ENGINEERING EXHIBIT

Application for Digital Flash-Cut Construction Permit
Class A Television Station

prepared for

Ramar Communications, Inc.
KTEL-LP Albuquerque, NM
Facility ID 55056
Ch. 47 (digital) 15 kW

Ramar Communications, Inc. ("Ramar") is the licensee of Class A Television station KTEL-LP, Facility ID 55056, Albuquerque, NM (BLTTA-20110804AAG). KTEL-LP is licensed to operate as analog on Channel 47. *Ramar* herein seeks a Construction Permit ("CP") to flashcut KTEL-LP to digital operation and relocate to an adjacent tower structure located 0.1 km from the licensed transmitting location.

By way of background, KTEL-LP's Class A license was granted in 2011 to cover its existing analog operation. At that time a CP had already been granted (BDFCDTL-20080303ALE) to authorize digital flashcut operation at the licensed analog site. That CP remains valid however it does not carry Class A status. *Ramar* will seek cancellation of BDFCDTL-20080303ALE contemporaneously with the filing of this application for a Class A digital flashcut authorization.

As proposed herein, the KTEL-LP digital facility will operate on Channel 47 with a directional antenna at 15 kW maximum effective radiated power and a "stringent" out of channel emission mask. The antenna will be side-mounted on an existing tower structure having an overall height of 49 meters above ground level. The structure does not require an FCC Antenna Structure Registration number since its overall height is less than 61 meters above ground, there are no known landing areas within 8 km, and the structure passes the FCC's "TOWAIR" slope test program.

Figure 1 depicts the 51 dBμ coverage contour of the proposed digital facility as well as that of the licensed analog facility. The service area overlap demonstrates compliance with §73.3572 for a minor change.

The FCC's "freeze" Public Notice[1] of April 5, 2013 (DA 13-618) imposed limitations on the filing and processing of certain full power and Class A television station applications that propose an increase in their authorized noise-limited service contour. The freeze is not applicable to digital flashcut applications for Class A stations such as that proposed herein for KTEL-LP. The relevant language from the Public Notice is provided in the following.

> "However, consistent with the Commission's proposal in the NPRM, Class A minor change applications to implement the digital transition (flash cut and digital companion channel) may continue to be filed and will be processed subject to the current limitations in Sections 73.3572(a)(2) and 74.787(a)(2) of the Commission's rules."

Interference studies per OET Bulletin 69[2] show that the proposal complies with the Commission's interference protection requirements toward all digital television, television translator, LPTV, and Class A stations. The results, summarized in Table 1, show that any new interference does not exceed the Commission's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) to any facility except with respect to the Construction Permit facility for K46GY (Ch. 47 Santa Fe NM, BDISDTL-20100308AAZ) which does not present a conflict for the proposal. K46GY(CP) would receive 7.19 percent interference, which exceeds the 2.0 percent limit towards translator stations. *Ramar* is also the licensee of K46GY and consents to the proposed 7.19 percent interference that would be caused to K46GY. Additionally, this is a reduction in interference to K46GY from the current KTEL-LP flashcut CP (BDFCDTL-20080303ALE) which is predicted to cause 7.57 percent interference to the K46GY CP.

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[1] *"Media Bureau Announces Limitations on the Filing and Processing of Full Power and Class A Television Station Modification Applications, Effective Immediately, and Reminds Stations of Spectrum Act Preservation Mandate,"* DA 13-618, Public Notice, released April 5, 2013.

[2] FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A cell size of 1 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission's implementation of OET-69 show excellent correlation.

Accordingly, the proposal complies with §§73.6012 – 73.6019 regarding interference protection to digital television, low power television, television translator, and Class A television facilities.

The nearest FCC monitoring station is 509 km distant at Douglas, AZ. This exceeds the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with quiet zones specified in §73.1030(a) and (b). There are no authorized AM stations within 3.2 kilometers of the site. The site is not within a border area requiring international coordination.

