

No. 07-9505

IN THE UNITED STATES COURT OF APPEALS
FOR THE TENTH CIRCUIT

MARILYN MORRIS; GRACE SAM; EASTERN NAVAJO DINE AGAINST
URANIUM MINING "ENDAUM"; SOUTHWEST RESEARCH AND
INFORMATION CENTER "SRIC,"

Petitioners,

v.

UNITED STATES NUCLEAR REGULATORY COMMISSION; UNITED
STATES OF AMERICA

Respondent, and

HYDRO RESOURCES, INC.,

Intervenor-Respondent.

PETITION FOR REVIEW OF A DECISION OF THE UNITED STATES
NUCLEAR REGULATORY COMMISSION

BRIEF OF INTERVENOR-RESPONDENT HYDRO RESOURCES, INC.

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ORAL ARGUMENT IS REQUESTED

CORPORATE DISCLOSURE STATEMENT

Intevenor-Respondent Hydro Resources, Inc. (HRI) is wholly owned by Uranium Resources, Inc., a publicly held corporation.

TABLE OF CONTENTS

CORPORATE DISCLOSURE STATEMENT.....	ii
STATEMENT OF JURISDICTION.....	1
STATEMENT OF THE ISSUES.....	3
STATEMENT OF THE CASE.....	4
I. INTRODUCTION.....	4
A. Nature of the Case and Proposed Action.....	4
B. The In Situ Uranium Recovery Technique.....	7
II. STATUTORY AND REGULATORY BACKGROUND.....	15
A. Atomic Energy Act of 1954 and Uranium Mill Tailings Radiation Control Act of 1978.....	15
1. 10 CFR Part 40 and Appendix A Criteria.....	16
2. 10 CFR Part 20 Radiation Protection Standards.....	19
3. National Environmental Policy Act of 1969 and Regulations and NRC License Application Review Requirements.....	20
B. Safe Drinking Water Act of 1974: Aquifer Exemptions and the Underground Injection Control Program for ISR Uranium Recovery.....	22
1. Aquifer Exemptions.....	23
2. Underground Injection Control Permits.....	26
FACTUAL AND PROCEDURAL BACKGROUND.....	29
STANDARD OF REVIEW.....	30

SUMMARY OF THE ARGUMENT.....	31
ARGUMENT.....	38
I. NRC PROPERLY DETERMINED THAT DOSES FROM RADIOLOGICAL AIR EMISSIONS FROM SECTION 17 MINING SPOILS CONSTITUTE “BACKGROUND RADIATION” UNDER NRC REGULATIONS.....	38
A. The Classification of Mining Spoils as TENORM and Part of “Background Radiation” is Consistent with the AEA and NRC Regulations.....	38
1. TEDE is Intended to Include Only Doses from a “Licensed Operation”.....	38
2. Mining Spoils are Properly Classified as TENORM and Outside the Scope of TEDE Calculations under 10 CFR § 20.1301(a)(1) as “Background Radiation”.....	44
B. NRC Properly Evaluated Doses from Radiological Air Emissions Issues in the FEIS.....	47
II. NRC PROPERLY ASSESSED GROUNDWATER RESTORATION PARAMETERS AND FINANCIAL ASSURANCE COST ESTIMATES IN COMPLIANCE WITH ITS STATUTORY AND REGULATORY PROGRAM FOR ISR URANIUM RECOVERY OPERATIONS.....	52
A. The Commission’s Financial Assurance Cost Estimate Based on Nine Pore Volumes for Groundwater Restoration Complies with the AEA and NRC Regulations.....	53
B. Petitioners’ Hearing Rights Were Not Abrogated with Respect to Groundwater Restoration or Financial Assurance.....	57

III. NRC’S AND HRI’S ASSESSMENT OF HISTORIC AND CULTURAL RESOURCE CONSULTATION ISSUES IS COMPLIANT WITH APPLICABLE STATUTORY AND REGULATORY REQUIREMENTS.....62

A. Arguments Raised by the Navajo Nation Pertaining to Past Effects of Uranium Mining and Removal of Section 17 Mining Spoils Should Be Dismissed.....62

B. NRC’s and HRI’s Consultation with the Navajo Nation was Proper Pursuant to Relevant Statutes and Regulations.....63

CONCLUSION.....65

STATEMENT WITH RESPECT TO ORAL ARGUMENT.....66

CERTIFICATE OF COMPLIANCE.....67

TABLE OF AUTHORITIES

Cases

<i>Smith v. United States</i> , 508 U.S. 223 (1993).....	47
<i>La. Pub. Serv. Comm'n v. FCC</i> , 476 U.S. 355, 372 (1986).....	47
<i>Corning Glass Works v. Brennan</i> , 417 U.S. 188 (1974).....	47
<i>Bowles v. Seminole Rock & Sand Co.</i> , 325 U.S. 410, 414 (1945).....	<i>passim</i>
<i>Union of Concerned Scientists</i> , 735 F.2d 1437, 1449-1450 (D.C. Cir. May 25, 1984), <i>cert. denied</i> 469 U.S. 1132 (1985).....	58
<i>Wyoming Farm Bureau Federation v. Babbitt</i> , 199 F.3d 1224, 1230 (10 th Cir. 2000).....	37, 63
<i>Valley Camp of Utah, Inc. v. Babbitt</i> , 24 F.3d 1263, 1267 (10 th Cir. 1994).....	<i>passim</i>
<i>In the Matter of Hydro Resources, Inc.</i> (Crownpoint Uranium Project), CLI-06-29, 2006 NRC LEXIS 182 (December 14, 2006).....	52
<i>In the Matter of Hydro Resources, Inc.</i> (Crownpoint Uranium Project), CLI-06-14, 2006 NRC LEXIS 109 (May 16, 2006).....	<i>passim</i>
<i>In the Matter of Hydro Resources, Inc.</i> (Crownpoint Uranium Project), CLI-06-01, 2006 NRC LEXIS 193 (2006).....	56
<i>In the Matter of Hydro Resources, Inc.</i> (Crownpoint Uranium Project), CLI-04-33, 2004 NRC LEXIS 254 (December 8, 2004).....	56
<i>In the Matter of Hydro Resources, Inc.</i> (Crownpoint Uranium Project), CLI-01-04, 53 NRC 31 (2001).....	51
<i>In the Matter of Hydro Resources, Inc.</i> (Crownpoint Uranium Project), CLI-00-12, 52 NRC 1 (July 10, 2000).....	56

<i>In the Matter of Hydro Resources, Inc. (Crownpoint Uranium Project),</i> CLI-00-08, 51 NRC 227 (May 25, 2000).....	<i>passim</i>
<i>In the Matter of Hydro Resources, Inc. (Crownpoint Uranium Project),</i> LBP-06-19, 2006 NRC LEXIS 200 (August 21, 2006).....	49, 50, 51
<i>In the Matter of Hydro Resources, Inc. (Crownpoint Uranium Project),</i> LBP-06-01, 63 NRC 41 (January 2, 2006).....	50
<i>In the Matter of Hydro Resources, Inc. (Crownpoint Uranium Project),</i> LBP-05-17, 62 NRC 77 (2005).....	56
<i>In the Matter of Hydro Resources, Inc. (Crownpoint Uranium Project),</i> LBP-99-30, 50 NRC 77 (August 20, 1999).....	56
<i>In the Matter of Hydro Resources, Inc. (Crownpoint Uranium Project),</i> LBP-99-18, 1999 NRC LEXIS 61 (May 11, 1999).....	37
<i>In the Matter of Hydro Resources, Inc. (Crownpoint Uranium Project),</i> LBP-99-13, 49 NRC 233 (March 9, 1999).....	34, 56
<i>In the Matter of Hydro Resources, Inc. (Crownpoint Uranium Project),</i> LBP-98-9, 47 NRC 261 (May 13, 1998).....	5
<i>In the Matter of Rochester Gas & Electric, 1978 NRC LEXIS 16, *5,</i> n.7 (November 17, 1978).....	40

Statutes

Pub. L. No. 79-585.....	15
42 U.S.C. § 300h(1).....	22
42 U.S.C. § 300h(b)(1).....	24
42 U.S.C. § 300j-9(i).....	22
42 U.S.C. § 2011 <i>et seq</i>	45
42 U.S.C. § 2092.....	16, 39

42 U.S.C. § 4321 *et seq.*.....20

Regulations

10 C.F.R. Part 2, Subpart L.....4, 5

10 C.F.R. § 2.309(d).....64

10 C.F.R. § 2.309(d)(2).....64

10 C.F.R. § 2.1205.....4

10 C.F.R. § 2.1213.....5

10 C.F.R. § 2.1237.....5

10 C.F.R. § 2.206.....61

10 C.F.R. Part 20.....*passim*

10 C.F.R. § 20.1003.....20, 45, 51

10 C.F.R. § 20.1201.....19

10 C.F.R. § 20.1301(a)(1).....*passim*

10 C.F.R. Part 35.....43

10 C.F.R. §
35.75.....43

10 C.F.R. Part 40, Appendix A.....17

10 C.F.R. Part 40, Appendix A, Preamble.....17

10 C.F.R. Part 40, Appendix A, Criterion 5.....27

10 C.F.R. Part 40, Appendix A, Criterion 9.....*passim*

10 C.F.R. § 40.4.....	16
10 C.F.R. § 40.32(e).....	58, 59
10 C.F.R. §§ 50.20-51.21.....	21
10 C.F.R. Part 51.....	21, 48
40 C.F.R. § 144.8.....	25
40 C.F.R. Part 146.....	14, 26
40 C.F.R. § 146.6.....	14
40 C.F.R. § 146.7.....	26
40 C.F.R. § 192.32.....	27
40 C.F.R. § 264.92.....	27
40 C.F.R. § 1508.7.....	27

Other Authorities or Documents

Declaration of Eric Blinman.....	64
HRI’s Response in Opposition to Intervenors’ Written Presentation Regarding Air Emissions.....	<i>passim</i>
Letter from Ramon E. Hall, Director, NRC Uranium Recovery Field Office, to Peg Rogers, Navajo Nation Department of Justice (December 18, 1992).....	64
Letter from Peg Rogers, Navajo Nation Department of Justice, to Ramon E. Hall, Director, NRC Uranium Recovery Field Office (February 20, 1993).....	64
T.F. Gesell & H.M. Prichard, <i>Health Physics</i> 28, 361-366 (April, 1975)...	46

United States Nuclear Regulatory Commission, NUREG-1748, <i>Environmental Review Guidance for Licensing Actions Associated with NMSS Programs</i> (August, 2003).....	21
United States Nuclear Regulatory Commission, NUREG-1569, <i>Standard Review Plan for In Situ Leach Uranium extraction License Applications</i> (June, 2003).....	18, 27, 58
United States Nuclear Regulatory Commission, NUREG-1508, <i>Final Environmental Impact Statement to Construct and Operate the Crownpoint Uranium Solution Mining Project, Crownpoint, New Mexico</i> (February, 1997).....	<i>passim</i>
United States Nuclear Regulatory Commission, <i>Background as a Residual Radioactivity Criterion for Decommissioning</i> , NUREG-1501 (August, 1994).....	50
United States Nuclear Regulatory Commission, <i>Questions and Answers from Eight Sets of Questions and Answers on the Major Revision of 10 CFR Part 20</i> , NUREG/CR-6204 (May 1994).....	46
United States Nuclear Regulatory Commission, NUREG-0706, <i>Generic Environmental Impact Statement on Uranium Milling, Vol. 1</i> (1980).....	39
62 Fed. Reg. 13,725 (March 21, 1997).....	5
62 Fed. Reg. 4,120 (January 29, 1997).....	43
60 Fed. Reg. 48,623 (September 20, 1995).....	44
59 Fed. Reg. 66,979 (January 8, 1995).....	5
59 Fed. Reg. 56,557 (November 14, 1994).....	4
56 Fed. Reg. 23,360 (May 21, 1991).....	<i>passim</i>
51 Fed. Reg. 1,092, 1,133 (January 9, 1986).....	41
49 Fed. Reg. 9352 (March 12, 1984).....	20

