

ENGINEERING STATEMENT
PREPARED IN SUPPORT OF
REQUEST FOR SPECIAL TEMPORARY AUTHORITY
KXEN 1010 kHz 0.125/0.35 kW ND-U ST. LOUIS, MISSOURI

FEBRUARY 2020

The following engineering statement has been prepared on behalf of BDJ Radio Enterprises, LLC (“**BDJ**”), licensee of Class B standard broadcast station KXEN, FCC ID Number 54739, St. Louis, Missouri. **KXEN** is licensed for full time, 50 kW day and 0.5 kW night, operation on 1010 kHz. The need for the STA facilities is described in the STA application, Exhibit 16.

KXEN proposes to operate day and night utilizing the temporary wire antenna mounted on the side of the self- supporting tower located at the studios of KDNL TV in downtown St. Louis, Missouri. The tower carries FCC tower registration number 1003524. The KDNL site is located 18.4 kilometers southwest of the KXEN licensed site which places the STA facility both within the community of license and more central to the major lobe of the daytime directional antenna pattern.

An STA for use of the KDNL site is herein requested based on the following parameters:

| | |
|----------------------------|-------------|
| Frequency (kHz): | 1010 |
| North Latitude: | 38° 38' 09" |
| West Longitude: | 90° 11' 45" |
| (NAD 27) | |
| Tower Registration Number: | 1003524 |
| Power Day: | 0.35 kW |
| Night: | 0.125 kW |

| | |
|------------------|---|
| Radiator Height: | 74.2-meter vertical wire supported on face of self-supporting tower with two shorter wires below radiator as a counterpoise. All wires totally insulated from the tower |
|------------------|---|

(See Figure 3)

90 degrees

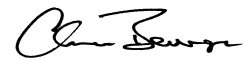
Theoretical efficiency: 305.0 mV/m @ 1 km for 1 kW

It is noted that the proposed STA tower and site, although existing, are not suitable for **KXEN** licensed operation as the omni antenna configuration is unable to provide the required nighttime protection to existing facilities at a power level which would allow continued fulltime Class B operation.

Figure 1 depicts the proposed STA 0.5 mV/m, the previously authorized STA 0.5 mV/m at the WGNU site and the licensed KXEN 0.5 mV/m contours. The proposed STA 0.5 mV/m contour lies well within the licensed 0.5 mV/m in the major lobe. Figure 2 depicts the day allocation to nearby stations for both licensed, previously authorized STA at the site of WGNU(AM) and the STA operations proposed herein. The licensed KXEN facility is associated with grandfathered caused overlap to WPEO 1020 kHz Peoria, IL. The proposed STA facility removes that overlap. The licensed facility contour overlap with WCIL 1020 kHz, Carbondale, IL increases the overlap to WCIL from 3,195 square kilometers to 3,865 square kilometers which for short term STA operation appears an equitable trade off against the massive loss of KXEN service area given that most receivers have such a narrow bandwidth that the interference change from KXEN license to KXEN STA operation would not be readily discerned by the average listener. The STA is associated with no caused co-channel overlap.

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The foregoing was prepared on behalf of BDJ Radio Enterprises, LLC by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.

