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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of	)	
	)	
HYDRO RESOURCES, INC.	)	Docket No. 40-8968-ML
P.O. Box 777	)	
Crownpoint, New Mexico 87313	)	
	)	

NRC STAFF'S RESPONSE BRIEF ON PORE VOLUME ISSUES

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July 12, 2004

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INTRODUCTION

By order dated May 20, 2004, the Commission granted two petitions for review of rulings made in LBP-04-03, pertaining to licensee Hydro Resources, Inc.'s (HRI's) financial assurance plan, which were disputed by HRI and the lead intervenors in this proceeding, Eastern Navajo Diné Against Uranium Mining (ENDAUM) and Southwest Research and Information Center (SRIC) (collectively, "Intervenors"). *See* CLI-04-14, 59 NRC __, (slip op.). Insofar as is relevant here, the Commission granted the Intervenors' request for review of the Presiding Officer's refusal to consider, in LBP-04-03, their objections to HRI's pore volume estimate,[1] but limited review to the question of whether there is any significant issue on pore volumes that the Intervenors reasonably could not have raised prior to November 2000, when HRI filed its Restoration Action Plan (RAP) for the first set of well fields it plans to mine. *See* CLI-04-14, slip op., at 3-5.

The Staff will show that all relevant pore volume information was already part of the adjudicatory record by early 1999 -- long before the November 2000 RAP was submitted -- and that the Intervenors had opportunities in 1999 to challenge the basis for HRI's pore volume estimates.

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[1] *See* LBP-04-03, 59 NRC 84, 90-93 (2004). Pursuant to the Commission's schedule, the "Brief of Intervenors [ENDAUM] and [SRIC] Petition for Review of LBP-04-03" was filed on June 14, 2004 (Intervenors' 2004 Brief). Regarding this Staff pore volume response brief, the Intervenors may file a reply brief by July 26. *See* CLI-04-14, slip op., at 6-7.

The Commission should, accordingly, affirm the Presiding Officer's refusal to consider the Intervenors' pore volume arguments made after the RAP was submitted.

BACKGROUND

In 1996 (during the license application review process), HRI responded to a series of Staff requests for additional information (RAIs) -- one of which, RAI 92 -- asked for investment and operating cost information, including expected decommissioning costs,[2] over the life of HRI's proposed *in situ* leach (ISL) uranium mining project. HRI broke its RAI 92 response into five major cost categories, including one it titled "Restoration and Reclamation."[3] In a further breakdown of such costs, HRI stated that its estimate for groundwater restoration of a well field was "based on circulating four pore volumes" of water,[4] and estimated its cumulative total for restoration and decommissioning costs (at the Churchrock site) as $10,221,930.00.[5] As part of its same response for the Churchrock site, in a chart titled "Hydrology & Geologic," HRI provided further details regarding the assumptions underlying the groundwater restoration cost estimate, including an aquifer porosity figure of 0.25, and a pore volume factor of 1.95.[6] Previously, by letter dated April 1, 1996, HRI had responded to Staff RAI 59, which had requested information (for each of the

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[2] The part of HRI's RAI 92 response which pertains to decommissioning costs at its Churchrock site is found in Hearing File Notebook 9.5, which was distributed to the parties in 1998. *See* Staff letter dated June 11, 1998. Some -- but not all -- of the relevant portions of HRI's RAI 92 response were included as addendum pages 53-66 to the "Brief of Intervenors [ENDAUM] and [SRIC] on Review of Partial Initial Decision LBP-99-13, Financial Assurance for Decommissioning," filed with the Commission on August 13, 1999 (Intervenors' 1999 Brief).

[3] Intervenors' 1999 Brief, addendum p. 53.

[4] *Id*., at p. 56.

[5] *Id*., at p. 59.

[6] *See* Hearing File Notebook 9.5, HRI cover letter to Staff dated April 5, 1996, enclosing RAI 92 response, at p. 7-1. This page carries a date of "04/09/96," as do many of the Intervenors' addendum pages. *See, e.g*., Intervenors' 1999 Brief, addendum pages 58-59. The reason for the four-day discrepancy in dates between HRI's cover letter and its enclosures is not known.

three mining sites, *i.e.*, Churchrock, Unit 1, and Crownpoint) on expected amounts of groundwater consumption during ISL mining and well field restoration activities. In the HRI response for its Churchrock site, in a table titled "Churchrock Project - Groundwater Restoration Volume Calculated By Zone," HRI used an aquifer porosity factor of 0.21 in calculating these volumes,[7] rather than the 0.25 factor it later used.

In February 1997, the Staff published NUREG-1508, the "Final Environmental Impact Statement to Construct and Operate the Crownpoint Uranium Solution Mining Project, Crownpoint, New Mexico" (FEIS). Therein, the Staff explained its basis for requiring that nine (rather than HRI's proposed four) pore volumes be used to restore groundwater at HRI's initial Churchrock well fields, stating as follows:

> Depending on the parameter and the test chosen, the pore volumes required to achieve the lower water quality of the secondary restoration goal or background ranged from less than 1 pore volume to greater than 28 pore volumes. However, plots of [total dissolved solids] TDS concentrations and specific conductivity values (an indirect measure of TDS) show little improvement with continued pumping after 8 to 10 pore volumes. The Mobil Section 9 pilot is the largest restoration demonstration conducted in the project area to date. During groundwater restoration activities in the Mobil demonstration, TDS concentrations were close to the secondary restoration goal of 500 mg/L after 6.9 and 9.7 pore volumes. On the basis of the data submitted by HRI, the staff conclude that practical production-scale groundwater restoration activities would at most require a 9 pore volume restoration effort. Accordingly, the staff have calculated groundwater impacts assuming the use of 9 pour volumes for groundwater restoration. Furthermore, surety should be maintained at this level until the number of pore volumes required to restore the groundwater quality of a production-scale well field has been demonstrated by HRI.

