

**Radio station WRPS(FM)  
Rockland, Massachusetts  
March 2011**

**Broadcast Signal Lab, LLC  
Cambridge, Massachusetts**

## **Engineering Statement**

### **Introduction**

Rockland Public Schools, licensee of WRPS, Rockland, Mass., channel 202A, proposes to relocate WRPS's antenna site to a new tower, moving the center of radiation 74 meters horizontally and zero meters vertically.<sup>1</sup>

No critical contour spacings are involved at the present location. As a precaution, we checked the closest spacings at the new location. Television channel 6 protection and radiofrequency radiation compliance were also examined, as detailed below.

### **Compliance with Section 73.509**

The existing 100 dB $\mu$  interference contour of WRPS is within the 60 dB $\mu$  service contour of WERS, Boston, ch. 205B1. The proposal complies with all four requirements of section 73.509(d). The total area of overlap with WERS is maintained, not increased,<sup>2</sup> there is no overlap with any other station, and the area of overlap does not move closer to WERS.

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<sup>1</sup> Antenna height will not change. Differences from the license values are attributable to the latter having been determined more than 30 years ago by other methods than those of today. We derived figures for the existing and new tower sites from present-day databases. The HAAT figure adopted is that given by the Media Bureau HAAT "Shortcut".

<sup>2</sup> By keeping ERP fixed, the radius of this interference area, determined by a free space calculation, is precisely maintained.

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Per our study, there is 0.8 km clearance between the proposed WRPS 60 dB $\mu$  service contour and the 54 dB $\mu$  interfering contour of WMBR, Cambridge, Mass., ch. 201A. All other contours of possible concern are clear by 2 km or more (like color to like color on the attached map exhibit).

### **TV channel 6 protection**

Per Section 73.525, the radius of concern for channel 202 is 257 km. There are two TV 6 facilities within that radius, WEDY, New Haven, Conn. and WRGB, Schenectady, N.Y. Per our calculations, the maximum interfering contour of WRPS, 50.8 dB $\mu$ , existing and proposed, clears the protected 47 dB $\mu$  service contours of both stations by more than 140 km. Thus, they are not impacted.

### **Radio frequency radiation compliance**

For the proposed facility, using a Shively 6812B-2R-SS (half-wave spaced) antenna with center of radiation 36 meters above ground level, the maximum value of radio frequency energy calculated by the OET FM Model program for any point at a height of two meters above ground or two meters above the roof of the adjacent building, is less than 1  $\mu\text{W}/\text{cm}^2$ . At VHF this represents less than 0.5 percent of the public exposure/uncontrolled limit. The site will be well within both that limit and the occupational/controlled limit.

The tower base will be secured, with access strictly controlled, and posted with appropriate warning signage. Work requiring climbing will be coordinated with arrangements for transmitter shutdown or power reduction as needed to ensure that workers are not exposed to excessive RF energy levels.

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### **Map exhibit**

The map study below shows the contours of existing stations of interest, relative to the proposed contours for WRPS. The sites shown are:

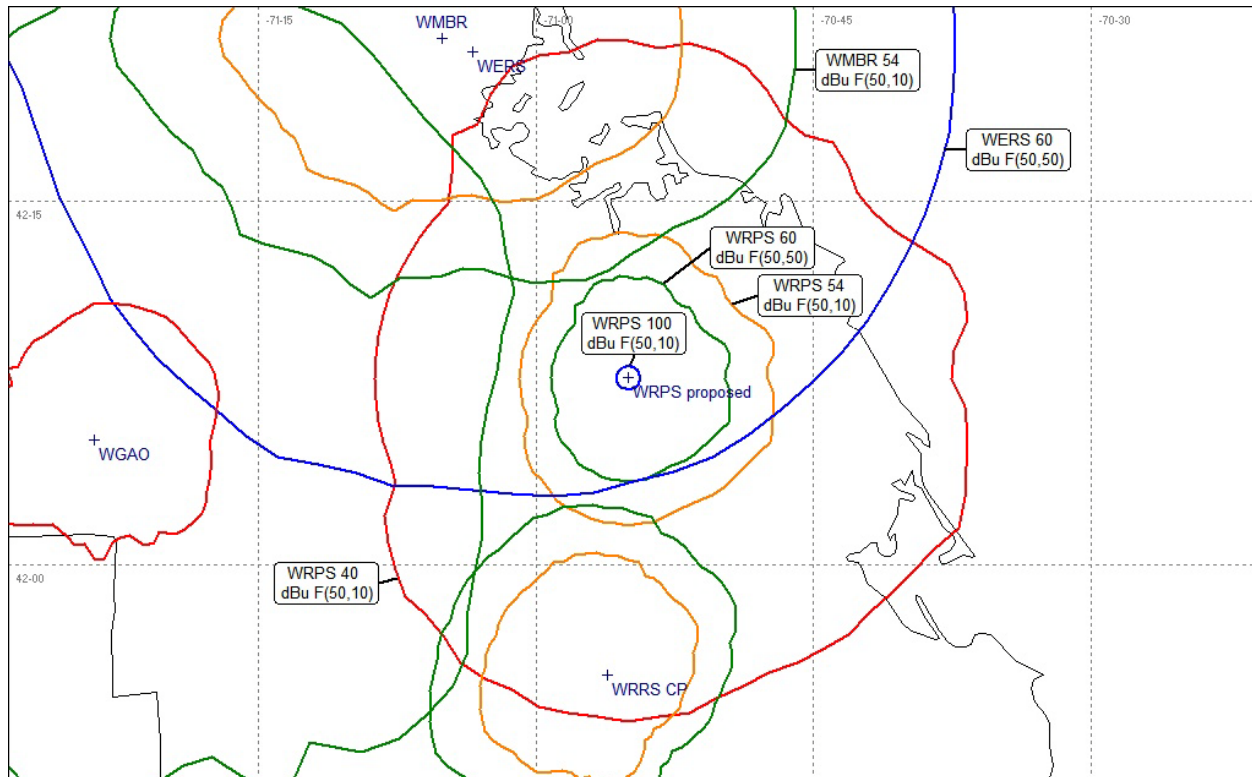
WRPS, Rockland, Mass., Ch. 202A

WERS, Boston, Mass., Ch. 205B1

WMBR, Cambridge, Mass., Ch. 201A

WRRS, Middleborough Center, Mass., Ch. 203A

WGAO, Franklin, Mass., Ch. 202A



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The preceding report is to my information and belief true and correct.

R. Levy

Rick Levy, CSRE  
Engineering consultant

3-12-2011

Date