

## **ENGINEERING EXHIBIT**

### **Application for Post-Transition Digital Television Station Construction Permit**

prepared for

#### **Gray Television Licensee, LLC**

KWTX-DT Waco, TX

Facility ID 35903

Ch. 10 39 kW 555 m

*Gray Television Licensee, LLC* (“*Gray*”) is the licensee of television station KWTX-TV, pre-transition analog Channel 10 and digital Channel 53, Waco, TX. KWTX-TV has terminated analog operation and executed an early transition to Channel 10, its final digital channel. A license application is pending (BLCDT-20090226ABW) to cover construction of the KWTX-DT post-transition digital facility on Channel 10. The post-transition “maximization” authorization (BMPCDT-20080606ADI) covered by the license application involves an effective radiated power (“ERP”) of 26 kW at 555 meters antenna height above average terrain (“HAAT”), with a nondirectional antenna.

*Gray* herein seeks a new Construction Permit to further expand the KWTX-DT post-transition Channel 10 digital facility. An increase in ERP to 39 kW is proposed herein, utilizing the currently authorized antenna system. No other changes are proposed.

The proposed operation will employ the existing non-directional antenna system currently in use for KWTX-DT’s 26 kW ERP post-transition digital Channel 10. The antenna is a circularly polarized Dielectric model THV-12A10/CP-R O4 and was recently installed pursuant to BMPCDT-20080606ADI. The antenna is top-mounted on the existing KWTX-DT antenna supporting structure, having FCC Antenna Structure Registration (“ASR”) number 1046229. No further change to the overall structure height or tower work is required to carry out this proposal.

A map is supplied as **Figure 1**, which depicts the standard predicted coverage contours. This map includes the boundaries of Waco, KWTX-DT’s principal community. As demonstrated

thereon, the proposed facility complies with §73.625(a)(1), as the entire principal community will be encompassed by the 43 dBμ contour.

The proposed KWTX-DT facility’s predicted service population provides a 132.9 percent match of the Appendix B facility, as detailed in the table below.

**Post-Transition Population Summary**

Population Summary (2000 Census) OET Bulletin 69 method	Appendix B	Proposed
Within Noise Limited Contour	1,197,734	1,655,991
Not affected by terrain losses	1,177,786	1,591,829
Lost to all interference	12,824	43,731
Net DTV Service	<b>1,164,962</b>	<b>1,548,098</b>
Match of Appendix B	---	<b>132.89%</b>

A detailed interference study per OET Bulletin 69<sup>1</sup> shows that the proposal complies with the 0.5 percent limit of new interference caused to the Appendix B facilities and current post-transition authorizations of pertinent nearby stations. The interference study output report is provided as **Table 1**. Protection requirements towards authorized Class A stations are also satisfied.

The nearest FCC monitoring station is 434 km distant at Kingsville, TX. This exceeds by a large margin 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, based on information contained within the Commission’s database. The site location is beyond the border zones that would require international coordination.

**Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposal will involve use of an existing transmitting antenna. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No tower construction or change in

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<sup>1</sup>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 standard cell size of 2 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.

structure height is proposed. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. Based on OET-65 equation (10), and considering 15 percent antenna relative field in downward elevations (pattern data shows less than 15 percent relative field at angles 20 to 90 degrees below the antenna), the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is  $0.24 \mu\text{W}/\text{cm}^2$ , which is 0.12 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant 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.

### **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.  
May 28, 2009

**Chesapeake RF Consultants, LLC**  
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Manassas, VA 20112  
703-650-9600

### List of Attachments

Figure 1	Proposed Coverage Contours
Table 1	OET Bulletin 69 Interference Study
Form 301	Saved Version of Engineering Sections from FCC Form at Time of Upload

*This material was entered May 28, 2009 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's name 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.*