FEIS, at p. 4-40.

By letter to the State of New Mexico dated June 2, 1997 (forwarding a financial assurance plan for Churchrock Section 8), HRI provided its estimate of "the expenses that will be incurred to restore the entire Section 8 property after full mine development" (June 2 cover letter, at 1), based

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[7] The April 1, 1996, HRI response to Staff RAI 59 is in Hearing File Notebook 9.1. The table using the 0.21 aquifer porosity factor is part of attachment 59-1 to HRI's response to Staff RAI 59.

in part on an assumed nine pore volume restoration effort as required by the FEIS. *See id*., at 2. In a follow-up letter to the State of New Mexico dated June 13, 1997, HRI forwarded a copy of its 1996 RAI 92 response.[8]

On January 5, 1998, the Staff issued to HRI a materials license, pursuant to 10 C.F.R. Part 40, authorizing ISL mining at sites in New Mexico.[9] Consistent with the FEIS, the license requires, in pertinent part, that the initial surety amount for Section 8 be based on an assumed nine-pore-volume groundwater restoration effort, an assumption which will govern only until a production-scale restoration effort more firmly establishes what HRI's groundwater restoration costs will be. In this regard, HRI License Condition (LC) 9.5 states in pertinent part as follows:

> As a prerequisite to operating under this license, the licensee shall submit an NRC-approved surety arrangement to cover the estimated costs of decommissioning, reclamation, and groundwater restoration. Generally, these surety amounts shall be determined by the NRC based on cost estimates for a third party completing the work in case the licensee defaults. Surety for groundwater restoration of the initial well fields shall be based on 9 pore-volumes. Surety shall be maintained at this level until the number of pore volumes required to restore the groundwater quality of a production-scale well field has been established by the restoration demonstration described in LC 10.28. If at any time it is found that well field restoration requires greater pore-volumes or higher restoration costs, the value of the surety will be adjusted upwards. Upon NRC approval, the licensee shall

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[8] By letter to the Staff dated June 25, 1997, HRI forwarded copies of the June 2 and June 13 letters it had sent to the State of New Mexico. The Staff attached copies of the June 25 letter and its enclosures as Staff Exhibit 1 to the "NRC Staff's Response to Intervenors' Presentations on Technical Qualification, Financial, and Decommissioning Issues," dated February 18, 1999 (the Staff had mistakenly failed to include copies of HRI's June 25, 1997 letter and its enclosures in the Hearing File distributed in June 1998).

[9] The license (SUA-1580) pertains to HRI's proposed ISL mining at three separate locations in New Mexico, *i.e.*, the Churchrock site (consisting of Section 8 and Section 17, contiguous land parcels about six miles north of the town of Church Rock), the Unit 1 site, and the Crownpoint site (these latter two sites being located in the vicinity of the town of Crownpoint, New Mexico, several miles northeast of Church Rock). After the Presiding Officer had issued his series of partial initial decisions in 1999 pertaining to Section 8, he suspended adjudication on the other mining sites pending word from HRI that it had immediate plans to mine those sites. *See* LBP-99-40, 50 NRC 273 (1999). The Commission later reversed this decision, ordering that the subpart L hearing be resumed to litigate issues pertaining to the Section 17, Unit 1, and Crownpoint sites. *See* CLI-01-4, 53 NRC 31, 38 and 71 (2001).

> maintain the NRC-approved financial surety arrangement consistent with 10 CFR Part 40, Appendix A, Criterion 9.

As indicated by LC 9.5, the terms of LC 10.28 are also relevant; this license condition states as follows:

> Prior to the injection of lixiviant at either the Unit 1 or Crownpoint site, the licensee shall submit NRC-approved results of a groundwater restoration demonstration conducted at the Church Rock site. The demonstration shall be conducted on a large enough scale, acceptable to the NRC, to determine the number of pore volumes that shall be required to restore a production-scale well field.

The Intervenors quickly made pore volumes an issue in this proceeding, as part of their "Motion For Stay, Request for Prior Hearing, and Request for Temporary Stay," dated January 15, 1998 (Stay Request).[10] A further summary of litigation history in this proceeding -- relevant to additional opportunities the Intervenors had to argue concerns regarding the pore volumes issue -- is set forth below.

On January 18, 1999, the Intervenors filed "Intervenors Amended Written Presentation in Opposition to [HRI's] Application For a Materials License With Respect to: Groundwater Protection" (Intervenors' 1999 Groundwater Presentation), supported by affidavits of Dr. Richard Abitz, Dr. William Staub, and Michael Wallace. In response, on February 19, 1999, HRI filed "[HRI's] Response to Intervenors' Brief in Opposition to [HRI's] Application For a Materials License With Respect to Groundwater Issues" (HRI's Groundwater Response), supported by eight affidavits, including one filed by Mark Pelizza. On March 5, 1999, the Intervenors moved for leave to file a reply to HRI's Groundwater Response,[11] and the request was granted by unpublished order dated

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[10] Attached to the Stay Request as Exhibit 13 was an affidavit of Dr. Marvin Resnikoff, arguing (in ¶¶ 14-16) that 28 -- rather than the Staff-imposed nine -- pore volumes should be assumed necessary for groundwater restoration purposes. After imposing a temporary stay on the license, the Presiding Officer later denied the Stay Request without reaching the merits of the pore volumes issue. *See* LBP-98-5, 47 NRC 119 (1998).

