

TECHNICAL EXHIBIT  
DISPLACEMENT APPLICATION  
STATION K06IS (FACILITY ID 35319)  
TOHATCHI, NEW MEXICO  
CH 42 0.4 KW (MAX-DA)

Technical Narrative

This Technical Exhibit supports a displacement application for TV translator station K06IS at Tohatchi, New Mexico. Station K06IS is licensed to operate on channel 6 with a directional antenna maximum effective radiated power (ERP) of 0.061 kW and an antenna height above mean sea level (RCAMSL) of 2768 meters (BLTTV-20061228AAN).

Due to the continued interference from non-commercial educational (NCE) FM stations and the expected increase in harmful interference from the recent authorizations to new NCE stations KKNM, KPKJ and KLLU, which are located less than 50 kilometers away, K06IS desires to change channel to one without an NCE FM impact.

Proposed Facilities

A change in channel, directional antenna and increase in the effective radiated power is proposed. The proposed transmitter site coordinates are: 35-54-31 N, 108-46-24 W (NAD 27). A SCA 4DR-8-2HW, directional antenna oriented at 180 degrees True, with a maximum ERP of 0.4 kW and antenna RCAMSL of 2763 meters is proposed.

The existing 33.5 meter structure (110 feet) does not require registration as the FCC's TOWAIR program indicates that there are no airports within 8 kilometers.

As the transmitter sites for the existing Channel 6 and the herein proposed Channel 42 facilities are co-located, it is obvious there is contour overlap between the facilities.

#### Allocation Considerations

A study has been conducted to assure that the proposal will not create prohibited interference with other licensed, authorized or pending analog or digital TV, LPTV/translator and Class A TV stations. Using the procedures outlined in the FCC's OET-69 Bulletin, a standard 1 km cell size and 1990 Census, there is no prohibited interference caused to any station. If necessary, a waiver of the FCC rules is respectfully requested based on use of the procedures outlined in the FCC's OET-69 Bulletin to the remaining LPTV/translator stations.

The applicant recognizes the proposal is secondary to authorized full-service analog and DTV operations. The applicant understands that it must correct and/or eliminate prohibited interference that may result from its proposed operation.

#### Radiofrequency Electromagnetic Field Exposure

The proposed K06IS facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed antenna is located 27.4 meters above ground level with a maximum ERP of 0.4 kW. A conservative relative field value of 0.5 was assumed for the calculation. The calculated power density at a point 2 meters above ground level will be 0.003 mW/cm<sup>2</sup>. This is less than 5% of the FCC's recommended limit of 0.43 mW/cm<sup>2</sup> for channel 42 for an "uncontrolled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down. It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure.

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K06IS RF Transmission System Specifications

Description	System
Transmitter Power Output: 0.1 kW (100 Watts)	-10 dBk
Bandpass Filter Insertion Loss (70.8%)	1.5 dB
Transmission Line Loss (79.9%) (Andrew LDF5-50A, 7/8" foam) 96 feet:	0.97 dB
SCA 4DR-8-2HW (7.08 Power Gain):	8.5 dB
Effective Radiated Power (0.4 kW):	-3.97 dBk

## **APPENDIX**

### **OET-69 INTERFERENCE ANALYSIS**

Census data selected: 1990  
TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 03-20-2007 Time: 11:32:05

Record Selected for Analysis

K06IS USERRECORD-01 TOHATCHIE NM US  
Channel 42 ERP 0.4 kW HAAT 840. m RCAMSL 02763 m  
Latitude 035-54-31 Longitude 0108-46-24  
Status APP Zone 2 Border Offset Z  
Dir Antenna Make CDB Model 0000000020751 Beam tilt N Ref Azimuth 180.  
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)	74.0 dBu F(50,50) (km)
0.0	0.000	375.3	0.6
45.0	0.000	710.7	0.6
90.0	0.010	794.5	4.0
135.0	0.017	839.7	5.2
180.0	0.019	789.9	5.4
225.0	0.018	628.6	5.1
270.0	0.200	327.9	9.3
315.0	0.000	123.1	0.6

Contour Overlap Evaluation from LPTV Station to Full Service TV & DTV

Contour overlap to station  
KLUZ-TV 42 ALBUQUERQUE NM BPCDT 20060705ACC

Contour Overlap Evaluation from LPTV to Full Service TV & DTV Complete

Contour Overlap Evaluation from LPTV Station to LPTV Stations

Station inside contour of station  
K41FK 41 TOHATCHI NM BLTT 20021016AAR

Contour Overlap Evaluation from LPTV to LPTV Stations Complete

Contour Overlap to Proposed Station

Station  
K41FK 41 TOHATCHI NM BLTT20021016AAR

Is inside contour of station  
K06IS 42 TOHATCHIE NM USERRECORD01

Contour Overlap Evaluation to Proposed Station Complete

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	City/State	ARN
42	K06IS	TOHATCHIE NM	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
41	K41FK	TOHATCHI NM	0.0	LIC	BLTT	-20021016AAR
42	KLUZ-TV	ALBUQUERQUE NM	224.0	CP	BPCDT	-20060705ACC

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Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
41	K41FK	TOHATCHI NM	BLTT	-20021016AAR

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
41	KLUZ-TV	ALBUQUERQUE NM	224.0	LIC	BLCT	-19980714KE
41	K41HU	FARMINGTON NM	100.4	APP	BNPTTL	-20000831BQY
42	K06IS	TOHATCHIE NM	0.0	APP	USERRECORD-01	

Proposal causes no interference

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Analysis of Interference to Affected Station 2

DTV Baseline Analysis

Channel	Call	City/State	Application	Ref. No.
42	KLUZ-DT	ALBUQUERQUE NM	DTVPLN	-DTVP1201

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
41	KLUZTV	ALBUQUERQUE NM	0.0	PLN	DTVPLN	-NPLN1607
42	KOAA-DT	PUEBLO CO	389.7	PLN	DTVPLN	-DTVP1184

Results for: 42A NM ALBUQUERQUE DTVP1201 PLN  
HAAT 1266.0 m, ATV ERP 50.0 kW



lost to NTSC IX	28	42.5
lost to additional IX by ATV	0	0.0
lost to all IX	28	42.5

Potential Interfering Stations Included in above Scenario 1

41N NM TOHATCHI	BLTT	20021016AAR	LIC
42N CO BAYFIELD & IGNACIO	BLTT	19940127JD	LIC

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