

October 14, 2011

Mr. Mark S. Pelizza  
Senior Vice President  
Safety, Environmental & Public Affairs  
Hydro Resources, Inc.  
405 State Highway 121 Bypass  
Building A, Suite 110  
Lewisville, TX 75067

SUBJECT: REQUEST FOR REVIEW OF RESTORATION ACTION PLAN REVISIONS,  
HYDRO RESOURCES, INC., CROWNPOINT URANIUM PROJECT  
TAC NO. J00637

Dear Mr. Pelizza:

By letter to the U.S. Nuclear Regulatory Commission (NRC or Commission), dated October 18, 2010, Hydro Resources, Inc. (HRI) submitted, for NRC staff review, revisions to its NRC-approved restoration action plans (RAPs) for the Crownpoint Uranium Project in McKinley County, New Mexico. The revisions were submitted pursuant to the Commission's directive that placed a prohibition on the use of HRI's license until HRI obtained NRC staff approval of the RAPs.<sup>1</sup>

HRI previously submitted RAPs to the NRC for review on November 21, 2000, as revised on March 16, 2001, after the directive in CLI-00-08. The RAPs were subsequently approved by staff by letter transmitted on April 16, 2001, and reviewed by the Atomic Safety and Licensing Board (ASLB). The ASLB determined that the submitted RAP was technically deficient. The ASLB reinstated the Commission's prohibition on the use of the license until the technical deficiencies it identified were corrected. *See In the Matter of Hydro Resources, Inc.*, LBP-04-03, 59 NRC 84 (2004), *aff'd, in part*, CLI-04-33, 60 NRC 581 (2004), and *In the Matter of Hydro Resources, Inc.*, LBP-05-17, 62 NRC 77 (2005), *aff'd* CLI-06-01, 63 NRC 1 (2006). In HRI's October 18, 2010 submission, HRI stated the information was in compliance with the directives of the ASLB and the Commission and requested that, upon approving the information in its submittal, NRC staff issue a letter notifying HRI that the prohibition on the [use] of license SUA-1580 is lifted. HRI provided supplemental information to its October 18, 2010 submission on June 9, 2011, July 20, 2011, and August 5, 2011.

NRC staff has reviewed the information provided by HRI and has approved the request. The NRC staff's review of the revised RAP is documented in the enclosed Safety Evaluation Report. By this letter, the prohibition on HRI's use of NRC license SUA-1580, imposed by the Commission in CLI-00-08, is lifted. The license currently is in timely renewal status, and will remain in timely renewal status until finally determined by the NRC.

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<sup>1</sup> By Order issued on May 25, 2000, the Commission "prohibited [HRI] from using its license until the NRC staff has approved its decontamination, decommissioning and reclamation plan, including the requisite financial assurance plan and cost estimate." *In the Matter of Hydro Resources, Inc. (Ruling on Restoration Action Plan)*, CLI-00-08, 51 NRC 227, 242 (2000).

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.htm>.

If you have any questions regarding this letter, please contact Ron Linton at (301) 415-7777, or by email at [ron.linton@nrc.gov](mailto:ron.linton@nrc.gov).

Sincerely,

**/RA/**

Keith I. 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

Docket No.: 040-08968  
License No.: SUA-1580

Enclosure:  
Safety Evaluation Report

cc: Jerry Schoeppner (NMED)  
David Mayerson (NMED)

M Pelizza

2

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Keith I. McConnell, Deputy Director  
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Docket No.: 040-08968  
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(Closes TAC J00637)

Enclosure:  
Safety Evaluation Report

cc: Jerry Schoeppner (NMED)  
David Mayerson (NMED)

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## SAFETY EVALUATION REPORT

**Docket No.:** 040-08968  
**License No.:** SUA-1580  
**Facility:** Hydro Resources, Inc., Crownpoint Uranium Project  
**Project Manager:** Ron C. Linton  
**Technical Reviewer:** Roman Przygodzki