United States Environmental Protection Agency, TENORM Sources,
<http://www.epa.gov/radiation/tenorm/sources.htm> (2006).....40

United States Environmental Protection Agency, TENORM Sources,
http://www.epa.gov/radiation/tenorm/uranium_waste.htm (2006).....40

United States Nuclear Regulatory Commission, Hydro Resources, Inc.,
 SUA-1508, License Condition 9.3.....60

United States Nuclear Regulatory Commission, Hydro Resources, Inc.,
 SUA-1508, License Condition 9.5.....35

United States Nuclear Regulatory Commission, Hydro Resources, Inc.,
 SUA-1508, License Condition 9.14.....23

United States Nuclear Regulatory Commission, Hydro Resources, Inc.,
 SUA-1508, License Condition 10.21.....27

United States Nuclear Regulatory Commission, Hydro Resources, Inc.,
 SUA-1508, License Condition 10.28.....35, 60

STATEMENT OF JURISDICTION

Petitioners Marilyn Morris, Grace Sam, the Eastern Navajo Dine Against Uranium Mining (ENDAUM), and the Southwest Research and Information Center (SRIC) (collectively "Petitioners") challenge the determination of the United States Nuclear Regulatory Commission (NRC), an independent regulatory agency of the United States of America (the "United States") (collectively "Federal Respondents"), to grant Intervenor-Respondent Hydro Resources Inc. (HRI) (hereinafter "Intervenor-Respondent") an NRC source material license to recover uranium using *in situ* uranium recovery processes (ISR) at four individual project sites within its proposed Crownpoint Uranium Project (CUP) in the State of New Mexico. The Federal Respondents determined that Intervenor-Respondent HRI's application for a source material license to conduct ISR uranium recovery operations at the CUP project sites is adequately protective of public health and safety and the environment and is compliant with the Atomic Energy Act of 1954 (AEA), as amended by the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), and NRC's implementing regulations at 10 CFR Parts 20, 40, including Appendix A Criteria, and 51.

Intervenor-Respondent HRI hereby accepts the Jurisdictional
Statement and Statement of Related Cases offered by Federal Respondents.

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STATEMENT OF THE ISSUES

Intervenor-Respondent HRI hereby accepts the Statement of the Issues and Glossary offered by Federal Respondents.

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STATEMENT OF THE CASE

I. INTRODUCTION

A. Nature of the Case and Proposed Action

In 1988, pursuant to NRC regulations at 10 CFR Parts 20, 40, including Appendix A Criteria, and 51, as well as applicable NRC guidance, Intervenor-Respondent Hydro Resources, Inc. (HRI) submitted a license application for a uranium recovery license to conduct *in situ* uranium recovery (ISR) operations at four individual project sites, two at Church Rock (Sections 8 and 17) and two at or near Crownpoint (Unit One and Crownpoint), in the State of New Mexico. HRI's license application offered a comprehensive environmental evaluation and detailed technical operational plans for the conduct of licensed ISR uranium recovery operations, as well as a detailed plan for decommissioning each project site.

On November 14, 1994, NRC Staff prepared a draft environmental impact statement (DEIS) and published a notice in the Federal Register detailing its availability.¹ This Federal Register notice provided potentially affected parties with an opportunity to request a hearing in accordance with 10 CFR § 2.1205.² Several parties filed hearing requests with NRC and a

¹ See 59 Fed. Reg. 56,557 (November 14, 1994) (Joint Appendix __).

² During the course of this proceeding, NRC amended its 10 CFR Part 2, Subpart L hearing regulations. However, this proceeding was conducted

panel of administrative law judges and technical experts was appointed by NRC's Atomic Safety and Licensing Board (hereinafter "ASLBP") on December 21, 1994.³ The administrative panel held all aspects of the proceeding, including final determinations of the threshold issue of standing to participate in an NRC administrative hearing in abeyance until NRC Staff completed its review of HRI's license application and issued its final environmental impact statement (FEIS) for the CUP project sites. On March 21, 1997, NRC Staff announced the availability of its FEIS⁴ and, on January 5, 1998, NRC Staff approved HRI's license application and granted HRI License No. SUA-1508.

On May 13, 1998, NRC's ASLBP allowed certain parties, to intervene to challenge HRI's license under NRC's 10 CFR Part 2, Subpart L provisions for "informal hearings."⁵ Additionally, in September of 1997, NRC Staff requested leave to participate as a party in the hearing process in accordance with 10 CFR §§ 2.1213 & 2.1237.

under the Part 2 regulations prior to their revision. Thus, to the extent practicable, this brief will utilize citations from Part 2 regulations, prior to their revision.

³ See 59 Fed. Reg. 66,979 (January 8, 1995) (Joint Appendix ___).

⁴ See 62 Fed. Reg. 13725 (March 21, 1997) (Joint Appendix ___).

⁵ See *In the Matter of Hydro Resources, Inc.* (Crownpoint Uranium Project), LBP-98-9, 47 NRC 261 (May 13, 1998) (Joint Appendix ___).

Initially, the ASLBP bifurcated the hearing process so that the issues for each CUP uranium recovery site could be litigated separately. The Church Rock Section 8 site was addressed first and the ASLBP requested written presentations from all parties regarding Intervenors' contentions to determine whether HRI's license should be approved as issued, approved with conditions or revoked. With respect to the Section 8 site, the following issues were litigated during the hearing process: (1) groundwater protection/restoration, and financial assurance, (2) historic and cultural resource preservation, (3) radiological air emissions, (4) environmental impact statement adequacy, (5) financial and technical qualifications, (6) environmental justice, (7) surface water protection and liquid waste disposal.

From 1999-2006, the ASLBP issued a series of decisions sustaining HRI's proposed ISR uranium recovery operations at the Section 8 project site. Several of these decisions were appealed to the full Commission and, in each instance, the Commission sustained, with or without conditions, HRI's proposed ISR uranium recovery operations for Section 8.

After completion of the hearing process for the Section 8 project site, the ASLBP directed HRI, Petitioners, and Federal Respondents to submit written presentations addressing, in a single proceeding, all admitted areas of concern for the remaining three (3) project sites (i.e., Church Rock Section

17, Unit One, and Crownpoint). Pursuant to a settlement agreement with HRI, Petitioners agreed to reduce the number of admitted areas of concern by foregoing the issues of financial and technical qualifications, environmental justice, and surface water protection and liquid waste disposal. Petitioners further agreed to limit their challenge regarding radiological air emissions to the Section 17 project site and their challenge regarding environmental impact statement adequacy to the arguments previously presented in the Section 8 portion of the proceeding.

Once again, the ASLBP issued a series of decisions addressing the parties' written presentations for each admitted area of concern and sustained HRI's license. On appeal to the full Commission, each such decision supporting HRI's proposed ISR uranium recovery operations was sustained either by the Commission's decision to reject Petitioners' appeal or by Commission opinion sustaining the ASLBP's decisions. A more detailed discussion of the decisions relevant to this appeal is provided in Federal Respondents' Brief, which has been accepted by HRI.

B. The In Situ Uranium Recovery Technique

As a general proposition, there are two *primary* types of uranium recovery processes used by NRC uranium recovery licensees: (1) conventional mills processing ores from surface or underground mines and

(2) ISR uranium recovery operations. Conventional mining involves the removal of uranium bearing ores from surface or underground mines, the breakdown of such ores at conventional mills (e.g., grinding, crushing, roasting, beneficiating), and chemical treatment to extract uranium. The conventional milling process results in the production of uranium (yellowcake) for sale and large volumes of mill tailings and other wastes that must be disposed of in licensed mill tailings impoundments.

The second form of primary production, ISR uranium recovery, leaves the underground ore body in place and continuously re-circulates native groundwater from the aquifer in which the ore body resides fortified with oxygen and/or carbon dioxide through the ore body. ISR uranium recovery was first tried on an experimental basis in the early 1960s with the first commercial facility commencing operations in 1974. Uranium deposits amenable to ISR uranium recovery occur in permeable sand or sandstones that are confined above and below by impermeable strata. These formations may either be flat or “roll-front” in cross-section, C-shaped deposits within a permeable sedimentary layer. These uranium-bearing formations were formed by the lateral movement of groundwater bearing minute amounts of oxidized uranium in solution through the aquifer with precipitation of the uranium occurring when the oxygen content decreases along extensive

oxidation-reduction interfaces. Uranium roll front deposition is ongoing on a regional basis today. Regional roll fronts require broad areas of upgradient oxidation to keep uranium mobile until the oxidized water moves downgradient far enough to encounter a zone of abundant reductant. It is at this regional *redox interface* where the oxygenated water is reduced and uranium is deposited in what is known as a *redistributed* ore body that ISR uranium recovery operations are conducted.

Uranium mineralization leaves a distinct radiochemical footprint in rock and water. The basis for geophysical logging is the presence of radioactive materials which allow the discovery and delineation of ore. Where the uranium ore zone is saturated by groundwater, the footprint extends itself into water. Given natural erosion processes, uranium and uranium progeny accumulated in the rock will manifest themselves in surrounding media. For a uranium ore body to be amenable to ISR uranium recovery using the type of recovery chemistry proposed for the CUP, the ore zone must be saturated with relatively fresh water and the rock must have enough transmissivity for water to flow from injection to extraction wells. In other words, for ISR uranium recovery to work, the ore must be situated in an aquifer. *There are no ISR uranium recovery operations in ore bodies that are not in aquifers.*

Techniques for ISR uranium recovery have evolved to the point where it is a controlled, safe, and, indeed, an occupationally and environmentally *benign* method of uranium recovery that does not result in any significant, adverse impacts to workers, the surface (lands) or the subsurface (groundwater), including *underground* sources of drinking water (USDWs). After an ore body that is amenable to ISR uranium recovery is identified, the licensee develops well-field designs that progressively remove uranium from the identified ore body. Well-field design is based on grids with alternating extraction and injection wells and a ring of monitoring wells surrounding the entire recovery area to detect any potential *excursions* of solubilized uranium and other minerals from the uranium recovery production zone.

The sequential development of ISR uranium recovery well-fields is an example of the iterative, “phased” nature of ISR uranium recovery projects. The development of these well-fields and the accumulation of a complete sampling database cannot take place until a project operator installs baseline, production, and monitor wells. Engineers and geologists must revisit the previous day’s analysis before the next well is drilled, so new information becomes available everyday. Prior to placing monitor wells, additional exploration and delineation has to be conducted to assure the wells are properly placed. As well-fields are developed, all wells, including monitor

wells, are pump tested to assure that they are functional prior to being sampled. Sampling establishes water quality within and outside the ore zone (i.e., at the monitor wells) enabling the licensee to readily determine if an excursion has occurred. The results in one well-field may cause the site engineer or geologist to change design in the next. This process is both progressive and iterative, as each well-field is developed and tested with the mineral being progressively depleted from different parts of the ore body.

During active operations, native groundwater from the recovery zone in the aquifer is pumped to the surface for fortification with oxygen and carbon dioxide. This fortified water (i.e., lixiviant) is then returned to the recovery zone through a series of *injection* wells in varying patterns in the well-fields. Water withdrawn from *extraction wells* in these patterns exceeds the water injected into the patterns creating a “cone of depression” that assures a net inflow of water into the recovery zone of the aquifer so that adjacent, non-exempt USDWs will not be impacted by excursions of mining solutions. It also brings fresh water into the recovery zone to inhibit the build-up of contaminants that could reduce the efficiency of the operation.

