

November 30, 2007

Chief, Rulemaking, Directives and Editing Branch
Mail Stop T-6D59
U.S. Nuclear Regulatory Commission
Washington, D.C.20555-0001

RE: Uranium Recovery GEIS; Scoping Comments

Dear Sir/Madam:

On behalf of the Southwest Research and Information Center, the Bluewater Valley Downstream Alliance, Eastern Navajo Diné Against Uranium Mining and the Haaku Water Office of the Acoma Pueblo, and with the support of the undersigned organizations and individuals, please accept the following comments on the scoping of the NRC's proposed uranium *in situ* leach ("ISL") Generic Environmental Impact Statement ("GEIS").

I. Introduction

On July 24, the U.S. Nuclear Regulatory Commission ("NRC") published a Notice of Intent ("NOI") to publish a Generic Environmental Impact Statement for Uranium Milling Facilities in the Federal Register. 72 Fed. Reg. 40,344 (July 24, 2007). The purpose of the GEIS is to assess the potential "generic" impacts of ISL milling in the "western United States" as well as the impacts of alternative methods of uranium recovery, including conventional milling. Id. at 40,444 – 40,345.

II. The NRC's Decision Making Process Has Been Inadequate

As a preliminary matter, it is noteworthy that the NRC's decision making process in this matter has been significantly flawed. In addition to appearing to have made the decision to draft and adopt a GEIS on ISL mining without public input or participation or tribal consultation, the scoping process to date has been insufficient.

A. The NRC Provided No Opportunity for Public Participation in the Decision about Whether a GEIS should be Issued.

Prior to the July 24, 2007, Federal Register notice requesting comments on the scope of the NRC's proposed ISL GEIS, no opportunities were provided for the public or individuals or organizations from communities that may be affected by future ISL mining to participate in the decision about whether a GEIS should be issued. Further, the NRC failed to consult with tribal governments prior to making the decision to issue a GEIS.

The Council on Environmental Quality's ("CEQ") regulations mandate that "[a]gencies shall integrate the NEPA process with other planning at the **earliest possible time** to insure that planning and decisions reflect environmental values...". 40 C.F.R. § 1501.2 (emphasis added). This early involvement of the public is designed to advance NEPA's purpose of insuring that "environmental information is available to the public **before** decisions are made and **before** actions are taken". *Id.* at § 1500.1(b) (emphasis added).

In this case, the NRC failed to involve the public at the earliest possible time. In fact, there was **no** public involvement in the process of determining whether an ISL GEIS is appropriate. Indeed, the NRC publicly mentioned the possibility of an ISL GEIS on only three occasions and did not invite public participation or comment.

First, the issue was raised in the annual National Mining Association/Nuclear Regulatory Commission conference in Denver, Colorado, on May 15-16. There, at least two presentations were made indicating that an ISL GEIS was sought after by the uranium mining industry and desirable from the perspective of the NRC. *Overview of Uranium Recovery Activities*, presentation by William von Till, Chief Uranium Recovery Licensing Branch, slide 7 of 9 (May 15, 2007) (ML071490076); *Environmental Analysis & In Situ Uranium Recovery Facilities*, presentation by Anthony J. Thompson and Christopher S. Pugsley, slides 16-21 of 24 (May 15, 2007) (ML071490361). However, there was no indication that the NRC was about to unilaterally decide to adopt a GEIS for all ISL operations, nor was there any opportunity for meaningful public input prior to this decision.

Second, the Commission issued an obscure memorandum to the NRC Staff requiring it to work on an ISL GEIS. *Staff Requirements Memorandum; Briefing on FSME Programs, Performance and Plans* (May 18, 2007) (ML071410086). This memorandum contained no detailed information about the proposed GEIS, nor any opportunity for public input.

Third, a GEIS was mentioned by NRC employees during site visits to proposed mining and milling sites in Crownpoint and Grants, New Mexico in late April. Again, however, NRC staff gave no indication that it would be beginning the scoping process in the near future, nor was there any opportunity for the public to raise objections to the proposed GEIS.

Not only was the public not involved at the earliest possible time, as required by CEQ regulations, the process that was followed leaves the impression that the NRC is

indifferent to the perspective of communities that have been and will be the most affected by uranium mining and that the NRC is primarily interested in advancing the uranium mining industry's interests and reducing its own work load.

