United Church of Christ, *et al.* Response to NAB's Further Comments
January 10, 2000

The National Association of Broadcasters ("NAB") could find nothing substantively incorrect in the technical analysis submitted by Dr. Rappaport on behalf of United Church of Christ ("UCC") *et al*. The NAB filed its *Further Comments* on January 5, 2000, which incorporated a technical response by Dr. Raymond L. Pickholtz and Dr. Charles L. Jackson ("*Pickholtz/Jackson Response*"). The NAB's *Further Comments* are the most persuasive evidence submitted thus far proving the technical feasibility of LPFM. Although the flaws of Pickholtz and Jackson's analysis are largely self-evident, UCC *et al*. itemizes and responds to them below in order to assist the Commission with its analysis:

- Pickholtz and Jackson did not respond to the core point in Dr. Rappaport's analysis: the FCC spacing ratios have nothing to do with radio performance, and thus the radio receiver analysis did little to demonstrate why the FCC's rules could not be changed to accommodate LPFM.

- Many of Pickholtz's and Jackson's criticisms make no sense and are not even technical. For example, they criticize Dr. Rappaport for taking a position on LPFM and for criticizing the NAB and CEMA studies, but not the FCC and OET studies. *Pickholtz/Jackson Response* at 2. Dr. Rappaport's position is no different from that of Pickholtz and Jackson themselves.

- Other criticisms blow hypoberlic smoke, but state nothing. Pickholtz and Jackson point out that, although the CEMA sample of radios was flawed, *some* conclusions about radio performance could be drawn from the study. While this is true, Pickholtz and Jackson could not point to anything about the CEMA study that counters Dr. Rappaport's conclusions. *Pickholtz/Jackson Response* at 3-4.

- Some criticisms are simply incorrect.

  - Dr. Rappaport's study extensively considered second and third adjacent interference. He calculated the possible interference under every possible condition -- considering full protection, relaxed protection, and partially relaxed protection for 10, 100, and 1000 watt stations. *See UCC Technical Analysis,* App. D at 1-29.

  - Contrary to Pickholtz and Jackson's claim, *Pickholtz/Jackson Study* at 7, Dr. Rapport properly calculated the *ratios* of people who gain service and who may potentially experience interference. Dr. Rappaport used the procedures in Part 73 to calculate average population densities over the *area* of a propagation region.

- Dr. Rappaport criticized the NAB Mapping study for excluding car radios from its analysis. Rappaport, Pickholtz, and Jackson agree that car radios and home radios operate differently, but Pickholtz and Jackson have not explained why the FCC should ignore the high performance of the radio that most listeners use for the most hours. *Pickholtz/Jackson Response* at 3. In fact, because of the unique needs of a radio that moves at high speeds, a car radio must be much better at rejecting interference than household radios. Thus, listeners in cars are *less* likely to experience interference from the introduction of LPFM.

- Pickholtz and Jackson fundamentally misrepresent Dr. Rappaport's criticism of the NAB's performance standards. First, Pickholtz and Jackson do not explain why fifty percent of the radios the NAB tested could not meet their standard of performance in the *absence* of interference. Clearly the 1977 standard referenced by Pickholtz and Jackson is irrelevant to most consumers. *Pickholtz/Jackson Study* at 4. In addition, Dr. Rappaport criticized the NAB study for using two measures of performance, not for using a relative measure of performance. *See Pickholtz/Jackson Study* at 5. Dr. Rappaport praised the OET study for using a relative measure of performance. *UCC Technical Analysis* at 35.

The NAB has produced nothing undermining the technical feasibility of low power radio. The FCC should approve a LPFM service that relaxes both second and third adjacent protection for LPFM stations of 100 watts or less.