

Exhibit 36 - Statement B
ENVIRONMENTAL CONSIDERATIONS
prepared for
Kentucky Authority for Educational Television
WKLE-DT Lexington, Kentucky
Facility ID 34207
Ch. 42 45.8 kW (MAX-DA) 258 m

The instant proposal is not believed to have a significant environmental impact as defined under Section 1.1306 of the Commission's Rules. Consequently, preparation of an Environmental Assessment is not required.

Nature of The Proposal

Kentucky Authority for Educational Television ("KET") is the licensee of WKLE-DT, Channel 42, Lexington, Kentucky and of the paired analog WKLE(TV) Channel 46 facility. WKLE-DT is licensed to operate with an effective radiated power ("ERP") of 48 kW and an antenna height above average terrain ("HAAT") of 252 meters. Under the instant application, *KET* seeks to reduce the WKLE-DT ERP and increase the HAAT.

The existing WKLE-DT antenna will be repositioned on the existing WKLE-DT antenna support structure at a higher elevation. 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 Commission's Rules. No change in overall structure height is proposed, thus no change in structure lighting or marking is anticipated. Thus, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's Rules.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to radiofrequency (RF) energy using the procedures outlined in the Commission's OET Bulletin No. 65 ("OET 65"). The existing Channel 42 DTV antenna will be repositioned on the tower such that its center of radiation will be 240.2 meters above ground. An ERP of 45.8 kilowatts, horizontally polarized, will be employed. The transmitting antenna has a relative field of 20 percent or less from 10 to

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90 degrees below the horizontal plane (*i.e.*, below the antenna), according to data provided by the manufacturer (the antenna is a Dielectric model TLP-24B). Thus, a value of 20 percent relative field is used for this calculation. The “uncontrolled/general population” limit specified in §1.1310 for Channel 42 (center frequency 641 MHz) is 427.3 $\mu\text{W}/\text{cm}^2$.

OET-65’s formula for television transmitting antennas is based on the NTSC transmission standards, where the average power is normally much less than the peak power. For DTV facilities, the peak-to-average ratio is different than the NTSC ratio. The DTV ERP figure herein refers to the *average* power level. The formula used for calculating DTV signal density in this analysis is essentially the same as equation (9) in OET-65.

$$S = [(33.4098) (F)^2 (ERP)] / D^2$$

Where:

<i>S</i>	=	power density in microwatts/cm ²
<i>ERP</i>	=	total (average) ERP in Watts
<i>F</i>	=	relative field factor
<i>D</i>	=	distance in meters

Using this formula and the assumptions above, the proposed facility would contribute a power density of 1.1 $\mu\text{W}/\text{cm}^2$ at two meters above ground level near antenna support structure, or 0.25 percent of the general population/uncontrolled limit. At ground level locations away from the base of the tower, the calculated RF power density is even lower, due to the increasing distance from the transmitting antenna.

§1.1307(b)(3) states that facilities at locations with multiple emitters (such as the case at hand) are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent. Since the instant situation meets the five percent exclusion test at all ground level areas, the impact of any other facilities near this site may be considered independently from these facilities. Accordingly, it is believed that the

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impact of the proposed WKLE-DT facility should not be considered to be a factor at or near ground level as defined under §1.1307(b).

Safety of Tower Workers and the General Public

As demonstrated herein, excessive levels of RF energy attributable to the instant proposal are not caused at publicly accessible areas at ground level near the antenna supporting structure. Consequently, members of the general public are not exposed to RF levels in excess of the Commission's guidelines. Nevertheless, tower access will continue to be restricted and controlled through the use of a locked fence. Additionally, appropriate RF exposure warning signs will continue to be posted. With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure does not occur in areas at ground level. A site exposure policy will continue to be employed protecting maintenance workers from excessive exposure when work must be performed on the tower in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines will be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with any pertinent stations.

Conclusion

Based on the preceding, it is believed that the instant proposal may be categorically excluded from environmental processing under Section 1.1306 of the Rules, hence preparation of an Environmental Assessment is not required.

ENGINEERING EXHIBIT

Application for Digital Television Station Construction Permit

prepared for

Kentucky Authority for Educational Television

WKLE-DT Lexington, Kentucky

Facility ID 34207

Ch. 42 45.8 kW (MAX-DA) 258 m

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FCC Form 340, Section VII-DTV - DTV Engineering

Exhibit 33

Statement A	Proposed Antenna System, Allocation Considerations
Figure 1	Antenna Horizontal Plane Radiation Pattern
Figure 2, 2A	Vertical Plane (Elevation) Radiation Pattern
Figure 3	Proposed Coverage Contours
Figure 4	Coverage Contour Comparison

Exhibit 36

Statement B	Environmental Considerations
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This material supplies a "hard copy" of the engineering portions of this application as entered November 1, 2005 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.