Human Exposure to Radiofrequency Electromagnetic Field

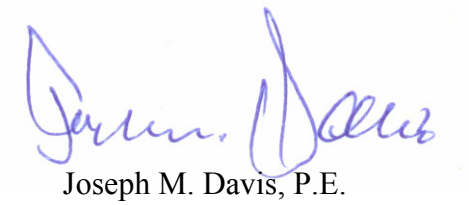
The transmitting location is on Sandia Crest overlooking Albuquerque. There are numerous other transmitting facilities at this site area situated on various antenna supporting structures. *Ramar* participates in a radiofrequency ("RF") electromagnetic field exposure safety program, along with other broadcasters and FCC licensees that utilize the Sandia Crest site area. Following construction of the proposed facility, *Ramar* will conduct RF exposure measurements to evaluate the level of RF exposure resulting from the proposed KTEL-LP flashcut facility. As necessary, based on these results and considering all emitters, appropriate exposure abatement procedures will be established and followed, in order to comply with the Commission's exposure limits. Such abatement procedures may involve the restriction of access to certain areas and/or facility modifications to reduce RF levels.

Considering the post-construction measurement and an appropriate abatement program, the general public and workers will not be exposed to RF levels attributable to the proposal in excess of the Commission's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, authorized personnel will be trained and/or supervised as necessary for access to any "controlled" areas. *Ramar* will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

This exhibit is limited to the evaluation of exposure to RF electromagnetic field. The proposed transmitting antenna will be side-mounted on an existing antenna support structure which was constructed prior to March 16, 2001. No change in structure height is proposed.

Certification

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.



Joseph M. Davis, P.E.
September 6, 2013

Chesapeake RF Consultants, LLC
207 Old Dominion Road
Yorktown, VA 23692
703-650-9600

List of Attachments

Figure 1	Coverage Contour Comparison
Table 1	Interference Analysis Results Summary
Form 302-CA	Saved Version of Engineering Sections from FCC Form at Time of Upload

This material was entered September 6, 2013 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's account number and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.

