

EXHIBIT E

ENGINEERING STATEMENT
IN SUPPORT OF AN APPLICATION FOR CONSTRUCTION PERMIT
FOR A NEW DTV STATION
KIMO-DT, ANCHORAGE, ALASKA
CHANNEL 12 41 KW MAX. 240 METERS
OCTOBER 2004

This engineering statement has been prepared on behalf of Smith Television License Holdings, Inc., licensee of station KIMO(TV), and permittee of KIMO-DT, Anchorage, Alaska in support of an application to modify its construction permit (BPCDT-19991029ABR) for a new digital television (DTV) station. The Commission has substituted VHF TV Channel 12 (204-210 MHz) for the previously allotted UHF TV Channel 30 (566-572 MHz) for KIMO(TV)'s digital television operation (Report and Order, MB Docket No. 04-178, RM-10962, adopted September 1, 2004 and released September 9, 2004).

At present KIMO(TV) operates on analog Channel 13 (210-216 MHz) with 316 kW effective radiated power (ERP) and 238 meters antenna height above average terrain (HAAT) using a non-directional TV antenna from the Frank A. Mengel tower site ("F.A.M. Tower Site"). The geographic coordinates of that site are as follows: N 61° 25' 22", W 149° 52' 20". The F.A.M. Tower Site is located approximately 22.7 km (14 miles) north of Anchorage.

The Commission has allotted KIMO(TV) Channel 30 for its digital television (DTV) operation with 1000 kW ERP and 238 meters HAAT. KIMO-DT currently holds a construction permit to operate on DTV Channel 30 with 108 kW ERP and 155 meters HAAT using a directional TV antenna from the F.A.M. Tower site. It is now proposed to modify the construction permit to operate on Channel 12 with 41 kW maximum ERP and 240 meters HAAT using a directional TV antenna. The proposed Channel 12 DTV operation would be from the F.A.M. Tower.

The attached Table I provides the relative field values for the directional horizontal pattern of the directional antenna associated with the proposed KIMO-DT Channel 12 DTV operation.

Analog TV and DTV Allocation Situation

The attached Table II shows the analog TV and DTV stations located within 475 km of the KIMO-DT site on co-channel 12 and adjacent channels 11 and 13. There are no TV or DTV stations or allotments on Channel 12 within 475 km of the KIMO-DT site. Station KTVA-TV, Channel 11, Anchorage, Alaska, site is located 25.7 km south of the KIMO-DT site.

OET Bulletin 69 Study

Since the licensed KTVA, Channel 11 antenna site is located more than 11 km and less than 125 km from the KIMO-DT site, an electromagnetic interference study was conducted according to the FCC OET Bulletin 69 to determine any impact on KTVA's analog TV operation.

The FCC OET Bulletin 69 study was conducted for cell sizes 0.5 km/side and 1 km terrain intervals. In addition, the KIMO-DT ERP in each direction was adjusted according to the horizontal directional pattern of the DTV antenna. The vertical pattern of the proposed DTV antenna was not used in the study.

The results of the OET Bulletin 69 study are provided in the attached Table III, and indicate the proposed Channel 12 DTV operation of KIMO-DT would not cause harmful interference to more than 2% population of the Grade B contour of KTVA-TV. Therefore, the proposed Channel 12 DTV operation at Anchorage, Alaska would be in compliance of Section 73.623(c) of the Commission's rules.

Principal Community Coverage

The attached map shows the computed 36 dBu contour for the proposed KIMO-DT operation on Channel 12 with 41 kW maximum ERP and 240 meters HAAT using a directional antenna. The map indicates the proposed 36 dBu contour would cover all of Anchorage, Alaska.

Environmental Statement

Since the proposed KIMO-DT operation would be from the existing site, the environmental concerns listed in Section 1.1307(a) of the Commission's rules are not pertinent; therefore, those issues have not been addressed.

An evaluation has been made to determine compliance with the Commission's specified standards for human exposure to RF fields as set forth in the OET Bulletin No. 65 dated August 1997. For a maximum effective radiated power of 41 kW and a radiation center of 236 meters above ground level, the proposed KIMO-DT operation would have a maximum of 1.3 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$) RF field at 2 meters above the base of tower an antenna field factor of 0.23 in the downward direction. The Commission's guidelines for the VHF TV band are 1,000 $\mu\text{W}/\text{cm}^2$ for the occupational/controlled and 200 $\mu\text{W}/\text{cm}^2$ for the general population/uncontrolled environment.