The extraction pumping causes the injected lixiviant to move through the uranium ore body oxidizing and solubilizing the uranium present in the host sandstone. The water from the extraction wells is then run through ion-

exchange (IX) columns containing synthetic resins, which remove the uranium in a process essentially identical to that used to remove minerals from drinking water in a conventional home water softener. The uranium is first stripped from the IX resins using a brine solution (again similar to a water softener) and precipitated chemically. This product is then dewatered and dried to produce saleable *yellowcake*.

After uranium removal in the IX column, the water in the circuit is re-fortified and re-injected as part of a continuous process until the uranium in the ore zone is exhausted. Since water from the ore body, already containing naturally occurring uranium and its progeny, is continuously re-fortified with oxygen and re-circulated through the sandstone to enhance uranium values removed in the IX columns, injection is "locked" to extraction (i.e., without extracting at least as much water as is injected, the surface plant will run dry and re-circulation will stop). Injection cannot proceed without an equal or greater amount of extraction; therefore, over-injection across the area cannot take place. In order to keep the continuously operating system in balance, the extra water that is extracted is removed from the circuit as a "bleed." The "bleed," which contains elevated levels of radium, is treated in settlement ponds or by filtration to remove the radium using a barium-radium sulphate precipitation method. The treated water is then discharged

to holding ponds or tanks and from there it must be disposed using land application, deep well injection, solar evaporation or some combination of these methods.

After uranium recovery ceases, the groundwater in the recovery zone is restored *consistent with baseline* or other water quality criteria that are approved by NRC prior to the commencement of active production operations. Upon completion of groundwater restoration, wells are sealed or capped below the soil surface using approved plugging methods. Surface process facilities are decontaminated, if necessary, and removed, and any necessary reclamation and re-vegetation of surface soils is completed. As a result, after site closure is completed and approved, there is no visual evidence of an ISR uranium recovery site, and the decommissioned site will be available for unrestricted (i.e., any future) use.

Liquid waste also is generated during groundwater restoration when uranium recovery operations have ceased. Groundwater sweep uses existing wells to remove water from the ore zone which draws natural groundwater flow into the recovery zone to replace contaminated water removed. Alternatively, removed groundwater may be treated using reverse osmosis (RO) to create *de-ionized* water which is re-injected to accelerate groundwater restoration. In fact, groundwater restoration often uses a

combination of these two techniques and, possibly, the injection of a reductant and pH modifier to optimize results.

In over three decades of operations, there have been *no significant, adverse impacts to USDWs* from ISR uranium recovery operations in the United States. Well-field balancing, use of the “bleed,” and monitoring at ISR uranium recovery sites has been highly successful in assuring that leach solution is contained within the ore (recovery) zone. Before monitoring ceases, restoration is conducted to minimize or eliminate the potential risk of excursion that could result in the migration of contaminants from the exempted recovery zone portion of the aquifer to adjacent, non-exempt portions of the aquifer. This regulatory approach has been a success because there has never been a report of contamination of adjacent, non-exempt USDWs outside of the ore zone and into the related area of review⁶ as a result of ISR uranium recovery.

⁶ The “area of review” is essentially a “buffer zone” prescribed by EPA’s underground injection control (UIC) program to provide additional protection for USDWs during ISR uranium recovery. 40 CFR § 146.6 requires that all ISR uranium recovery licensees must establish a fixed radius of not less than ¼ mile for the area surrounding the recovery zone. The regulation also states:

“In determining the fixed radius, the following factors shall be taken into consideration: Chemistry of injected and formation fluids; hydrogeology; population and ground-water use and dependence; and historical practices in the area.”

40 CFR § 146.6 (Joint Appendix __).

II. STATUTORY AND REGULATORY BACKGROUND

A. Atomic Energy Act of 1954 and Uranium Mill Tailings Radiation Control Act of 1978

As a general proposition, the recovery of source material (i.e., for the purposes of this proceeding *uranium*) and the management of the wastes generated therefrom are regulated under a regime authorized by the Atomic Energy Act of 1954 (AEA), as amended by the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA).

Congress enacted the AEA in 1946, and later amended it in 1954, to facilitate the expeditious and efficient recovery of source material for the purpose of developing an active arsenal of nuclear weapons⁷ and for peaceful purposes such as the production of electricity. The AEA, as amended by UMTRCA, defines the scope of regulatory authority for NRC (formerly the Atomic Energy Commission (AEC)) including the regulation of source material, special nuclear material, and both 11e.(1) and (pursuant to UMTRCA) 11e.(2) byproduct material. But, the AEC/NRC does not have, and has never had, regulatory jurisdiction over source material

⁷ Atomic Energy Act of 1946, Pub. L. No. 79-585, 60 Stat. 755 (1946) (Joint Appendix __).

uranium until “removed from its place in nature”⁸ and, thus, does not regulate underground or surface uranium *mining*.

In the years following World War II, to avoid dependence on foreign sources of uranium, the AEC developed policies to encourage private companies and individuals to explore for and to develop uranium reserves located in the United States. These policies guaranteed prices for uranium ore production, provided bonuses for the initial production of uranium ores from new mines, and reimbursed uranium producers for transportation costs. These policies also encouraged the construction and operation of new uranium milling facilities.

1. 10 CFR Part 40 and Appendix A Criteria

Over time, a viable domestic uranium recovery industry was developed. To assure adequate regulatory oversight of this industry, pursuant to its AEA authority, the AEC/NRC promulgated 10 CFR Part 40 and, later, Appendix A to Part 40 for conventional uranium milling operations. At the time of Appendix A’s issuance, conventional uranium mining and milling operations were assumed to be the primary source of uranium production in the United States, so Appendix A Criteria reflect that assumption. Recently, as ISR uranium recovery has become the prevalent

⁸ See 42 U.S.C. § 2092 (Joint Appendix ___); see also 10 CFR § 40.4 (definition of “unrefined and unprocessed ore”).

form of uranium recovery in the United States, NRC has applied portions of Part 40 and Appendix A Criteria to ISR uranium recovery licensing “as relevant and appropriate.” Appendix A Criteria were created to be flexible and performance-oriented rather than prescriptive, since they address facilities (i.e., conventional mills and tailings impoundments) that can be affected by, and can affect, natural systems that can vary on a site-specific basis and because they were to be applied to pre-existing uranium milling facilities. As stated in the Preamble to Appendix A:

“In many cases, *flexibility* is provided in the criteria...on a site-specific basis.... *Licensees or applicants may propose alternatives to the specific requirements* in this appendix. The alternative proposals may take into account local or regional conditions, including geology, topography, hydrology, and meteorology.”⁹

This flexibility is also reflected in the Preamble’s statement that:

“In implementing this appendix, the Commission will consider ‘*practicable*’ and ‘*reasonably achievable*’ as equivalent terms. Decisions involved these terms will take into account the state of technology, and the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to the utilization of atomic energy in the public interest.”¹⁰

Since ISR uranium recovery operations similarly take place in natural systems, NRC has approached application of relevant Appendix A Criteria

⁹ 10 CFR Part 40 Appendix A, Preamble (emphasis added) (Joint Appendix

¹⁰ *Id.*

to, and the development of license conditions for, such operations to them with flexibility (e.g., the iterative, “phased” licensing approach).

Since Appendix A Criteria were focused primarily on conventional uranium milling facilities, to facilitate the submission of complete license applications for ISR uranium recovery operations, NRC created an ISR Standard Review Plan (SRP or NUREG-1569).¹¹ The SRP identifies Appendix A and other relevant regulatory requirements, NRC guidance, and standard industry practices that should be used in preparing ISR uranium recovery license applications. Although created after the issuance of HRI’s license, the SRP provides insight into the nature of ISR uranium recovery projects and NRC’s approach to their regulation. As a general proposition, ISR uranium recovery projects are process-oriented, phased projects, as demonstrated, with clarity, by SRP Chapter 2 entitled *Site Characterization* and Chapter 5 entitled *Operations*. These chapters show that ISR uranium recovery projects are developed through a process involving *pre-operational* site characterization followed by detailed, progressive *operational* site development that occurs only after licensing is complete. As noted above, this iterative, “phased” approach is reflected in the sequential development

¹¹ United States Nuclear Regulatory Commission, NUREG-1569, *Standard Review Plan for In Situ Leach Uranium Extraction License Applications* (June, 2003) (Joint Appendix ___).

of ISR uranium recovery well-fields, upper control limits (UCLs), monitor wells to protect water quality, and appropriate financial assurance.¹²

2. 10 CFR Part 20 Radiation Protection Standards

ISR uranium recovery licensees are also required to comply with relevant 10 CFR Part 20 radiation protection requirements. Part 20 sets limits on radiation doses defined as “total effective dose equivalents” or “TEDEs” from licensed operations to individual workers and members of the public that are increments above “background radiation.” For members of the public, NRC regulations state:

“The total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem (1 mSv) in a year, *exclusive of the dose contributions from background radiation*, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under §35.75, from voluntary participation in medical research programs, and from the licensee's disposal of radioactive material into sanitary sewerage in accordance with §20.2003....”¹³

Thus, the calculation of TEDE for a particular licensed site is the radiation dose to individual workers or members of the public *exclusive of the dose contributions from background radiation*.

¹² See Statement of the Case, Section I(B) *infra*.

¹³ 10 CFR § 20.1301(a)(1) (emphasis added) (Joint Appendix __). 10 CFR § 20.1201 also prescribes TEDE limits for site workers of 5 rem/year. See 10 CFR § 20.1201 (Joint Appendix __).

“Background radiation” is defined as:

“radiation from cosmic sources; naturally occurring radioactive material, including radon (except as a decay product of source or special nuclear material); and global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation *and are not under the control of the licensee*. “*Background radiation*” does not include radiation from source, byproduct, or special nuclear materials regulated by the Commission.”¹⁴

3. National Environmental Policy Act of 1969 Regulations and NRC License Application Review Requirements

As an independent regulatory agency, NRC is not bound by regulations promulgated by the Council of Environmental Quality (CEQ) under the National Environmental Policy Act of 1969 (NEPA).¹⁵ As stated in the Federal Register in 1984:

“as a matter of law, the NRC as an independent regulatory agency can be bound by CEQ’s [Council on Environmental Quality’s] regulations only so far as those regulations are procedural or ministerial in nature. NRC *is not bound* by those portions of CEQ’s regulations which have a substantive impact on the way in which the Commission performs its regulatory functions.”¹⁶

However, NRC promulgated regulations at 10 CFR Part 51 designed to facilitate compliance with NEPA. Pursuant to these regulations, NRC

¹⁴ 10 CFR § 20.1003 (emphasis in original in part and added in part) (Joint Appendix __).

¹⁵ 42 U.S.C. § 4321 *et seq* (Joint Appendix __).

¹⁶ 49 Fed. Reg. 9352 (March 12, 1984) (emphasis added) (Joint Appendix __).

requires that a detailed environmental evaluation of the potential impacts of, and alternatives to, proposed uranium recovery operations.¹⁷ Unless mandated by regulation to perform an environmental impact statement (EIS), NRC Staff is required to conduct an initial environmental assessment (EA) and to determine whether the potential impacts of the proposed action warrant a finding of no significant impact (FONSI) or an environmental impact statement (EIS).¹⁸ In the event that an EIS is warranted, NRC first prepares a draft EIS for issuance and public comment and, upon completion of the public comment period, NRC responds to comments and issues an FEIS.

NRC also requires an applicant to submit detailed procedures, protocols, and other data and information demonstrating that the applicant is capable of performing the proposed action under the conditions and requirements prescribed by NRC. For example, NRC requires that an applicant provide adequate information demonstrating that it is financially qualified to perform NRC license requirements and that its procedures and protocols are technically sufficient. Based on the FEIS and the applicant's

¹⁷ See generally 10 CFR Part 51 (Joint Appendix __)..

