

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

Before Administrative Judges:  
Ann Marshall Young, Chair  
Dr. Richard F. Cole  
Dr. Fred W. Oliver

DOCKETED  
USNRC

December 31, 2007 (8:30am)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

In the Matter of  
  
CROW BUTTE RESOURCES, INC.  
(In Situ Leach Facility, Crawford, NE)

Docket No. 40-8943  
ASLBP No. 07-859-03-MLA-BD01

December 28, 2007

REPLY TO APPLICANT'S RESPONSE

Petitioners Thomas K. Cook, Slim Buttes Ag. Dev. Corp., and Western Nebraska Resources Council ("WNRC") hereby submit this Reply to Applicant Crow Buttes Resources Response to Petitioners' Request for Intervention:

REPLY

A. Parties:

There are now five Petitioners: Thomas K. Cook, Debra White Plume, Owe Aku, Slim Buttes Ag. Dev. Corp., and WNRC.

B. Standing:

Petitioners Cook, Slim Buttes Ag. Dev. Corp. and WNRC have standing because they have demonstrated that they may be affected by a decision in this proceeding. The applicable statute, 42 U.S.C. Section 2239(a), provides that "the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit any such person as a party to such proceeding. On the question of standing, the presiding officer must "construe the [intervention] petition in favor of the petitioner." *Georgia Inst. of Tech. (Georgia Tech Research Reactor)*, CLI-95-12, 42 NRC 111, 115 (1995). In

reviewing affidavits with respect to standing, a decision maker should "avoid 'the familiar trap of confusing the standing determination with the assessment of petitioner's case on the merits,' *Sequoyah Fuels Corp. (Gore, Oklahoma Site Decontamination and Decommissioning Funding, LBP-94-5, 39 NRC 54 (1994) (citing City of Los Angeles v. National Highway Traffic Safety Administration, 912 F.2d 478, 495 (D.C.Cir.1990) (citations omitted)), aff'd, CLI-94-12, 40 NRC 64 (1994). In the Matter of HydroResources, Inc., LBP-98-9, 47 NRC 261, 272 (1998) ("HRI I")*.

Petitioners are not required to rely on the good will of Applicant, the future decisions of the Staff of the Nuclear Regulatory Commission, or the staff of the Environmental Protection Agency. Petitioners who demonstrate that they rely on water supplies adjacent to the in situ leach ("ISL") mining project have a right to a hearing. *HRI I* at 269 (emphasis added.). In the case of exposure to radon from living in close proximity to an ISL mine is an "injury in fact" sufficient to establish standing. *In the Matter of HydroResources, Inc., LBP-03-27 58 NRC 408, 413 (2003) ("HRI II")*. Anyone who uses a substantial quantity of water personally or for livestock from a source that is reasonably contiguous to either the injection or processing sites of an ISL mine has suffered an "injury in fact." *HRI I* at 275.

Thomas K. Cook:

Thomas K. Cook lives and works downwind and 150 feet downgrade from Applicant's proposed North Trend expansion site. According to the Application itself Chadron is within the radius of the affected population. Reference Petition at 27 citing to ER 3.10 – Regional Population.

It is well known that depletion of the High Plains Aquifer (also known as the Ogallala Aquifer) results in a reduction of property values. See, e.g., L. Torrell et. al., *The Market Value of Water in the Ogallala Aquifer*, 66 Land Economics 2d 163 (1990) (The value of water is a significant part of irrigated farmland transaction prices observed in the marketplace. Using a comprehensive data set of farm sales in New Mexico, Oklahoma, Colorado, Kansas, and Nebraska, the value of water was estimated as the price differential between irrigated and dryland farm sales. Results indicate the water value component of irrigated farm sale transactions ranged from 30 to 60 percent of the farm sale price, depending on state; with an average of 37 percent in Nebraska). Id. at 172 and Table 3.