B. The Scoping Process Itself Has Been Inadequate.

Not only does issuance of the GEIS seem to be a foregone conclusion,¹ the scoping process itself has been inadequate. Public participation in the entire NEPA process is critical. 40 C.F.R. § 1500.1; *Robertson v. Methow Citizens Council*, 490 U.S. 332, 349 (1989) (NEPA seeks informed agency decision making through informed public participation); *Foundation on Economic Trends v. Heckler*, 756 F.2d 143, 147 (D.C. Cir. 1985) (“NEPA’s dual mission is thus to generate federal attention to environmental concerns and to reveal that federal consideration for public scrutiny”). It begins with the scoping process, which CEQ regulations require must be “an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action”. 40 C.F.R. § 1501.7

So far, the NRC’s GEIS scoping process has failed this test. It has consisted of only three public scoping meetings² and a notice of intent soliciting written comments published in the Federal Register³. The third of these meetings – in Gallup, N.M., on September 27 -- was not originally scheduled by the NRC, but was held because of a large public outcry from New Mexico citizens. Their principal complaint was that the

¹ The NRC Staff indicated in a slide shown at the August 9, 2007, scoping meeting in Albuquerque that a Draft GEIS would be issued in April 2008 and a Final GEIS in January 2009.

² Those meetings were held in Casper, Wyoming on August 7, 2007; in Albuquerque, N.M., on August 9; and in Gallup, N.M., on September 27. There was advanced publicity for the three public meetings.

³ The initial Federal Register Notice was revised three times, the final time to specifically accommodate the National Mining Association, to allow for additional time for the public to submit written comments 72 Fed. Reg. 50,414 (Aug. 31, 2007), 72 Fed. Reg. 54947 (Sept. 27, 2007), 72 Fed. Reg. 61912 (Nov. 1, 2007).

scoping meetings should have been held in communities where uranium mining is proposed and where the people would be most affected. The agency's limiting of initial scoping meetings to venues in Casper, Wyoming, and Albuquerque, New Mexico — places where ISL mining is **not** proposed — ensured that the GEIS process would not reach communities and citizens affected now or in the future by ISL mining. An adequate scoping process would have, at the very least, included meetings in communities where ISL mining has been licensed, is expanding or is proposed, such as Churchrock and Crownpoint, New Mexico, Crawford, Nebraska, Fremont County, Wyoming, and Pine Ridge Reservation, South Dakota.

III. Prior to Considering a GEIS that Would Accelerate the ISL Permitting Process, the NRC Should Evaluate Deficiencies in the ISL Licensing Process.

Every indication is that the main purpose of the GEIS is to accelerate the ISL permitting process. *See, e.g.*, Revised NOI, 72 Fed. Reg. at 61912. Before accelerating the ISL permitting process, however, the NRC should re-evaluate its current ISL licensing procedure to address deficiencies that put public health and the environment at risk.

In particular, the NRC should re-evaluate the practice of allowing ISL license applicants and licensees to average groundwater quality within a proposed mine area for the purpose of establishing pre-mining “baseline” groundwater quality. NUREG-1569, *Standard Review Plan for In Situ Leach Uranium Extraction License Applications* at 2-26 (2003). Averaging the groundwater quality from poor-quality groundwater nearer to the uranium ore zone with high quality water further from the ore zone artificially inflates the

contaminant levels in the groundwater. The result is that potential sources of drinking water could be destroyed.

Additionally, the NRC should revisit its “performance based licensing” policy in the context of ISL mining. What began as an arguably reasonable regulatory choice that allows licensees to make purely ministerial changes to their operations without requiring a license amendment has transformed into what is tantamount to industry self-regulation. Under cover of performance based licensing, a licensee can make substantial changes to its operations, including adjusting its surety estimates, essentially without NRC oversight or public participation.

Likewise, the NRC should reconsider its policy of allowing surety for groundwater restoration to be “phased” to match the development of the ISL mining wellfield. Under a phased approach, a licensee need only post a surety for its first wellfield prior to beginning operations, rather than posting a surety sufficient to restore groundwater at its entire operation. Surety to assure groundwater restoration at subsequent wellfields is assumed to come from the revenues from wellfields that have already been leached. *See, In the Matter of Hydro Resources, Inc.* LBP-99-13, 49 NRC 233, 236-237 (1999), *aff’d* CLI-00-8, 51 NRC 227, 245 (2000); LBP-05-17, 62 NRC 77, 103 (2005) *aff’d* CLI-06-1, 63 NRC 1 (2006).