[11] *See* "ENDAUM's and SRIC's Motion For Leave to Submit Reply Brief and Rebuttal Testimony in Response to HRI's Response Presentation on Groundwater Protection Issues."

March 24, 1999. Accordingly, on April 8, 1999, the Intervenors filed "ENDAUM's and SRIC's Reply in Response to HRI's and the NRC Staff's Response Presentations on Groundwater Protection Issues" (Intervenors' 1999 Groundwater Reply), again supported by affidavits of Drs. Abitz and Staub, and Mr. Wallace (attached to Intervenors' 1999 Groundwater Reply as Exhibits A, B, and C, respectively).[12]

Over this same time period in early 1999, the Intervenors pursued their financial assurance area of concern. On January 11, 1999, the Intervenors filed "[ENDAUM's] and [SRIC's] Brief in Opposition to [HRI's] Application For a Materials License With Respect to: Financial Assurance for Decommissioning," supported by an affidavit of Dr. Michael Sheehan. Also on January 11, 1999, the Intervenors filed "[ENDAUM's] and [SRIC's] Brief in Opposition to [HRI's] Application For a Materials License With Respect to: [HRI's] Lack of Technical and Financial Qualifications," supported by an affidavit of David Osterberg. The Staff filed a single response to these January 11 Intervenor filings. *See* "NRC Staff's Response to Intervenors' Presentations on Technical Qualification, Financial, and Decommissioning Issues," dated February 18, 1999.[13]

In March 1999, the Presiding Officer rejected the Intervenors' arguments that financial assurance for decommissioning requirements had not been met. *See* LBP-99-13, 49 NRC 233 (1999). In reviewing LBP-99-13, the Commission in July 1999 affirmed the rulings that the financial assurance requirements applicable to ISL mining licenses are found in Criterion 9 of Appendix A to 10 C.F.R. Part 40, and that the financial assurance requirements of 10 C.F.R. § 40.36 do not apply to HRI's license. *See* CLI-99-22, 50 NRC 3, 8-9 and 18 (1999). But the Commission

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[12] In August 1999, the Presiding Officer rejected all of the Intervenors' groundwater concerns, a decision which the Commission declined to review. *See* LBP-99-30, 50 NRC 77, 84-109 (1999), *pet. for rev. denied*, CLI-00-12, 52 NRC 1, 3 (2000).

[13] In May 1999, the Presiding Officer rejected all of the Intervenors' technical and financial qualification concerns, a decision which the Commission declined to review. *See* LBP-99-18, 49 NRC 415 (1999), *pet. for rev. denied*, CLI-00-12, *supra*, 52 NRC at 3.

requested briefing on questions concerning when a financial assurance plan had to be submitted and approved by the Staff. *Id*., at 19-20.

In 2000, after further examining the rulemaking history of Appendix A to 10 C.F.R. Part 40, the Commission found that Criterion 9 of Appendix A "is best interpreted as requiring submission and approval of a financial assurance plan and cost estimates" before an ISL license is issued. CLI-00-08, 51 NRC 227, 239 (2000). Rather than revoking HRI's license, the Commission chose to impose a new license condition prohibiting use of the license until the cost estimate information was submitted, pursuant to Criterion 9, and a financial assurance plan was approved by the NRC Staff. *Id.,* at 238, and 241-42. In its decision, the Commission directed HRI to "submit a decontamination, decommissioning, and reclamation plan with cost estimates on which a surety will be based." *Id*., at 242. Accordingly, on November 21, 2000, HRI submitted for the Staff's review and approval its RAP for Churchrock Section 8 (its initial intended mining site), containing the information referenced by the Commission in CLI-00-8.

In early 2001, responding to a Staff RAI, HRI revised its Section 8 RAP.[14] The Staff found that the updated RAP, together with the information in revision 2 of HRI's Consolidated Operations Plan (COP) -- submitted in 1997 as a supplement to the license application -- provided an acceptable cost estimate "for the decontamination, decommissioning, and restoration of the first well field" to be mined at Section 8.[15]

In the proceeding remanded to the Presiding Officer, the Intervenors challenged the adequacy of the Section 8 RAP.[16] On January 22, 2001, HRI and the Staff filed replies to

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[14] *See* HRI letter to the Staff dated March 16, 2001, enclosing updated pages for the Section 8 RAP.

[15] Staff letter to HRI ("Acceptance of Restoration Action Plan for [HRI] In-Situ Uranium Mining Project, License SUA-1580"), dated April 16, 2001.

[16] *See* "Intervenors' Response to [HRI's] Cost Estimates and [RAP] of November 21, 2000,"

(continued...)

Intervenors' First Response,[17] and in May 2001 the Intervenors were allowed to submit a second written presentation alleging deficiencies in the updated Section 8 RAP.[18]

The Intervenors now seek to overturn the Presiding Officer's refusal, in LBP-04-03, to consider their evidence challenging HRI's pore volume estimate, on which the Section 8 RAP is partially based.[19] In granting the Intervenors' review petition, the Commission found that the Intervenors had previously raised a challenge to HRI's pore volume estimate, "not only in their financial assurance briefs but also, and *primarily*, in their briefs on technical groundwater claims." CLI-04-14, slip op., at 4 (emphasis in original). In this regard, the Commission noted that long before HRI filed its Section 8 RAP, relevant pore volume information had been made part of the adjudicatory record, citing as examples (1) the above-referenced affidavit of Mr. Pelizza, dated February 19, 1999 (1999 Pelizza Affidavit), attached as Exhibit 1 to HRI's Groundwater Response; and (2) a "Church Rock Pore Volume Calculation," submitted as Attachment 3 to the 1999 Pelizza Affidavit. *See* CLI-04-14, slip op., at 4 and n. 9.

