June 25, 2004

RAS 8007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

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

NRC STAFF'S ANSWER TO INTERVENORS' MOTIONS TO SUPPLEMENT FEIS

INTRODUCTION

On May 14, 2004, Eastern Navajo Diné Against Uranium Mining (ENDAUM) and Southwest Research and Information Center (SRIC) (collectively, "Intervenors"), submitted to the Presiding Officer "Intervenors' Motion to Supplement the Final Environmental Impact Statement for the Crownpoint Uranium Project Church Rock Section 17" (Intervenors' Section 17 Motion).[1] On the same date, the Intervenors submitted to the Commission a similarly-worded "Intervenors' Motion to Supplement the Final Environmental Impact Statement for the Crownpoint Uranium Project Church Rock Section 8" (Intervenors' Section 8 Motion[2]), along with affidavits of Michael G.

[1] Attached to Intervenors' Section 17 Motion is an "Affidavit of Michael G. Wallace in Support of [ENDAUM] and [SRIC's] Motion to Supplement the Final Environmental Impact Statement for the Crownpoint Uranium Project" (Wallace Affidavit); and an "Affidavit of Alan Eggleston in Support of [ENDAUM] and [SRIC's] Motion to Supplement the Final Environmental Impact Statement for the Crownpoint Uranium Project" (Eggleston Affidavit).

[2] By unpublished Order dated May 26, 2004, the Commission referred Intervenors' Section 8 Motion to the Presiding Officer for his consideration. Thereafter, on June 2, 2004, the Intervenors filed with the Presiding Officer "Intervenors' Motion to Reopen and Supplement the Record" (Intervenors' Motion to Reopen). In the Staff's view, the Commission's May 26 referral renders unnecessary resolution of the issue of whether Intervenors' Section 8 Motion was procedurally deficient in failing to address the requirements of 10 C.F.R. § 2.734 ("Motions to reopen"). *See* "NRC Staff's Motion to Hold in Abeyance Consideration of Intervenors' Motion to Supplement the FEIS" (Abeyance Motion), at 3 n.5 (arguing that the Commission could summarily have rejected the Intervenors' Section 8 Motion). As previously stated, there are no apparent technical or environmental reasons to distinguish the Section 8 portion of the intended mining site (continued...)

Wallace and Alan Eggleston identical to the affidavits attached to Intervenors' Section 17 Motion.

Pursuant to 10 C.F.R. §§ 2.1237(a) and 2.730(c), the Staff files this answer to the Intervenors' Section 17 Motion and Intervenors' Section 8 Motion, which have been effectively consolidated for the Presiding Officer's consideration.[3] As discussed below, and in the affidavits of Ron Linton and Rick Weller (attached hereto as Staff Exhibits 1 and 2, respectively), the Intervenors have failed to establish that a formal supplementation of the environmental impact statement at issue here is warranted.

BACKGROUND

In connection with the issuance of a 10 C.F.R. Part 40 materials license to Hydro Resources, Inc. (HRI) in 1998 -- authorizing HRI to conduct *in situ* leach (ISL) uranium mining at sites near the Navajo Nation in New Mexico[4] -- the Staff, in 1997, published NUREG-1508, the "Final Environmental Impact Statement to Construct and Operate the Crownpoint Uranium Solution Mining Project, Crownpoint, New Mexico" (FEIS). The FEIS was published before the Presiding Officer, in September 1998, ordered that Section 8 and 17 issues be adjudicated in separate phases of this proceeding. Thus, the FEIS evaluated HRI's contiguous Section 8 and Section 17 mining sites as one site.

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[2](...continued)
from the Section 17 portion (the two sections are contiguous), so that either the impact statement must be supplemented for both sections or for neither section. *See* Abeyance Motion, at 2. Accordingly, the Staff does not believe it is necessary to address the Intervenors' Motion to Reopen (but the Staff is not thereby endorsing the Intervenors' "exceptionally grave safety issue" arguments, set forth in the Intervenors' Motion to Reopen, at 9-11).

[3] Citations herein to the Intervenors' supplementation request will be to the Section 17 Motion.

[4] 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).

Section 8 issues were litigated in 1999 during Phase 1 of this adjudication, in which the Presiding Officer issued a series of partial initial decisions on the several areas of concern pursued by the Intervenors. Among the areas of concern the Presiding Officer ruled on was the adequacy of the FEIS. *See* LBP-99-30, 50 NRC 77, 109-124 (1999). In October 1999, the Presiding Officer suspended adjudication on HRI's mining sites other than Section 8, pending word from HRI that it had immediate plans to mine those other sites. *See* LBP-99-40, 50 NRC 273 (1999). The Commission later reversed this decision, ordering that the 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). Following this decision the parties entered into settlement discussions, which lasted into 2003 but ultimately proved fruitless. Thus, to date, only Section 8 issues have been adjudicated. But, as set forth below, the Intervenors did not prevail on their areas of concern which -- because they raise them anew here -- are pertinent to the consideration of Intervenors' Section 17 Motion.

Areas of concern such as radioactive air emissions, groundwater contamination, and environmental justice[5] have already been specifically and thoroughly litigated with respect to HRI's Section 8 site -- albeit without reference to the recently-proposed housing development -- as reflected in several Presiding Officer and Commission decisions. For example, the radioactive air emissions concern was first adjudicated in 1999. *See* LBP-99-19, 49 NRC 421 (1999) (rejecting the safety aspect of this area of concern). Similarly, the Presiding Officer rejected the Intervenors' groundwater and other environmental concerns -- including those pertaining to environmental justice. *See* LBP-99-30, *supra*, 50 NRC at 84-109, and 121-24. The Commission denied petitions to review LBP-99-19, and the safety aspects of the groundwater ruling in LBP-99-30. *See* CLI-00-12, 52 NRC 1 (2000). The Commission granted review of, and affirmed, LBP-99-30's environmental rulings, including those on environmental justice concerns. *See* CLI-01-4, *supra*,

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[5] The present request to supplement the FEIS is based largely on such concerns. *See* Intervenors' Section 17 Motion, at 7-9.

53 NRC at 44-64, and 64-71. As stated above, following this decision the parties entered into settlement discussions, which lasted into 2003.

By letter to Staff counsel dated July 31, 2003 (at the end of the settlement discussions), Intervenors' counsel provided a June 2003 environmental assessment (EA) prepared on behalf of the Department of Housing and Urban Development (HUD). This EA pertains to the Navajo Housing Authority's receipt of a HUD grant to finance the proposed housing project -- known as Springstead Estates -- to be located in Section 30, southwest of HRI's Section 8 and 17 ISL mining sites. Although up to 1,000 single-family housing units could eventually be built, the proposed project would be developed in phases, depending on the availability of funds, "with the initial proposed action encompassing about 83 single-family units under Tract 1 (Phase 1) development." EA, at 4.

On April 14, 2004, the parties participated in a transcribed telephone conference to discuss, among other matters, the Intervenors' previously-stated plans to request that the FEIS be supplemented to evaluate impacts HRI's planned ISL mining might have on Springstead Estates. Tr., at 40-68. During the conference, the Presiding Officer stated that any motion to supplement the FEIS "would need to set forth at least a *prima facie* case," establishing that the proposed housing project represents "a substantial new set of circumstances." *Id.*, at 61.

DISCUSSION

A. Intervenors Fail to Show Formal Supplementation of FEIS is Either Warranted by EA, or Required by NRC Regulation

1. EA Does Not Support Supplementation Request

As the proponents of the request that the FEIS be supplemented, the Intervenors have the burden of showing that such action is warranted. *See* 10 C.F.R. § 2.1237(b). The details of the Intervenors' burden are clear, because the Commission has already ruled upon an earlier Intervenor request in this proceeding that the FEIS be supplemented. *See* CLI-01-4, *supra*,

53 NRC at 52 (holding that unless some change causes an environmental effect "significantly different from those already studied," or reveals a "seriously different picture of the environmental impact of the proposed project," no FEIS supplementation is required). The Intervenors fail to meet this standard largely because, as discussed further below, the EA does not support their environmental concerns.

