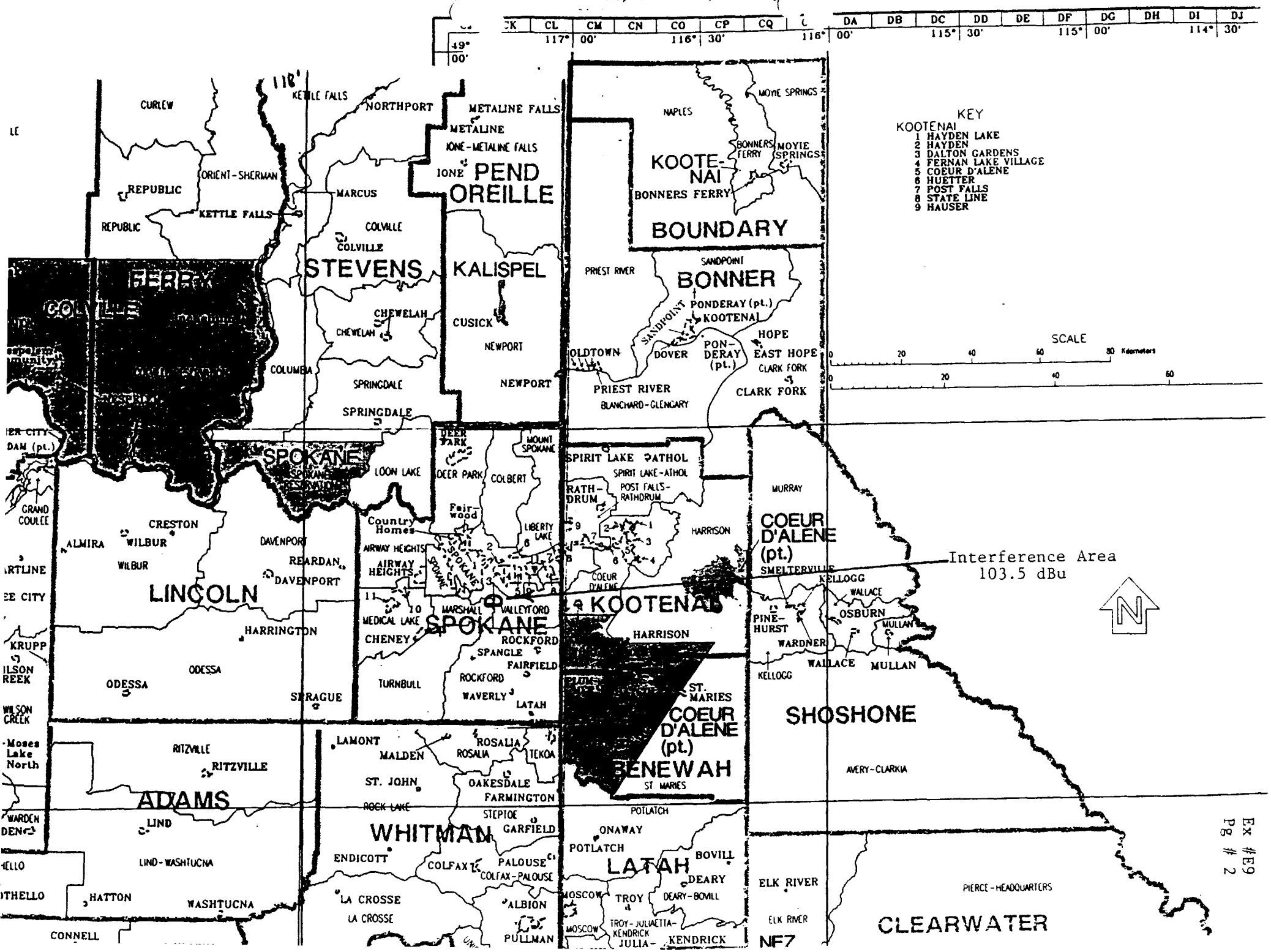
Using the methods prescribed under section 73.525 which require an even distribution of population through an affected area, the population within the predicted channel-six interference contour of the proposed station is calculated as follows:

Spokane County:

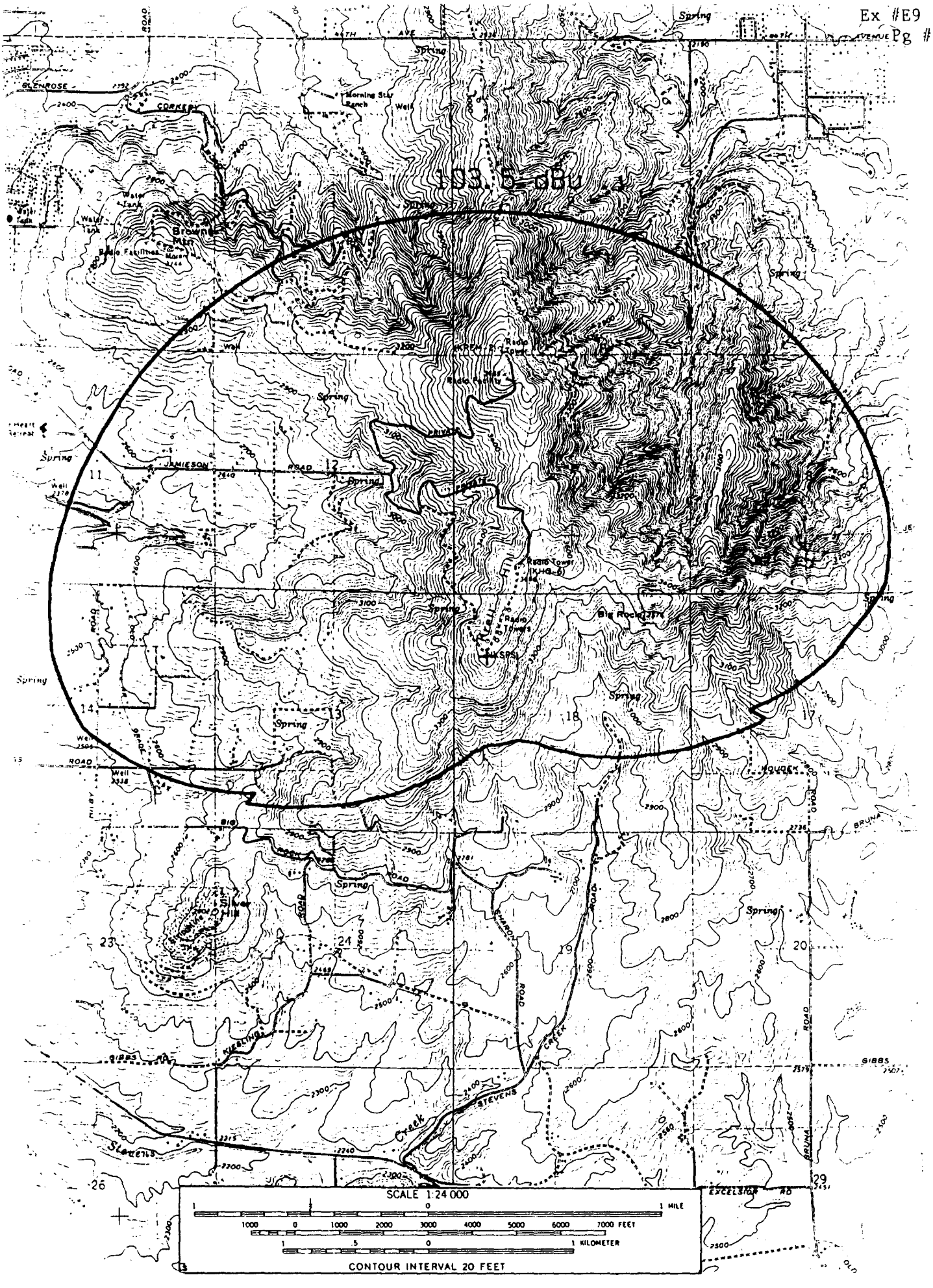
ValleyFord Div	2092 * .05 =	105
Marshal Div - Spokane Pt=	3574 * .05 =	179
Country Homes CDP =	5126 * .02 =	103
	Total =	387