Since the F.A.M. tower also supports other FM and TV antennas, combined RF field near the base of the tower has been also determined. The attached Table IV provides a list of other FM and TV, DTV stations that currently operate or are proposing to operate from the F.A.M. tower. According to the Commission's database FM station KEAG is also licensed to operate from the F.A.M. tower. However, the tower owner has

advised that station KEAG no longer operates from its tower and has moved its operation to its CP site. Table V shows the computed RF field for each FM, TV and DTV stations near the F.A.M. tower.

The above analysis indicates members of the public and personnel working around the KIMO-DT tower would not be exposed to RF fields exceeding the Commission's guidelines. With respect to work performed on the tower, station KIMO-DT, in coordination with other stations, will establish procedures to ensure that workers are not exposed to RF fields above the Commission's guidelines, by reducing or turning off the power, as appropriate.

Under penalty of perjury the undersigned states that the foregoing statement has been prepared by him and that the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts, he believes them to be true.

4 October 2004

S. K. Khanna
Professional Engineer
District of Columbia, PE License No.8057

TABLE I
KIMO-DT, CHANNEL 12, ANCHORAGE, ALASKA
HORIZONTAL DIRECTIONAL RADIATION PATTERN
OCTOBER 2004

<u>AZIMUTH</u>	<u>RELATIVE FIELD</u>	<u>ERP/kW</u>
0.0	0.710	20.67
10.0	0.800	26.24
20.0	0.870	31.03
30.0	0.950	37.00
40.0	0.960	37.79
50.0	0.900	33.21
60.0	0.820	27.57
70.0	0.740	22.45
80.0	0.680	18.96
90.0	0.640	16.79
100.0	0.730	21.85
110.0	0.830	28.25
120.0	0.940	36.23
130.0	0.970	38.58
140.0	0.940	36.23
150.0	0.840	28.93
160.0	0.750	23.06
170.0	0.690	19.52
180.0	0.680	18.96
190.0	0.750	23.06
200.0	0.830	28.24
210.0	0.910	33.95
220.0	0.930	35.46
230.0	0.890	32.48
240.0	0.810	26.90
250.0	0.740	22.45
260.0	0.690	19.52
270.0	0.700	20.09
280.0	0.780	24.94
290.0	0.870	31.03
300.0	0.940	36.92
310.0	0.940	36.23
320.0	0.860	30.32
330.0	0.800	26.24
340.0	0.710	20.67
350.0	0.660	17.86
37.0	1.000	41.00
129.0	1.000	41.00

TABLE II
ANALOG TV AND DTV ALLOCATION SITUATION
FOR THE PROPOSED DTV OPERATION OF
KIMO-DT, ANCHORAGE, ALASKA
CHANNEL 12 41 KW 240 METERS
OCTOBER 2004

<u>CHANNEL</u>	<u>CALL</u>	<u>CITY/ STATE</u>	<u>GEOGRAPHIC COORDINATES</u>	<u>DISTANCE</u> km
12	KIMO-DT	Anchorage, AK	N 61-25-22 W 149-52-20	--
11	KTVA(TV) LIC	Anchorage, AK	N 61-11-33 W 149-54-01	25.7
12	None within 475 km		--	--
13	KIMO(TV) LIC	Anchorage, AK	N 61-25-22 W 149-52-20	0.0

TABLE III

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 09-22-2004 Time: 17:28:19

Record Selected for Analysis

KIMO USERRECORD-01 ANCHORAGE AK US
 Channel 12 ERP 41. kW HAAT 240. m RCAMSL 00271 m
 Latitude 061-25-22 Longitude 0149-52-20
 Status APP Zone 2 Border
 Dir Antenna Make usr Model KTUUH Beam tilt N Ref Azimuth
 0.
 Last update Cutoff date Docket
 Comments
 Applicant

Cell Size for Service Analysis 0.5 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)
0.0	20.668	227.7	94.1
45.0	35.461	202.5	95.9
90.0	16.794	270.3	95.1
135.0	37.393	260.2	101.0
180.0	18.958	270.9	96.1
225.0	33.952	239.2	98.9
270.0	20.090	235.4	94.5
315.0	33.210	217.2	96.8

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

KIMO 12 ANCHORAGE AK USERRECORD01

and station

SHORT TO: KTVA 11 ANCHORAGE AK BLCT 19831019KM
 061-11-33 0149-54- 1
 Req. separation => 11.0 <= 125.0 Actual separation 25.7 Short 99.3(
 14.7) km