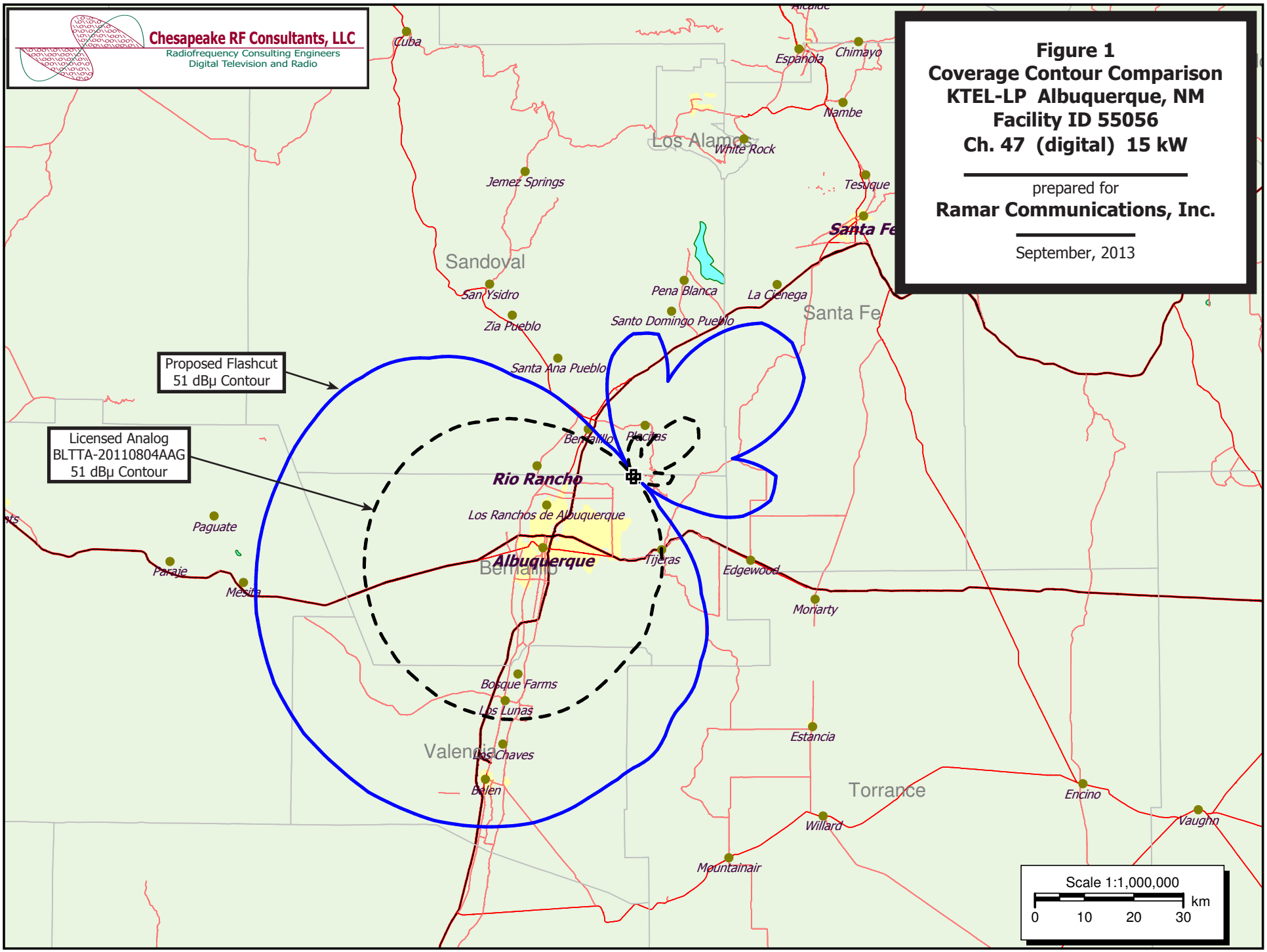

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio
Figure 1
Coverage Contour Comparison
KTEL-LP Albuquerque, NM
Facility ID 55056
Ch. 47 (digital) 15 kW
prepared for
Ramar Communications, Inc.
September, 2013
Proposed Flashcut
51 dBµ Contour
Licensed Analog
BLTTA-20110804AAG
51 dBµ Contour
Cuba
Española
Chimayo
Nambe
Los Alamos
White Rock
Jemez Springs
Tesuque
Santa Fe
Sandoval
San Ysidro
Zia Pueblo
Pena Blanca
La Cienega
Santo Domingo Pueblo
Santa Fe
Santa Ana Pueblo
Bernalillo
Placitas
Rio Rancho
Los Ranchos de Albuquerque
Paguate
Albuquerque
Tijeras
Edgewood
Moriarty
Paraje
Mesita
Bernalillo
Bosque Farms
Los Lunas
Estancia
Valencia
Los Chaves
Belen
Torrance
Encino
Willard
Vaughn
Mountainair
Scale 1:1,000,000
km
0
10
20
30

Table 1

Interference Analysis Results Summary

prepared for

Ramar Communications, Inc.

KTEL-LP Albuquerque, NM

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

```
KTEL-LP  USERRECORD-01              ALBUQUERQUE          NM US
Channel 47 ERP 15.    kW   HAAT 1241. m  RCAMSL 03250 m STRINGENT MASK
Latitude 035-12-54  Longitude 0106-27-02
Dir Antenna Make CDB  Model 00000000085057  Beam tilt N  Ref Azimuth 0.
```