### **Summary and Conclusions**

By letter to the U.S. Nuclear Regulatory Commission (NRC or Commission), dated October 18, 2010, and in supplemental information dated June, 9, 2011, July 20, 2011, and August 5, 2011, Hydro Resources, Inc. (HRI) submitted revisions to its NRC-approved restoration action plans (RAPs) for the Crownpoint Uranium Project in McKinley County, New Mexico (HRI, 2010, 2011a, 2011b, 2011c). The revisions were submitted pursuant to the Commission's May 25, 2000, memorandum and order in CLI-00-08 that placed a prohibition on the use of HRI's license until revisions to its RAPs were reviewed and approved (NRC, 2000b). Subsequent decisions by the Atomic Safety and Licensing Board (ASLB) ordered corrections of technical deficiencies in the RAPs related to: (1) revision of the secondary groundwater restoration standard for uranium from 0.44 mg/l to 0.03 mg/l<sup>1</sup>; (2) a recalculation of well plugging costs to use the tremie line method; and (3) addition of disposal site unloading, surveys, and decontamination costs (ASLB, 2004, 2005). In its October 18, 2010 letter, HRI requested that, upon approving the information in its submittal, NRC staff issue a letter notifying HRI that the prohibition on the [use] of license SUA-1580<sup>2</sup> has been lifted.

Staff finds that the revisions to the RAPs are acceptable and the technical deficiencies identified by the ASLB and the Commission have been corrected consistent with their respective directives. The staff finds the recalculation of well plugging and abandonment costs to use the tremie tube process, and the procedures for calculating the costs associated with the addition of disposal site unloading, surveys, and decontamination costs are acceptable. These conclusions are further discussed in the body of this Safety Evaluation Report (SER). Staff notes that the revisions submitted by HRI, and the NRC staff's subsequent review, were narrowly focused on the technical issues identified by the ASLB and the Commission in the above-noted decisions. HRI will need to update its surety costs prior to the commencement of operations, as required in 10 CFR 40, Appendix A, Criterion 9 and SUA-1580, License Condition (LC) 9.5.

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<sup>1</sup> This deficiency was corrected in License Amendment No. 3 to SUA-1580 dated March 16, 2006 (NRC, 2006).

<sup>2</sup> In its October 18, 2010, letter, HRI referred to license SUA-1508. The correct license is SUA-1580.

Enclosure

## **Background**

On April 25, 1988, HRI submitted an application to the NRC for a source and byproduct materials license to commercially produce uranium using in-situ recovery (ISR) methods at its Church Rock property in McKinley County, New Mexico, including both Section 8 and Section 17. Subsequently, HRI amended its application to include: (1) uranium recovery processing at an existing facility in Crownpoint, New Mexico; (2) ISL<sup>3</sup> production from allotted lands known as Unit 1 west of the existing facility at Crownpoint; and (3) ISL production from lands associated with the existing facility in Crownpoint (NRC, 1997). HRI's proposal to conduct ISR production at the Church Rock, Unit 1, and Crownpoint sites is referred to collectively as the Crownpoint Uranium Project (CUP).

On January 5, 1998, NRC staff issued Materials License [SUA-1580]<sup>4</sup> to HRI (NRC, 1998). The NRC's grant of a license was subject to extensive legal challenges. On March 10, 2010, the U.S. Court of Appeals for the 10<sup>th</sup> Circuit, *Morris v. NRC*, 598 F.3d 677 (10<sup>th</sup> Cir. 2010), *cert. denied* 131 S.Ct. 602 (2010), upheld the NRC's 1998 licensing decision. The U.S. Supreme Court's November 15, 2010, decision to deny certiorari in this matter finally concluded the judicial challenge to License SUA-1580.

By letter dated October 18, 2010, HRI submitted revisions to its NRC-approved RAPs for the CUP (HRI, 2010). HRI stated that the revisions to the RAPs were required by decisions by the Commission in its Order CLI-00-08 (NRC, 2000b) and the ASLB in Licensing Board Panel (LBP) 04-03 and LBP-05-17 (ASLB, 2004, 2005). HRI requested that, upon approving the information in its submittal, NRC staff issue a letter notifying HRI that the prohibition on the use of license SUA-1580 has been lifted. On December 20, 2010, NRC staff accepted the RAPs for technical review (NRC, 2010). On May 16, 2011, NRC requested additional information related to its review (NRC, 2011a). HRI responded on June 9, 2011, with updates to its RAP submissions (HRI, 2011a). On June 29, 2011, NRC staff requested clarifying information (NRC, 2011b). On July 20, 2011, HRI submitted clarifying information supplementing the RAP's (HRI, 2011b). On August 3, 2011, NRC and HRI participated in a conference call to discuss a few minor remaining issues related to the review (NRC, 2011c). On August 5, 2011, HRI again submitted supplemental information necessary for NRC staff to complete its review (HRI, 2011c). The October 18, 2010, June 9, 2011, July 20, 2011, and August 5, 2011, submissions are referred to collectively in this SER as the application (HRI, 2010, 2011a; 2011b; 2011c).

