

The proposed experimental radio system has been designed to provide protection to existing, licensed and authorized radio and television stations. It is proposed to operate the base station transmitters with center frequencies in the 3.35 MHz of spectrum between 800.650 MHz and 804.000 MHz (television channel 69), and to operate the mobile station transmitters within the 3.35 MHz of spectrum between 752.650 MHz and 756.000 MHz (television channel 61).

Television Station Protection

Based on Sections 90.545 and 27.60 of the FCC Rules, the District of Columbia must provide protection to co-channel and adjacent-channel television stations. Since the District proposes mobile station transmissions within spectrum allocated to television channel 61, its mobile operations must provide protection to television stations operating on channels 60, 61 and 62. Since the District proposes base station transmissions within spectrum allocated to television channel 69, its base station operations must provide protection to television stations operating on channels 68 and 69.

A search of all television (TV) and low-power television (LPTV) stations operating on any of these five channels and within 180 kilometers of a set of reference coordinates in the District of Columbia, results in the following list of stations.

Stations within 180 km of Washington, DC 38-53-41 / 77-00-57								
Facility ID	Call	Status	Channel	Service	City of License	State	Bearing	Distance(km)
23264	WWPX	LIC	60	TV	MARTINSBURG	WV	305	110.09
14076	W60AL	LIC	60	TX	ONANCOCK	VA	132.5	172.03
23264	WWPX	APP	60	TV	MARTINSBURG	WV	305	110.07
51984	WPPX	LIC	61	TV	WILMINGTON	DE	58.39	172.76
6098	W61AB	LIC	61	TX	NEW MARKET	VA	257.4	144.27
129785	W61DS	APP	61	TX	VIENNA	MD	114.8	79.47
129785	W61DS	CP	61	TX	SALISBURY	MD	113.3	134.68
56826	W61BY	LIC	61	TX	ANNAPOLIS	MD	79.01	44.85
40626	WFPT	APP	62	TV	FREDERICK	MD	328	47.92
40626	WFPT	LIC	62	TV	FREDERICK	MD	327.9	52.97
10259	WJAL	LIC	68	TV	HAGERSTOWN	MD	323.8	137.75
14082	W68BH	LIC	68	TX	CRADDOCKVILLE	VA	144.1	176.37
6101	W68AB	LIC	68	TX	WOODSTOCK	VA	273.9	129.86
129771	W68DR	CP	68	TX	REHOBOTH BEACH	DE	95.29	159.98
131071	W69EH	CP	69	TX	SALISBURY	MD	114.5	131.36
131136	NEW	APP	69	TX	OCEAN CITY	MD	109	169.96
127219	NEW	APP	69	TX	GEORGETOWN	DE	98.55	143.17
71670	W69AC	LIC	69	TX	ROMNEY	WV	288.2	154.45

For the stations in the above list, maps showing the protected, predicted 64 dBu [F(50,50)] contour of TV stations and the 74 dBu [F(50,50)] contour for LPTV stations are included as Pages 4 and 5 of this exhibit. Where appropriate, interfering contours based on the District's proposed land-mobile operation are also shown.¹

Page 4 of Exhibit 6 contains a map which shows the protected contours of those TV and LPTV stations from the above list which operate on channels 68 and 69. It also shows the composite of the interfering contours for the ten base station transmitter sites proposed by the District of Columbia and described in detail in Exhibit 1. In accordance with Section 90.545 of the Commission's Rules, the interfering contour values were determined based on Desired to Undesired (D/U) signal ratios of 40 dB for co-channel stations and 0 dB for adjacent-channel stations. There are no full-service, co-channel TV stations near enough to require analysis. The composite 34 dBu [F(50,10)] is shown, demonstrating protection to all co-channel LPTV stations; and the composite 64 dBu [F(50,10)] contour is shown, demonstrating protection to adjacent channel stations. As can be seen, the proposed base station operation provides protection to all TV and LPTV stations operating or proposed to operate on channels 68 and 69.

Page 5 of Exhibit 6 contains a map which shows the protected contours of those TV and LPTV stations from the above list which operate on channels 60, 61 and 62. With the exception of one station, WFPT, channel 62, Frederick, MD, the protected contours of all TV and LPTV stations on these three channels fall well outside the District of Columbia boundaries. Since the District's mobile units will operate with Effective Radiated Powers of less than 1 Watt from antennas mounted only a few feet above ground level, interfering contours from mobile unit operations will fall well outside of the protected contours of all the TV and LPTV stations with the exception of WFPT. For example, even at a height above average terrain of 30 meters (98 feet) with a maximum ERP of 0.6 Watt (28 dBm), as proposed by the District for its mobile operations, the predicted 24 dBu [F(50,10)] contour only extends 12.4 km from the transmitter location.

With respect to TV station WFPT, the District contacted Maryland Public Television, licensee of WFPT, and sought its cooperation in the District's attempt to obtain this Experimental Radio Station Authorization. Due to the low-power and adjacent-channel nature of the District's proposed mobile operations, and the fact that it proposes to restrict its mobile station operations to within the District of Columbia boundaries, station WFPT does not object to the District's application for this experimental authorization. A copy of a letter from the Director of Engineering for Maryland Public Television, stating that it does not object to the District's application, is attached as an Appendix to this application.

¹ The method of Section 73.684 of the Commission's Rules was used to determine the extent of the protected and interfering contours. Distances to protected contours were determined using the curves provided in Section 73.699, Figure 10b; distances to interfering contours were determined using the curves provided in Section 73.699, Figure 10c.

Land-Mobile Station Protection

There are no known land-mobile stations operating within the spectrum blocks proposed for use by the District of Columbia and within 200 kilometers of the District. The District of Columbia (as well as the adjoining states of Virginia and Maryland) holds a license for use of the State License channels in the public safety portions of the Upper 700 MHz Band (see FCC Rule Section 90.529). Some of these channels are on frequencies within TV channel 69.² Neither the District of Columbia, nor the States of Maryland or Virginia have implemented operations on these State License channels at this time. Therefore, no interference to operations on these channels will occur as a result of the District's proposed experimental operations.

If, however, at some point during the duration of the District's experimental authorization, one or more jurisdictions proposes to begin operations on the State License channels, the District will restrict its base station operations to portions of the TV channel 69 spectrum below 804 MHz so as not to interfere with operations on these channels.

² There are 96 narrow-band (6.25 kHz wide), State License channels within TV channel 69. All of these channels are above 804 MHz (the lower edge of the lowest channel is at 804.025 MHz).



