

ENGINEERING EXHIBIT
REQUEST FOR SPECIAL TEMPORARY
AUTHORITY (STA)
DIGITAL TELEVISION STATION WANE-DT
FORT WAYNE, INDIANA
CH. 31 317 kW (MAX-DA) 242 M

This Engineering Statement was prepared on behalf of digital television (DTV) station WANE-DT (Facility ID 39270) and concerns a request for Special Temporary Authority (STA) for WANE-DT on channel 31 at Fort Wayne, Indiana.

Station WANE-DT was allotted a digital operation (BPRM-20000801AAA) on channel 31 with a non-directional effective radiated power (ERP) of 82 kilowatts (kW) and an antenna radiation center height above average terrain (HAAT) of 253 meters. Station WANE-DT is currently authorized by special temporary authority (BDSTA-20051027ABN) to operate at its allotment site with a maximum directional ERP of 68 kilowatts, an HAAT of 242 meters, and employing a Dielectric model TLP-8B directional antenna. In addition, WANE-DT has a pending request to for an extension of the existing STA (BEDSTA-20060505ADP).

The WANE-DT STA facility proposes to modify the current STA facility by increasing the ERP to 317 kW and changing the directional antenna system. No other changes are proposed. It is proposed to employ a Dielectric model TFU-24DSB-R (C) C200 directional antenna and operate with a directional antenna maximum ERP of 317 kilowatts and an HAAT of 242 meters. The details and specifications of the proposed WANE-DT STA operation are summarized in the table below:

Parameter	Proposed
Call Sign	WANE-DT
Channel	31
City of License	Fort Wayne, IN
Facility ID	39270
FCC ASRN	1027622
Geographic coordinates (NAD27)	41-05-38 N 85-10-48 W
Site elevation	246.9 m AMSL
Overall structure height AGL(with all appurtenances)	255.7 m
Antenna radiation center height AGL	235 m
Antenna radiation center height AMSL	482 m
Antenna radiation center HAAT	242 m
Antenna, make and model	Dielectric TFU-24DSB-R (C) C200
Antenna type	Directional, horizontally-polarized
Major lobe orientation	10° T
Electrical beam tilt	0.75°
Mechanical beam tilt	Not Applicable
Maximum horizontally-polarized ERP	315 kW (25.01 dBk)
Maximum vertically-polarized ERP	Not Applicable

There will be no change in the overall height of the existing antenna structure as a result of the proposed STA operation. The FCC Tower Registration Number for the existing structure is 1027622.

The 41 dBu, f(50,90) noise limited contour of the proposed WANE-DT STA facility (317 kW-DA, 242 m) is within the predicted 41 dBu, f(50,90) noise limited contour of the pending WANE-DT application facility (BMPCDT0-20021002ACJ).

Figure 1 is a map illustrating the predicted coverage contours for the proposed WANE-DT STA operation and the pending WANE-DT application. Also, as indicated in Figure 1, the predicted 48 dBu, f(50,90) contour for the proposed WANE-DT STA operation fully encompasses the city limits of Fort Wayne, Indiana.

Figure 2 provides graphs of the horizontal and vertical plane relative field patterns for the Dielectric model TFU-24DSB-R (C) C200 directional antenna.

There are other broadcast and non-broadcast facilities located in proximity to the proposed STA facility. No adverse electromagnetic impact is expected with respect to these facilities. However, the applicant recognizes its responsibility to correct objectionable electromagnetic interference problems that result from its proposed STA operation.

The STA proposal is categorically excluded from environmental processing under Section 1.1306 (note 1) as an existing tower will be employed; and the proposal will be less than 5% of the radio frequency (RF) maximum permissible exposure (MPE) limit of Section 1.1310 of the FCC Rules for the Channel 31 frequency band. Calculation of RF energy from the proposed STA facility was made at a location 2 meters (6.5 feet) above the base of the tower under the procedures of OET Bulletin No. 65. For Channel 31 the MPE for general population / uncontrolled environments is 0.38 mW/cm^2 . Using a conservative relative field of 0.2 (see Figure 2, Sheet 2) for the downward radiation for the antenna system, the calculated RF exposure at 2 meters above ground is approximately 0.0078 mW/cm^2 , or less than 5% of the MPE.