original



September 2, 1998

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD PANEL

Before Administrative Judge Peter B. Bloch, Presiding Officer

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| In the Matter of | |
| HYDRO RESOURCES, INC.<br>2929 Coors Road, Suite 101<br>Albuquerque, NM 87120 | Docket No. 40-8968-ML<br><br>ASLBP No. 95-706-01-ML |

**NOTICE OF ENTRY OF APPEARANCE**

Johanna Matanich hereby enters her appearance with the New Mexico Environmental Law Center, on behalf of Intervenors Eastern Navajo Diné Against Uranium Mining (ENDAUM) and Southwest Research and Information Center (SRIC) in this proceeding. Johanna Matanich is an attorney in good standing currently licensed by the State of New Mexico and admitted to practice before the New Mexico Supreme Court. Douglas Meiklejohn remains the lead attorney at the Law Center.

Dated: September 2, 1998.

Johanna Matanich

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**ENDAUM'S AND SRIC'S SCHEDULING CONFERENCE BRIEF**

**INTRODUCTION**

In accordance with the Presiding Officer's Memoranda and Orders of July 1, 1998, July 13, 1998 and July 30, 1998, Eastern Navajo Diné Against Uranium Mining ("ENDAUM") and Southwest Research and Information Center ("SRIC") hereby provide summaries of their position on Hydro Resources Inc.'s ("HRI's") proposed bifurcation of this proceeding, and whether formal contentions should be required. Also in accordance with the Presiding Officer's Memoranda and Orders, ENDAUM and SRIC have set forth below their plan of analysis plan, which includes their proposal of a fair and efficient schedule for addressing those issues.

**FACTUAL AND PROCEDURAL BACKGROUND**

As described in LBP-98-9, in November of 1994, the NRC issued a Draft Environmental Impact Statement ("DEIS") and notice of opportunity to request a hearing in this licensing proceeding for HRI's application to conduct in situ uranium leach mining

and milling in McKinley County, New Mexico. LBP-98-9, Memorandum and Order (Ruling on Petitions and Areas of Concern; Granting Request for Hearing; Scheduling), 47 NRC 261, 264 (1998). The application sought approval for mining at three sites in the "Crownpoint Project:" Church Rock, Unit 1, and Crownpoint. It also sought approval for a milling operation in Crownpoint. Letter to Dale Smith, NRC from Mark Pelizza, HRI, at 1 (October 12, 1988). As required by 10 C.F.R. § 1205, ENDAUM, SRIC, and other petitioners submitted requests for hearing and statements of their areas of concern regarding the proposed licensing of the Crownpoint Project. LBP-98-9, 47 NRC at 264-265. Their hearing requests and statements of concerns were subsequently amended. *Id.* at 265-67.

The NRC Staff issued a Final Environmental Impact Statement ("FEIS") in February of 1997. NUREG-1508, Final Environmental Impact Statement to Construct and Operate the Crownpoint Uranium Solution Mining Project, Crownpoint, New Mexico. The FEIS concluded that the potential impacts of the project were significant, evaluated four alternative actions, and recommended licensing of the project subject to certain mitigation requirements. FEIS at xxi.

In December of 1997, the NRC Staff issued a Safety Evaluation Report ("SER"), which concluded that "issuing the license to HRI will be in accordance with [applicable regulations in 10 C.F.R. Parts 19, 20, 40, and 71], and with all applicable safety requirements of the Atomic Energy Act of 1954 (AEA), as amended." Crownpoint

Uranium Solution Mining Project Safety Evaluation Report (December, 1997).[1] About a month later, on January 5, 1998, the NRC Staff issued an operating license to HRI for in situ leach mining and milling of uranium at the Church Rock, Unit 1 and Crownpoint sites. License No. SUA-1508. As stated in the Staff's cover letter to the licensee, the "SER and FEIS provide the bases for the NRC's decision to issue a 10 CFR Part 40 source material license to HRI." Letter from Joseph J. Holonich to Richard F. Clement, Jr., at 1 (January 5, 1998) (hereinafter "Holonich Letter").

On May 13, 1998, the Presiding Officer admitted ENDAUM, SRIC, Marilyn Morris (née Sam) and Grace Sam as parties, and also admitted a number of their concerns for litigation. *Id.*, 47 NRC at 280-283, 286. The Presiding Officer also tentatively proposed various measures for managing the case, including the filing of contentions pursuant to 10 C.F.R. § 2.714(b)(2); tentatively proposed a schedule for litigation of the intervenors' concerns; and announced that he would hold a scheduling conference and a prehearing conference. *Id.*, at 284-287.

On June 4, 1998, HRI filed a Request for Partial Clarification or Reconsideration of Presiding Officer's Memorandum and Order of May 13, 1998; and Request for Bifurcation of the Proceeding (hereinafter "HRI's Request"). HRI sought clarification or reconsideration of the level of detail that it will be required to provide in order to satisfy its burden of proving that its license application satisfies the NRC's reasonable assurance

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[1] NRC Staff counsel John T. Hull forwarded the SER to then-Presiding Officer B. Paul Cotter by letter dated December 5, 1997.

standard. HRI's Request at 2, 6. HRI's Request also stated that HRI has not made a final decision to mine at Section 17, Unit 1 or Crownpoint, and "no such decision probably will be made at least for the next few years." *Id.*, at 13. Accordingly, HRI requested that the Presiding Officer bifurcate this proceeding geographically, so that concerns relating to Section 8 would be heard at this time, and concerns relating to all other "phases" of the project would be heard "if and when those issues become ripe." *Id.* at 16.

The Intervenors opposed HRI's Motion. ENDAUM's and SRIC's Opposition to HRI's Request for Reconsideration or Clarification of LBP-98-9 and HRI's Request for Bifurcation (June 22, 1998) (hereinafter "ENDAUM's and SRIC's Opposition"). *See also* Marilyn Morris' Response to HRI's Request for Partial Clarification or Reconsideration...(June 18, 1998). The NRC Staff supported HRI's Motion. NRC Staff's Response to HRI's Motions for Reconsideration and for Bifurcation (June 26, 1998) (hereinafter "NRC Staff's Response").

By order dated July 1, 1998, the Presiding Officer denied HRI's Motion. Memorandum and Order (HRI Motion for Reconsideration and Motion for Partial Clarification) (hereinafter "July 1 Order"). The Presiding Officer ruled that the issues raised by HRI constituted procedural matters, and deferred them to a Scheduling Conference at which HRI and the Staff would be required to discuss the extent to which they "are prepared to demonstrate the invalidity of the allegations that the Intervenors may develop within their areas of concern." *Id.* at 4. The Presiding Officer also announced that the Scheduling Conference would cover the Intervenors' "plan of analysis" for

preparing contentions or written presentations, "[w]hether or not to require Intervenors to prepare formal contentions," and "a discussion of proposals for the fair and efficient scheduling of the resolution of this case." *Id.*

On July 13, 1998, the Presiding Officer issued a Memorandum and Order, which revises the scheduling conference agenda to included a site visit and limited appearance session, and changes the location and date of the scheduling conference. Memorandum and Order (Announcing Scheduling Conference in Crownpoint, New Mexico, August 25-27; Reporting on Content of July 10 Scheduling Conference) (July, 13, 1998) (hereinafter "July 13 Order). The order directs parties to summarize their positions on each of the matters suggested in LBP 98-9, and serve the summaries prior to the scheduling conference. *Id.* at 5. The Order also explains that:

> whether this proceeding should be phased or "bifurcated, all issues relevant to the licensing of the first phase of the HRI project would be part of the first phase of the proceeding. Furthermore, HRI may be permitted to demonstrate its compliance with the regulations based on material already available. If it does so, the hearing will be at an end. If it does not do so, then the decision about compliance with the regulations will be deferred until relevant information becomes available. The Presiding Officer does not expect to end this proceeding until relevant information is available.

*Id.* at 4. The Order adds that parties may nominate legal issues that may be decided on the basis of legal briefs.[2] *Id.*

On July 30, 1998, the Presiding Officer issued an Order postponing the scheduling conference, site visit, and limited appearance session until September 15-17, 1998.

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[2]The nomination of legal issues was originally suggested in LBP 98-9, 47 NRC at 284.

Memorandum and Order (Postponement of Site Visit and Prehearing Conference Until September 15-17; Provisional Agenda). The Order notes that the service deadline for each party's "summary of positions on matters in LBP 98-9" is correspondingly extended.[3] *Id.* at 3-4.

## ARGUMENT

### I. THE PROPOSED BIFURCATION OF THIS PROCEEDING WOULD BE UNLAWFUL, UNREASONABLE, AND INEFFICIENT.

It appears that the Presiding Officer is considering bifurcating this proceeding along the lines of whatever aspects of the license application HRI and the Staff are prepared to defend. As the Presiding Officer stated in ruling on HRI's Motion:

> It is important to know how and when HRI is prepared to go forward now with respect to one or more phases of its project. It would not be appropriate to proceed with the entire case now unless HRI contends that the record is sufficiently complete to demonstrate the merits of the project, with respect to the areas of concern, without presenting any further information in the future. [footnote omitted]. If HRI has not yet developed sufficient information for this purpose, then consideration of the merits of its case may need to be deferred.

July 1 Order at 2-3. *See also Id.* at 4 (at Scheduling Conference, HRI and the Staff are requested to address the extent to which they are "prepared to demonstrate the invalidity of the allegations that the Intervenors may develop within their areas of concern.").

The division of this proceeding that HRI seeks is not a legitimate "bifurcation" as the term is used by the NRC and the courts. Bifurcation is a case management tool used

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[3] On August 26, 1998, ENDAUM and SRIC filed an unopposed motion for extension of time to file their brief. The Presiding Officer granted the motion nd ordered all briefs filed on September 2, with reply briefs due on September 9.

to ensure the orderly and well-paced litigation of numerous and complex contested licensing issues. In *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-83-30, 17 NRC 1132, 1136 (1983), for example, the Board closed the record at different stages for litigation of different health and safety issues. Similarly, in *Pennsylvania Power and Light Company and Allegheny Electric Cooperative, Incorporated (Susquehanna Steam Electric Station, Units 1 and 2)*, LBP 80-18, 11 NRC 906, 908 (1980), the Licensing Board bifurcated a hearing into a safety and environmental phase.

