

CHANNEL 6 INTERFERENCE ANALYSIS

The proposed facility is within the affected area of WPVI-TV channel 6, Philadelphia, Pennsylvania. A detailed analysis has been performed to demonstrate compliance with 47 CFR §73.525 with respect to this channel 6 television station. As an existing NCE-FM station authorized prior to December 31, 1984, WRTI falls under 47 CFR §73.525(b). The instant application complies with the “two for one” interference population reduction rule set forth in 47 CFR §73.525(b)(2), whereby for each person predicted to receive new interference, interference to at least two persons is eliminated.

Both the existing and proposed WRTI facilities are located within the 90 dBu contour of WPVI-TV. Per 47 CFR §73.525(e)(1)(vii), the location of the interfering FM contours are based on the assumption that the WPVI-TV field strength remains constant at 90 dBu at all points within that contour. The undesired-to-desired field strength ratio for a station operating on channel 211 at the 90 dBu field strength contour of an affected channel 6 television station is -1.8 dB per 47 CFR §73.599 figure 1. As such, at all points within the WPVI-TV 90 dBu contour, the associated F(50,10) interfering contour from both the licensed and proposed facilities is 88.2 dBu. As can be seen in the contour plot included in this exhibit, the 88.2 dBu interfering contours of both the existing and proposed WRTI facilities are wholly encompassed within the WPVI-TV 90 dBu contour.

The effective radiated power used to plot the 88.2 dBu interfering contours of the existing and proposed facility were computed using the methods specified in 47 CFR §73.525(e)(4)(ii), using the maximum ERP in each polarization plane at any radiation angle in the vertical plane per 47 CFR §73.509(c)(3). As the predicted interference area includes cities greater than 50,000 persons, the “A” divisor value used for computing the equivalent ERP of the vertical component is 10 per 47 CFR §73.525(4)(ii).

Existing Facility:

ERP horizontal polarization:	12.5 kW
ERP vertical polarization:	11.0 kW
Equivalent ERP for Channel 6 Protection:	$12.5 \text{ kW} + (11.0 \text{ kW} / 10) = \underline{13.6 \text{ kW}}$

Proposed Facility:

ERP horizontal polarization:	7.7 kW
ERP vertical polarization:	7.7 kW
Equivalent ERP for Channel 6 Protection:	$7.7 \text{ kW} + (7.7 \text{ kW} / 10) = \underline{8.47 \text{ kW}}$

Population counts were performed based on the contours shown. The population counts are as follow:

Proposed facility 88.2 dBu population count:	1,157,004
Existing facility 88.2 dBu population count:	1,244,617
Population common to both 88.2 dBu contours (overlap):	1,114,761