The Intervenors have failed to demonstrate that the proposed HUD-financed project discussed in the EA establishes that a seriously or significantly different environmental picture exists with respect to HRI's proposed ISL mining operations (as compared with the environmental evaluations set forth in the 1997 FEIS). While the Intervenors allege that the Crownpoint Uranium Project (CUP) "will clearly have significant impacts on Springstead Estates" (Intervenors' Section 17 Motion, at 7), and suggest adverse impacts pertaining to radiological effects, groundwater contamination, traffic problems, and environmental justice,[6] *id.*, at 7-9, they do not establish that these concerns are supported by any specific findings in the EA. Indeed, as discussed in the affidavit of Mr. Linton (attached hereto as Staff Exhibit 1), a review of the EA shows that it lacks any evidence of such adverse impacts, thereby forcing the Intervenors' experts to base their opinions largely on speculation.

The sketchy picture drawn in the EA about where the proposed housing project would draw its water from further weakens the Intervenors' supplementation request. The Intervenors focus on the distance between the borders of the housing project and HRI's Churchrock mining operations[7] -- on the question of such distances the EA is silent except to say that HRI wells are

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[6] Regarding the Intervenors' environmental justice concern, they fail to address the likelihood that most, if not all, of the prospective Springstead Estates residents would come from the local population -- a group of people that the FEIS environmental justice analysis already covers. *See* FEIS Sections 3.10 and 4.12.

[7] *See* Intervenors' Section 17 Motion, at 3, claiming that the housing project would be located within two miles of HRI's proposed operations.

"in the area" (EA, at 8) -- but on the key question of where any necessary wells for the housing project would be located, the EA contains no information. There is thus no basis for the Intervenors' claim that HRI's proposed ISL mining operations "when combined with groundwater pumping for drinking water from Springstead Estates" (Intervenors' Section 17 Motion, at 7), would adversely affect the local groundwater gradient.[8]

As indicated above, the EA contains only a brief reference to HRI's mining plans, and does not identify any impacts such mining would have on the housing project. The EA states that the proposed housing project would be built on Section 30, a section of land along Route 566 a few miles north of the town of Church Rock. Section 30 is southwest of HRI's Section 8 and 17 sites. Between Section 30 and Sections 8 and 17 lie Sections 19 and 20, as depicted on the map attached hereto as Staff Exhibit 3.[9] Sections 19 and 20 directly abut Section 30 to the north and northeast, respectively. Section 20 directly abuts Section 17 to the south, and Section 17 directly abuts Section 8 to the south. HRI's proposed ISL mining at its Churchrock sites would occur on the southeast quadrant of Section 8, and the adjoining northeast quadrant of Section 17. Each numbered section of land in this so-called "checkerboard" region near the Navajo Nation is roughly one square mile. *See* FEIS Figures 2.6 and 2.8.

That Section 30 is southwest of HRI's Section 8 and 17 sites, and lies both up-wind and up-gradient from HRI's sites, are significant facts regarding the Intervenors' airborne emissions and groundwater contaminant transport concerns, respectively. Regarding the airborne emissions

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[8] The opinions of Mr. Wallace pertaining to groundwater issues are addressed in Mr. Linton's affidavit, at ¶¶ 4-15.

[9] This map is part of the hearing file found in Notebook 9.9 (distributed to the Presiding Officer and parties in 1998), and carries PDR number 9608280216. The map is part of the surface water drainage analysis submitted by HRI in 1996, as described on p. 12 of Attachment A to the Staff's hearing file letter dated June 11, 1998. Note that in copying this map, its original dimensions were altered to more clearly show Section Nos. 17, 19, 20, and 30, while at the same time avoiding use of an over-sized document.

concern, the prevailing wind blows southwest to northeast in this area. *See* FEIS Figure 4.5. As discussed in Dr. Weller's affidavit (attached hereto as Staff Exhibit 2), because of the prevailing wind, radiological dose estimates in the FEIS vary markedly depending on location. Thus, while dose at the nearest downwind residence to HRI's Churchrock site is an already low 0.5 percent of the 10 C.F.R. Part 20 regulatory limit, the estimated dose for a resident location one mile upwind of the Churchrock site is an even lower 0.02 percent of the regulatory limit, and the corresponding dose for a hypothetical Springstead Estates resident two miles upwind of the Churchrock site would be even smaller. *See* ¶ 5 of Dr. Weller's affidavit. Even if significant radioactive air emissions resulted from HRI's ISL mining -- the Presiding Officer found that any doses from airborne emissions would be within 10 C.F.R. Part 20 requirements[10] -- the radioactivity would be blown directly away from the proposed housing project.[11]

Regarding the Intervenors' groundwater contaminant transport concern, due to the tilt of the rock underlying Sections 8 and 17, the groundwater from beneath those Sections flows to the north-northeast, directly away from the proposed housing project.[12] As stated in Mr. Linton's affidavit, due to this groundwater flow direction away from Section 30, the proposed housing development's assumed groundwater usage would have to reverse by nearly 180 degrees the potentiometric surface and groundwater flow direction at HRI's Sections 8 and 17 mining sites -- a highly unlikely event. *See* ¶ 10 of Mr. Linton's affidavit. Thus, even if any lixiviant excursions from ISL mining went undetected, the contamination would not likely be able to move up-gradient

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[10] *See* LBP-99-19, *supra*, 49 NRC at 426-27.

[11] Further technical aspects of airborne emissions issues are discussed in ¶¶ 16-19 of Mr. Linton's affidavit, and in ¶¶ 5-6 of Dr. Weller's affidavit.

[12] *See* FEIS Figure 3.11. *See also* LBP-99-30, *supra*, 50 NRC at 88 (rejecting intervenors' underground "pipeline" model).

towards any underground water sources that the proposed housing project might use.[13] Moreover, Plat A for the housing development's Phase 1 construction shows that the initial 83 homes would be built in the southwest corner of Section 30. *See* "Final Map of Springstead Estates Phase 1, Plat A" (part of EA Section VIII D). As indicated on the map attached hereto as Staff Exhibit 3, of all possible future residents of Springstead Estates, those living in houses on the southwest corner of Section 30 would be located furthest away from HRI's Section 8 and 17 ISL mining sites.

In addition to the lack of support the EA provides to the Intervenors' supplementation motions, it is notable that the Intervenors have failed to provide any information updating the year-old EA. For example, no affidavits of anyone associated with the housing project have been provided in support of the Intervenors' supplementation motions. As pointed out by HRI in its June 21, 2004 filing, completion of a water-use study is required before the housing project may move forward,[14] so the fact that an EA has been conducted does not necessarily mean that Springstead Estates will ever become a reality. It is thus now apparent that Intervenors' counsel was mistaken when, in response to the Presiding Officer's question about the status of the housing project, he stated he was "not entirely sure," but that he thought "they have actually broken ground on some parts of the development." April 2004 Tr., at 52-53. And when asked by the Presiding Officer which aquifer the housing project would draw its water from, Intervenors' counsel admitted that was "one of the facts that's unclear." *Id.*, at 53. As noted in ¶ 5 of Mr. Linton's affidavit, the question of where the housing project would draw its water from remains unanswered. The Presiding Officer's previously-stated requirement that any motion to supplement the FEIS "would

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[13] Additional technical aspects of the Intervenors' groundwater contaminant transport concern are further discussed in ¶¶ 4-15 of Mr. Linton's affidavit, rebutting the opinions of Mr. Wallace.

[14] *See* ¶ 7 of Craig Bartels' affidavit, attached as Exhibit B to "[HRI's] Response to Intervenors' Motions to Supplement the [FEIS] for Sections 8 and 17 and to Re-Open and Supplement the Record for Section 8."

need to set forth at least a *prima facie* case," establishing that the proposed housing project represents "a substantial new set of circumstances" (Tr., at 61), has obviously not been met.

Accordingly, the Presiding Officer need not look beyond the EA issued in 2003, together with the Intervenors' failure to add any updated information on the housing project's status, to conclude that the Intervenors have failed to meet their burden of showing that supplementation of the FEIS is warranted.

