

**Request for Waiver of Section 73.509 of the Commission's Rules**  
Noncommercial Educational FM Station WKSU-FM (FIN: 34045)

Kent State University, licensee of noncommercial educational FM station WKSU-FM, Channel 209B, Kent Ohio ("WKSU" or the "Station") proposes to modify its facilities to improve public radio service in its coverage area. In order to accomplish these service improvements, WKSU seeks a waiver of the Commission's contour overlap rule, Section 73.509, to permit WKSU to increase the area of existing prohibited overlap with a third adjacent channel operation, WCPN, Channel 212B, Cleveland, Ohio, and to create overlap with (by receiving interference from) its own second adjacent channel operation, WKRW, Channel 207A, Wooster, Ohio. No interference to WKRW would be caused by WKSU. For the reasons discussed here and in Engineering Exhibit 15, WKSU submits that waiver of the Commission's Rules is amply justified for WKSU's proposed modification.

**I. History of WKSU's Facilities**

Prior to moving to its current transmitter site in Copley, Ohio, WKSU operated for many years from a tower on the campus of Kent State University in Kent, Ohio, using a non-directional antenna at 390 feet HAAT and 50 kW ERP. From this location, however, WKSU suffered from severe terrain shadowing in much of its northern coverage area. As a result, WKSU investigated the possibility of increasing its antenna height. After considering all of the available options, WKSU determined that moving its transmitter site to an existing antenna tower in Copley, Ohio at 909 feet HAAT provided the best opportunity to overcome the Station's line of sight issues and increase its signal coverage to surrounding areas.

WKSU submitted a modification application (the "original application") to the FCC in 1992 to allow it to shift the location of its transmitter site to the Copley antenna tower and install a directional antenna. This application included contour overlap waiver requests. See FCC File No. BPED-920601MC. WKSU's original application was granted by the FCC in 1994, along with the contour overlap waivers. See December 30, 1994 Letter from Dennis Williams. In its original application, WKSU proposed that its new transmitter site and directional antenna would provide WKSU programming to over 2.5 million person residing over 6,778 square kilometers, including 265,684 persons receiving WKSU for the first time. WKSU's original application also proposed to offer substantial real-world coverage improvements in the Cleveland metropolitan area by curing the terrain shadowing problems that plagued its transmitter site on the Kent State University campus.

**II. WKSU's Proposed Modification Seeks to Attain Service Improvements Sought in its Original Modification Application**

The impetus for the WKSU proposed modification is to attain the level of service improvements in the Station's coverage area that were originally contemplated in WKSU's original application. Unfortunately, those anticipated improvements were not realized because the directional antenna installed by WKSU at its new transmitter site

failed to perform as expected. In particular, WKSU's directional antenna has been unable to achieve the authorized envelope with its actual measured pattern. Consequently, coverage in the Cleveland, Canton, and Akron metropolitan areas (which includes WKSU's community of license, Kent, Ohio) has been disappointing, and below the expectations that existed at the time of WKSU's original application.

WKSU's choice of a directional antenna for its new transmitter site was necessitated by the requirement that the Station protect co-channel WOSU-FM, Channel 209B, Columbus, Ohio. At that time, engineering studies and range testing indicated that the use of the directional antenna would provide the improved level of service contemplated by WKSU in its original application for the Cleveland, Canton, and Akron metropolitan areas. However, in actual use, the performance of WKSU's directional antenna has been deficient in numerous respects. As a result, the new transmitter site and directional antenna have not provided WKSU with the service contour that was proposed in the original application.

Real world field measurements confirm the failure of WKSU's directional antenna to provide the level of service contemplated in the original application. For example, in downtown Cleveland, the signal strength of WKSU (measured in the peak ERP area of WKSU's envelope) is significantly lower than that of WQMX, Medina, Ohio, though WQMX operates from the same tower as WKSU.<sup>1</sup> Indeed, throughout Cuyahoga County (including Cleveland and its suburbs), WQMX measures a stronger field than WKSU. Moreover, and as a direct consequence of WKSU's use of a directional antenna, WQMX's signal strength is stronger than WKSU in WKSU's city of license, Kent, Ohio.<sup>2</sup> As a result, the President of Kent State University cannot receive WKSU in his office, and WKSU's signal is difficult to receive even in WKSU's offices on campus. WKSU has also received numerous complaints of poor reception of WKSU's signal throughout its coverage area.

### **III. WKSU's Proposed Modification Will Allow the Station to Fill a Void in its Coverage Area**

In addition to bearing the benefits intended in its original application, WKSU's proposed modification will also allow the Station to fill a void in its coverage area that was created in order to protect WOSU-FM, Columbus, Ohio (but is no longer necessary due to changes in that station's facility). As shown in Figure 15.0 of the Engineering Exhibit 15, WKSU's proposed 60 dBu contour would extend WKSU's signal further towards the southwest of the transmitter site. In its original application, WKSU was required to carve out this area of its 60 dBu contour to protect WOSU-FM. It is for this reason that WKSU proposed the use of a directional antenna at its new transmitter site in the original application.

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<sup>1</sup> WKSU operates at 14.5kW ERP at 909ft HAAT, while WQMX operates from the same tower at 16kW ERP at 879 ft HAAT.

<sup>2</sup> WQMX is able to radiate 16kW towards Kent using an omnidirectional antenna, while WKSU's directional antenna radiates only 8kW vertically and 11kW horizontally towards Kent.

