

**EXHIBIT E**  
**ENGINEERING STATEMENT**  
**IN SUPPORT OF AN APPLICATION**  
**FOR CONSTRUCTION PERMIT**  
**FOR A NEW AUXILIARY ANTENNA SYSTEM**  
**WMXJ 100 KW 213 M AAT CH. 274**  
**POMPANO BEACH, FLORIDA**

**INTRODUCTION**

This statement was prepared on behalf of Jefferson Pilot Communications Company of Florida, Inc., licensee of FM broadcast station WMXJ Pompano Beach, FL. WMXJ is one of ten stations licensed to operate in the Miami area using a Master FM antenna system. WMXJ and the other nine stations have applications pending, seeking authority to replace the Master Antenna with a new design. The purpose of this application is to provide technical information in support of an application on FCC Form 301 for a construction permit to install and operate a Master Auxiliary antenna system that will serve as a back up system for all ten stations. The auxiliary antenna will be installed at a lower level on the same tower that supports the main antenna.

**1.0 MV/M SERVICE CONTOUR**

Section 73.1675 of the Commission's Rules states that the service contour of the auxiliary antenna may not extend beyond the corresponding contour of the main facility. Attached to this statement as Figure 1 is a map comparing the proposed auxiliary 60 dBu contour with the WMXJ main facility 60 dBu contour proposed in the pending application to replace the main antenna. Figure 1 demonstrates compliance with Section 73.1675 with no extension of the 1.0 mV/m contour.

**ENVIRONMENTAL PROCESSING AND RF EXPOSURE COMPLIANCE**

As previously stated the antenna proposed in this application is shared by the applicant, WMXJ, and nine other FM broadcast stations. The proposals are categorically excluded from environmental processing by Section 1.1306 of the FCC Rules. They are

excluded since the applications do not involve a site location as described in Section 1.1307(a) and, as described below, the safety limits for human exposure to radio-frequency (RF) energy in Section 1.1307(b) will not be exceeded. Since the collective proposals are considered not to have a significant effect on the quality of the human environment under Section 1.1307(a) and (b), environmental processing is not required.

The proposed antenna system will not subject workers or the general population to levels of radio frequency energy in excess of the Radio Frequency Radiation Exposure limits contained in Section 1.1310 of the FCC Rules. General access to the immediate site is controlled and the based facilities for the combined FM operations are equipped with suitable warning signs. The proposed auxiliary antenna that will accommodate all ten stations is an ERI Model SHPX-16AC-HW-SP with the radiation center at 213 meters AGL. There is one other FM broadcast facility operating from the tower, FM broadcast station WEDR, utilizing a ten bay circularly polarized ERI antenna, Model SHP-10C, with the radiation center at 281 meters AGL. Since both antennas were designed with half wave spacing between radiating elements the power density at levels two meters above ground are very low.

Compliance with the maximum permissible exposure (MPE) limits with respect to the WMXJ auxiliary antenna proposal was established based on a “worst case” estimation of ground level power density using the Commission’s FM Model, Version 2.10 software, which is designed to calculate power density levels accessible at locations two meters above ground for various antenna types. Figures 2, 3 and 4 are power density versus distance graphs demonstrating the worst case contributions for the different sources on the tower. The graph of Figure 2 estimates the power density contribution for a 100 kW circular ERP operation using the proposed auxiliary antenna. That contribution is 0.22 microwatts/cm<sup>2</sup> and since there will be nine 100 kW operations using the antenna, the total contribution will be 1.98 microwatts/cm<sup>2</sup>. The graph of Figure 3 estimates the power density contribution for the remaining station in the multi-user auxiliary antenna system with a circular ERP of 95 kW. That contribution is 0.21 microwatts/cm<sup>2</sup>. The graph of Figure 4 estimates the power density contribution for the other FM antenna on the tower. This antenna is used by WEDR and its contribution with a circular ERP of 100 kW is 0.29 microwatts/cm<sup>2</sup>.

The total power density at 2 meters above ground based on the graphs of Figures 2,

3 and 4 for the ten stations using the proposed auxiliary antenna and FM station WEDR is 2.48 microwatts/cm<sup>2</sup> or 1.24 percent of the MPE limit for uncontrolled exposure and 0.25 percent of the MPE limit for controlled exposure.

