



NRC NEWS

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NRC DIRECTS STAFF TO ENHANCE SECURITY OF CESIUM CHLORIDE RADIATION SOURCES WHILE ALTERNATIVES ARE EXPLORED

The Nuclear Regulatory Commission has directed the agency staff to continue enhancing the security of cesium chloride radiation sources, while encouraging research and further technological developments for alternative chemical forms of cesium-137.

The Commission agreed with the staff's position in a paper presented last November that near-term replacement of cesium chloride sources in existing blood, research, and calibration irradiators is not practicable and would be harmful to the delivery of medical care, research and emergency response capabilities.

"Banning or phasing-out cesium chloride radiation sources at this time – before a replacement form or other technology is available – would be counterproductive, because society would lose the many benefits these sources provide in medicine, industry and research," NRC Chairman Dale E. Klein said.

The Commission noted that security controls already implemented over the past several years have significantly improved the security of these sources. However, it directed the staff to continue exploring new ways to improve their security further. Those efforts are to include working with federal and state agencies to define criteria for a "dispersible source of concern" that could then be used to guide research efforts to develop an alternative form of cesium.

The staff was also directed to develop a Commission policy statement detailing the Commission's emphasis on security of cesium chloride sources.

These radiation sources fall into the International Atomic Energy Agency's Categories 1 and 2, which the NRC considers most sensitive from a security standpoint. 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.

Concern over the security of these sources has led some people to advocate banning cesium chloride altogether. In developing its recommendations for the Commission, the staff considered the February 2008 report of the National Academies, "Radiation Source Use and Replacement," which recommended action to eliminate or replace these sources, but also advocated caution in replacing them because of the societal benefits they provide. It also consulted the NRC's Advisory Committee on the Medical Uses of Isotopes, which cited cesium chloride's advantages over other available technologies and recommended a continued emphasis on improving their security as an alternative to their replacement.

The NRC staff also held a two-day public forum in September 2008 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. Written feedback following the forum overwhelmingly favored not rushing to replace cesium chloride sources because of the benefits they provide to the public.

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