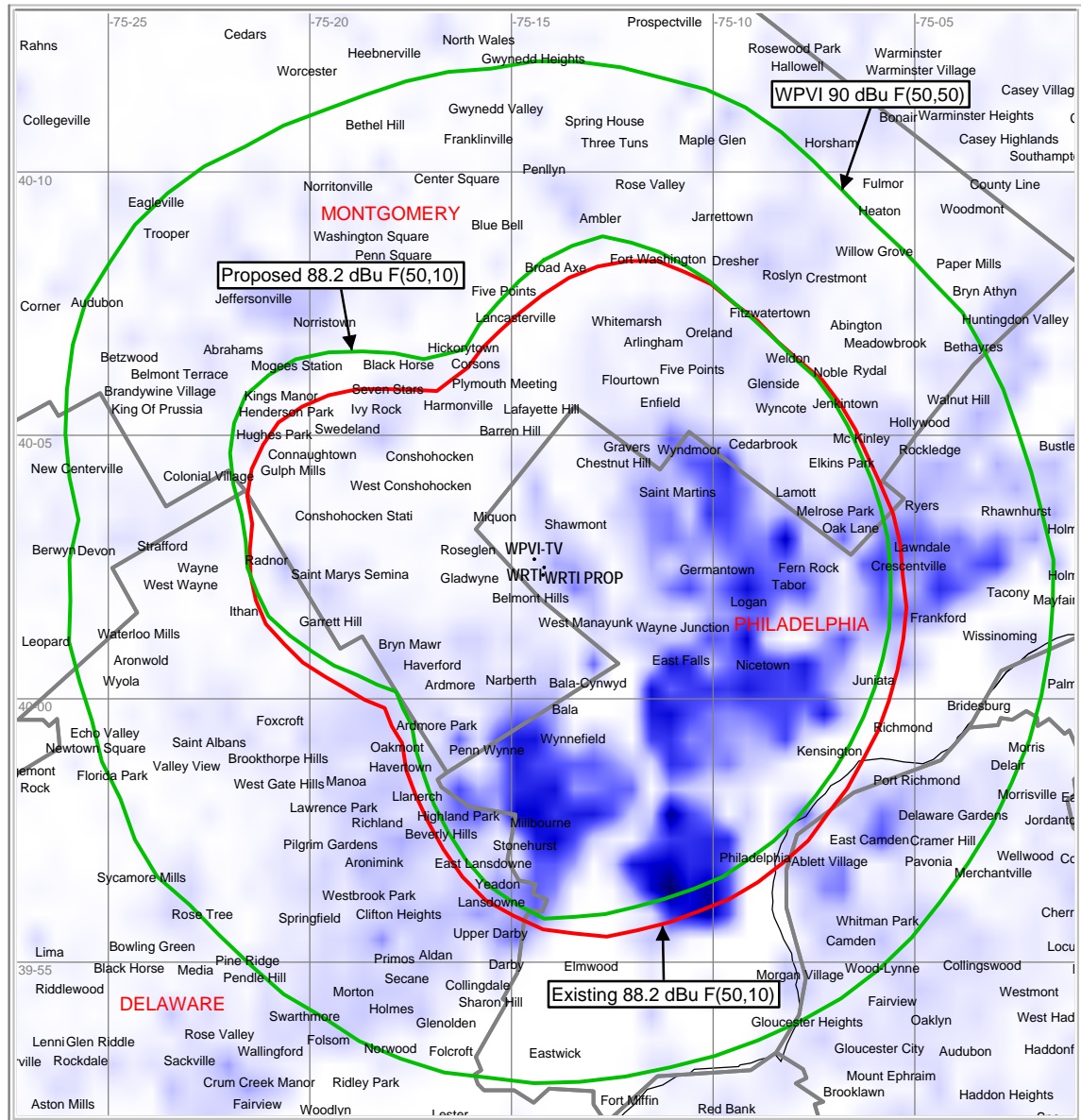
Persons for whom existing interference is eliminated:	99,856
Persons receiving new interference:	12,243
Ratio of Eliminated Interference to New Interference:	8.16:1

As the ratio of the population for whom interference is eliminated to the population for whom new interference is received is 8.16:1, the proposed facility exceeds the 2:1 ratio required by §73.525(b)(2) and is therefore in compliance. Although not required to do so, the applicant will correct any cases of reported interference to reception of WPVI-TV channel 6 via the installation of filters at no cost at the request of any viewer experiencing interference attributable to the proposed facility.

The contour plot included in this exhibit has been shaded based on population density. As can be seen, the large reduction in interference population is due to the area within the interfering contour being reduced over the city of Philadelphia where the population density is, by far, the greatest.

There also exist several low-power television and television translator stations operating on channel 6 that are located within the 196 km radius specified in 47 CFR §73.525(a)(1) with respect to an NCE-FM station operating on channel 211, however, the proposed facility's interfering contours lie wholly outside those stations' 47 dBu "Grade B" contours, therefore no additional analysis is warranted with respect to those stations.

Channel 6 WPVI Interference Analysis



Population Density (persons per 30 seconds x 30 seconds area)