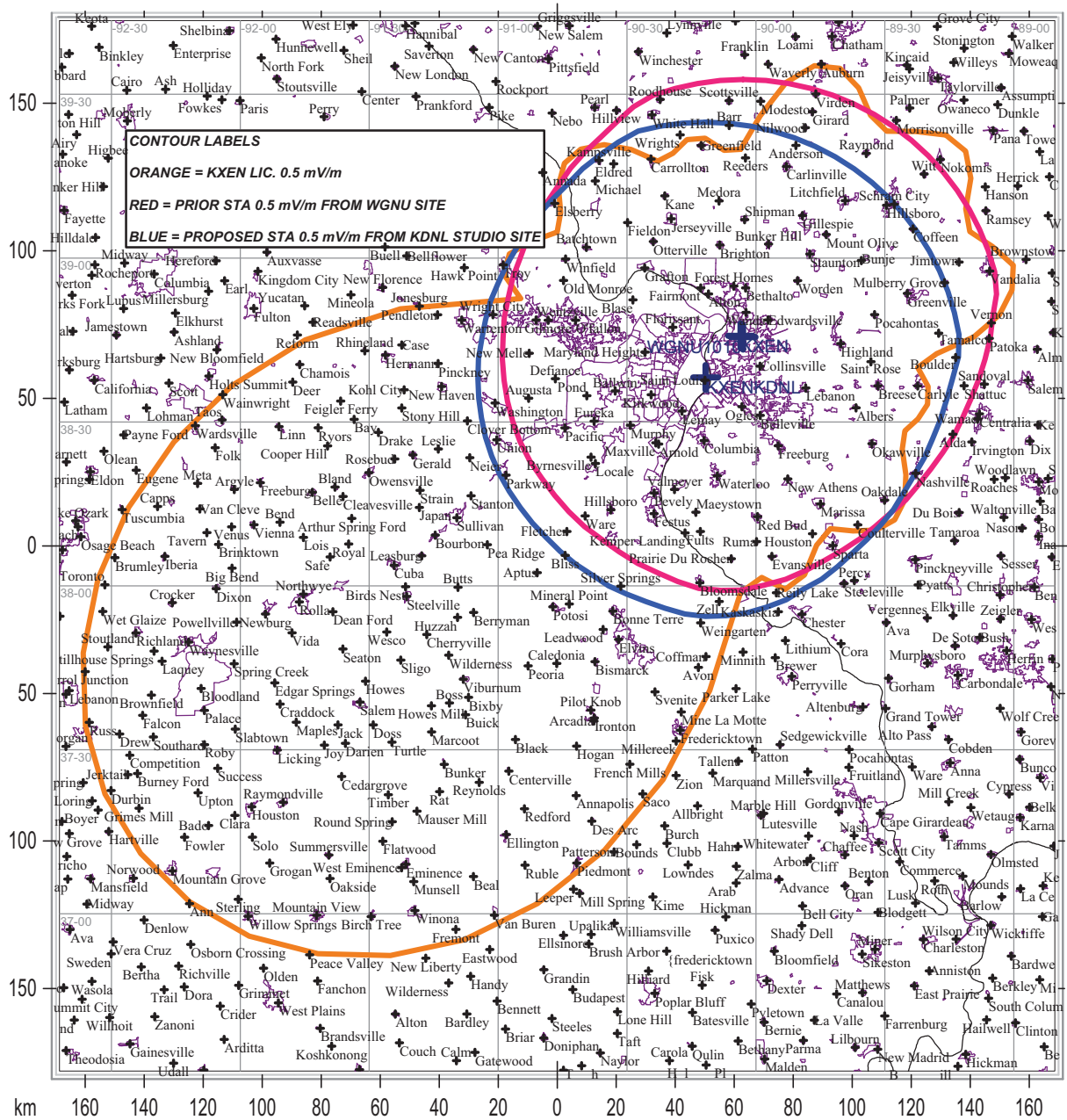


BY: _____

Clarence M. Beverage *for*
Communications Technologies, Inc.
Marlton, New Jersey

February 3, 2020