## **Request to Withhold Confidential and/or Proprietary Business Information**

In its June 9, 2011, letter to NRC, HRI requested that NRC withhold from public disclosure a compact disc (CD) dated May 16, 2011, containing confidential and/or proprietary business information in electronic files that include data, information, and other items, such as a spreadsheet model used to calculate reclamation costs (HRI, 2011a). HRI requested the files on the CD remain confidential and be withheld from public disclosure in accordance with 10 CFR 2.390(a)(4).

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<sup>3</sup> Staff observes ISR and ISL (in-situ leaching) are synonymous terms. The HRI Final Environmental Impact Statement (NRC, 1997) uses the term ISL.

<sup>4</sup> The original license was issued by NRC as SUA-1508. By letter dated February 11, 2000, NRC corrected the license number from SUA-1508 to SUA-1580 (NRC, 2000a).

The spreadsheet files on the CD dated May 16, 2011, and subsequent spreadsheet files submitted by HRI, have been withheld from public disclosure. However, NRC has determined that portable document format (pdf) files, created from the spreadsheet files, do not contain non-public information as they only contain the values, not the formulas, used for the determination of the cost estimate. Therefore, the HRI files in pdf format that do not reveal the spreadsheet models or calculations developed by HRI have been made public in ADAMS. In an e-mail dated August 22, 2011, HRI agreed with this determination (HRI, 2011d).

### **Regulatory Requirements**

Nuclear facilities licensed under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 40, are required to establish adequate financial assurance (FA) for decommissioning, decontamination and reclamation pursuant to 10 CFR 40, Appendix A, Criterion 9, "Financial Criteria." HRI is a holder of source and byproduct materials license SUA-1580 for its CUP ISR sites. License SUA-1580, LC 9.5, sets forth HRI's additional FA requirements.

Pursuant to CLI-00-08, the Commission prohibited the use of HRI's license until a decommissioning cost estimate was submitted and approved by the NRC staff (NRC, 2000b). HRI submitted RAPs containing the decommissioning cost estimates for each of its four CUP ISR sites. After extensive litigation, certain technical aspects of the RAPs were found to be deficient by the ASLB and therefore required revision. The intent of HRI's current application is to lift the prohibition on the use of HRI's license by addressing the remaining two technical deficiencies:

- 1) Pursuant to the ASLB decision in LBP-04-03, HRI's RAP for the Section 8 ISR site must be revised to recalculate the well-plugging costs using the tremie line method for its initial surety well-plugging cost estimate (ASLB, 2004).
- 2) Pursuant to LBP-05-17, all RAPs must be revised to include a cost estimate for expenses associated with waste disposal site unloading, surveying and decontamination (ASLB, 2005).

### **Review Scope**

In its October 18, 2010, cover letter, HRI states it "believes that it must address each of [the] remaining deficiencies [in LBP-04-03 and LBP-05-17] with the NRC staff to ensure that the prohibition on the [use] of its license imposed by the Commission in CLI-00-08 is lifted." HRI stated that its "submittal is comprised of revised copies of its four previously approved RAPs for each of the four CUP ISR project sites...[and] the revised RAPs are merely photocopies of the previously approved RAPs with the additional information required by the [ASLB] during the course of the administrative litigation" (HRI, 2010).

The staff agrees that HRI must address each of the remaining technical deficiencies, as identified by LBP-04-03 and LBP-05-17, to establish a decommissioning estimate as required by the Commission in CLI-00-08. Therefore, the scope of the staff's review is limited to:

- (1) determining whether the cost estimate for the Section 8 ISR site is revised to use the tremie tube process for well plugging and abandonment; and
- (2) determining whether the revisions to the cost estimates for all four CUP ISR sites include costs associated with waste disposal site unloading, surveying and decontamination.