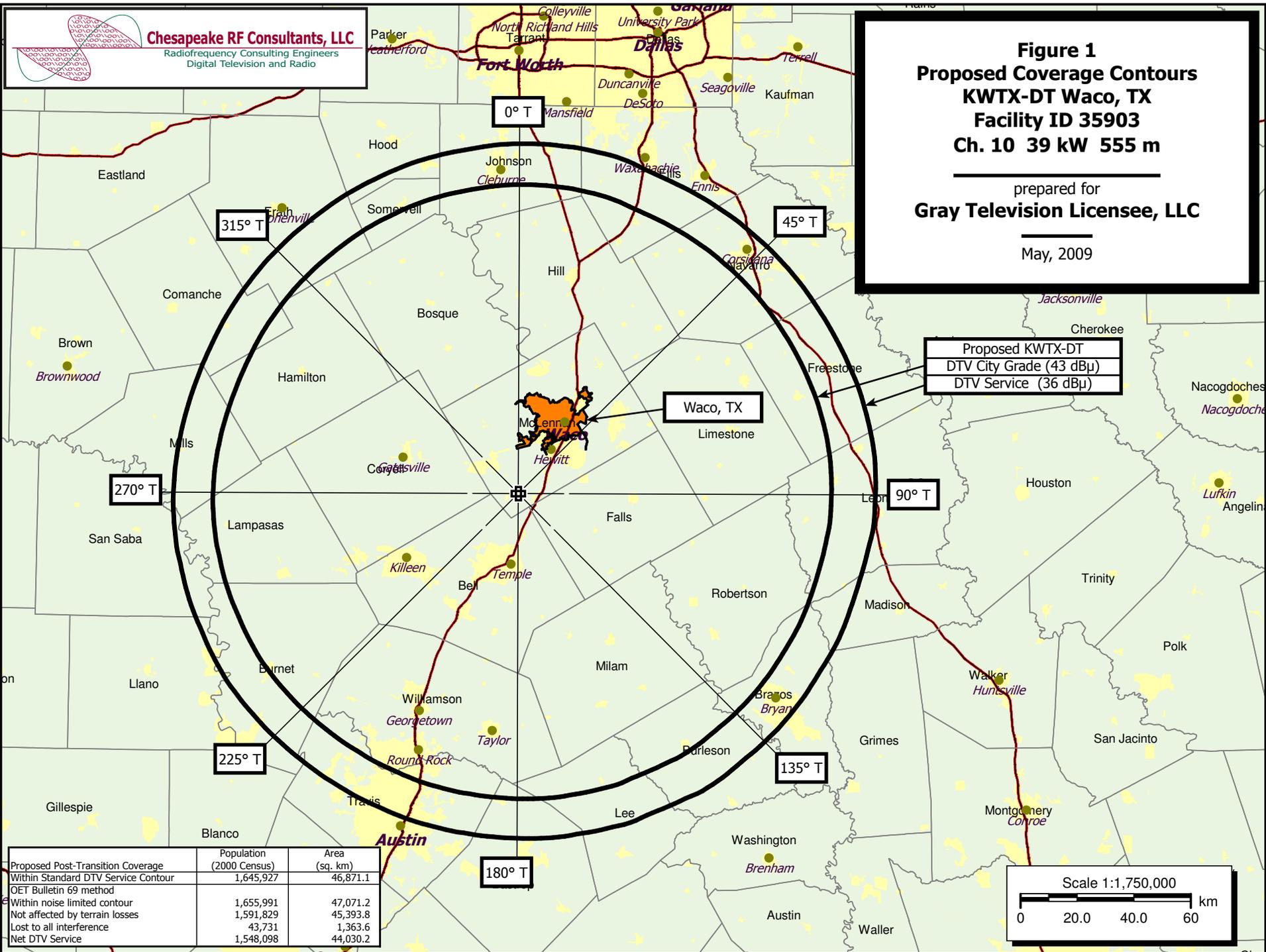
**Figure 1**  
**Proposed Coverage Contours**  
**KWTX-DT Waco, TX**  
**Facility ID 35903**  
**Ch. 10 39 kW 555 m**

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prepared for  
**Gray Television Licensee, LLC**

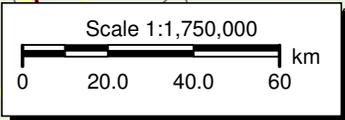
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May, 2009



Proposed KWTX-DT  
 DTV City Grade (43 dBμ)  
 DTV Service (36 dBμ)

Proposed Post-Transition Coverage	Population (2000 Census)	Area (sq. km)
Within Standard DTV Service Contour	1,645,927	46,871.1
OET Bulletin 69 method		
Within noise limited contour	1,655,991	47,071.2
Not affected by terrain losses	1,591,829	45,393.8
Lost to all interference	43,731	1,363.6
Net DTV Service	1,548,098	44,030.2



**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 1 of 12)

TW Census data selected 2000  
Post Transition Data Base Selected /space/software/cdbs/pt\_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 05-26-2009 Time: 22:03:44

Record Selected for Analysis

KWTX-DT USERRECORD-01 WACO TX US  
Channel 10 ERP 39. kW HAAT 555. m RCAMSL 00757 m  
Latitude 031-19-19 Longitude 0097-19-02  
Status APP Zone 2 Border  
Last update Cutoff date Docket  
Comments  
Applicant

Cell Size for Service Analysis 2.0 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	39.000	562.8	122.9
45.0	39.000	567.4	123.3
90.0	39.000	598.3	125.6
135.0	39.000	564.8	123.1
180.0	39.000	539.6	121.2
225.0	39.000	538.6	121.1
270.0	39.000	541.4	121.3
315.0	39.000	528.9	120.5

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet 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

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 2 of 12)

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Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
10	KWTX-DT	WACO TX	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
09	KFWD	FORT WORTH TX	144.6	CP	BPCDT	-20080312ACF
09	KFWD	FORT WORTH TX	144.6	PLN	DTVPLN	-DTVPO223
09	KFWD	FORT WORTH TX	144.6	APP	BMPCDT	-20080620AKS
09	KCEN-TV	TEMPLE TX	10.7	LIC	BLCDT	-20021010AAB
09	KCEN-TV	TEMPLE TX	10.7	PLN	DTVPLN	-DTVPO227
10	KZTV	CORPUS CHRISTI TX	402.9	CP	BPCDT	-20080324AAT
10	KZTV	CORPUS CHRISTI TX	394.8	PLN	DTVPLN	-DTVPO294
11	KTVT	FORT WORTH TX	143.8	CP	BPCDT	-20080328ACY
11	KTVT	FORT WORTH TX	143.8	PLN	DTVPLN	-DTVPO346

