

MODIFY BPEDT-20000425AAO
MID-SOUTH PUBLIC
COMMUNICATIONS FOUNDATION
WKNO TELEVISION STATION
CH 29 DTV - 835 KW
MEMPHIS, TENNESSEE
November 2002

TECHNICAL STATEMENT

This Technical Statement and attached exhibits were prepared on behalf of Mid-South Public Communications Foundation (“Mid-South”), licensee of VHF Television Station WKNO, Channel 10, Memphis, Tennessee, and permittee of DTV station WKNO-DT, Channel 29, Memphis, Tennessee. This instant application requests a modification of the outstanding construction permit for digital Channel 29.

WKNO’s digital operation on Channel 29 is authorized a maximum effective radiated power of 1000.0 kilowatts and an antenna height above average terrain of 305.9 meters (this was a maximized DTV facility for WKNO).¹ Following an extensive tower structural analysis, it was determined that substantial modifications to the existing WKNO structure would have been necessary to accommodate the installation of the WKNO-DT antenna and associated transmission line. Mid-South, through discussions with and review by Dielectric Communications, is now proposing to replace its existing NTSC analog antenna (which is mounted at the top of the existing WKNO tower) with a Dielectric antenna system, Model TUV-32GTH/13HV-R 06/03, which will radiate both analog VHF and digital UHF

1) The allotted Channel 29 DTV facility was authorized at 670.8 kW at a HAAT of 329 meters.

transmissions, utilizing a common feed line.² The weight of the replacement antenna system is such that the existing tower can support the new system with minimal changes to the structure. As a result, the WKNO-DT antenna center of radiation will be increased above ground and above mean sea level and the height above average terrain will be increased as compared to the permit. As such, Mid-South will reduce the power of the proposed WKNO-DT facility to 835.0 kilowatts to maintain the 41 dBu contour of the proposed WKNO-DT facility. As shown on Exhibit Tech #1, the contour of the proposed WKNO-DT falls on top of the authorized 41 dBu contour of the permitted facility. As such, we considered this instant application as a defacto check list application and have not submitted a new interference analysis. The interference study was previously submitted with BPEDT-20000425AAO.

All required exhibits associated with FCC Form 301, Section VII-DTV, are attached hereto. All other data used to certify the information contained in the application has been forwarded to Mid-South Public Communications Foundation and is available for submission to the Commission upon request.³

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- 2) While there are separate radiating elements for both VHF and UHF systems, the transmitters will be combined at the bottom of the tower and share a common transmission line. At the top of the feed line, a splitter will be used to route the UHF power to the UHF radiating elements and the VHF power to the VHF elements. As such, this is not a combined antenna system, but rather an independent system with a common transmission line.
 - 3) Based on the replacement of the WKNO NTSC antenna, an application for minor change of the licensed WKNO-TV NTSC facility will be submitted to the Commission on a timely basis, and is referenced herein for the purposes of the radio frequency radiation statement and study.

WKNO-DT Permit

BPEDT-20000425AAO
Latitude: 35-09-16 N
Longitude: 089-49-20 W
ERP: 1000.00 kW
Channel: 29
Frequency: 563.0 MHz
AMSL Height: 398.9 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC

Graham Brock, Inc. - Broadcast Technical Consultants**WKNO-DT Proposed**

Latitude: 35-09-16 N
Longitude: 089-49-20 W
ERP: 835.00 kW
Channel: 29
Frequency: 563.0 MHz
AMSL Height: 413.2 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC

41 dBu (50/90)

EXHIBIT TECH #1
MODIFY BPEDT-20000425AAO
MID-SOUTH PUBLIC
COMMUNICATIONS FOUNDATION
WKNO-DT TELEVISION STATION
CH 29 - (560-566 MHz) - 835 KW
MEMPHIS, TENNESSEE
November 2002

Scale 1:1,500,000

0 20 40 60 km