

## **ENGINEERING EXHIBIT**

### **Digital Television Station Application for Minor Modification of Licensed Facility**

prepared for

#### **Gray Television Licensee, LLC**

KNOE-TV Monroe, LA

Facility ID 48975

Ch. 24 1000 kW 579 m

*Gray Television Licensee, LLC* (“*Gray*”), is the licensee of digital television station KNOE-TV, Channel 8, Facility ID 48975, Monroe LA. The digital channel allotment for KNOE-TV was recently changed from Channel 8 to Channel 24 as described in the FCC Report and Order (“R&O”) in MB Docket 21-126<sup>1</sup>. Pursuant to the R&O, *Gray* is submitting this minor change application (Form 2100 Schedule A) to obtain a Construction Permit to specify operation on Channel 24.

As described in MB Docket 21-126, *Gray* proposes to implement the Channel 24 substitution with a top-mounted transmitting antenna to be installed on the existing KNOE-TV tower structure that would replace the existing top-mounted Channel 8 antenna. The KNOE-TV tower structure is associated with FCC Antenna Structure Registration number 1040625. No increase to the overall structure height will result.

The proposed antenna is a nondirectional elliptically polarized Dielectric model TFU-30GTH/VP-R O4 (30 percent vertical polarization). The proposed effective radiated power (“ERP”) is 1000 kW horizontally polarized, and the vertically polarized ERP is 300 kW.

Figure 1 supplies a map that demonstrates compliance with §73.625(a)(1) regarding coverage of the entire principal community.

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<sup>1</sup>*Amendment of Section 73.622(j), Table of Allotments, Television Broadcast Stations (Monroe, LA), MB Docket No. 21-126, RM 11893, DA 22-25, released January 11, 2022.*

The KNOE-TV facility proposed herein conforms exactly to the technical parameters adopted in MB Docket 21-126, therefore realizing a 100.0 percent match of the allotted service population. Since no change in technical parameters from those specified in the Channel 24 allotment will occur, interference analysis to other television facilities is not required.

### **Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10) and considering 10 percent antenna relative field in downward elevations (pattern data shows less than 10 percent relative field at angles 10 to 90 degrees below the antenna), the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is  $1.3 \mu\text{W}/\text{cm}^2$ , which is 0.4 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

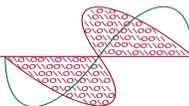
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field. No increase in structure height is proposed.

#### List of Attachments

Figure 1 Proposed Coverage Contours  
Form 2100 Saved Version of Engineering Sections of FCC Form at Time of Upload

### **Chesapeake RF Consultants, LLC**

Joseph M. Davis, P.E. February 18, 2022  
207 Old Dominion Road Yorktown, VA 23692 703-650-9600



