

Exhibit 12 - Statement A  
**NATURE OF THE PROPOSAL - ANTENNA SYSTEM DESCRIPTION**  
**BLANKETING CONTOURS – PREDICTED COVERAGE**

prepared for

**Polnet Communications, Ltd.**

WNVR Vernon Hills, Illinois - Facility ID 52910  
1030 kHz 27 kW-D 8 kW-CH 0.21 kW-N DA-3 U

**Nature of the Proposal**

Polnet Communications, Ltd. (“*Polnet*”) is the licensee of Standard Broadcast Radio Station WNVR, 1030 kHz, Vernon Hills, Illinois (Facility Id 52910). WNVR is presently licensed as a “Class D” station with authority to operate with 10 kW day, 3.2 kW during critical hours, and 0.12 kW at night utilizing the same four-tower directional antenna system for each operating mode.

This *Application for Construction Permit* proposes to increase the daytime operating power to 27 kW, increase the critical hours power to 8 kW, and increase the nighttime power to 0.21 kW utilizing three different directional antenna patterns. The existing four-tower antenna array will be reconfigured into a six-tower array for the proposed day and critical hours operations while five of the six towers will be used for the proposed nighttime operation. The antenna designs employed herein were based upon allocation constraints and coverage considerations developed while using the standard methodology outlined in the Commission’s Rules, supported by “on-file” soil conductivity data, and FCC Figure M-3 conductivity data (where measurement data were unavailable). Distances to protected and interfering contours were calculated at 1° intervals, although they are reported less finely in the tabulations included with this application for space considerations. The sources for measured data are provided with the included tabulations; copies of this data can be provided upon request. Full discussions of the relevant allocations considerations are provided in the included **Exhibits 16, 17 and 18**.

**Antenna System Description**

The proposed antenna system will employ six towers for the proposed daytime and critical hours operations and five of the six towers for the proposed nighttime operation. The overall height above ground level for each structure will be 195 feet (59.44 meters). The existing towers, which will be replaced, did not require FCC Antenna Structure Registration Numbers since they are less than 200 feet in height and the original array had received a “Notice of No Hazard” determination from the FAA for that very reason. Inasmuch as the new configuration will be located on the same property, close to the existing tower locations, and the overall heights proposed will remain well under 200 feet above ground level, it is believed that further FAA notification and structure registration will not be necessary.

The proposed geometry and theoretical parameters for the daytime, critical hours, and nighttime antenna systems are described in the attached **Exhibit 12 - Table I** (specifically, **Tables I-A, I-B, and I-C**). A tabulation of the resulting standard radiation pattern data is included with this table; tabulations of standard

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radiation in the elevation plane are included for the critical hours and nighttime pattern designs. Elevation pattern “slices” plots were excluded for brevity but can be supplied upon request. Horizontal plane standard pattern polar plots are supplied as **Exhibit 12 - Figure 1** as separate **Sheets 1, 2, and 3**. The antenna system physical description is schematically summarized in the elevation plan attached as **Exhibit 12 – Figure 2**. Each antenna structure will have a radiating (electrical) height of 71.6° at the operating frequency of 1030 kHz.

An overview of the proposed new antenna system layout and location is provided in the included **Exhibit 12 - Figure 3 (Sheets 1, 2 and 3)**. In particular, the sheets of **Figure 3** provide a transmitter site location (7-1/2 minute) topographic map, a plat plan of the site, and an overhead (aerial) photo image showing property boundaries, a ground system plan (and description), and the locations of the transmitter building as well as other structures in the immediate vicinity of the site.

**Blanketing Considerations**

Section 73.24(g) of the Commission’s Rules requires that the population residing within a station’s predicted 1 V/m (1000 mV/m) contour not exceed 1.0 percent of the population residing within the 25 mV/m contour. However, in instances where the number of persons within the 1 V/m contour is 300 or less, the provisions of 73.24(g) are not applicable. Accordingly, an analysis of the population residing within the predicted 1000 mV/m contour was conducted to determine compliance with this Rule Section.

Based upon standard contour prediction methodology, distances to the 1000 mV/m contours were predicted for the proposed operations and plotted on the map attached as **Exhibit 12 - Figure 4** and the population residing within these contours were determined referencing year 2000 U.S. Census data. A similar population coverage estimate was made for the respective 25 mV/m coverage contours (not shown on this map). The results are as follows:

<b><u>Operational Pattern Mode</u></b>	<b><u>Population within 25 mV/m Contour</u></b>	<b><u>Population within 1000 mV/m Contour</u></b>	<b><u>Percent of Population Within 25 mV/m Contour</u></b>
Daytime	291,131	311	0.11%
Critical Hours	214,149	146	0.07%
Nighttime	5,433	0	0.00%

Based upon the above information, this proposal clearly meets the requirements of Section 73.24(g) of the Commission’s Rules.