2. Failure to Show FEIS Supplementation Required by 10 C.F.R. Part 51

As recognized by the Intervenors (*see* Intervenors' Section 17 Motion, at 12-13), the applicable NRC requirement pertaining to supplementation of an EIS is 10 C.F.R. § 51.92. Prefaced by the phrase "[i]f the proposed action has not been taken," this NRC regulation sets forth two situations in which the Staff would be required to supplement an EIS: (1) if there are "substantial changes in the proposed action"; or (2) if there are "significant new circumstances or information" which bear on "the proposed action or its impacts." 10 C.F.R. § 51.92(a)(1-2). It is the latter of these two provisions on which the Intervenors' 10 C.F.R. Part 51 argument is based.[15] As discussed below, the Intervenors fail to establish that the 10 C.F.R. § 51.92(a)(2) requirement is applicable here.

The Intervenors acknowledge that the FEIS clearly identifies the proposed action as being the issuance of a license authorizing HRI to conduct ISL mining. *See* Intervenors' Section 17 Motion, at 13, *citing* FEIS at p. 1-1. The time for formally supplementing the 1997 FEIS pursuant to 10 C.F.R. § 51.92(a)(2) thus ended in early 1998, when the NRC's proposed action -- *i.e.*, the issuance of a Part 40 license to HRI -- was taken. Although the Intervenors state that such a

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[15] *See* Intervenors' Section 17 Motion, at 13 and 14, *citing* 10 C.F.R. § 51.92(a)(2). In contrast to the mandatory duty to supplement under 10 C.F.R. § 51.92(a), the Staff may choose to formally supplement an EIS whenever, "in its opinion, preparation of a supplement will further the purposes of NEPA" (10 C.F.R. § 51.92(b)), regardless of whether or not the proposed action has been taken. As stated in ¶ 21 of Mr. Linton's affidavit, the Staff's opinion is that supplementation of the FEIS is not warranted here.

position -- where the proposed action is the issuance of a license -- would turn "NEPA on its head" (Section 17 Motion, at 13), their supporting argument confuses the term "the proposed action" (used in 10 C.F.R. § 51.92), with the term "final agency action" used in the Administrative Procedure Act (5 U.S.C. § 704 (APA)), and is thus not persuasive. *See* Intervenors' Section 17 Motion, at 13-14.[16]

The Presiding Officer should accordingly find that because the proposed action which triggered the need for the FEIS -- *i.e.*, the issuance of a Part 40 license authorizing ISL uranium mining -- was taken in 1998, the FEIS is no longer subject to formal supplementation under the requirements of 10 C.F.R. § 51.92(a)(2).

B. FEIS Subject to Informal Supplementation

The final factor weighing against any need to formally supplement the FEIS is that the Intervenors still have the opportunity to adjudicate environmental issues pertaining to the Section 17, Unit 1, and Crownpoint sites. In any NRC adjudicatory hearing, an EIS is subject to modification should a presiding officer -- or the Commission on appellate review -- differ from any EIS findings, so that the adjudicatory record in these cases effectively becomes part of the EIS. *See* CLI-01-4, *supra*, 53 NRC at 53. Thus, if the Intervenors establish that the 1997 FEIS is flawed in one or more respects on issues pertaining to the Section 17, Unit 1, and/or Crownpoint sites, the

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[16] The Intervenors' reliance here on *Bennett v. Spear*, 520 U.S. 154 (1997), is misplaced, as the Court was discussing the APA term "final agency action" in a case involving application of the Endangered Species Act, 16 U.S.C. § 1531 *et seq.* *See Bennett*, 520 U.S. at 157 and 177. While *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360 (1989) (also cited by the Intervenors) does pertain to the relevant issue here, it does not support their supplementation argument. In applying the well-known rule of reason, the Court stated that a government agency "need not supplement an EIS every time new information comes to light after the EIS is finalized," for to require otherwise would turn agency decision-making into a never-ending process. *Marsh*, 490 U.S. at 373 (footnote omitted). The Intervenors conclude this portion of their argument by stating that the Staff, pursuant to 10 C.F.R. § 51.92, must supplement the FEIS because it "did not analyze any of Section 17's environmental impacts on the Springstead Estates development." Intervenors' Section 17 Motion, at 14. But under this logic, the duty to supplement would be never-ending, as any new proposed development in proximity to an NRC-licensed operation could be said to trigger the need to supplement an EIS, contrary to *Marsh*, *supra*.

environmental record would effectively be supplemented by any NRC adjudicatory decision endorsing one or more of the Intervenors' environmental concerns.

CONCLUSION

For all of the reasons stated above, and as further shown in the affidavits of Mr. Linton and Dr. Weller (attached hereto as Staff Exhibits 1 and 2, respectively), the Intervenors have failed to establish that a formal supplementation of the 1997 FEIS is warranted. Accordingly, the Staff requests that the Presiding Officer deny the Intervenors' FEIS supplementation motions.

Respectfully submitted,

John T. Hull
Counsel for NRC Staff

Dated at Rockville, Maryland
this 25th day of June, 2004

Staff Exhibit 1

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

In the Matter of	)	
	)	Docket No. 040-08968-ML
HYDRO RESOURCES, INC	)	
P.O. Box 777	)	
Crownpoint, New Mexico 87313	)	

AFFIDAVIT OF RON C. LINTON

I, Ron C. Linton, being duly sworn, declare as follows:

1. I served as the Project Manager for the Hydro Resources, Inc. (HRI) license from August 2003 to June 12, 2004, and thus became familiar with the technical issues pertaining to the Crownpoint Uranium Project (CUP). I am competent to make this affidavit, and the factual statements herein are true and correct to the best of my knowledge, information, and belief. The opinions expressed herein are based on my best professional judgement. This affidavit will serve to present my views on the affidavits of Michael G. Wallace (Wallace Affidavit) and Alan Eggleston (Eggleston Affidavit), submitted on behalf of Eastern Navajo Dine' Against Uranium Mining and Southwest Research and Information Center (collectively, "Intervenors"), as part of the "Intervenors' Motion to Supplement the Final Environmental Impact Statement for the [CUP] Church Rock Section 17," dated May 14, 2004 (Intervenors' Motion).

2. In addition to the Wallace and Eggleston Affidavits, among the items I have reviewed in preparing this affidavit are the following:

A. The Environmental Assessment (EA), dated June 2003, prepared by Howard Bitsui, regarding the proposed Springstead Estates Project.

B. NUREG-1508, the "Final Environmental Impact Statement to Construct and Operate the Crownpoint Uranium Solution Mining Project, Crownpoint, New Mexico," dated February 1997 (FEIS).

C. Affidavit of William H. Ford, dated February 20, 1998 (Ford's 1998 Affidavit) (attached as Staff Exhibit 9 to "NRC Staff's Response to Motion For Stay, Request for Prior Hearing, and Request for Temporary Stay," also dated February 20, 1998).

D. Affidavit of William H. Ford, dated May 11, 1999 (Ford's 1999 Affidavit) (attached as Staff Exhibit 1 to "NRC Staff's Response to Questions Posed in April 21 Order," also dated May 11, 1999).

E. Affidavit of Craig Bartels, attached as Exhibit B to "[HRI's] Response to Intervenors' Motions to Supplement the [FEIS] for Sections 8 and 17 and to Re-Open and Supplement the Record for Section 8," dated June 21, 2004.

Professional Qualifications Regarding ISL Mining

3. I am an employee of the United States Nuclear Regulatory Commission (NRC) in the Office of Nuclear Material Safety and Safeguards (NMSS). Until my recent transfer within NMSS to the Division of Waste Management and Environmental Protection, I worked as a hydrogeologist in the Division of Fuel Cycle Safety and Safeguards, Fuel Cycle Facilities Branch, Uranium Processing Section. In that position, I reviewed license amendment requests and issued Technical Evaluation Reports (TERs) related to *in-situ* leach (ISL) mining for both the COGEMA Irrigary/Christensen Ranch facility in Wyoming, and the Crow Butte Resources facility in Nebraska. Additionally, I have reviewed reports related to the A-wellfield restoration activities at the Power Resources, Inc. (PRI) Smith Ranch ISL facility in Wyoming, and agreed with the Wyoming Department of Environmental Quality's decision to declare PRI's A-well field restored. My resume,

attached hereto as Attachment 1, accurately describes my general background, training, and other qualifications to express the opinions stated herein.