Ch.	Call	City/State	Dist (km)	Status	Application Ref. No.	---Population (2000 Census)---- Baseline	New Interference	
44	K44HJ	SOCORRO NM	135.4	LIC	BLTT-20041021AEX	---	none	
46	K46FI	GRANTS NM	104.1	LIC	BLTT-20010814AAD	---	none	
46	K46FI	GRANTS NM	104.1	CP	BDFCDTT-20081222AAR	21,808	294 (1.35%)	
46	K46GL-D	RED RIVER NM	189.9	LIC	BLDTT-20120308ABA	---	none	
46	K46GY	SANTA FE NM	0.1	LIC	BLTT-20030403AAN	23,104	0 (0.00%)	
46	K46HY-D	SOCORRO NM	135.4	LIC	BLDTT-20060901ABN	---	none	
47	K47DA	DUNCAN AZ	369.4	LIC	BLTT-19880929IF	---	none	
47	K50IV-D	CORTEZ CO	284.6	APP	BPTT-20040805AAJ	---	none	
47	K47BL-D	CRESTED BUTTE CO	401.7	LIC	BLDTT-20100301AAJ	---	none	
47	K47MP-D	HOEHNE CO	278.7	CP	BNPDTT-20090908AAT	---	none	
47	K47KC	ROMEO CO	186.9	CP	BDFCDTL-20090824ACE	---	none	
47	K47KC	ROMEO CO	186.9	CP	BPTTL-20090526AFR	---	none	
47	K47KC	ROMEO CO	186.9	LIC	BLTT-20090410AAC	---	none	
47	K47LZ-D	SARGENTS CO	365.0	LIC	BLDTT-20091021ABL	---	none	
47	K47LZ-D	SARGENTS CO	365.0	CP	BDISTT-20090210AEF	---	none	
47	K47FX-D	CARLSBAD NM	368.8	LIC	BLDTT-20121128BPO	---	none	
47	K47DH	CLOVIS NM	307.9	LIC	BLTT-19910712JL	---	none	
47	K47DR	FARMINGTON NM	226.5	LIC	BLTTL-19951211JA	---	none	
47	K47DR	FARMINGTON NM	226.5	CP	BDFCDTL-20110223ACC	---	none	
47	NEW	HOBBS NM	405.8	APP	BNPEDT-20040524AOU	---	none	
47	KTDO	LAS CRUCES NM	379.0	LIC	BLCDT-20090612ABA	---	none	
47	K47GV-D	LAS VEGAS NM	116.2	LIC	BLDTT-20110727AGG	---	none	
47	KGDR-LP	RUIDOSO NM	210.5	LIC	BLTT-19950502IF	---	none	
47	K47MQ-D	SANTA FE NM	104.4	CP	BNPDTL-20091014AAX	52,527	375 (0.71%)	
47	K46GY	SANTA FE NM	0.1	CP	BDISDTL-20100308AAZ	127,565	9,171 (7.19%)	*
47	K47JI-D	BLANDING, MONTICELLO UT	396.7	LIC	BLDTT-20090914ABC	---	none	

* The applicant, Ramar Communications, Inc., is also the licensee for K46GY and agrees to accept all predicted interference that may occur between these two facilities.

Table 1

Interference Analysis Results Summary

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Ch.	Call	City/State	Dist (km)	Status	Application Ref. No.	---Population (2000 Census)---- Baseline	New Interference
48	KTFA-LP	ALBUQUERQUE NM	0.4	CP	BDFCDTL-20120410ABQ	832,603	293 (0.04%)
48	KTFA-LP	ALBUQUERQUE NM	0.4	LIC	BLTTL-20031212ABM	---	none
48	K48GY	CARRIZOZO NM	155.5	CP	BDFCDTT-20060329AAE	---	none
48	K48GY	CARRIZOZO, ETC. NM	155.5	LIC	BLTT-20060714ABA	---	none
48	K48HL-D	DATIL/HORSE SPRINGS NM	205.7	APP	BSTA-20090206ADQ	---	none
48	K48HL-D	DATIL/HORSE SPRINGS NM	205.7	LIC	BLDTT-20090721ACE	---	none
48	K48AX-D	EAGLE NEST NM	192.9	LIC	BLDTT-20120608ACT	---	none
48	DK48GD	GALLINA NM	115.2	CP	BDFCDTT-20090824AIS	---	none

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name	Relationship to Applicant (e.g., Consulting Engineer)
JOSEPH M. DAVIS, P.E.	CONSULTING ENGINEER
Signature	Date
	9/6/2013

Mailing Address		
CHESAPEAKE RF CONSULTANTS, LLC 207 OLD DOMINION ROAD		
City	State or Country (if foreign address)	Zip Code
YORKTOWN	VA	23692-
Telephone Number (include area code)	E-Mail Address (if available)	
7036509600	JOSEPH.DAVIS@RF-CONSULTANTS.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

Section III - Engineering (Digital)

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. All items must be completed. The response "on file" is not acceptable.