¹⁸ 10 CFR §§ 50.20-51.21 (Joint Appendix __); see also United States Nuclear Regulatory Commission, NUREG-1748, *Environmental Review Guidance for Licensing Actions Associated with NMSS Programs* (August, 2003) (Joint Appendix __).

license application, NRC determines whether a license should be issued or not and what, if any, appropriate conditions should be added to the applicant's proposed license.

B. Safe Drinking Water Act of 1974: Aquifer Exemptions and the Underground Injection Control Program for ISR Uranium Recovery

To assure safe and effective underground injection throughout the United States, the United States Congress enacted the Safe Drinking Water Act of 1974 (SDWA),¹⁹ which, in part, authorized establishment of the Underground Injection Control (UIC) program so that injection wells would not endanger current and future USDWs. The SDWA empowered EPA with the primary authority to regulate underground injection to protect current and future sources of drinking water. EPA also was authorized to provide States with the opportunity to assume primary authority over UIC programs in accordance with final regulations promulgated by EPA in 1980, which set minimum standards for State programs to meet to be delegated primary enforcement responsibility (primacy) for such programs.²⁰ UIC regulations establish specific performance criteria for classes of wells (ISR uranium recovery wells for the CUP are Class III wells) to assure that drinking water sources, actual and potential, are not rendered unfit for such use by

¹⁹ See 42 U.S.C. § 300j-9(i) *et seq* (Joint Appendix ___).

²⁰ See 42 U.S.C. § 300h(1) (Joint Appendix ___).

underground injection of the fluids common to that particular category of wells.

Between 1981 and 1996, EPA granted primacy to 34 States for all injection wells (except those on Tribal lands). EPA implements the UIC program directly in 10 States and shares responsibility in six (6) other States. The State of New Mexico has primacy for the UIC program, but EPA directly implements UIC programs for all Native American lands. Unless authorized by rule or by permit, any underground injection is unlawful and is in violation of the SDWA and UIC regulations.

Underground injection is broadly defined as the process of placing fluids underground in porous formations of rocks through wells or other similar conveyance systems. Before NRC-licensed ISR uranium recovery operations can commence at any CUP or other project site, an ISR licensee must have obtained two UIC authorizations: (1) an aquifer exemption for the aquifer or portion of the aquifer wherein ISR uranium recovery operations will occur and (2) a UIC permit.²¹

1. Aquifer Exemptions

As noted above, the UIC program was created to protect current or future USDWs. A USDW is defined as an aquifer, or portion thereof, which

²¹ See United States Nuclear Regulatory Commission, Hydro Resources, Inc., SUA-1508, License Condition 9.14 (Joint Appendix ___).

serves as a source of drinking water for human consumption, or contains a sufficient quantity of water to supply a public water system, and contains fewer than 10,000 mg/liter of total dissolved solids (TDS). The broad definition of a USDW was mandated by Congress in Section 1421(d)(2)²² of the SDWA to ensure that future USDWs would be protected, even where those aquifers were currently not being utilized as a drinking water source or could not be used without some form of water treatment.

Within this regulatory framework, however, some aquifers or portions of aquifers, which can satisfy the broad regulatory definition of a USDW, may not reasonably be expected to serve as a current or future source of drinking water. As a result, the UIC program regulations allow EPA to *exempt* portions of an aquifer from delineation as a USDW and allow for injection into such aquifers or portions thereof. EPA regulations at 40 CFR § 144.8 state:

“An aquifer or a portion thereof which meets the criteria for an ‘underground source of drinking water’ in § 146.3 may be determined under 40 CFR § 144.8 to be an *‘exempted aquifer’* if it meets the following criteria:

- a. *It does not currently serve as a source of drinking water;*
and
- b. *It cannot now and will not in the future serve as a source of drinking water...or*

²² See 42 U.S.C. § 300h(b)(1) (Joint Appendix __).

- c. The total dissolved solids content of the ground water are more than 3,000 and less than 10,000 mg/L and it is not reasonably expected to supply a public water system.”²³

According to EPA, aquifers meeting one or more of these criteria are generally associated with *in situ* mineral and enhanced oil recovery. If an operator, licensee or permittee wishes to inject into a USDW for the purpose of recovering minerals (e.g., uranium), a demonstration must be made that the proposed aquifer meets at least one of the exemption criteria.²⁴ To the best of HRI’s knowledge, there is no provision in the SDWA authorizing revocation of an aquifer exemption granted pursuant to 40 CFR § 144.8, EPA has not promulgated regulations establishing criteria for revocation of an aquifer exemption, nor has EPA ever actually revoked such an exemption.

Therefore, EPA, logically, does not prescribe specific groundwater *restoration* standards for exempted aquifers, because such exempted aquifers will never be used as drinking source at any point before, during or after ISR

²³ See 40 CFR § 144.8 (emphasis added) (Joint Appendix ___).

²⁴ In other words, a proposed ISR uranium recovery operation can only be conducted in an aquifer or portion thereof that cannot now or in the future serve as a source of drinking water due to the presence of significantly elevated concentrations of *naturally occurring radionuclides and/or other hazardous constituents*. Thus, it is incorrect for any party to assert that the conduct of ISR uranium recovery operations results in a degradation of “pristine” or otherwise potable sources of water. Indeed, it is noteworthy that Petitioners mention only the AEA and NEPA as governing statutes and fail to mention the SDWA or its UIC program.

operations are complete. However, as described in 40 CFR § 146.7, EPA can require corrective action/remediation of any contamination of *adjacent, non-exempt* aquifers in accordance with the purpose of the SDWA and the UIC program to protect USDWs.²⁵

2. Underground Injection Control Permits

To obtain a permit for a new Class III well, the owner/operator or licensee must file an application with the UIC Director for the relevant jurisdiction containing specific information listed in 40 CFR Part 146 or in applicable State requirements. Once a UIC permit application has been reviewed, the applicant will be notified of the items needed to complete the application, if any. After a complete application is received, an initial decision to grant or deny the permit is issued. UIC regulations also provide opportunities for public participation and comment.

A UIC permit for each site is a necessary prerequisite for the operation of an ISR uranium recovery project such as the CUP. Such a permit necessarily assumes the existence of an aquifer exemption for that portion of the aquifer to be used for underground injection—*water that cannot now or in the future be used as a USDW*.

²⁵ See 40 CFR § 146.7 (Joint Appendix ___).

Pursuant to its NRC license, however, HRI will be required to *restore* mining zone groundwater (exempted aquifer groundwater) consistent with *pre-mining water quality* or *secondary* standards (e.g., maximum contaminant levels (MCLs) prescribed for given constituents pursuant to the SDWA or relevant State standards.²⁶ However, if neither restoration goal referenced above is “*reasonably achievable*,” a licensee is permitted to request a constituent-specific exemption upon a showing that there will be no adverse impacts on public health and safety.²⁷ This flexibility is reasonable and appropriate to assure protection of public health and safety, since the goal of restoration is not to create a USDW where one did not previously exist, but rather to minimize or eliminate the potential for post-closure impacts on adjacent, non-exempt USDWs. Moreover, this flexibility is appropriate, because, at some point, the potentially significant water use

²⁶ SUA-1508, License Condition 10.21 (Joint Appendix __).

²⁷ This approach, as set forth in NUREG-1569, Chapter 6, Section 6-9, is essentially identical to EPA’s Resource Conservation and Recovery Act (RCRA) standards for groundwater cleanup, incorporated in 10 CFR Part 40, Appendix A, Criterion 5, that are applied to conventional uranium milling licensees. Criterion 5 which allows groundwater remediation to background or MCLs, whichever is higher, or to constituent-specific *alternate concentration limits* (ACLs) upon a demonstration that the latter will not result in any adverse impacts on public health, safety, and the environment. *See* 40 CFR § 192.32 (incorporating 40 CFR § 264.92) (Joint Appendix __). Contrary to Petitioners’ statement, Criterion 5 requirements are not currently applicable to ISR groundwater restoration. *See* Petitioners’ Brief at 8 (Joint Appendix __).

and financial resource impacts of continued restoration pumping to reduce constituents, which may not even be hazardous to human health (e.g., chlorides and sulfates), to baseline or secondary limits in a portion of an aquifer that can never be a USDW cannot be *reasonably* justified.

FACTUAL AND PROCEDURAL BACKGROUND

Intervenor-Respondent HRI hereby accepts the Federal Respondents' discussion of the relevant administrative proceeding at the ASLBP and Commission levels below.

STANDARD OF REVIEW

Intervenor-Respondent HRI hereby accepts the Standard of Review offered by Federal Respondents.

SUMMARY OF THE ARGUMENT

Intervenor-Respondent HRI respectfully requests that this Court sustain the Commission's determination that HRI's source materials license is adequately protective of public health and safety for the following reasons: (1) 10 CFR Part 20 dose limits are intended to apply only to doses from materials associated with a "licensed operation;" (2) the radiological air emissions from Section 17 mining spoils are properly classified as "background radiation" and should not be included in site-specific TEDE calculations; (3) even if considered in the context of Section 17 TEDE calculations, doses from radiological air emissions from Section 17 mining spoils will be only small fraction of NRC dose limits; (4) NRC's initial nine pore volume estimate for groundwater restoration and the process by which it can be adjusted are sufficient to assure groundwater restoration that is adequately protective of public health and safety and the environment, particularly since the water in the mining zone *can never be a USDW*; (5) the financial assurance cost estimate prepared using the initial nine pore volume estimate and the process by which it can be adjusted are sufficient to adequately fund groundwater restoration for the CUP project sites; (6) NRC's consultations on historic and cultural resource preservation were compliant with relevant regulations.

First, HRI argues that NRC properly determined that its 10 CFR Part 20 dose limits apply only to doses from a “licensed operation.” 10 CFR § 20.1301(a)(1)’s plain language specifically limits TEDE calculations to dose from a “licensed operation.”²⁸ This interpretation necessarily leads to the conclusion that dose from materials not associated with a “licensed operation” are not to be included in TEDE calculations.

This interpretation is consistent with the NRC’s intent in developing Part 20.1301(a)(1). While the initial version of Part 20 promulgated by the AEC in 1957 required that TEDE include dose from both licensed and unlicensed sources, the regulation was later amended to remove doses from certain other sources such as “background radiation” and licensed activities such as the medical use of radioactive materials. More importantly, the amendments to Part 20 also altered the scope of the regulation from “all known sources and operations, licensed and unlicensed” to dose “from the licensed operation.”²⁹ This express limitation of the scope of Part 20 demonstrates that the Commission’s interpretation that dose from Section 17 mining spoils should not be included in TEDE calculations is consistent with NRC’s intent in developing current Part 20 regulations.

²⁸ 10 CFR § 20.1301(a)(1) (Joint Appendix __).

²⁹ 56 Fed. Reg. 23,360, 23,398 (May 21, 1991) (Joint Appendix __).

In addition, the specific exclusions listed in Part 20.1301(a)(1) do not, as claimed by Petitioners, render the regulation superfluous. In the course of its rulemaking effort to create Part 20 radiation protection standards, NRC initially excluded only doses from disposal of radioactive material as sanitary sewage.³⁰ However, the evolution of Part 20 requirements resulted in amendment of the exclusions to include dose from “background radiation,” exposure of patients to radiation for the purpose of medical diagnosis or therapy, and exposure to individuals from voluntary participation in medical research programs, the latter two of which are specifically regulated under 10 CFR § 35.75.³¹ These exclusions were later incorporated into Part 20.1301(a)(1) to narrow and clarify the scope of NRC’s TEDE requirements and, thus, the exclusions in Part 20.1301(a)(1) do not render the regulation superfluous.