Further, the NRC should revisit its practice of routinely granting alternative concentration limits (“ACLs”) for ISL operations. ACLs allow a licensee to “restore” groundwater to a level that is much more polluted than prior to mining. 10 C.F.R. Part 40, Appendix A, Criterion 5; *Staff Technical Position on Alternate Concentration Limits for Title II Uranium Mills* (ML031880555); NUREG 1620, Rev. 1, *Standard Review*

Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978 at § 4.3 and Appendix E at E-4 (2003). Treating groundwater to pollution levels that are much higher than existed prior to mining is not restoration at all, but merely government sanctioned groundwater degradation. ISL operators must be required in every instance to restore groundwater to its pre-mining condition and post sufficient surety to accomplish this level of restoration prior to beginning operations. If a license applicant cannot meet these simple requirements, the NRC should not issue that applicant a license.

Finally, the NRC must re-evaluate its practice of characterizing radiation from conventional mine waste on or near an ISL site as “background radiation” for the purposes of calculating ISL operations’ radioactive air impacts. *See*, 10 C.F.R. § 20.1301(a)(1); *In the Matter of Hydro Resources, Inc.*, CLI-06-14, 63 NRC 510, 517-520 (2006). This interpretation not only violates the plain language and intent of the NRC’s regulations, it effectively ignores the cumulative impacts of past and concurrent mining operations.

The aforementioned deficiencies are by no means exclusive. The NRC should make a comprehensive review of its ISL licensing procedures, with the opportunity for meaningful public input, prior to issuing an ISL GEIS.

IV. The GEIS Process Should not Go Forward Because the NRC Has Failed to Identify a Proposal as Required by NEPA

In this case, it is unclear whether there is any Federal action that would trigger a GEIS. An environmental impact statement is necessary when there is a “proposal” for a major federal action. *Kleppe v. Sierra Club*, 427 U.S. 390, 399 (1976). A “proposal” exists at that stage in the development of an action when an agency subject to NEPA has

a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects of the decision can be meaningfully evaluated.

40 C.F.R. § 1508.23.

In this case, there is no indication that any “proposal” exists. The NRC has not articulated any comprehensive policy or plan for regional or national ISL development. Nor has the NRC identified a series or group of proposed ISL mines in a particular region that might have cumulative or synergistic impacts. Indeed, the only rationale for the GEIS the NRC has given is that it is “expecting numerous license applications for in-situ leach uranium milling facilities in the coming 2-3 years.” 72 Fed. Reg. at 50,415. Additionally, the Revised Notice of Intent states that the proposed action is “the construction, operation, and decommissioning of an ISL uranium mill.” These vague statements do not constitute a “proposal”.

V. The Scope of Any GEIS Must be Limited

Even if the NRC ultimately decides to go forward with an ISL GEIS, the GEIS’s scope must be limited, for three reasons. First, issuing a GEIS will severely limit site-specific environmental analysis and public participation. Second, because the nature of ISL mining impacts is contingent on unique local geological, hydrological, socioeconomic, and cultural features, these issues cannot be treated generically. This leaves very little for a GEIS to analyze. And third, the GEIS should not include any environmental justice review. Besides being very site-specific in nature and therefore not amenable to generic treatment, including an environmental justice review in the GEIS would effectively eliminate any further site-specific environmental justice reviews. This

would make a sham of the requirement that the NRC take a “hard look” at the consequences of its actions on minority populations.

A. GEIS Could Severely Limit Site-specific Analysis and Public Participation.

1. The NEPA Process

The CEQ anticipated situations where generic or programmatic environmental impact statements may be appropriate. The CEQ regulations describing “tiering” provide:

Wherever a broad environmental impact statement has been prepared ... and a subsequent statement or environmental assessment is then prepared on an action included within the entire program or policy (such as a site specific action) the subsequent statement need only summarize the issues discussed in the broader statement and incorporate discussions from the broader statement by reference and shall concentrate on the issues specific to the subsequent action.