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

TECH BOX

1. Channel:
   47

2. Antenna Location Coordinates: (NAD 27)
   Latitude:
   Degrees 35 Minutes 12 Seconds 54 (•) North ( ) South

   Longitude:
   Degrees 106 Minutes 27 Seconds 2 (•) West ( ) East

3. Antenna Structure Registration Number:
   [x] Not Applicable [Exhibit 9] [ ] Notification filed with FAA

4. Antenna Location Site Elevation Above Mean Sea Level: 3235 meters

5. Overall Tower Height Above Ground Level: 49 meters

6. Height of Radiation Center Above Ground Level: 15 meters

7. Maximum Effective Radiated Power (ERP): 15 kW

8. Transmitter Output Power: 0.28 kW

9. a. Transmitting Antenna:
   Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under CDBS Public Access (http://licnesing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search.
   ( ) Nondirectional ( ) Directional Off-the Shelf (•) Directional composite

   Manufacturer RFS Model PHP4A CUSTOM

   b. Electrical Beam Tilt: 4 degrees [ ] Not Applicable

   c. Mechanical Beam Tilt: degrees toward azimuth degrees True [x] Not Applicable

   d. Directional Antenna Relative Field Values: [ ] N/A (Nondirectional or Off-the-Shelf)
   Rotation (Degrees): [x] No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	0.026	10	0.027	20	0.013	30	0.035	40	0.059	50	0.067
60	0.059	70	0.035	80	0.013	90	0.027	100	0.026	110	0.018
120	0.007	130	0.001	140	0.004	150	0.029	160	0.083	170	0.178
180	0.307	190	0.468	200	0.642	210	0.831	220	0.957	230	0.992

240	0.957	250	0.831	260	0.657	270	0.465	280	0.307	290	0.178
300	0.083	310	0.029	320	0.004	330	0.001	340	0.007	350	0.018
Additional Azimuths		232	1								

e. Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? ○ Yes ◉ No

[Exhibit 10]

If Yes, attach an Exhibit (see instructions for details).

Relative Field Polar Plot

10. **Out-of-channel Emission Mask:** ○ Simple ◉ Stringent ○ Full Service

CERTIFICATION

11. **Interference.** The proposed facility complies with all of the following applicable rule sections. 47.C.F.R Sections 73.6016, 73.6017, 73.6018, 73.6019, 73.6020, 73.6027 and 74.794(b). ◉ Yes ○ No

See Explanation in [Exhibit 11]

12. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine RF compliance, an **Exhibit is required.** ◉ Yes ○ No

See Explanation in [Exhibit 12]

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

13. **Channels 52-59.** If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:

☐ The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.