**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

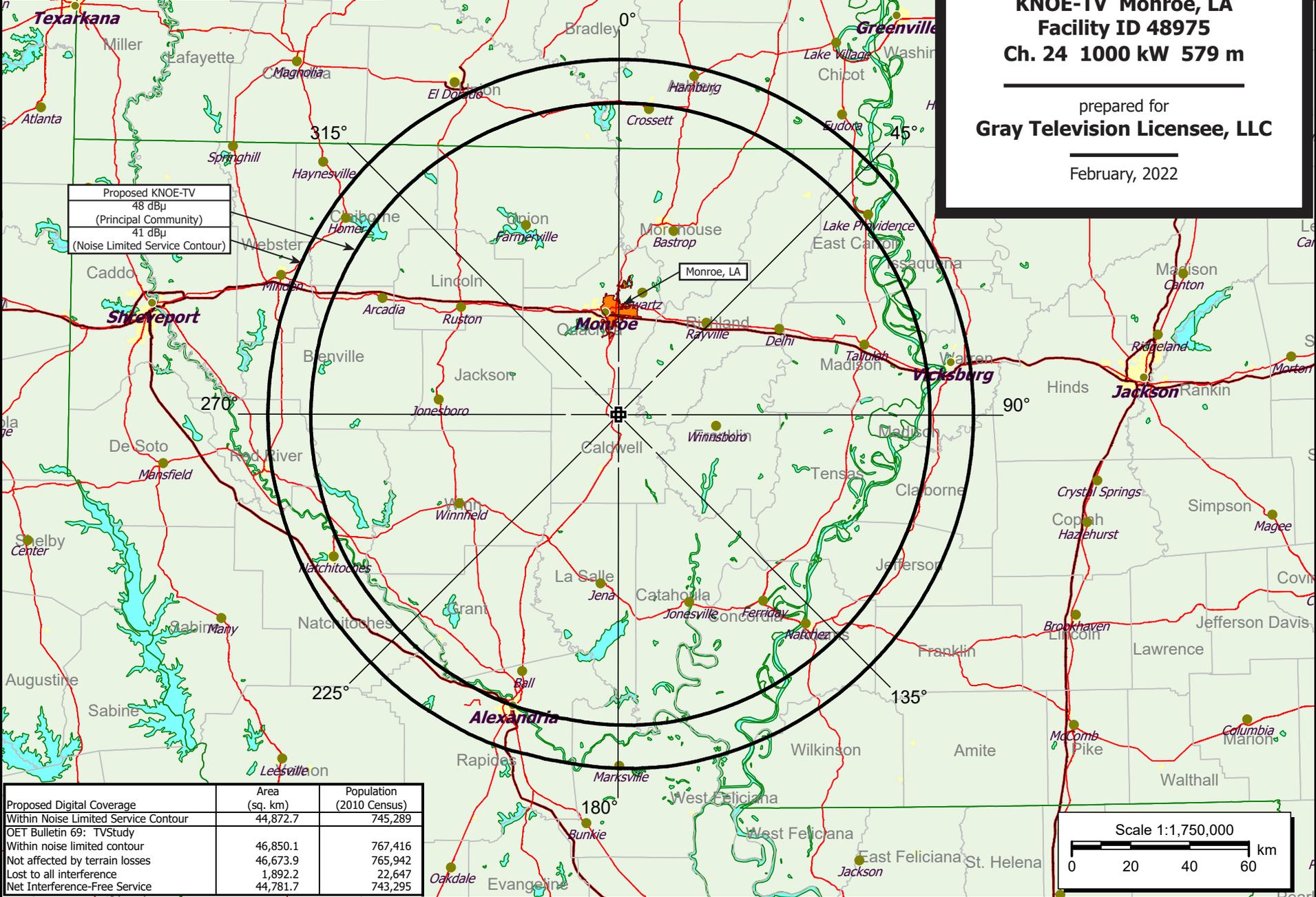
**Figure 1**  
**Proposed Coverage Contours**  
**KNOE-TV Monroe, LA**  
**Facility ID 48975**  
**Ch. 24 1000 kW 579 m**

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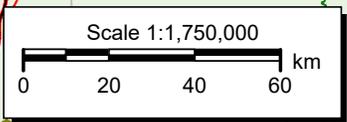
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February, 2022



Proposed KNOE-TV  
48 dBu  
(Principal Community)  
41 dBu  
(Noise Limited Service Contour)

Proposed Digital Coverage	Area (sq. km)	Population (2010 Census)
Within Noise Limited Service Contour	44,872.7	745,289
OET Bulletin 69: TVStudy		
Within noise limited contour	46,850.1	767,416
Not affected by terrain losses	46,673.9	765,942
Lost to all interference	1,892.2	22,647
Net Interference-Free Service	44,781.7	743,295



**Channel and  
Facility  
Information**

Section	Question	Response
<b>Proposed Community of License</b>	Facility ID	48975
	State	Louisiana
	City	MONROE
	DTV Channel	24
	Designated Market Area	Monroe-El Dorado
<b>Facility Type</b>	Facility Type	Commercial
	Station Type	Main
<b>Zone</b>	Zone	2

**Primary station proposed to be rebroadcast:**

Facility Id	Call Sign	City	State
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**Antenna Location  
Data**

Section	Question	Response
<b>Antenna Structure Registration</b>	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1040625
<b>Coordinates (NAD83)</b>	Latitude	32° 11' 51.0" N+
	Longitude	092° 04' 14.0" W-
	Structure Type	TOWER-A free standing or guyed struct
	Overall Structure Height	604.7 meters
	Support Structure Height	563.3 meters
	Ground Elevation (AMSL)	19.3 meters
<b>Antenna Data</b>	Height of Radiation Center Above Ground Level	585 meters
	Height of Radiation Center Above Average Terrain	578.8 meters
	Height of Radiation Center Above Mean Sea Level	604.3 meters
	Effective Radiated Power	1000 kW

**Antenna  
Technical Data**

Section	Question	Response
<b>Antenna Type</b>	Antenna Type	Non-Directional
	Do you have an Antenna ID?	
	Antenna ID	
<b>Antenna Manufacturer and Model</b>	Manufacturer:	Dielectric
	Model	TFU-30GTH/VP-R O4
	Rotation	
	Electrical Beam Tilt	0.75
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
<b>DTV and DTS: Elevation Pattern</b>	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	