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[16](...continued)
dated December 21, 2000 (Intervenors' First Response), which included as Exhibit 1 thereof an affidavit of Mr. Steven C. Ingle (Ingle Affidavit).

[17] *See* "Reply of [HRI] to Intervenors' Response to HRI's Cost Estimates for Decommissioning and [RAP]" (HRI's Reply); and "NRC Staff's Response to Intervenors' Financial Assurance Brief" (Staff's Reply), respectively. Attached to HRI's Reply was an "Affidavit of Mark S. Pelizza Responding To Affidavits of Steven Ingle And Richard Abitz" (2001 Pelizza Affidavit).

[18] *See* "Intervenors' Reply to the Responses of [HRI's] and NRC Staff's [RAP] Presentations of January 22, 2001 and Information Generated Subsequent to Those Presentations," dated May 24, 2001.

[19] *See* CLI-04-14, slip op., at 3. As explained there, a "pore volume" is a term used by the ISL mining industry to "describe the quantity of free water in the pores of a given volume of rock." *Id.*, *quoting* RAP, at E-2a. The term is used as a "unit of reference that a miner can use to describe the amount of circulation that is needed to leach an ore body, or [to] describe the [number of] times water must be flowed through a quantity of depleted ore to achieve restoration." *Id.*

SUMMARY OF ARGUMENT

In Argument I.A, the Staff evaluates the major defect in the Intervenors' present argument to the Commission: their failure to timely address the 1999 Pelizza Affidavit and its Attachment 3, despite the Commission having identified these items as examples of relevant pore volume information which had been made part of the adjudicatory record long before HRI filed its Section 8 RAP. *See* CLI-04-14, slip op., at 4 and n. 9. In Argument I.B, the Staff explains why a 1996 change in HRI's aquifer porosity factor (from 0.21 to 0.25) is not significant, in part because the Intervenors had possessed the discrepant data since June 1998 (when the Hearing File was distributed to the parties). Thus, contrary to the Intervenors' arguments (*see* Intervenors' 2004 Brief, at 22-24), nothing prevented the Intervenors, in January 1999, from using both the 0.21 and 0.25 aquifer porosity factors to calculate alternate water volumes, and raising the resulting question of which set of water volumes was more accurate. In Argument I.C, the Staff shows how the June 1997 letters HRI had sent to the State of New Mexico -- copies of which were produced during litigation of the Intervenors' financial assurance concern -- contradict the Intervenors' claim that HRI had not connected pore volumes to a cost estimate until it was forced to generate the Section 8 RAP in 2000 (*see* Intervenors' 2004 Brief, at 15), and contradict the related argument that HRI's cost estimates could not be evaluated in the context of litigating the Intervenors' financial assurance concerns. *Id.*, at 24-25. In Argument I.D, the Staff addresses the Intervenors' claim that the nine pore volume groundwater restoration assumption (established in the FEIS) improperly governs restoration cost estimates for all Section 8 well fields. *See* Intervenors' 2004 Brief, at 20-22. The Staff points out that even were this claim accurate (it is not), because it is based on a set of requirements -- LC 9.5, LC 10.28, and 10 C.F.R. Part 40, Appendix A, Criterion 9 -- which were in place as of 1998, the Intervenors would have to show why they could not have made this argument in 1999. They have failed to do so, contrary to the briefing requirements set forth by the Commission. *See* CLI-04-14, slip op., at 5.

In Argument II, the Staff addresses the Intervenors' assertion that they were denied a meaningful hearing on pore volume issues because the relevant information was "spread throughout the record." Intervenors' 2004 Brief, at 20. The Intervenors fail to demonstrate that they were improperly denied access to evidence, so that the case law they rely on is not on point. Aside from the fact that the 1999 Pelizza Affidavit and its Attachment 3 conveniently set forth the relevant pore volume information, the Intervenors do not establish any legal duty on HRI's part to "gift-wrap" information for easy access. The Staff maintains that the Intervenors themselves have an obligation to examine the record with sufficient care to enable them to uncover any information of concern or interest to them.

ARGUMENT

I. Pore Volume Information Sufficient to Allow Pursuit of Intervenors' Concerns Was Part of the Pre-RAP Adjudicatory Record

The limited question identified by the Commission is whether there is any significant issue on pore volumes that the Intervenors reasonably could not have raised prior to November, 2000, when HRI filed its Section 8 RAP. *See* CLI-04-14, slip op., at 5. On this point, the Commission specified that because the Intervenors had previously "challenged HRI's nine pore volume estimate in both the financial assurance and technical groundwater portions of this proceeding," they had no procedural right "to raise arguments that either have been or *could have been* raised previously," and the parties were accordingly requested to focus on this point in their briefs. *Id*. (emphasis in original). In Part I of its argument, the Staff shows that as of early 1999, there was sufficient information in the adjudicatory record to allow pursuit of Intervenors' pore volume concerns.

A. Intervenors Ignore Pore Volume Information Identified by the Commission

As shown below, despite a lengthy "Factual Background" section (*see* Intervenors' 2004 Brief, at 1-16), the Intervenors inexplicably ignore the 1999 Pelizza Affidavit and its Attachment 3 -- part of HRI's rebuttal to Intervenors' 1999 Groundwater Presentation -- and thus fail to adequately address the pore volume question identified by the Commission in CLI-04-14.

