

Engineering Statement
WTXF-TV Channel 31 Philadelphia, PA
Application to Simulcast ATSC 3.0 (NEXT GEN TV) on a Host Station
July 13, 2023

The purpose of this application is to request authorization to allow full service digital television station WTXF-TV channel 31 Philadelphia, PA (Philadelphia DMA) to transmit an ATSC 3.0 (Next Gen TV) signal utilizing the facilities of full-service digital television station WPSG channel 33 Philadelphia, PA (Philadelphia DMA).

Both WTXF-TV and WPSG, as shown on the map below (Figure 1), are located in the Philadelphia DMA. The two stations are located less than 0.4 km apart and have similar facilities and coverage areas as shown on the attached maps (see below).

The maps below show that the two stations cover essentially the same area (See the coverage comparison maps in Figures 1 & 2). The predicted service population of WPSG (when computed inside the noise limited contour of WTXF-TV) is only very slightly smaller (99.89%) than that of the WTXF-TV licensed facility (See Figure 3).

In view of the above, WTXF-TV will be in full compliance concerning the coverage requirements as stated in the Rules for simulcasting its ATSC 1.0 signal in an ATSC 3.0 format on host station WPSG.

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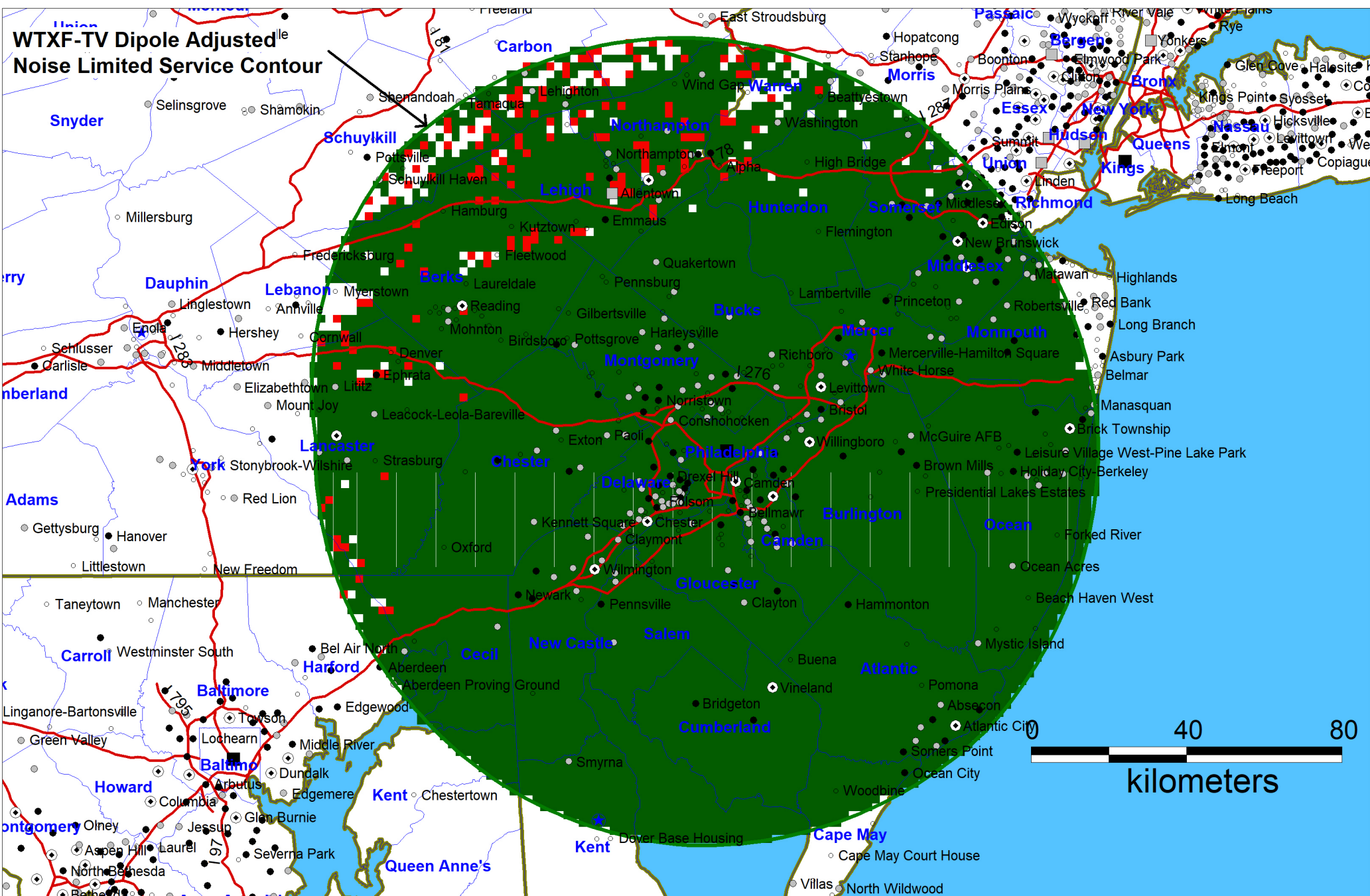