Slim Buttes Ag. Dev. Corp.:

Slims Buttes Ag. Dev. Corp. works to foster rural self-sufficiency and agricultural development in one of the poorest counties in the United States. The policy that greater participation be afforded minority or low-income groups, Executive Order 12898, "*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*," 59 Fed. Reg. 7629, 7630 (Feb. 16, 1994), 3 C.F.R. § 859 (1995), requires that an EIS analyze social and environmental impacts on minority and disadvantaged communities. *Louisiana Energy Services, L.P. (Claiborne Enrichment Center)*, CLI-98-3, 47 NRC 77, 101-02, 109 (1998). *HRI I* at 272. Accordingly, the impacts to the people at Slim Buttes and their family and community garden projects must be analyzed in this proceeding.

An organization may meet the injury-in-fact test either (1) by showing an effect upon its organizational interests, or (2) by showing that at least one of its members would suffer injury as a result of the challenged action, sufficient to confer upon it "derivative" or "representational" standing. *Houston Lighting and Power Co. (South Texas Project, Units 1 and 2)*, ALAB-549, 9 NRC 644, 646-47 (1979), aff'g, LBP-79-10, 9 NRC 439, 447-48 (1979). An organization seeking to intervene in its own right must demonstrate a palpable injury in fact to its organizational interests that is within the zone of interests protected by the AEA or NEPA. *Florida Power and Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4)*, ALAB-952, 33 NRC 521, 528-30 (1991). Where the organization relies upon the interests of its members to confer standing upon it, the organization must show that at least one member (with standing in an individual capacity) has authorized the organization to represent his or her interests in the proceeding. *Id.*; *Houston Lighting and Power Co. (Aliens Creek Nuclear Generating Station, Unit 1)*, ALAB-535, 9 NRC 377, 393-94, 396 (1979). Finally, an individual who files a request for hearing on behalf of an organization must show that he or she has been expressly authorized by the organization to represent its interests in the proceeding. *Detroit Edison Co. (Enrico Fermi Atomic Power Plant, Unit 2)*, LBP-78-37, 8 NRC 575, 583 (1978); see also *Georgia Power Co. (Vogtle Electric Generating Plant, Units 1 and 2)*, LBP-90-29, 32 NRC 89, 92 (1990). *HRI I* at 271.

The Petition of Slim Buttes Ag. Dev. Corp. shows palpable injury in fact to its organizational interests; namely, to promote community gardens which are irrigated with water from local wells.

The Affidavits of Joe American Horse and Thomas K. Cook show that Slim Buttes Ag. Dev. Corp. also has representational standing due to injury in fact by its members, clients and employees. They use the water; therefore, they have demonstrated an injury in fact for purposes of standing in this proceeding.

WNRC:

The Petition of WNRC shows palpable injury in fact to its organizational interests; namely, to protect the resources of Western Nebraska with a focus on water degradation that may result from uranium mining.

The Affidavits of Bruce McIntosh, Janet Mize, Beth Ranger and Francis E. Anders show that WNRC also has representational standing due to injury in fact to its members in the community. Of particular note are Ms. Mize, Ms. Ranger and Dr. Anders, all of whom have property in Crawford, Nebraska. Dr. Anders' property and water well are within one mile of current ISL mining operations and he has observed discoloration of his water in relation to the workweek of Applicant's drilling team. Dr. Anders drinks and bathes in the water from his well in close proximity to Applicant's proposed North Trend expansion as well as its current operation.

C. Contentions:

Pursuant to 10 C.F.R. § 2.1205(h), in ruling on any request for hearing filed under 10 C.F.R. § 2.1205(d), the Presiding Officer is to determine "that the specified areas of concern are germane to the subject matter of the proceeding...." Any area of concern is germane if it is

relevant to whether the license should be denied or conditioned. *HRI I* at 280.