In rebutting the Intervenors' 1999 Groundwater Presentation, the 1999 Pelizza Affidavit and its Attachment 3 provided a detailed discussion of the pore volume concept, and showed how HRI used the "ore volume" method to estimate groundwater treatment costs following ISL mining of a well field.[20] Mr. Pelizza described how the three-dimensional volume of the ore zone to be mined is calculated, and how that volume is converted to a pore volume (PV) -- using gallons as the unit of measurement -- by multiplying the ore volume by the aquifer's percentage of porosity. *See* 1999 Pelizza Affidavit, at 13. Mr. Pelizza further explained how the PV is then converted to a corrected pore volume (CPV) by factoring in horizontal and vertical flare factors (*i.e.*, the PV is multiplied by these flare factors); how the CPV is in turn multiplied by the assumed number of pore volumes to be used in the restoration effort; and how the resulting number of gallons provides the estimate for the water treatment and disposal volumes and costs. *Id.*, at 14. Attachment 3 ("Church Rock Pore Volume Calculation") to the 1999 Pelizza Affidavit describes in graphic format how HRI used the ore volume method to estimate what groundwater treatment costs would be following ISL mining at HRI's Section 8 well fields. As depicted in Attachment 3, to arrive at the CPV for each Section 8 mine zone, the three-dimensional volume of each ore zone is given; each such volume is multiplied by the aquifer's assumed 0.25 porosity factor; and the resulting figure is again multiplied by a

[20] As stated above, the Intervenors' 1999 Groundwater Presentation was supported, in part, by affidavits of Drs. Abitz and Staub, each of whom referenced pore volumes issues. *See* January 8, 1999 affidavit of Dr. Abitz, at p. 48; and January 9, 1999 affidavit of Dr. Staub, at Table 5 (p. 18), and p. 40.

horizontal flare factor of 1.5 and a vertical flare factor of 1.3.[21] For each CPV so calculated, HRI then multiplied the CPV by 9 pore volumes (*i.e.*, the number of pore volumes the NRC Staff determined in the FEIS would be required in the initial restoration effort) to give the estimated number of gallons needed to restore the groundwater for each of the Section 8 mine zones.

Thus, as discussed further below, the 1999 Pelizza Affidavit and its Attachment 3 provided the Intervenors, in February 1999, with the information they claim was not made available until the RAP was submitted in November, 2000. Specifically, the Intervenors maintain that among the variables they needed to determine the volume of water required to restore an aquifer contaminated by HRI's ISL mining operations were the following: (1) horizontal and vertical flare factors; (2) porosity of the aquifer; and (3) ore zone dimensions. *See* Intervenors' 2004 Brief, at 12 and 22. They argue that before the RAP was submitted, they "did not know what porosity value HRI was using for its pore volume calculation," and likewise "did not know how many gallons of water HRI would flush through the aquifer at Section 8." *Id.*, at 23. But the 1999 Pelizza Affidavit and its Attachment 3 directly contradict these arguments. Likewise, the 1999 Pelizza Affidavit and its Attachment 3 refute the claim that the Intervenors were unfairly put into a position "of having to scour a voluminous record for small and discreet pieces of information scattered throughout the record." Intervenors' 2004 Brief, at 25. The Commission should accordingly reject these unfounded arguments.

Furthermore, as of April 8, 1999, when the Intervenors' Groundwater Reply was filed (supported by affidavits of Drs. Abitz and Staub, and Mr. Wallace), the Intervenors and their groundwater experts had ample time to review the 1999 Pelizza Affidavit and its Attachment 3. The fact that the Intervenors' Groundwater Reply did not address the 1999 Pelizza Affidavit and its Attachment 3 is notable, as both Intervenors' counsel and two of the Intervenors' groundwater

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[21] As reflected at p. 4-122 of the FEIS, combining these horizontal and vertical flare factors produces a factor of 1.95 (*i.e.*, 1.3 x 1.5 = 1.95).

experts stated, in March and April 1999, respectively, that the 1999 Pelizza Affidavit contained "new information."[22] Yet both now and in April 1999, the Intervenors fail to address Mr. Pelizza's February 1999 pore volume testimony and his Attachment 3. This certainly suggests that the Intervenors did not consider Mr. Pelizza's February 1999 pore volume testimony to contain any new information, apart from what they already had seen in RAI responses 59 and 92 (part of the Hearing File distributed in 1998).

For the above reasons, the Commission should find that HRI's Section 8 RAP did not introduce any significant new pore volumes issues that the Intervenors could not have raised with the Presiding Officer in 1999.