Furthermore, even if this Court were to determine that dose from Section 17 mining spoils should be considered in TEDE calculations, the TEDE from the site would still be within NRC dose limits. As presented to

³⁰ *See id.*

³¹ *See id.* at 23,391.

the ASLBP and the Commission, HRI's experts have demonstrated that the TEDE from the site would be well within the 100 mrem/year dose limit.³²

Second, HRI argues that NRC's initial nine pore volume estimate and the process by which it can be adjusted are adequately protective of public health and safety and consistent with the AEA. Petitioners' principal brief does not *directly* challenge the adequacy of the nine pore volume estimate, but it does challenge its sufficiency as it relates to the calculation of financial assurance cost estimates for groundwater restoration. The technical sufficiency of the nine pore volume estimate was litigated on several occasions with the result that such estimate was deemed adequate by NRC Staff, the ASLBP, and the Commission.³³ Indeed, the Commission specifically addressed Petitioners' concern that the nine pore volume estimate was inadequate by stating that their expert's testimony was "unconvincing."³⁴ Moreover, NRC Staff specifically noted that nine pore volume estimate is merely an *estimate* that must be revised to reflect the actual number of pore volumes required to complete groundwater restoration

³² See HRI's Response in Opposition to Intervenors' Written Presentation Regarding Air Emissions, Exhibit B at ¶ 16 & 20 (July 29, 2005) (Joint Appendix ___).

³³ See generally *In the Matter of Hydro Resources, Inc.* (Crownpoint Uranium Project), LBP-99-13, 49 NRC 233 (1999), *aff'd In the Matter of Hydro Resources* (Crownpoint Uranium Project), CLI-00-08, 51 NRC 227 (2000).

³⁴ See 51 NRC at 244.

at the Church Rock Section 8 project site.³⁵ If more or less pore volumes are required, then the nine pore volume estimate must be revised upwards or downwards to reflect the actual amount needed for restoration. This increase or decrease in pore volumes must be approved by NRC using its “professional judgment” to assure that adjacent, non-exempt USDWs will not be adversely impacted.³⁶

In conjunction with any adjustments to the initial nine pore volume estimate, HRI’s license requires that corresponding adjustments must be made to its financial assurance cost estimates to reflect the actual pore volumes needed for groundwater restoration.³⁷

As a practical matter, NRC recognizes that *every* financial assurance commitment is only a best estimate at a given point in time. Accordingly, NRC regulations contain safeguards to ensure that adequate financial assurance is available to complete site reclamation and groundwater restoration. 10 CFR Part 40, Appendix A, Criterion 9 expressly requires that:

³⁵ See SUA-1508, License Condition 10.28 (Joint Appendix __).

³⁶ *Id.*

³⁷ See SUA-1508, License Condition 9.5. (Joint Appendix __).

“The licensees's surety mechanism will be reviewed *annually* by the Commission to assure, that sufficient funds would be available for completion of the reclamation plan if the work had to be performed by an independent contractor.”³⁸

These annual financial assurance updates are required to reflect any changes in technical, industry or market conditions that potentially could affect the cost of various aspects of site reclamation or groundwater restoration. As a result, Criterion 9 concludes that:

“This will yield a surety that is at least sufficient at all times to cover the costs of decommissioning and reclamation of the areas that are expected to be disturbed before the next license renewal.”³⁹

This regulatory requirement provides a safeguard to ensure that the process by which the nine pore volume estimate and its corresponding financial assurance cost estimate will yield sufficient surety to assure adequate groundwater restoration. As a result, NRC's approved nine pore volume estimate and its corresponding financial assurance cost estimate is in accord with NRC's regulations.⁴⁰

³⁸ 10 CFR Part 40, Appendix A, Criterion 9 (emphasis added) (Joint Appendix __). Financial assurance is only actually used if the licensee is unable to perform final site decommissioning.

³⁹ *Id.*

⁴⁰ Petitioners allege that HRI will not have enough money to restore site groundwater. Initially, Petitioners waived all arguments regarding financial qualifications for Phase II of this proceeding pursuant to the aforementioned settlement agreement. *See* Statement of the Case, Section I(A) *infra*. Petitioners attempted to litigate financial qualifications in Phase I of this proceeding and their arguments were resolved in favor of HRI. *See In the*

Finally, groundwater restoration and financial assurance arguments raised by the Navajo Nation similarly are without merit. Moreover, the Navajo Nation's arguments, with the exception of one (groundwater restoration and financial assurance), should be dismissed as outside the scope of Petitioners' principal brief. This Court traditionally has held that *amicus curiae* briefs are limited to the arguments presented in the main parties' principal briefs.⁴¹ As a result, this Court should dismiss each of the Navajo Nation's arguments, other than its argument regarding groundwater restoration and financial assurance. In any event, NRC followed all relevant regulatory requirements to assure adequate consultation with the Navajo Nation.

Matter of Hydro Resources, Inc. (Crownpoint Uranium Project), LBP-99-18, 1999 NRC LEXIS 61 (May 11, 1999), *aff'd* 51 NRC 227.

⁴¹ See *Wyoming Farm Bureau Federation v. Babbitt*, 199 F.3d 1224, 1230, n.2 (10th Cir. 2000).

ARGUMENT

As a preliminary matter, Intervenor-Respondent HRI hereby adopts each of the arguments raised by Federal Respondents in their principal brief. Intervenor-Respondent HRI also offers the following arguments in support of Federal-Respondents.

- I. NRC PROPERLY DETERMINED THAT DOSES FROM RADIOLOGICAL AIR EMISSIONS FROM SECTION 17 MINING SPOILS CONSTITUTE “BACKGROUND RADIATION” UNDER NRC REGULATIONS**
 - A. The Classification of Mining Spoils as TENORM and Part of “Background Radiation” is Consistent with the AEA and NRC Regulations**
 - 1. TEDE is Intended to Include Only Doses from a “Licensed Operation”**

Petitioners argue that NRC’s characterization of the potential radiological air emissions from Section 17 mining spoils as “background is impermissible, because such air emissions come from the ‘licensed operation’ portion of the Section 17 project site.⁴² More specifically, Petitioners’ claim that NRC’s interpretation of the term “licensed operation” is too narrow and that such interpretation is in violation of the AEA and NRC’s regulations.⁴³ This argument is without merit and should be rejected.

⁴² Petitioners’ Brief at 32 & 39 (Joint Appendix __).

⁴³ *Id.* at 32 (Joint Appendix __).

The Commission specifically considered, on a number of levels, whether or not Petitioners' argument that Section 17 mining spoils and their associated radiological air emissions are the result of a "licensed operation" within the scope of 10 CFR § 20.1301(a)(1). Initially, the Commission stated that, "the plain language of the regulation on TEDE emissions excludes emissions not directly linked to licensed activity."⁴⁴ The Commission specifically addressed whether all radiological air emissions from a given site, whether licensed or unlicensed, must be included in site-specific TEDE calculations. In its analysis, the Commission stated that:

"The Presiding Officer's ruling does not say that the material emitting radiation must be 'licensed' to count toward TEDE, only that it must come from the licensed operation."⁴⁵

HRI had no role in generating the mining spoils on the surface of Section 17 and no NRC license was required for the generator of such spoils. This is the case because, as stated above, NRC has no jurisdiction over conventional surface or underground mining pursuant to Section 62 of the AEA.⁴⁶ NRC

⁴⁴ *In the Matter of Hydro Resources, Inc.* (Crownpoint Uranium Project), CLI-06-14, 2006 NRC LEXIS 109, *10 (May 16, 2006).

⁴⁵ *Id.* at *11

⁴⁶ See 42 U.S.C. § 2092. In its Generic Environmental Impact Statement on Uranium Milling (GEIS), NRC states that it "has no direct authority over uranium mining or mine wastes." United States Nuclear Regulatory Commission, *Generic Environmental Impact Statement on Uranium Milling*, NUREG-0706, Vol. 1 at A-94 (1980) (Joint Appendix __). This

is the agency empowered by Congress to interpret the AEA and its own regulations. Given that the Supreme Court has stated that a reviewing court's "ultimate criterion is the administrative interpretation, which becomes of controlling weight unless it is plainly erroneous or inconsistent with the regulation,"⁴⁷ the Commission's interpretation should be sustained as consistent with its regulations and prior interpretations of its jurisdictional authority under the AEA.

The Commission's conclusion on this issue is directly related to the development of NRC's 10 CFR § 20.1301(a)(1) dose limit for members of the public. When developing this regulation and accompanying dose limit,

interpretation has been recognized by the Atomic Safety and Licensing Appeal Board in *In the Matter of Rochester Gas and Electric*:

"The Atomic Energy Commission's jurisdiction in this area was transferred to the NRC on January 19, 1975, by the Energy Reorganization Act of 1974, 42 U.S.C. § 5841(f). As the quoted observation indicates, the Commission's authority over uranium ore and other 'source material' attaches only 'after removal from its place of deposit in nature,' and *not when the ore is mined*."

1978 NRC LEXIS 16, *5, n.7 (November 17, 1978) (Joint Appendix __); see also United States Environmental Protection Agency, TENORM Sources, <http://www.epa.gov/radiation/tenorm/sources.htm> (2006); see also http://www.epa.gov/radiation/tenorm/uranium_waste.htm (2006) ("The Atomic Energy Act does not require controls on uranium mining overburden and neither the Nuclear Regulatory Commission or DOE regulate the disposal of conventional (open pit and underground) mining wastes") (Joint Appendix __).

⁴⁷ See e.g., *Bowles v. Seminole Rock & Sand Co.*, 325 U.S. 410, 414 (1945); see also *Valley Camp of Utah, Inc. v. Babbitt*, 24 F.3d 1263, 1267 (10th Cir. 1994) (Joint Appendix __).

initially NRC proposed that the TEDE not exceed 0.5 rem/year (i.e., 500 mrem/year) and that such TEDE be calculated taking into account dose “from all known sources and operations, licensed and unlicensed, except for *natural* background....”⁴⁸ However, when the Commission issued its Final Rule in 1991, the dose limit parameters were revised to reduce the TEDE limit to 0.1 rem/year (i.e., 100 mrem/year) and to limit the scope of materials generating doses to be included in TEDE calculations to those from a “licensed operation.”⁴⁹ As a result, by limiting the expansive scope of the Proposed Rule, the Commission signaled its express intent to limit the range of materials whose dose must be considered in site-specific TEDE calculations. Thus, this limitation in scope demonstrates that, even if the mining spoils at the Section 17 site are the source of radiological air emissions, such radiological air emissions are not to be included in TEDE calculations by NRC, because they are not from HRI’s (or any other entity’s) NRC-licensed operation.

Petitioners’ also erroneously claim that the language of the Commission’s 1991 Final Rule amending 10 CFR § 20.1301(a)(1) supports their argument that TEDE calculations should include doses generated from

⁴⁸ See 51 Fed. Reg. 1,092, 1,133 (January 9, 1986) (emphasis added) (Joint Appendix __).

⁴⁹ 56 Fed. Reg. at 23,374.

all materials under the licensee's control. Petitioners claim that, since the Section 17 mining spoils are on land owned by HRI, the dose therefrom should be included in the TEDE calculation.