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Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
09	KFWD	FORT WORTH TX	BPCDT	-20080312ACF

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
08	WFAA-TV	DALLAS TX	1.0	PLN	DTVPLN	-DTVPO167
08	WFAA-TV	DALLAS TX	1.0	CP MOD	BMPCDT	-20080617ADW
09	KWTV	OKLAHOMA CITY OK	332.7	CP MOD	BMPCDT	-20080619ADT
09	KWTV	OKLAHOMA CITY OK	332.7	PLN	DTVPLN	-DTVPO214
09	KTRE	LUFKIN TX	242.1	PLN	DTVPLN	-DTVPO224
09	KTRE	LUFKIN TX	242.1	CP	BPCDT	-20080516ABZ
09	KLRN	SAN ANTONIO TX	385.8	PLN	DTVPLN	-DTVPO226
09	KLRN	SAN ANTONIO TX	385.8	CP MOD	BMPCDT	-20081112ACW
09	KCEN-TV	TEMPLE TX	148.1	LIC	BLCDT	-20021010AAB
09	KCEN-TV	TEMPLE TX	148.1	PLN	DTVPLN	-DTVPO227
10	KWTX-TV	WACO TX	144.6	PLN	DTVPLN	-DTVPO295
10	KWTX-DT	WACO TX	144.6	APP	USERRECORD-01	

Total scenarios = 16

Result key: 1  
Scenario 1 Affected station 1  
Before Analysis

Results for:	POPULATION	AREA (sq km)
9A TX FORT WORTH	5373334	33906.6
HAAT 546.0 m, ATV ERP 13.0 kW	5370738	33521.1
within Noise Limited Contour	0	0.0
not affected by terrain losses	75719	5048.0
lost to NTSC IX		
lost to additional IX by ATV		

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 3 of 12)

lost to ATV IX only	75719	5048.0
lost to all IX	75719	5048.0
Potential Interfering Stations Included in above Scenario 1		
8A TX DALLAS	DTVPLN	DTVP0167 PLN
9A OK OKLAHOMA CITY	BMPCDT	20080619ADT CP
9A TX LUFKIN	DTVPLN	DTVP0224 PLN
9A TX TEMPLE	BLCDDT	20021010AAB LIC
10A TX WACO	DTVPLN	DTVP0295 PLN
After Analysis		
Results for: 9A TX FORT WORTH	BPCDDT	20080312ACF CP
HAAT 546.0 m, ATV ERP 13.0 kW		
	POPULATION	AREA (sq km)
within Noise Limited Contour	5373334	33906.6
not affected by terrain losses	5370738	33521.1
lost to NTSC IX	0	0.0
lost to additional IX by ATV	75719	5048.0
lost to ATV IX only	75719	5048.0
lost to all IX	75719	5048.0
Potential Interfering Stations Included in above Scenario 1		
8A TX DALLAS	DTVPLN	DTVP0167 PLN
9A OK OKLAHOMA CITY	BMPCDDT	20080619ADT CP
9A TX LUFKIN	DTVPLN	DTVP0224 PLN
9A TX TEMPLE	BLCDDT	20021010AAB LIC
10A TX WACO	USERRECORD01	APP

Percent new IX = 0.0000%  
Worst case new IX 0.0000% Scenario 1

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Analysis of Interference to Affected Station 2

Analysis of current record				
Channel	Call	City/State	Application	Ref. No.
09	KFWD	FORT WORTH TX	DTVPLN	-DTVP0223

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
08	WFAA-TV	DALLAS TX	1.0	PLN	DTVPLN	-DTVP0167
08	WFAA-TV	DALLAS TX	1.0	CP MOD	BMPCDDT	-20080617ADW
09	KWTV	OKLAHOMA CITY OK	332.7	CP MOD	BMPCDDT	-20080619ADT
09	KWTV	OKLAHOMA CITY OK	332.7	PLN	DTVPLN	-DTVP0214
09	KTRE	LUFKIN TX	242.1	PLN	DTVPLN	-DTVP0224
09	KTRE	LUFKIN TX	242.1	CP	BPCDDT	-20080516ABZ
09	KLRN	SAN ANTONIO TX	385.8	PLN	DTVPLN	-DTVP0226
09	KLRN	SAN ANTONIO TX	385.8	CP MOD	BMPELDT	-20081112ACW
09	KCEN-TV	TEMPLE TX	148.1	LIC	BLCDDT	-20021010AAB
09	KCEN-TV	TEMPLE TX	148.1	PLN	DTVPLN	-DTVP0227
10	KWTX-TV	WACO TX	144.6	PLN	DTVPLN	-DTVP0295
10	KWTX-DT	WACO TX	144.6	APP	USERRECORD-01	

Total scenarios = 16

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 4 of 12)

Result key:	25
Scenario	9 Affected station 2
Before Analysis	
Results for: 9A TX FORT WORTH	DTVPLN DTVP0223 PLN
HAAT 545.0 m, ATV ERP 6.9 kW	
	POPULATION AREA (sq km)
within Noise Limited Contour	5312159 30447.9
not affected by terrain losses	5309107 30026.3
lost to NTSC IX	0 0.0
lost to additional IX by ATV	80226 4899.3
lost to ATV IX only	80226 4899.3
lost to all IX	80226 4899.3
Potential Interfering Stations Included in above Scenario 9	
8A TX DALLAS	BMPCDDT 20080617ADW CP
9A OK OKLAHOMA CITY	BMPCDDT 20080619ADT CP
9A TX LUFKIN	DTVPLN DTVP0224 PLN
9A TX TEMPLE	BLCDDT 20021010AAB LIC
10A TX WACO	DTVPLN DTVP0295 PLN

