

**Section 74.1204 - Statement of Compliance**  
**AM Revitalization Auction 100 FM Translator**  
**Long-Form Application Filing Window**  
**NEW FM Translator Station Facility ID. 202433**  
**Tech Box Proposal FCC File No. BNPFT-20180129ADU**  
**March, 2018**

The instant “Long Form Application for FM Translator in Auction Window 100” is filed in response to the FCC’s Public Notice, DA 18-256, Released March 15, 2018, for a new FM translator station to rebroadcast Class B AM station: WRSC, State College, PA (Facility ID 64849). The Public Notice announced a window, open from April 18, 2018, to May 9, 2018, for the filing of FM translator new station construction permit applications for “Tech Box” proposals identified as not mutually exclusive with any other Tech Box proposals from the Auction 100 filing window.

This long-form application specifies the identical technical facility as specified in the Tech Box proposal. Therefore, the instant proposal is a minor change relative to the technical facility in the current Tech Box proposal. Further, the instant long-form application does not create a new conflict to any pending Auction 100 Tech Box proposal, or to any prior-filed Form 349 application. As discussed below, the instant proposal complies with the protection requirements set forth in Section 74.1204 of the FCC Rules.

Section 74.1204(a) Contour Overlap Protection Criteria

Attached are two maps which demonstrate that proposed technical facility complies with the contour overlap provisions of Section 74.1204(a) of the FCC Rules with respect to all pertinent cochannel (See Exhibit 1) and first-adjacent channel (See Exhibit 2) assignments, authorizations and applications. The instant proposal is well clear of all other relevant co-channel and first-adjacent channel protection considerations not represented herein.

Section 74.1204(d) Second/Third-Adjacent Channel Protection

Attached is a map which demonstrates that proposed technical facility complies with the contour overlap provisions of Section 74.1204(a) of the FCC Rules with respect to second-adjacent channel station W225D, Lewistown, PA (See Exhibit 3). The required protection to second-adjacent channel station WBUS(FM), Boalsburg, PA (Channel 229A) is discussed below. The instant proposal is well clear of all other relevant second and third-adjacent channel protection considerations not represented herein.

The proposed transmitting antenna will be located within the protected contour of WBUS(FM) resulting in contour overlap as defined in Section 74.1204 of the FCC Rules. However, at the translator's proposed transmitter site, WBUS(FM) is predicted to produce an F(50,50) signal strength of 79 dBu. Therefore, in the vicinity of the third-adjacent channel station, the translator's relevant interfering contour is the 119 dBu contour relative to WBUS(FM). According to free space calculations, the translator's worst-case predicted 119 dBu contour will not reach within 88 feet of ground level (See the attached Table). Therefore, the instant proposal will cause no interference to any population served by WBUS(FM).

Accordingly, the proposed facility satisfies Section 74.1204(d) of the FCC Rules because it has been "demonstrated that no actual interference will occur due to lack of population or such other factors as may be applicable".

# Section 74.1204 CoChannel Contour Overlap Study

Exhibit 1

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**FX.APP.227.FAC.ID.202433**

State College, PA

Latitude: 40-48-32 N

Longitude: 077-50-28 W

ERP: 0.25 kW

Channel: 227

Frequency: 93.3 MHz

AMSL Height: 386.0 m

Horiz. Pattern: Omni

## Key to Stations on Map

- FX.APP.227.FAC.ID.202433
- WYPM.227A.FAC.ID.49384
- WBZD-FM.227B1.FAC.ID.72793

## Section 74.1204 Contours

Proposed FX Interfering Contour (DASHED):

40 dBu F(50,10) to Class A & FX & LPFM

40 dBu F(50,10) to Class C, C0, C1, C2, C3

37 dBu F(50,10) to Class B1 FM Station

34 dBu F(50,10) to Class B FM Station

Relevant Protected Contours (SOLID):

Class A, C, Cx, FX & LPFM = 60 dBu F(50,50)

Class B1 FM Station = 57 dBu F(50,50)

Class B FM Station = 54 dBu F(50,50)

**CTJC**  
Consulting Engineers  
CARL T. JONES CORPORATION

Scale 1:975,000



### Key to Stations on Map

- FX.APP.227.FAC.ID.202433
- WPQP.226B1.FAC.ID.1143426
- WLKE.228A.FAC.ID.82271

## Section 74.1204 First-Adjacent Channel Contour Overlap Study

Exhibit 2

March, 2018

### FX.APP.227.FAC.ID.202433

State College, PA  
Latitude: 40-48-32 N  
Longitude: 077-50-28 W  
ERP: 0.25 kW  
Channel: 227  
Frequency: 93.3 MHz  
AMSL Height: 386.0 m  
Horiz. Pattern: Omni

### Section 74.1204 Contours

Proposed FX Interfering Contour (DASHED):  
54 dBu F(50,10) to Class A & FX & LPFM  
54 dBu F(50,10) to Class C, C0, C1, C2 & C3  
51 dBu F(50,10) to Class B1 FM Station  
48 dBu F(50,10) to Class B FM Station

Relevant Protected Contours (SOLID):  
Class A & FX & LPFM = 60 dBu F(50,50)  
Class C, C0, C1, C2 & C3 = 60 dBu F(50,50)  
Class B1 FM Station = 57 dBu F(50,50)  
Class B FM Station = 54 dBu F(50,50)

Scale 1:975,000



Section 74.1204 2nd & 3rd Adjacent  
Channel Contour Overlap Study

Exhibit 3

March, 2018

Key to Stations on Map

- FX.APP.227.FAC.ID.202433
- W225CK.FAC.ID.151391

**FX.APP.227.FAC.ID.202433**

State College, PA  
Latitude: 40-48-32 N  
Longitude: 077-50-28 W  
ERP: 0.25 kW  
Channel: 227  
Frequency: 93.3 MHz  
AMSL Height: 386.0 m  
Horiz. Pattern: Omni

