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Novemb er 23, 2005

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
ATTN: Rulemakings and Adjudications Staff

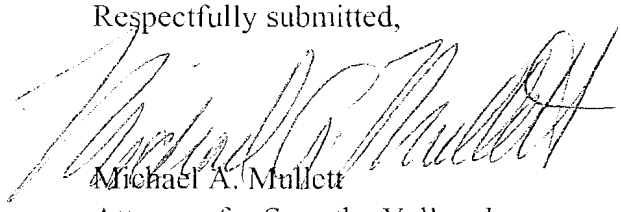
Re: Petition to Intervene and Request for Hearing of Save the Valley, Inc.
Motion to Schedule Hearing Following Completion of Staff Technical Review of Save the Valley, Inc.
In the Matter of the U.S. Army (Jefferson Proving Ground Site), Docket No. 40-8838-MLA, ASLBP 00-776-04-MLA

Dear Secretary:

Enclosed please find for filing in the above-referenced docket the original and two conformed copies of the Petition to Intervene and Request for Hearing of Save the Valley, Inc. and Motion to Schedule Hearing Following Completion of Staff Technical Review of Save the Valley, Inc.

Thank you for your assistance in this matter.

Respectfully submitted,



Michael A. Mullett
Attorney for Save the Valley, Inc.

cc: Service List – Docket No. 40-8838, ASLBP 00-776-04

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of U.S.ARMY (Jefferson Proving Ground Site)	Docket No. 40-8838-MLA ASLPB No. 00-776-04-MLA SUB-1435 November 23, 2005

PETITION TO INTERVENE AND REQUEST FOR HEARING OF SAVE THE VALLEY, INC.

Pursuant to 10 CFR § 2.309, the notice published by the Nuclear Regulatory Commission ("NRC" or "Commission"), at 70 Fed. Reg. 36,964 (Jun. 27, 2005), and the Commission's Memorandum and Order, CLI-05-23, 62 NRC ___ (October 26, 2005), Petitioner Save the Valley, Inc. ("STV") hereby petitions to intervene and requests a hearing in the above-captioned proceeding. As demonstrated below, STV has standing to represent its members in this proceeding and has made multiple contentions complying with the Commission's requirements for further investigation and hearing in this matter.

I. TIMELINESS OF PETITION AND REQUEST

On June 27, 2005, the Nuclear Regulatory Commission ("NRC" or "Commission") published in the Federal Register notice of consideration of the most recent possession only license amendment ("POLA") request[1] submitted by the U.S. Army ("Army") for its Jefferson Proving Ground ("JPG")

[1] See Letter from the Army Requesting an Alternate Decommissioning Schedule for the Decommissioning of Jefferson Proving Ground and Transmitting a Technical Memorandum, Field Sampling Plan, and Health and Safety Plan, dated May 25, 2005 (available for inspection and copying

facility near Madison, Indiana, the opportunity for the public to provide comments, and the opportunity for interested persons to request a hearing. *See* 70 Fed. Reg. 36,964. On July 27, 2005, STV submitted its comments on the POLA. Pending clarification by the Commission of certain procedural matters, however, STV sought and the Secretary of the Commission granted an extension of time for STV to file its hearing request to and including September 26, 2005. Thereafter, this time was extended by the Commission to and including November 25, 2005. *See* CLI-05-23, 62 NRC at ___.

II. SAVE THE VALLEY'S INTEREST IN THE POLA AND STANDING TO INTERVENE AND REQUEST A HEARING.

STV was incorporated in 1974 as a nonprofit environmental organization based in the Madison, Indiana area. STV was founded with the purpose of protecting the environment of the Ohio River Valley in Southeastern Indiana and Northeastern Kentucky between Lawrenceburg, Indiana and Louisville, Kentucky. This area includes the Jefferson Proving Ground and its surroundings.