Figure 2

WTXF-TV Channel 31 / WPSG Channel 33 Predicted Noise Limited Service Compare

- Service Provided by WPSG Channel 33 ERP 1,000 kW (DA) HAAT 386.7 m
- Locations Served by WTXF-TV but not Served by WPSG

Figure 3

Predicted Service Comparison
WTFX-TV CH 31 Philadelphia, PA vs WPSG CH 33 (Inside WTFX-TV NLC) Philadelphia, PA

| State | County | WTFX-TV Licensed | | WPSG Licensed | | Gain / Loss | |
|---------------|--------------|-------------------|------------------|-------------------|------------------|----------------|---------------|
| | | ERP 1,000 kW OMNI | | ERP 1,000 kW DA | | | |
| | | HAAT 336 m | | HAAT 386.7 m | | | |
| | | Population | Households | Population | Households | Population | Households |
| DE | KENT | 72144 | 26835 | 72144 | 26835 | 0 | 0 |
| DE | NEW CASTLE | 538479 | 202651 | 538479 | 202651 | 0 | 0 |
| MD | CECIL | 95793 | 34814 | 100512 | 36673 | 4,719 | 1,859 |
| MD | HARFORD | 29871 | 11661 | 29865 | 11659 | -6 | -2 |
| MD | KENT | 3719 | 1467 | 3719 | 1467 | 0 | 0 |
| MD | QUEEN ANNE'S | 116 | 42 | 116 | 42 | 0 | 0 |
| NJ | ATLANTIC | 274549 | 102847 | 274549 | 102847 | 0 | 0 |
| NJ | BURLINGTON | 448734 | 166318 | 448734 | 166318 | 0 | 0 |
| NJ | CAMDEN | 513657 | 190980 | 513657 | 190980 | 0 | 0 |
| NJ | CAPE MAY | 31371 | 12949 | 31371 | 12949 | 0 | 0 |
| NJ | CUMBERLAND | 156898 | 51931 | 156898 | 51931 | 0 | 0 |
| NJ | GLOUCESTER | 288288 | 104271 | 288288 | 104271 | 0 | 0 |
| NJ | HUNTERDON | 124740 | 45706 | 126634 | 46545 | 1,894 | 839 |
| NJ | MERCER | 366513 | 133155 | 366513 | 133155 | 0 | 0 |
| NJ | MIDDLESEX | 717980 | 249683 | 732694 | 255097 | 14,714 | 5,414 |
| NJ | MONMOUTH | 318016 | 111972 | 326321 | 115673 | 8,305 | 3,701 |
| NJ | MORRIS | 33780 | 11522 | 41136 | 13915 | 7,356 | 2,393 |
| NJ | OCEAN | 576486 | 221072 | 576567 | 221111 | 81 | 39 |
| NJ | SALEM | 66083 | 25290 | 66083 | 25290 | 0 | 0 |
| NJ | SOMERSET | 312184 | 113595 | 319952 | 116465 | 7,768 | 2,870 |
| NJ | UNION | 62859 | 19630 | 62859 | 19630 | 0 | 0 |
| NJ | WARREN | 67198 | 25806 | 77576 | 29635 | 10,378 | 3,829 |
| NY | RICHMOND | 13427 | 4699 | 13427 | 4699 | 0 | 0 |
| PA | BERKS | 378603 | 141518 | 369943 | 138684 | -8,660 | -2,834 |
| PA | BUCKS | 625040 | 234768 | 625040 | 234768 | 0 | 0 |
| PA | CARBON | 27834 | 11477 | 31682 | 13181 | 3,848 | 1,704 |
| PA | CHESTER | 498857 | 182889 | 498886 | 182900 | 29 | 11 |
| PA | DELAWARE | 558979 | 208700 | 558979 | 208700 | 0 | 0 |
| PA | LANCASTER | 344001 | 125846 | 363944 | 133436 | 19,943 | 7,590 |
| PA | LEBANON | 5420 | 1927 | 5241 | 1795 | -179 | -132 |
| PA | LEHIGH | 322347 | 123190 | 282480 | 110611 | -39,867 | -12,579 |
| PA | MONROE | 11073 | 3862 | 10309 | 3558 | -764 | -304 |
| PA | MONTGOMERY | 799874 | 307750 | 799874 | 307750 | 0 | 0 |
| PA | NORTHAMPTON | 269106 | 102796 | 230783 | 87990 | -38,323 | -14,806 |
| PA | PHILADELPHIA | 1526006 | 599736 | 1526006 | 599736 | 0 | 0 |
| PA | SCHUYLKILL | 11444 | 4475 | 8961 | 3666 | -2,483 | -809 |
| PA | YORK | 1080 | 404 | 1096 | 406 | 16 | 2 |
| TOTALS | | 10,492,549 | 3,918,234 | 10,481,318 | 3,917,019 | -11,231 | -1,215 |