40 C.F.R. § 1502.20.

However, the scope of generic or programmatic EISs is and must necessarily be limited. A generic EIS should reflect only the broad environmental consequences associated with a wide-ranging federal program. *Nat'l Wildlife Federation v. Appalachian Regional Comm'n*, 677 F.2d 883, 888 (D.C. Cir. 1981). The proposal to issue one GEIS for a major federal action that in reality consists of separate actions in multiple, diverse environments must demonstrate that the separate actions are related to each other so closely to comprise, in effect, a single course of action. *Churchill County v. Norton*, 276 F.3d 1060, 1073-1074 (9th Cir. 2001). Thus, only cumulative and synergistic impacts associated with multiple identical Federal actions are appropriate for consideration in a single generic EIS intended to cover all these actions. *Nat'l Wildlife Federation v. Appalachian Regional Comm'n*, 677 F.2d at 888.

If a GEIS is issued, it should be clear on its face that when the NRC is confronted with a site-specific proposal, it will have to determine whether to require a site-specific supplement to the GEIS. The decision to require a site-specific EIS is based on the findings of a site-specific Environmental Assessment (“EA”), a document briefly summarizing the anticipated environmental impacts, need and purpose of the proposed action, and alternatives to the proposed action. 10 C.F.R. § 51.30. Based on the EA, the NRC can either make a finding that the proposed action will not have any significant environmental impact or it can require a site-specific EIS. *Id.* at § 51.31. Unfortunately, the decision to supplement the GEIS with a site-specific EIS or issue a finding of no significant impact (“FONSI”) is entirely discretionary. *Van Abbema v. Fornell*, 807 F.2d 633, 637 (7th Cir., 1986); *Greater Yellowstone Coalition v. Flowers*, 359 F.3d 1257, 1274 (10th Cir. 2004); 10 C.F.R. § 51.92.

2. The GEIS Will Limit Site-specific EISs, and Therefore Site-specific Environmental Analysis and Public Participation Will be Limited

The GEIS will effectively limit site-specific EISs and thus limit meaningful environmental analysis in two ways. First, the GEIS will be broad and thus will not address site-specific impacts. Instead, site-specific EAs are likely to be generated. These documents are by their nature much more limited than EISs and will not adequately address site-specific environmental impacts. Second, EAs do not require the same level of public participation as EISs and therefore the public will be shut out of the environmental analysis process.

a. Site-specific Environmental Analysis Will be Limited

Environmental Assessments, by their nature, are not an end in themselves, but rather a means for an agency to determine whether a proposed project has no significant

environmental impact or whether an EIS is warranted. See, 10 C.F.R. § 51.31, *Greater Yellowstone Coalition v. Flowers*, 359 F.3d at 1274 (“When it is unclear whether a proposed action requires an EIS, the agency may first prepare a less detailed environmental assessment (‘EA’). If the EA leads the agency to conclude that the proposed action will not significantly affect the environment, the agency may issue a ... FONSI and forego the further step of preparing an EIS.”). As such, an EA is purposely intended to be both concise and brief. *Sierra Club v. United States Forest Service*, 46 F.3d 835, 840 (8th Cir. 1995).

The sweeping nature of the GEIS will mean that the site-specific characteristics of a particular proposed ISL operation will not and cannot be addressed. Additionally, the NRC has indicated a preference for issuing site-specific EAs rather than supplemental EISs. *Minutes of Briefing Before the Commission by the Office of Federal and State Materials and Environmental Management* at 36-37 (exchange between Commissioner Merrifield and Larry Camper) (May 7, 2007) (ML071340328). Because the NRC is likely to forego site-specific supplemental environmental impact statements in favor of brief and concise EAs, the environmental analysis will necessarily suffer.

Moreover, the NRC’s expressed desire to limit site-specific supplemental EISs puts the NRC in the position of pre-ordaining FONSIs for most, if not all, future ISL projects. As noted above, an EA is not an end in itself, but merely a tool to determine whether a proposed project will have no significant environmental impacts or whether it requires an EIS. Unless the NRC adopts a blanket policy or regulation that will require a supplemental EIS for all future ISL projects,⁴ one must draw the conclusion that the NRC

⁴ Indeed, NRC Environmental Protection Branch official Greg Suber was careful to say at the Albuquerque scoping meeting that every licensing action will have “an environmental analysis” or “environmental

will determine that most or all future ISL projects will have no significant site-specific environmental impacts. Such a result is as absurd as it is untenable.