Petitioners argument here focuses primarily on a statement in the 1991 Final Rule where NRC stated that the "new lower dose limit...applies only to doses from radiation and radioactive materials *under the licensee's control....*"⁵⁰ However, Petitioners' argument is inconsistent with the fact that NRC intended this statement to demonstrate that doses from materials such as nuclear fallout, which *are not under the licensee's control*, are expressly excluded from site-specific TEDE calculations as "background radiation."⁵¹ Based on this, the Commission's Final Rule concluded that this statement "clarifie[d] sources of radiation that can be excluded from evaluations of the dose from *licensed activities.*"⁵² Thus, the portion of the Commission's statement referring to materials "under the licensee's control" was not intended to enlarge the scope of materials for site-specific TEDE calculations to include all materials, whether from a licensed operation or not, under the licensee's control, but rather to clarify that dose from nuclear fallout not under the licensee's control should not be included in TEDE

⁵⁰ *Id.* (emphasis added).

⁵¹ *See id.* at 23,374-75.

⁵² *Id.* (emphasis added).

calculations. Based on this, the ASLBP's determination that TEDE calculations only include dose from materials from a "licensed operation," and the Commission's concurrence with, such determination is the correct interpretation of 10 CFR § 20.1301(a)(1).

Additionally, Petitioners claim that limiting the scope of Part 20.1301(a)(1) to dose from materials from a "licensed operation" would render the specific exclusions of doses from disposal of radioactive material in sanitary sewers and doses from medical administration and unnecessary.⁵³ However, NRC has made it clear that medical uses of radioactive material are regulated pursuant to 10 CFR Part 35.⁵⁴ Thus, for example, the Commission amended Part 20.1301(a)(1) to "make clear that the Commission's policy is that patient release is governed by 10 C.F.R. 35.75, not 10 C.F.R. 20.1301."⁵⁵

In order to lend further clarity to its regulatory scheme, the Commission added specific exclusions from TEDE calculations to Part 20.1002 entitled *Scope*, including "background radiation" (as opposed to *natural* background radiation) exposure of patients to radiation for the

⁵³ See Petitioners' Brief at 33 (Joint Appendix at ___).

⁵⁴ For example, hospitals and other NRC-licensed radiopharmaceutical operations are required to comply with 10 CFR § 35.75's dose limits for release of individuals containing unsealed byproduct material or implants containing byproduct material. See 10 CFR § 35.75 (Joint Appendix ___).

⁵⁵ 62 Fed. Reg. 4,120, 4,129 (January 29, 1997) (Joint Appendix ___).

purpose of medical diagnosis or therapy, and exposure to individuals from voluntary participation in medical research programs.⁵⁶ After being added to Part 20.1002, these exclusions were added to Part 20.1301(a)(1) “for consistency and clarity” so that licensees would better understand which dose limits apply to their licensed activity.⁵⁷ Accordingly, the Commission’s interpretation that Part 20.1301(a)(1) applies to dose from materials from a “licensed operation” is consistent with the plain language of the regulation and the development of such regulation through NRC’s administrative rulemaking process and should be sustained.⁵⁸

2. Mining Spoils are Properly Classified as TENORM and Outside the Scope of TEDE Calculations under 10 CFR § 20.1301(a)(1) as “Background Radiation”

To determine the proper classification of the Section 17 mining spoils, the ASLBP turned its attention to the definition of “background radiation,” which is excluded from TEDE calculations.⁵⁹ 10 CFR § 20.1003 defines “background radiation” as:

“radiation from cosmic sources; *naturally occurring radioactive material*, including radon (except as a decay product of source or

⁵⁶ 56 Fed. Reg. at 23,391.

⁵⁷ 60 Fed. Reg. 48,623, 48,624 (September 20, 1995) (Joint Appendix __).

⁵⁸ See *Bowles*, 325 U.S. at 414; see also *Babbitt*, 24 F.3d at 1267. A full description of the applicability of *Bowles* and *Babbitt* has been incorporated by reference from Federal Respondents’ principal brief. See Standard of Review *infra*.

⁵⁹ See 10 CFR § 20.1301(a)(1) (Joint Appendix __).

special nuclear material); and global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation and are not under the control of the licensee. “*Background radiation*” does not include radiation from source, byproduct, or special nuclear materials regulated by the Commission.”⁶⁰

In its analysis, both the ASLBP and the Commission compared the Section 17 mining spoils to “naturally occurring radioactive material” (NORM) and its subset, technologically enhanced NORM (TENORM), which are not regulated by NRC’s under its AEA jurisdiction.⁶¹

Petitioners allege that the phrase “naturally occurring” means that such materials must be “undisturbed in nature.” Given that Section 17 mining spoils were brought from an underground mine to the surface, Petitioners concluded that the mining spoils could not constitute TENORM materials and, thus, were outside the scope of “background radiation.” However, this argument ignores the fact that neither NRC nor the expert radiation community interprets the term “naturally occurring” as narrowly as Petitioners.⁶²

⁶⁰ 10 CFR § 20.1003 (emphasis added) (Joint Appendix __).

⁶¹ The AEA, as amended, does not include a definition of NORM. *See generally* 42 U.S.C. § 2011 *et seq.* (Joint Appendix __). As such, the AEA scope of jurisdiction has been interpreted to not include NORM.

⁶² TENORM has been classified as “truly natural sources of radiation...which would not occur without (or would be increased by) some technological activity *not expressly designed to produce radiation.*” *See*

In the context of NRC regulations, the term “naturally occurring” applies to materials not created as a result of NRC regulated activities (i.e., source material uranium recovery, fuel fabrication). As the Commission concluded in CLI-06-14, the term “naturally occurring” can be understood “to include [NORM] that has been moved, but neither artificially produced or processed for its radioactive content.”⁶³ Therefore, the phrase “TENORM” can be understood as a phrase to differentiate between AEA materials under the Commission’s jurisdiction and technologically enhanced radioactive materials not regulated by the Commission.^{64,65} Thus, in accordance with the Supreme Court’s statement that an agency’s reasonable

Hydro Resources, Inc.’s Written Presentation Regarding Radiological Air Emissions, (July 29, 2005) Attachment, T.F. Gesell and H. M. Prichard, *Health Physics* 28, 361-366 (April, 1975) (emphasis added) (Joint Appendix ___).

⁶³ 2006 NRC LEXIS at *17.

⁶⁴ See e.g., United States Nuclear Regulatory Commission, *Questions and Answers from Eight Sets of Questions and Answers on the Major Revision of 10 CFR Part 20*, NUREG/CR-6204 (May 1994). (“If the source of the radon is from radium *that is not licensed or controlled by any agency*, then the dose from radon and its daughters is considered background radiation and may be excluded from...public dose estimates, *whether there is any technological enhancement of the concentrations or not*”) (Joint Appendix ___).

⁶⁵ As stated by the Commission, “a layman’s reading of a regulation, uninformed by context, is not decisive.” 2006 NRC LEXIS at *17, *citing Smith v. United States*, 508 U.S. 223 (1993). Due to this fact, the Commission supported the proposition that “technical terms of art should be interpreted by reference to the trade or industry in which they apply.” *Id.*, *quoting La. Pub. Serv. Comm’n v. FCC*, 476 U.S. 355, 372 (1986) *citing Corning Glass Works v. Brennan*, 417 U.S. 188 (1974) (Joint Appendix ___).

interpretation of its empowering statute and implementing regulations is entitled to deference, the Commission's holding that the Section 17 mining spoils constitute TENORM and that radiological air emissions therefrom constitute "background radiation" should be sustained.⁶⁶

Further, even if this Court were to determine that doses from Section 17 mining spoils should be included in TEDE calculations, the Section 17 TEDE would not exceed NRC dose limits in 10 CFR § 20.1301(a)(1). Before the ASLBP and the Commission, HRI presented expert testimony that doses from such mining spoils would constitute a small fraction of the required dose limit and, thus, would not cause a threat to members of the public.⁶⁷

B. NRC Properly Evaluated Doses from Radiological Air Emissions Issues in the FEIS

Petitioners argue that NRC improperly failed to account for the potential public health and safety impacts from existing mining spoils at the Church Rock Section 17 project site, including the failure to assess potential

⁶⁶ See *Bowles*, 325 U.S. at 414; see also *Babbitt*, 24 F.3d at 1267.

⁶⁷ See HRI's Response in Opposition to Intervenors' Written Presentation Regarding Air Emissions, Affidavit of Dr. Douglas Chambers, Exhibit B at ¶ 16 & 20 (July 29, 2005) (Joint Appendix __). Further, once active ISR uranium recovery operations commence, no potential dose receptor will be within the "licensed" area. Compare Petitioners' Brief 13-14 (Joint Appendix __).

cumulative impacts from such mining spoils.⁶⁸ Petitioners claim that NRC failed to adhere to its NEPA regulations to take a “hard look” at the potential impacts, cumulative or otherwise, from Section 17 mining spoils. Petitioners’ argument is insufficient to warrant reversal of NRC’s final action.

Initially, as stated in the Statement of the Case above,⁶⁹ NRC is an independent regulatory agency and is not bound by CEQ’s NEPA regulations, if they impact NRC’s substantive responsibilities. As a result, NRC promulgated its own regulations at 10 CFR Part 51 to address NEPA environmental review requirements for proposed AEA licensing actions.⁷⁰

Both the ASLBP and the Commission addressed the FEIS’ evaluation of the potential impacts, including cumulative impacts, from the mining spoils at the Section 17 project site. At the Licensing Board level, the ASLBP addressed the analysis offered by NRC Staff in the FEIS.⁷¹ The ASLBP determined that the FEIS’ analysis of the potential impacts of Section 17 mining spoils as “background radiation” was thorough and satisfies NEPA’s “hard look” requirement.

⁶⁸ See Petitioners’ Brief at 55-56 (Joint Appendix ___).

⁶⁹ See Statement of the Case, Section II(A)(3) *infra*.

⁷⁰ See generally 10 CFR Part 51 (Joint Appendix ___).

⁷¹ See generally *In the Matter of Hydro Resources, Inc.* (Crownpoint Uranium Project), LBP-06-19, 2006 NRC LEXIS 200 (August 21, 2006) (Joint Appendix ___).

Initially, the ASLBP noted that:

“the FEIS expressly acknowledges that this region in general, and Church Rock in particular, has a history of conventional underground uranium mining that adversely affected the environment.”⁷²

The ASLBP also found that the FEIS also addressed the mining spoils from previous uranium mining operations at the Section 17 project site:

“Parts of Section 17 are contaminated with mining spoil left over from...underground mining operation[s]. The contamination is in the form of fugitive dust and rocks apparently lost from trucks that hauled the ore...or possibly from excavated rock used to build the [haulage] road.”⁷³

After identifying the presence of these mining spoils, the FEIS expressly assessed the presence of elevated background radiation levels at the Church Rock Section 17 project site and summarily dismissed concerns associated with Petitioners’ allegations that members of the public would receive as high as 1,000 mrem/year dose from the Section 17 site:

“Contrary to Intervenors’ assertion, however, the NRC Staff did not ignore the existence of discrete sources of higher background radiation in Church Rock...But, as a practical matter, the Intervenors’ [Petitioners’] concern that a member of the general public will receive 1000 mrem/year due to background radiation near the eastern fence of Section 17...appears to be illusory.”⁷⁴

⁷² See 2006 NRC LEXIS at *20 quoting NUREG-1508 at 4-124 to 4-125 (Joint Appendix ____).

⁷³ See *id.* at *21-22, citing NUREG-1508 at 4-73. (Joint Appendix at ____).

⁷⁴ See *id.* at *26 (Joint Appendix ____). The ASLBP noted that that NRC’s own internal agency analysis of background radiation in the United States and the dose therefrom demonstrates that 1,000 mrem/year is within the

Thus, the ASLBP supported the FEIS analysis of the Section 17 background radiation and concluded that Petitioners' challenge to the FEIS on this basis should be rejected.