B. Intervenors Had Sufficient Information in 1999 to Challenge Pore Volume Estimates Despite Change in HRI's Aquifer Porosity Factor

The Commission should also reject the Intervenors' related argument that a change in HRI's aquifer porosity factor (from 0.21 to 0.25) is significant.[23] From April 5, 1996 forward, HRI has

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[22] In Exhibit A of the Intervenors' Groundwater Reply, Dr. Abitz stated that he was replying to "new information" presented in HRI's Groundwater Response, and that he had reviewed the "various affidavits" attached to HRI's Groundwater Response. Intervenors' Groundwater Reply, Exhibit A, at 1-2. Dr. Abitz specifically reviewed the 1999 Pelizza Affidavit, as evidenced by his discussion regarding a portion of Mr. Pelizza's testimony pertaining to "Exhibit 13" of the 1999 Pelizza Affidavit. *See* Intervenors' Groundwater Reply, Exhibit A, at 3-4. Dr. Staub's April 1999 testimony reflects an even more thorough review of the 1999 Pelizza Affidavit, which he discusses in several pages worth of testimony. *See* Intervenors' Groundwater Reply, Exhibit B, Answers 4, 6, and 7 (Exhibit B pages not numbered). In moving to file a reply to HRI's Groundwater Response in March 1999, Intervenors' counsel stated that the 1999 Pelizza Affidavit contained "new information." "ENDAUM's and SRIC's Motion For Leave to Submit Reply Brief and Rebuttal Testimony in Response to HRI's Response Presentation on Groundwater Protection Issues," at 4 (referencing Table 9 of the 1999 Pelizza Affidavit).

[23] *See* Intervenors' 2004 Brief, at 22-24. Here, the Intervenors largely rely on the April 1, 1996 HRI response to Staff RAI 59, in which HRI used an aquifer porosity factor of 0.21 (this April 1, 1996 HRI response is in Hearing File Notebook 9.1). Earlier in their brief, the Intervenors described HRI's response to RAI 59 in some detail, stating that it did not provide "any basis for the selection of the variables used to estimate water consumption," and did not address the financial assurance requirements of Criterion 9. Intervenors' 2004 Brief, at 5. But the Intervenors provide no explanation why they could not have argued these same points in 1999. Moreover, as previously stated, in response to RAI 92, HRI had subsequently provided further details regarding

(continued...)

consistently used the 0.25 aquifer porosity factor, and use of this larger factor results in a more conservative (*i.e.*, higher) estimate as to the amount of water necessary to achieve adequate groundwater restoration following ISL mining.[24] Moreover, because the Intervenors had possessed HRI's 1996 responses to RAIs 59 and 92 since June 1998 (when the Hearing File was distributed to the parties), nothing prevented the Intervenors in January 1999 from using both the 0.21 and 0.25 aquifer porosity factors to calculate alternate water volumes, and raising the resulting question of which set of water volumes was more accurate. In fact, the Intervenors took a comparable action in December 2000, when they disputed HRI's reliance in its Section 8 RAP on a 1.5 horizontal flare factor, arguing instead that a horizontal flare factor of 2.94 should have been used.[25] But the 1999 Pelizza Affidavit and its Attachment 3 contained the same pore volume data as did HRI's subsequent Section 8 RAP, so that the Intervenors could have proffered the same critique in April 1999, as part of the Intervenors' Groundwater Reply. Furthermore, the Intervenors acknowledge the fact that they were given copies of the above-referenced "Hydrology & Geologic" chart as part of the Hearing File.[26] But they make no showing why they could not have used this pore volume information in 1999, to pursue their groundwater concerns at that time.[27]

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[23](...continued)
the assumptions underlying the groundwater restoration cost estimate, including an aquifer porosity figure of 0.25, and a pore volume factor of 1.95. *See* Hearing File Notebook 9.5, HRI cover letter to Staff dated April 5, 1996, RAI response page 7-1.

[24] *See* 2001 Pelizza Affidavit, Section D, ¶ 2, at p. 7 and n. 8. The Intervenors in their June 14, 2004 brief do not address or otherwise rebut this testimony.

[25] *See* Intervenors' First Response, at 14-16, and Ingle Affidavit, at ¶¶ 12-19. Notably, the Intervenors there mostly agree with HRI's Section 8 RAP description of the pore volume concept. *See* Intervenors' First Response, at 14 n. 8, and 15 n. 9.

[26] *See* Intervenors' 2004 Brief, at 23, *citing* "RAI Q-92 at 7-1."

[27] Indeed, the Intervenors admit that their expert, Dr. Sheehan, used "RAI Q-92" in preparing his 1999 testimony. Intervenors' 2004 Brief, at 10.

Thus, the Intervenors fail to show that the LBP-04-03 ruling they dispute unfairly deprived them of an opportunity to litigate pore volume issues, because they clearly could have litigated such issues -- including the discrepancy between the 0.21 and 0.25 aquifer porosity factors -- in 1999.

C. Within Context of Litigating its Financial Assurance Concern, Intervenors Had Sufficient Information in 1999 to Challenge Pore Volume Estimates

In addition to their failure to show -- in the context of litigating their groundwater concern -- the existence of any significant pore volume issue which could not have been raised in 1999, the Intervenors similarly fail to adequately address the adjudicatory record developed with respect to their financial assurance concern. *See* Intervenors' 2004 Brief, at 24-25. In this regard, by the time the Intervenors' Groundwater Reply was filed in April, 1999, the Intervenors had possessed for several weeks the June, 1997, letters HRI had sent to the State of New Mexico.[28] The June 2, 1997, letter (at p. 2) states that HRI was basing its groundwater restoration financial assurance estimates on a nine-pore-volume restoration effort. In the follow-up letter dated June 13, 1997, HRI references its RAI 92 response (sent to the Staff on April 5, 1996), and forwards a copy of it to the State of New Mexico. As previously stated, the RAI 92 response includes the "Hydrology & Geologic" chart, specifying an aquifer porosity figure of 0.25.[29] Together, these June 1997 letters show that following issuance of the 1997 FEIS, HRI was basing its groundwater restoration financial assurance estimates on a nine-pore-volume restoration effort, and an assumed 0.25 aquifer porosity factor. These June 1997 letters also directly contradict the Intervenors' claim that

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[28] As stated in n.8, *supra*, the Staff had included copies of these letters as part of Staff Exhibit 1 to the "NRC Staff's Response to Intervenors' Presentations on Technical Qualification, Financial, and Decommissioning Issues," dated February 18, 1999. The Intervenors' argument that pore volume information was not provided in the context of financial assurance (*see* Intervenors' 2004 Brief, at 24-25), is thus without merit.