b. The GEIS Will Limit or Eliminate Public Participation for Specific ISL Projects

In addition to limiting site-specific environmental analysis, the GEIS will limit or eliminate public participation in environmental analyses for particular projects. Unlike the public participation process that is mandated for environmental impact statements, the public participation process for EAs is much more circumscribed. *Sierra Nevada Forest Protection Campaign v. Weingardt*, 376 F. Supp. 2d 984, 991 (E. Dist. CA., 2005) (“In contrast to an EIS, the CEQ regulations do not expressly require that a draft EA be circulated to the public for comment before the agency adopts its final decision.”); *Greater Yellowstone Coalition v. Flowers*, 359 F.3d at 1279 (CEQ regulations do not require circulation of a draft EA).

The NRC’s regulations governing environmental analyses likewise do not require public input on EAs. 10 C.F.R. § 51.30. Public participation may only be required at the point where the NRC issues a FONSI and even that decision is discretionary. *Id.* at 51.33(a). Hence, under the NRC’s regulatory framework, the public may not be able to participate in the agency’s site-specific environmental decision making, or even know what the agency’s decision is, until **after** a FONSI has been issued. Such a scenario violates the spirit, if not the letter, of NEPA.⁵ See, *Marsh v. Oregon Natural Resources*

review.” While one of his presentation slides indicated that individual licensing decisions would have an “EA/EIS”, Mr. Suber did not use the term “environmental impact statement.”

⁵ In its most recent revision of its Notice of Intent to Prepare a Generic Environmental Impact Statement for Uranium Milling Facilities, the NRC announced that site-specific EAs that incorporate conclusions from the GEIS will be issued for public comment. 72 Fed. Reg. at 54,947. However, this assurance is inadequate to allay the Law Center’s clients’ concerns. Although the NRC now says that it will issue site-specific EAs for public comment, nothing **requires** that it do so. Unless the NRC amends its 10 C.F.R.

Council, 490 U.S. 360, 391 (1989) (“the broad dissemination of information mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time.”). Thus, the scope of the GEIS must be extremely limited.⁶

B. The GEIS’ Scope Should be Limited to Cumulative Impacts of Regional ISL Mining.

A GEIS is only appropriate for evaluation of the broad impacts of a proposed major federal action. *Nat’l Wildlife Federation v. Appalachian Regional Comm’n*, 677 F.2d at 888. Those impacts include the cumulative or synergistic effects of a proposal. *Id.* “Cumulative impacts” are defined as impacts from actions, which when viewed with impacts from other current or proposed actions, have cumulatively significant environmental impacts. *Churchill County v. Norton*, 276 F.3d at 1076, citing 40 C.F.R. § 1508.25(a)(2). A cumulative environmental impact results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of who undertakes those other actions. *Id.*, citing 40 C.F.R. § 1508.7. Moreover, a proposal which a GEIS evaluates must define precisely the scope and limits of the proposed development and the region to be developed. *Kleppe v. Sierra Club*, 427 U.S. at 402.

Here, the NRC has not produced any information indicating that it is currently or imminently considering an ISL proposal that would be a major federal action. *See*,

Part 51 regulations to mandate public comment on EAs, it could easily announce that it is rescinding its offer to submit EAs to public scrutiny at some future time. Moreover, the NRC says nothing about the extent or nature of the public input it says it will allow on site-specific EAs.

⁶ The environmental reports required by 10 C.F.R. § 51.45 *et. seq.*, does not remedy this situation. Those reports are prepared by the license applicant and therefore have an inherent bias. Moreover, the public does not have the opportunity to comment on these reports, except within the narrow confines of expensive and lengthy NRC adjudications.

Section IV, above. Thus, **before** the NRC should even consider issuing a GEIS on ISL mining, it must, at a minimum, define the region or regions⁷ where it anticipates impacts will occur, the extent of anticipated ISL development, the timing of that development, and a coherent plan for licensing and regulating that development.

Only after the NRC has conducted this basic preliminary delineation should it evaluate the cumulative environmental impacts of proposed ISL development on a particular region. Such a cumulative impacts analysis should at a minimum include the cumulative impacts of ISL development on the quantity and quality of regional groundwater supplies, the cumulative impacts on regional airsheds, and the cumulative impacts on regional surface water supplies. Additionally, the NRC should evaluate the incremental impacts of proposed ISL uranium mining combined with the impacts of existing waste from past mining and milling. Further, the NRC should evaluate the combined impacts of ISL mining with proposed conventional mining and milling⁸. Finally, the NRC should evaluate the alternative of regional development of other forms of energy, such as wind and solar and compare the costs and benefits of renewable energy development with those of regional ISL mining for the purpose of providing fuel for nuclear power generation.