Here, in contrast, HRI seeks an indefinite postponement of the bulk of this proceeding -- not to manage the orderly litigation of issues, but to avoid having to defend a license that it has already received. Such an extended and unwarranted delay would violate ENDAUM's and SRIC's hearing rights under the Atomic Energy Act ("AEA") and the Administrative Procedures Act ("APA"), and would deprive them of due process of law in violation of the U.S. Constitution. Bifurcation would also violate the National Environmental Policy Act's ("NEPA's") prohibition against segmentation. Finally, bifurcation would waste the resources of the Presiding Officer and the parties.[4]

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[4] In their Opposition to HRI's Request, ENDAUM and SRIC previously addressed many of HRI's arguments in favor of bifurcation. Those arguments will not be repeated here, but are incorporated herein by reference.

### A. The Proposed Partial Delay of the Hearing Would Violate Intervenors' Hearing Rights Under the Atomic Energy Act and the Administrative Procedures Act, and Deprive Them of Due Process of Law.

#### 1. Intervenors are entitled to a meaningful hearing on HRI's license application and license.

Section 189(a)(1) of the AEA requires that in "any proceeding" for the granting of an operating license to a nuclear facility, "the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding." Atomic Energy Act, 42 U.S.C. §2239(a)(1)(A) (1994). The hearing must offer an opportunity for "'*meaningful public participation.*'" *Union of Concerned Scientists v. NRC*, 735 F.2d 1437, 1446 (D.C. Cir. 1984), *cert. denied*, 469 U.S. 1132 (1985), *quoting Bellotti v. NRC*, 725 F.2d 1380, 1389 (D.C.Cir. 1983) (emphasis in original). As discussed below, in order to be meaningful, the hearing must be complete in covering the full scope of material issues, and it must be reasonably timed. The partial delay of this proceeding proposed by HRI will deprive Intervenors of meaningful public participation because, by addressing only Section 8, it will not cover the full scope of material issues presented by Intervenors and it will unreasonably delay the hearing on the other aspects of the Crownpoint project.

#### 2. The proposed delay in completion of the hearing would unlawfully and completely deprive ENDAUM and SRIC of a hearing on significant and material licensing issues.

The hearing provided under Section 189(a)(1) of the AEA must include an opportunity to be heard on "*all* material factors bearing on the licensing decision raised by the [hearing] requester." *Union of Concerned Scientists v. Nuclear Regulatory*

*Commission*, 735 F.2d at 1443. There can be no dispute that the "licensing decision" at issue here constitutes the issuance of a license for the *entire* Crownpoint project, including Section 8, Section 17, Crownpoint, Unit 1, and the processing plant in Crownpoint.[5] The NRC Staff reviewed HRI's entire application and issued a license for all of those aspects of this project. Letter at 1. Moreover, the safety and environmental findings undergirding the issuance of the license are not restricted to any particular part of the Crownpoint Project, but cover all aspects of the Project. *See, e.g.*, FEIS, at 4-120 - 4-127 (cumulative impact assessment evaluates entire project), 5-1, 4-97, Table 4.27 (cost-benefit analysis includes calculation of royalty income, which will not be generated at Church Rock), Table 5.4 (annual project benefits analysis does not distinguish between mine sites). Thus, as recognized by the Presiding Officer, "this proceeding must examine the HRI application," including "all sites at which in situ leach mining is to be conducted, including sites on which radioactive wastes may be discharged." LBP-98-9, 47 NRC at 274. Moreover, ENDAUM and SRIC are entitled to challenge the basis for any and all of the safety and environmental conclusions that are purported to justify issuance of the license.

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[5] As the Licensing Board has previously noted, the subject of a licensing proceeding normally is the adequacy of the application for the license. *Babcock & Wilcox Company* (Pennsylvania Nuclear Services Operations, Parks Township, Pennsylvania), LBP-95-1, 41 NRC 1, 3-4 *aff'd* 41 NRC 248 (1995) (hereinafter "*Babcock & Wilcox*"). In *Babcock & Wilcox*, as with most other nuclear licensing cases, the hearing on the adequacy of the license application preceded the issuance of the license. In this case, in contrast, the license has already issued. Moreover, the license modifies the license application somewhat. Accordingly, the appropriate focus of this licensing proceeding constitutes the license itself and those portions of the license application which support the licensing decision.

*Union of Concerned Scientists v. NRC,* 735 F.2d at 1443, 1445. In violation of the AEA, HRI's proposal threatens to completely deprive ENDAUM and SRIC of a hearing on significant and material licensing issues that they have raised.

**a. The proposed delay in completion of the hearing would deprive ENDAUM and SRIC of an opportunity to challenge the basis for issuing the license.**

By suggesting that HRI should identify those aspects of its license which it is prepared to defend now and those aspects that should be deferred for a later hearing, the Board treats as a procedural issue one of the key substantive licensing issues in this proceeding: whether the HRI license is adequately supported by a showing of compliance with the regulations and reasonable assurance of safe operation. If the license issued by the NRC Staff is currently indefensible, this constitutes grounds for reversing the licensing decision. *See* 42 U.S.C. § 2099, which forbids issuance of a license which the Commission determines would be inimical to public health and safety; 10 C.F.R. § 40.32, which allows the NRC to issue a source materials only "if" it finds the applicant has complied with agency safety requirements. To postpone litigation of the indefensible portions of the license would preclude ENDAUM and SRIC from ever raising the critical issue of whether the NRC issued a license to HRI without making supportable safety findings. ENDAUM and SRIC seek, and are entitled to, the opportunity to demonstrate that the NRC Staff has issued a sham license that pays mere lip service to the requirement for prior safety findings, and postpones an actual demonstration of regulatory compliance

until some vague time in the future.[6] As set forth in the Third Affidavit of Michael G. Wallace, ¶¶ 5, 13 (September 2, 1998), HRI's license application contains critical deficiencies that raise significant questions about HRI's ability to protect groundwater at the Crownpoint Project. Moreover, these deficiencies are too numerous and significant to be remedied by license conditions. *Id.*, ¶ 14. Thus, these deficiencies raise a material question as to whether a license should have been issued to HRI. By deferring consideration of the lawfulness of the bulk of the license, HRI's proposal would unlawfully permit HRI and the NRC Staff to evade litigation of this key issue.

**b. Intervenors are unlikely to learn of future developments that might entitle them to additional hearings.**

As discussed at length in ENDAUM's and SRIC's Opposition at 17-18, if the Presiding Officer bifurcates the proceeding as requested by HRI, ENDAUM and SRIC are unlikely even to learn of later developments on which they must seek a second, third, or fourth hearing. Moreover, under the license as now constituted, it is not clear that ENDAUM and SRIC would be able to obtain any hearing on Section 17, Crownpoint, or Unit 1. ENDAUM and SRIC are unlikely to receive notice if and when HRI submits test results and any other site-specific information to the Staff because the License does not

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[6] *See, e.g.*, License Condition 10.23 (post-licensing groundwater pump tests required "to determine if overlying aquitards are adequate confining layers"); License Condition 10.26 (Showing that design of wastewater retention ponds complies with regulations postponed until after licensing); License Condition 10.28 (demonstration of restorability of aquifer postponed until after licensing.)

require notice. Nor does it appear that HRI is even required to provide public notice that the license conditions have been fulfilled.[7] The Staff also takes the position that subsequent information and approvals will not necessarily trigger notice or hearing rights. NRC Staff Response at 46 n.43. Moreover, the License does not require HRI to submit much of the material information that it may collect, and through the performance-based license condition, authorizes HRI to change its plans and procedures without prior approval by the Staff. *See* License Condition 9.4.

Accordingly, postponing portions of the hearing would effectively deprive Intervenors of their entitlement to a hearing on all material licensing issues not addressed in the initial hearing on Section 8. It would also constitute unlawful delegation to the Staff of material licensing issues that should be subject to the hearing process. *See Consolidated Edison Co. of New York, Inc.* (Indian Point Station, Unit No. 2), CLI-74-23, 7 AEC 947, 951 (1974) ("As a general proposition, issues should be dealt with in the hearings and not left over for later (and possibly more informal) resolution"); *Cleveland Electric Illuminating Co., et al.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-298, 2 NRC 730, 736 (1975) (Licensing Board erred in approving a limited work authorization while leaving to the NRC Staff studies necessary to dispose of unresolved "geologic anomalies" because "the Commission expects the board *itself* to resolve the matter openly

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[7] *See, e.g.*, License ¶10.23 (requiring that tests to determine if overlying aquitards are adequate confining layers shall be performed "prior to injection of lixiviant in a well field" but omitting any requirement to submit test results to the NRC or to provide public notice).

and on the record") (emphasis in original, citation omitted).

### 3. The proposed delay of the hearing on portions of the entire Crownpoint Project would be unlawful and unreasonable.

In addition to requiring a full and complete hearing on material issues, the law also requires that the hearing be reasonably prompt. Section 189(a)(1) of the AEA contemplates a hearing that occurs "upon" the request of an interested party to participate in a licensing proceeding. 42 U.S.C. § 2239(a)(1). The Administrative Procedures Act also requires that:

> When application is made for a license required by law, the agency, with due regard for the rights and privileges of all the interested parties or adversely affected persons and *within a reasonable time, shall set and complete proceedings* required to be conducted in accordance with sections 556 and 557 of this title, or other proceedings required by law and shall make its decision.

5 U.S.C. § 558(c) (emphasis added).[8] These statutes, taken together, guarantee interested members of the public a reasonably prompt hearing following their request.[9]

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[8] As provided in 5 U.S.C. § 706(1) § 558 is enforceable by the federal courts. *See North American Van Lines, Inc. v. U.S. Interstate Commerce Commission,* 412 F. Supp. 782, 793 (N.D. Ind. 1976) (unreasonable delay of administrative action becomes reviewable "where the decision to delay or withhold action has become concrete, and where the agency's firm commitment to the decision is evidenced by affirmative actions on its part.")