In its review, the staff relied on the directions provided by the ASLB and the Commission; regulations in 10 CFR Part 40, Appendix A, Criterion 9; Source Materials License SUA-1580, LC 9.5; and the NRC staff guidance contained in NUREG-1569, "Standard Review Plan for In Situ Leach Uranium Extraction License Applications" (NRC, 2003).

This review does not encompass the entire cost estimate, nor does it constitute an annual surety review. An annual surety review is not required at this time; however, in accordance with 10 CFR Part 40, Appendix A, Criterion 9 and LC 9.5, FA must be established prior to the commencement of operations to assure that sufficient funds will be available to carry out the decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas. There are no operations currently occurring at the CUP and HRI has not established its FA at this time.

## **Safety Evaluation**

### **Introduction**

The staff reviewed HRI's October 18, 2010, submittal, and found that additional information was needed to complete its review. On May 16, 2011, the staff made a request for additional information (RAI) to HRI in the following areas (NRC, 2011a):

- Supporting calculations and spreadsheet models relied on for calculating the cost estimates.
- Clarification of the basis for certain unit costs, references and assumptions related to the tremie tube method for well plugging.
- Clarification of the basis and scope of the waste disposal fees relied on in calculating the waste disposal unit costs.
- Clarification of the basis and scope of the transportation costs, and supporting calculations.
- Clarification on the unit disposal cost relied on in the cost estimates.
- Clarification on whether radioactive waste disposal costs should be included for Building Decommissioning and Decontamination associated with the Unit 1 and Crown Point ISR sites, and for Surface Reclamation of Church Rock Section 17.

On June 9, 2011, HRI provided its response to NRC's RAI (HRI, 2011a). The staff reviewed both the proprietary (electronic spreadsheets) and non-proprietary aspects of the RAI responses and found that additional clarification was needed. Specifically:

- A few calculations in the spreadsheets were unclear.
- For those CUP ISR sites that would use the tremie tube method of well plugging, the cost of cement gel, and the cost of tremie tube materials were unclear.

On July 20, 2011, HRI provided its response to NRC (HRI, 2011b). The staff found that further clarification was still needed. This was communicated to HRI on August 3, 2011 (NRC, 2011c). HRI provided its response on August 5, 2011 (HRI, 2011c).

NRC staff review and safety evaluation of HRI's application focused on the topics addressed in NRC's RAI request to HRI (NRC, 2011a).

*Supporting calculations and spreadsheet models relied on for calculating the cost estimates.*

During the review of HRI's October 18, 2010, submittal, the NRC staff was not able to verify certain calculations in the RAPs. Therefore, the staff requested that HRI provide electronic versions of the spreadsheets it relied on in calculating its cost estimates. As part of its June 9, 2011 response, HRI provided electronic versions of the spreadsheets it relied on in calculating its cost estimates. The staff compared its initial findings to the spreadsheets and found that several calculations were unclear. On June 29, 2011, the staff requested that HRI clarify specific calculations in its spreadsheets. On July 20, 2011, HRI provided its responses and revised spreadsheets. The staff compared the responses and revised spreadsheets to its initial findings and found that additional clarification was needed. On August 3, 2011, the staff held a teleconference with HRI and discussed its additional questions. On August 5, 2011, HRI provided its response and revised spreadsheets.

NRC staff verified the formulas and calculations in individual spreadsheets and individual spreadsheet cells HRI relied on to create the final cost estimates in the application and finds the formulas and calculations accurate.

