

Water Remediation Technology, LLC

July 2, 2010

United States Nuclear Regulatory Commission
Attn: Keith McConnell, Deputy Director
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management and Environmental
Protection
Office of Federal and State Materials and
Environmental Management Programs
Washington, D.C. 20555-0001

Dear Mr. McConnell:

This letter is in follow-up to the sidebar meeting held at the annual National Mining Association (NMA)/United States Nuclear Regulatory Commission (NRC) conference in Denver, Colorado on May 25, 2010, at which representatives of NRC Staff and Water Remediation Technology (WRT) discussed issues associated with the receipt and processing of WRT's uranium-loaded synthetic ion-exchange (IX) resins at an NRC-licensed conventional uranium mill or an in situ leach uranium recovery (ISR) facility.

At that meeting, NRC Staff stated that an NRC-licensed uranium recovery facility would require a license amendment and accompanying environmental assessment (EA) prior to receiving and processing such resins because it will be considered an alternate feed, despite the fact that such resins are essentially identical to those currently used at ISR facilities during uranium recovery operations. WRT believes that NRC Staff should reconsider this position based on the broad scope of WRT's current NRC performance-based, multi-site license, the analyses in the accompanying EA, as well as the detailed environmental analyses and conclusions contained in NRC's NUREG-1910 entitled *Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities*. Combining these already-existing analyses and conclusions with WRT's factual explanation contained herein regarding the virtually identical nature of uranium-loaded water treatment resins and uranium-loaded ISR resins should provide NRC Staff with the necessary bases to pursue an administrative regulatory mechanism, such as a Regulatory Issue Summary (RIS), to determine that, barring any anomalies, the receipt and processing of WRT's uranium-loaded IX water treatment resins from drinking water and other water treatment facilities at an NRC-licensed uranium recovery facility is permissible without the need for a license amendment and accompanying EA. In spite of NRC Staff's apparent failure to understand the similarities between such resins and to include such resins in the development of NUREG-1910, as a practical matter, any potential impacts from processing either drinking water or other-than-drinking-water treatment uranium-loaded resins implicitly fall within the analyses contained in NUREG-1910 barring any processing-specific anomaly.

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Background

In 2006, WRT was granted a performance-based, multi-site license to conduct uranium water treatment operations at community water system (CWS) sites throughout all non-Agreement States in the United States. The IX resins utilized at these CWS facilities are created to be uranium “selective” and, therefore, with respect to their loading during water treatment, are the same as those utilized by NRC-licensed ISR facilities, which makes such facilities ideal candidates for receipt and processing of such resins.¹

WRT utilizes a strong base anion ion exchange resin specifically designed and manufactured for the selective exchange of soluble uranium complex from aqueous solutions. The WRT uranium-selective media (resins) is manufactured from the identical base polymeric material and contains the same ion exchange functional group as the resin used at uranium ISR facilities. The WRT ion exchange media is manufactured in the same facility as the IX product manufactured and packaged for use in uranium processing and recovery operations. The primary difference between the WRT media and the typical ISR ion exchange media product is the fact that the WRT media is marked and packaged specifically for use in potable water systems and therefore undergoes Water Quality Association testing for certification to ANSI/NSF Standard 61.

As a result of this fact and as part of its license application, WRT specifically included licensed uranium recovery facilities as the preferred final destination point for its resins in its environmental report, including relevant potential impact analyses for transportation and radiological health and safety. Based on this environmental report, NRC Staff conducted an EA for WRT’s proposed license and determined that for the proposed 200 trips per year per 1,000 CWS facilities served to final disposal or alternate feed processing locations,² “[e]nvironmental impacts related to transportation are expected to be small.” WRT EA at 7. This EA was conducted assuming that alternate feed processing locations would be a potential final destination point for these resins and, as such, WRT’s EA assessed potential transportation impacts up to the point where a licensed uranium recovery facility operator would take responsibility for such resins (i.e., the uranium recovery facility operator’s licensed site boundary). Concurring with these analyses and conclusions, NRC Staff granted WRT its requested license.