A concern about the quality of water is germane if the ISL project, including activities that require further NRC or EPA approval, could affect it. If a petitioner alleges a deficiency in the EIS or Environmental Report, then that concern is germane. If a petitioner alleges a deficiency in the method for monitoring to detect excursions, then that concern is germane. It is not necessary to determine the merits of a concern in order to determine that it is germane. Assuredly, this standard differs from assessments of "contentions" in formal proceedings. The informal standard is far easier to meet. *HRI I* at 280.

A contention that the project's transportation of contaminated materials by truck over long distances threatens the safety of people living, working, and traveling in the area, was found to be a germane area of concern. *Id.*

Accordingly, Petitioners have raised several germane areas of concern which allow for intervention.

D. Disputed Facts:

1. Water Usage. Petitioners contend that Applicant's water usage is exactly what they have permits to extract, namely 9,000 gpm prior the expansion and an additional 4,500 gpm with the North Trend expansion. Applicant contends that due to compliance with NDEQ standards created especially for Applicant's operations, its water usage should be based on a fictional "net consumptive use" of water. Applicant's representatives have testified that the "net consumptive use" of water of Applicant's ISL mine is equivalent to one 113 gpm pivot sprinkler. This creates misimpressions and misunderstandings by creating a false impression that

Applicant's water usage is minimal or nominal when in fact it currently represents an enormous water usage of 4.7 billion gallons per year currently with an additional 2.4 billion gallons per year of usage planned for the North Trend expansion. Since Applicant has admitted that the water is changed and made unusable by the ISL operation, it has to take responsibility for the water usage and may not rely on a technical standard to create a false impression that its water usage is nominal. The Application fails to account for drought conditions or climate change. Reference Petition at p.19 with reference to TR 2.5.1 and 2.5.3.

2. Water Contamination; Mixing of Aquifers. Petitioners contend that Applicant's activities are contaminating the water supplies as a result of spills and discharges of radioactive waste and re-injection of contaminated liquids into aquifers which the Application admits are not impermeable. Reference Petition at p.19 with reference to TR 2.6.2.8. Petitioners contend there is a mixing of the aquifers. Id. Petitioner WNRC submits that the geologic mapping and lithostratigraphic correlations have been recently revised and redescribed for the High Plains Aquifer in Western Nebraska, including volcaniclastic sandstones of the Arikaree Group and epiclastic sandstones of the Ogallala Group. The sequence is underlain by siltstones of the White River Group and overlain by Quaternary deposits. The base of the Arikaree Group is narrowly incised into underlying strata. There is much more mixing of waters in this region than known 20 years ago according to the hydrologists in assembling a recent paper called "Revised Lithostratigraphy of Late Paleogene and Neogene Strata of the High Plains Aquifer in Western Nebraska, USA" by Hannan E. Lagarry et al., Department of Physical & Life Sciences, Chadron State College, Chadron, NE 69337, [nebeearthmomma@yahoo.com](mailto:nebeearthmomma@yahoo.com).

See Affidavit of Bruce McIntosh at paragraph 6.

In rejecting Petitioners' assertions concerning the mixing of the aquifers, the NRC Staff claims that Petitioners' statements "contradict, without providing any basis, the statements in CBR's Application indicating that the Chadron Formation is a different aquifer than the High Plains Aquifer and that no reasonable mechanism for mixing has been identified due to the very low hydraulic conductivity of the confining layers between the Brule and Chadron Formations". This is a disputed issue of fact. Applicant's conclusory statement in its Application that neither the Brule nor Chadron Aquifers mix with the High Plains Aquifer, and the Staff's bare reliance on that assertion in rejecting Petitioners' concerns, is not altogether different than the argument that HRI made in the *HRI I* when the applicant sought to establish that there was no danger to the source of drinking water, despite the lack of understanding with respect to local geological features. In rejecting applicant's position, the Licensing Board stated "[b]ecause knowledge of the relevant rock formations is still rudimentary and plans are incomplete, there are enough reasonable doubts to establish "injury in fact." *HRI I* at 275.