4. Below, and in the following paragraphs, I address some of the opinions stated in the Wallace Affidavit. In doing so, I believe it is important to first set forth some of the relevant geologic features present at HRI's Churchrock site. The stratigraphic column depicted in the FEIS (Figure 3.7 at p. 3-19) provides the names for the layers of rock which contain the aquifers of interest (an aquifer commonly takes its name from the name of its host rock, and that holds true here), and shows the vertical positions of the local rock strata relative to each other. The Westwater Canyon Member of the larger Morrison Formation (both are depicted in Figure 3.7) is the sandstone rock unit that contains the uranium mineral deposits at Churchrock Sections 8 and 17. As indicated in Figure 3.7, the Dakota aquifer overlies the Westwater aquifer, which in turn overlies the Cow Spring aquifer. Because of the mudstone beds in the layer of rock known as the Brushy Basin Member (located between the Dakota and the Westwater, as shown in FEIS Figure 3.7 and discussed at p. 3-18), this part of the rock column acts as an aquitard to hydraulicly separate the Dakota aquifer from the Westwater aquifer by restricting water movement vertically between these aquifers. HRI conducted pumping tests, which verified that no aquifer interconnection exists between the Westwater and the Dakota. *See* FEIS, at p. 3-35. Since the Dakota is hydraulicly disconnected from the Westwater, in my opinion local water-supply wells completed in the Dakota would not likely be affected by ISL mining in the Westwater. As stated above, the Cow Spring aquifer lies beneath the Westwater. The limited water quality data available suggests that the Cow Spring aquifer contains good-quality water, although transmissivity values are low. *See* FEIS, at p. 3-25. The Cow Spring aquifer is separated from the Westwater by an aquitard -- the 180-foot thick rock unit known as the Recapture Shale -- (*see* FEIS, at p. 3-35), so that a hydraulic connection between the Westwater and Cow Spring aquifers is unlikely. However,

as a prerequisite before any ISL mining occurs, HRI will be required to prove this aquifer disconnection. *See* HRI Licence Conditions (LCs) 10.32 b, and 10.25.

5. In his affidavit, Mr. Wallace references the Westwater, Dakota, and Cow Spring aquifers as being "the most likely choice" to provide the proposed Springstead Estates housing development with its domestic water supply. Of these aquifers, Mr. Wallace states that the Westwater -- the one in which HRI's proposed ISL mining would occur -- is the most likely aquifer to be used as a water supply because of its quality and hydraulic properties. Wallace Affidavit, at ¶ 12. I view this as unsupported speculation on his part, since the EA lacks any relevant information (*e.g.*, it contains no discussion of engineering issues, nor references any hydrological studies) on where the proposed housing development might get its water. Similarly, neither the EA nor Mr. Wallace addresses the possibility that all (or a significant amount of) water needed by the proposed housing development could be drawn from aquifers other than the Westwater.

6. Regionally, the Westwater aquifer is a viable source of water for a large population, as shown by the fact that six of the town of Crownpoint's wells are completed in the Westwater sandstone. *See* FEIS, at p. 3-22. As discussed in the Bartels affidavit at ¶¶ 11 and 12, the Westwater outcrops at or near Section 30 where the housing development is proposed. I have not been to the site or reviewed the geologic maps cited by Mr. Bartels, but his statements in this regard seem consistent with the fact that the rocks in this area dip 3 degrees northward. *See* FEIS, at p. 3-18. The Westwater is found at a depth of approximately 460 to 760 feet at Sections 8 and 17, and dips to the north-northeast. *See* FEIS, at p. 3-18. Towards the proposed housing development, to the south and southwest, the rocks would become shallower. If the Westwater outcrops at Section 30, the amount of water it could provide there would be much more limited than the amount of water found in the Westwater at the town of Crownpoint, or even at Sections 8 and 17. The Westwater would essentially be an unconfined water table aquifer, and would likely

produce much less water than where it can be utilized as a confined aquifer, such as at the town of Crownpoint.

7. Mr. Wallace also looks to the Dakota as a potential source for water for the housing development. *See* Wallace Affidavit, at ¶ 12. As I stated in ¶ 4 above, the Dakota overlies the Westwater. If the geology cited my Mr. Bartels is correct and the Westwater outcrops at Section 30, there is obviously no possibility that the housing development would use the Dakota aquifer as a water source, since that aquifer would not be present there.

8. The Cowspring is the other aquifer cited by Mr. Wallace as a potential source of water for the Section 30 housing development. *See* Wallace Affidavit, at ¶ 12. As I stated in ¶ 4 above, the Cowspring underlies the Westwater and should thus be present at Section 30. The Cowspring is a questionable source of water as reported transmissivity values are low (*see* FEIS, at p. 3-25), and, accordingly, production values would likely be low. Limited water quality data indicate that its water quality is good. *See* FEIS, at p. 3-25. The town of Crownpoint has one well, BIA-5, developed in the Cowspring (*see* FEIS, at p. 3-22), indicating it may be a viable aquifer. However, specific to the Section 30 housing development, the Cowspring's water quality and water quantity are unknown, as no engineering or hydrological studies have been performed by the developer to determine if this is or is not a viable aquifer.

9. But for purposes of further addressing Mr. Wallace's opinions, I will hereafter assume that if the proposed Springstead Estates housing development goes forward, it will draw its water from the Westwater or Cowspring aquifers. Mr. Wallace states that at Crownpoint, wells pumping at a combined rate of under 300 gpm alter the general groundwater flow direction in areas as far away as HRI's Unit 1 site; and that the potentiometric surface and groundwater flow direction at Unit 1 (formerly to the north by northeast) was altered to almost due east due to the influence of Crownpoint's water supply wells. Wallace Affidavit, at ¶ 17, *citing* FEIS Figure 3.10, at p. 3-28.

10. In my opinion, while Section 30 aquifer withdrawals could possibly alter groundwater characteristics at HRI's Churchrock site, such a change would not be comparable to the Crownpoint example referenced in ¶ 9 above. At Crownpoint, the flow direction was changed from north-northeast to east, a change I calculate as approximately 67.5 degrees in compass direction. HRI's Sections 8 and 17 are located to the north-northeast of Section 30. The potentiometric surface and approximate ground-water flow direction at HRI's Sections 8 and 17 is also to the north-northeast (*see* FEIS Figure 3.11, at p. 3-37), and such flow thus moves in the opposite direction and away from Section 30. Moreover, to affect the water quality in any Section 30 wells that may be drilled in the future -- and assuming such wells would draw from the Westwater aquifer -- the proposed housing development's water usage would have to reverse by nearly 180 degrees the potentiometric surface and groundwater flow direction at HRI's Sections 8 and 17 mining sites. In my opinion, this scenario would be highly unlikely given that (1) the proposed housing development's water-supply well(s) would be located hydraulically up- gradient from HRI's operations; and (2) such wells would be 1.5 miles distant from HRI's operations -- conservatively assuming that such wells would be drilled in the portion of Section 30 located closest to HRI's Section 17 mining site. The concern over groundwater gradient change would, of course, have even less basis if the Section 30 wells are completed in the Cowspring aquifer. For as I discussed in ¶ 4 above, the Cowspring is most likely hydraulicly disconnected from the Westwater.

11. Mr. Wallace states that groundwater pumping from either Section 8 or Section 17, combined with use of wells at the Springstead Estates development, could result in vertical excursions. Wallace Affidavit, at ¶ 19. Mr. Wallace does not offer any evidence of how groundwater use at the proposed housing development could cause vertical excursions at HRI's Churchrock sites. Moreover, the possibility that vertical and horizontal excursions will occur is well known in the ISL industry regardless of the surrounding land uses. By placing excursion monitoring

wells around ISL mine units in both the vertical and horizontal directions, and by constantly monitoring specific groundwater parameters for signs of lixiviant solution, the ISL mining industry acts to minimize the effects of vertical and horizontal excursions. Additionally, mechanical integrity tests are performed on injection wells before such wells are placed in service, as well as periodically during operations, to minimize the chance of well failure that may lead to an excursion. Such methods to prevent excursions would be used at HRI's Churchrock site, as required by HRI's licence. *See* LCs 10.12, 10.17, 10.20, and 10.24. Mr. Wallace does not address these preventive measures in his affidavit.