The JPG site is located in Jefferson County, Indiana, which has a population of approximately 31,705 people. Madison is the nearest population center, with a population of approximately 12,000 people, or more than one-third of the Jefferson County population. There are approximately 86,000 people living in the counties within a 15 mile radius of the DU area.

Residents of the area surrounding JPG either use public water from a municipal system, or deep wells. Prominent water pathways on-site are Big Creek, Graham Creek, Otter Creek, Harberts Creek, and several smaller creeks that are sub-basins of the Muscatatuck River, White River, and the

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at www.nrc.gov from the Publicly Available Records (PARS) component of NRC's document system (ADAMS) under accession number ML051520319).

Ohio River. The Ohio River is located eight miles south of the JPG site.

Between 1984 and 1994, the Army test fired depleted uranium (DU) projectiles which resulted in depositing approximately 220,000 pounds of DU projectiles and fragments at the JPG site. Members of STV live primarily on property or in communities near the site. Some of these members live on property that is traversed by Big Creek immediately downstream from JPG. Other STV members hold property interests in land elsewhere which may be affected by DU migration. These STV members are concerned about the effects of DU migration on their health and property, as well as on human health and the environment in the Big Creek area generally. STV members, as well as local public officials, have expressed concern about the potential health effects to the general public of DU migration. STV, as an organization based in the general vicinity of the DU area, also has an interest in the air, land, wildlife and other natural resources that could be affected by the proposed license amendment. Because of the concerns of its members and its interests as an organization, STV has been represented on the JPG Restoration Advisory Board since its inception.

Given its interest in the JPG site, STV has been previously determined to have standing in each of the license amendment and/or decommissioning proceedings previously conducted by the Commission with respect to the site. As a result, the Commission has ruled that STV has standing to intervene and request a hearing in this proceeding also. *See* CLI-05-23, at 6, 62 NRC at ___.

III. PROCEDURAL HISTORY

In December, 1999, the Commission published a notice of opportunity for hearing in connection with the Army's application for an amendment to its materials license (SUB-1435) that would authorize the decommissioning of its JPG site. *See* 64 Fed. Reg. 70,294 (December 16, 1999).

Under that license, the Army had engaged in activities on the site between 1984 and 1994 that had produced approximately 220,000 pounds of depleted uranium ("DU") projectiles and fragments. In its application for amendment to its license, the Army sought authorization for the termination of its license and restricted release of the site. Before the amendment sought by the Army could be approved, however, the Commission would have to make the findings required by statute and regulation, to be documented in a Safety Evaluation Report and an Environmental Assessment.

In response to the December 1999 notice of hearing, STV filed a timely hearing request which was granted by the Presiding Officer based on a determination that STV had established, as required at the time by 10 C.F.R. § 2.1205(h), both its standing and the existence of an area of concern that was germane to the subject matter of the proceeding. See LBP-00-9, 51 NRC 159 (2000). That decision also noted that the Army had indicated "a distinct possibility that the current decommissioning plan will undergo revision in material respects" and had explicitly requested "that further proceedings be held in abeyance pending the outcome of its anticipated further interaction with the NRC Staff with regard to [that] plan." Id., at 3.

Nothing transpired on the adjudicatory front for some time after the decision granting the hearing request, apart from the submission by the Army of quarterly status reports. During that time, the Army also provided its decommissioning plan to STV for its consideration and received comments back from STV. Id. In June, 2001, the Army furnished the NRC with an entirely new plan, which it characterized as its "final decommissioning/license termination plan." Id. The new License Termination Plan ("LTP") received a very cool reception from the NRC staff. Although the 1999 site decommissioning plan had obtained the staff acceptance on administrative review that generally

precedes the commencement of a technical review, such acceptance of the 2001 LTP was withheld due to a number of deficiencies which the NRC Staff indicated required correction before it could initiate a technical review. Id., at 3-4. The NRC Staff also expressed a desire to discuss the deficiencies with the Army in order both to ensure that the licensee understood the Staff's concerns and to develop a schedule for resubmission of the LTP. The Staff subsequently provided formal notification that it considered the 2001 LTP to supersede the 1999 site decommissioning plan, with the consequence that the latter would receive no further review. Id., at 4.