[9] As discussed in their Motion for Stay, Request for Prior Hearing, and Request for Temporary Stay, January 15, 1998, ENDAUM and SRIC believe that Section 189(a)(1) must be interpreted to require a *prior* hearing, before licensing. Then Presiding Officer, B. Paul Cotter, Jr., denied the motion for a stay, finding that there was no immediate threat of irreparable injury to Petitioners. Memorandum and Order, LBP 98-5, 47 NRC 119 (April 2, 1998). The Commission denied ENDAUM and SRIC's petition for interlocutory review, finding no threat of immediate or irreparable harm. CLI 98-8, 47 NRC 314, 321-24 (June 5, 1998). ENDAUM and SRIC do not abandon their position that a prior hearing is required in this proceeding, but are not raising the issue at this time.

Here, the delay requested by HRI is entirely beyond reason. Intervenors filed their petitions to intervene in this proceeding in December, 1994. LBP 98-9, 47 NRC at 264. Despite the fact that the "proceeding" for the issuance of the HRI license has now culminated in the issuance of the license, and is past the point of being ready for litigation, HRI now proposes to delay a full hearing of the concerns presented by Intervenors for at least three more years, with some phases to be delayed even more than three years.[10] *See* Letter from Anthony J. Thompson to Peter B. Bloch at 2 (August 20, 1998) (HRI has "no likelihood" of proceeding beyond Section 8 for at least three years.)

HRI has offered no legitimate grounds for the postponement of the hearing on Section 17 of Church Rock, Unit 1, and Crownpoint, nor is there any valid excuse for such an extended delay. There is no further licensing action or gathering of licensing information that would legitimately delay this proceeding. HRI now holds a materials license. As discussed above, the NRC Staff has already conclusively determined that HRI provided enough information to justify the issuance of a license. Neither the license, the SER, nor the FEIS leaves any licensing issues unresolved.[11] Moreover, as discussed in

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[10] As discussed in Section I.A.2.b.above, ENDAUM and SRIC are concerned that there may be no further opportunity for a hearing at all, once the first phase of the proposed bifurcated hearing, regarding Section 8, is concluded.

[11] More recently, in responding to HRI's Request, the Staff emphasized that it considers HRI to have submitted adequate information to justify issuance of a license for the entire Crownpoint Project. NRC Staff's Response at 3-4.

the schedule outlined in Section III below, ENDAUM and SRIC are prepared to go forward with their case. Thus, all of the issues raised by ENDAUM, SRIC, and other Intervenors regarding the adequacy of the basis for issuance of HRI's license are ready for a hearing on the merits.[12]

There is no obstacle to litigation of HRI's license other than HRI's reluctance to defend its own license. However, HRI cannot have its cake and eat it too; if it is not prepared to defend some aspect of the merits of the license it has received and now enjoys, then it should relinquish those portions of the license that it considers indefensible. The Presiding Officer may not allow HRI to use a purported "bifurcation" as a shield against

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[12] HRI states that the hearing should be delayed for portion of its license, until those portions "become ripe". HRI Request at 13, 16. The "ripeness" doctrine, which derives from the "case or controversy" requirement of the Constitution, is used by Article III courts of law to decline review of abstract disagreements. *Abbott Labs v. Gardner*, 387 U.S. 136, 148 (1967). The doctrine is inapplicable here because this proceeding is before an executive agency, not a court of law.

Were the Presiding Officer to borrow this doctrine, however, it is evident that HRI's complete license is ripe for review. In applying the *Abbott Labs* decision, the D.C. Circuit will consider whether an agency action is final, whether the issue is one of law which requires further development, or whether further agency action is necessary to clarify the agency's position. *Action Alliance of Senior Citizens v. Heckler*, 789 F.2d 931, 940 (D.C.Cir. 1986), *vacated on other grounds*, 494 U.S. 1001 (1990). *See also New York State Ophthalmological Soc. v. Bowen,* 854 F.2d 1379, 1386 (D.C.Cir. 1988), *cert. den.* 490 U.S. 1098 (1989) (ripeness is focused on the pragmatic question of whether the courts are competent to resolve disputes without further administrative refinement of the case). The Staff issued a license to HRI, and has determined that it received adequate information on which to base the issuance of a license to HRI. *See* Section II; NRC Staff Response at 3-4. Further agency action, beyond resolution of this proceeding, is not required; nor does the Staff appear to contemplate further action. Accordingly, HRI's license, which includes the Crownpoint, Section 17 and Unit 1 mine sites, is ripe for review.

the complete and timely licensing hearing to which the Intervenors in this proceeding are entitled. If the Presiding Officer finds that more information is needed before the hearing can go ahead on any aspect of the HRI license, then it should summarily revoke those portions of the license.

**4. HRI's proposed delay would violate Intervenors' right to procedural due process of law.**

The statutory right to a meaningful hearing opportunity has constitutional dimensions. Individuals are protected from government infringement on liberty or property interests by the 5th Amendment due process guarantee. *Board of Regents v. Roth*, 408 U.S. 564, 569 (1972). A liberty or property interest is a benefit protected by the due process clause when it results from a legitimate claim of entitlement, created by some independent source such as a state or federal statute. *Id.*, at 577. To identify a legitimate claim of entitlement in a statute establishing procedural benefits, a court must look to whether the statute places substantive limitations on the agency's discretion. *Board of Pardons v. Allen*, 482 U.S. 369, 375, 377 (1987) (citations omitted).

In this proceedings, the 5th Amendment rights of the Intervenors will be violated if the hearing is bifurcated. Intervenors' right to a meaningful opportunity for a hearing is a legitimate liberty interest because the AEA sets forth substantive limits on the Commission's discretion in ruling at the hearing. Section 69 of the AEA prohibits the Commission from issuing a license that, in its opinion, would be "inimical . . . to the health and safety of the public." 42 U.S.C. § 2099 (1994). If the Commission finds that a license

would be inimical to the health and safety of the public, it cannot issue a license. Therefore, there is a substantive limit on the Commission's discretion to act in the hearing of Intervenors' concerns.

Intervenors' liberty interest will be infringed if the Commission issues a license that is inimical to the public heath and safety without providing them with due process of law. For instance, in *Board of Pardons v. Allen*, 482 U.S. at 373, 377 the Supreme Court found that prisoners had a protected liberty interest (expectation of parole) which was created by a statute requiring release on parole if, in parole board's opinion, there is a reasonable probability a prisoner could be released without detriment to the prisoner or society. And, in *Parks v. Watson*, 716 F.2d 646 (9th Cir. 1983), the Ninth Circuit held that due process property rights were conferred on landowners seeking vacation of platted city streets because a state statute required that a formal hearing be held when it was apparent to the city council that there is no apparent reason not to allow the petition.[13]

Intervenors' due process liberty right will be violated if they are denied a prompt hearing of all the germane issues they have presented with regard to HRI's license. When a hearing concerns harmful administrative action that has already occurred, the right to a hearing must include a prompt hearing so that the purpose of having hearing cannot be

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[13] In the Second and Fourth Circuit, the courts have adopted the rule that unless the government's discretion is very narrow, a constitutionally protected interest will not arise. *See Gardner v. City of Baltimore Mayor,* 969 F.2d 63, 68 (4th Cir. 1992); *Gagliardi v. Village of Pawling*, 18 F.3d 188, 192 (2nd Cir. 1994). However, both of these decisions involve municipal land use issues, on which federal courts defer to local officials and leave rigorous adjudication to state courts. *Gardner,* 969 F.2d at 69.

evaded by delaying the hearing. *Barry v. Barchi*, 443 U.S. 55, 65 (1979). *See also Armstrong v. Manzo*, 380 U.S. 545, 552 (1965) (in which the Court pointed out that due process includes the right to be heard in a "meaningful time and a meaningful manner").

**5. The denial of a complete and prompt hearing would violate the President's Executive Order on Environmental Justice.**

The importance of providing a meaningful hearing is emphasized by the President's Executive Order on Environmental Justice (Executive Order 12898, 59 Fed. Reg. 7629 (February 16, 1994), which requires federal agencies to establish strategies to "ensure greater public participation by minority and low-income people." *Id.*, § 1-103. As Congress has repeatedly recognized, a licensing hearing constitutes a crucially important public forum for such public participation.[14] Accordingly, for purposes of complying with the President's Executive Order, it is essential to guarantee that the hearing on the HRI license application and license is complete and timely.[15]

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[14] *See Union of Concerned Scientists v. NRC*, 735 F.2d at 1446-47, *citing* 1961 Staff Report of the Joint Committee on Atomic Energy ("[t]he gravity of the safety questions decided whenever a license is issued makes it important to provide an opportunity for interested members of the public to attend"); H.R. No. 22, Part 2, 97th Cong., 1st Sess. 11 (1982) ("the hearing process serves a vital function as a forum for *raising relevant issues* regarding the design, construction and operation of a reactor, and for providing a means by which the applicant *and the Commission staff* can be held accountable for their actions regarding a particular facility") (emphasis in original).

[15] In March of 1995, the NRC adopted an Environmental Justice Strategy to implementr the directives of EO 12898. The goal of the strategy is to integrate environmental justice into the conduct of all pertinent activities.

### B. The Proposed Delay in Completion of the Hearing Would Segment the Analysis of Environmental Impacts, in Violation of NEPA.

#### 1. NEPA requires that each project be considered as a whole.

If adopted, HRI's bifurcation proposal would result in unlawful segmentation of the NEPA analysis of HRI's Crownpoint Project. *See* Regulations of the Council on Environmental Quality, 40 C.F.R. § 1502.4(a) (related proposals that are effectively a single course of action shall be evaluated in a single EIS); *Id.* at § 1508.25(a)(1) (connected actions should be discussed in the same EIS); *Id.* §§ 1508.25(c) and 1508.7 (EIS shall discuss cumulative impacts of the action and reasonably foreseeable future actions). *See also Cady v. Morton*, 527 F.2d 786, 795 (9th Cir. 1975) (where agency approved leases for 30,000 plus acres making possible the future approval of mining plans for individual tracts within the leased area, the agency's limitation of EIS scope to first five year mining plan for 770 acres violated NEPA). *See also Carolina Power and Light Co., et al.* (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-82-119A, 16 NRC 2069, 2111 (1982) (even where one unit of a project may be completed much later than another, "the effects of effluents on the environment are more realistically viewed in the aggregate from multiple units, rather than piecemeal").