⁷ The Notice of Intent indicates that the GEIS is intended to cover ISL operations in the western United States. 70 Fed. Reg. at 40,345. This language remained intact in subsequent revisions of the Notice of Intent. The Notice of Intent does not include any definition of “western United States”, nor does it include any indication whether the GEIS will encompass ISL operations in agreement states in the western United States or only non-agreement states. Moreover, this geographic scope, as vague as it is, clearly would not encompass ISL operations proposed in eastern states such as Michigan.

⁸ The NRC has indicated that the ISL GEIS may assess the potential environmental impacts of conventional milling. 72 Fed. Reg. at 50,414. To the extent that the ISL GEIS may refer to impacts from conventional milling as a means of comparing them to impacts from ISL mining, the GEIS should not serve as a substitute for rigorous site-specific and regional environmental evaluation of conventional milling.

C. The Proposed GEIS Should Not Address Issues Best Left for Site-specific Analysis.

The very nature of ISL mining makes a GEIS inappropriate for meaningfully evaluating most environmental impacts. Some of the most important environmental analyses that are associated with ISL mining are local, unique, and therefore site-specific. These site-specific considerations cannot, by their very nature, be treated generically, and therefore must be excluded from the GEIS.

1. Hydrogeology is Site-specific and Therefore Unsuitable for Generic Analysis

The most fundamental environmental analysis associated with ISL mining is local hydrology and geology. While some gross generalizations can be made about uranium deposits amenable to ISL mining, i.e., they occur in transmissive and permeable sandstones, any meaningful hydrological and geological analysis on a generic scale is impossible. The NRC itself has acknowledged this fact in its Final Generic Environmental Impact Statement on Uranium Milling: “[B]ecause of the intensely site-specific nature of the chief environmental impacts from in situ extraction, those involving groundwater contamination, the staff does not consider it of value to do further general assessment of such impacts.” *Id.*, NUREG 0706, Vol. II, Sec. 1.1, at A-11. To date, the NRC Staff has offered no explanation nor given any technical reasons why it has now adopted the completely opposite view that a GEIS is suitable for assessing the groundwater impacts of ISL operations.

Local variability of geology, hydrology, faults, fractures, and dependence on groundwater supply is well established. In Kleberg County, Texas, for example, the groundwater flow rates and directions at Uranium Resources, Inc.’s Kingsville Dome ISL

project have been characterized as locally varying. *See*, George Rice, *Report to Kleberg County Citizen Review Board* at 5-6 (June 27, 2006) (“Rice Report”). A copy of Mr. Rice’s report is attached hereto as Exhibit 1. Additionally, the Goliad Aquifer, where the uranium deposits at the Kingsville Dome site are located, was deposited by meandering streams and thus rock grain sizes and permeability may “vary over a wide range.” *Id.* at 5.

The hydrogeology at the Crow Butte ISL project in northwestern Nebraska is likewise unique and locally variable. The geologic layer where uranium is mined at that site, the Basal Sand unit of the Chadron formation, is characterized as extremely variable due to it being the “depositional product of a large, vigorous braided stream system.” Collings, Stephen and Knode, Ralph, *Geology and Discovery of the Crow Butte Uranium Deposit, Dawes County, Nebraska* (1984), <http://www.wma-minelife.com/uranium/papers/crwbtt01.htm>, last visited Sept. 10, 2007. Additionally, the area where the Crow Butte mine is located is characterized by numerous local and regional faults, including the Toadstool Park Fault, the Bordeaux Fault and the White River Fault. *Id.* Clearly, hydrogeology is very site-specific and therefore not suitable for generic analysis. Moreover, the above examples illustrate variability on the local level. Wider, regional geographic areas can be expected to exhibit even greater variability.