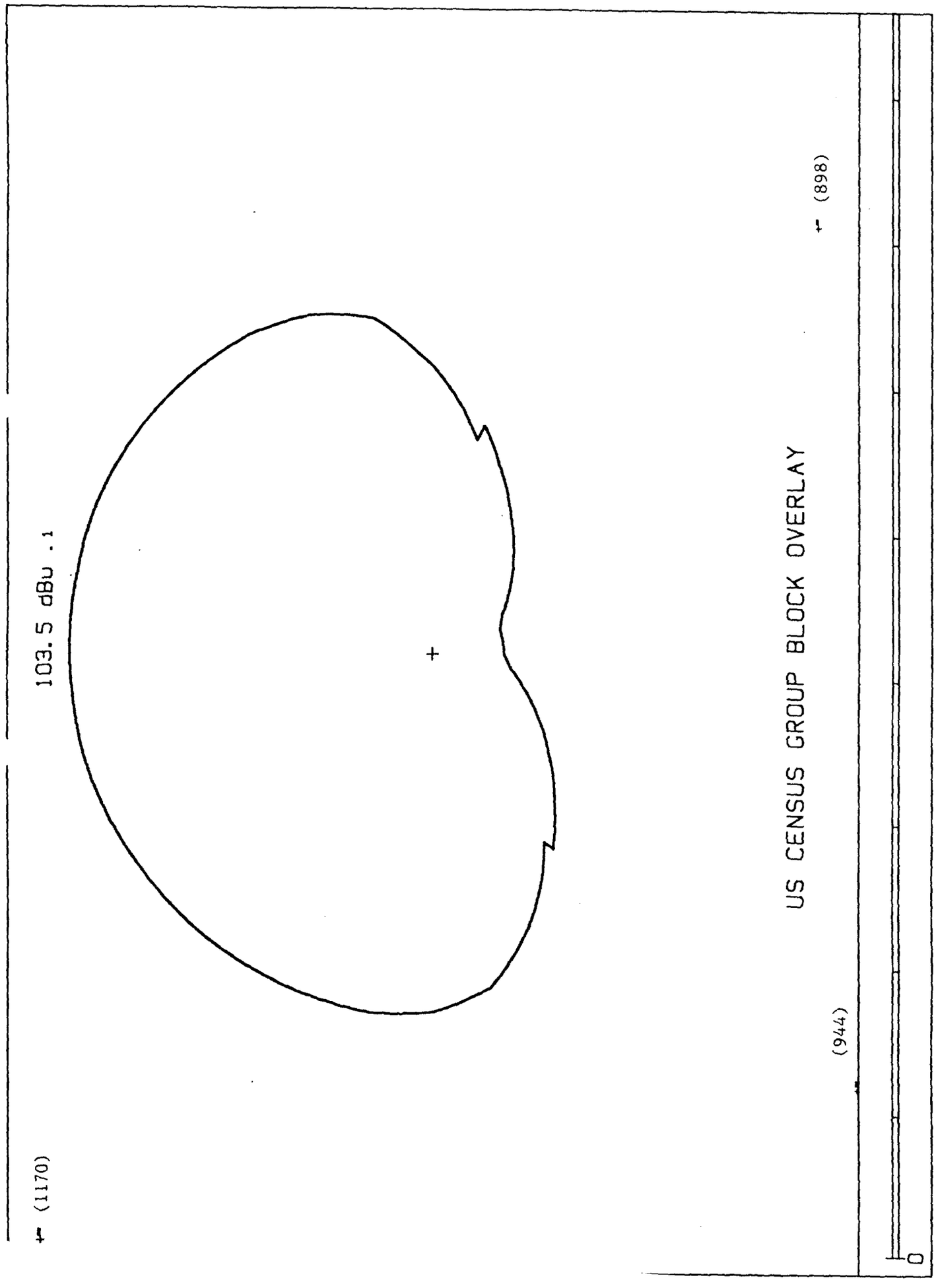
Since 3,000 is the maximum, the proposed facility will be in compliance with the Commission's Rules.

American Indian Areas, Counties, County Subdivisions, and Places - Section 1



Ex #E9
Pg # 2


103.6 dBu
Morning Star Ranch
Well
Browns
Radio Facilities
Radio Tower
KRFM Ft Tower
Radio Facility
Radio Tower (KHG-6)
Radio Towers
Big Rock Hill
Silver Hill
Spring
Well
Water Tank
GLENROSE
CORKERY
JAMIESON
ROAD
PRIVATE
BIG
ROCK
CREEK
HOUGEN
BRUNA
GIBBS
STEVENS
Creek
EXCELSIOR
SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 20 FEET


103.5 dBu .1
US CENSUS GROUP BLOCK OVERLAY
(1170)
(944)
(898)

Predicted Signal Contours:

47 34 34 - NCE CH-6 INTERFERENCE CONTOURS
117 17 58 - CH 220, SPOKANE, WASHINGTON

ERP = 3.239 kW, 5.104 dBk FM - 2-6 Tables 30 Sec

Radial	HAAT	kW	dBk	Field	103.5 dBu.1
0 Degs.	521.6M	3.239	5.104	1.000	2.5
10 Degs.	541.4M	3.239	5.104	1.000	2.5
20 Degs.	581.7M	3.239	5.104	1.000	2.5
30 Degs.	584.6M	3.239	5.104	1.000	2.5
40 Degs.	586.1M	3.239	5.104	1.000	2.5
50 Degs.	574.4M	3.239	5.104	1.000	2.5
60 Degs.	541.1M	3.239	5.104	1.000	2.5
70 Degs.	500.0M	3.111	4.929	0.980	2.5
80 Degs.	428.6M	2.801	4.474	0.930	2.3
90 Degs.	347.3M	2.093	3.207	0.804	2.0
100 Degs.	362.7M	1.336	1.257	0.642	1.6
110 Degs.	381.2M	0.853	-0.693	0.513	1.4
120 Degs.	410.5M	0.544	-2.643	0.410	1.1
130 Degs.	440.3M	0.347	-4.593	0.327	0.9
140 Degs.	464.1M	0.222	-6.543	0.262	0.7
150 Degs.	476.9M	0.141	-8.493	0.209	0.6
160 Degs.	473.4M	0.113	-9.479	0.187	0.5
170 Degs.	470.0M	0.113	-9.479	0.187	0.5
180 Degs.	488.3M	0.113	-9.479	0.187	0.5
190 Degs.	506.5M	0.138	-8.593	0.207	0.6
200 Degs.	503.7M	0.207	-6.843	0.253	0.7
210 Degs.	519.2M	0.324	-4.893	0.316	0.8
220 Degs.	521.6M	0.508	-2.943	0.396	1.1
230 Degs.	521.0M	0.796	-0.993	0.496	1.3
240 Degs.	527.3M	1.247	0.957	0.620	1.6
250 Degs.	531.4M	1.953	2.907	0.777	2.0
260 Degs.	539.0M	2.741	4.380	0.920	2.3
270 Degs.	548.0M	3.111	4.929	0.980	2.5
280 Degs.	543.2M	3.239	5.104	1.000	2.5
290 Degs.	549.5M	3.239	5.104	1.000	2.5
300 Degs.	551.4M	3.239	5.104	1.000	2.5
310 Degs.	556.7M	3.239	5.104	1.000	2.5
320 Degs.	548.1M	3.239	5.104	1.000	2.5
330 Degs.	557.2M	3.239	5.104	1.000	2.5
340 Degs.	557.1M	3.239	5.104	1.000	2.5
350 Degs.	524.2M	3.239	5.104	1.000	2.5

Ave. HAAT= 507.8M, Ant. COR=1219.2M AMSL

Exhibit #E9

Certification:

I hereby certify that Spokane Public Radio. Inc. has notified KQTTV, channel-six television of the filing of the instant proposal.

Spokane Public Radio, Inc.

Exhibit # E10
R.F. Hazard Study

Spokane Public Radio, Inc.

November 1996

The proposed 3-bay antenna will be energized such that it produces a maximum of 3.16 kW effective radiated power in the both the horizontal and vertical planes from a center of radiation of 112.8 meters above ground.

By calculating the exact power toward the nadir, using a combination of the element and array pattern as defined in E.P.A study PB85-245868 (**"Engineering Assessment of the Potential Impact of the Federal Radiation Protection Guidance on the AM, FM and TV Broadcast Services"**.), and then by using the formulas expressed in OST Bulletin, No. 65, Oct. 1985, "Evaluating Compliance with F.C.C. Specified Guidelines for Human Exposure to Radio Frequency Radiation", published by the Federal Communication Commission's Office of Science and Technology it can be shown that, at head height, any of the commonly used 3-bay broadcast antennas will produce a non-ionization radiation level below one percent.

Calculations were performed using the following antennas:

Antenna	microwatts/sq cm	percent of max
Jampro Double V	1.161	.1161
ERI/Jampro Roto	.498	.0497
Shively 6800	.083	.0082

Since any of these common antennas will produce less than one percent of the maximum A.N.S.I. standard, further calculations are unnecessary.

In regard to protecting workers at the tower site:

Should tower workers be required to work on the tower in the zone of the proposed FM antenna where exposure would result in a non-ionization radiation level greater than the maximum, the applicant will reduce power or cause the proposed FM antenna to cease radiating until the workers clear the area. The applicant will consider the cumulative effect of all sources of radiation to prevent a tower worker from being exposed to more than the maximum. An agreement exists among the tower users to lower or to cease operating to avoid over exposing a tower worker.