

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**RAS 11059**

**DOCKETED 01/11/06**

COMMISSIONERS:

**SERVED 01/11/06**

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In the Matter of )  
 )  
HYDRO RESOURCES, INC. )  
 )  
(P.O. Box 777, Crownpoint, )  
NM 87313) )  
\_\_\_\_\_ )

Docket No. 40-8968-ML

**CLI-06-01**

**MEMORANDUM AND ORDER**

In this decision, we consider a petition for review filed jointly by intervenors Eastern Navajo Diné Against Uranium Mining (ENDAUM), Southwest Research and Information Center (SRIC), Grace Sam, and Marilyn Morris. The intervenors seek review of LBP-05-17,<sup>1</sup> the Presiding Officer's Partial Initial Decision, in Phase II of this proceeding,<sup>2</sup> on groundwater protection, groundwater restoration, and surety estimates. Licensee Hydro Resources, Inc. (HRI) and the NRC staff oppose the petition for review. After careful consideration of the intervenors' petition, the responses, the Presiding Officer's decision, and cited portions of the record, we deny review of LBP-05-17.

The Presiding Officer's detailed decision in LBP-05-17 rests upon his analysis of

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<sup>1</sup> 62 NRC 77 (2005).

<sup>2</sup> The Hydro Resources Inc. (HRI) license authorizes HRI to conduct *in situ* leach (ISL) uranium mining at four sites in McKinley County, New Mexico: Church Rock Section 8, Church Rock Section 17, Unit 1, and Crownpoint. Phase I of the proceeding focused on Section 8. Phase II involves intervenor challenges to HRI's license relating to mining in the Church Rock Section 17, Unit 1, and Crownpoint sites.

extensive fact-specific arguments presented by the parties' technical experts. As we have said earlier in this proceeding, where a "Presiding Officer has reviewed [an] extensive record in detail, with the assistance of a technical advisor, the Commission is generally disinclined to upset his findings and conclusions, particularly on matters involving fact-specific issues or where the affidavits or submissions of experts must be weighed."<sup>3</sup> While we certainly have discretion to undertake a *de novo* factual review, we "generally do not exercise that authority where a Licensing Board has issued a plausible decision that rests on carefully rendered findings of fact."<sup>4</sup> We carefully have considered the intervenors' challenges to LBP-05-17. We find, however, that the intervenors have not identified any "clearly erroneous" factual finding or significant legal error, or any other reason warranting plenary review.<sup>5</sup>

## 1. Hearing Rights

The intervenors argue that the Presiding Officer erred when he approved four license conditions that will allow particular determinations to be made post-licensing. These license conditions require HRI, prior to injecting lixiviant into a well field, to (1) establish the baseline groundwater quality (the average well field concentration existing prior to mining operations) for

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<sup>3</sup> CLI-00-12, 52 NRC 1, 3 (2000), *citing* CLI-99-22, 50 NRC 3, 6 (1999); *see also Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-28, 62 NRC \_\_\_\_ (slip op. at 2)(Nov. 21, 2005).

<sup>4</sup> *See Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-03-8, 58 NRC 11, 25-26 (2003).

<sup>5</sup> *See* 10 C.F.R. 2.786(b)(4)(2004). The NRC has amended its adjudicatory procedural rules in 10 C.F.R. Part 2. *See* Final Rule, "Changes to Adjudicatory Process," 69 Fed. Reg. 2182 (Jan. 14, 2004). For cases such as this one, docketed prior to February 13, 2004, the previous procedural rules, including the former 10 C.F.R. § 2.786, continue to apply. A substantially equivalent new rule now appears at 10 C.F.R. § 2.341(b)(4)(2005).

specified groundwater quality parameters (LC 10.21);<sup>6</sup> (2) establish the upper control limits for three specified groundwater quality parameters (LC 10.22);<sup>7</sup> (3) conduct groundwater pump tests to assure that aquitards<sup>8</sup> provide adequate containment layers for the Westwater Canyon Aquifer at Section 17, Unit 1, and Crownpoint (LC 10.23);<sup>9</sup> and (4) test for fractures that could serve as conduits for groundwater contamination (LC 10.31).

The intervenors argue that these license conditions violate their statutory rights, under the Atomic Energy Act, to a hearing on issues material to licensing.<sup>10</sup> More specifically, they claim that these license conditions “leave room for the exercise of judgment or discretion by HRI in establishing baseline groundwater quality, UCLs [upper control limits], and whether the

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<sup>6</sup> The primary groundwater restoration goal is to return all groundwater quality parameters to the baseline level. If the baseline levels cannot be achieved, the secondary restoration goal is to return the groundwater quality to the maximum concentration levels as specified in the Environmental Protection Agency’s secondary and primary drinking water regulations or, for certain parameters, to New Mexico standards. See LBP-05-17, 62 NRC at 89 (referencing LC 10.21).