12. Mr. Wallace references the "potential" Pipeline fault (said to trend southwest through Section 17), and he is concerned that groundwater pumping from the housing development could affect groundwater flow, causing lixiviant from HRI's operations to flow toward this fault, ultimately causing contamination of overlying or underlying aquifers. Wallace Affidavit, at ¶¶ 20-21. The FEIS casts doubt on the Pipeline fault's existence at Section 17, stating as follows:

> A more recent detailed geologic map (Kirk and Zech 1987) indicates that the fault does not occur at all. This geologic map indicates no offset structural contours in the area. This interpretation is repeated by several regional geological studies including Sears and others (1936), O'Sullivan and Beaumont (1957), and Cooley and others (1969). No evidence for the fault is found in any of the site drilling data, and HRI indicates that if it exists, it is probably found some distance to the east.

FEIS, at p. 3-21. As indicated, the existence of the Pipeline fault is speculative, and Mr. Wallace offers no new evidence of its existence at HRI's Churchrock site. Moreover, the subject of vertical lixiviant migration due to structural shears, fractures, and joints, has previously been raised in this proceeding. Mr. Ford discussed why there is little likelihood that any faults at HRI's Churchrock site would act as vertical pathways for groundwater migration, due to the projected thickness and rock type of the overlying confining units. *See* Ford's 1999 Affidavit, at ¶¶ 27-36.

13. Mr. Wallace suggests that the NRC staff should analyze how groundwater pumping from Springstead Estates could affect HRI's ability to control excursions and restore groundwater quality at the old uranium mine workings on Section 17. Wallace Affidavit, at ¶ 22. These pre-existing workings are analyzed in the FEIS at pp. 4-55 through 4-57 (discussing horizontal excursions, vertical excursions, and groundwater restoration issues in light of the old uranium mine workings on Section 17). *See also* Ford's 1998 Affidavit, at ¶¶ 36-38. Additionally, the staff incorporated into HRI's license a requirement to place excursion monitoring wells as if the old mine workings were injection or production wells. *See* LC 10.17. Mr. Wallace fails to address the above-referenced analyses and licence condition in his affidavit.

14. Mr. Wallace relates his concern that -- as noted in the FEIS at p. 4-58 -- dewatering effects of mine workings on Section 17 could have significantly diminished or eliminated reducing conditions in the surrounding aquifer. Wallace Affidavit, at ¶ 25. He further states that groundwater pumping from Springstead Estates could further exaggerate movement of uranium in the aquifer before reducing conditions are encountered, thereby complicating HRI's restoration efforts. Wallace Affidavit, at ¶ 26. He postulates that should Section 17 groundwater reach Springstead Estates' drinking water wells before encountering reducing conditions, the development's drinking water source could be jeopardized. Wallace Affidavit, at ¶ 26. Since Mr. Wallace thus apparently believes that any wells at the proposed Springstead Estates could be threatened even if HRI mining never occurred, the Intervenors may want to request that the Fort Defiance Housing Corporation investigate this concern independently. However, in my opinion, any new Section 30 wells would face no threat from any Section 17 groundwater, whether or not ISL mining occurs there. As stated in the FEIS, research has shown that reducing conditions in rock which commonly surrounds uranium ore bodies acts to quickly absorb and remove any redox-sensitive ions -- such as uranium -- from local groundwater. *See* FEIS, at p. 4-57. Mr. Wallace

provides no evidence that such reducing conditions are absent in the Westwater in relation to the uranium ore body located in Sections 8 and 17.

15. For the reasons stated above, I disagree with Mr. Wallace's general opinion that, in light of the proposed housing development, the environmental effects of HRI's Churchrock operations should be re-evaluated in a supplement to the FEIS. Wallace Affidavit, at ¶ 13. The proposed housing development does not raise any groundwater or other environmental issues significantly different from those previously evaluated in the FEIS.

16. Below, and in the following paragraphs, I address some of the opinions stated in the Eggleston Affidavit. Dr. Eggleston is concerned about radiological impacts from ISL mining at Section 8 and 17, and that the airborne particulate modeling being relied on was not inclusive of persons living in the proposed housing development. Eggleston Affidavit, at ¶¶ 7-10. Seventeen airborne receptors were modeled near HRI's proposed Churchrock facility. *See* FEIS, at p. 4-83, and Figure 4.5 at p. 4-84. Calculated airborne concentrations of radon and its daughters at the HRI site boundary and nearest downwind residence (based on Gallup wind rose) are shown in FEIS Table 4.24, at p. 4-85. Additionally, the FEIS states on p. 4-83 as follows:

> For the Churchrock analysis, emission controls would reduce the airborne radon concentration by approximately a factor of 10 (*see* Table 4.24). The resulting values at the nearest residence are approximately 0.5 percent and 7.6 percent of the exposure limit, with and without the emissions controls, respectively. The calculated exposures and potential concentrations, with emission controls, are a small fraction of the regulatory limits.

Exposures were based on the nearest residences in the prevailing downwind direction (*i.e.*, northeast) from HRI's Churchrock site. The proposed housing development is located over 1.5 miles away and in the opposite prevailing wind direction (*i.e.*, southwest) from HRI's Churchrock site. Thus, in my opinion, radon exposures at the proposed housing development -- due to any ISL

mining -- would be much less than for the neighboring residences at Sections 8 and 17 which have already been modeled. *See* FEIS, at p. 4-83.

17. At ¶ 11 of his affidavit, Dr. Eggleston states that the current radiological assessment is not based on an industry standard processing plant such as the one at the ISL uranium mining facility at Kingsville Dome in Texas. Instead, he complains, the evaluation performed for HRI's proposed ISL facility assumed a type of processing plant that has never been tested. Dr. Eggleston rejects the statement that HRI's proposed processing plant will have close to zero emissions (*see* FEIS, at p. 2-15), because any gases and particulate matter generated during production would be re-circulated through a closed loop system. Dr. Eggleston agrees that although a facility of this type is highly desirable and may even be technologically possible, it has no track record. Dr. Eggleston is further concerned that any radon re-circulated during production would have to be released during the groundwater restoration phase. Eggleston Affidavit, at ¶ 12.

18. In my opinion, the above concerns of Dr. Eggleston are not well-founded. HRI proposes to minimize radon emissions by removing radon in intermediate holding tanks using a vacuum pump, compressing the gas, and dissolving it in the lixiviant injection system. Radon gas would then be re-circulated back into the well field mining solution. *See* FEIS, at p. 2-15. The radon that would be re-circulated during production would not be released at the restoration phase, contrary to Dr. Eggleston's above-stated concern. Moreover, any particulate matter generated by HRI's operations would be trapped by a bag filter -- with a 99 percent efficiency -- and would be returned to the uranium production circuit in the processing plant. The remaining one percent would be trapped by condensing and cooling all water vapor from the drying chamber. The vapor would be drawn through a water jacket and condensed, thereby capturing virtually all of the particulate matter escaping the bag filter. The condensate would then be returned to the uranium precipitation circuit in the processing plant. *See* FEIS, at p. 2-15. The above-described radon

re-circulation and yellowcake vacuum dryer technology to be used by HRI is very similar to that now being used at PRI's Highland-Smith Ranch ISL facility in Wyoming. I am personally familiar with this ISL technology, which has been proven to produce virtually zero radon emissions at this site.

19. The primary radon emissions that would occur at the Churchrock facility would be from radon releases when excess vapor pressure is vented by relief valves at numerous outdoor locations, when ion exchange columns are opened for resin transfer and elution, and when waste water is treated. *See* FEIS, at p. 2-15. Each of these scenarios has been adequately modeled for in the FEIS. *See* FEIS, at pp. 4-82 through 4-85.

20. Finally, from my review of the EA, I note that EA Section III.L, "Air Quality (HUD Environmental Factor)," identifies no air emissions issues relevant to statements made in the Eggleston Affidavit. EA Sections III.D ("Water (HUD Environmental Factors)"), III.I ("Sole Source Aquifers (HUD Environmental Factor)"), III.O ("Toxic Chemicals & Radioactive Materials (HUD Compliance Factor)"), and IV.E ("Water Resource Impacts") pertain to various hydrological issues, but none identify any underground contaminant problems related to ISL mining, and these EA sections are thus not relevant to statements made in the Wallace Affidavit. EA Section III.O references an old uranium mine southeast of Section 30 as having the potential "to release radioactive particles" into tributaries of the Puerco River (EA, at 11), but this mine has no connection with HRI's Churchrock site.[1] EA section III.U.7 discusses vehicular traffic issues, and states that no impact is anticipated from the proposed housing project. EA, at 15-16.[2] Thus, in my opinion, the EA does not support the opinions of Mr. Wallace and Dr. Eggleston, who are thus forced to speculate on impacts ISL mining could have on the proposed housing project.

