Exhibit 11 - Statement A
NATURE OF THE PROPOSAL
NIGHTTIME ANTENNA SYSTEM DESCRIPTION
prepared for
Potomac Radio, LLC
WAGE Leesburg, Virginia
Facility Id 54876
1190 kHz 50 kW-D 1.3 kW-N DA-2

Nature of the Proposal

Potomac Radio, LLC ("*Potomac"*) is the licensee of Standard Broadcast Radio Station WAGE, 1200 kHz, Leesburg, Virginia (Facility Id 54876). WAGE is presently licensed as a Class B station with authority to operate with 5 kW daytime and 1 kW nighttime (utilizing a directional antenna system at night).

In early 2007, *Potomac* filed an FCC Application for Construction Permit ("CP") in which it was proposed to change the WAGE frequency of operation from 1200 kHz to 1190 kHz and increase daytime power to 50 kW using a directional antenna system at a different location than the licensed WAGE site. A grant of that daytime proposal was issued on October 29, 2008 (see BP-20070118AEM). In the now granted daytime application, *Potomac* indicated that it would file a *separate* Application for CP with the Commission in which a companion nighttime operation on 1190 kHz would be requested using a four-tower directional antenna system located at the existing licensed WAGE transmitter site[1]. This instant application constitutes the referenced 1190 kHz nighttime proposal.

Antenna System Description

The proposed new nighttime antenna system will employ the existing two WAGE nighttime towers along with two new towers, creating a new four tower antenna array. The existing towers have an overall height above ground of 184 feet (56.08 meters); it is proposed to construct the two new additional towers at this same height. The existing towers do 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 Federal Aviation Administration (see FAA Aeronautical Study Number1991-AEA-932-OE). Per that Determination, structure marking and lighting is not necessary. Inasmuch as the two new towers will be located quite close to the existing towers, and the overall heights proposed are well under 200 feet, further FAA notification is not necessary.

The proposed nighttime facility directional antenna system parameters are described in the attached **Exhibit 11 - Table I**. A tabulation of the resulting standard radiation pattern data is included in this table. A

[1] This separate day/night application filing was informally discussed with FCC Staff, who indicated that the filing of separate day and night site applications would be permissible.

horizontal plane polar plot of this pattern data is supplied as **Exhibit 11 - Figure 1**. Tabulations and plots of radiated fields at various elevation angles are not included for brevity, but can be provided upon request.

The nighttime antenna system physical description is summarized in the elevation plan attached as **Exhibit 11 – Figure 2**. Each antenna structure will have a radiating (electrical) height of 78.4° at the proposed new operating frequency of 1190 kHz. The overview of the proposed new antenna system layout and location is provided in the included **Exhibit 11 - Figures 3, 3A, 3B, 3C** and **3D** (transmitter site location topographic map with detail, overhead site photo, cardinal direction site photos, and plat layout plan). The proposed ground system is also described in **Exhibit 11 – Figure 2**.

Blanketing Considerations

Exhibit 11 - Figure 4 supplies a plot of the proposed nighttime 1000 mV/m (1 V/m) contour. According to 2000 US Census data, there is no population residing within the 1,000 mV/m contour, however, an inspection of an area topographic map indicates that a limited number of houses (approximately five) are located within this region. The included site photographs of **Exhibit 11 – Figure 3** supports the conclusion that some population must actually reside in this area.

Absent doing a door-to-door count, it was felt that a reasonable alternative would be to find the nearest Census population centroid and assume that the value assigned to the centroid would be a credible "worst case" population assumption for this blanketing region. That value was found to be 124 persons, which is well under the 300 person threshold articulated in §73.24(g) of the Commission's Rules. Further, there are 27,548 persons estimated to reside within the proposed 25 mV/m contour, therefore the blanketing contour would encompass only 0.45% of the 25 mV/m population, based upon the use of the nearest centroid data. Thus, it is believed that this proposal meets the requirements of Section 73.24(g) of the Commission's Rules.

