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NRC TAKES ACTIONS ON "ORPHAN" RADIOACTIVE SOURCES

The U.S. Nuclear Regulatory Commission (NRC) is moving to address the problem of unwanted and uncontrolled radioactive materials, often referred to as "orphan sources." The agency has signed a memorandum of understanding (MOU) with the U.S. Department of Energy (DOE) on the management of certain of the materials. It also has approved the concept of funding the Conference of Radiation Control Program Directors (CRCPD) -- a group of state radiation protection officials -- to establish and implement a national program for safely dealing with the materials.

The NRC has worked over the past two years with the CRCPD, through its E-34 Committee on Unwanted Radioactive Materials (the E-34 Committee), on the development of a national orphan source program. The E-34 Committee is currently testing portions of the program as a pilot project. The project includes providing aid in the management of unwanted and uncontrolled radioactive material by identifying sources of assistance with the handling of the material, and by finding suitable outlets for the material.

The decision to provide funds for the national program may become effective upon completion of the CRCPD E-34 Committee's pilot project (expected to end next year) and finalization of the national program, provided the national program meets NRC needs, the costs of the national program are reasonable, and funds are available for this purpose. If these conditions are not met, NRC will consider other alternatives to meet its needs. In the meantime, the Commission has directed the staff to continue working with the CRCPD to develop the national program.

Those instances where orphan sources have become a problem include:

- Measuring and controlling devices containing radioactive materials that were improperly disposed of as scrap metal and taken to metal recyclers;
- Radioactive material used with gauges in industrial processes and in road and building construction that were found by the side of the road or in a river;
- Sealed radioactive sources used in oil and gas exploration, which are no longer wanted but contain radioactive materials that exceed the limits for disposal at commercial low-level radioactive waste disposal facilities.

The term "orphan sources" generally refers to sealed sources of radioactive material contained in a small volume -- but not radioactively contaminated soils and bulk metals -- in any one or more of the following conditions:

- In an uncontrolled condition that requires removal to protect public health and safety from a radiological threat;
- Controlled or uncontrolled, but for which a responsible party cannot be readily identified;
- Controlled, but the material's continued security cannot be assured. If held by a licensee, the licensee has few or no options for, or is incapable of providing for, the safe disposition of the material;
- In the possession of a person, not licensed to possess the material, who did not seek to possess the material; or
- In the possession of a state radiological protection program for the sole purpose of mitigating a radiological threat because of one of the above conditions, and for which the state does not have a means to provide for the material's appropriate disposition.

The NRC has been addressing the problem of orphan sources for more than 10 years. This issue is marked by complex jurisdictional relationships involving all 50 states and at least 11 federal agencies.

The recently signed MOU concerning management of sealed sources defines the agreed-upon roles and responsibilities of the NRC and DOE in situations involving orphan sources where the NRC is responsible for leading the Federal response, where immediate health and safety hazards have been addressed, and where assistance with the transfer of the radioactive material is determined to be necessary for continued protection of public health and safety and the environment. The agreement does not provide for decontamination or cleanup activities, except as a direct result of DOE activities during the response.

Under the agreement, NRC may request DOE to assist in the recovery and transfer of radioactive materials that exceed the limits for disposal at commercial low-level radioactive waste disposal facilities, known as "greater-than-Class-C" material. NRC and DOE will also consider, on a case-by-case basis, situations involving radioactive materials that do not exceed the Class C limits, if the circumstances represent an actual or potential threat to public health and safety and if there are no other reasonable alternatives for mitigating the threat.

The MOU generally applies to radioactive materials covered by the Atomic Energy Act of 1954, as amended, in the form of sealed radioactive material sources or devices containing the sources that can be handled and transported through conventional means. Under the MOU, radioactive materials in other forms will be considered by NRC and DOE on a case-by-case basis. The agreement specifically excludes reactor incidents and other radioactive material incidents where agreements or procedures are in place to address the situation.

NRC's actions under the agreement will generally involve evaluating situations where DOE assistance may be requested to determine if the conditions of the MOU are met, coordinating non-DOE activities, and handling regulatory issues for the materials. In addition, NRC will determine the extent to which other persons or organizations are responsible for, or can provide, assistance in the response to the situation to minimize the cost to the government. DOE actions under the MOU will generally be limited to arranging for the recovery and removal of the materials, including packaging, transportation, and storage or disposal. The MOU is not

part of the DOE Radiological Assistance Program and is not intended to affect or replace this program.

A complete copy of the MOU, which was effective on June 18, will be available on the NRC web site at <http://www.nrc.gov/OPA>.

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