

NUCLEAR REGULATORY COMMISSION

DOCKET NO. 70-7005

**ISSUANCE OF ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT
IMPACT FOR MODIFICATION OF EXEMPTION FROM CERTAIN NRC LICENSING
REQUIREMENTS FOR SPECIAL NUCLEAR MATERIAL FOR WASTE CONTROL
SPECIALISTS, LLC., ANDREWS COUNTY, TEXAS**

AGENCY: Nuclear Regulatory Commission

ACTION: Environmental Assessment and Finding of No Significant Impact

FOR FURTHER INFORMATION CONTACT: James R. Park, Project Manager, Environmental and Performance Assessment Directorate, Division of Waste Management and Environmental Protection, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Telephone: (301) 415-5835; Fax number: (301) 415-5397; Email: jrp@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction:

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an Order pursuant to Section 274f of the Atomic Energy Act that would modify an Order transmitted to Waste Control Specialists, LLC (WCS) on November 21, 2001. The Order was published in the *Federal Register* on November 15, 2001 (66 FR 57489). The 2001 Order exempted WCS from certain NRC regulations and permitted WCS, under specified conditions, to possess waste

Enclosure 2

containing special nuclear material (SNM), in greater quantities than specified in 10 CFR Part 150, at WCS's facility located in Andrews County, Texas, without obtaining an NRC license pursuant to 10 CFR Part 70.

The current action is in response to a request by WCS dated August 6, 2003, as modified by letter dated March 15, 2004. The NRC has prepared an Environmental Assessment (EA) in accordance with the requirements of 10 CFR Part 51. Based on the EA, the NRC has concluded that a Finding of No Significant Impact (FONSI) is appropriate for the proposed action as modified with additional conditions. The modified Order that incorporates the results of the NRC staff's evaluation will be issued following the publication of this Notice.

II. Environmental Assessment:

Background

As stated above, the 2001 Order exempted WCS from certain NRC regulations and permitted WCS, under specified conditions, to possess waste containing SNM, in greater quantities than specified in 10 CFR Part 150, at WCS's facility located in Andrews County, Texas, without obtaining an NRC license pursuant to 10 CFR Part 70. The 2001 Order permits WCS to possess SNM without regard for mass. Rather than relying on mass to ensure criticality safety, concentration-based limits are being applied, such that accumulations of SNM at or below these concentration limits would not pose a criticality safety concern. The methodology used to establish these limits is discussed in the 2001 Safety Evaluation Report (SER) that supported the 2001 Order.

The WCS facility is licensed by the State of Texas, an NRC Agreement State, under a 10 CFR Part 30 equivalent radioactive materials license. The facility also is licensed by the

Texas Commission on Environmental Quality to treat and dispose of hazardous waste. In 1997, WCS began accepting Resource Conservation and Recovery Act (RCRA) and Toxic Substance Control Act (TSCA) wastes for treatment, storage, and disposal. Later that year, WCS received a license from the Texas Department of Health for treatment and storage of mixed waste and low-level waste. The mixed waste and low-level waste streams may contain quantities of SNM.

By letter dated August 6, 2003, WCS requested that the list of reagents identified in Condition 5 of the 2001 Order be modified to include an additional 18 reagents. The WCS uses reagents in chemically stabilizing mixed waste that contains SNM. In response to an NRC staff request for additional information dated September 30, 2003, WCS submitted a modified request by letter dated March 15, 2004.

Review Scope

The purpose of this EA is to assess the environmental impacts of WCS's requested modification to its 2001 Order. This EA does not approve or deny the requested action. A separate Safety Evaluation Report (SER) also will be issued in support of the approval or denial of the requested action. This EA will determine whether to issue or prepare an Environmental Impact Statement (EIS). Should the NRC issue a FONSI, no EIS will be prepared.

Proposed Action

The proposed action is to grant WCS's March 15, 2004, request to add 22 specified stabilization and oxidation-reduction reagents to Condition 5 of the 2001 Order. These reagents would be used in WCS's stabilization of mixed waste that contains SNM.

Purpose and Need for Proposed Action

The WCS is making this request so that it can treat incoming mixed waste that contains SNM using appropriate reagents. In seeking NRC approval of the reagents specified in its request, WCS hopes to avoid making multiple requests for NRC approval of stabilization reagents.

Alternatives

In addition to the proposed action, the NRC staff considered two alternatives. One alternative was to deny WCS's request and thus not revise the Order (i.e., the no-action alternative). The second alternative was to revise the Order to remove the specific chemical names from Condition 5 and instead to add a per-batch, mass limit for stabilization not to exceed the concentration limits in Condition 1 of the Order times 600 kilograms (kg) of waste.

Environmental Impacts of No Action Alternative:

For the no-action alternative, the environmental impacts would be the same as those evaluated in the EA that supports the 2001 Order. The regulations regarding SNM possession in 10 CFR Part 150 set mass limits whereby a licensee is exempted from the licensing requirements of 10 CFR Part 70 and can be regulated by an Agreement State. The licensing requirements in 10 CFR Part 70 apply to persons possessing greater than critical mass quantities (as defined in 10 CFR 150.11). The principal emphasis of 10 CFR Part 70 is criticality safety and safeguarding SNM against diversion or sabotage. Based on previous modeling and past experience, the NRC staff considers that criticality safety can be maintained by relying on concentration limits, under the specified conditions. These concentration limits are considered an alternative definition of quantities not sufficient to form a critical mass to the weight limits in 10 CFR 150.11; thereby, assuring the same level of protection. The 2001 EA

concluded that the 2001 Order would have no significant radiological or non-radiological environmental impacts.