KXEN 50 kW LICENSE DA, PROPOSED KDNL DAY STA & PRIOR 0.35 kW OMNI STA @ WGNU TOWER SITE



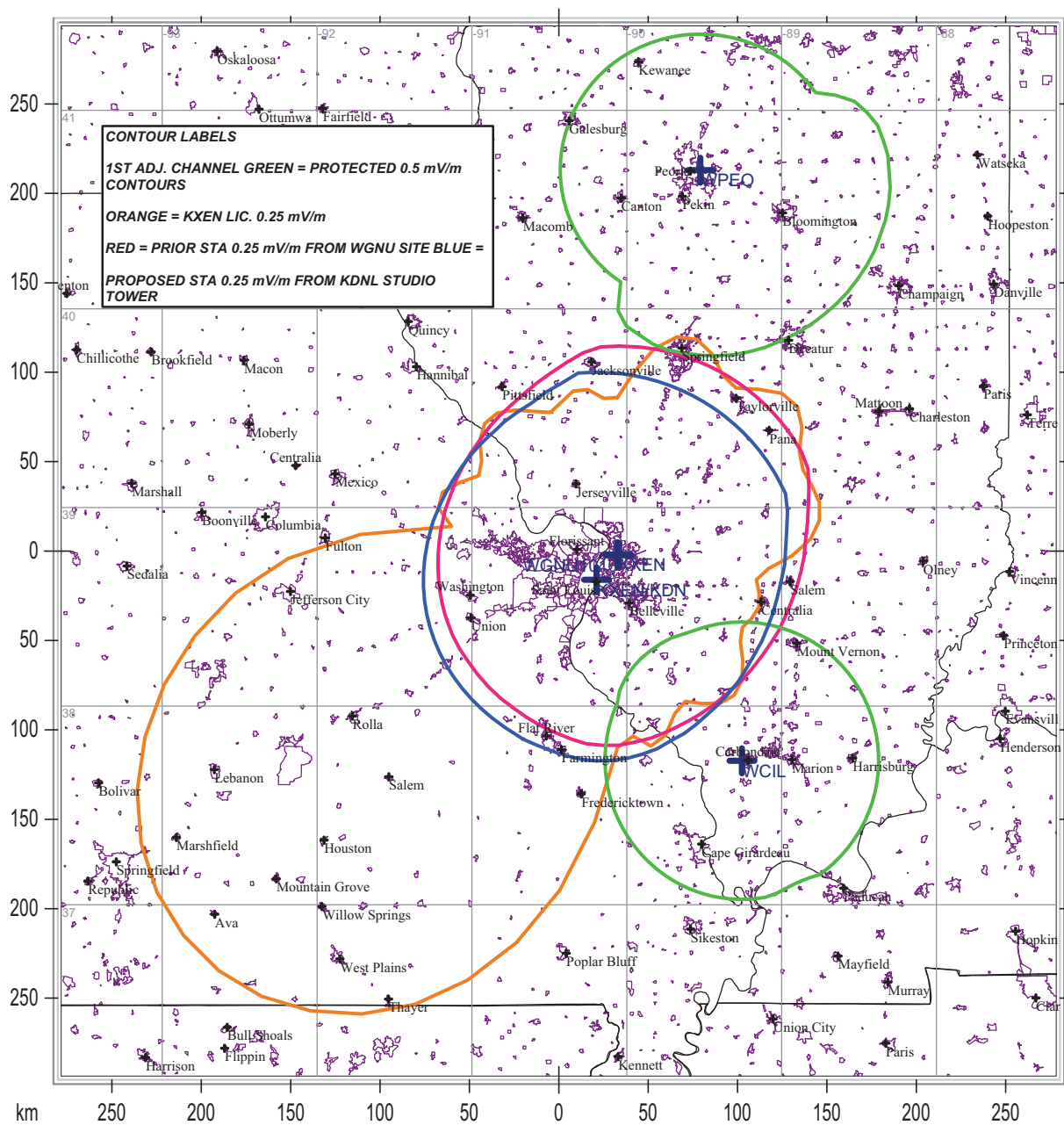
Communications Technologies, Inc. Marlton, New Jersey

