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May 16, 2003

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

**Ex Parte Meeting on Compatibility of Hearing Aids/Cochlear Implants with Wireless Telephones: WT Docket No. 01-309**

Dear Ms. Dortch:

This letter serves to provide notice that on May 2, 2003, Donna Sorkin representing Cochlear Americas, met with Federal Communications Commission representatives: Greg Guice, Joseph Levin, Patrick Forster and Mindy Littell (all of the Wireless Communications Bureau, Policy Division); David Means (FCC Lab, OET; and Janet Sievert (Consumer and Governmental Affairs, Disabilities Rights Office).

The topic was cochlear implants and compatibility with digital wireless telephones. Cochlear Americas supports removing the exemption for public mobile service telephones in Section 68.4(a) of the Commission's rules governing hearing aid-compatible telephones. A summary of key topics covered includes the following:

- The number of cochlear implants in the United States, across all companies, is 25,000. This number is growing by approximately 20% per year. Candidacy for cochlear implants was recently expanded to include younger children and people with more residual hearing (i.e., severe to profound hearing loss). The total estimated population of eligible people in the United States is 500,000-725,000.

- A cochlear implant is an electronic device that enables children and adults with severe to profound hearing loss who do not derive significant benefit from hearing aids to access spoken language and environment sounds. Cochlear implants are not hearing aids. Hearing aids amplify sound. Even the most sophisticated hearing aids may not offer sufficient benefit to people with severe to profound hearing loss. In contrast to a hearing aid, a cochlear implant does not only make sounds louder. Rather, a cochlear implant bypasses the damaged hair cells when an array of electrodes is surgically placed inside the cochlea where it directly stimulates the remaining nerve fibers in the ear. The implant provides useful hearing and improved communication ability to the implant user and is a safe, reliable treatment for people with severe to profound hearing loss. Cochlear implants are approved by the Food

and Drug Administration. The surgery and follow-up are covered by an estimated 90% of private insurers in the United States as well as by Medicare, Medicaid, and the VA. The cost of a cochlear implant including the pre- and post-op procedures, the (re)habilitation, and the device itself is approximately 60,000 for the first two years of use.

- The specific steps in how someone hears with a cochlear are as follows:
  1. Sounds are picked up by a microphone.
  2. Sound from the microphone is transmitted to the speech processor, which is a miniaturized computer powered by batteries.
  3. The speech processor filters, analyzes and digitizes the sound into coded signals.
  4. The coded signals are sent from the speech processor to the transmitting coil.
  5. The transmitting coil sends the coded signals to the cochlear implant receptor under the skin.
  6. The cochlear implant delivers the electrical energy of sound to an electrode array in the cochlea, which was inserted during surgery.
  7. The electrodes stimulate the remaining nerve fibers, which then send the sound information through the auditory system to the brain for interpretation.

- The Nucleus brand (manufactured by Cochlear Ltd in Sydney, Australia) cochlear implant now includes a telecoil in the BTE models. (The telecoil was introduced in the 3G (BTE) speech processor in 2002.) It is expected that other manufacturers will follow Cochlear's lead on this advance, and will include telecoils in future technology as this is considered a competitive advantage for Cochlear.

- All cochlear implant devices manufactured by Cochlear Ltd have been redesigned with shielding. Nonetheless, the ability of a cochlear implant recipient to effectively use a digital wireless telephone depends upon the characteristics of the digital wireless telephone and the service used with that phone. The interference may be particularly noticeable in instances in which the wireless phone is set to maximum transmission power.

- Outcomes with cochlear implants have improved to the point that most recipients are able to use voice telephones and cellular telephone technology. Cochlear Americas does hear from its recipients regularly that they experience interference from many digital wireless telephones and also that many models of digital wireless handsets do not include telecoils. CDMA technology generally has the least problems, and GSM generally presents the most problems for CI users though there are significant differences between various models. Many cochlear implant recipients note that they are able to use handsets manufactured by Samsung, which have an internal telecoil, significant volume boost, and little or no interference with the cochlear

implant. In general it appears that handsets that work well for hearing aid users also work for cochlear implant users. Reductions in RF levels likely would help cochlear implant users. We believe that improvements made in wireless telephone that would reduce interference for hearing aid users would likely also be beneficial to CI recipients. We also urge a requirement for inclusion of internal telecoils in all wireless handsets as the trend going forward will be for people with cochlear implants—regardless of the technology that they have—to utilize telecoil linkage on the telephone.

Please do not hesitate to contact me if you need additional information on any of the above topics. I provided a brochure to attendees at the meeting on May 2, which is too large to attach here. If you need additional copies, please don't hesitate to ask. My local telephone number in McLean, Virginia is 703-534-6146. As I noted at the meeting, Cochlear would be very amenable to reviewing any proposals that you might have for wireless handsets, vis a vis compatibility with our technology. We appreciate the opportunity to provide input on this important issue for cochlear implant recipients.

Sincerely,

Donna L. Sorkin
Vice President, Consumer Affairs
Cochlear Americas