The NRC Staff previously recognized in correspondence to HRI that "separate licensing" of the Church Rock site would constitute improper segmentation under NEPA:

> your [HRI President Richard F. Clement, Jr.'s] previous verbal request to "break out" the Church Rock property for separate licensing after the EIS process was initiated would be an obvious segmentation of the National Environmental Policy Act (NEPA) process and inconsistent with the Commission's obligations under NEPA.

Letter from Joseph Holonich, NRC, to Richard F. Clement, Jr., HRI at 2 (June 17, 1996). HRI's bifurcation request amounts to a repackaging of the "break out" request that was rightly rejected by the Staff.

**2. The NRC Staff has consistently treated the Crownpoint Project as a whole.**

Moreover, the documents generated by HRI and the Staff concerning HRI's proposed mining and processing operations demonstrate clearly that this is one project. By treating the Crownpoint Project as a single entity in the FEIS and SER, and by requiring HRI to submit a single Consolidated Operations Plan ("COP"), the Staff recognized that the evaluation of the environmental impacts of HRI's project could not be segmented by mining unit.

The FEIS, which was prepared by the NRC Staff, the U.S. Bureau of Land Management, and the U.S. Bureau of Indian Affairs, covers the entire Crownpoint Project; there are not separate environmental impact statements or other environmental analyses for each of the mining sites. Moreover, the FEIS states that it is for one project to be centrally located in Crownpoint, New Mexico. It was developed and written to address:

> "the proposed action of issuing a combined source and 11(e)(2) byproduct material license and mineral operating leases for Federal and Indian lands to Hydro Resources, Inc. (HRI) to conduct in-situ leach uranium mining in McKinley County, New Mexico."

FEIS, Abstract, at iii. This statement in the Abstract is consistent with the rest of the

FEIS, which consistently refers to this as a single project.[16] The FEIS recognizes and addresses the regional nature of significant aspects of the project, such as the fact that the Westwater Canyon aquifer underlies all of the proposed mining sites. FEIS at 4-15. *See also* Third Affidavit of Michael G. Wallace, ¶ 7. The FEIS all addresses topics such as socioeconomics, aesthetics, cultural resources, and environmental justice on a regional basis. FEIS at 4-96 to 4-127.

In addition, the FEIS considered an alternative that would have involved mining at only one or two of the proposed mining sites. The Modified Action alternative (Alternative 2) listed as possible sites for mining Church Rock, Unit 1, and Crownpoint, and indicated that they could be considered separately or in combination with each other. FEIS at 2-31. That alternative was rejected, however, and the Staff chose instead to issue a single license for the entire project. FEIS at xxi.

Similarly, the project is treated as a single entity throughout the Staff's SER. The Summary states that this is one project (SER at 1), and specifically indicates that the Church Rock, Unit 1, and Crownpoint sites "*comprise* HRI's Crownpoint Uranium Solution Mining *Project.*" (*Emphasis added*). This characterization is consistent with the

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[16] For example, the Summary and Conclusions refer to this as one action. FEIS at xix-xxi. The statement of the Purpose and Need for the Proposed Action discusses the project in terms of a single application and a single license (FEIS at 1-1), and the description of the Proposed Action (Alternative 1) indicates that this is one action for which one license would be issued. That description also refers to the Church Rock and Unit 1 facilities not as separate facilities but as "satellite facilities". FEIS at 2-1. The NRC Staff-Recommended Action (Alternative 3) also describes the action as involving one license for one project, as does the No Action alternative (Alternative 4). FEIS at 2-32.

description of the project in the SER's Description of the Proposed Action and Authorized Activities. SER at 1, 2-3, and with the treatment of the project as a single entity throughout the SER.[17]

### 3. Segmentation of consideration of the FEIS in this proceeding would be unlawful and irrational.

It would be unlawful and irrational now for the Presiding Officer to segment the Crownpoint Project into individual mining units, because it would result in the disregard or inadequate consideration of the regional and cumulative effects of the project. As the Court noted in *Cady v. Morton*, the consequences of several mining projects spaced over a period of twenty years will be "significantly different" from the impacts of a single phase of the project. *Cady v. Morton*, 527 F.2d at 795. The project must be examined in its entirety, not in piecemeal form as HRI would have it.[18]

A piecemeal examination of the Crownpoint Project will likely impair the Presiding Officer's ability to review other parts of the Project. *See Susquehanna Valley Alliance v.*

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[17] The sections on Radiation Safety Controls and Monitoring, Security, Emergency Procedures and Preventive Measures, Waste Management, Decommissioning and Reclamation, and Surety Requirements all address the mining as one project. SER, § 4.0-9.0. In addition, the description of HRI's Management Organization and Administrative Procedures indicates that the HRI project personnel are organized for the entire project, not for individual mining sites. SER, §§ 3.0, 3-14.

[18] Contrary to the NRC Staff's argument in support of HRI's request, the prohibition against segmentation does not end with the preparation of the FEIS by the Staff. NRC Staff Response at 14. Rather, the EIS must "accompany the application . . . through, and be considered in, the commission's decisionmaking process." 10 C.F.R. § 51.94. The Licensing Board hearing on the application is part of the decisionmaking process wherein NRC must consider the environmental impacts of the project, and must not segment parts of a single project, separately consider connected actions, or ignore cumulative impacts.

*Three Mile Island*, 619 F.2d 231, 240-241 (3d Cir. 1980), cert. den. 449 U.S. 1096 (1981) (When construction begins before a complete review of the environmental impacts of a whole containment project, the construction "has the almost inevitable effect of distorting the view of the agency and reviewing court as to the desirability of the action.") If Section 8 is separately addressed, the Presiding Officer risks taking a distorted view of the rest of the project that will favor approval of all licensed activities.[19]

Avoidance of segmentation is particularly important here, in light of the environmental justice issues raised by this case. The region in which HRI wishes to mine and process uranium is populated largely by Native American people with an agricultural lifestyle, low income, and little mobility. The region also has been negatively affected in the aftermath of the boom and bust cycle of uranium mining and milling and its devastating environmental effects. Within a mile of the Church Rock site there is an abandoned uranium mill tailings facility that is a Superfund site, and within 15 miles of Crownpoint there are dozens of abandoned uranium mines that may never be cleaned up.

In the Four Corners area of the Navajo Nation, families and communities are still dealing with severe health problems among former uranium miners. Many Navajos were exposed to radiation while working in the uranium mines that provided materials for the U.S. atomic weapons testing program. H.R. 463, 101st Cong., 2nd Sess. (1990). During

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[19] An additional concern is raised by the Third Affidavit of Michael G. Wallace, that separate review of Section 8 and Section 17 of the Church Rock site would be ill-advised for hydrologic reasons because the two sections are hydraulically connected. Separate consideration of these two sections would also preclude or distort reasoned consideration of the effect that mining in Section 17 would have on Section 8 after Section 8 had been restored.

Congressional hearings on the Radiation Exposure Compensation Act, Navajo miners testified they suffered from lung cancer and other respiratory diseases because they were not warned of the dangers of uranium exposure. *Id.* In *Begay v. United States*, a tort case brought by Navajo miners, the Court found that the radiation exposure in some mines was even higher than the radiation doses received as a result of the atomic bomb explosions in Japan during World War II. *Begay v. United States*, 591 F. Supp. 991, 1006-7 (D.Ariz. 1984), *aff'd* 768 F.2d 1059 (1985). This concern is especially relevant to the Church Rock community, which endured the 1979 "Churchrock spill," a large release of solid and liquid uranium tailings into the Rio Puerco valley. *UNC Resources, Inc. v. Benally*, 514 F.Supp. 358, 360 (D.N.M. 1981).

Thus, uranium mining and exposure are of deep concern to the Navajo residents of Crownpoint and Church Rock. The region has already suffered significant adverse cumulative impacts from the uranium mining industry, affecting the economy and the quality of life there. The quality of life in the region, always marginal, has now become even more fragile. Before allowing a single piece of the Crownpoint Project to go forward, there must be an opportunity for the affected public to address the additional cumulative impacts on the entire region.

Finally, HRI's Request on the one hand implies that concerns related to the proposed central processing plant in Crownpoint would be heard in the first hearing phase (HRI's Request at 14 n.14), and on the other seeks an order "that hearings will proceed at this time only with respect to Section 8" (*Id.* at 16). The possibility that HRI is seeking to

exclude the central processing plant from a hearing at this time is also suggested by its assertion that the activities proposed at the central processing plant "are still planned to occur within existing structures." *Id.* This assertion is misleading. Processing is not presently occurring at that site, and the buildings as well as settling ponds must be retrofitted and equipped. HRI, Crownpoint Project *In situ* Mining Technical Report at 65 and Figures 3.2-1 and 3.2-2 (June 12, 1992). Intervenors' concerns regarding the processing plant activities must be heard in this proceeding, regardless of whether old structures will be retrofitted and equipped or new structures will be erected.[20]

### C. The Proposed Division of the Hearing Would Not Conserve the Resources of the Presiding Officer and the Parties, and Would Not Be Worthwhile.