State Borders City Borders Lat/Lon Grid

Map Scale: 1:2250000 1 cm = 22.50 km V/H Size: 355.92 x 337.33 km

Figure 1

KXEN 50 kW LICENSE DA & 0.35 kW OMNI STA @ KDNL STUDIO TOWER SITE REG. 1003524



Communications Technologies, Inc. Marlton, New Jersey

State Borders City Borders Lat/Lon Grid

Map Scale: 1:3712368 1 cm = 37.12 km V/H Size: 587.24 x 556.58 km

Figure 2

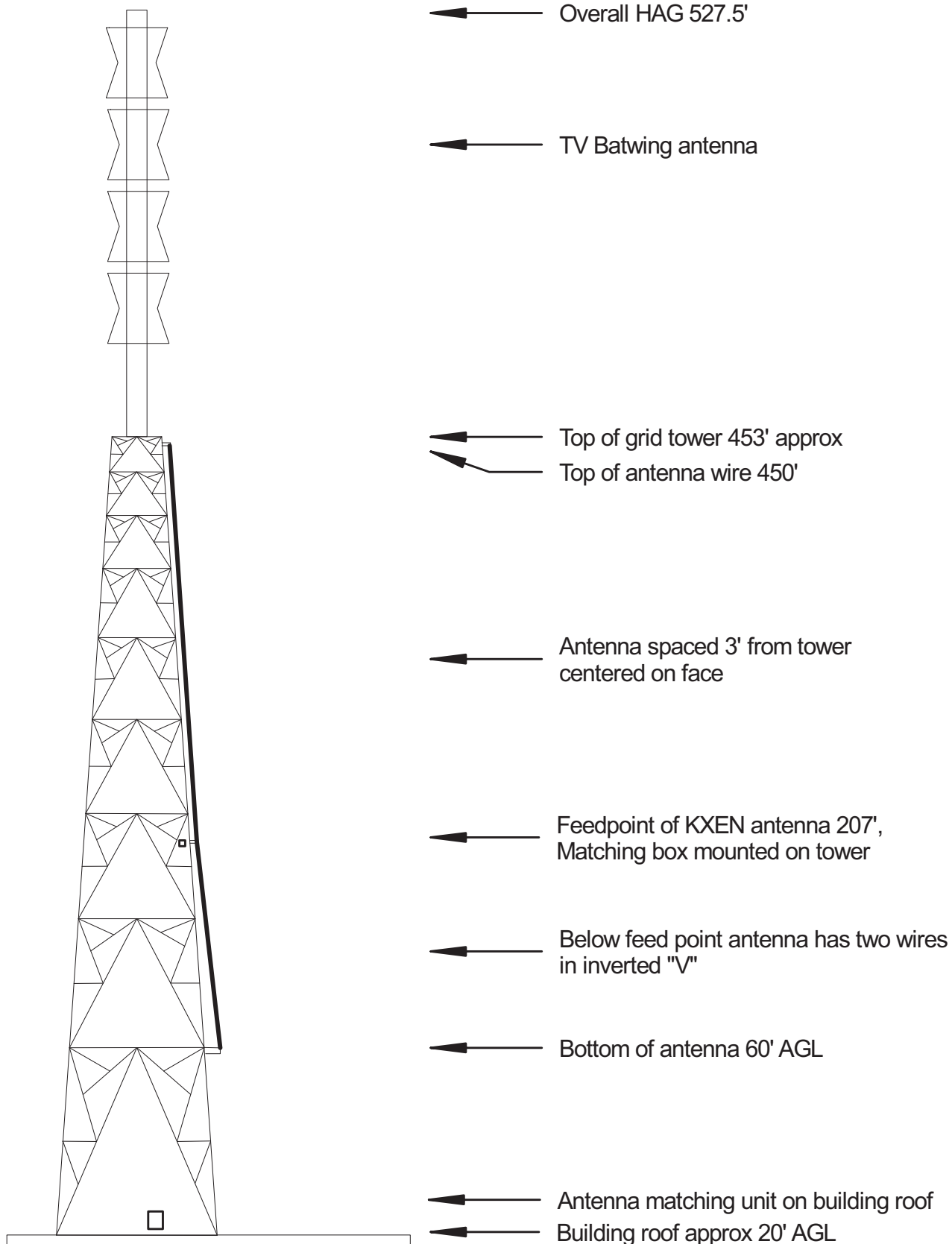
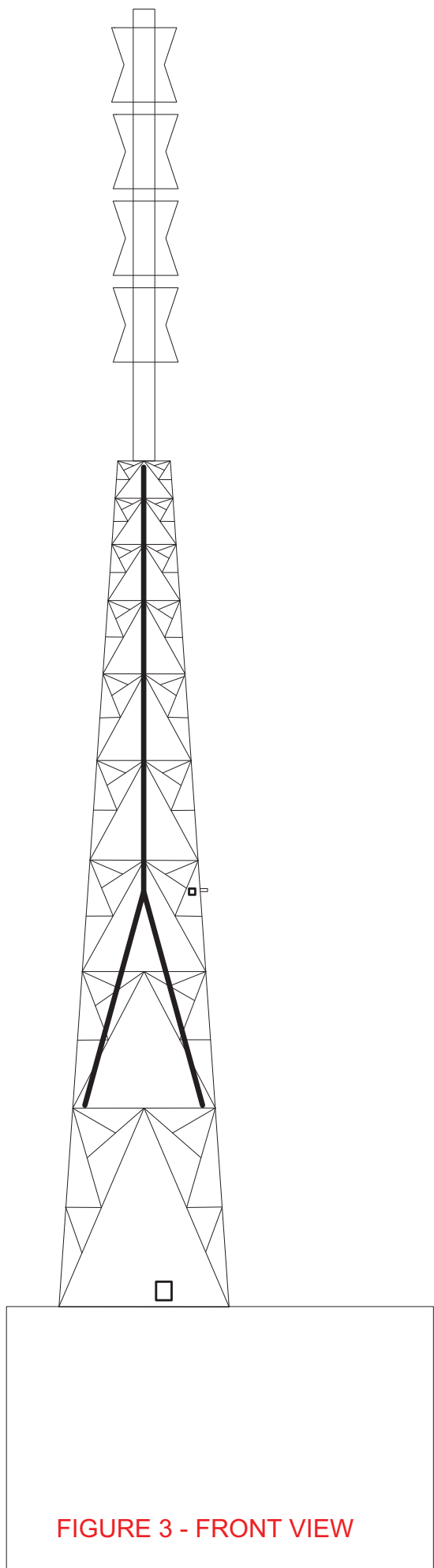


FIGURE 3 - SIDE VIEW

Sketch of proposed KXEN
antenna on KDNL TV
tower.

No scale



- Overall HAG 527.5'
- TV Batwing antenna
- Top of grid tower 453' approx
- Top of antenna wire 450'
- Antenna spaced 3' from tower centered on face
- Feedpoint of KXEN antenna 207', Matching box mounted on tower
- Below feed point antenna has two wires in inverted "V"
- Bottom of antenna 60' AGL
- Antenna matching unit on building roof
- Building roof approx 20' AGL

Sketch of proposed KXEN antenna on KDNL TV tower.
No scale