*Basis for certain unit costs, references and assumptions related to the tremie tube method for well plugging.*

NRC staff reviewed HRI's assumptions related to the tremie tube method for well plugging. NUREG-1569, Appendix C, recommends that "[u]nit costs, calculations, references, assumptions, equipment and operator efficiencies, et cetera" be provided in the [cost] estimate (NRC, 2003). Consistent with 10 CFR Part 40, Appendix A, Criterion 9, LC 9.5 requires that the cost estimate be based on the costs of a third party. In this regard, the staff reviewed the following areas to determine whether the cost underlying HRI's assumptions are reasonable, consistent with LC 9.5, and address the requirements of LBP-04-03: (1) the basis for cement and pump hoist unit costs; (2) the connection between an hourly labor rate and rate per well for backhoe & operator and Engineer/geologist; (3) the costs for transporting well plugging materials to the CUP sites; (4) unit costs and calculations for cement per sack and gel per sack; (5) the costs of the tremie tube, and the disposal of the tremie tube and well casing; and (6) the

basis for the number of wells plugged per work day. The staff's evaluation of each area is as follows:

- (1) HRI clarified that the costs in its estimate exceed actual third party rates that HRI currently pays. With respect to the cement and pump hoist unit costs, HRI's response satisfies the requirement in LC 9.5 that these cost estimates be based on third party costs because the rates assumed in the estimate exceed current third party rates for similar work.
- (2) The electronic spreadsheets provided as part of HRI's application clarified the connection between hourly labor rates and the rate per well. HRI's application is acceptable because the electronic spreadsheets clarify how HRI estimated costs for backhoe and operator and Engineer/Geologist on a per well basis.
- (3) HRI clarified that materials are shipped Free on Board (FOB) destination, which includes materials used in the tremie tube method. NRC staff finds HRI's application is acceptable because FOB destination means that the shipper of the materials is responsible for paying the costs of transporting materials to the CUP sites. However, if HRI becomes responsible for such costs, LC 9.5 would require HRI to include them.
- (4) HRI stated that the current quote for cement gel increased to \$12.65 per sack from \$5.60. The October 18, 2010, RAPs relied on a gel unit cost estimate of \$5.60 per sack (HRI, 2010). In its June 29, 2011 RAI, the staff requested that HRI revise its estimates to include the increased cost estimate of cement gel (NRC, 2011b). On July 20, 2011, HRI provided revised RAPs, which revised the gel unit cost estimate to \$12.65 per sack, but lowered the unit cost estimate of cement (HRI, 2011b). During the August 3, 2011, teleconference, the staff requested clarification for the reduced unit cost of cement (NRC, 2011c). On August 5, 2011, HRI revised the cement unit cost estimate and used the quote stated in their June 9, 2011, RAI response as a basis (HRI, 2011c). NRC staff finds that HRI's application satisfies the LC 9.5 requirement for basing the cost estimate on third party costs because the cost estimates for cement and gel reflect current third-party rates.
- (5) HRI's June 9, 2011, RAI responses stated that the cost of tremie tube materials is not included in the estimate because they are "considered an incidental expense, small enough to be discounted as compared to the overall plugging cost." (HRI, 2011a). HRI's response also stated that the tremie tube method for well plugging will only be used at the Churchrock ISR sites. In its June 29, 2011, clarifying questions, the staff explained that although the cost of tremie pipe is small relative to the well plugging and abandonment costs, all relevant costs should be included in the cost estimate (NRC, 2011b). On July 20, 2011, HRI provided revised spreadsheets that included the cost of tremie tube materials for Churchrock Section 8 and Section 17 (HRI, 2011b). NRC staff finds the application acceptable because the unit cost of tremie pipe is based on the costs estimates of third parties, as required by LC 9.5, (quote contained in the June 9, 2011, RAI responses [HRI, 2011a]) and the cost of materials would be part of the costs associated with the use of the tremie tube method for well plugging, required by LBP-04-03 (ASLB, 2004) for Churchrock Section 8.

- (6) HRI's June 9, 2011, RAI response states that the assumption regarding the number of wells plugged per day is based on the professional judgment of a State of Texas Licensed Professional Engineer (HRI, 2011a). The engineer's memorandum also states that other approaches (e.g. using additional equipment) to well plugging may reduce the cost of well plugging and increase the number of wells plugged per day. Based on the engineer's memorandum and RAI response, the staff finds the assumed number of wells plugged per day in the application to be reasonable.