After the grant of WRT’s license, NRC Staff announced its intention to prepare NUREG-1910 for the purpose of gaining significant efficiencies in the license application review process for new ISR facility licensing, as well as any proposed license amendments that might be relevant to such facilities. During the scoping process for preparation of NUREG-1910, WRT and the National Mining Association (NMA) specifically requested that NRC Staff consider the

¹ The uranium-loaded IX resins generated as a result of other than drinking water treatment of uranium-laden water from any surface or groundwater source (e.g., underground uranium mine water treatment) are the same as those generated by CWS water treatment operations. Thus, barring some anomaly which WRT would have to disclose, there is no difference from a health and safety or environmental perspective between the potential impacts from processing WRT uranium-loaded IX resins from a CWS or such resins from other water treatment operations.

² WRT’s EA specifically states that a disposal option for its uranium-loaded IX resins is licensed uranium recovery facilities: “The resin may also be transferred to a licensed uranium recovery facility that may use the uranium-laden resin for alternate feed material.” WRT EA at 10; *see also* WRT EA at 7.



receipt and processing of water treatment uranium-loaded IX resins at existing or newly proposed uranium recovery facilities when conducting its programmatic health and safety and environmental analyses. Unfortunately, in NUREG-1910, NRC Staff determined that the WRT/NMA request was outside the scope of the document and the mandate from the Commission to prepare the document, apparently because it arbitrarily and erroneously lumped these uranium-loaded water treatment resins into the same category with all other potential types of "alternate feeds." This decision is on its face factually incorrect since the uranium-loaded water treatment resins from IX columns as compared to those loaded at uranium ISR operations, are virtually identical in physical and chemical properties and mineral-processing functionality, as noted above, resins used for uranium ISR recovery and for water treatment are manufactured at the same production facility, only the manufacturer labels the two products with different trade names. The uranium loaded water treatment IX resins are an obviously distinct and homogeneous subset of material within the wider variety of potential alternate feeds contemplated under the Commission's alternate feed guidance.

A telling point is that in the numerous (essentially all) discussions WRT has had with ISR operators regarding accepting WRT's spent water treatment resins for processing for uranium recovery, the operator has agreed that WRT's resin can be processed in its recovery circuit. Several operators have even talked about being able to use WRT's stripped resins in their operation or at one of their satellite well fields. The stumbling block in these discussions is always – ALWAYS – that the ISR operator cannot take WRT's water treatment resins without having to go through a license amendment process for accepting alternate feed, and is reluctant to go devote the resources and time to accomplish this goal. The time delay is keeping WRT from finally developing an efficient and cost-effective disposal alternative for its water treatment clients, most of which are CWS.

Given that its uranium-loaded water treatment resins are the same as those used by ISR operators, in WRT's view, NRC Staff's failure to consider this activity was a significant missed opportunity as the breadth of the health and safety and environmental analyses required to assess this activity in NUREG-1910 would have been minimal at most and would obviate much NRC Staff and licensee time and expense in the future.

Issue Presented

What is the appropriate regulatory pathway for authorizing receipt and processing of WRT's uranium-loaded IX resins at an NRC-licensed uranium recovery site?

Potential Options

Option #1: Prepare and issue a RIS that, assuming no anomalies in loading on the resins, allows an NRC-licensed uranium recovery facility to receive and process uranium-loaded IX resins from drinking water or other water treatment operations.

Given that NRC Staff failed to assess the receipt and processing of water treatment uranium-loaded IX resins, it is possible that NRC Staff can prepare and issue a RIS stating that, so long as there are no anomalies associated with such resins and that processing such resins



would not result in an exceedance of a site's annual production limit, an NRC-licensed uranium recovery operator can receive and process WRT's resins without the need for a license amendment. This Option is ideal for WRT, because its EA already addresses potential impacts associated with the transport of its uranium-loaded IX resins to an "alternate feed processor" (e.g., NRC-licensed uranium recovery site). In the event that there would be no exceedance of the selected uranium recovery facility's annual production limit, the operator's license, including associated technical and environmental reviews, should be sufficient to address any potential impacts without the need for a supplemental EA.