After Analysis

Results for: 9A TX FORT WORTH	DTVPLN DTVP0223 PLN
HAAT 545.0 m, ATV ERP 6.9 kW	
	POPULATION AREA (sq km)
within Noise Limited Contour	5312159 30447.9
not affected by terrain losses	5309107 30026.3
lost to NTSC IX	0 0.0
lost to additional IX by ATV	80231 4903.3
lost to ATV IX only	80231 4903.3
lost to all IX	80231 4903.3

Potential Interfering Stations Included in above Scenario 9

8A TX DALLAS	BMPCDDT 20080617ADW CP
9A OK OKLAHOMA CITY	BMPCDDT 20080619ADT CP
9A TX LUFKIN	DTVPLN DTVP0224 PLN
9A TX TEMPLE	BLCDDT 20021010AAB LIC
10A TX WACO	USERRECORD01 APP

Percent new IX = 0.0001%  
Worst case new IX 0.0001% Scenario 9

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Analysis of Interference to Affected Station 3

Analysis of current record				
Channel	Call	City/State	Application	Ref. No.
09	KFWD	FORT WORTH TX	BMPCDDT	-20080620AKS

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
08	WFAA-TV	DALLAS TX	1.0	PLN	DTVPLN	-DTVP0167
08	WFAA-TV	DALLAS TX	1.0	CP MOD	BMPCDDT	-20080617ADW

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 5 of 12)

09	KWTV	OKLAHOMA CITY OK	332.7	CP MOD	BMPCDT	-20080619ADT
09	KWTV	OKLAHOMA CITY OK	332.7	PLN	DTVPLN	-DTVPO214
09	KTRE	LUFKIN TX	242.1	PLN	DTVPLN	-DTVPO224
09	KTRE	LUFKIN TX	242.1	CP	BPCDT	-20080516ABZ
09	KLRN	SAN ANTONIO TX	385.8	PLN	DTVPLN	-DTVPO226
09	KLRN	SAN ANTONIO TX	385.8	CP MOD	BMPEDT	-20081112ACW
09	KCEN-TV	TEMPLE TX	148.1	LIC	BLCDT	-20021010AAB
09	KCEN-TV	TEMPLE TX	148.1	PLN	DTVPLN	-DTVPO227
10	KWTX-TV	WACO TX	144.6	PLN	DTVPLN	-DTVPO295
10	KWTX-DT	WACO TX	144.6	APP	USERRECORD-01	

Total scenarios = 8

Result key: 33  
Scenario 1 Affected station 3  
Before Analysis

Results for: 9A TX FORT WORTH BMPCDT 20080620AKS APP  
HAAT 546.0 m, ATV ERP 55.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5401801	34847.7
not affected by terrain losses	5392542	34217.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	91266	4501.9
lost to ATV IX only	91266	4501.9
lost to all IX	91266	4501.9

Potential Interfering Stations Included in above Scenario 1

8A TX DALLAS	DTVPLN	DTVP0167	PLN
9A OK OKLAHOMA CITY	BMPCDT	20080619ADT	CP
9A TX TEMPLE	BLCDT	20021010AAB	LIC
10A TX WACO	DTVPLN	DTVP0295	PLN

After Analysis

Results for: 9A TX FORT WORTH BMPCDT 20080620AKS APP  
HAAT 546.0 m, ATV ERP 55.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5401801	34847.7
not affected by terrain losses	5392542	34217.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	91266	4501.9
lost to ATV IX only	91266	4501.9
lost to all IX	91266	4501.9

Potential Interfering Stations Included in above Scenario 1

8A TX DALLAS	DTVPLN	DTVP0167	PLN
9A OK OKLAHOMA CITY	BMPCDT	20080619ADT	CP
9A TX TEMPLE	BLCDT	20021010AAB	LIC
10A TX WACO	USERRECORD01		APP

Percent new IX = 0.0000%

Worst case new IX 0.0000% Scenario 1

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Analysis of Interference to Affected Station 4

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 6 of 12)

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
09	KCEN-TV	TEMPLE TX	BLCDT	-20021010AAB

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
08	WFAA-TV	DALLAS TX	147.6	PLN	DTVPLN	-DTVPO167
08	WFAA-TV	DALLAS TX	147.6	CP MOD	BMPCDT	-20080617ADW
09	KFWD	FORT WORTH TX	148.1	CP	BPCDT	-20080312ACF
09	KFWD	FORT WORTH TX	148.1	PLN	DTVPLN	-DTVPO223
09	KFWD	FORT WORTH TX	148.1	APP	BMPCDT	-20080620AKS
09	KTRE	LUFKIN TX	230.3	PLN	DTVPLN	-DTVPO224
09	KTRE	LUFKIN TX	230.3	CP	BPCDT	-20080516ABZ
09	KLRN	SAN ANTONIO TX	242.1	PLN	DTVPLN	-DTVPO226
09	KLRN	SAN ANTONIO TX	242.1	CP MOD	BMPEDT	-20081112ACW
10	KWTX-TV	WACO TX	10.6	PLN	DTVPLN	-DTVPO295
10	KWTX-DT	WACO TX	10.7	APP	USERRECORD-01	

