NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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NRC STAFF RECOMMENDS SECURITY OVER REPLACEMENT OF CESIUM CHLORIDE RADIATION SOURCES

The Nuclear Regulatory Commission staff has recommended a continued emphasis on improving the security of cesium chloride radiation sources instead of replacing or banning them, citing their beneficial uses in medicine and industry and the lack of effective alternatives at the present time.

The staff recommends continued efforts to make irradiators and other devices containing cesium chloride more secure, including built-in security measures at the time of manufacture. The staff also recommends the Commission issue a policy statement that would articulate security requirements for these devices as well as the Commission's regulatory role, and encourage active development of alternative forms of cesium sources. The Commission has not yet voted on the staff recommendations.

"These radiation sources perform critical functions in blood sterilization and medical and industrial research, and society would suffer from a rush to replace them before effective alternatives are available," said Bill Borchardt, the NRC's executive director for operations. "Clearly the best course of action for now is to emphasize security improvements already in place and continually look for additional ways to enhance their security."

These types of radiation sources fall into the International Atomic Energy Agency's Categories 1 and 2, which the NRC considers most sensitive from a security standpoint. Cesium chloride sources have received special scrutiny because the cesium is a compressed powder that is highly soluble in water and dispersible as an aerosol. These sources are widely used in irradiators to sterilize human blood, in bio-medical and industrial research, and for calibration of radiation instrumentation and dosimetry.

The staff's recommendation, submitted to the Commission on Nov. 24 and made public this week on the NRC Web site, concludes an extensive review of the security and use of cesium chloride sources. The review included public input obtained at a two-day forum in September that discussed alternative forms of cesium, alternative technologies, phase out and transportation issues, additional enhanced security, and potential future requirements for use of the material. More than 200 people attended the forum.

The staff considered the February 2008 report of the National Academies, "Radiation Source Use and Replacement." The staff also consulted the Advisory Committee on the Medical Uses of Isotopes (ACMUI), which cited cesium chloride's advantages over other available technologies for use in blood irradiation and medical research. The ACMUI recommended a continued emphasis on improving security of cesium chloride sources as an alternative to their removal or prohibition.

The agency chose to make the staff paper public at this time because of high public interest.

The staff paper, "Strategy for the Security and Use of Cesium-137 Chloride Sources" (SECY-08-0184) and the ACMUI report on cesium chloride irradiators, are available on the NRC Web site at this address: http://www.nrc.gov/reading-rm/doc-collections/commission/secys/2008/ or through the NRC's ADAMS online document system using access code ML0830400770.

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