The ASLBP also specifically reviewed and assessed the FEIS' analysis of potential cumulative impacts from Section 17 mining spoils. The ASLBP stated that, according to the FEIS, the potential incremental increase in cumulative dose impacts from Section 17 mining spoils would be *de minimis*:

“The proposed project would result in a negligible increase in cumulative impacts in the area due to uranium mining and milling [recovery]. HRI has proposed an ISL [ISR] process which, by its nature, does not result in large amounts of tailings or environmental releases of radioactive particulate material.”⁷⁵

As a result, the FEIS concluded and the ASLBP supported the determination that, “the proposed project would make a minor contribution to cumulative impacts in terms of health physics and radiological impacts.”⁷⁶ The ASLBP

“typical [range of] background doses for most United States citizens in a given year” depending on where a person lives. *See id.* at *25-26, *citing In the Matter of Hydro Resources, Inc.* (Crownpoint Uranium Project), LBP-06-01, 63 NRC 41, 61, fn. 16 (2006), *quoting* United States Nuclear Regulatory Commission, NUREG-1501, *Background as Residual Radioactivity Criterion for Decommissioning* at 30, *cited in* HRI's Response in Opposition to Intervenors' Written Presentation Regarding Air Emissions, Exhibit C (July 29, 2005) (Joint Appendix at ___).

⁷⁵ *See* 2006 NRC LEXIS at *27 (Joint Appendix at ___).

⁷⁶ *See id.* at *28, *quoting* NUREG-1508 at 4-124.

also noted that the FEIS contained a sufficient assessment of the history and impacts of previous uranium recovery:

“the FEIS adequately considers the ‘incremental impact of [the radiological consequences of HRI’s proposed mining operations], when added to other past [mining operations],’ determining that HRI’s project ‘would result in a negligible increase in cumulative [radiological] impacts in the area.’”⁷⁷

Based on the ASLBP’s evaluation of the FEIS’ analysis, it determined that Petitioners’ arguments with respect to evaluation of radiological air emissions at the Section 17 project site and the potential cumulative impacts therefrom were insufficient to require revocation or amendment of HRI’s NRC license.⁷⁸ The Commission declined to take review of Petitioners’ appeal on this issue stating that it “finds that it does not identify any ‘clearly erroneous’ factual finding, significant legal error, or any other reason

⁷⁷ See *id.* at *29 quoting CLI-01-04, 53 NRC 31, 60, quoting 40 CFR § 1508.7 and NUREG-1508 at 4-125. (Joint Appendix at ___).

⁷⁸ The ASLBP also held that Petitioners were precluded from raising a challenge to the FEIS’ assessment of the Section 17 mining spoils as “background radiation” due to the Commission’s ruling that such mining spoils constituted “background radiation” under 10 CFR § 20.1003 and 20.1301. See *id.* at *30, citing *In the Matter of Hydro Resources, Inc.* (Crownpoint Uranium Project), CLI-06-14, 2006 NRC LEXIS 109 (May 16, 2006) (Joint Appendix at ___).

warranting plenary review.”⁷⁹ Therefore, HRI respectfully requests that this Court reject Petitioners’ argument on this issue.

II. NRC PROPERLY ASSESSED GROUNDWATER RESTORATION PARAMETERS AND FINANCIAL ASSURANCE COST ESTIMATES IN COMPLIANCE WITH ITS STATUTORY AND REGULATORY PROGRAM FOR ISR URANIUM RECOVERY OPERATIONS

Petitioners allege that NRC Staff’s determination that nine pore volumes would be adequate to restore groundwater at the CUP project sites and NRC’s acceptance of such an estimate improperly violated its regulations.⁸⁰ Petitioners assert that the failure to prescribe a pore volume estimate that would adequately restore site groundwater results in insufficient surety for groundwater restoration. As a result, Petitioners argue that the nine pore volume estimate renders HRI’s NRC license “inimical to public health and safety” in violation of the AEA.⁸¹ Petitioners’ also claim that hearing rights granted under the AEA were violated, because NRC’s final approval of the nine pore volume estimate precludes a subsequent

⁷⁹ *In the Matter of Hydro Resources, Inc. (Crownpoint Uranium Project)*, CLI-06-29, 2006 NRC LEXIS 182, *1 (December 14, 2006) (Joint Appendix __).

⁸⁰ See Petitioners’ Brief at 45 (Joint Appendix __).

⁸¹ *Id.*

hearing on a “material” aspect of HRI’s license.⁸² HRI asserts that each of these arguments is without merit.

A. The Commission’s Financial Assurance Cost Estimate Based on Nine Pore Volumes for Groundwater Restoration Complies with the AEA and NRC Regulations

As a general matter, the initial nine pore volume estimate prescribed by NRC is based on detailed technical reviews by NRC Staff, the ASLBP, and the Commission. The NRC Staff reviews were specifically addressed and approved by the ASLBP and the Commission in multiple proceedings as a technical and/or factual matter and, as a result, their findings should be accorded deference and sustained.

Perhaps, as a result of these decisions, Petitioners do not appear to *directly* challenge the viability of the nine pore volume estimate as sufficient to restore groundwater at the Church Rock Section 8 site or any other CUP project site. However, what Petitioners do challenge is the sufficiency of the financial assurance cost estimates *based on the nine pore volume estimate*.⁸³ In essence, therefore, Petitioners attempt to challenge both the financial assurance cost estimate and, by implication, the nine pore volume estimate upon which a portion of such cost estimate is based.

⁸² *Id.*

⁸³ *See id.* at 45-54.

The initial nine pore volume estimate imposed by NRC is inextricably linked to the financial assurance cost estimates required for groundwater restoration at each CUP project site. Petitioners availed themselves of the right to litigate the viability of the initial nine pore volume estimate and the sufficiency of HRI's financial assurance cost estimates for groundwater restoration. These challenges were deemed insufficient by both the ASLBP and the Commission:

“Dr. Sheehan’s attempt to establish the insufficiency of nine pore volumes is comprised of nothing more than a brief footnote alluding summarily to the fact that two other ISL projects required significantly more pore volumes. Dr. Sheehan does not indicate why the two other projects were geologically analogous to [this project], nor does he address the pore volumes needed to restore the aquifers on any other ISL projects.”⁸⁴

In CLI-00-08, the Commission specifically addressed Petitioners’ argument and determined that it was insufficient to warrant an amendment to NRC’s prescribed nine pore volume estimate and the process and by which it will be revised, if necessary. Thus, this conclusion demonstrates that the Commission specifically addressed the technical viability of the nine pore volume estimate and determined it to be acceptable.

With respect to the adequacy of HRI’s proposed financial assurance, NRC regulations at 10 CFR Part 40, Appendix A, Criterion 9 require that an

⁸⁴ 51 NRC at 244 (Joint Appendix at ___).

ISR uranium recovery licensee post adequate financial assurance to perform site-specific decommissioning activities.⁸⁵ In CLI-00-08, the Commission evaluated the manner in which financial assurance cost estimates are to be required for ISR uranium recovery projects determining:

“we have decided to impose an additional condition on the license, in order to correct the effects of HRI's failure to submit, and obtain NRC staff review of, the required financial information. The new condition prohibits use of the license until the required information is submitted and a financial assurance plan approved by the NRC staff is in place.”⁸⁶

The Commission required that preliminary financial assurance cost estimates be established for a variety of site decommissioning tasks, including groundwater restoration. HRI completed and submitted draft restoration action plans (RAPs) for each of the CUP project sites, each of which Petitioners challenged in Phases I and II of this proceeding. In both Phase I and II, Petitioners' challenges to the viability of the nine pore volume estimate and its associated financial assurance cost estimates in the site RAPs were rejected.⁸⁷ Thus, Petitioners “backdoor” attempt to re-litigate the viability of the nine pore volume estimate should also be rejected.

⁸⁵ See generally 10 CFR Part 40, Appendix A, Criterion 9 (Joint Appendix ___).

⁸⁶ 51 NRC at 241-42 (Joint Appendix ___).

⁸⁷ See *In the Matter of Hydro Resources, Inc.* (Crownpoint Uranium Project), LBP-05-17, 62 NRC 77 (2005), *In the Matter of Hydro Resources, Inc.* (Crownpoint Uranium Project), review declined CLI-06-01, 2006 NRC

Petitioners' challenge to the nine pore volume estimate and its associated financial assurance cost estimates also fails to account for the additional safeguards imposed by the Commission under its AEA authority to ensure that such cost estimates are maintained in accordance with current market and financial conditions. 10 CFR Part 40, Appendix A, Criterion 9 imposes practical requirements to ensure adequate financial assurance:

“The licensees's surety mechanism *will be reviewed annually* by the Commission to assure, that sufficient funds would be available for completion of the reclamation plan if the work had to be performed by an independent contractor. The amount of surety liability should be adjusted to recognize any increases or decreases resulting from inflation, changes in engineering plans, activities performed, and any other conditions affecting costs.”⁸⁸

In addition, Petitioners' arguments omit any reference to the fact that EPA's SDWA-based UIC program with its provision for aquifer exemptions

LEXIS 193, *12 (2006); *In the Matter of Hydro Resources, Inc.* (Crownpoint Uranium Project), CLI-04-33, 2004 NRC LEXIS 254 (December 8, 2004) (Joint Appendix __); *see also* LBP-99-13, 49 NRC 233 (1999) (Joint Appendix __), *aff'd* CLI-00-08, 51 NRC 227 (2000) (Joint Appendix __); LBP-99-30, 50 NRC 77 (1999) (Joint Appendix __), *review denied*, CLI-00-12, 52 NRC 1 (2000) (Joint Appendix __)

⁸⁸ 10 CFR Part 40, Appendix A, Criterion 9 (emphasis added) (Joint Appendix __). “Regardless of whether reclamation is *phased through the life of the operation* or takes place at the end of operations, an appropriate portion of surety liability must be retained until final compliance with the reclamation plan is determined.” This portion of Criterion 9 demonstrates that NRC's financial assurance requirements are geared towards either a cost estimate for an entire project or a “phased” cost estimate that evolves over the life of a project. As such, determining necessary financial assurance is an iterative process that is never static until final site closure and license termination by NRC.

dictates that, prior to the commencement of *active* ISR uranium recovery operations, the portion of the aquifer within which uranium recovery will occur *cannot ever serve as a USDW*.⁸⁹ Thus, the financial assurance estimate imposed by NRC provides adequate assurance that appropriate restoration to protect public health and the environment can be completed. Therefore, Petitioners arguments should be rejected.

B. Petitioners' Hearing Rights Were Not Abrogated With Respect to Groundwater Restoration or Financial Assurance

Petitioners' also argue that the AEA grants interested parties an opportunity for a hearing on all material aspects of an application for an NRC source material license application.⁹⁰ This argument includes an allegation that "[w]hile the Commission has discretion to relegate ministerial issues to post-hearing resolution, these issues do not include matters that require a decisionmaker's consideration and weighing of many people's observations, questions of credibility, conflicts, and sufficiency."⁹¹

Petitioners' argument incorrectly represents the hearing requirements set forth in NRC's regulations and incorrectly characterizes the post-licensing

⁸⁹ See Statement of the Case, Section II(B)(1) *infra*.

⁹⁰ See Petitioners' Brief at 53-55 (Joint Appendix __).

⁹¹ *Union of Concerned Scientists*, 735 F.2d 1437, 1449-1450 (D.C. Cir. 1984), *cert. denied* 469 U.S. 1132 (1985) (Joint Appendix __).

NRC Staff decision-making process regarding pore volume estimates, baseline water quality determinations, and UCLs.