Total scenarios = 24

Result key: 42  
Scenario 2 Affected station 4  
Before Analysis

Results for: 9A TX TEMPLE BLCDT 20021010AAB LIC  
HAAT 527.0 m, ATV ERP 25.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1410002	39962.5
not affected by terrain losses	1357183	39161.6
lost to NTSC IX	0	0.0
lost to additional IX by ATV	99694	4966.6
lost to ATV IX only	99694	4966.6
lost to all IX	99694	4966.6

Potential Interfering Stations Included in above Scenario 2

8A TX DALLAS	DTVPLN	DTVP0167	PLN
9A TX FORT WORTH	BPCDT	20080312ACF	CP
9A TX LUFKIN	DTVPLN	DTVP0224	PLN
9A TX SAN ANTONIO	BMPEDT	20081112ACW	CP
10A TX WACO	DTVPLN	DTVP0295	PLN

After Analysis

Results for: 9A TX TEMPLE BLCDT 20021010AAB LIC  
HAAT 527.0 m, ATV ERP 25.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1410002	39962.5
not affected by terrain losses	1357183	39161.6
lost to NTSC IX	0	0.0
lost to additional IX by ATV	100283	5184.0
lost to ATV IX only	100283	5184.0
lost to all IX	100283	5184.0

Potential Interfering Stations Included in above Scenario 2

8A TX DALLAS	DTVPLN	DTVP0167	PLN
9A TX FORT WORTH	BPCDT	20080312ACF	CP
9A TX LUFKIN	DTVPLN	DTVP0224	PLN

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 7 of 12)

9A TX SAN ANTONIO BMPEDT 20081112ACW CP  
10A TX WACO USERRECORD01 APP

Percent new IX = 0.0468%

Worst case new IX 0.0468% Scenario 2

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Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application Ref. No.
09	KCEN-TV	TEMPLE TX	DTVPLN -DTVP0227

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
08	WFAA-TV	DALLAS TX	147.6	PLN	DTVPLN -DTVP0167
08	WFAA-TV	DALLAS TX	147.6	CP MOD	BMPEDT -20080617ADW
09	KFWD	FORT WORTH TX	148.1	CP	BPCDT -20080312ACF
09	KFWD	FORT WORTH TX	148.1	PLN	DTVPLN -DTVP0223
09	KFWD	FORT WORTH TX	148.1	APP	BMPEDT -20080620AKS
09	KTRE	LUFKIN TX	230.3	PLN	DTVPLN -DTVP0224
09	KTRE	LUFKIN TX	230.3	CP	BPCDT -20080516ABZ
09	KLRN	SAN ANTONIO TX	242.1	PLN	DTVPLN -DTVP0226
09	KLRN	SAN ANTONIO TX	242.1	CP MOD	BMPEDT -20081112ACW
10	KWTX-TV	WACO TX	10.6	PLN	DTVPLN -DTVP0295
10	KWTX-DT	WACO TX	10.7	APP	USERRECORD-01

Total scenarios = 24

Result key: 66

Scenario 2 Affected station 5  
Before Analysis

Results for: 9A TX TEMPLE DTVPLN DTVP0227 PLN

	POPULATION	AREA (sq km)
HAAT 527.0 m, ATV ERP 25.0 kW		
within Noise Limited Contour	1410002	39962.5
not affected by terrain losses	1357183	39161.6
lost to NTSC IX	0	0.0
lost to additional IX by ATV	99694	4966.6
lost to ATV IX only	99694	4966.6
lost to all IX	99694	4966.6

Potential Interfering Stations Included in above Scenario 2

8A TX DALLAS	DTVPLN	DTVP0167	PLN
9A TX FORT WORTH	BPCDT	20080312ACF	CP
9A TX LUFKIN	DTVPLN	DTVP0224	PLN
9A TX SAN ANTONIO	BMPEDT	20081112ACW	CP
10A TX WACO	DTVPLN	DTVP0295	PLN

After Analysis

Results for: 9A TX TEMPLE DTVPLN DTVP0227 PLN

	POPULATION	AREA (sq km)
HAAT 527.0 m, ATV ERP 25.0 kW		
within Noise Limited Contour	1410002	39962.5

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 8 of 12)

not affected by terrain losses	1357183	39161.6
lost to NTSC IX	0	0.0
lost to additional IX by ATV	100283	5184.0
lost to ATV IX only	100283	5184.0
lost to all IX	100283	5184.0

Potential Interfering Stations Included in above Scenario 2

8A TX DALLAS	DTVPLN	DTVP0167	PLN
9A TX FORT WORTH	BPCDT	20080312ACF	CP
9A TX LUFKIN	DTVPLN	DTVP0224	PLN
9A TX SAN ANTONIO	BMPEDT	20081112ACW	CP
10A TX WACO	USERRECORD01		APP

Percent new IX = 0.0468%

Worst case new IX 0.0468% Scenario 2

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Analysis of Interference to Affected Station 6

Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	KZTV	CORPUS CHRISTI TX	BPCDT -20080324AAT

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	KLRN	SAN ANTONIO TX	193.3	PLN	DTVPLN -DTVP0226
09	KLRN	SAN ANTONIO TX	193.3	CP MOD	BMPEDT -20081112ACW
10	KWTX-TV	WACO TX	402.9	PLN	DTVPLN -DTVP0295
11	KVCT	VICTORIA TX	135.8	CP MOD	BMPEDT -20021107AAS
11	KVCT	VICTORIA TX	135.8	PLN	DTVPLN -DTVP0350
10	KWTX-DT	WACO TX	402.9	APP	USERRECORD-01

Proposed station is beyond the site to nearest cell evaluation distance

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Analysis of Interference to Affected Station 7

Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	KZTV	CORPUS CHRISTI TX	DTVPLN -DTVP0294

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	KLRN	SAN ANTONIO TX	185.7	PLN	DTVPLN -DTVP0226
09	KLRN	SAN ANTONIO TX	185.7	CP MOD	BMPEDT -20081112ACW
10	KWTX-TV	WACO TX	394.8	PLN	DTVPLN -DTVP0295
11	KVCT	VICTORIA TX	128.3	CP MOD	BMPEDT -20021107AAS
11	KVCT	VICTORIA TX	128.3	PLN	DTVPLN -DTVP0350
10	KWTX-DT	WACO TX	394.8	APP	USERRECORD-01

Proposal causes no interference

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 9 of 12)

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Analysis of Interference to Affected Station 8

Analysis of current record  
Channel Call City/State Application Ref. No.  
11 KTVT FORT WORTH TX BPCDT -20080328ACY

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
10	KWTX-TV	WACO TX	143.8	PLN	DTVPLN -DTVPO295
11	KSWO-TV	LAWTON OK	244.9	CP MOD	BMPEDT -20030213AAF
11	KSWO-TV	LAWTON OK	244.9	PLN	DTVPLN -DTVPO335
11	KOED-TV	TULSA OK	400.2	CP MOD	BMPEDT -20080620ABR
11	KOED-TV	TULSA OK	400.2	PLN	DTVPLN -DTVPO336
11	KHOU-TV	HOUSTON TX	362.8	APP	BMPEDT -20080618AAW
11	KHOU-TV	HOUSTON TX	362.8	PLN	DTVPLN -DTVPO347
11	KHOU-TV	HOUSTON TX	362.8	CP	BPCDT -20080303ALI
11	KLST	SAN ANGELO TX	321.2	CP MOD	BMPEDT -20070125ACQ
11	KLST	SAN ANGELO TX	321.2	PLN	DTVPLN -DTVPO349
11	KVCT	VICTORIA TX	415.3	CP MOD	BMPEDT -20021107AAS
11	KVCT	VICTORIA TX	415.3	PLN	DTVPLN -DTVPO350
12	KAMU-TV	COLLEGE STATION TX	224.2	PLN	DTVPLN -DTVPO405
12	KAMU-TV	COLLEGESTATION/BRYAN TX	224.2	LIC	BLEDT -20030319AFB
12	KXII	SHERMAN TX	162.3	CP MOD	BMPEDT -20080609ACT
12	KXII	SHERMAN TX	162.3	PLN	DTVPLN -DTVPO407
10	KWTX-DT	WACO TX	143.8	APP	USERRECORD-01

Total scenarios = 48

Result key: 121  
Scenario 33 Affected station 8  
Before Analysis

Results for: 11A TX FORT WORTH BPCDT 20080328ACY CP  
HAAT 521.0 m, ATV ERP 23.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5504596	41619.8
not affected by terrain losses	5494183	40916.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	79714	2729.6
lost to ATV IX only	79714	2729.6
lost to all IX	79714	2729.6

Potential Interfering Stations Included in above Scenario 33

11A OK LAWTON	BMPEDT	20030213AAF	CP
11A OK TULSA	BMPEDT	20080620ABR	CP
11A TX HOUSTON	BMPEDT	20080618AAW	APP
11A TX SAN ANGELO	BMPEDT	20070125ACQ	CP
12A TX SHERMAN	BMPEDT	20080609ACT	CP
10A TX WACO	DTVPLN	DTVPO295	PLN

After Analysis

Results for: 11A TX FORT WORTH BPCDT 20080328ACY CP  
HAAT 521.0 m, ATV ERP 23.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5504596	41619.8

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 10 of 12)

not affected by terrain losses	5494183	40916.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	86497	3139.7
lost to ATV IX only	86497	3139.7
lost to all IX	86497	3139.7

Potential Interfering Stations Included in above Scenario 33

11A OK LAWTON	BMPEDT	20030213AAF	CP
11A OK TULSA	BMPEDT	20080620ABR	CP
11A TX HOUSTON	BMPEDT	20080618AAW	APP
11A TX SAN ANGELO	BMPEDT	20070125ACQ	CP
12A TX SHERMAN	BMPEDT	20080609ACT	CP
10A TX WACO	USERRECORD01		APP

Percent new IX = 0.1253%

Worst case new IX 0.1253% Scenario 33

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Analysis of Interference to Affected Station 9