The geographical division of the hearing suggested by HRI would not be practical or cost-effective for the parties, because it would result in repetitive litigation of the same factual licensing issues, requiring repetitive re-calling of witnesses. As discussed in detail in the attached Third Affidavit of Michael G. Wallace, the major hydrogeologic issues of concern in this case are *the same* for all three of the mining sites. *Id.*, ¶¶ 5, 6-10. Moreover, erroneous assumptions that HRI has made about the hydrogeology of the site taint virtually all of HRI's hydrologic analyses and design measures, from travel time calculations and groundwater modeling to the design of the groundwater monitoring

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[20] Even if the Board were to hear the processing plant issues in the first phase, bifurcation would improperly segment the analysis of the impacts on Crownpoint of having two wellfields and a processing plant in the community of Crownpoint. *See Carolina Power & Light*, 16 NRC at 2111.

system and the analytical methodology used to evaluate pump test data. *Id.*, ¶¶ 8, 11, 13. These deficiencies are common to all three sites. *Id.* , ¶ 8. The same type of critical hydrogeologic data is also missing for all three proposed mining sites. *Id.*, ¶ 9. Accordingly, given the commonality of these issues, it would be extremely wasteful to hold separate hearings on the various geographic sites in the Crownpoint Project, and Intervenors would be severely prejudiced because they would have to hire the same witnesses for separate phases. *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), ASLBP No. 91-641-02-ML, Order (Ruling on Intervenor's Motion to Consolidate Contentions for Hearing) (May 26, 1994) (unpublished) (where litigation of discrete issues involved calling the same fact witnesses, the Board approved consolidation of previously bifurcated issues).

In addition, waiting for additional data to be generated through the implementation of license conditions by HRI is not likely to yield new information that significantly affects the outcome of this proceeding. As Mr. Wallace points out, for example, HRI has already conducted aquifer pump tests which, if correctly interpreted, show interaquifer communication in the proposed mining area, thus contradicting HRI's conclusion that groundwater at the Crownpoint Project is vertically confined. *Id.*, ¶ 11 and note 11. New aquifer pump tests required by HRI license condition 10.23 are unlikely to yield new or different information on this issue. *Id.*, ¶ 15.

Finally, even if Church Rock were considered separately from the other sites, there are significant hydrogeologic reasons why Section 8 should not be considered separately

from Section 17. As Mr. Wallace explains in ¶¶ 17-20, the ore bodies in Section 8 and 17 form continuous zones and are hydrologically connected, with Section 17 positioned upstream of but contiguous with Section 8. If Section 17 is mined after Section 8, as planned by HRI, contaminated groundwater may flow from Section 17 into restored portions of Section 8, thus requiring additional expenditures for restoring Section 8. In addition, the underground mine workings in Section 17 must be taken into account in modeling the flow of groundwater in Section 8 and the entire Church Rock site.

In conclusion, it would decrease rather than increase efficiency to separately litigate portions of this proceeding by geographic area, as HRI suggests.

## II. THE INTERVENORS SHOULD NOT BE REQUIRED TO PREPARE CONTENTIONS.

The Intervenors should not be required to prepare formal contentions. Formal contentions are required in formal proceedings conducted under Subpart G of Part 2 of the NRC's procedural regulations. In contrast, this is an informal proceeding governed by Subpart L of the Rules of Practice. Subpart G and Subpart L contain distinct and separate requirements for the raising of litigable issues in a licensing proceeding. Because Subpart L contains its own procedures for the raising of material issues, it pre-empts application of the Subpart G procedures. Accordingly, the Presiding Officer has no lawful basis for requiring ENDAUM and SRIC to submit them in this proceeding. *See Advanced Medical Systems, Inc.* (Cleveland, Ohio), LBP 95-3, 41 NRC 195, 202, n.17 (1995) ("areas of concern are not contentions"). If the Presiding Officer were still to decide contentions are

necessary in this proceeding, the Presiding Officer would first need to recommend the use of contentions to the Commission. 10 C.F.R. § 2.1209(k).

Moreover, requiring the filing of contentions would be unduly burdensome. The standard for admissibility of contentions is high: an intervenor must present enough evidence to establish the existence of a genuine dispute with the applicant on a material dispute of law or fact. *See* 10 C.F.R. § 2.714(b)(2)(iii). This is virtually equivalent to a summary disposition standard, which would be extremely onerous for the Intervenors to have to address, especially when they are ready to begin preparing their written testimony and presentations for disposition on the merits. The requirement to file contentions would distract the Intervenors and exhaust their resources rather than assist them.

The requirement to file contentions would also be unfair. The Intervenors have already gone to great lengths to meet the Subpart L standard for the raising of concerns, and have taken care to plainly set forth their concerns for HRI and the Staff. The Presiding Officer then determined that most of these concerns are germane to this proceeding. LBP 98-9, 47 NRC at 280 - 283. To now insert an additional threshold pleading standard into this proceeding would unfairly give the other parties an opportunity to whittle away at issues whose admission the Intervenors secured fairly and in accordance with the rules. Moreover, it would be unfair to impose the burden of satisfying the Subpart G admissibility standard without offering any of the counterbalancing benefits that are conferred under Subpart G, such as formal discovery against the other parties and the opportunity to cross-examine witnesses.

Finally, the proposed requirement for the filing of contentions is unnecessary. Subpart L provides a perfectly adequate procedure for the raising of material issues in an informal licensing case. The Intervenors have put the parties on notice of their concerns, and are now required to flesh them out with material evidence in the form of written presentations and testimony. *Babcock and Wilcox Co.*, 41 NRC at 3-4. (Intervenors are responsible for raising material issues in their written filings). As discussed in Section II below, ENDAUM and SRIC are now prepared to submit written presentations for each germane area of concern. There is no need to require them to also file contentions.

If the Presiding Officer does decide to require the filing of contentions, the tentative schedule proposed in LBP-98-9 should be revised to give the Intervenors adequate time to prepare the contentions. LBP-98-9 proposes that the Intervenors be required to submit contentions twenty-eight days after the hearing file becomes available. LBP 98-9, 47 NRC at 286. ENDAUM and SRIC submit that twenty-eight days is a completely inadequate time period in which to prepare formal contentions and provide evidentiary support, including affidavits, on the numerous issues they wish to litigate. Instead, Intervenors request that a six-month time period be provided.

## III. ENDAUM's AND SRIC's PLAN OF ANALYSIS

In setting a tentative agenda for the Scheduling Conference, the Presiding Officer instructed the Intervenors to submit the "plan of analysis that Intervenors plan to implement in order to prepare contentions or written presentations within their areas of

concern." July 1 Order at 4. As subsequently clarified by the Presiding Officer in his July 13 Order, the purpose of the plan of analysis is "to permit me [the Presiding Officer] to assess the amount of time they [the Intervenors] need to prepare their contentions (should I require them) and their written filings." *Id.* at 4.

ENDAUM and SRIC set forth below a schedule for the presentation of briefs and testimony on all of the areas of concern they have raised. The schedule establishes deadlines for the filing of ENDAUM's and SRIC's initial briefs and testimony, a 30-day response period, and a 15-day reply period. ENDAUM and SRIC anticipate that most of the testimony will be by technical experts, although some non-expert factual testimony may also be introduced. Although it is difficult to predict precisely how much time will be needed to prepare briefs and testimony on each topic, and ENDAUM and SRIC anticipate that they may need to seek adjustments to the schedule as it progresses, we believe that this is a reasonable schedule, given the number and complexity of the issues raised by the licensing of the Crownpoint Project.

In order to efficiently manage the large number of issues, and in light of the complexity of the case, ENDAUM and SRIC have organized the areas of concern into two groups. The groupings are based on commonality of factual issues, to allow more efficient use of experts and more efficient use of the parties' and presiding officer's time in addressing the issues. For example, the first group includes issues relating to protection and restoration of groundwater, including the adequacy of the financial surety for cleanup. In addition, where the litigation of NEPA and safety issues relates to the same set of facts,

they are grouped together.[21] Finally, the first group contains areas of concern that include a greater preponderance of legal issues.[22]

For each group of issues, the schedule also includes time to take oral presentations, if the Presiding Officer determines it is necessary under 10 C.F.R. § 2.1235. Intervenors plan to evaluate whether to request an opportunity for oral presentations at the time they prepare their briefs and testimony, and will file any such requests at the time that briefs and testimony are submitted.

The following is a proposed schedule for presentations on the areas of concern raised by ENDAUM and SRIC:

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[21] In LBP-98-9, the Presiding Officer found that ENDAUM's and SRIC's concern regarding the federal trust responsibility to the Navajo Nation and its members is not germane, but stated that "[b]y handling the other concerns, this area is resolved." Accordingly, where appropriate, in addressing the issues listed in the schedule below, Intervenors intend to incorporate any concerns regarding federal trust responsibility.

[22] While the Presiding Officer has suggested that the parties nominate issues that may be resolved by legal briefs rather than factual presentations, ENDAUM and SRIC do not believe the case presents any segregable issues that are purely legal. Each legal issue tends to have a significant factual component. For instance, the cases raises a legal issue regarding what cleanup standard should be applied to uranium in drinking water this instance; but this question cannot be answered without reference to the health effects of the various standards proposed by the parties. Therefore, legal and factual issues are inextricably intertwined. Similarly, ENDAUM's and SRIC's concern that HRI and the Staff have not complied with the National Historic Preservation Act encompasses both the legal issue of when compliance must be required, and factual issues related to the adequacy of the review done to date. Notwithstanding the inseparabiilty of legal and factual issues, however, there are some areas of concern which have a greater preponderance of legal issues. Because these issues may lend themselves to more speedy and efficient resolution by the Presiding Officer, ENDAUM and SRIC have placed these issues in the first group.