2. Cultural Properties are Site-specific and Not Suitable for Generic Analysis

Like geology and hydrology, cultural properties require a site-specific analysis. For example, some ISL sites, such as the Kingsville Dome project, might have very few culturally significant sites. However, other areas where ISL mining is proposed, such as the Mt. Taylor area in New Mexico, have very dense concentrations of culturally

important sites and areas. These can range from individual shrines to the mountain as a whole, along with surrounding geographical features. *See, Benedict, Cynthia, Addendum to Report 2007-03-033, Cultural Resource Survey of 21 Drill Holes and Access Roads located on La Jara Mesa, Cibola County, New Mexico, Tribal Consultation and Designation of Mt. Taylor as a Traditional Cultural Property (May 31, 2007)*⁹, attached hereto as Exhibit 2. Moreover, the specific importance of a particular site can vary from culture to culture. *Id.* Therefore, cultural properties cannot be analyzed generically.

3. Local Water Quality is Site-specific and Not Suitable for Generic Analysis

Another fundamental environmental analysis that is critical for ISL operations is water quality. *See, e.g.,* NUREG-1569, § 2.7.1(4) at 2-21. Water quality is highly variable locally, and can have extreme variations regionally. For example, pre-mining groundwater quality at URI's Kingsville Dome project site has been characterized as poor. Rice Report at Tables 4.1-1 – 4.1-6 at 14-19 and 20. However, even given the overall poor groundwater quality at the Kingsville Dome site, some of the individual wells exhibited drinking water quality groundwater. *Id.* at 20.

Constrast the groundwater quality at Kingsville Dome with the groundwater quality at Crownpoint, New Mexico, the site of Hydro Resources, Inc.'s proposed ISL project. As demonstrated in the final environmental impact statement for that project, the groundwater quality at Crownpoint is excellent and meets all EPA drinking water standards. *See, Final Environmental Impact Statement for the Crownpoint Uranium Solution Mining Project, NUREG-1508 (February 1997), Table 3.12.*

⁹ The Forest Service is reconsidering its "no adverse effect" determination made in that report. Personal communication between the New Mexico Environmental Law Center and Cibola National Forest Ranger District.

Groundwater quality is demonstrably variable locally and regionally. It is therefore unsuitable for generic evaluation and should not be included in the proposed GEIS.

4. Socioeconomics are Site-specific and not Suitable for Generic Analysis

Socioeconomics are also highly variable and site-specific. Based on 2000 Census data of some counties where ISL mining is currently conducted, the range of incomes and population demographics is highly variable. For example, while the racial composition of Converse County, Wyoming, site of the Smith Ranch-Highland ISL project, and Dawes County, Nebraska, site of the Crow Butte ISL project, is predominantly white, Kleberg County, Texas, site of the Kingsville Dome ISL project, has a large Hispanic population. A spreadsheet of the income and race data from Census 2000 is attached hereto as Exhibit 3. Compare these populations with those of Church Rock, site of the proposed Crownpoint Uranium Project, which is almost exclusively Native American and the variability is placed in stark contrast. A summary of the racial and economic data of Church Rock is attached hereto as Exhibit 4. However, in Cibola County, New Mexico, located directly adjacent to the county where Crownpoint and Church Rock are located, the white and Native American populations are of roughly equal size, with a substantial Hispanic population. *See Exhibit 3.*

The economic make up of the counties surveyed is likewise heterogeneous. As demonstrated in Exhibit 3, median family income and poverty rates are highly variable between the represented counties. Because socioeconomics are locally and regionally variable, they are unsuitable for generic treatment in the proposed GEIS. That analysis should therefore be excluded from the GEIS' scope.

5. Wildlife and Wildlife Habitat Impacts Are Site-specific and are not Suitable for Generic Analysis

The variety of wildlife and wildlife habitat, as well as the impacts which will occur to individual species, are so site-specific that it would be scientifically invalid to apply any analysis in the GEIS to site-specific conditions, except as general background on impacts. Differences will occur from site to site, as well as region to region. Just the species alone from site to site will vary dramatically, as will the habitat within which individual species dwell. Analysis for the sagebrush sea areas of Wyoming will be unlike analysis for a forested area in Michigan, or creosote habitats in New Mexico. Road building will impact some species more than other; some species will not cross a road. Changes to water quality and quantity will impact some species more than others. Fish and other aquatic species (including plants), for example, will be more sensitive to changes in water conditions than pronghorns. These and many other conditions will vary substantially from site to site, making any analysis in the generic EIS suitable for only the most generalized understanding of environmental impacts to wildlife.

