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ENGINEERING REPORT

W252AW, Chicago, IL, Channel 252D FM Translator Application

ENGINEERING STATEMENT

Applicant proposes this minor change to the W252AW FM translator station to change the proposed antenna at the CP site. All Section 74.1204 protection requirements are met with the exception of Chicago stations WCKL (250B) and WFMT (254B). Protection to these two second adjacent channel stations are shown, below.

PROTECTION TO WCKL AND WFMT

WCKL, Chicago 250B (10.0 kilometers at 43degrees True from proposed translator site) and WFMT, Chicago 254B (7.8 kilometers at 48 degrees True from proposed translator site) are second-adjacent channel facilities to the proposed channel 252D facility. The 54 dBu F50,50 service contour of these two full-powered FM stations extends well beyond the proposed channel 252D transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to either WCKL or WFMT.

The F50,50 signal strength from WCKL at the proposed 252D transmitter site is greater than 89 dBu (the "desired" WCKL signal). The F50,50 signal strength from WFMT at the proposed 252D transmitter site is greater than 90 dBu (the "desired" WFMT 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, lowest predicted interference level that will cause interference to either of these full-powered FM stations is a signal of greater than or equal to 129 dBu.

The 129 dBu signal based on a free space field determination is predicted to extend out to 40 meters from the proposed 252D transmitter antenna. This potential interfering signal will not reach two meters AGL anywhere (the clearance being at least 40 meters.) Therefore, pursuant to Section 74.1204(d) of the FCC Rules, WCKL and WFMT are adequately protected by the proposed facility.