<sup>7</sup> During mining operations, HRI will need to monitor three groundwater parameters (chloride, bicarbonate, and electrical conductivity) at a ring of monitor wells at prescribed locations outside the mine field, to ensure that the parameter concentrations remain below established upper control limits. Upper control limits are derived from groundwater baseline quality by taking the established groundwater baseline mean for a parameter (after outliers have been eliminated), and then adding five standard deviations. See LBP-05-17, 62 NRC 77, 93 n.8; LC 10.22.

<sup>8</sup> An aquitard is a geologic unit exhibiting characteristics that generally retard the flow of groundwater (e.g., shales, clay, etc.).

<sup>9</sup> Groundwater pump tests involve pumping a well in an aquifer and then monitoring water levels in observation wells located within the aquifer and in overlying and underlying water-bearing units. See HRI Consolidated Operations Plan at §§ 8.5, 8.5.1, 8.5.2. If the groundwater levels in the overlying and underlying water-bearing units do not change during the pump tests, the water-bearing units are likely separated from the aquifer by confining layers (i.e., aquitards, or geologic formations that retard the flow of groundwater).

<sup>10</sup> AEA, § 189, 42 U.S.C. § 2239. See generally *Union of Concerned Scientists v. Nuclear Regulatory Comm’n*, 735 F.2d 1437 (D.C. Cir. 1984), cert. denied, 469 U.S. 1132 (1985).

Westwater [aquifer] is vertically confined and free of fractures.”<sup>11</sup> They claim a right to an adjudicatory hearing on future determinations that may be made under these license conditions.

The intervenors are correct that “[p]ost-hearing resolution [of licensing issues] must not be [employed] to obviate the basic findings prerequisite to a license, including a reasonable assurance that the facility can be operated without endangering the health and safety of the public.”<sup>12</sup> But here the basic findings on groundwater protection necessary for a licensing decision have been made. The Presiding Officer in LBP-05-17 found reasonable assurance that groundwater at the Section 17, Unit 1, and Crownpoint sites will be adequately protected. He reviewed extensive data submitted by HRI and the NRC staff, including preliminary pump test data, and data from HRI’s exploration drill holes and geophysical logs, as well as intervenor arguments challenging that data. Based upon information in the record, he concluded that the Westwater Aquifer is confined at the Section 17, Unit 1 and Crownpoint sites, and that drinking water supplies will be adequately protected.<sup>13</sup> Prior to injecting lixiviant at a mine site, HRI must conduct pump testing to “confirm” that the Westwater Aquifer indeed is contained at the mining sites.<sup>14</sup> These tests are “part of a multifaceted and ongoing [regulatory] process,” for assuring groundwater protection.<sup>15</sup>

The intervenors argue that the license conditions at issue permit excessive licensee

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<sup>11</sup> Intervenors’ Petition for Review of LBP-05-17 (Aug. 9, 2005) at 5.

<sup>12</sup> See Intervenors’ Petition at 3 (citing *Consolidated Edison Co. of New York, Inc.* (Indian Point Station, Unit No. 2), CLI-74-23, 7 AEC 947, 951-52 (1974)).

<sup>13</sup> See, e.g., 62 NRC at 121 (“contrary to the Intervenors’ assertion, the likelihood of vertical excursions of lixiviant ... at Section 17 is remote”); see also *id.* at 123 (“adequate record evidence supports the conclusion that the Westwater Aquifer is vertically confined at Unit 1”); *id.* at 124 (“HRI has demonstrated that drinking water supplies will be adequately protected from mining contaminants at Crownpoint”).

<sup>14</sup> See *id.* at 121, 124; see also generally *id.* at 106-09, 115-25.