[29] *See* Hearing File Notebook 9.5, HRI cover letter to Staff dated April 5, 1996, RAI 92 response, at p. 7-1. Note that HRI did not send the State of New Mexico its earlier response to RAI 59 (which used an assumed 0.21 aquifer porosity factor).

HRI "had not meaningfully connected pore volumes to a cost estimate until it was forced to generate the RAP." Intervenors' 2004 Brief, at 15.[30]

Accordingly, the Commission should reject the Intervenors' argument that HRI's cost estimates could not be evaluated in the context of litigating the Intervenors' financial assurance concerns, and the related claim that HRI had not connected pore volumes to a cost estimate until it was forced to generate the Section 8 RAP in 2000. *See* Intervenors' 2004 Brief, at 15, and 24-25.

D. Nine Pore Volume Assumption Does Not Govern Restoration of All Section 8 Well Fields

The Commission should reject the argument that the nine pore volume restoration assumption established in the FEIS will improperly govern restoration cost estimates for all Section 8 well fields *(see* Intervenors' 2004 Brief, at 20-22), primarily because this argument is based on a false premise. As shown by the terms of LC 10.28, established in January 1998 when HRI's license was issued, the nine pore volume restoration assumption only applies to "a groundwater restoration demonstration" conducted at "a production-scale well field"[31] at HRI's Churchrock site. When LC 10.28 is read in conjunction with the following excerpt from LC 9.5, it is clear that the Intervenors' argument is without merit.

> Surety for groundwater restoration of the initial well fields shall be based on 9 pore-volumes. Surety shall be maintained at this level until the number of pore volumes required to restore the groundwater quality of a production-scale well field has been established by the restoration demonstration described in LC 10.28.

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[30] The Intervenors reference these 1997 letters to New Mexico (*see* Intervenors' 2004 Brief, at 11-12), but they do not show why they could not have made their post-RAP arguments in their April, 1999 Groundwater Reply; nor do they explain the inconsistency between these 1997 letters -- produced during the 1999 litigation on their financial assurance concern -- and their argument that pore volume information was not provided in the context of financial assurance. *See* Intervenors' 2004 Brief, at 24-25.

[31] In summarizing the terms of LC 10.28, the Intervenors omit this phrase. *See* Intervenors' 2004 Brief, at 21.

Moreover, aside from its lack of validity, the Intervenors' argument is based on their construction of requirements -- LC 9.5, LC 10.28, and 10 C.F.R. Part 40, Appendix A, Criterion 9 -- which were in place as of 1998. The Intervenors make no showing that they could not have made this argument in 1999 (*see* Intervenors' 2004 Brief, at 20-22), contrary to the briefing requirements set forth by the Commission. *See* CLI-04-14, slip op., at 5.

As shown above, by focusing on financial assurance issues while ignoring the 1999 Pelizza Affidavit and its Attachment 3, the Intervenors have failed to adequately pursue on appeal the pore volume question identified in CLI-04-14 as constituting the scope of the Commission's review. Pore volume issues were litigated in the context of the Intervenors' groundwater concerns, at the same time that the Intervenors were pursuing their financial assurance concerns, and both sets of concerns were supported by several Intervenor expert witnesses. As discussed below, the Intervenors' arguments that they were unfairly deprived of an opportunity to present their concerns lack an adequate basis.

II. Intervenors Failed to Meet Their "Ironclad" Duty to Examine the Hearing Record with Sufficient Care

The Intervenors maintain that basic principles of fundamental fairness, and their right to meaningfully participate in an NRC hearing, support their request to challenge the Section 8 RAP's pore volume estimates. *See* Intervenors' 2004 Brief, at 17-20. To that end, the Intervenors cite to various decisions which are unequivocally distinguishable from the present case.[32] *Id.* at 17-18.

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[32] *Union of Concerned Scientists v. U.S. Nuclear Regulatory Comm'n,* 735 F.2d 1437, 1438 (D.C. Cir. 1984) (The petitioner challenged a rule, promulgated by the NRC, which permitted the Atomic Safety and Licensing Board to *not* have to consider the results of emergency preparedness exercises in licensing hearings before authorizing a full power license to operate a nuclear power plant); *Bellotti v. U.S. Nuclear Regulatory Comm'n,* 725 F.2d 1380, 1389 (D.C. Cir. 1983) (The intervenors unpersuasively cite to Judge Wright's dissent, which essentially focused on the need for public participation in enforcement proceedings. The majority, in affirming the decision of the NRC, held that the NRC had the authority to define the scope of its proceedings); *Envtl. Def. Fund, Inc. v. Ruckelshaus,* 439 F.2d 584, 588 (D.C. Cir. 1971) (In violation of the controlling statute, the agency refused to issue the proper notice to indicate the

(continued...)

Unlike a number of cases to which they cite,[33] the Intervenors in this case are not asserting that they were denied access to material evidence. *Id.* at 18. Rather, the Intervenors claim that pore volume calculations were "spread throughout the record and were used in a number of different contexts." *Id.* at 20. The Intervenors further assert that their right to a meaningful hearing was denied because their efforts on the pore volume issue "amounted to finding a needle in a haystack." *Id*.