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

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Start of Interference Analysis

Channel	Call	Proposed Station City/State	ARN
12	KIMO	ANCHORAGE AK	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan No.	Call	City/State	Dist(km)	Status	Application	Ref.
11	KTVA	ANCHORAGE AK	0.0	CP	BPCT	-
20010426AAO						
11	KTVA	ANCHORAGE AK	25.6	LIC	BLCT	-
19831019KM						
13	KIMO	ANCHORAGE AK	0.0	LIC	BLCT	-
19960320KE						

%%
 %

Analysis of Interference to Affected Station 1

NTSC Baseline Analysis

Channel	Call	City/State	Application Ref. No.
11	KTVA	ANCHORAGE AK	DTVPLN -NPLN0694

Stations Potentially Affecting This Station

Chan No.	Call	City/State	Dist(km)	Status	Application Ref.
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KHANNA & GULL, Inc. - Consulting Engineers

Results for: 11N AK ANCHORAGE	DTVPLN	NPLN0694	PLN
	POPULATION	AREA (sq km)	
within Noise Limited Contour	250632	10652.7	
not affected by terrain losses	249923	9759.9	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	0	0.0	
lost to all IX	0	0.0	

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	KTVA	ANCHORAGE AK	BPCT	-20010426AAO

Stations Potentially Affecting This Station

Chan No.	Call	City/State	Dist(km)	Status	Application	Ref.
10	KTUU-TV	ANCHORAGE AK	0.0	APP	BPRM	-
20030221ACB						
11	KTVF	FAIRBANKS AK	395.3	LIC	BLCT	-
19881031KG						
12	KIMO	ANCHORAGE AK	0.0	APP	USERRECORD-01	
Proposal causes no interference						

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Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	KTVA	ANCHORAGE AK	BLCT	-19831019KM

Stations Potentially Affecting This Station

Chan No.	Call	City/State	Dist(km)	Status	Application	Ref.
10	KTUU-TV	ANCHORAGE AK	25.6	APP	BPRM	-
20030221ACB						
12	KIMO	ANCHORAGE AK	25.6	APP	USERRECORD-01	

Total scenarios = 2

Result key: 1

Scenario 1 Affected station 2
Before Analysis

Results for: 11N AK ANCHORAGE	BLCT	19831019KM	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	250632	10652.7	
not affected by terrain losses	249923	9759.9	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	0	0.0	
lost to all IX	0	0.0	

Potential Interfering Stations Included in above Scenario 1

After Analysis

Results for: 11N AK ANCHORAGE	BLCT	19831019KM	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	250632	10652.7	
not affected by terrain losses	249923	9759.9	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	4819	864.1	
lost to all IX	4819	864.1	

Potential Interfering Stations Included in above Scenario 1

12A AK ANCHORAGE USERRECORD01 APP

Percent new IX = 1.9227%

Result key: 2
 Scenario 2 Affected station 2
 Before Analysis

Results for: 11N AK ANCHORAGE	BLCT	19831019KM	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	250632	10652.7	
not affected by terrain losses	249923	9759.9	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	4732	838.4	
lost to all IX	4732	838.4	

Potential Interfering Stations Included in above Scenario 2

10A AK ANCHORAGE BPRM 20030221ACB APP

After Analysis

Results for: 11N AK ANCHORAGE	BLCT	19831019KM	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	250632	10652.7	
not affected by terrain losses	249923	9759.9	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	4819	868.9	
lost to all IX	4819	868.9	

Potential Interfering Stations Included in above Scenario 2

10A AK ANCHORAGE BPRM 20030221ACB APP
 12A AK ANCHORAGE USERRECORD01 APP

Percent new IX = 0.0347%

Worst case new IX 1.9227% Scenario 1

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Analysis of Interference to Affected Station 3

NTSC Baseline Analysis

Channel	Call	City/State	Application Ref. No.
13	KIMO	ANCHORAGE AK	DTVPLN -NPLN0809

Stations Potentially Affecting This Station

Chan No.	Call	City/State	Dist(km)	Status	Application Ref.
13	NEW	FAIRBANKS AK	395.3	PLN	DTVPLN -

NPLN0810

Results for: 13N AK ANCHORAGE	DTVPLN	NPLN0809	PLN
	POPULATION	AREA (sq km)	
within Noise Limited Contour	264909	26134.5	
not affected by terrain losses	263914	22253.3	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	0	0.0	
lost to all IX	0	0.0	