*Basis and scope of the waste disposal fees relied on in calculating the waste disposal unit costs.*

Pursuant to LBP-05-17, the RAPs for all four CUP ISR sites must be revised to include the costs associated with waste disposal site unloading, surveying and decontamination (ASLB, 2005). HRI's October 18, 2010, submittal included a copy of a waste disposal contract between URI, Inc., an HRI affiliate, and Denison Mines Corporation. HRI's October 18, 2010, submittal also included a sheet which provided an estimated unit disposal rate that included waste disposal site unloading, surveying and decontamination (HRI, 2010). To determine whether the cost underlying HRI's assumptions are reasonable, whether they are based on costs of a third party as required by LC 9.5, and whether the revisions to the cost estimates address the requirements of LBP-05-17, the staff reviewed the following areas: (1) whether the waste disposal contract rates were applicable to the CUP ISR sites; (2) the connection between the disposal contract rates (in dollars per ton) and the estimated unit disposal rate (dollars per cubic foot); (3) whether the estimated unit disposal rates included byproduct material sample analysis; and (4) whether the estimated unit disposal rates included the Utah State Radioactive Waste Tax. The staff's evaluation of each area is as follows:

- (1) HRI stated that the contract provided in the October 18, 2010, submittal is actively used by URI, Inc., and "all prices therein provide [a] real case example and HRI's best estimate of disposal costs at this time." (HRI, 2010). HRI also stated that it would "contract with Denison [Mines Corporation] or [another] NRC licensed disposal site before operations begin...and adjust the financial assurance amount according to LC 9.5." NRC staff finds HRI's application satisfies the LC 9.5 requirement for basing the cost estimate on third party costs because the estimated unit disposal rate is based on current costs charged to HRI's affiliate, URI, Inc. Should costs of disposal, or disposal site unloading, surveying and decontamination change, it would be reflected in a cost estimate update required by LC 9.5.
- (2) HRI's June 9, 2011, RAI response clarified the connection between the disposal contract rates (in dollars per ton) and the estimated unit disposal rate (dollars per cubic foot) by providing a calculation of the estimated unit disposal rate based on current rates charged to URI, Inc (HRI, 2011a). The response also stated that waste disposal site unloading, scanning, and decontamination costs are included in the current rates. HRI's application is acceptable because it clarifies the basis for the estimated unit disposal rate and the estimated unit disposal rate is based on current rates being charged, which includes site unloading, scanning, and decontamination costs. Therefore, the requirements of LBP-05-17 are met because the cost estimates include the costs associated with waste disposal site unloading, surveying and decontamination (ASLB, 2005).

- (3) HRI's June 9, 2011, RAI response stated that Denison Mines required a one-time analysis for 11e.(2) byproduct materials previously shipped from URI, Inc., and that recurring analysis cost estimates were not required. Therefore, HRI stated that costs for recurring analysis are not included in the estimate (HRI, 2011a). The staff finds HRI's application acceptable because, based on HRI's historical information, Denison Mines did not require recurring analysis. However, if recurring analysis is required, LC 9.5 would require HRI to include those costs in their cost estimate.
- (4) HRI's June 9, 2011, RAI response stated that the waste disposal cost estimates are based on actual invoices from Denison Mines Corporation, which include the State of Utah Radioactive Waste Tax (HRI, 2011a). NRC staff finds HRI's application acceptable because LC 9.5 requires that cost estimates be based on the costs of a third party, and HRI relied on actual invoices, which include the State of Utah Radioactive Waste Tax.

*Basis and scope of the transportation costs, and supporting calculations.*

As part of the October 18, 2010, submittal, HRI's estimated unit waste disposal cost included transportation costs (HRI, 2010). As previously indicated, LC 9.5 requires that cost estimates be based on the costs of a third party. In its review, the NRC staff was not able to identify a clear basis and scope of the transportation costs relied on in the RAPs. Therefore, the staff: (1) requested that HRI provide supporting calculations for the assumed transportation costs; and (2) requested clarification on whether certain insurance costs stated in the waste disposal contract are included in the estimated transportation costs (NRC, 2011a). The staff's evaluation of each area is as follows:

- (1) HRI's June 9, 2011, RAI response clarified the supporting calculations for the estimated unit transportation cost (HRI, 2011a). HRI stated that transportation costs are based on current costs paid by URI, Inc. NRC staff finds HRI's application is acceptable because the supporting calculations were clarified and the transportation cost estimate satisfies LC 9.5, as it is based on current third party costs.
- (2) HRI's June 9, 2011, RAI response stated that the transportation company provides the insurance required by the waste disposal contract (HRI, 2011a). NRC staff finds HRI's application is acceptable because it identified that the transportation company is responsible for providing the necessary insurance.

