[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[Docket No. 40-9059]

Notice of Availability of Environmental Assessment and Finding of No Significant Impact for a Performance-Based, Multi-Site License for a Uranium Water Treatment Program for R.M.D. Operations, LLC Headquarters in Wheat Ridge, CO.

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of availability.

FOR FURTHER INFORMATION CONTACT: Ron C. Linton, Project Manager, Fuel Cycle Facilities Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C., 20555. Telephone: (301) 415-7777; fax number: (301) 415-5955; e-mail: rcl1@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of a 10 C.F.R. part 40 source materials license to R.M.D. Operations, LLC (RMD). If issued, the license would authorize RMD to act as a multi-site service provider for community water systems (CWSs) that concentrate uranium above specified levels during the treatment of drinking water. The NRC has prepared an Environmental Assessment (EA) in support of the proposed licensing action in accordance with the requirements of Title 10, Code of Federal Regulations (CFR) Part 51. Based on the EA, the NRC has concluded that a Finding of No Significant Impact is appropriate. The health and safety aspects of the proposed action are being evaluated, and no action will be taken until that evaluation is completed.

II. EA Summary

More than 30 years ago, the United States Congress enacted the Safe Drinking Water Act (SDWA). Regulations promulgated pursuant to the SDWA impose specific requirements on the levels of contaminants (including uranium) that may be present in drinking water sources used for public consumption in CWSs. In 1990, the U.S. Environmental Protection Agency (EPA) promulgated a proposed rule mandating that the levels of uranium in drinking water sources (i.e., maximum contaminant levels (MCLs)) be limited to 20 micrograms/liter (µg/L) or 20 parts per billion (ppb). In 2000, EPA promulgated a final uranium MCL of 30 µg/L, or 30 ppb and imposed strict deadlines for compliance. The rule requires that municipalities and other operators (now estimated at 1000 - 2000) must comply with these new requirements by 2007.

The removal and concentration of uranium by a CWS during its treatment of drinking water, in order to meet the EPA uranium standard, could result in: (1) the CWS being in possession of source material[1] (uranium) exceeding 0.05 percent by weight of the mixture; and (2) the CWS possessing greater than 15 pounds of uranium at a time. A CWS possessing uranium in these amounts would need an NRC license, and a separate rulemaking is underway to create a new general NRC license to cover such CWSs.

RMD has requested a specific NRC license that would authorize RMD to: (1) possess uranium; (2) store uranium residuals at CWSs in a self-contained uranium removal system (URS) using ion exchange technology; and (3) transfer and properly disposition such uranium residuals at facilities licensed under the Atomic Energy Act of 1954, as amended (AEA). As described in the EA, final disposition of uranium residuals will either be as a waste in AEA-

[1] Source material is defined in 10 CFR 40.4, “Definitions,” as “(1) uranium or thorium, or any combination thereof, in any physical or chemical form, or (2) ores which contain by weight 0.05 percent or more of uranium, thorium or any combination thereof.”

licensed facilities, or as an alternate feed for producing “yellowcake” at AEA-licensed uranium recovery facilities for introduction into the commercial nuclear fuel cycle. Once used as alternate feed material, the resulting waste may be disposed of as byproduct material[2] in an 11(e)2 disposal cell. The RMD uranium water treatment program is designed to provide CWSs with the capability to safely collect, store and transfer uranium accumulated during the treatment of drinking water.

The RMD September 27, 2005 license application seeks NRC authorization allowing RMD to implement its program at CWSs who decide to enter into contracts with RMD. As an NRC licensee, RMD would have ownership and/or control of its URS, and would possess all licensed materials contained therein, including uranium source material collected by any CWS for which RMD is acting as a service provider.

The following resources areas were evaluated in the EA: land use; geology and soils; transportation; water resources; ecology; meteorology and air quality; noise and visual/scenic resources; historical and cultural resources; socioeconomic conditions; public and occupational health; and waste management. In all cases the environmental impacts on these areas were found to be small.

The URSs to be installed by RMD would be sited at either existing CWS facilities or in small utility-type sheds near CWS well heads. Only minor land disturbances associated with construction activities for small buildings and utilities, less than 10,000 square feet in width and

[2] The definition of “byproduct material” in 10 CFR 40.4 states, in relevant part, that the term “means the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.” NRC guidance allows byproduct material from alternate feed to be disposed of in an 11(e)2 disposal cell (NUREG-1620, Appendix I).

less than 5 feet in depth, are expected. The CWS would be required to obtain all local building permits and meet local requirements to reduce sedimentation from construction related activities prior to construction.