Section VII Preparer's Certification

I certify that I have prepared Section VII (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 JONATHAN A. SCHULTZ		Relationship to Applicant (e.g., Consulting Engineer) CONSULTANT	
Signature		Date 11/1/2005	
Mailing Address CAVELL, MERTZ & DAVIS, INC. 7839 ASHTON AVENUE			
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20109-	
Telephone Number (include area code) 7033929090	E-Mail Address (if available) JONATHAN.SCHULTZ@CMDCONSULTING.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 VII - DTV Engineering

Complete Questions 1-5 of the Certification Checklist and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.

Certification Checklist: A correct answer of "Yes" to all of the questions below will ensure an expeditious grant of a construction permit. 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.

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 from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this location as established in 47 C.F.R. Section 73.622.	<input checked="" type="radio"/> Yes <input type="radio"/> No
(c) It will operate 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 checked="" type="radio"/> Yes <input type="radio"/> No
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 **submit the Exhibit** called for in Item 13. ☒ Yes ☐ 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. ☒ Yes ☐ 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. ☒ Yes ☐ 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 ☒ Yes ☐ No

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.

SECTION VII - DTV Engineering

TECHNICAL SPECIFICATIONS

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.

TECH BOX	
1.	Channel Number: DTV 42 Analog TV, if any 46
2.	Zone: <input type="radio"/> I <input checked="" type="radio"/> II <input type="radio"/> III
3.	Antenna Location Coordinates: (NAD 27) Latitude: Degrees 37 Minutes 52 Seconds 45 <input checked="" type="radio"/> North <input type="radio"/> South Longitude: Degrees 84 Minutes 19 Seconds 33 <input checked="" type="radio"/> West <input type="radio"/> East
4.	Antenna Structure Registration Number: 1044040 <input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA
5.	Antenna Location Site Elevation Above Mean Sea Level: 278.8 meters
6.	Overall Tower Height Above Ground Level: 258.3 meters
7.	Height of Radiation Center Above Ground Level: 240.2 meters
8.	Height of Radiation Center Above Average Terrain (HAAT): 257.6 meters
9.	Maximum Effective Radiated Power (average power): 45.8 kW
10.	Antenna Specifications: a. Manufacturer DIE Model TLP-24B b. Electrical Beam Tilt: 0.75 degrees <input type="checkbox"/> Not Applicable c. Mechanical Beam Tilt: degrees toward azimuth degrees True <input checked="" type="checkbox"/> Not Applicable Attach as an Exhibit all data specified in 47 C.F.R. Section 73.685(c). d. Polarization: <input checked="" type="radio"/> Horizontal <input type="radio"/> Circular <input type="radio"/> Elliptical

[Exhibit
32]

e. Directional Antenna Relative Field Values: ☐ Not applicable (Nondirectional)

[For a composite directional (not off-the-shelf) antenna, press the following button to fill in the relative field values subform.]

[Relative Field Values]

10e. Directional Antenna Relative Field Values

[Fill in this subform for a composite directional (not off-the-shelf) antenna, only.]

e. Directional Antenna Relative Field Values:

Rotation (Degrees): ☒ No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	0.915	10	0.871	20	0.82	30	0.767	40	0.715	50	0.668
60	0.631	70	0.609	80	0.602	90	0.608	100	0.623	110	0.642
120	0.659	130	0.672	140	0.676	150	0.672	160	0.659	170	0.642
180	0.623	190	0.608	200	0.602	210	0.609	220	0.631	230	0.668
240	0.715	250	0.767	260	0.82	270	0.871	280	0.915	290	0.951
300	0.978	310	0.994	320	1	330	0.994	340	0.978	350	0.951
Additional Azimuths											

Relative Field Polar Plot

If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be satisfied. **Exhibit required.** [\[Exhibit 33\]](#)

11. Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)? (Applicable only if **Certification Checklist** items 1(a), (b), or (c) are answered "No".) ☐ Yes ☐ No [\[Exhibit 34\]](#)

If "No", attach as an Exhibit justification therefor, including a summary of any related previously granted waivers.

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if **Certification Checklist** item 3 is answered "No".) [\[Exhibit 35\]](#)

13. **Environmental Protection Act. Submit in an Exhibit** the following: [\[Exhibit 36\]](#)
 a. If **Certification Checklist** 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.

 By checking "Yes" to **Certification Checklist** 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.

 If **Certification Checklist** Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R Section 1.1311.

PREPARERS CERTIFICATION ON PAGE 8 MUST BE COMPLETED AND SIGNED.

Exhibits

Exhibit 33**Description:** EXHIBIT 33 - PROPOSED ANTENNA SYSTEM, ALLOCATION CONSIDERATIONSEXHIBIT 33 - PROPOSED ANTENNA SYSTEM, ALLOCATION CONSIDERATIONS - ATTACHED AS A PDF DOCUMENT

Attachment 33

Description
<u>EXHIBIT 33</u>

Exhibit 36**Description:** EXHIBIT 36 - ENVIRONMENTAL CONSIDERATIONSEXHIBIT 36 - ENVIRONMENTAL CONSIDERATIONS - ATTACHED AS A PDF DOCUMENT

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