It is not just direct human caused-impacts to wildlife and wildlife habitat which will affect species, although these impacts will be the greatest. Upsetting the ecology of a project area will have potentially long-term indirect and cumulative impacts as well, particularly for species that are already on the brink of existence. These impacts too will vary dramatically from mine site to mine site and thus cannot be adequately analyzed in the GEIS.

D. The GEIS Should Not Include an Environmental Justice Review

Finally, an environmental justice analysis is not appropriate under a GEIS.

Indeed, the NRC concedes as much in its final notice of the NRC environmental justice policy. There, the NRC stated:

The Commission believes it is difficult to foresee or predict many circumstances, if any, in which a meaningful NRC [environmental justice] analysis could be completed for a generic or programmatic EIS given the lack of site-specific information.

69 Fed. Reg. 52,040, 52,046 (Aug. 24, 2004). However, as noted in the Notice of Intent for the ISL GEIS, the NRC is considering including an environmental justice analysis in the GEIS. 72 Fed. Reg. at 40,346.

Including an environmental justice analysis in the GEIS would not only run counter to the Commission's view on the NRC's NEPA responsibilities, it would effectively eliminate any site-specific environmental justice analysis. As shown above in section V.A., if a GEIS is adopted, NEPA would then only require an environmental assessment to be completed for specific proposed ISL projects. *See*, 40 C.F.R. 1508.28. Based on the EA, the NRC would then determine whether to rest on the findings of the GEIS and find that the site-specific project has no significant environmental impact or require a supplemental site-specific environmental impact statement. 10 C.F.R. 51.31. This determination to require a site-specific supplemental environmental impact statement is entirely discretionary. *Van Abbema v. Fornell*, 807 F.2d 633, 637 (7th Cir., 1986); 10 C.F.R. 51.92.

In the context of an EA, the NRC has determined that no environmental justice analysis is required except when the proposed project creates a "clear" potential for off-site impacts. 69 Fed. Reg. at 52,045. While the NRC never elaborates on what

constitutes a “clear” potential for offsite impacts, the ISL industry’s and NRC’s penchant for characterizing ISL mine sites as hermetically contained suggests that site-specific environmental justice analysis would become a thing of the past. *See, e.g., In the Matter of Hydro Resources, Inc.*, LBP-99-30, 50 NRC 77, 123 (1999) (Finding the “vastness of the desert” raised serious questions about HRI’s Church Rock operation’s potential adverse effects on nearby residents and that while radiation contamination from past mining was “regrettable” that fact did not bear on new mining). Because environmental justice analyses are likely to be severely limited in the context of ISL operations, the NRC should not include environmental justice in the GEIS and should amend its environmental justice policy to require supplemental environmental impact statements analyzing environmental justice in **every** instance where an operation is proposed in or near an environmental justice community or alternatively, require an environmental justice analysis for every EA in every instance where an ISL operation is proposed in or near an environmental justice community.

VI. Conclusion

For the above reasons, the NRC should do the following with respect to its proposed GEIS:

1. Withdraw the published notices of intent and implement a comprehensive evaluation of ISL milling performance and compliance, particularly the industry’s complete inability to restore groundwater to pre-mining conditions, conducted by an independent, third-party contractor with no ties to the uranium ISL industry or federal nuclear installations.

2. Withdraw the published notices of intent and re-evaluate current NRC licensing practices that jeopardize human health, safety and the environment.
3. Based on the results of the aforementioned evaluations, formulate a coherent proposal for a major federal action upon which a GEIS could be based. The proposal must include the regional geographical boundaries of proposed ISL development and the expected extent and nature of future ISL development.
4. Prior to determining whether a GEIS is warranted, the NRC should engage in meaningful government to government consultations with potentially affected Indian tribes.
5. If an ISL milling GEIS is found to be warranted, begin the NEPA process again for a GEIS that is limited to the regional cumulative and synergistic impacts of proposed ISL mining.
6. If an ISL milling GEIS is found to be warranted, the NRC should also amend its environmental justice policy to require a supplemental EIS for every operation proposed in or near a low-income or minority community. Alternatively, the NRC should amend its environmental justice policy to require that every EA include an environmental justice analysis for any ISL operation proposed in or near a low-income or minority community.

Thank you for this opportunity to comment on the proposed ISL GEIS.

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