*Basis of the unit disposal cost relied on in the cost estimates.*

HRI's October 18, 2010, submittal included two waste disposal rates, \$8.71 and \$3.85 per cubic foot and NRC staff found that all the updated spreadsheets relied on the \$3.85 per cubic foot disposal rate (HRI, 2010). In its May 16, 2011, RAI, staff asked why HRI used only the lower rate (NRC, 2011a). In the June 9, 2011, RAI response, HRI stated that it will use Supersacks to package radioactive waste (HRI, 2011a). HRI further stated that using Supersacks "obviates the need to package material in 55 gallon drums and eliminates the need for the higher cost option." The staff finds the application and HRI's rationale for relying upon the lower waste disposal unit cost estimate acceptable.

*Radioactive waste disposal costs for Building Decommissioning and Decontamination associated with the Unit 1 and Crown Point ISR sites, and for Surface Reclamation of Church Rock Section 17.*

HRI's October 18, 2010, submittal, included cost estimates for various aspects of decontamination and decommissioning (HRI, 2010). During its review, the staff found that it was unclear whether radioactive waste disposal is included for building decommissioning and decontamination at the Unit 1 and Crownpoint sites, and surface reclamation at the Churchrock Section 17 site. HRI's June 9, 2011, RAI response stated that it assumed the buildings for Unit 1 and Crownpoint would not be contaminated and would not be removed, therefore, volumes for radioactive waste were not estimated (HRI, 2011a). NRC staff agrees that if walls and floors are not contaminated (or are decontaminated by HRI), buildings may not need to be removed from the site, or if buildings are removed, they would not need to be disposed of as radioactive waste. In addition, should the buildings require disposal as radioactive waste, LC 9.5 would require HRI to provide FA for such activities. NRC staff finds the application acceptable because the RAPs for Unit 1 and Crownpoint include, at a minimum, costs for decontamination of walls and floors.

With respect to surface reclamation for Churchrock Section 17, HRI's June 9, 2011, RAI response stated that surface reclamation is not included as part of the Churchrock Section 17 RAP because this ISR site consists of wellfields only, and that wellfield decommissioning, including contaminated soil disposal, is included in the estimate (HRI, 2011a). NRC staff finds the application acceptable because contaminated soil disposal is included in the estimate for Churchrock Section 17.

### **Conclusion**

Based on HRI's application, the staff finds that: (1) the Churchrock Section 8 and Section 17 RAPs include the estimated costs for well plugging using the tremie tube method, and therefore HRI has met the above referenced requirement in LBP-04-03; (2) the RAPs for the CUP ISR sites include the estimated costs of waste disposal site unloading, scanning and decontamination costs, and, therefore, HRI has met the above referenced requirement in LBP-05-17; and (3) HRI's application and revisions to its RAPs are based on reasonable and documented assumptions, and are acceptable. The staff notes that prior to operations, HRI will be required to update its cost estimates for the CUP ISR sites, and that the review of these cost estimates will cover the entire cost estimates, not only those sections updated pursuant to LBP-04-03 and LBP-05-17.

### **Environmental Review**

The staff has reviewed the licensee's request and finds that the proposed action belongs to a category of regulatory actions that the NRC has determined are eligible for categorical exclusion (i.e., that do not require an environmental assessment) under 10 CFR 51.22(c)(10), which states:

- (10) Issuance of an amendment to a permit or license under parts 30, 31, 32, 33, 34, 35, 36, 39, 40, 50, 52, 60, 61, 63, 70, or part 72 of this chapter which—
  - (i) Changes surety, insurance and/or indemnity requirements; or

(ii) Changes recordkeeping, reporting, or administrative procedures or requirements.

The staff finds that the revisions to the RAPs constitute a change in surety, insurance and/or indemnity requirements and, therefore, an environmental assessment is not required.

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