

ENGINEERING EXHIBIT

Application for Construction Permit

prepared for

Christian Television Corporation, Inc.

WVUP-CA Tallahassee, Florida

Facility ID 3032

Ch. 45 150 kW

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FCC Form 301-CA, Section III - Engineering

Exhibit 4

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This material supplies a "hard copy" of the engineering portions of this application as entered July 14, 2003 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 III - Engineering

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: 45
2.	Frequency Offset: <input type="radio"/> No offset <input type="radio"/> Zero offset <input checked="" type="radio"/> Plus offset <input type="radio"/> Minus offset
3.	Antenna Location Coordinates: (NAD 27) Latitude: Degrees 30 Minutes 34 Seconds 27 <input checked="" type="radio"/> North <input type="radio"/> South Longitude: Degrees 84 Minutes 12 Seconds 09 <input checked="" type="radio"/> West <input type="radio"/> East
4.	Antenna Structure Registration Number: 1031203 <input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA
5.	Antenna Location Site Elevation Above Mean Sea Level: 44 meters
6.	Overall Tower Height Above Ground Level: 274 meters
7.	Height of Radiation Center Above Ground Level: 261.2 meters
8.	Maximum Effective Radiated Power (ERP) Towards Radio Horizon: 150 kW
9.	Maximum ERP in any Horizontal and Vertical Angle: 150 kW
10.	Transmitting Antenna: Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under CDBS Public Access (http://svartifoss2.fcc.gov/prod/cdb/publicacc/prod/cdb_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. <input checked="" type="radio"/> Nondirectional <input type="radio"/> Directional "Off-the-shelf" <input type="radio"/> Directional composite Manufacturer DIE Model TFU-30GTH O6 DC

Directional Antenna Relative Field Values: N/A (Nondirectional or Directional "Off-the-shelf")

Rotation (Degrees): No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0		10		20		30		40		50	
60		70		80		90		100		110	
120		130		140		150		160		170	
180		190		200		210		220		230	
240		250		260		270		280		290	
300		310		320		330		340		350	
Additional Azimuths											

Relative Field Polar Plot

CERTIFICATION

<p>11. Interference. The proposed facility complies with all of the following applicable rule sections. Check all that apply.</p> <p>Analog TV broadcast station protection. See 47 C.F.R. Section 73.6011.</p>	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 4]
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	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 5]
Low Power TV, TV translator, Class A, and Digital Class A station protection. See 47 C.F.R. Sections 73.6012 and 73.6014.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 6]
Land mobile station protection. See 47 C.F.R. Section 73.6020.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 7]
<p>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.</p> <p>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.</p>	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 8]

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 ROBERT J. CLINTON	Relationship to Applicant (e.g., Consulting Engineer) CONSULTANT	
Signature	Date 7/14/2003	
Mailing Address CAVELL, MERTZ, & DAVIS, INC 7839 ASHTON AVENUE		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20109-2883
Telephone Number (include area code) 7033929090	E-Mail Address (if available) BCLINTON@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).

Exhibits

Exhibit 4

Description: EXHIBIT 4 - STATEMENT A - ALLOCATION

EXHIBIT 4 - STATEMENT A - ALLOCATION CONSIDERATIONS - INTERFERENCE ANALYSIS

Attachment 4

Description
EXHIBIT 4 - STATEMENT A - ALLOCATION

Exhibit 8

Description: EXHIBIT 8 - STATEMENT B - ENVIRONMENTAL

EXHIBIT 8 - STATEMENT B - ENVIRONMENTAL

Attachment 8

Description
EXHIBIT 8 - STATEMENT B - ENVIRONMENTAL

Exhibit 8 - Statement B
ENVIRONMENTAL CONSIDERATIONS
prepared for
Christian Television Corporation, Inc.
WVUP-CA Tallahassee, Florida
Facility ID 3032
Ch. 45 150 kW

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

Christian Television Corporation ("CTC") is the licensee of WVUP-CA, analog Class A TV Channel 45, Tallahassee, Florida (file number BLTTA-20030227ABY). *CTC* seeks a Construction Permit ("CP") to change the transmitter location, specify an increase in ERP to 150 kW, and utilize an omnidirectional antenna system.

The proposed WVUP antenna will be top-mounted on an existing structure (Antenna Structure Registration number 1031203). According to information provided by the applicant, no change in the overall antenna supporting structure height is proposed, thus no change in structure lighting or marking is anticipated. 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 site is currently employed by WTXL-TV, Ch. 27, Tallahassee, Florida. According to information provided by the applicant, WTXL-TV will be relocating its NTSC facility to a different supporting structure.

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. Since no change in overall structure height is proposed, no change in current structure marking and lighting requirements is anticipated. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

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Human Exposure to Radiofrequency Radiation

The proposed operation was evaluated for human exposure to radiofrequency energy using the procedures outlined in the Commission's OET Bulletin No. 65 ("OET 65"). OET 65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines adopted in §1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

The proposed WVUP antenna will have a center of radiation 261.2 meters above ground level. An ERP of 150 kilowatts, horizontally polarized, will be employed. According to elevation pattern data provided by the antenna manufacturer, the proposed WVUP antenna has a relative field of 10 percent or less from 10 to 90 degrees below the horizontal plane (i.e.: below the antenna). Thus, a value of 10 percent relative field is used for this calculation. The "uncontrolled/general population" limit specified in §1.1310 for Channel 45 (center frequency 659 MHz) is 439.3 $\mu\text{W}/\text{cm}^2$.

The formula used for calculating signal density in this analysis is equation (2) from OET-65 Supplement A. Using this formula, the proposed facility would contribute a power density of 0.37 $\mu\text{W}/\text{cm}^2$ at two meters above ground level near the antenna support structure, or 0.08 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 contributing less than five percent of the exposure limit at locations with multiple transmitters (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 using this site or at a nearby site may be considered independently

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from this proposal. Accordingly, it is believed that the impact of the proposed operation 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 will not be caused at publicly accessible areas at ground level near the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission's guidelines. Nevertheless, tower access will be restricted and controlled through the use of a locked fence. Additionally, appropriate RF exposure warning signs will be posted.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level. A site exposure policy will be employed protecting maintenance workers from excessive exposure when work must be performed on the tower (or on nearby towers) 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 all 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.