<sup>15</sup> See *id.* at 100, see also *id.* at 101-02.

discretion, which could lead, for example, to artificially inflated groundwater quality baselines or improperly conducted pump tests. But we find no clear error in the Presiding Officer's conclusions that the challenged license conditions, together with their procedural protocols, outlined in HRI's Consolidated Operations Plan (COP), "provide a highly detailed, prescriptive methodology for establishing groundwater baselines and UCLs [upper control limits]," and likewise a "highly detailed and prescriptive methodology for establishing the hydrological properties of the mine sites."<sup>16</sup> As the Presiding Officer stressed, "the Intervenors have had a full opportunity – both here and in the prior Section 8 proceeding – to identify flaws, omissions, or irregularities in these procedures [in the license conditions and COP]" that could erroneously affect groundwater baselines, upper control limits, or the pump or fracture testing, such that public health or safety could be affected.<sup>17</sup> The Presiding Officer rejected the intervenors' arguments on the adequacy of the procedures. We find no reason to revisit his conclusion that "the methodology for making these determinations [under the license conditions] is sufficiently detailed and prescriptive so that, assuming HRI complies with that methodology," there is "reasonable assurance" that these determinations will not endanger public health and safety."<sup>18</sup>

Given the prescriptive nature of the license conditions and their applicable procedures or methodologies, and the hearing opportunity accorded to the intervenors to challenge the adequacy of those procedures, we find reasonable the Presiding Officer's conclusion that the intervenors' hearing rights are not violated by these license conditions. Further, as the Presiding Officer stated, "verification by the NRC Staff that a licensee complies with preapproved design or testing criteria 'is a highly technical inquiry not particularly suitable for

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<sup>16</sup> *Id.* at 93, 99.

<sup>17</sup> *See id.* at 93-94, 99.

<sup>18</sup> *See id.* at 94 n.11.

hearing.”<sup>19</sup> We note, additionally, that the HRI license is a performance-based license, and that in this proceeding the intervenors also have had the opportunity to litigate – and did litigate – whether the performance-based licensing complies with the Atomic Energy Act and National Environmental Policy Act (NEPA), and whether it accords undue discretion to the licensee.<sup>20</sup>

The intervenors fear that HRI might not “adhere[] to the methodology in its license or the COP [Consolidated Operations Plan].”<sup>21</sup> But as the Presiding Officer found, “[t]his argument, if accepted, would transmogrify license proceedings into open-ended enforcement actions: that is, licensing boards would be required to keep license proceedings open for the entire life of the license so intervenors would have a continuing, unrestricted opportunity to raise charges of noncompliance.”<sup>22</sup> In LBP-05-17, the Presiding Officer described how compliance with the license conditions will be subject to the NRC’s continuing regulatory oversight and authority.<sup>23</sup> If the intervenors have any cause to believe that HRI is not adequately following the outlined procedures, they can petition the NRC staff for appropriate enforcement action.<sup>24</sup>

Waiting until after licensing (although before mining operations begin) to establish definitively the groundwater quality baselines and upper control limits is, as the Presiding Officer stated, “consistent with industry practice and NRC methodology,” given the sequential development of *in situ* leach well fields.<sup>25</sup> The site-specific data to confirm proper baseline

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<sup>19</sup> *Id.* at 94 n.11 (quoting *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Storage Installation), CLI-03-8, 58 NRC 11, 20 & n.25 (2003)).

<sup>20</sup> See CLI-99-22, 50 NRC 3, 15-18 (1999).

<sup>21</sup> Intervenors’ Petition at 6.

<sup>22</sup> 62 NRC at 94.

<sup>23</sup> See, e.g., *id.* at 95, 99.

<sup>24</sup> See 10 C.F.R. § 2.206.

<sup>25</sup> See 62 NRC at 94 n.11.

quality values, and confirm whether existing rock units provide adequate confinement cannot be collected until an *in situ* leach well field has been installed, a point described by the NRC staff's expert.<sup>26</sup>

The intervenors have had the opportunity to challenge the adequacy of the groundwater-related information submitted by HRI and the NRC staff, as well as the methodology of procedures that will be used during the operational stages of mining to assure that groundwater quality remains protected. We find reasonable the Board's conclusion that the intervenors' hearing rights have not been violated.

## **2. Complaints of Overlooked or "Ignored" Evidence**

The intervenors' petition for review also argues that the Presiding Officer ignored factual evidence that they presented. They first argue that the Presiding Officer improperly "applied decisions from the previous litigation on Section 8 to very different factual evidence regarding Section 17, Unit 1, and Crownpoint."<sup>27</sup>

The Presiding Officer did find that earlier decisions in this proceeding (regarding Section 8) already had considered and rejected several of the arguments on aquifer hydrogeology and geochemistry that the intervenors repeated in their groundwater presentation for Section 17, Unit 1, and Crownpoint. He found that the intervenors had not "distinguish[ed] their current challenges from those that were previously rejected by the Commission."<sup>28</sup> The Presiding Officer noted, for example, that the "hydrogeology of the Westwater Aquifer [was] extensively

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<sup>26</sup> See, e.g., Affidavit of William von Till (April 29, 2005) at 7; (referencing NUREG-1569, "Standard Review Plan for *In Situ* Leach Uranium Extraction License Applications" (June 2003) at 5-43 (pump tests are done "[o]nce a well field is installed," and "[s]uch testing will serve to confirm the performance of the monitoring system and will verify the site conceptual model")).