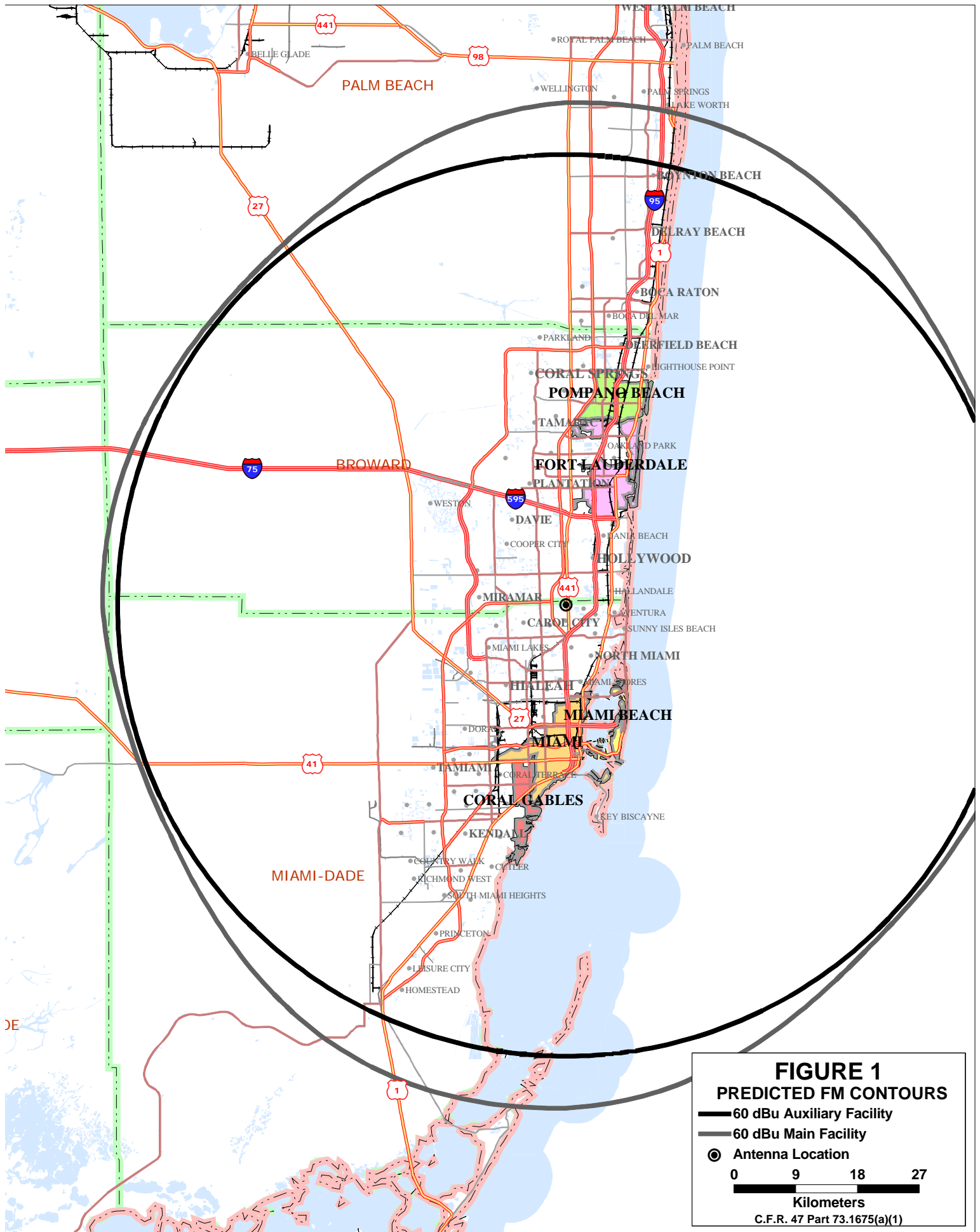
It has been demonstrated that occupational exposure in excess of the guidelines is not possible at any ground-level locations. Nevertheless, the applicant has adopted a work policy that is designed to avoid harmful exposure when work is being done at higher elevations on the tower. Accordingly, workers will be protected from excessive exposure to radio frequency fields in areas of close proximity to the radio frequency source by employing the methods recommended in OET Bulletin No. 65, Version 97-01. Preventative steps to avoid excessive exposure shall include scheduling work on the tower when the facility is shut down or operating at reduced power or by time averaging.

