

**DELAWDER COMMUNICATIONS, INC.**

P.O. Box 1095  
Ashburn, Virginia 20146-1095  
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**ENGINEERING REPORT**

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**Ashtabula, OH, Channel 204D FM Application**

**ENGINEERING STATEMENT**

Priority Radio, Inc. ("Applicant") proposes a channel change for its FM translator at Ashtabula, OH (W219CP) from channel 219 to channel 204. To the extent deemed necessary by the FCC, Applicant respectfully requests a waiver of the Commission's translator processing rules to allow for the grant of this channel displacement application to a non-adjacent reserved band channel.

The displacement from channel 219 is deemed necessary due to interference predicted to and from WLGO(CP), Ashtabula, OH, 219A, located 8.7 km from the W219CP transmitter site. The following Preclusion Study Results demonstrate the unavailability of channel 219 along with that of the adjacent and intermod frequency channels to channel 219:

**PRECLUSION STUDY RESULTS**

Channel 216: Precluded by WCJV, Jefferson, OH, 215B1 (20.7 km at 175 deg T from W219CP Site). The WCJV 60 dBu F50,50 contour extends 29.1 kilometers in the direction of W219CP and overlaps the proposed transmitter site of W219CP.

Channel 217: Precluded by WQLN-FM, Erie, PA, 217B (64.4 km at 67 deg T from W219CP Site). The WQLN-FM 60 dBu F50,50 contour extends 53.3 kilometers in the direction of W219CP. The W219CP licensed directional facility has a predicted 40 dBu F50,10 contour that extends 10.5 km along the 67 degrees True radial. While no contour overlap exists, the margin is only 0.6 kilometers along this radial and actual interference to WQLN-FM would very likely result should W219CP specify this channel for use. *Furthermore, the possible use of this channel is problematic due to predicted received interference that would occur from WQLN-FM. (The WQLN-FM 40 dBu F50,10 contour extends 134.9 kilometers in the direction of W219CP.)*

Channels 218, 219 and 220: Precluded by WLGO(CP), Ashtabula, OH, 219A (8.7 km at 61 deg T from W219CP Site). The WLGO(CP) 60 dBu F50,50 contour extends 23.3 kilometers in the direction of W219CP and overlaps the proposed transmitter site of W219CP.

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Channels 221, 222, 272 and 273: W219CP receives its re-broadcasted signal via satellite and is unable to receive an off-air signal of its programming. Therefore, the commercial channels are not an option.

**CHANNEL STUDY**

Attached as Table EE1 is a channel study for the proposed channel 204D facility. All required protections are met by contour non-overlap pursuant to Section 74.1204 (or by Section 73.207 separation requirements for channel above 220, when applicable), with the exception of protection to WKSV, Thompson, OH, 206B. WKSV is protected, as discussed below.

**CONTOUR OVERLAP SHOWING**

No detailed study is required due to contour non-overlap clearance as listed in Figure EE1 for each protected facility (with the exception of WKSV, discussed below). The service and interference contour distances that are listed on Figure EE1 use the worst-case (greatest) distance along any bearing for each facility, and also considers each protected station as omni-directional. No contour overlap using this worst-case test means no possible contour overlap when applying Section 73.313 methodology.

**PROTECTION TO WKSV**

WKSV, Thompson, OH, 206B, is second adjacent-channel to the proposed channel 204D facility and is located only 26.0 kilometers (at 238 degrees True) from the W219CP transmitter site. The 60 dBu F50,50 service contour extends well beyond the W219CP transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to WKSV.

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The F50,50 signal strength from WKSV at the proposed 204D transmitter site is 64.2 dBu (the “desired” signal). The second/third adjacent-channel protection of Section 74.1204 is an undesired-to-desired (“U/D”) dB signal strength ratio of 40:1. Therefore, predicted interference to WKSV from the proposed 204D facility is a signal of greater than or equal to 104.2 dBu.

Figure EE2 is the vertical plane relative field pattern for the proposed antenna. By adjusting for the vertical plane downward relative field values of the proposed antenna, it is herein demonstrated that the 104.2 dBu interfering signal (using a free space field determination) does not exist at any point a ground level. (Actually, the study is made to 2 meters above ground level to account for a person’s height.)

Attached as Figure EE3 is a tabulation of various points (at 2 meters above ground level) from the proposed translator tower base. (Column B is the different distances from the tower base to each studied point.) The actual distance from the antenna to each point is listed in Column C, the hypotenuse of the vertical height (Column A) and the horizontal distance (Column B). Because the calculated distance to the free space interfering signal (Column J) is less than the hypotenuse distance (Column C) for each studied point, the interfering signal does not reach any studied point. (In other words, the interfering signal does not make it to 2 meters above ground level to any point.) Therefore, pursuant to Section 74.1204(d) of the FCC Rules, WKSV is adequately protected by the proposed facility.

The above study results of Figure EE3 assume uniform terrain elevation near the proposed tower. Because the clearance shown (Column K) is at least 16 meters, this assumption is acceptable for showing non-interference—no actual elevation within 200 meters of the proposed translator tower is at an elevation that is more than 5 meters above that of the tower base elevation.

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**CANADIAN PROTECTION**

The proposed 34 dBu F50,10 contour does not extend on to Canadian soil; therefore, this proposal meets the FCC Policy requirements regarding Canada. The nearest co-channel Canadian facility is listed at Mount Forest, ON, at a distance of 240.8 kilometers from the proposed site.