<sup>27</sup> Intervenors' Petition at 6.

<sup>28</sup> See 62 NRC at 87.

litigated” in the Section 8 phase of the proceeding, that the intervenors raised many of the same arguments about the aquifer previously argued, that Section 17 was located adjacent to Section 8, and that the intervenors failed to provide “any persuasive reason” for why several conclusions made in regard to Section 8 would not also apply to Section 17.<sup>29</sup>

The intervenors argue that the Presiding Officer ignored site-specific evidence that they presented on geological differences at Section 17. They similarly argue that the Presiding Officer ignored their site-specific evidence on the geochemical environment at Section 17 and Crownpoint. We have examined the technical site-specific arguments alleged by the intervenors to have been ignored by the Presiding Officer. We find, however, no reason to revisit his conclusions on the relevance of the earlier Section 8 conclusions to the other three mining sites. Moreover, the Presiding Officer made clear that “in any event,” even without considering and applying the earlier Section 8 conclusions, he was unpersuaded by the intervenors’ groundwater arguments.<sup>30</sup>

The intervenors further argue that “where the Presiding Officer considered Intervenors’ evidence and made factual determinations about their contentions, the Presiding Officer ignored critical evidence and arguments,” including “important contradictions” in HRI’s and the staff’s evidence.”<sup>31</sup> Again, we carefully examined the intervenors’ claims, but discern no reason to revisit the Presiding Officer’s conclusions. For example, while the intervenors point specifically to pages 73 to 89 of their groundwater presentation, the Presiding Officer’s decision

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<sup>29</sup> See *id.* at 116; see also *id.* at 118.

<sup>30</sup> See *id.* at 118, 108-09.

<sup>31</sup> Intervenors’ Petition at 8. As HRI explains, it is not necessarily contradictory or internally inconsistent to conclude that the Westwater, “as a *geologic unit*, acts homogeneously, despite having some characteristics of heterogeneity.” See HRI Response to Intervenors’ Petition for Review of LBP-05-17 (Aug. 24, 2005) at 9 (emphasis in original).



references those very pages, rejecting intervenor arguments.<sup>32</sup> The Presiding Officer clearly found unpersuasive the intervenors' arguments on potential contamination of drinking water supplies. We find no indication that the Presiding Officer failed to address or "ignored" any critical arguments presented by the intervenors. Nor do we find any other reason to believe his factual determinations clearly erroneous.

### **Conclusion**

For the reasons given in this decision, we *deny* the intervenors' petition for review of LBP-05-17.

IT IS SO ORDERED.

For the Commission

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Andrew L. Bates  
Acting Secretary of the Commission

Dated at Rockville, Maryland,  
this 11<sup>th</sup> day of January, 2006.

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<sup>32</sup> See 62 NRC at 118-25. Another section of the intervenors' groundwater presentation argued that HRI's license violates the Safe Drinking Water Act because if HRI were unable to restore groundwater quality at the Section 17, Unit 1, and Crownpoint sites to the baseline water quality conditions for uranium, the secondary restoration standard for uranium that was specified in the license (0.44 mg/L) exceeded the EPA's maximum concentration limit (MCL) for uranium, which is 0.03 mg/L. HRI and the NRC staff agreed that reducing the secondary restoration standard to 0.03 mg/L was appropriate, and accordingly the Presiding Officer directed that HRI's license be revised to effect that reduction. See *id.* at 92. The Presiding Officer also noted that HRI may not commence ISL mining operations at any site until it obtains, from the appropriate regulatory authorities, an aquifer exemption for the portion of the aquifer where HRI will be mining and an Underground Injection Control permit. See *id.* at 90 (referencing LC 9.14).

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NUCLEAR REGULATORY COMMISSION

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing COMMISSION MEMORANDUM AND ORDER (CLI-06-01) have been served upon the following persons by electronic mail this date, followed by deposit of paper copies in the U.S. mail, first class, on January 12, 2006.

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[Original signed by Evangeline S. Ngbea]

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Office of the Secretary of the Commission

Dated at Rockville, Maryland,  
this 11<sup>th</sup> day of January 2006