Applicant's Environmental Report [5.4.1.3.2] concluded: "Since ISL operations alter the groundwater chemistry, it is unlikely that restoration efforts will return the groundwater to the precise water quality that existed before operations." Petitioners' contentions regarding the returning radioactive and chemically altered, heavy metal wastewater solution to the aquifer are clearly germane to issues before the Board, even though Applicant "is committed" by its Application "to returnin[ing] the groundwater to the restoration values set by the NDEQ in the Class III UIC Permit". The NRC Staff disputes Petitioners' contention of the potential of a slow-moving plume of radio-active water from Applicant's operation in the Brule Aquifer to the High

Plains Aquifer. The NRC Staff ignores Applicant's ER's listing of some causes of possible excursion of uranium and other heavy metals in the re-injection of mine wastewater, including:

[I]mproper balance between injection and recovery rates, undetected high permeability strata or geologic faults, improperly abandoned exploration drill holes, discontinuity and unsuitability of the confining units which allow movement of the lixiviant out of the ore zone, poor well integrity, and hydrofracturing of the ore zone or surrounding units.

*Ibid*, 4.4.3.2. The foregoing section of the ER shows that there is some mixing among the aquifers. A hearing and expert testimony is required to ascertain the amount of mixing and whether it poses a threat. Such analysis is required under NEPA as expressed in the regulations (e.g., Section 51.45(c)).

The NRC Staff do not address the ER's statement that "[r]egional data regarding flow in the Basal Chadron are limited," with additional information and "investigation" to be provided. ER 4.3.6. Thus, more information needs to be obtained to determine potential water quality/quantity impacts by the proposed expansion project. Applicant also ignores the potential problems due to water contamination of caused by unknown (but known to exist) fracturing between the Brule aquifer and the upper aquifer used by private wells in the North Trend area. As the ER [3.4.3.3] noted: "The exact definition of the 'overlying aquifer' at North Trend is somewhat difficult to determine." Thus, the ER wanted "additional future testing" prior to any mining in the proposed expansion area.

3. Use of Uranium for Weapons By Enemies of the US. Petitioners contend that there is no assurance that Yellowcake uranium from Applicant's ISL

operations will not be used for nuclear weapons of a foreign country or terrorists or fall into the hands of such enemies of the United States. In its Response, Applicant fails to provide any evidence of any restrictions, or even a written assurance, that Applicant's uranium products will not be sold to China, Pakistan, North Korea or elsewhere to the highest bidder.

4. Increased Threats to Homeland Security. Petitioners contend that Applicant's proposal to truck radioactive resin on a regular route 365 days per year increases the risk of a terrorist attack and/or criminal interference that may result in the release of radioactive material – just as in the case of a 'dirty bomb.' In its Response, Applicant fails to provide any information contrary to Petitioners' contentions of such increased risk. Applicant apparently believes that no risk is created by the constant trucking of radioactive resin through Crawford, Nebraska.

#### CONCLUSION

For the reasons stated above, Petitioners have an interest that may be affected by a decision in this proceeding and, accordingly have demonstrated standing to be admitted as a participant. Further, each Petitioner has expressed areas of concern germane to the subject matter of the proceeding and, therefore, each Petitioner has admissible contentions for purposes of this proceeding.

Respectfully submitted,

THOMAS KANATAKENIATE COOK

SLIM BUTTES AGRICULTURAL DEVELOPMENT  
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WESTERN NEBRASKA RESOURCES COUNCIL

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December 28, 2007

CERTIFICATE OF SERVICE

I hereby certify that copies of the "REPLY OF PETITIONERS TO APPLICANT CBR RESPONSE" in the above captioned proceeding have been served on the following persons by deposit in the United States Mail as indicated by an asterisk (\*); and by electronic mail as indicated by a double asterisk (\*\*) on this 28th day of December, 2007:

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