The operations of the URS would utilize the same roads that the CWS currently uses for receiving supplies for typical water treatment operations (e.g., treatment chemicals, maintenance equipment, and waste products, etc.). Resin or exchange media loaded with uranium from the ion exchange vessel will be transported to either an appropriately authorized disposal facility or a licensed uranium mill for use as alternate feed material. Material will be transported in either U.S. Department of Transportation-approved (DOT) tanker trucks or large polyfabric “Super Sacks” that have been approved for transport of radioactive material. RMD expects 200 trips per year, per 1000 facilities served. Based on accident statistics, and an average nationwide travel distance of 1000 miles to the site of final disposition, RMD expects an accident, involving a spent treatment media shipment, to occur only once every 2.5 years. These accident statistics do not estimate the severity of the accident and consequences could range from a severe accident to a minor incident. Even if a small number of these accidents were to occur, it would not be expected that they will result in any release. If uranium bearing resins were to be spilled in a transportation accident, resulting radiation doses to members of the public were found to be, in general, negligible and in the range of background variability. RMD will be required to develop standard operating procedures to respond to and clean up transportation related spills of radioactive material.

The URS will be housed in a treatment shed or within the existing CWS. If the URS is housed in a CWS with a floor drain, sump, or similar water catchment that leads to a sewer or drain field, a secondary containment system will be required to ensure that radioactive material

cannot be released. The URS will remove uranium from groundwater being supplied to the public at each CWS served. Such removal of uranium will reduce human exposure and potential health impacts arising from the presence of uranium in public drinking water supplies.

If a utility-type shed is required to be constructed to house a URS, there could be impacts to wildlife or historic structures in the area. RMD will be required to consult with Federal or State wildlife agencies and State Historic Preservation Officers before beginning construction related to, or the use of, a URS that is located outside of, or away from, existing CWS structures. Noise and visual impacts from the URS would be similar to what already exists from a CWS. Costs of the URS system may be passed along to the consumer in the form of higher water rates. Any rate increases would likely only affect rate paying consumers and not the general public. Decommissioning of the URS will be RMD's responsibility and RMD will be required to comply with NRC's financial assurance criteria.

Public access to the URS will be restricted. The URS will be required to be housed in a locked shed, structure, or within the CWS facility and /or be within a fenced in area and properly marked. This should prevent any exposures to the public from the URS. However, if a member of the public were to gain entry and come in contact with the URS, exposure on contact to the ion exchange vessel is expected to be no greater than 0.3 mrem/hr. Since the URS will likely be inspected on a daily basis, it is likely that exposures from an unauthorized entry would be no greater than 7.2 mrem for a 24-hour period, a minor exposure. If the individual were in the building for that time and remained 30 cm away from the vessel - a more likely scenario- the exposure rate would be 0.003 mrem/hr, which would equate to an exposure of 0.072 mrem in a 24-hour period, a very minor exposure.

RMD system specialists, the local utility managers and operators are not expected to receive annual radiation doses anywhere near the individual monitoring thresholds prescribed in 10 CFR 20.1502, “Conditions Requiring Individual Monitoring of External and Internal Occupational Dose.” These aforementioned thresholds are 500 mrem/yr for adults or 100 mrem/yr for children or pregnant women. RMD has estimated maximum dose rates on the sides of the tanks to be between 0.2 to 0.3 mrem/hr and only 0.003 mrem/hr at 30 centimeters. RMD provided estimates of time operators should spend in the proximity of the vessels. The tables showed a maximum of 100 hours/year for the operational personnel. That time would result in an exposure of only 3 mrem for the year. This is a small fraction of the 340 mrem of background radiation those same individuals receive from natural sources. To ensure that source material is handled in a proper manner, uranium-laden (spent) IX resin is not to be stored at the CWS for greater than 60 days and will only be contained within the IX vessel.

Spent uranium-laden resin will be periodically removed from the URS and transported to a licensed waste management facility or used as alternate feed at a licensed uranium recovery facility. Use of either disposal method will result in a small increase in waste material. If uranium-laden resin is used as an alternate feed material for uranium recovery facilities, the uranium removed from drinking water may enter the nuclear fuel cycle and may ultimately be used for domestic power generation.

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 licensing action, and NRC staff has determined not to prepare an environmental impact statement.

IV. Further Information

Documents related to this action, including RMD's license application and supporting documentation, are available electronically at NRC's Electronic Reading Room at http://www.nrc.gov/reading-rm/adams.html. From this site, you can access NRC's Agencywide Documents 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 as follows:

Document	ADAMS Accession No.	Date
Final Environmental Assessment for Proposed Performance-Based, Multi-site License for a Uranium Water Treatment Program NRC License No. SUB-(TBD) R.M.D. Operations, LLC	ML062490415	September 5, 2006
NUREG-1620, Rev. 1, Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978 - Final Report, "Nuclear Regulatory Commission, Washington, DC	ML032250190	June 30, 2003
NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated With NMSS Programs - Final Report," Nuclear Regulatory Commission, Washington, DC	ML031000403	April 10, 2003
R.M.D. Operations, LLC License Application for Performance-Based, Multi-Site License for Uranium Water Treatment Program	ML052730008	September 27, 2005
R.M.D. Operations, LLC Environmental Report in Support of a Performance-based, Multi-site License Application (non-proprietary)	ML062440255	September 27, 2005

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, O1 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 26th day of September, 2006.

FOR THE NUCLEAR REGULATORY COMMISSION

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