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**Coverage Prediction and Soil Conductivity Assumptions**

As required by the instruction set of FCC Form 301, the contour maps are supplied herewith showing the locations of pertinent coverage contours of both the existing and proposed WNVR operations. The predicted 1000 mV/m contours for the proposed and licensed operation during all three operating modes were plotted on the maps attached as **Exhibit 12 - Figure 4 (Sheets 1 and 2)**. The predicted 0.5 mV/m, 2 mV/m, and 5 mV/m coverage contours for the proposed modified *daytime* operation are shown on **Sheet 1 of Exhibit 12 – Figure 5** while those of the existing licensed operation are included on **Sheet 2 of Figure 5**. Similarly, the predicted 0.5 mV/m, 2 mV/m, and 5 mV/m coverage contours for the proposed *critical hours* operation are shown on **Sheet 1 of Exhibit 12 – Figure 6**; the corresponding predicted contours of the existing licensed operation are included on **Sheet 2 of Figure 6**. Finally, the 13.3 mV/m nighttime interference free predicted contour for the proposed and licensed nighttime operations are shown on **Exhibit 12 – Figure 7**. (Other standard AM coverage (5, 2 and 0.5 mV/m) contours are not plotted on **Figure 7** since they fall well outside the nighttime interference free contour and are thus not pertinent. Nevertheless, if a plot and distance tabulation of these contours is desired by Commission Staff, they can be supplied upon request.)

All of these contours utilize ground conductivities obtained from the most recent WNVR proof of performance, and supplemental measurements included in prior WNVR applications for Construction Permit. Where measured conductivities are not available, FCC Figure M-3 ground conductivity was used. Distances to contours and associated ground conductivity data for the proposed WNVR facility are summarized in the attached **Exhibit 12-Table II (as Tables II-A, II-B, and II-C)**.

All contour plots were derived using the FCC's standard prediction methods. Specifically, distances to contours were computed using a computer program that simulates the Commission's AM groundwave propagation curves at intervals of one degree. Necessary soil conductivity data were taken from a digitized version of the Commission's estimated soil conductivity map, Figure M-3, "measured" ground conductivities obtained from the last full WNVR proof-of-performance, and supplemental measurements taken by station personnel as filed in prior WNVR Applications for Construction Permit. This ground conductivity data and associated predicted distances to contours are also summarized in the **Table II** sheets of **Exhibit 12**. A summary of the employed measured ground conductivity data sources is included as **Exhibit 12- Table III**.

**Non-Allocation Interference Considerations**

This application will not require coordination with Canada or Mexico since this location is more than 400 km from the nearest points on the Canadian and Mexican borders. Further, the proposed operation would

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not have an adverse impact on any known protected monitoring stations, identified “quiet zones”, or other existing or proposed broadcasting facilities.

The nearest known *FCC Monitoring Station* is located at Allegan, Michigan, more than 204 km from the existing/proposed WNVR site. Inasmuch as the proposed operation is well beyond the distance requiring consideration of the monitoring station, it is believed that advance consultation and coordination is not necessary.

The nearest known radio astronomy and radio research installations are the *National Radio Astronomy Observatory* and the *National Radio Research Observatory* located within the Green Bank NRAO “Quiet Zone” in West Virginia. Inasmuch as the WNVR site is located well outside of (more than 745 km away from) this “quiet zone”, it is believed that notification or coordination is not required with respect to these facilities.

The nearest known radio receiving installation is the *Table Mountain Radio Receiving Zone* in Boulder County, Colorado, which is sufficiently distant from the proposed site as to not require advance consultation with the *Department of Commerce*.

There are no other AM broadcast stations located within 3.2 km from the proposed site other than WAIT, 850 kHz, Crystal Lake, Illinois, which is located 2.75 km away, according to information contained within the Commission’s engineering database. Given the involved distance between these sites, the fact that the proposed structures in this application would be less than 60 degrees in height at the WAIT frequency, and the observation that the proposed structures would not be directly in WAIT’s pattern main lobes, it is respectfully requested that any ensuing construction permit issued to WNVR not be conditioned for partial proof of performance measurements on the WAIT array.