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**ENGINEERING REPORT**

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**KOHV-LP, Houston, TX, Channel 258L to Channel 237L**

**ENGINEERING STATEMENT**

**NON-ADJACENT CHANNEL CHANGE FROM 258 DUE TO K258DA**

On November 26, 2018, K258DA filed an application to move its co-channel translator station to a transmitter site that is only 17.2 kilometers from the KOHV-LP transmitter site—a site move modification that has since been licensed. (Previous to this move, the K258DA transmitter site was 30.4 kilometers from the KOHV-LP transmitter site.) Based on LPFM rule section 73.807(c), the minimum separation requirement to K258DA is 26 kilometers—so the amount of short-spacing under this rule section is 8.8 kilometers. Based on this significant short-spacing caused to KOHV-LP by K258DA moving considerably closer to KOHV-LP, KOHV-LP seeks a non-adjacent channel change to open channel 237, which will result in the reduction of co-channel interference.

It is noted that none of the typical “minor” change channels (204, 205, 255, 256, 257, 259, 260 and 261) are available to KOHV-LP as an alternative to its licensed channel 258 facility. On channel 237, all Section 73.807 separation requirements to co-channel and first adjacent-channel FM stations are met – and a second adjacent-channel waiver is requested (below).

If deemed necessary by the FCC, this application will be amended to include a waiver request for the channel change to channel 237.

**SECOND ADJACENT CHANNEL PROTECTION**

K235CS (235D) and KKHH (239C) are Houston, TX stations that are second adjacent-channel to the proposed channel 237 LPFM facility and are short-spaced to the proposed 237L transmitter site. The 60 dBu F50,50 service contour of K235CS falls 1 kilometer short of the LPFM transmitter site and so it is adequately protected.

The 60 dBu F50,50 service contour of KKHH extends well beyond the LPFM transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual

interference to any population is predicted to exist to KKHH.

Note that a rule waiver of Section 73.807 for this second adjacent-channel protection using the well-established *Living Way Ministries* Methodology is respectfully requested if such a rule waiver is deemed necessary for protection to any station.

The F50,50 signal strength from KKHH at the proposed LPFM transmitter site is 82.6 dBu (the "desired" signal). The second/third adjacent-channel protection is an undesired-to-desired ("U/D") dB signal strength ratio of 40:1. Therefore, predicted interference to KKHH from the proposed LPFM facility is a signal of greater than or equal to 122.6 dBu.

For the allowed ERP of 57 watts, the 122.6 dBu signal based on a free space field determination is predicted to extend out to 39.3 meters from the proposed LPFM transmit antenna. Assuming that the relative field downward below 30 degrees is 0.7 or less, the possible interference signal will actually be 13 meters less downward to where any person with 30 meters of the site may exist. (The antenna centerline is 39.6 meters AGL.) Therefore, KKHH (and KMHX, as also discussed above) are adequately protected by the proposed facility.