Further, NRC Staff's analysis of WRT's uranium-loaded water treatment IX resins versus those used by ISR facilities as alternate feed material could determine that, on a programmatic basis, such resins satisfy all aspects of NRC's Alternate Feed Guidance (i.e., (1) The resins are *ore* as envisioned by the Commission; (2) the resins do not contain *listed* RCRA hazardous wastes; (3) the resins will be processed primarily for their source material content; and (4) the resins will be processed in accordance with 10 CFR Part 40, Appendix A). There should be no need to waste NRC Staff and licensee human and financial resources on license amendments that are unnecessary and redundant.

Option #2: Prepare a policy memorandum setting forth the strictly limited scope of any required license amendment for an NRC-licensed uranium recovery facility operator to receive and process uranium-loaded IX water treatment resins.

In the event that NRC Staff does not agree that a RIS is appropriate for addressing this issue, then the next best alternative could be to prepare and issue a memorandum specifically setting forth strictly limited parameters for proposed license amendments, so that NRC-licensed uranium recovery facility operators would not have to spend exorbitant human and financial resources on unnecessary technical and environmental reports. In WRT's estimation, the strictly limited scope of any license amendment application submitted by a uranium recovery facility operator for this activity would be the following: (1) Potential localized truck traffic impacts (which already was assessed programmatically in WRT's EA); (2) potential impacts within the uranium recovery facility operator's licensed site boundary from off-loading resins from transport conveyances and loading such resins in an elution circuit; and (3) potential impacts within the uranium recovery facility operator's licensed site boundary if receipt and processing of such resins would result in an exceedance of previously licensed annual production limits. With the exception of these items, WRT's EA and the site-specific technical and environmental reviews for the NRC-licensed uranium recovery facility operator completely address all the significant potential impacts of processing water treatment resins, including all the transportation impacts because of the virtually identical nature of IX water treatment resins such as those at any ISR facility or conventional uranium mill with IX capabilities.

To follow-up this letter, WRT is requesting a meeting with NRC Staff to further discuss these issues and to open a dialogue regarding NRC Staff's position on the two (2) options discussed above and any other potential options for resolution of this issue. WRT requests that the aforementioned meeting take place within one month of the submission of this letter, so that a solution to this issue can be pursued expeditiously.

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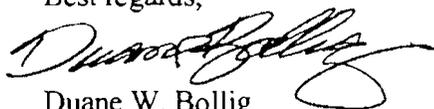


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In an attempt to be open and honest, if NRC Staff detects in this letter WRT's frustration with not resolving this issue, you are correct, it is there. WRT believes, and the NRC evidently concurs through its approval of WRT's uranium water treatment license, that it doesn't make sense to remove radioactive material from one area of the environment (water treatment) and then discharge the radioactive residuals back to the environment in an uncontrolled manner, as with an IX system with on-site regeneration and discharge to the sewer or streams. NRC agreed with WRT that recovering the uranium for the fuel cycle is preferred to disposing of the spent treatment media in a hole in the ground. There are very few, and very expensive, burial disposal options available for uranium-laden material. WRT has discussed directly with NRC Commissioners and heard them say at low-level waste conferences that there needs to be more disposal/disposition options available. All this said, it seems to WRT that NRC Staff continues to create hurdles to accomplishing this goal by embracing an excessively narrow view of the alternate feed status of uranium-loaded water treatment resins that cannot be justified by the facts. WRT wants to work together with NRC Staff to finally solve this problem.

WRT thanks NRC Staff in advance for its assistance in this matter, and we look forward to working with NRC Staff in the future on the resolution of this issue. If you have any questions, please do not hesitate to contact either me or Chris Pugsley (Thompson & Pugsley PLLC, 202.496.0780) at your earliest possible convenience. Thank you for your time and cooperation in this matter, and I'm looking forward to our upcoming meeting.

Best regards,



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