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[1] I also note that EA Section III.O also references findings made by the Environmental Protection Agency that Section 30 is not "adjacent to any other known or suspected sites contaminated with toxic chemicals or radioactive materials." EA, at 11.

[2] Transportation issues are addressed in ¶¶ 7-9 of Dr. Weller's affidavit (Staff Exhibit 2).

21. Based on my review of the documents listed in ¶ 2 above, it is my professional opinion that the CUP FEIS does not need to be supplemented. The EA for the proposed Springstead Estates development lacks any discussion of engineering issues, and contains no references to any hydrological studies. The EA thus does not raise any environmental issues significantly different from the relevant hydrology, hydrogeological, and air emission control issues previously evaluated in the FEIS. For this and all of the other reasons set forth above, I conclude that preparation of a supplement to the FEIS -- based on the environmental concerns set forth in the Intervenors' Motion, the Wallace Affidavit, and the Eggleston Affidavit -- would not further the purposes of the National Environmental Policy Act.

The statements expressed above are true and correct to the best of my knowledge, information, and belief, and are based on my best professional judgement.

Ron C. Linton

Sworn and subscribed to before me
this 25th day of June, 2004

Notary Public

Elva Bowden Berry
NOTARY PUBLIC
Montgomery County, Maryland
My Commission Expires 12/1/07

My commission expires:_____

Attachment 1

Ron Curtis Linton
Hydrogeologist/Project Manager
United States Nuclear Regulatory Commission
Office of Nuclear Material Safety and Safeguards
Division of Waste Management and Environmental Protection
Environmental and Performance Assessment Directorate
Environmental and Low-Level Waste Section
Washington, DC 20555

Education:

West Virginia University, Morgantown, WV, Master of Science, Geology, May 1992.

James Madison University, Harrisonburg, VA, Bachelor of Science, Cum Laude, Geology, May 1984.

Employment History:

United States Nuclear Regulatory Commission (NRC), Rockville, Maryland, Hydrogeologist and Project Manager, 2/16/2003-present. As a Hydrogeologist, my duties include reviewing Site Observational Work Plans (SOWPs) and Ground Water Corrective Action Plans (GCAPs) for Department of Energy Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I facilities. I have reviewed, analyzed and written either Technical Evaluation Reports (TERs) or Requests for Additional Information (RAIs)for SOWPs and GCAPs for Title I sites located in Shiprock, NM, Rifle, CO, and Lakeview, OR. I have experience with the NRC licensing process as related to hydrogeology and ground-water issues. I have reviewed and written TERs on licensing amendment requests associated with *in situ* leach (ISL) facilities. The licensee's requests were for changes related to ground-water restoration or ground-water stability parameters and goals. I have developed clear, concise, balanced and well-founded technical and policy positions and recommendations in the TERs and RAIs written. The conclusions in the TERs and RAIs were based on complex and diverse opinions, facts, scientific literature and governmental regulatory policies. I have facilitated scientific, technical, and policy discussions to explain issues to colleagues, management, licensee personnel, clients, and representatives of Federal, state and local government agencies. I am familiar with Reclamation Plans and Restoration Plans and their content. I have participated in inspections at NRC licensed facilities and written findings for inclusion in inspection reports. I am knowledgeable of NRC laws, regulations, and guidance as related to UMTRCA Title I and Title II uranium mill tailings sites and ISL facilities. I have been involved with the development of a Memorandum of Understanding between the states of Wyoming and Nebraska relating to the deferral of active NRC ground-water regulation of ISL facilities to these states, which is a Commission directed initiative. I am currently serving as a team member actively reviewing the laws, regulations, and implementation of ground-water regulations related to ISL facilities in Nebraska and Wyoming

to insure they are consistent with NRC laws, regulations, and guidance. I was project manager for the Hydro Resources, Inc, Crownpoint Uranium Project, planned ISL facility, Crownpoint, New Mexico from August 2003 to June 12, 2004.

Commonwealth of Virginia, Department of Environmental Quality (DEQ), Woodbridge, Virginia, Senior Geologist and Project Manager, 7/1995-2/2003. Reviewed Site Characterization and Corrective Action Plans for petroleum contaminated underground storage tank and above ground storage tank facilities. Analyzed the risk to human and environmental receptors at each site and reviewed soil and groundwater remedial strategies for on-site implementation. Inspected leaking petroleum storage facilities and directed corrective action activities for responsible persons to comply with both federal and state law and regulation. Managed all aspects of project development from initial abatement to site closure. Assisted with the administration of the Virginia Petroleum Storage Tank Fund. Handled project management for various DEQ state agency lead sites including supplying permanent safe drinking water supplies to impacted parties. Effectively communicated both orally and in writing on a daily basis with citizens, private sector consultants, and public officials.

Commonwealth of Virginia, Department of Conservation and Recreation, Environmental Specialist, Warrenton, Virginia, 2/1989-7/1995. Reviewed and approved erosion and sediment control (E&S) plans and civil drawings for state agency projects. Participated in project preconstruction meetings, monitored project development and insured environmental compliance. Met with local government officials to review environmental programs for compliance with state law and prepared technical reports. Responded to citizen questions and concerns, assessed environmental conditions, and resolved problems.

Prince William Soil and Water Conservation District, Conservation Specialist, Manassas, Virginia, 4/1988-2/1989. Reviewed E&S plans for the City of Manassas and Prince William County. Reviewed county rezoning requests for soil suitability and various environmental concerns. Responded to citizens complaints and negotiated solutions between parties. Participated in meetings with local, state, and federal agencies. Conducted environmental programs for primary and secondary schools.

Interstate Commission on the Potomac River Basin (ICPRB), Consultant. Spring 1988. Assisted with core logging and analysis of floodplain sediments for a U.S Geological Survey and ICPRB sponsored project at Petersburg and Moorefield, West Virginia.

West Virginia University, Research Assistant, Teaching Assistant, 1986-1987, Morgantown, West Virginia. Researched debris-flow phenomenon initiated during November 1985 flooding in West Virginia. Taught college laboratory classes in physical geology, historical geology, and geomorphology.

United States Geological Survey, Hydrologic Field Assistant (contract), 1985, Reston, Virginia. Surveyed the research area and created a topographic map of the Catoctin watershed for the Acid Rain Project. Assisted with water sampling, well pump tests, and particle-size analysis of soils.

United States Geological Survey, Physical Science Aid (summer intern), summer 1983. Generated maps form computerized databases using mechanical mappers.

Other Qualifications:

NRC security clearance (yellow badge). Training received at NRC: MARSSIM; Fuel Cycle Processes; Root Cause/Incident Investigation Workshop; Introduction to Risk Assessment; Introductory Health Physics; Site Access Training; Natural Attenuation, Risk Assessment, and Risk Based Corrective Action; Geochemistry of Metals; How to Manage the NEPA Process, Writing Better NEPA Documents; Technical Writing; and Conducting and Participating in Meetings, various WordPerfect, Word, ADAMS and GroupWise classes.

Staff Exhibit 2

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

In the Matter of	)	
	)	Docket No. 040-08968-ML
HYDRO RESOURCES, INC.	)	
P.O. Box 777	)	
Crownpoint, New Mexico 87313	)	

AFFIDAVIT OF RICHARD A. WELLER

I, Richard A. Weller, being duly sworn, declare as follows:

1. I recently replaced Ron Linton as the Project Manager for the Hydro Resources, Inc. (HRI) license, and have thus become familiar with the technical issues pertaining to the Crownpoint Uranium Project (CUP). I am competent to make this affidavit, and the factual statements herein are true and correct to the best of my knowledge, information, and belief. The opinions expressed herein are based on my best professional judgement. My affidavit will serve to present my views on the affidavit of Alan Eggleston (Eggleston Affidavit), submitted on behalf of Eastern Navaho Dine' Against Uranium Mining and Southwest Research and Information Center (collectively, "Intervenors"), as part of the "Intervenors' Motion to Supplement the Final Environmental Impact Statement for the [CUP] Church Rock Section 17," dated May 14, 2004 (Intervenors' Motion).