**GROUP 1**

| Area of Concern | Subject Matter | Filing Deadlines | | | |
|---|---|---|---|---|---|
| | | Initial | Response | Reply | Oral Present. |
| 10, 11, 12+ | Compliance with NHPA; NGPRA; related cultural resource issues; adequacy of consideration in FEIS; related concerns | 10/30/98 | 11/30/98 | 12/15/98 | Week of May 3, 1999 |
| 2 | Performance-Based Licensing; related concerns | 11/30/98 | 1/15/99 | 2/01/99 | |
| 3,4,6, 12 | Groundwater Protection, Adequacy of financial assurance; adequacy of information and consideration of groundwater impacts in EIS; related concerns | 1/15/99 | 2/15/99 | 3/02/99 | |
| 5, 12 | Liquid waste disposal; surface water protection; adequacy of consideration in EIS; related concerns | 3/02/99 | 4/01/99 | 4/16/99 | |

**GROUP 2**

| Area of Concern | Subject Matter | Filing Deadlines | | | |
|---|---|---|---|---|---|
| | | Initial | Response | Reply | Oral Present. |
| 9, 12 | Air Emissions Controls; adequacy of consideration in EIS; related concerns | 6/14/99 | 7/14/99 | 7/29/99 | Week of February 7, 2000 |
| 8, 12 | Transportation of radioactive and hazardous materials and wastes; adequacy of consideration in EIS; related concerns | 7/14/99 | 8/13/99 | 8/30/99 | |
| 7, 12 | HRI qualifications in training and experience; adequacy of consideration in EIS; related concerns | 8/13/99 | 9/15/99 | 10/01/99 | |
| 12 | NEPA consideration of action alternatives; cumulative impacts of project; segmentation of assessment of impacts; consideration of mitigation; failure to supplement FEIS; related concerns | 9/16/99 | 10/18/99 | 11/02/99 | |
| 12 | Environmental Justice; consideration of health impacts; impacts on property values in low income minority community; designation of Navajo Nation EPA as Cooperating Agency; consideration of approvals and requirements | 10/18/88 | 11/18/99 | 12/3/99 | |
| 12 | NEPA Purpose, Need and Cost-Benefit Analysis, consideration of economic risks and impacts; no action alternative; related concerns | 11/18/99 | 12/20/99 | 1/15/00 | |

## IV. CONCLUSION

For the foregoing reasons, the Presiding Officer should deny HRI's request for partial delay of this licensing hearing, not require the Intervenors to prepare contentions, and set a schedule for the filing of briefs and testimony in accordance with ENDAUM's and SRIC's proposal.

Respectfully submitted,

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DATED: September 2, 1998

September 1, 1998

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD PANEL

Before Administrative Judge
Peter B. Bloch, Presiding Officer

Administrative Judge
Thomas D. Murphy, Special Assistant

| | | |
|---|---|---|
| In the matter of | ) | |
| | ) | Docket No. 40-8968-ML |
| HYDRO RESOURCES, INC. | ) | |
| 2929 Coors Rd., NW, Suite 101 | ) | ASLBP No. 95-706-01-ML |
| Albuquerque, NM 87120 | ) | |
| | ) | |

**THIRD AFFIDAVIT OF MICHAEL G. WALLACE**

Michael G. Wallace, being duly sworn, states as follows:

1. My name is Michael G. Wallace. I am of sound mind and body and competent to make this affidavit. I know the information stated herein from my personal knowledge and from my review of documents and affidavits described herein, except that the information stated as my opinion is my professional opinion.

**Professional Qualifications:**

2. My education and experience as a professional hydrologist are described in my résumé and summarized in Paragraph 2 of my affidavit of January 13, 1998 (hereinafter "Wallace Affidavit I"), which is attached as Exhibit 12 to ENDAUM's and SRIC's January 15, 1998, Motion for Stay, Request for Prior Hearing, and Request for Temporary Stay (hereinafter, "ENDAUM-SRIC Stay Motion").

**Documents Reviewed:**

3. In preparing this affidavit, I have reviewed and am familiar with the contents of my January 13, 1998, affidavit, as well as my affidavit of March 4, 1998 (hereinafter "Wallace Affidavit

II"), which I gave in support of ENDAUM's and SRIC's Reply to HRI's and NRC Staff's Responses to Stay Motion (March 6, 1998). I have also reviewed the contents of the two affidavits given by Richard Abitz, Ph.D., on January 9, 1998, and March 2, 1998 (hereinafter, "Abitz Affidavit I" and "Abitz Affidavit II"), also in support of the ENDAUM-SRIC Stay Motion and Reply. I remain familiar with the content of the 36 documents I cited in my January 13 Affidavit (Wallace Affidavit I at 2-6), and I am well-acquainted with the professional geologic and hydrogeologic literature relevant to the project areas. I have also reviewed several other documents that have been generated in this proceeding in the past several months, including HRI's Bifurcation Request,[1] ENDAUM's and SRIC's Opposition to HRI's Bifurcation Request,[2] Judge Bloch's Memorandum and Order granting ENDAUM's and SRIC's petitions for hearing,[3] and NRC Staff memoranda concerning the findings of Professor Shlomo Neuman, a University of Arizona hydrologist, regarding the FEIS for the Crownpoint Project.[4] I am also familiar with the affidavits filed by HRI and the NRC Staff in response to ENDAUM's and SRIC's Stay Motion, including the Affidavit of William Ford, NRC Staff (February 20, 1998) ("Ford Affidavit"). I am familiar with Source Materials License SUA-1508, issued to HRI by the NRC Staff on January 5, 1998 (hereinafter, "HRI License"); portions of the NRC Staff's Safety Evaluation Report (December 5, 1998) (hereinafter, "SER"); HRI's Consolidated Operations Plan, Revision 2.0 (August 15, 1997) (hereinafter, "COP Revision 2.0"); and the Final Environmental Impact Statement to Construct and Operate the Crownpoint Uranium Solution Mining Project, Crownpoint New Mexico (NUREG-1508) (February 1997) (hereinafter,

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[1] HRI's Request for Partial Clarification or Reconsideration of Presiding Officer's Memorandum and Order of May 13, 1998; and Request for Bifurcation of the Proceeding (June 4, 1998) (hereinafter, "HRI's Bifurcation Request").

[2] ENDAUM's and SRIC's Opposition to HRI's Request for Reconsideration or Clarification of LBP-98-9 and HRI's Request for Bifurcation (June 22, 1998) (hereinafter "ENDAUM-SRIC Opposition Brief").

[3] Memorandum and Order (Ruling on Petitions and Areas of Concern; Granting Request for Hearing; Scheduling) (LBP 98-9) (May 13, 1998) (hereinafter "LBP 98-9" or "Hearing Order").

[4] Memorandum from Joseph J. Holonich, NRC Staff, to Peter B. Bloch, Atomic Safety and Licensing Board, concerning "Supplement to February 27, 1998, Notification of New Information Potentially Relevant and Material to the Proceeding in the Matter of Hydro Resources, Inc. (ASLBP Number 95-706-01-ML): March 19, 1998, Teleconference with Professor Neuman (April 20, 1998) ("Holonich Memorandum II"); and Memorandum from Joseph J. Holonich, NRC Staff, to B. Paul Cotter, Atomic Safety and Licensing Board, concerning "New Information Potentially Relevant and Material to the Proceeding in the Matter of Hydro Resources, Inc. (ASLBP No. 95-706-01-ML)", and attaching overheads from a January 29, 1998, presentation to the NRC Staff by Professor Shlomo P. Neuman, University of Arizona, titled, "Hydrogeologic Conceptualization for Environmental Safety Assessment: Case Studies and Steps Toward a Strategy" (February 27, 1998) (hereinafter, "Holonich Memorandum I, Neuman Presentation").

"FEIS"). Any other documents I relied on in preparing this affidavit are cited in full in either the text or footnotes herein.

**Purpose of This Affidavit:**

4. License Condition ("LC") 9.1 of the HRI License authorizes the use of source material (i.e., uranium) at "the licensee's Crownpoint Uranium Project ["CUP"] which includes the Crownpoint, Unit 1 and Church Rock uranium recovery and processing facilities in McKinley County, New Mexico." HRI License at 1. In other words, HRI is authorized to conduct solution mining activities at all three sites, subject to certain conditions. Nevertheless, it is my understanding that the Presiding Officer is considering HRI's request to bifurcate or split up this proceeding geographically, beginning the hearing with Section 8 of the Church Rock site only. I understand that the Presiding Officer is thinking of postponing other portions of the hearing until HRI has collected more information through the implementation of license conditions. The purpose of this affidavit is to elaborate on three main reasons why I believe that the Crownpoint Project is more appropriately reviewed as a whole.

**Expert Conclusions:**

5. In summary, my reasons for believing that the Crownpoint Project is more appropriately reviewed as a whole are as follows:

(a) The major hydrogeologic issues of concern in this case *are the same* for all three proposed mining sites (i.e., Church Rock, Unit 1 and Crownpoint). It would be extremely wasteful of expert resources to hold separate hearings on the same hydrogeologic information for three different sites.

(b) Postponing part of the hearing to await the gathering of further data through license conditions would be inappropriate and of questionable value. The entire HRI license application suffers from critical deficiencies in hydrogeologic information and analyses. These deficiencies are so significant as to raise fundamental doubts about whether the quality of groundwater will be adequately protected by HRI's operation. They are not minor issues subject to "fine tuning." Moreover, HRI and the Staff have either ignored or misinterpreted important data for which future testing is unlikely to yield contrary results.

© There are compelling hydrologic reasons for *considering together* Sections 8 and 17 of the Church Rock site, and not splitting them up.

The basis for my opinion is described below.

## I. The Hydrogeologic Issues of Concern Are the Same for the Proposed Church Rock, Unit 1, and Crownpoint Mining Sites.

6. The three proposed mining sites — actually, *four* sites if Section 17 is considered to be "separate" from Section 8, even though they are contiguous — share several common hydrogeologic characteristics. Moreover, HRI has made erroneous assumptions about the hydrogeologic characteristics of the region that have misinformed virtually all of its hydrologic analyses and design elements for all three sites.

7. Regional Nature of Hydrogeology and Geochemistry. All three sites would produce uranium from ore deposits in the Westwater Canyon Member of the Morrison Formation. At all three sites, the Westwater Canyon Member is bounded above and below by the same basic hydrogeologic units. FEIS at 3-14 and 3-19. All of these hydrogeologic units, including the Westwater, have similar basic aquifer properties. Id., at 3-31, 3-34 and 3-40. The Westwater Canyon Member is a *regional* aquifer used for domestic water supplies throughout the San Juan Basin of northwestern New Mexico. Id., at 3-22 to 3-40.[5] The quality of the groundwater in both the Westwater and Dakota aquifers is excellent to very good at all three sites. Id., Tables 3.12, Table 3.13 [revised], Table 3.14, Table 3.16, Table 3.17, and Table 3.19. In both the Crownpoint-Unit 1 area and at the Church Rock site, groundwater in the Westwater Canyon and Dakota aquifers meets U.S. Environmental Protection Agency ("USEPA") criteria as an "underground source of drinking water." Id., at 3-24; ENDAUM-SRIC Second Amended Request, n. 55 at 72.