Analysis of current record

Channel	Call	City/State	Application Ref. No.
13	KIMO	ANCHORAGE AK	BLCT -19960320KE

Stations Potentially Affecting This Station

Chan No.	Call	City/State	Dist(km)	Status	Application Ref.
13	960917KG	FAIRBANKS AK	395.3	APP	BPCT -
19960917KG					
13	960920LC	FAIRBANKS AK	403.7	APP	BPCT -
19960920LC					
13	960920YE	FAIRBANKS AK	394.8	APP	BPCT -
19960920YE					
13	970331KQ	FAIRBANKS AK	394.8	APP	BPCT -
19970331KQ					
13	970331LK	FAIRBANKS AK	394.5	APP	BPET -
19970331LK					
12	KIMO	ANCHORAGE AK	0.0	APP	USERRECORD-01

Proposal causes no interference

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Analysis of Interference to Affected Station 4

Analysis of current record

Channel	Call	City/State	Application Ref. No.
12	KIMO	ANCHORAGE AK	USERRECORD-01

Stations Potentially Affecting This Station

Chan No.	Call	City/State	Dist(km)	Status	Application	Ref.
11	KTVA	ANCHORAGE AK	0.0	CP	BPCT	-
20010426AAO						
13	KIMO	ANCHORAGE AK	0.0	LIC	BLCT	-
19960320KE						

Total scenarios = 1

Result key: 3
 Scenario 1 Affected station 4
 Before Analysis

Results for: 12A AK ANCHORAGE USERRECORD01 APP
 HAAT 240.0 m, ATV ERP 41.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	265309	29521.2
not affected by terrain losses	264283	25636.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	0	0.0

Potential Interfering Stations Included in above Scenario 1

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FINISHED

TABLE IV
AUTHORIZED AND PROPOSED FACILITIES OF
ANALOG TV, DIGITAL TV AND FM STATIONS OPERATING FROM
THE F.A.M. TOWER
ANCHORAGE, ALASKA
OCTOBER 2004

<u>CHANNEL/ FREQUENCY MHz</u>	<u>CALL</u>	<u>CITY/STATE</u>	<u>ERP kW</u>	<u>ANTENNA HEIGHT ABOVE GROUND meters</u>
212C1 90.3	KNBA(FM)	Anchorage, AK	100 (Horizontal) 100 (Vertical)	183
216C1 91.1	KSKA(FM)	Anchorage, AK	100 (Horizontal) 100 (Vertical)	183
2 54-60	KTUU-TV	Anchorage, AK	100 (Visual) 10 (Aural)	218
7 174-180	KAKM(TV)	Anchorage, AK	288 (Visual) 28.8 (Aural)	236
8 180-186	KAKM-DT	Anchorage, AK	50	236
10 192-198	KTUU-DT	Anchorage, AK	21	236
12 204-210	KIMO-DT	Anchorage, AK	41	236
13 210-216	KIMO(TV)	Anchorage, AK	316 (Visual) 31.6 (Aural)	236

TABLE V
COMPUTED RF FIELD FOR
ANALOG TV, DIGITAL TV AND FM STATIONS OPERATING FROM
THE F.A.M. TOWER
ANCHORAGE, ALASKA

OCTOBER 2004

<u>CHANNEL/ FREQUENCY MHz</u>	<u>CALL</u>	<u>ERP kW</u>	<u>ANTENNA HEIGHT ABOVE GROUND meters</u>	<u>ANTENNA RELATIVE FIELD</u>	<u>RF FIELD¹ μW/cm²</u>
212C1 90.3	KNBA(FM)	100 (H) 100 (V)	183	0.20	8.2
216C1 91.1	KSKA(FM)	100 (H) 100 (V)	183	0.20	8.2
2 54-60	KTUU-TV	100 (Visual) 10 (Aural)	218	0.23	1.9
7 174-180	KAKM(TV)	288 (Visual) 28.8 (Aural)	236	0.23	4.6
8 180-186	KAKM-DT	50	236	0.23	1.6
10 192-198	KTUU-DT	21	236	0.23	0.7
12 204-210	KIMO-DT	41	236	0.23	1.3
13 210-216	KIMO(TV)	316 (Visual) 31.6 (Aural)	236	0.23	5.1
COMBINED					31.6

¹ At 2 meters above ground level.