Environmental Impacts of Proposed Action:

By letter dated March 15, 2004, WCS discussed its use of chemical reagents and requested that the list of reagents identified in Condition 5 of the Order be modified to include an additional 22 reagents. In reviewing WCS's request, the NRC staff identified four reagents (potassium permanganate, sulfuric acid, phosphoric acid, and hydrochloric acid) that could change the solubility of the SNM in the mixed waste being treated, thus potentially changing its concentration. As discussed previously, the principal emphasis of 10 CFR Part 70 is criticality safety and safeguarding SNM against diversion or sabotage. The addition of reagents that could increase the concentration of SNM poses a criticality concern.

The proposed action could allow for more SNM to be stored on site. In addition, the NRC staff has identified a criticality safety concern. Effluent releases and potential doses to workers and to the public could increase as a result of WCS's use of specific reagents in treating mixed waste containing SNM. These releases and doses are regulated by the State of Texas.

The proposed action is not expected to result in any changes to the transportation impacts identified in the 2001 EA. While WCS's request concerns mixed waste containing SNM that currently is or will be treated at its facility, WCS believes that approval of its request will not result in any change in its market opportunities for treating various waste streams.

Environmental Impacts of Proposed Action with Additional Conditions:

As indicated previously, the NRC staff identified criticality safety concerns with WCS's proposed action. Therefore, under the proposed action as modified with additional conditions,

NRC would modify Condition 5 of the Order to remove the names of specific reagents and instead require that WCS, in treating each container of mixed waste containing SNM, meet a mass limit for stabilization. Currently, Condition 1 sets concentration limits for SNM in individual containers and/or during processing. The amended Condition 5 would set the mass limit for batches of greater than 600 kg of waste at the concentration limits in Condition 1 times 600 kg of waste. Condition 1 concentration limits would continue to apply to batches of 600 kg of waste or less. Use of the mass limit in Condition 1 for contiguous masses of waste of greater than 600 kg reduces criticality safety concerns since accumulations of SNM at this concentration limit would not pose a criticality safety concern.

In an electronic mail message (email) to WCS dated April 26, 2004, the NRC staff documented telephone discussions with WCS concerning the proposed action with additional conditions. By a response email dated April 27, 2004, WCS agreed to the NRC staff's proposed revision to Condition 5 of the Order.

This modification would allow WCS to use the chemical reagents identified in its submittals, as well as other reagents, so long as the applicable mass limit for stabilization was met. The WCS would continue to be restricted from using magnesium oxide in the treatment, per Condition 2 of the 2001 Order.

In addition, the amended Condition 5 would continue to allow WCS to use reagents as part of its currently approved stabilization process, which includes oxidation-reduction, pH adjustment, and bulking. This understanding was clarified in a series of emails dated August 3, 10, and 13, 2004, between the NRC staff and WCS.

Other conditions of the Order would remain unchanged. Currently, WCS is permitted to possess SNM without regard for mass. Instead, to insure criticality safety, a concentration limit is applied, such that accumulations of SNM at or below this concentration limit would not pose a criticality safety concern.

Effluent releases and potential doses to the public are regulated by the State of Texas and are not anticipated to change as a result of this action. The WCS will continue to conduct its radiation protection program with an emphasis on maintaining doses as low as reasonably achievable. Occupational exposure are expected to remain within regulatory limits.

The proposed action would not result in any changes in the transportation impacts identified in the 2001 EA. While WCS's request concerns mixed waste containing SNM that currently is or will be treated at its facility, WCS believes that approval of its request will not result in any change in its market opportunities for treating various waste streams.

All other environmental impacts would be the same as evaluated in the EA that support the 2001 Order.

Conclusion

Based on its review, the staff concluded in the SER for this exemption request that the proposed action (i.e., revise the exemption as requested by WCS without additional conditions) would not provide sufficient protection of health, safety, and the environment. Therefore, staff's preferred alternative is to revise the 2001 Order with additional conditions. These include adding a per-batch, mass limit for stabilization not to exceed the concentration limits in Condition 1 of the exemption times 600 kg of waste and continuing to restrict WCS from using magnesium oxide in stabilization, per Condition 2 of the exemption. The staff has concluded that, with these revised conditions, the conclusion in the 2001 EA associated with the 2001 Order remains valid.

Agencies and Persons Consulted

A draft copy of this EA was provided to officials from the State of Texas Department of Health (TDH). By an email dated August 11, 2004, the TDH recommended certain editorial

changes. The NRC staff has modified the EA to address the TDH comments.

III. Finding of No Significant Impact

On the basis of the EA, NRC has concluded that there are no significant environmental impacts from the proposed amendment and has determined not to prepare an environmental impact statement.

IV. Further Information

Documents related to this action, including the application for amendment and supporting documentation, are available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this site, you can access the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. The ADAMS accession numbers for the documents related to this notice are:

| <u>Document Description</u> | <u>Accession Number</u> |
|--|-------------------------|
| August 6, 2003, WCS initial request | ML032590937 |
| September 30, 2003, NRC request for additional information | ML032731010 |
| March 15, 2004, WCS modified request | ML041350224 |
| September 2004 NRC SER | ML042250362 |
| April 26 and 27, 2004, NRC and WCS email messages | ML042450534 |
| August 11, 2004, TDH email message | ML042450520 |
| August 3, 10 and 13, 2004 NRC and WCS email messages | ML042450511 |
| November 21, 2001, NRC EA, SER, and Order | ML030130085 |

If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC's Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737, or by email to pdr@nrc.gov.

These documents may also be viewed electronically on the public computers located at the NRC's PDR, O 1 F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee.

Dated at Rockville, Maryland this 14th day of October 2004.

FOR THE NUCLEAR REGULATORY COMMISSION

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Division of Waste Management
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