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**ENGINEERING REPORT**

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**WSJT-LD, Atlantic City, NJ (Philadelphia added DTS) LPTV Channel 10D**

**ETRAORDINARY CIRCUMSTANCES**

The FCC has indicated that the experimental form of LMS is to be used for an LPTV DTS application since the official LMS form is not yet available.

**ENGINEERING STATEMENT**

This application for an experimental LPTV DTS application effectively adds a DTS transmitter site in Philadelphia, PA on channel 10. The licensed WSJT-LD (facility 191421) channel 10 facility is specified as the second location of this experimental DTS application. No changes are being proposed to that of the licensed WSJT-LD facility that serves Atlantic City, NJ.

Here is a list of the pertinent transmit facility information of the **licensed** WSJT-LD facility:

Channel : 10

ASR Number : 1045125

Site coordinates : N 39-43-41.0; W 74-50-38.0

Ground Elevation : 34.1 m AMSL

Antenna Centerline : 231 m AGL

ERP : 3 kW maximum

FCC ID of Directional Antenna : 1003916 (no rotation)

Antenna Polarization : Horizontal

Emission Mask : Full Service

**INTERFERENCE PROTECTION RESULTS**

A step of 0.1 kilometers is requested and used for this study.

The output from the FCC's current "TVStudy" software is attached demonstrating

full compliance with the FCC's protection requirements.

Consent Agreements required for grant of this application: NONE

The applicant accepts any interference that is predicted to exist to the proposed facility by any licensed, authorized or previously proposed primary TV station. The applicant also accepts any interference that is predicted to exist to the proposed facility by any secondary TV facility that is given preferential status by the FCC over the Applicant's herein proposed facility.

## ENVIRONMENTAL STATEMENT

This proposal does not involve a site location specified under Section 1.1307(a) through (a)(8) of the FCC Rules.

The proposed LPTV of the DTS operation at Philadelphia produces an ERP that is no greater than 2 kilowatts (H-polarization) and 1 kilowatt (V-polarization). Assuming: (a) a maximum ERP of 3 kilowatts; (b) a relative field of less than 0.3 in the critical downward angles; and (c) a distance of at least 6 meters from the antenna centerline to 2 meters above the top floor of the building, the maximum power density is calculated as follows:

$$S = 33.4 (F)(F)(ERP) / [(R)(R)]$$

Where, S equals power density in uW/cm<sup>2</sup>  
F equals the relative field factor  
ERP equals the effective radiate power in watts  
R equals the distance in meters

$$= 33.4 (0.3)(0.3)(3,000) / [(6)(6)]$$

$$= 250.5 \text{ uW/cm}^2$$

250.5 uW/cm<sup>2</sup> represents less than the uncontrolled power density limit (315.3 uW/cm<sup>2</sup> for channel 14—channel 14 being the worst-case UHF channel or 200 uW/cm<sup>2</sup> for VHF). The electromagnetic radiation from this proposed operation will not produce a value in excess of the radiation standard where the public has access on the building.. The electromagnetic radiation from the proposed operation will not combine

with other facilities on or near the structure to produce a significant change in value.

If this is a structure that may support various other operations, the applicant will cooperate with the other operators in establishing a plan for work done on the structure in close proximity to the existing antenna.