Further, the 1000 mV/m contour resulting from the *existing* WAGE 5 kW daytime non-directional operation encompasses significantly more total area than the blanketing area proposed herein. Thus it is reasonable to conclude that this application proposal would have a lesser impact than the present daytime operation. Finally, the WAGE daytime operation will be moved to another site per a recently granted Construction Permit (see FCC File Number BP-20070118AEM), hence the net blanketing impact of WAGE will lessen in the vicinity of the transmitter site under the instant proposal. Accordingly, it is believed that the intent of the Commission's blanketing rule would be satisfied with the proposed operation.

Coverage Prediction and Soil Conductivity Assumptions

Pertinent nighttime coverage contours (the 1000 mV/m "blanketing" contour and the 19.496 mV/m nighttime "interference free" contour) are included in the map attached as **Exhibit 11 – Figure 5**[2]. Other standard AM coverage (5, 2 and 0.5 mV/m) contours are not plotted since they fall well outside the nighttime interference free contour and are thus not pertinent. No co-channel or adjacent channel stations are close enough to the proposed site to warrant duplication of the calculation and plotting of the customary groundwave interfering (0.025, 0.25, 5, and 25 mV/m) contours. Nevertheless, if a plot and distance tabulation of these contours is desired by Commission Staff, they can be supplied upon request.

The illustrated 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. Necessary soil conductivity data were taken from: 1) a digitized version of the Commission's estimated soil conductivity map, **Figure M-3**, 2) "measured" ground conductivities obtained from the last full WAGE proof-of-performance, and 3) supplemental (stub radial) measurements taken by staff members of this firm. This ground conductivity data and associated predicted distances to contours are summarized in **Exhibit 11 - Table II**. A reference summary of the employed measured ground conductivity data is included as **Exhibit 11- Table III** for the convenience of Commission Staff.

Supplemental Conductivity Measurements

Additional field strength measurements were taken from the existing licensed WAGE site along two radial bearings (91 and 131 degrees True) in order to better characterize the station's proposed coverage over the city of license, Leesburg, Virginia. These radials are not "full length" because they are proximal to two existing "full proof" radials from the last WAGE proof-of-performance. Accordingly, it was felt that the use of "stub length" radials would be permissible in this limited instance.

The WAGE antenna system was operating in its present daytime non-directional 5 kW mode during the collection of the measurements. James M. Perryman and Robert M. Clinton, experienced broadcast engineers and staff members of this firm, conducted the field strength observations. A Potomac Instruments FIM-41 Field Intensity Meter (Serial Number 2152) was employed as the measurement device using conventional methods. The attached **Appendix I** supplies resulting field strength measurement/conductivity

[2] The proposed *Nighttime Interference Free* coverage contour is also shown in the coverage map attached to this application as **Exhibit 12 - Figure 6.** The proposed 1000 mV/m contour is plotted in the included **Exhibit 11 – Figure 4**. The 25 mV/m contour was developed and studied but was not plotted on the attached maps.

graphs and data. A reference family of curves for the frequency of interest, and measurement location maps are also supplied in **Appendix I**.

In graphically analyzing the collected data, reference was made to the inverse distance fields annotated for each of the radials in the last full proof-of performance for the existing licensed WAGE operation at this site; the RMS of the measured non-directional operation was calculated to be 606 mV/m/km. Accordingly, this value of inverse field was employed for the conductivity analysis shown in the attached graphs. The derived conductivity of 3 mS/m appears to be an appropriate result given the data scatter and is within the range of reasonableness when the adjacent radial information is considered. This value of conductivity was thus employed for these two radials for contour plotting purposes[3].

[3] As discussed in **Exhibit 12 – Statement B**, the use of these supplemental radials expands the percentage of community of license coverage from 84.4% of the population (82.7% of the area) to 100% of the population (94.6% of the area). In either event, the percentage of community coverage developed by this proposal is *above* the 80% requirement stated in §73.24(i) of the Commission's Rules.