8. HRI Misconceptualization of CUP Hydrogeology. At all three sites, the Westwater is a highly heterogeneous sandstone, owing principally to its fluvial depositional history.[6] The heterogeneous nature of the Westwater is well established in the published literature on the subject. See., e.g., Exhibits 15 and 19 to ENDAUM-SRIC Second Amended Request. The heterogeneity of the Westwater is also borne out by HRI's own descriptions of one of the sand channels at the Crownpoint site and the ore bodies at the Church Rock site.[7] Ignoring the body of published

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[5] See, also, ENDAUM-SRIC Second Amended Request, n. 16 at 35.

[6] The Westwater was deposited some 160 million years ago as a sequence of stacked, sinuous, buried stream channels, of relatively narrow width, embedded within a finer-grained matrix. Abitz Affidavit I, 9-10. These are the very stream channels in which the uranium ore has concentrated, hence the sinuous, stacked nature of the ore bodies themselves. Id., 9; Wallace Affidavit I, ¶¶8-9. In fact, the sites all have the same sediments, originating from the same distant source, transported in the same manner, and deposited in the same geologic time frame. All areas have the same additional features associated with fluvial depositional environments, such as scour and fill zones. Wallace Affidavit I, ¶¶ 6-7.

[7] Dr. Abitz and I both referred to HRI's graphic depiction of the "LB Sand", a snake-like channel measuring 80 feet to 140 feet in width at the Crownpoint site. Abitz Affidavit I, ¶ 10; Wallace Affidavit II, ¶ 8 and Exhibit A. In addition, an HRI executive recently testified in a water rights transfer hearing before the New Mexico State Engineer that the ore bodies at the Church Rock site range from "8.6 feet to 14.9 feet" thick. See, testimony of Mark S. Pelizza in Transcript of Proceedings (Volume I), In the Matter of the Application of HRI, Inc., to Change

literature and its own staff's observations, HRI's numerous submissions treat the Westwater as a homogenous, hydrologically isolated, massive, uniform sandstone, more akin to an aeolian (i.e., sand dune) deposit, sandwiched between two "perfect" marine shales. The NRC Staff also largely accepts HRI's assumption. Abitz Affidavit I, ¶ 7. As our previous affidavits addressed in great detail, HRI's erroneous conceptualization of the Westwater tainted virtually all of its hydrologic analyses and hydrologic design measures, from travel time calculations and groundwater modeling to the design of the groundwater monitoring system and the analytical methodology used to evaluate pump test data. See, e.g., Abitz Affidavit I, ¶¶ 15-17; Wallace Affidavit I, ¶¶ 12-16, 21-22. See, also, the examples provided in ¶ 13 below, virtually all of which apply to all three sites.

9. Critical Hydrogeologic Data Are Missing. As I explained in detail in my March 4 Affidavit, ¶¶ 6-10, HRI has not provided certain information that is critical for interpreting the geology and hydrogeology of all three proposed mining sites. An important example is the absence in any of the application documents I have reviewed of structural cross-sections or fence diagrams, which graphically depict the geologic strata of a site, correlated by elevation. These are tools of geologic interpretation used to observe the existence and magnitude of subsurface faults. Stratigraphic cross-sections included in HRI's environmental and technical reports for *each* of the three sites are correlated *by formation*, not by elevation, and as such have no value in determining the magnitude or even the existence of faults.[8] I want to stress that the lack of such critical geologic interpretative data that explicitly address the issue of faulting is a *projectwide* problem; it is not particular to Section 8 or any other subunit of the CUP. Accordingly, I am of the opinion that this critical issue should be addressed in the hearing because it goes to the heart of whether HRI will be able to contain lixiviant in the ore zones at *all three sites*.

10. Dr. Neuman's Concern. At about the same time that Dr. Abitz and I submitted affidavits stressing the importance of having a clear and complete understanding of the conceptual hydrogeology of the proposed mining sites, an internationally recognized hydrologist and part-time consultant to the NRC used the Crownpoint Uranium Project as one of three "case studies" to illustrate "the complexity of hydrogeologic conceptualization, its numerous pitfalls and potential to

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Place or Purpose of Use and Points of Diversion of Underground Waters, before the New Mexico State Engineer (March 24, 1998).

[8] I should note here that HRI's groundwater modeling consultants asserted that they "examined in detail" "*structural cross sections* prepared by HRI" for the Crownpoint site to conclude that "there is no indication that faults . . . are present within the mine area." Geraghty and Miller, Inc., Analysis of Hydrodynamic Control, HRI, Inc., Crownpoint and Church Rock New Mexico Uranium Mines (October 7, 1993) (NRC PDR ACN 9312160178) (hereinafter "Geraghty and Miller Report"). Geraghty and Miller Report at 3 (emphasis added). For the Church Rock site, the consultants reached a nearly identical conclusion: "A review of *structural cross sections* prepared by HRI indicates that no significant faults are present within the Churchrock Mine area." Id. at 7 (emphasis added). If such cross-sections exist, they were not included in any of the license application documents I reviewed.

constitute a major source of uncertainty in assessing the expected safety performance" of a particular site. Holonich Memorandum I, Neuman Presentation at 1. In a presentation to the NRC Staff on January 29, 1998, Professor Shlomo P. Neuman, a hydrologist at the University of Arizona, wrote that HRI's modeling of the Westwater Aquifer as "hydraulically uniform, isotropic and perfectly confined" failed to consider that drawdown effects of pump tests often are obscured in a "multiaquifer" setting, as in the case of the CUP. Id., Attachment at 16. Professor Neuman concluded that the "hydrogeologic [c]onceptual [f]ramework behind the FEIS [for the CUP] is flawed (neither realistic nor conservative) and therefore indefensible."[9] Id. I have reviewed Dr. Neuman's findings and concur in his conclusion that the conceptual framework is flawed and indefensible.

11. Aquifer Test Results. In my view, a very important issue in this case is the proper interpretation of aquifer pump test results. As I stated in both of my previous affidavits, "pump tests and pump-test data are the best tools for determining aquifer interconnections." Wallace Affidavit II, ¶ 20. HRI, the NRC Staff, and the Intervenors all take different general positions on the use of pump tests, and the differences are significant. In my view, despite deficiencies in the design and implementation of HRI's 1991 pump tests at the Crownpoint site, the results indicated interaquifer communication.[10] Wallace Affidavit I, ¶ 27. HRI interpreted the same tests to show that there is no interaquifer communication. HRI, Inc., Crownpoint Project In Situ Technical Report (June 12, 1992), at 55. Reversing an earlier position that aquifer pump testing is necessary, the NRC recently distanced itself from relying on any previous pump-test data in favor of much less reliable water level

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[9] I was not present for Professor Neuman's January 29 presentation, but examined closely a NRC Staff memorandum to which was attached copies of the overheads from his presentation. I also was not present at a March 19 teleconference between the NRC Staff and Dr. Neuman. (It is my understanding that a request by counsel for ENDAUM and SRIC to be present on that call was denied by the NRC Staff.) In a memorandum summarizing Dr. Neuman's views during that call, the NRC Staff stated that Dr. Neuman:

> did not indicate it was his opinion that the staff's conclusions were wrong regarding the potential for vertical excursions to occur at the [Crownpoint] site. Furthermore, he did not specifically identify anything in NUREG-1508 that he believed would disqualify the site from ISL mining. Instead, he was concerned the staff had assumed the aquifers beneath the proposed sites are not hydraulically connected, and that NUREG-1508 does not contain a compelling argument showing the geologic materials of the Brushy Basin Shale will adequately prevent vertical excursions."

Holonich Memorandum II at 2.

[10] As I pointed out in my January and March affidavits, *previous* pump test data and historic water level data from monitoring wells at the Unit 1 and Crownpoint sites, *when analyzed by the appropriate "leaky aquifer" method* (Wallace Affidavit I, ¶¶ 23-26), indicate that the Westwater Aquifer and the overlying Dakota Aquifer have "significant hydraulic connection" through the intervening Brushy Basin Shale. Wallace Affidavit I, ¶ 27; Wallace Affidavit II, ¶¶ 20-23.

data that, in my professional opinion, do not by themselves prove aquifer confinement. Wallace Affidavit II, ¶ 19.[11] The correct resolution of these differing approaches is significant for all of the proposing mining sites, and therefore should not be addressed piecemeal.[12]

12. In summary, these commonalities underscore my view that there is no valid scientific reason to split up this hearing along geographic lines.

## II. Critical Hydrogeologic Deficiencies of the Application Should Have Been Resolved Prior to Licensure, and Will Not Be Resolved by the License's Conditions.

13. In several previous pleadings in this case, Intervenors ENDAUM and SRIC have noted critical deficiencies in HRI's description and discussion of the hydrogeology of the three mining sites.[13] In my view, these deficiencies raise significant questions about HRI's ability to protect groundwater quality in conducting the Crownpoint Uranium Project, such that they should have been resolved before the HRI license was issued. Moreover, resolution of these deficiencies would require much more than the "fine-tuning" asserted by HRI.[14] Summarized, these deficiencies include, but are not limited to:

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[11] An NRC Staff hydrologist's statement in February that "[t]he staff did not rely on the cited pump tests in making decisions on vertical confinement at the HRI project site" (Ford Affidavit, n. 10 at 21, cited in Wallace Affidavit II, ¶ 19) stood in stark contrast with the much-repeated conclusion in the FEIS that "[n]o aquifer interconnection was detected by the [HRI pump] test[s]" (FEIS at 3-29, 3-31, 3-35; Wallace Affidavit II, n. 12 at 14). What was troubling about this admission was not so much NRC's backtracking on a crucial component of the project, but on its insistence that vertical confinement can be demonstrated on the basis of six different factors, none of which include results of previous pump tests. The six factors cited by the NRC staff were, in summary form, (1) thickness of "confining unit" between Westwater and Dakota; (2) water level differences between the Westwater and Dakota; (3) sealed boreholes in mining areas; (4) lined and grouted mine shafts at Crownpoint site; (5) "lack of significant displacement" of sands in Westwater; and (6) "commitments by the applicant" to conduct new pump tests, monitor overlying aquifers, and tests wells for integrity. Holonich Memorandum I at 2-3.