2. In addition to the Eggleston Affidavit, among the items I have reviewed in preparing this affidavit are the following:

A. The Environmental Assessment (EA), dated June 2003, prepared by Howard Bitsui, regarding the proposed Springstead Estates Project.

B. NUREG-1508, the "Final Environmental Impact Statement to Construct and Operate the Crownpoint Uranium Solution Mining Project, Crownpoint, New Mexico," dated February 1997 (FEIS).

C. Affidavit of Mark Pelizza, attached as Exhibit A to "[HRI's] Response to Intervenors' Motions to Supplement the [FEIS] for Sections 8 and 17 and to Re-Open and Supplement the Record for Section 8," dated June 21, 2004.

D. The CUP's Consolidated Operations Plan (COP), rev. 2, submitted by HRI by letter dated August 18, 1997.

Professional Qualifications Regarding *In Situ* Leach (ISL) Mining

3. I am an employee of the U. S. Nuclear Regulatory Commission (NRC) in the Office of Nuclear Material Safety and Safeguards, Division of Fuel Cycle Safety and Safeguards, Fuel Cycle Facilities Branch, Uranium Processing Section. I have been employed by the NRC since 1974 in varying positions as a Nuclear Engineer, Section Chief, and Senior Project Manager. I have been a Senior Project Manager in the Uranium Processing Section since March 1999. In this position, I have worked on the licensing and oversight aspects of both conventional and ISL uranium mining projects, including several ISL projects in Wyoming (Highland, Smith Ranch, North Butte, Ruth, and Gas Hills) operated by Power Resources, Incorporated (PRI). My resume, attached hereto as Attachment 1, accurately describes my general background, training, and other qualifications to express the opinions stated herein.

4. Below, and in the following paragraphs, I address some of the opinions stated in the Eggleston Affidavit. Dr. Eggleston expressed a concern about the potential radiological impacts on the proposed Springstead Estates housing development, that could be produced by Hydro Resources Inc.'s (HRI's) proposed ISL mining operations at its Churchrock Section 8 and 17 sites. *See* Eggleston Affidavit, at ¶¶ 7 through 12. Dr. Eggleston's concern is based, in large part, on his

assumption that a large number of people would be living at Springstead Estates during HRI's proposed ISL mining operations, and that the NRC's previous radiological assessment of such operations did not take into account the presence of a large population group living nearby. Eggleston Affidavit, at ¶ 7. In this regard, HRI's Churchrock mining operations are expected to last eight years. FEIS, at pp. 2-26 and 4-82. While there is some uncertainty as to when such mining might begin, there is corresponding uncertainty with respect to the development of Springstead Estates. This housing project -- if it goes forward at all -- will be developed in phases, with the first phase expected to consist of only 83 single-family housing units. *See* EA, at p. 4. Dr. Eggleston cannot say when all of the projected 1000 single-family units will be in place, because there is no information in the EA on this point. Thus, the timing of future population growth at Springstead Estates is unknown. Given these uncertainties about the phased development of Springstead Estates, and the timing of its population growth, there is little basis for Dr. Eggleston's assertion (Eggleston Affidavit, at ¶ 9) that over 4000 people will be living at Springstead Estates during HRI's Churchrock mining operations.

5. Moreover, irrespective of how many people may eventually reside at Springstead Estates, the FEIS already provides an assessment of the potential radiological impacts of HRI's airborne emissions -- to both individuals residing in the vicinity of the intended Churchrock ISL mining site, and the population residing within a 50-mile radius of the site. *See* FEIS, at pp. 4-82 to 4-83, and 4-124 to 4-125. In this regard, the prevailing winds in the Church Rock area flow in a northeasterly direction, based on data from the National Weather Station in Gallup, New Mexico (about 12 miles from HRI's Churchrock site). *See* FEIS, at p. 3-3. The estimated radiological dose at the nearest downwind residence to HRI's Churchrock site is approximately 0.5 percent of the regulatory limit established in 10 C.F.R. Part 20. The estimated dose for a resident location on the southwestern side of the Churchrock site (within 1 mile) -- a location between the planned

Springstead Estates and HRI's site -- is approximately 0.02 percent of the regulatory limit. *See* FEIS, at p. 4-78. The corresponding dose for a hypothetical resident at the upwind location of Springstead Estates would be even smaller. Accordingly, in my opinion, there is no need to supplement the FEIS for consideration of potential radiological doses to hypothetical individuals who may eventually reside at Springstead Estates.

6. Additionally, with regard to the assessment of potential radiological impacts to the broader regional population, the FEIS already provides dose estimates for persons residing within 50 miles of both HRI's Churchrock site, and HRI's Crownpoint/Unit 1 sites (recognizing the overlap in the areas of potential impact from operations at all three sites). The population within the 50-mile radius of HRI's entire project area (*i.e.*, its intended CUP mining operations at its Churchrock, Crownpoint, and Unit 1 sites) was estimated to be 76,500 persons, and the estimated dose to this population group was less than 1man-rem/year. *See* FEIS, at p. 4-124. As noted in the FEIS, this estimated population dose from CUP operations is less than 1 percent of the dose to the population from natural background sources. *Id.* As discussed in ¶ 4, *supra*, based on an assumption that Springstead Estates will eventually be fully developed, Dr. Eggleston estimates that as many as 4,400 people may someday live there. In this event, it is reasonable to further assume that most, if not all, of those prospective residents would come from within the 50-mile radius referenced above. *See* EA, at p. 4 (discussing the need for improved housing for families in the McKinley County area). The FEIS assessment of potential population dose impacts from CUP operations has already considered this potential group of future Springstead Estates residents. However, even if it is assumed that 4400 people from locations outside of the 50-mile radius will move into Springstead Estates, this would only represent an approximate 5.7 percent increase in the population (76,500) considered in the FEIS population dose assessment. *See* FEIS, at p. 4-124. Considering the upwind location of the planned Springstead Estates from HRI's intended

Churchrock operations, this relatively small increase in the assumed population within the 50-mile radius of the CUP would not significantly alter the conclusions already made in the FEIS regarding the population dose impacts from project operations. Accordingly, in my opinion, there is no need to supplement the FEIS for consideration of potential radiological impacts in relation to the development of Springstead Estates.

7. Dr. Eggleston expressed concern about the potential impacts on the Springstead Estates development from HRI's transportation of radioactive and hazardous materials, in connection with its planned ISL mining operations. *See* Eggleston Affidavit , at ¶ 17 and ¶¶ 19-21. In my opinion, the FEIS transportation analysis (*see* FEIS Sections 3.4 and 4.5) need not be supplemented, because most -- if not all -- of the prospective residents of Springstead Estates would come from within a 50-mile radius of the CUP area, so that the previously-evaluated regional traffic considerations would not be significantly affected by the proposed housing development. Thus, potential transportation impacts to Springstead Estates residents from CUP operations have already effectively been considered. Moreover, the FEIS concludes that the CUP is not expected to significantly increase the current transportation risk to the regional population. *See* FEIS , at p. 4-124.

8. In addition to the existing FEIS analysis, further relevant information is set forth in HRI's COP, which Dr. Eggleston apparently never reviewed. *See* Eggleston Affidavit , at ¶ 5. ISL uranium recovery facilities like the CUP generate only small quantities of low-specific- activity radioactive wastes (spilled ion-exchange resins or contaminated soils) in need of off-site disposal, and any such wastes generated by HRI's mining would be retained on-site until a sufficient volume was generated for a shipment. *See* COP, at p. 52; and FEIS, at p. 4-125. Thus, shipments of radioactive wastes from the CUP would be infrequent, and the associated transportation impacts to Springstead Estates residents would be correspondingly minimal. Furthermore, the bulk of the

radioactive material shipped from the Churchrock site would consist of the uranium-laden resin or yellowcake slurry that would be transported to the Crownpoint processing facility for final processing into dried yellowcake, and this material would be transported along a route and direction away from Springstead Estates. Any potential spill of this material from a transportation accident could be easily contained and remediated with little risk to the surrounding public. In this regard, HRI has an established contingency plan for these types of highway transportation accidents, with specialized equipment and training provided for the personnel identified to respond to the event. *See* COP, at pp. 142-153, and 157. Similarly, any potential spills from truck shipments of chemicals to the Churchrock site could be isolated and cleaned up to minimize potential impacts to the public.