Prepared by

**LOHNES AND CULVER**

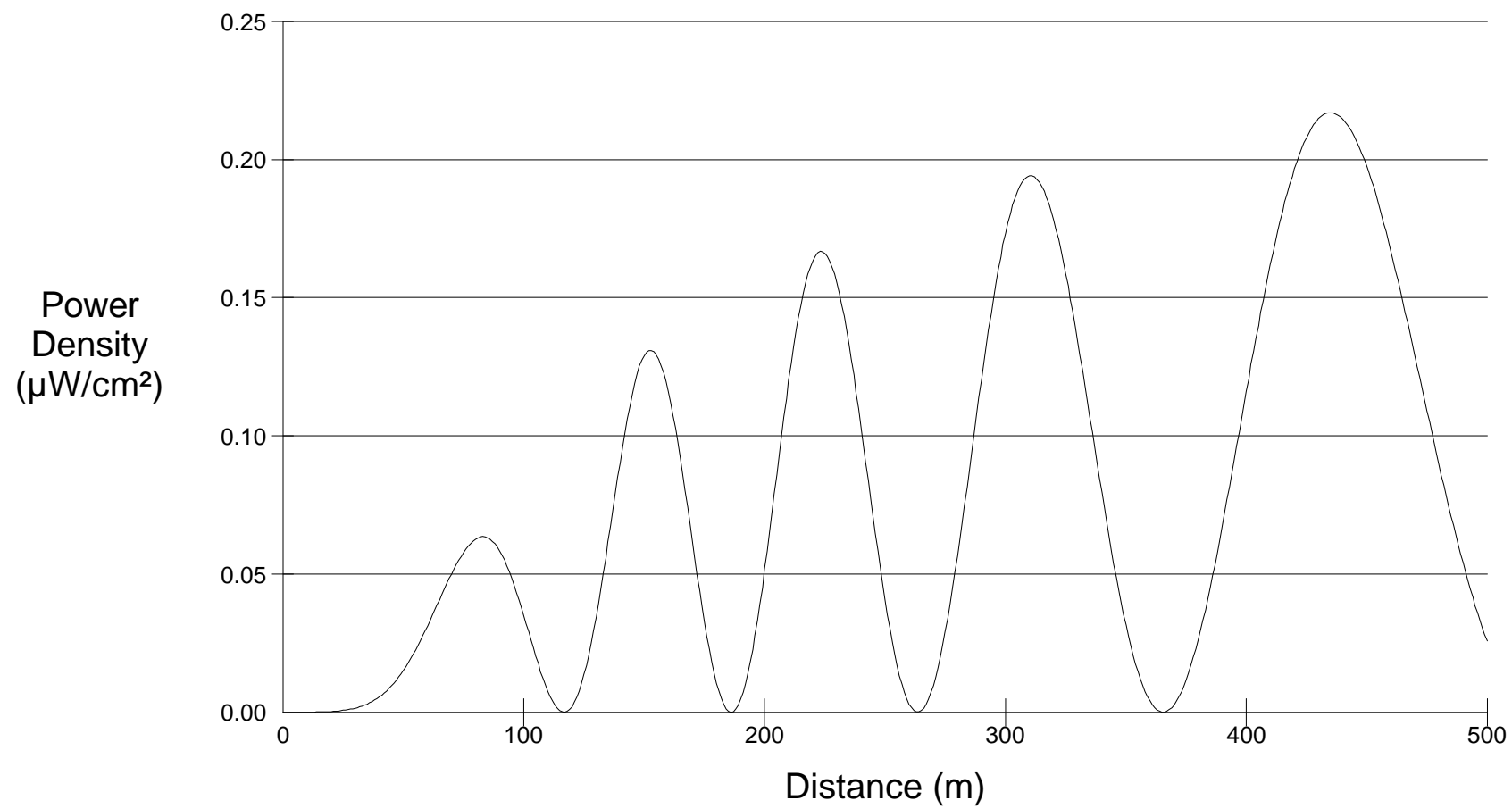
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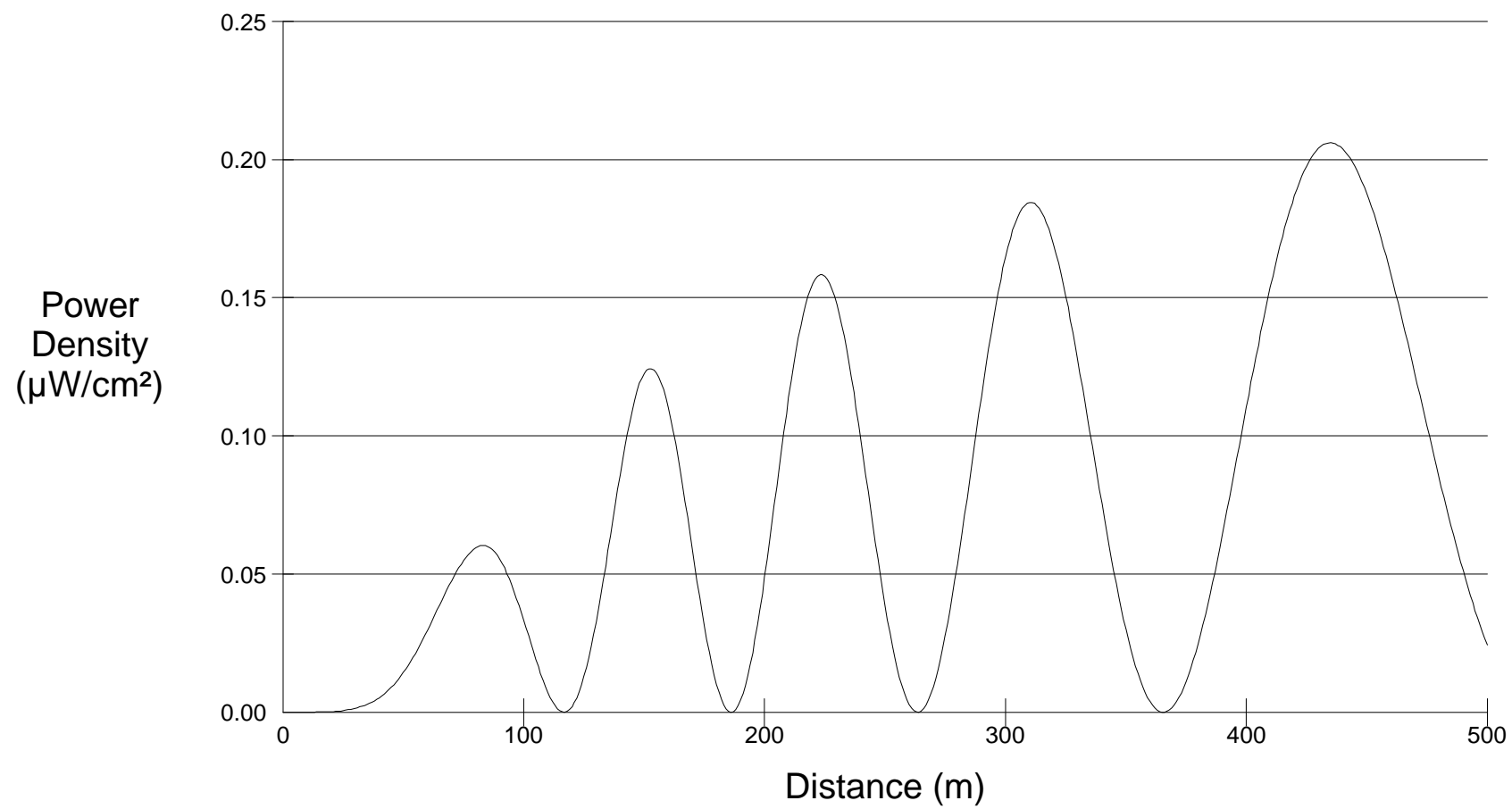


**FIGURE 1**  
**PREDICTED FM CONTOURS**  
 — 60 dBu Auxiliary Facility  
 — 60 dBu Main Facility  
 ● Antenna Location  
 0 9 18 27  
 Kilometers  
 C.F.R. 47 Part 73.1675(a)(1)

Power Density vs Distance



Power Density vs Distance



Power Density vs Distance