As shown in Argument I above, all of the pertinent information related to pore volumes had been made part of the adjudicatory record by February 1999, and was, therefore, available to the Intervenors during the time that their Section 8 areas of concern were presented to the Presiding Officer in the Intervenors' Groundwater Reply. It was the Intervenors' responsibility at that time to examine the record for "discreet pieces of information." Intervenors' 2004 Brief, at 25. The Commission has addressed the obligation of intervenors to examine the record in NRC proceedings. It is a well-established principle that a person who seeks to intervene in an NRC adjudicatory proceeding "has an ironclad obligation to examine the publicly available documentary material pertaining to the facility in question with sufficient care to enable the

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[32](...continued)
commencement of formal administrative proceedings, even though there was a substantial question concerning the safety of a pesticide); *Oberstar v. Fed. Deposit Ins. Corp*., 987 F.2d 494, 503-04 (8th Cir. 1993) (The court held that the agency abused its discretion by issuing a quasi-criminal "penalty order" only five days after the petitioner appealed a previously issued "prohibition order").

[33] *Olenhouse v. Commodity Credit Corp.*, 42 F.3d 1560, 1583-84 (10th Cir. 1994) (The agency denied the petitioners a "full opportunity" to present relevant facts by refusing to give the petitioners the opportunity to question [cross-examine] the individual responsible for making the initial determination to reduce the Farmers' yields); *Garvey v. Freeman*, 397 F.2d 600, 613 (10th Cir. 1968) (Even though the court analyzed three instances of "secret evidence" being withheld from the petitioner, it ultimately held that the petitioner had ample opportunity to present his evidence and contentions and that he had a fair and adequate hearing which complied with the requirements of procedural due process); *Greene v. Babbitt*, 64 F.3d 1266, 1274 (9th Cir. 1994) (The court found the agency's regulations to be inadequate - primarily because the petitioning tribe was unable to call witnesses, there was no argument permitted before the authority making the decision, and the petitioning tribe was not given any access to the material evidence).

petitioner to uncover any information that could serve as the foundation for a specific contention."[34] Just as prospective intervenors have an obligation to examine publically available information, so too does a party to an NRC proceeding have an obligation to scrutinize the evidence in the record.[35] Moreover, it was not unduly burdensome for the Intervenors to review the 1999 Pelizza Affidavit and its Attachment 3, and to then pursue any pore volume concerns in the Intervenors' Groundwater Reply.

As shown in Argument I above, the Intervenors have had full and timely access to the documents regarding pore volumes, and thus had several opportunities in 1999 to pursue their pore volume concerns in this proceeding. Indeed, the Intervenors make no assertion to the contrary. Rather, the Intervenors argue that their prior inability to raise pore volume issues stems from their "untenable" responsibility to examine the "voluminous" record. Intervenors' 2004 Brief at 25. But the voluminous hearing record is due in large part to the Intervenors themselves, who vigorously litigated several areas of concern and employed more than a dozen expert witnesses.

When the Intervenors sought to participate in this proceeding, they accepted the obligations that attach to such participation. As part of those obligations, they were required to search the record with sufficient care to enable them to uncover any and all information regarding pore

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[34] *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), LBP-04-4, 59 NRC 129, 146-47 (2004) *citing* 54 Fed. Reg. at 33,170 (*quoting from Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-687, 16 NRC 460, 468 (1982), *vacated in part on other grounds,* CLI-83-19, 17 NRC 1041 (1983)).

[35] Because a prospective intervenor is obligated to quickly act on publicly available information to meet the "good cause" requirement of 10 C.F.R. § 2.714(a)(1)(i), so too must a party in an NRC proceeding seeking to raise a new issue show that the issue could not have been raised earlier. *See Texas Utilities Electric Co*. (Comanche Peak Steam Electric Station, Units 1 and 2), CLI-92-12, 36 NRC 62, 70 (1992), *quoting Detroit Edison Co*. (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-707, 16 NRC 1760, 1765 (1982). By analogy, the Intervenors here should not be viewed as having established good cause to pursue, in 2000-01, pore volume concerns based on information made part of the adjudicatory record in February, 1999. The time for doing so was when they filed their Groundwater Reply with the Presiding Officer in April, 1999.

volumes that was of concern to them. The fact that they failed to do so prior to HRI's filing its Section 8 RAP in 2000 did not entitle them to thereafter challenge HRI's pore volume estimate.

As the Commission noted, "the Intervenors already have challenged HRI's nine pore volume estimate in both the financial assurance and technical groundwater portions of this proceeding." CLI-04-14, slip op. at 5. Furthermore, the Intervenors fail to show that the Section 8 RAP contained any significant new information regarding pore volumes. Since the Intervenors have had full access to evidence in the record, all of their pore-volume related arguments could and should have been made in 1999.

CONCLUSION

For all of the reasons stated above, the Commission should affirm the Presiding Officer's refusal to consider the Intervenors' pore volume arguments made after the Section 8 RAP was submitted in November, 2000.

Respectfully submitted,

/RA/

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Dated at Rockville, Maryland
this 12th day of July, 2004

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of	)	
	)	Docket No. 40-8968-ML
HYDRO RESOURCES, INC.	)	
P.O. Box 777	)	
Crownpoint, NM 87313	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S RESPONSE BRIEF ON PORE VOLUME ISSUES" in the above-captioned proceeding have been served on the following persons this 12th day of July, 2004, by deposit into the U.S. Mail, first class (or as indicated by an asterisk, through the Nuclear Regulatory Commission's internal mail system), and by electronic mail (except as indicated by a double asterisk).

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