9. Because the FEIS has already considered the transportation impacts to the regional population from shipment of radioactive and hazardous materials related to CUP operations, there is, in my opinion, no need to supplement the FEIS for that segment of the regional population that may move to, and reside at, the Springstead Estates.

The statements expressed above are true and correct to the best of my knowledge, information, and belief, and are based on my best professional judgement.

Richard A. Weller

Richard A. Weller

Sworn and subscribed to before me
this 25th day of June, 2004

Notary Public

Elva Bowden Berry
NOTARY PUBLIC
Montgomery County, Maryland
My Commission Expires 12/1/07

My commission expires:_____

Attachment 1

NAME: **Richard A. Weller**

Senior Project Manager
Uranium Processing Section
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission

EDUCATION:

American University, Wash. D.C., B.S., Distributed Sciences, 1966
Maryland University, College Park, Md., M.S., Nuclear Engineering, 1970
Maryland University, College Park, Md., Ph. D., Nuclear Engineering, 1972

MILITARY SERVICE:

U.S. Marine Corps Reserve, 1963 - 1969

WORK HISTORY:

March 1999 - Present: USNRC
Senior Project Manager, Uranium Processing Section, Fuel Cycle Facilities Branch, Division of Fuel Cycle Safety and Safeguards. Responsible for oversight and licensing of a number of both conventional and in situ leach uranium recovery facilities, including the completion of numerous safety and environmental evaluations of these facilities and the processing of new license applications and amendments to the licenses for existing facilities. Evaluations included plans for decommissioning and reclamation of a number of facilities, including groundwater corrective action and restoration plans at conventional and in situ leach uranium recovery facilities, respectively.

April 1987 - March 1999: USNRC
Chief, Materials Section, Engineering Branch, Division of High-Level Waste Management. Responsible for evaluation of the adequacy of the engineered barrier systems for the proposed high-level waste repository at Yucca Mountain, Nevada, including the waste packages for the disposal of vitrified wastes and spent fuel. Evaluations included assessments of projected lifetimes of the engineered barrier system components.

November 1985 - April 1987: USNRC
Section Leader, PWR Project Directorate No. 6, Division of PWR Licensing, Office of Nuclear Reactor Regulation. Responsible for regulatory oversight of all Babcock and Wilcox reactor plants, including Rancho Seco, Davis Besse, and Three Mile Island, Unit 1. Licensing actions included preparation of safety evaluations for the restart of both Rancho Seco and Three Mile Island, Unit 1.

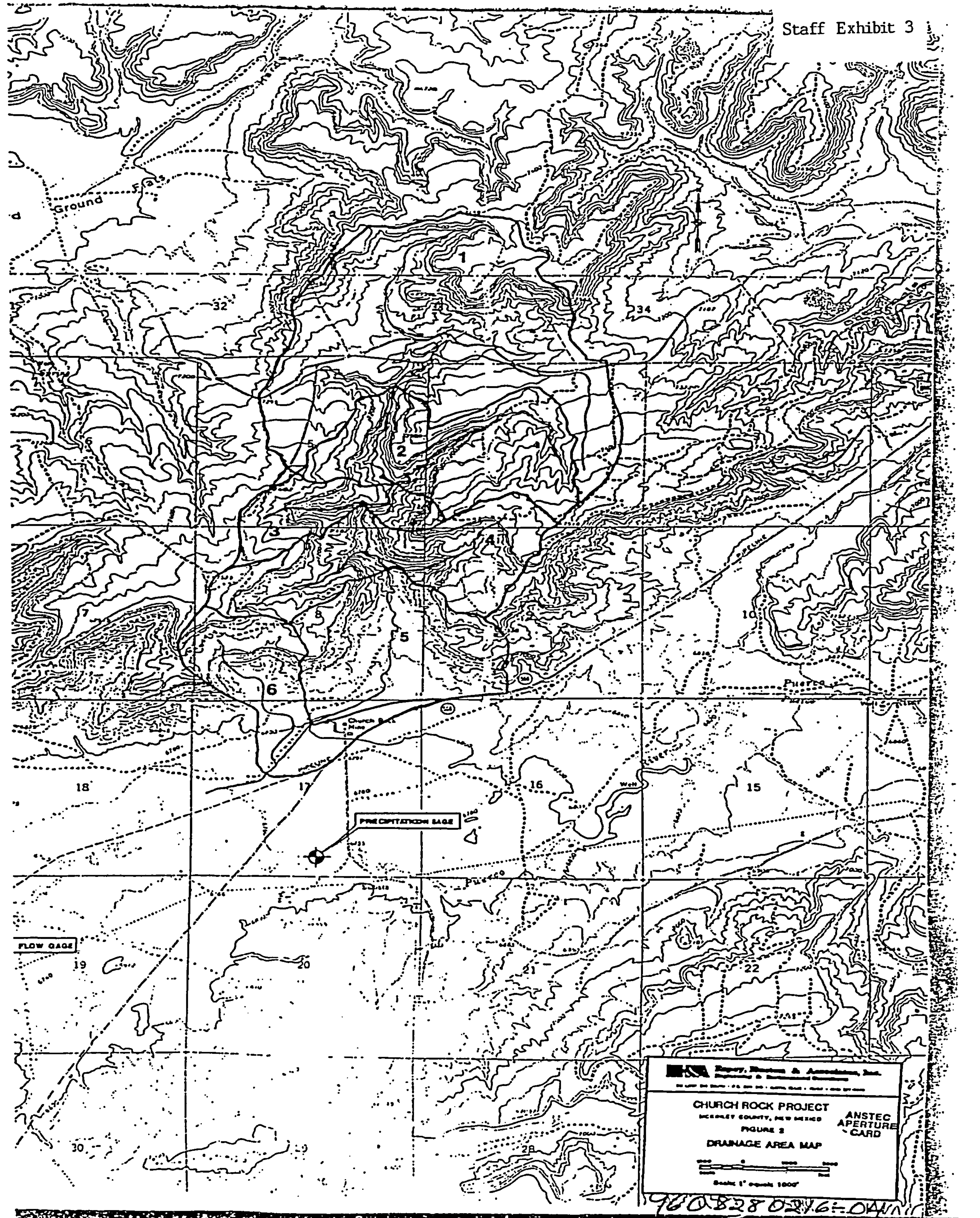
March 1980 - November 1985: USNRC

Leader, Safety and Environmental Review Section, Three Mile Island Program Office, Office of Nuclear Reactor Regulation. Responsible for all safety and environmental evaluations of cleanup actions at Three Mile Island Unit 2, including development of criteria and guidance for construction of gaseous, liquid and solid radioactive waste management systems. Evaluations included preparation of environmental assessments for high-level liquid waste processing systems and the purge of krypton-85 from the reactor containment building. Also prepared a programmatic environmental impact statement for the entire cleanup of Three Mile Island Unit 2.

December 1974 - March 1980: USNRC
Senior Nuclear Engineer, Effluent Treatment Systems Branch, Division of Technical Review, Office of Nuclear Reactor Regulation. Responsible for evaluation of liquid, gaseous, and solid radioactive waste management systems at 30 reactor plants, including light water reactors, gas cooled reactor, and liquid metal fast breeder reactor. Also responsible for development of solid radioactive waste packaging and transportation regulations.

January 1973 - December 1974: Bechtel Power Corporation
Nuclear Group Leader, Davis Besse Units 2 and 3. Responsible for design of liquid, gaseous, and solid radioactive waste management systems, development of piping and instrumentation and flow diagrams, development of technical specifications for radioactive waste system equipment, development of radiation zone maps and equipment layout and design, and evaluation of vendor proposals for equipment.

Staff Exhibit 3



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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

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 ANSWER TO INTERVENORS' MOTIONS TO SUPPLEMENT FEIS" (including Staff Exhibits 1, 2, and 3) in the above-captioned proceeding have been served on the following persons this 25th day of June, 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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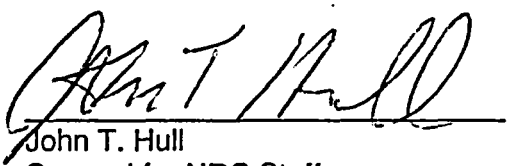

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