



The View of the Nuclear Authorities: United States Nuclear Regulatory Commission

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Topics for Discussion

- Components of the U.S. Regulatory Framework
- Recovery of Orphan Radioactive Material
- Communicating with the Public and Stakeholders



U.S. Regulatory Framework

- The U.S. approach emphasizes accountability of the licensees in possession of radioactive material by requiring:
 - Security and control of radioactive material
 - Routine inventory checks of radioactive sources
 - Timely reporting of lost or stolen sources



U.S. Nuclear Regulatory Commission

- Primary mission is to protect public health and safety and the environment.
- The agency has public health and safety regulations and security requirements that minimizes radioactive material from entering into scrap metal recycling.



Agreement States

- Thirty-five states have signed formal agreements with the NRC that provides the states regulatory responsibility over small quantity special nuclear material and its source and byproducts.
- These states have jurisdiction over roughly three-fourths of the radioactive sources in the U.S.



Accountability of Licensees

- Licensees must be held accountable for the safe use of radioactive material.
- NRC and Agreement States have enforcement programs that penalize licensees for non-compliance with requirements.
- Enforcement actions could include civil penalties and/or criminal prosecution.



Nuclear Materials Events Database

- NRC also maintains an event database that contains over 15,000 records of material events reported to the NRC.
- Database includes data on lost or stolen sources and orphan sources.
- The data is also used to ensure regulatory programs are sufficient to address needs.



Conference of Radiation Control Program Directors

- Professional organization that includes the directors from Agreement and Non-Agreement States.
- Forum to interact with the NRC and coordinate regulation of radioactive material.



Orphan and Unwanted Sources

- U.S. has a network of programs to deal with orphan and unwanted sources.
- The network consists of:
 - Memorandum of Understanding between NRC and U.S. Department of Energy (DOE) concerning management of sources
 - DOE's Off-site Source Recovery Program
 - Conference of Radiation Control Program Directors' National Orphan Radioactive Material Disposition Program



U.S. Environmental Protection Agency

- Federal agency responsible for setting air emissions and drinking water standards for radioisotopes.
- Develop training programs that increase the capability of the recycling industry to detect, identify, and remove abandoned sources.



U.S. Department of Transportation

- Regulates the transport of hazardous materials including radioactive contaminated scrap metal by highway, rail, air, and vessel.
- Responsible for the design and performance specifications for packages containing small amounts of radioactive material.

Disposition of Radioactive Material

- Current disposition programs cover a range of options including storage, recycling, reconstitution, resale, and disposal as radioactive waste.
- The ability to dispose of radioactive sources in the U.S. depends on whether the source is a DOE source or sources resulting from certain federal activities or a commercial source.



Release of Contaminated Material

- NRC regulations include a public dose limit and dose criteria for certain types of media released from licensed facilities, such as airborne and liquid effluents.
- Disposition of solid materials are made by using existing guidelines.
- Current approach to review specific cases on an individual basis is fully protective of public health and safety.



Communication with the Public and Stakeholders

- It is necessary to inform and educate the public and stakeholders regarding the regulatory framework and, to provide the ability for open exchange or feedback regarding the framework.
- As a general policy, the U.S. has an open communication policy, making the majority of its documents and decisions available to the public.

Conclusion

- A strong regulatory framework and a program to address recovery of orphan material is necessary to provide a high level of confidence that material will be properly controlled.
- An effective regulatory program should entail several interdependent activities, such as:
 - Developing an appropriate regulatory system,
 - Devoting resources to implementing the regulatory system and ensuring accountability, and
 - Establishing measures to address the potential loss of control of radioactive sources.