Since the grant of WKSU's original application, however, WOSU-FM has moved its transmitter site further south. As a result, WOSU-FM now requires less protection from WKSU and the Station is no longer limited to operating a directional antenna at its new transmitter site. In terms of public service benefits, WKSU now has the opportunity to fill a void in its coverage area and provide WKSU's noncommercial educational programming to residents of this region of Ohio, while also providing improved service to residents throughout the Station's existing coverage area.

#### **IV. WKSU's Proposed Modification is Consistent with the Commission's Policy on Contour Overlaps**

WKSU's proposed modification is consistent with the Commission's policy on contour overlaps. In 1981, after revising Section 73.509 to determine interference based on contour overlaps instead of signal ratios, the Commission issued a Public Notice that ceded to the Media Bureau authority to grant waivers of received overlap up to 10 percent of the proposed coverage area where sufficient justification is provided. Delegation of Authority to the Chief of the Broadcast Bureau to Waiver Small Amounts of Interference Received by Non-Commercial Educational FM Proposals, 49 R.R.2d 1524 (1981). In 1991, the Commission reexamined the waiver standard for second and third adjacent channel overlap and concluded that it was "now inclined to grant waivers of second or third adjacent channel overlap in circumstances ... where the benefit of increased noncommercial educational service so heavily outweighs the potential for interference in very small areas." Educational Information Corporation, 6 FCC Rcd 2207, 2208 (1991).

The modification proposed by WKSU meets the parameters for contour overlap waivers set forth by the Commission in Educational Information. First, WKSU's proposal will increase noncommercial educational ("NCE") service to significant areas of Ohio that are currently underserved. As shown in Table 15.2 of Engineering Exhibit 15, the proposed modifications will provide a first or second full-time NCE service to a total of 8,949 persons over an area of 260 square kilometers. Indeed, 22.9% of the land area in the WKSU-FM gain area will receive a first or second full-time NCE service from the proposed facilities. First full-time NCE service will be provided to West Salem, in addition to full-time NCE service to underserved areas in Wayne, Lorain, and Medina Counties.

Second, the proposal will only result in a very small increase in the contour overlap *that already currently exists* with WCPN. As such, it is not the case that WKSU is seeking to improve its coverage at the cost of creating prohibited interference with WCPN when such interference does not already exist. Compare Board of Education of the City of Atlanta, 82 FCC 2d 125, 127 (1980) ("[W]hen faced with a choice between increased coverage with increased interference on one hand, and lesser but adequate coverage *without prohibited interference* on the other, the Commission favors the latter.") (emphasis added).

Moreover, as shown in Table 15.0 of Engineering Exhibit 15, the overlap caused by WKSU to WCPN will increase by only 0.28 percent, from 1.10% to 1.38% of WCPN's contour. What more, WKSU's proposed modification will actually result in a

*decrease* in the population within the area of prohibited overlap with WCPN. *See* Engineering Exhibit 15 at 3 and Table 15.0. The Commission, in Educational Information, granted a contour overlap waiver under almost completely analogous circumstances. *See* Educational Information at ¶ 13 (increase in prohibited overlap caused by station seeking waiver affected only a small percentage of the population and area, and also improved the overlap problem).

With regard to WKRW, the overlap to be received by WKSU will only amount to 0.15 percent of the WKSU contour. This very small area of interference is at least twice as small percentage-wise as the area of interference allowed by the Commission in a grant of a contour overlap waiver in Educational Information. *See id.* at ¶ 7 (overlap areas proposed with two second-adjacent channel operations would be .45 percent and .39 percent, respectively). In addition, both the population and the area “lost” within the interfering contour from WKRW (1,572 persons over an area of 11 square kilometers) will be outweighed by the population and area “gained” by WKSU’s improved service (93,016 persons over an area of 1,432 square kilometers). *See* Table 15.1 of Engineering Exhibit 15. Thus, it is clear that, with respect to both WCPN and WKRW, the public interest benefits of WKSU’s increased coverage will *heavily outweigh* the potential for interference in the very small areas that will be affected by grant of waiver by the Commission.

Finally, the public interest benefits that will result from WKSU’s proposed modification cannot be achieved through the use of alternate frequencies or operating facilities that would not require the requested waiver. The use of an alternate frequency is not an option because, as shown in Table 15.3 of Engineering Exhibit 15, all other frequencies in the reserved band are precluded from use in this area. In addition, an alternate transmitter site could not deliver the benefits of the proposed modifications without severely compromising WKSU’s existing service to the Cleveland and Akron metropolitan areas, which includes WKSU’s community of license, Kent. As shown in Figure 15.0 of Engineering Exhibit 15, the Akron metropolitan area, and a significant portion of the Cleveland metropolitan area, are encompassed by WKSU’s current 60 dBu contour.

## **V. Conclusion**

WKSU was the first provider of public radio service to much of its coverage area and remains the sole provider of such service to a significant number of the Ohio residents that it serves. As such, it would serve the public interest for the Commission to allow WKSU’s proposed modification. WKSU’s proposal would improve its service to the residents within its coverage area, and provide new NCE service to a significant amount of Ohio residents, while resulting in a very small increase in the area of interference caused by WKSU to WCPN (and actually *decreasing* the population within the area of interference that already exists) and only creating a *de minimis* area of interference received from WKRW. For these reasons, Kent State University respectfully requests waiver of the Commission’s contour overlap rule and grant of the proposed modification for WKSU.