As stated above, the development of an ISR uranium recovery site is an iterative, phased process, as NUREG-1569 demonstrates:

“Reviewers should keep in mind that the development and initial licensing of an *in situ* leach [recovery] facility is not based on comprehensive information. This is because *in situ* leach facilities obtain enough information to generally locate the ore body and to understand the natural systems involved....reviewers should not expect that information needed to fully describe each aspect of a full operation will be available in the initial application.”⁹²

Moreover, 10 CFR § 40.32 states that, prior to the issuance of a license, ISR uranium recovery license applicants are not permitted to engage in actions that constitute “any clearing of land, excavation, or other substantial action that would adversely affect the environment of a site.”⁹³ Part 40.32 further states that violation of this requirement “is grounds for denial of a license to possess and use source and byproduct material in the plant or facility.”⁹⁴ Thus, there is a regulatory delineation between the types of activities that can be conducted prior to the issuance of an NRC license and those that can be conducted after such licensing action.

⁹² NUREG-1569 at 1-1 (Joint Appendix ___).

⁹³ 10 CFR § 40.32(e) (Joint Appendix ___).

⁹⁴ *Id.*

NRC, therefore, has to issue ISR uranium recovery licenses considering that 10 CFR § 40.32(e) prohibits undertaking specific actions to develop ISR uranium recovery sites prior to the issuance of a license. As a result, ISR uranium recovery license applicants begin to address detailed operational design plans and sampling protocols, as well as the installation of well-fields and monitor wells, only after their license is granted.⁹⁵

To minimize any uncertainty involved as a result of this “phased” approach, NRC prescribes license conditions for ISR uranium recovery licensees that require evaluation of initial pore volume estimates, baseline water quality conditions, and UCLs in the context of groundwater restoration for the first project site. As stated above, the ISR uranium recovery licensing process and the technical development of a given project rely on an iterative, “phased” process by which the applicant and, later, the licensee gathers data and information necessary to establish baseline water quality conditions and UCLs, construct monitoring wells, and completely define a given ore body. As a result of this process, NRC imposes *prescriptive* requirements in the form of license conditions that licensees must follow in order to completely develop a given project.⁹⁶

⁹⁵ See Statement of the Case, Section I(B) *infra*.

⁹⁶ See Statement of the Case, Section II(A)(1) *infra*.

With respect to the CUP, HRI's NRC license requires that a groundwater restoration demonstration be conducted at the Church Rock Section 8 project site to ensure that the nine pore volume estimate is accurate before moving on to produce at any of the other three (3) CUP project sites.⁹⁷ Should the nine pore volume estimate prove to be ineffective for the Section 8 site, HRI is required to revise the estimate to reflect the need for additional pore volumes.⁹⁸ This requirement applies to groundwater restoration at the Section 8 site, as well as the other three CUP project sites.⁹⁹

In the event that NRC's review of the results of HRI's Section 8 groundwater demonstration project concludes that the pore volume estimate

⁹⁷ See SUA-1508, License Condition 10.28 (Joint Appendix ___).

⁹⁸ NRC license conditions are mandatory. In the event that a licensee violates a license condition, NRC is empowered to immediately enforce compliance with such license condition and to impose civil penalties upon the licensee, including fines and restriction of licensed activities. Specifically, the ASLBP responded to Petitioners' broad allegation that HRI's license leaves HRI practically unregulated by quoting License Condition 9.3 which states:

“[t]he licensee shall conduct operations in accordance with all commitments, representations, and statements made in its license application submitted by cover letter dated April 25, 1988...and in the Crownpoint Uranium Project, Consolidated Operations Plan (COP), Rev. 2.0, dated August 15, 1997-except where superseded by license conditions contained in this license. Whenever the licensee uses the words ‘will’ or ‘shall’ in the aforementioned licensee documents, it denotes an enforceable license requirement.”

SUA-1508, License Condition 9.3 (Joint Appendix at ___).

⁹⁹ *Id.*

must be revised upwards or downwards, HRI is required by license condition to amend its license accordingly and to comply with such amendment. If such an amendment is necessary, the Commission specifically noted that interested parties would be provided with an opportunity for a hearing. In the event that NRC and HRI determine that no amendment to the initial pore volume estimate is necessary, Petitioners and any other interested parties possesses adequate administrative remedies at law to satisfy hearing requirements.¹⁰⁰ Thus, NRC has not abrogated Petitioners' rights to a hearing regarding pore volume estimates and corresponding financial assurance estimates for the Section 8 site and the other CUP Project sites.

Due to the iterative, "phased" nature of ISR uranium recovery projects, as stated by the ASLBP, the Commission determined that Petitioners' hearing rights were not abrogated in this proceeding:

"I [the ASLBP's Presiding Officer] determined that the Intervenors' argument lacked merit, because: (1) the challenged license conditions require HRI to adhere to a prescriptive and highly detailed methodology that will provide reasonable assurance that HRI's actions will not endanger public health and safety; (2) the Intervenors had a full opportunity to identify flaws, omissions, or irregularities in the licensing methodology; and (3) HRI's future actions will be subject to continuing NRC regulatory oversight and enforcement authority. *The*

¹⁰⁰ See 10 CFR § 2.206 (Joint Appendix at __).

*Commission declined to disturb that decision and the Intervenors provide no reason to revisit it.”*¹⁰¹

Thus, the Commission effectively determined that its AEA authority permits the imposition of a license conditions that are based on an iterative, “phased” process of production and restoration, including the imposition of an initial pore volume estimate for groundwater restoration. As stated above, an agency’s reasonable interpretation of its empowering statute and implementing regulations is entitled to deference and should be sustained.¹⁰²

III. NRC’S AND HRI’S ASSESSMENT OF HISTORIC AND CULTURAL RESOURCE CONSULTATION ISSUES IS COMPLIANT WITH APPLICABLE STATUTORY AND REGULATORY REQUIREMENTS

A. Arguments Raised by the Navajo Nation Pertaining to Past Effects of Uranium Mining and Removal of Section 17 Mining Spoils Should Be Dismissed

With respect to the arguments raised by the Navajo Nation, it appears that only one argument was raised by Petitioners in their principal brief.

Given that this Court has limited *amicus curiae* briefs to issues raised by the

¹⁰¹ See 2006 NRC LEXIS at *90 (emphasis added). While this finding was in the context of Petitioners’ challenge to the adequacy of the FEIS (NUREG-1508), the ASLBP expressly noted that, “[t]he Intervenors’ renewed attack on the belated submission of HRI’s financial assurance plan - - which they curiously characterize as a challenge to the FEIS -- lacks merit.” *Id.*

¹⁰² See *Bowles*, 325 U.S. at 414; see also *Babbitt*, 24 F.3d at 1267.

principal parties, HRI respectfully requests that this Court dismiss all issues raised by the Navajo Nation that are not otherwise raised by Petitioners.¹⁰³

B. NRC's and HRI's Consultation with the Navajo Nation Was Proper Pursuant to Relevant Statutes and Regulations

The Navajo Nation's statement that "there has been no consultation at all[,]” regarding historic and cultural resources preservation is completely false. As discussed in the ASLBP's evaluation of whether NRC and HRI properly complied with the requirements of the National Historic Preservation Act (NHPA), NRC engaged in active consultation with the Tribal Historic Preservation Officer (THPO) and the State Historic Preservation Officer (SHPO) to determine whether historic or cultural resources required assessment.¹⁰⁴

Further, as a general matter, HRI is unclear as to why the Navajo Nation is seeking to raise arguments regarding consultation and other issues now when it had ample opportunity to raise such issues in the proceeding at the ASLBP level. Under NRC's regulations for Subpart L "informal

¹⁰³ See *Babbitt*, 199 F.3d at 1230, n.2 (Joint Appendix __).

¹⁰⁴ See generally Declaration of Eric Blinman (Joint Appendix __). Mr. Blinman's Declaration is intended to provide the Court with a detailed listing of all consultation activities that occurred during the course of this proceeding. All items in Table 1 of the Declaration labeled with an asterisk (*) are currently part of the administrative record and are included in Mr. Blinman's 1997 Report to NRC regarding Tribal and State consultations. (Joint Appendix __).

hearings,” parties seeking a hearing must demonstrate that they have “standing,”¹⁰⁵ however, governmental entities such as municipalities, cities, States, and Native American Tribes are automatically granted “standing” for a hearing.¹⁰⁶ Moreover, NRC Staff offered the Navajo Nation the opportunity to participate in the NEPA process as a “cooperating” or “consulting” agency, and the Nation declined.¹⁰⁷ Thus, HRI asserts that the Navajo Nation’s arguments regarding consultation should be rejected.

¹⁰⁵ See 10 CFR § 2.309(d) (Joint Appendix __). This regulation is the current version of the previous 10 CFR Part 2 hearing regulation for standing for governmental entities.

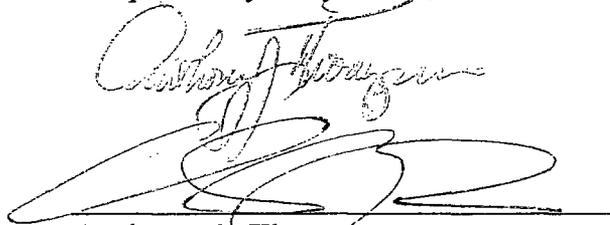
¹⁰⁶ See 10 CFR § 2.309(d)(2) (Joint Appendix __); *see also* Footnote 108 *infra*.

¹⁰⁷ See Letter from Ramon E. Hall, Director, NRC Uranium Recovery Field Office, to Peg Rogers, Navajo Nation Department of Justice (December 18, 1992); Letter from Peg Rogers, Navajo Nation Department of Justice, to Ramon E. Hall, Director, NRC Uranium Recovery Field Office (February 20, 1993) (Joint Appendix __).

CONCLUSION

For the foregoing reasons, Intervenor-Respondent HRI respectfully requests that this Court deny Petitioners and *amicus curiae* Navajo Nation's arguments and sustain NRC's determination that HRI's ISR uranium recovery license is compliant with the AEA and NRC's implementing regulations.

Respectfully Submitted,

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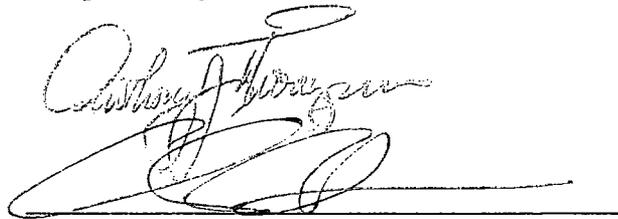
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STATEMENT WITH RESPECT TO ORAL ARGUMENT

Pursuant to Fed. R. App. P. 29(g), in the event that this court grants oral argument to the principal parties, it is hereby requested that the court allow HRI to participate in oral argument.

DATED: This 20th day of September, 2007

Respectfully Submitted,

A handwritten signature in cursive script, appearing to read "Anthony J. Thompson", is written over a horizontal line.

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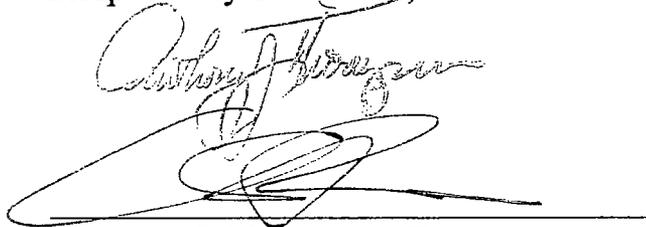
CERTIFICATE OF COMPLIANCE

Pursuant to Rule 32(a), the amicus makes the following certifications:

1. This brief complies with the type-volume limitation of Fed. R. App. P. 32(a)(7)(B), because this brief contains under 14,000 words (13,323 words), excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii);
2. This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6), because this brief has been prepared in a monospaced typeface using Microsoft Word 2003 in 14 pitch font, Times New Roman style.

DATED: This 20th day of September, 2007

Respectfully Submitted,

A handwritten signature in cursive script, appearing to read "Anthony J. Thompson", is written over a horizontal line. The signature is fluid and somewhat stylized.

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