[12] Moreover, as discussed in ¶ 15 below, it is unlikely that additional aquifer testing, required by Licensing Condition 10.23, will shed any new light on whether there is interaquifer communication.

[13] See, e.g., Petitioners ENDAUM and SRIC's Second Amended Request for Hearing, Petition to Intervene, and Statement of Concerns (August 19, 1997), at 33-75; Abitz Affidavits I and II; and Wallace Affidavits I and II (hereinafter, "ENDAUM-SRIC Second Amended Request").

[14] HRI Bifurcation Request at 5.

- Inaccurate conceptualization and characterization of the hydrogeology of the Westwater Canyon Aquifer's heterogeneous sandstones (ENDAUM-SRIC Second Amended Request at 43-45 and Exhibits 18 and 19; Abitz Affidavit I, ¶¶ 7-13; Wallace Affidavit I, ¶¶ 5-9) (see also ¶¶ 7, 8 above);

- Inadequately designed and implemented aquifer pump tests at the Crownpoint site (Wallace Affidavit, ¶¶ 17-27) (see also ¶ 11 above);

- Selection of the wrong model for evaluating aquifer confinement at all three sites and fundamental errors in ground-water modeling (Id., ¶¶ 23-27, 31-40; Wallace Affidavit II, ¶¶ 19-26);

- Evidence of lack of confinement of the Westwater Canyon Aquifer by the overlying Brushy Basin Shale at the Crownpoint site (Wallace Affidavit I, ¶ 27);

- No aquifer pump test information for Section 17 at the Church Rock site where underground mine workings have perturbed the hydrogeologic setting (see, n. 13, ¶ 18 of this affidavit; see, also, ENDAUM-SRIC Second Amended Request at 73-74);

- Groundwater velocities at the Unit 1 site three orders of magnitude *faster* than those calculated by HRI (Wallace Affidavit I, ¶¶ 10-15; Wallace Affidavit II, ¶¶ 14-17);

- Inappropriately designed (i.e., uniformly spaced) monitoring-well networks at all three sites (ENDAUM-SRIC Second Amended Request at 49-53; Abitz Affidavit I, ¶¶ 14-20; Wallace Affidavit II, ¶¶ 11-13);

- Inappropriate and inadequate definitions of excursions (ENDAUM-SRIC Second Amended Request at 53-61; Abitz Affidavit I, ¶¶ 21-26);

- Fundamental concerns about HRI's ability to restore groundwater to baseline conditions (Abitz Affidavit I, ¶¶ 27-36); and

- The applicability of a restoration demonstration at the Church Rock site (presumably, in Section 8) to conditions at any of the other three proposed mining sites. ENDAUM-SRIC Second Amended Request at 67-69; see, also, License Condition 10.28.

Together, these deficiencies leave substantial doubt about whether HRI will be able to contain pregnant lixiviant within the mining zones, detect excursions from the mining zones, and restore polluted groundwater to premining, baseline conditions.

14. Moreover, in my view, these problems are too serious and too numerous to be remedied by license conditions. For instance, as discussed above in ¶ 11, aquifer pump tests, when evaluated correctly, indicate that there is interaquifer communication in the Westwater. By imposing a license condition requiring further pump testing (LC 10.23), the NRC Staff has affectively postponed until a later date resolution of a fundamental issue regarding the safety of the project — whether the CUP has *adequate confining layers overlying and underlying the mining zones.* Moreover, the resolution of this important issue was delegated to HRI's Safety and Environmental Review Panel, not to the NRC Staff.

15. In addition, notwithstanding the proven efficacy of aquifer pump tests to determine aquifer characteristics and interaquifer connections, it is my professional opinion that the deficiencies observed in the design and implementation of HRI's previous pump tests and in the interpretation of the results of those tests will not be resolved by LC 10.23. The new groundwater pump tests required by LC 10.23 are unlikely to change any of the aquifer parameters or yield new information verifying geologic confinement, since aquifers do not evolve hydraulically over such a short period of time.

16. In summary, the HRI license application contains critical deficiencies that are far too significant and numerous to be cured by license conditions. Moreover, I do not believe that additional information gathered under the license conditions will demonstrate the safety of the HRI project. Thus, there is no reason to delay addressing the fundamental problems with the entire HRI license.

## III. From a Hydrogeologic Perspective, Sections 17 and 8 of the Church Rock Site Should Be Considered Together, Not Separately.

17. HRI's proposal to split the Church Rock site into two units (i.e., Section 8 and Section 17), and to conduct a hearing limited only to issues relevant to Section 8, is not defensible scientifically, for several reasons. First, the ore bodies, consisting of several stacked sinuous channels, form continuous zones across Section 8 to the north and Section 17 to the south. In fact, the only "break" between the sections is the section boundary, which is a geographic and political demarcation that has nothing to do with the subsurface environment. Otherwise, the same aquifer, the Westwater Canyon Member, and the same overlying and underlying formations are involved at both sections. See, generally, Section 2.7 of Church Rock Revised Environmental Report, HRI, Inc. (March 1993). Moreover, as a practical matter, HRI's license application has considered the Church Rock site as a whole at least since 1993 when Section 17 was added to the CUP. COP Revision 2.0 at 9.

18. Second, the mining sequence anticipated by HRI would have injection beginning in the southern portion of Section 8 and working northward, in the general down-gradient direction of groundwater flow and the dip of the beds. Id., Figure 1.4-8 at 22. Mining would then move to Section 17, progressing southward in an *upgradient* direction. Id., Figures 1.4-6 and 1.4-7 at 18-19.

Mining Section 8 first and Section 17 second would be extremely imprudent and could compromise the eventual cleanup of the site, a bad idea hydrologically, because the mining sequence between the two sections would proceed in a direction, north to south, that is *opposite* to that of the groundwater flow, which is south to north. Accordingly, a lixiviant-mobilized contaminant plume escaping from a wellfield in Section 17 would not be recaptured by the nearest wellfield in Section 8, which presumably would already have been mined and restored.

19. Third, the extensive underground mine workings[15] in Section 17 represent a major hydrologic feature of the entire Church Rock site, and would have to be considered even if the hearing were "limited" to issues related only to Section 8. In other words, the hydrology of Section 8 cannot be considered independent of the hydrology of Section 17 because a single, hydraulically connected hydrologic system underlies the entire site. As I noted above, the mine workings in Section 17 are hydraulically *upgradient* of the ore bodies in Section 8 and therefore are assured of having a profound effect on the hydrology of Section 8.[16] As an experienced, professional groundwater modeler, I would account for the effect of the mine workings in modeling groundwater flows at the Church Rock site. In my opinion, HRI's determination that it was not necessary to account for the hydrologic effects of the mine workings was a serious error in HRI's modeling of the hydrology of the Church Rock site, and throws into question the accuracy and validity of those results.[17] See, HRI Response to NRC Request for Additional Information ("RAI") No. 87, attached to letter from Mark S. Pelizza, HRI, to Joseph Holonich, NRC Staff (April 1, 1996) (NRC PDR ACN 9604030208).

20. Finally, because of the underground mine workings, Section 17 presents special restoration problems that are not likely to be anticipated by the pilot restoration demonstration,

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[15] The mine workings are shown in Figure 2.6-12 of HRI's Church Rock Revised Environmental Report (March 1993).

[16] Based on my inspection of various documents in this case, including HRI's Church Rock Revised Environmental Report of March 1993, I do not believe that HRI has ever conducted an aquifer test in Section 17 in or adjacent to the underground mine workings. Thus, the aquifer properties are in Section 17 are not actually known at this time.

[17] It's worth noting here that, in my opinion, the AQUASIM model used by HRI's consultants is not appropriate for the geologic heterogeneity encountered at the Church Rock site. See, Attachment 87-1 to HRI Response to NRC RAI No. 87. I would note further that HRI's consultants used aquifer parameters derived from pump tests conducted in Section 8 to model groundwater flows in both Section 17 and Section 8. HRI Response to NRC RAI No. 87 at 2. Those parameters may or may not be applicable to flows in Section 17 because they were derived from hydrologic conditions particular to Section 8.

which would occur in Section 8 and is required by License Condition 10.28. Restoration in Section 8 will be done entirely in porous sandstone, not in flooded mine caverns. Restoration in Section 17 would encounter much larger volumes of contaminated groundwater, thereby increasing the volume of restoration wastewater that must be disposed.

**Summary of Conclusions:**

20. For the reasons set forth herein, it is my professional opinion that because of (1) the commonality of critical, unresolved hydrogeologic issues, (2) the significance of the deficiencies in the HRI license and the unsuitability of addressing them through license conditions, and (3) the unique characteristics of the Church Rock site warranting unified treatment, the Crownpoint Uranium Project should be reviewed in this proceeding in its entirety.

I declare on this 2nd day of September 1998, at Albuquerque, New Mexico, under penalty of perjury that the foregoing is true and correct.

Michael G. Wallace

Sworn and subscribed before me, the undersigned, a Notary Public in and for the State of New Mexico, on this 2nd day of September 1998, at Albuquerque, New Mexico. My Commission expires on 12-26-99. Adelfa M. Adelke, Notary NM

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD PANEL

Before Administrative Judge Peter B. Bloch, Presiding Officer

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| In the Matter of | ) | |
| | ) | |
| HYDRO RESOURCES, INC. | ) | Docket No. 40-8968-ML |
| 2929 Coors Road | ) | |
| Suite 101 | ) | ASLBP No. 95-706-01-ML |
| Albuquerque, NM 87120 | ) | |
| | ) | September 2, 1998 |

## CERTIFICATE OF SERVICE

I hereby certify that on September 2, 1998, copies of the foregoing ENDAUM's and SRIC's Scheduling Conference Brief and Notice of Appearance of Johanna Matanich were served on the following by hand, by Federal Express, or by first-class mail. The parties marked by * were served by hand, and the parties marked by # were served by overnight mail.

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