☐ Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

Exhibits

Exhibit 9
Description: SEE ENGINEERING EXHIBIT

Attachment 9

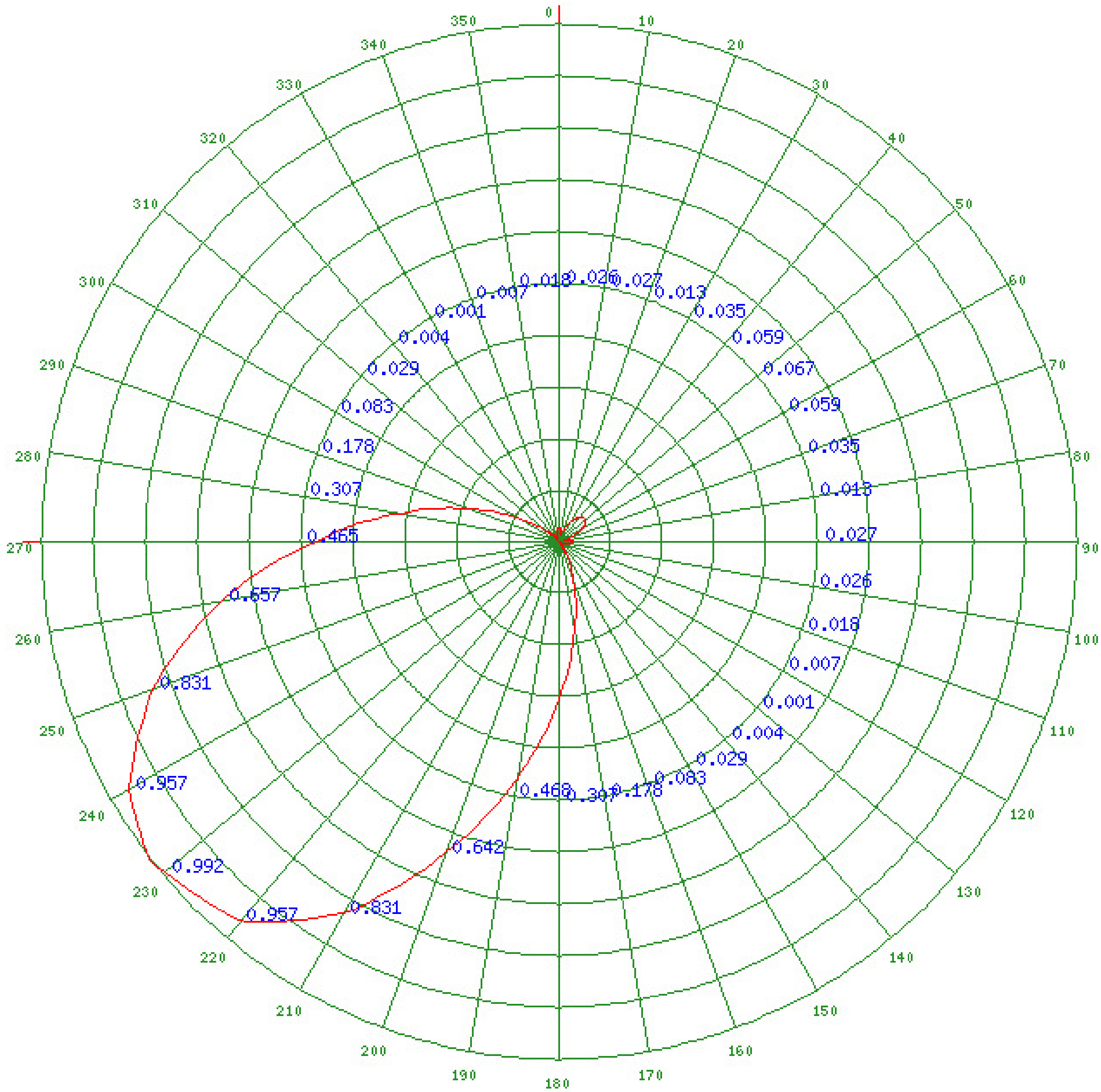
Exhibit 11
Description: INTERFERENCE

OET BULLETIN 69 ANALYSIS SHOWS 7.19 PERCENT INTERFERENCE WOULD BE CAUSED TO THE CONSTRUCTION PERMIT FACILITY FOR K46GY (CH. 47 SANTA FE NM, BDISDTL-20100308AAZ). THE APPLICANT IS ALSO THE LICENSEE OF K46GY AND CONSENTS TO THE PROPOSED 7.19 PERCENT INTERFERENCE THAT WOULD BE CAUSED TO K46GY.

SEE ENGINEERING EXHIBIT.

Any specified rotation has already been applied to the plotted pattern.
Field strength values shown on a rotated pattern may differ from the listed values because intermediate azimuths are interpolated between entered azimuths.

Close Window



FM Query FCC TV Query