ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY, JR. OF THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC.TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH A MAJOR MODIFICATION OF CONSTRUCTION PERMIT APPLICATION (FILE NO. 0000058813) REQUESTING CHANNEL 21 IN LIEU OF CHANNEL 16 FOR THE WNEP-DT SCRANTON, PA POST-AUCTION FULL-SERVICE FACILITY LICENSED TO TEGNA BROADCAST HOLDINGS.

The firm Kessler and Gehman Associates, Inc. (KGA) has been retained by TEGNA Broadcast Holdings, LLC. (TEGNA) to prepare engineering studies and the engineering portion of a major modification of construction permit application (File No. 0000058813) requesting authorization to substitute channel 21 for channel 16 due to signal interference between authorized post-auction Channel 16 and existing land mobile band at 482 MHz-488 MHz.

SUMMARY

The WNEP-DT full-service pre-auction facility currently operates on Channel 50 with an ERP of 500 kW using a nondirectional antenna top-mounted at 817 ft AGL (249 m). As part of the incentive auction, WNEP was involuntarily assigned new operating parameters resulting in a channel change from 50 to 16 and an ERP change from 500 kW to 248 kW. TEGNA timely filed a maximization application to increase power from the assigned ERP of 248 kW to a maximized ERP of 675 kW and the FCC issued a construction permit for the requested maximized parameters. After TEGNA fully built-out the authorized Channel 16 maximized facility, it was informed by the FCC that Channel 16 would cause impermissible interference to land mobile stations and was encouraged to change channels from 16 to 21. TEGNA determined that full replication on Channel 21 was not possible using a nondirectional antenna; therefore, a custom directional antenna was designed that would optimize coverage (See attached antenna specifications). The requested 760 kW ERP on Channel 21 with the proposed directional antenna is essential since it was determined that Channel 21 would receive in excess of 1% interference which classifies WNEP as a "Priority 1" station (See attached Exhibit 1).

Accordingly, all associated equipment required to make a complete system for the proposed WNEP-DT Channel 21 facility operating with an ERP of 760 kW with a directional, top-mount, elliptically polarized antenna should be eligible for full reimbursement.

Pursuant to Section 73.687(e)(4)(ii), TV permittees must take steps to identify potential interference to normal land mobile operation that could be caused by TV emissions outside the authorized channel, land mobile receiver desensitization or intermodulation. It must install filters and take other precautions as necessary, and submit evidence that no interference is being caused before it will be permitted to transmit programming on the new facilities and must reduce its emissions within the land mobile channel of a protected land mobile facility that is receiving interference caused by the TV emission. A TV permittee must also correct a desensitization problem if its occurrence can be directly linked to the start of the TV operation. It has already been determined that the assigned post-auction Channel 16 for the WNEP-DT full-service facility will cause significant interference to nearby land mobile facilities. The requirements to protect land mobile for stations assigned to Channel 16 for post-auction operation are significant and induce considerable disadvantages to broadcasters; including financial strains for equipment beyond the reimbursement period and working burdens on staff to resolve interference issues in the field. The proposed channel substitution will serve the public interest, the station and land mobile operations by eliminating potential interference and reception issues inherent with Channel 16 operations.

The attached TVStudy demonstrates that WNEP-DT can operate on Channel 21 with an ERP of 760 kW using the proposed directional antenna with 1.0 degrees of electrical beam tilt without causing impermissible interference to other stations. Additional parameters used in the attached TVStudy include the following:

- Actual Elevation Pattern
- 0.50 km Study Cell Size
- 0.50 km Profile Point Spacing

The proposed facility may be short-spaced to land mobile stations in Philadelphia; however, the FCC informed TEGNA that it did not believe there would be any interference issues. Accordingly, TEGNA hereby requests authorization to substitute Channel 21 for Channel 16 using the proposed parameters for the reasons specified above.

LAND MOBILE PROTECTION

The WNEP-DT Channel 21 post-auction facility shall utilize an 8-pole filter that is specifically being re-tuned in order to help prevent potential interference issues with Channel 20 land mobile facilities in Philadelphia, PA. A 12-pole filter cannot be used due to limited space in the transmitter building.

CERTIFICATION

This technical statement was prepared by William T. Godfrey, Jr., Engineering Associate with the firm Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida, and has been working with the firm in the field of radio and television broadcast consulting since 1998. Mr. Godfrey was a graduate from the University of North Florida and a Distinguished Military Graduate from the University of Florida. As a Professional in the field of Telecommunications he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.

William T. Godfrey, Jr.

WILLIAM T. GODFREY, JR., CBT 22 January, 2020
Kessler and Gehman Associates, Inc.
Consulting Engineers