Centre



Section 74.1204 Contours

Proposed FX Interfering Contour (SMALL):

100 dBu F(50,10) to Class A & FX & LPFM  
100 dBu F(50,10) to Class C, C0, C1, C2 & C3  
97 dBu F(50,10) to Class B1 FM Station  
94 dBu F(50,10) to Class B FM Station

Relevant Protected Contours (SOLID):

Class A & FX & LPFM = 60 dBu F(50,50)  
Class C, C0, C1, C2 & C3 = 60 dBu F(50,50)  
Class B1 FM Station = 57 dBu F(50,50)  
Class B FM Station = 54 dBu F(50,50)

Scale 1:396,094

0 5 10 15 km

# NEW-FX-227D

State College, PA (Facility ID. 202433)

ERP 250.00 WATTS

Maximum ERP 0.25 kW Interfering contour value -----> 119 dBu  
RCAGL (m)-----> 63 meters  
Antenna Type -----> 8

Antenna Type 8 = Nicom, BKG77, 2-bay, half-wave spaced

| Angle<br>Below<br>Horizontal<br>(degrees) | Vertical<br>Pattern<br>(REL. FIELD) | NEW-FX-227D<br>ERP<br>(kW) | NEW-FX-227D<br>ERP<br>(dBk) | NEW-FX-227D<br>Free-Space<br>Distance to<br>interfering<br>contour<br>(meters) | Slant<br>Distance<br>(meters) * | Height of<br>interfering<br>contour<br>above<br>ground<br>(feet)** | Proposed<br>Interference within<br>30 ' of ground level? | Horizontal<br>Distance<br>(meters) *** | Horizontal<br>Distance<br>(feet) *** |
|---|-------------------------------------|----------------------------|-----------------------------|--|---------------------------------|--|--|--|--------------------------------------|
| 0   | 1.000                               | 0.2500                     | -6.021                      | 124.2  | N/A                             | 206.7  |  |  | 407.3                                |
| 5   | 0.988                               | 0.2440                     | -6.125                      | 122.7  | 618.4                           | 171.6  | No   | 122.2                                  | 400.9                                |
| 10  | 0.952                               | 0.2266                     | -6.448                      | 118.2  | 310.4                           | 139.4  | No   | 116.4                                  | 381.9                                |
| 15  | 0.881                               | 0.1940                     | -7.121                      | 109.4  | 208.3                           | 113.8  | No   | 105.7                                  | 346.6                                |
| 20  | 0.791                               | 0.1564                     | -8.057                      | 98.2   | 157.6                           | 96.5   | No   | 92.3                                   | 302.8                                |
| 25  | 0.686                               | 0.1176                     | -9.294                      | 85.2   | 127.5                           | 88.6   | No   | 77.2                                   | 253.3                                |
| 30  | 0.577                               | 0.0832                     | -10.797                     | 71.6   | 107.8                           | 89.2   | No   | 62.0                                   | 203.5                                |
| 35  | 0.463                               | 0.0536                     | -12.709                     | 57.5   | 94.0                            | 98.5   | No   | 47.1                                   | 154.5                                |
| 40  | 0.354                               | 0.0313                     | -15.041                     | 44.0   | 83.9                            | 114.0  | No   | 33.7                                   | 110.5                                |
| 45  | 0.256                               | 0.0164                     | -17.856                     | 31.8   | 76.2                            | 133.0  | No   | 22.5                                   | 73.7                                 |
| 50  | 0.174                               | 0.0076                     | -21.210                     | 21.6   | 70.4                            | 152.4  | No   | 13.9                                   | 45.6                                 |
| 55  | 0.110                               | 0.0030                     | -25.193                     | 13.7   | 65.8                            | 170.0  | No   | 7.8                                    | 25.7                                 |
| 60  | 0.061                               | 0.0009                     | -30.314                     | 7.6  | 62.2                            | 185.2  | No   | 3.8                                    | 12.4                                 |
| 65  | 0.028                               | 0.0002                     | -37.077                     | 3.5  | 59.5                            | 196.4  | No   | 1.5                                    | 4.8                                  |
| 70  | 0.007                               | 0.0000                     | -49.119                     | 0.9  | 57.4                            | 204.0  | No   | 0.3                                    | 1.0                                  |
| 75  | 0.004                               | 0.0000                     | -53.979                     | 0.5  | 55.8                            | 205.1  | No   | 0.1                                    | 0.4                                  |
| 80  | 0.008                               | 0.0000                     | -47.959                     | 1.0  | 54.7                            | 203.5  | No   | 0.2                                    | 0.6                                  |
| 85  | 0.008                               | 0.0000                     | -47.959                     | 1.0  | 54.1                            | 203.4  | No   | 0.1                                    | 0.3                                  |
| 90  | 0.009                               | 0.0000                     | -46.936                     | 1.1  | 53.9                            | 203.0  | No   | 0.0                                    | 0.0                                  |

\* Slant distance from antenna center of radiation to location 30 feet (9.1 meters) above ground level at angle below horizontal.

\*\* A negative number indicates that the interfering contour is predicted to reach ground level. If a negative number is present, the interfering contour reaches ground level at the "Horizontal Distance" described below.

\*\*\* Horizontal distance from tower base to interfering contour at the indicated height above ground level. If a negative height above ground level is indicated, this horizontal distance is the distance from the tower base to the interfering contour. This horizontal distance is only relevant if the proposed interference is predicted to occur within 30 feet of ground level.