Analysis of current record  
Channel Call City/State Application Ref. No.  
11 KTVT FORT WORTH TX DTVPLN -DTVPO346

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
10	KWTX-TV	WACO TX	143.8	PLN	DTVPLN -DTVPO295
11	KSWO-TV	LAWTON OK	244.9	CP MOD	BMPEDT -20030213AAF
11	KSWO-TV	LAWTON OK	244.9	PLN	DTVPLN -DTVPO335
11	KOED-TV	TULSA OK	400.2	CP MOD	BMPEDT -20080620ABR
11	KOED-TV	TULSA OK	400.2	PLN	DTVPLN -DTVPO336
11	KHOU-TV	HOUSTON TX	362.8	APP	BMPEDT -20080618AAW
11	KHOU-TV	HOUSTON TX	362.8	PLN	DTVPLN -DTVPO347
11	KHOU-TV	HOUSTON TX	362.8	CP	BPCDT -20080303ALI
11	KLST	SAN ANGELO TX	321.2	CP MOD	BMPEDT -20070125ACQ
11	KLST	SAN ANGELO TX	321.2	PLN	DTVPLN -DTVPO349
11	KVCT	VICTORIA TX	415.3	CP MOD	BMPEDT -20021107AAS
11	KVCT	VICTORIA TX	415.3	PLN	DTVPLN -DTVPO350
12	KAMU-TV	COLLEGE STATION TX	224.2	PLN	DTVPLN -DTVPO405
12	KAMU-TV	COLLEGESTATION/BRYAN TX	224.2	LIC	BLEDT -20030319AFB
12	KXII	SHERMAN TX	162.3	CP MOD	BMPEDT -20080609ACT
12	KXII	SHERMAN TX	162.3	PLN	DTVPLN -DTVPO407
10	KWTX-DT	WACO TX	143.8	APP	USERRECORD-01

Total scenarios = 48

Result key: 169  
Scenario 33 Affected station 9  
Before Analysis

Results for: 11A TX FORT WORTH DTVPLN DTVPO346 PLN  
HAAT 500.0 m, ATV ERP 26.3 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5498212	41453.7
not affected by terrain losses	5482084	40657.7
lost to NTSC IX	0	0.0

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 11 of 12)

lost to additional IX by ATV	70499	2725.5
lost to ATV IX only	70499	2725.5
lost to all IX	70499	2725.5

Potential Interfering Stations Included in above Scenario 33

11A OK LAWTON	BMPCDT	20030213AAF	CP
11A OK TULSA	BMPEDT	20080620ABR	CP
11A TX HOUSTON	BMPCDT	20080618AAW	APP
11A TX SAN ANGELO	BMPCDT	20070125ACQ	CP
12A TX SHERMAN	BMPCDT	20080609ACT	CP
10A TX WACO	DTVPLN	DTVP0295	PLN

After Analysis

Results for: 11A TX FORT WORTH DTVPLN DTVP0346 PLN  
HAAT 500.0 m, ATV ERP 26.3 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5498212	41453.7
not affected by terrain losses	5482084	40657.7
lost to NTSC IX	0	0.0
lost to additional IX by ATV	76064	3095.4
lost to ATV IX only	76064	3095.4
lost to all IX	76064	3095.4

Potential Interfering Stations Included in above Scenario 33

11A OK LAWTON	BMPCDT	20030213AAF	CP
11A OK TULSA	BMPEDT	20080620ABR	CP
11A TX HOUSTON	BMPCDT	20080618AAW	APP
11A TX SAN ANGELO	BMPCDT	20070125ACQ	CP
12A TX SHERMAN	BMPCDT	20080609ACT	CP
10A TX WACO	USERRECORD01		APP

Percent new IX = 0.1028%

Worst case new IX 0.1028% Scenario 33

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Analysis of Interference to Affected Station 10

Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	KWTX-DT	WACO TX	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	KFWD	FORT WORTH TX	144.6	CP	BPCDT -20080312ACF
09	KFWD	FORT WORTH TX	144.6	PLN	DTVPLN -DTVP0223
09	KFWD	FORT WORTH TX	144.6	APP	BMPCDT -20080620AKS
09	KCEN-TV	TEMPLE TX	10.7	LIC	BLCDT -20021010AAB
09	KCEN-TV	TEMPLE TX	10.7	PLN	DTVPLN -DTVP0227
10	KZTV	CORPUS CHRISTI TX	402.9	CP	BPCDT -20080324AAT
10	KZTV	CORPUS CHRISTI TX	394.8	PLN	DTVPLN -DTVP0294
11	KTVT	FORT WORTH TX	143.8	CP	BPCDT -20080328ACY
11	KTVT	FORT WORTH TX	143.8	PLN	DTVPLN -DTVP0346

Total scenarios = 6

**Table 1 KWTX-DT OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 12 of 12)

Result key: 188  
Scenario 4 Affected station 10  
Before Analysis

Results for: 10A TX WACO USERRECORD01 APP  
HAAT 555.0 m, ATV ERP 39.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1655991	47071.2
not affected by terrain losses	1591829	45393.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	43731	1363.6
lost to ATV IX only	43731	1363.6
lost to all IX	43731	1363.6

Potential Interfering Stations Included in above Scenario 4

9A TX FORT WORTH	DTVPLN	DTVP0223	PLN
11A TX FORT WORTH	DTVPLN	DTVP0346	PLN

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FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED

SECTION III-D - DTV Engineering	
<b>Complete Questions 1-5, and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.</b>	
<p><b>Pre-Transition Certification Checklist:</b> An application concerning a pre-transition channel must complete questions 1(a)-(c), and 2-5. A correct answer of "Yes" to all of the questions will ensure an expeditious grant of a construction permit application to change pre-transition facilities. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.</p> <p><b>Post-Transition Expedited Processing.</b> An application concerning a post-transition channel must complete questions 1(a), (d)-(e), and 2-5. A station applying for a construction permit to build its post-transition channel will receive expedited processing if its application (1) does not seek to expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B"); (2) specifies facilities that match or closely approximate those defined in the new DTV Table Appendix B facilities; and (3) is filed within 45 days of the effective date of Section 73.616 of the rules adopted in the Report and Order in the Third DTV Periodic Review proceeding, MB Docket No. 07-91.</p>	
1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:	
(a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622.	<input checked="" type="radio"/> Yes <input type="radio"/> No
(b) It will operate a pre-transition facility from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622.	<input type="radio"/> Yes <input type="radio"/> No
(c) It will operate a pre-transition facility with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622.	<input type="radio"/> Yes <input type="radio"/> No
(d) It will operate at post-transition facilities that do not expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B").	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
(e) It will operate at post-transition facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the new DTV Table Appendix B.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. Applicant must <b>submit the Exhibit</b> called for in Item 13.	<input checked="" type="radio"/> Yes <input type="radio"/> No
3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community.	<input checked="" type="radio"/> Yes <input type="radio"/> No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable.	<input checked="" type="radio"/> Yes <input type="radio"/> No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.	<input checked="" type="radio"/> Yes <input type="radio"/> No

SECTION III-D - DTV Engineering	
<b>TECHNICAL SPECIFICATIONS</b>	
Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.	
<b>TECH BOX</b>	
1. Channel Number:	DTV 10 Analog TV, if any 10
2. Zone:	<input type="radio"/> I <input checked="" type="radio"/> II <input type="radio"/> III
3. Antenna Location Coordinates: (NAD 27)	Latitude: Degrees 31 Minutes 19 Seconds 19 <input checked="" type="radio"/> North <input type="radio"/> South Longitude: Degrees 97 Minutes 19 Seconds 02 <input checked="" type="radio"/> West <input type="radio"/> East
4. Antenna Structure Registration Number: 1046229	<input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA
5. Antenna Location Site Elevation Above Mean Sea Level:	260 meters
6. Overall Tower Height Above Ground Level:	508.1 meters
7. Height of Radiation Center Above Ground Level:	496.8 meters
8. Height of Radiation Center Above Average Terrain :	554.9 meters
9. Maximum Effective Radiated Power (average power):	39 kW

10.	<p>Antenna Specifications:</p> <p>a. Manufacturer DIE Model THV-12A10/CP-R O4</p> <p>b. Electrical Beam Tilt: 0.75 degrees <input type="checkbox"/> Not Applicable</p> <p>c. Mechanical Beam Tilt: degrees toward azimuth degrees True <input checked="" type="checkbox"/> Not Applicable</p> <p>Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). <span style="float: right;">[Exhibit 43]</span></p> <p>d. Polarization: <input type="radio"/> Horizontal <input checked="" type="radio"/> Circular <input type="radio"/> Elliptical</p> <p>e. Directional Antenna Relative Field Values: <input checked="" type="checkbox"/> Not applicable (Nondirectional)</p> <p>[For a composite directional (not off-the-shelf) antenna, press the following button to fill in the relative field values subform.] [Relative Field Values]</p> <hr/> <p>If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be satisfied. <b>Exhibit required.</b> <span style="float: right;">[Exhibit 44]</span></p>
11.	<p>Does the proposed facility satisfy the pre-transition interference protection provisions of 47 C.F.R. Section 73.623(a) (Applicable only if <b>Certification Checklist</b> Items 1(a), (b), or (c) are answered "No.") and/or the post-transition interference protection provisions of 47 C.F.R. Section 73.616? <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span></p> <p style="text-align: right;">[Exhibit 45]</p> <p>If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers.</p>
12.	<p>If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefore. (Applicable only if <b>Certification Checklist</b> item 3 is answered "No.") <span style="float: right;">[Exhibit 46]</span></p>
13.	<p><b>Environmental Protection Act. Submit in an Exhibit</b> the following: <span style="float: right;">[Exhibit 47]</span></p> <p>If <b>Certification Checklist</b> Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.</p> <p>By checking "Yes" to <b>Certification Checklist</b> Item 2, 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.</p> <p>If <b>Certification Checklist</b> Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R Section 1.1311.</p>
<p><b>PREPARERS CERTIFICATION ON SECTION III MUST BE COMPLETED AND SIGNED.</b></p>	

### 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 JOSEPH M. DAVIS, P.E.	Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature	Date 5/28/2009	
Mailing Address CHESAPEAKE RF CONSULTANTS, LLC 11993 KAHNS ROAD		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20112 -
Telephone Number (include area code) 7036509600	E-Mail Address (if available) JOSEPH.DAVIS@RF-CONSULTANTS.COM	