After receiving assurances that the 2001 LTP would be subject to the process of public comment solicitation and an opportunity to request a hearing, STV moved that its request for hearing be held in abeyance to conform to a new timeline for review by the NRC staff because the second LTP was very different from the first. The Presiding Officer found that although the second, revised LTP was a new plan, analytically there was no material difference between the then current situation and the more typical one where a plan is submitted which then must undergo substantial revision before a hearing can be held on the plan. See LBP-01-32, at 7, 54 NRC 283. The Presiding Officer also found that the Army had not withdrawn its application and the NRC Staff had not formally denied it but rather the two parties were working to cure the deficiencies and develop a new LTP. Id. The Presiding Officer granted STV's request that the proceedings continue to be held in abeyance pending submission of the Army's new LTP. See id., at 10.

On June 27, 2002 the Army submitted its Revised Decommissioning Plan ("DP"). In the Revised DP, the Army identified the benefits of DU remediation at JPG to include: averted population dose, avoided regulatory and institutional costs, increased land value, aesthetics, and reduced public

opposition. The total discounted benefit accruing from decontamination of the DU Impact Area to terminate the license without restrictions was estimated to range from $268,286 to $349,429 (see Table 7-1). The Army proposed, however, to do no remediation or monitoring and continued to rely solely on institutional controls. As a result, the Revised DP did not resolve the basic concerns previously expressed by STV regarding the Army's earlier plans.

In an October 17, 2002 memorandum, the NRC Staff reported that it had accepted for technical review the Revised DP, together with the environmental report that was submitted by the Army in connection with that DP. The technical review was projected to require two full years for completion. On November 14, 2002, the NRC published in the Federal Register notice of consideration of the Army's license amendment request and opportunity for interested parties to provide comments and request a hearing. *See* 67 Fed. Reg. 69,049. On December 12, 2002, STV filed its comments and request for a hearing on the Revised DP. The principal concerns identified by STV were that the Revised DP did not meet certain criteria for restricted release established by 10 C.F.R. § 20.1403 and site characterization was inadequate to verify compliance with any of the requirements of 10 C.F.R. § 20.1403. Concurrently, STV moved to defer the requested hearing until completion of the NRC Staff's technical review of the Revised DP. The Army objected to STV's hearing request on the grounds that the identified concerns were not germane to approval of its Revised DP. However, if a hearing was to be held, the Army agreed it should be deferred. On February 6, 2003, the Presiding Officer granted both STV's request for a hearing and its motion to defer the hearing pending completion of the Staff's technical review. See LBP-03-02, at 5-7.

The Staff's technical review raised some of the same concerns regarding the adequacy of the

Army's site characterization that STV had identified. In fact, the Staff advised the Army that certain additional site-specific sampling and modeling would be required. In response, the Army expressed concern to the Staff that such site characterization activities would endanger the safety of DA and contractor personnel due to the presence of unexploded ordinance ("UXO"). As a result, on February 4, 2003, the Army submitted a contingent request for an alternate schedule for the filing of a decommissioning plan for the termination of its JPG license pursuant to 10 C.F.R. § 40.42(g)(2). The Army proposed negotiation with the Staff of a license amendment that would create a 5-year, possession-only license renewable for an indefinite time period, i.e. "until such time as the UXO is no longer explosive or there are safe ways available to handle UXO, permitting adequate site characterization." See NRC Staff's Comments in Response to Memorandum and Order, dated March 19, 2003, at 2. The negotiations between the Army and the Staff culminated in the submission of a proposed POLA on September 22, 2003, which the Staff accepted for technical review on October 21, 2003.[2]

On October 28, 2003, the Commission published in the Federal Register notice of consideration of the Army's new POLA request and of the opportunity for interested persons to request a hearing. *See* 68 Fed. Reg. 61,471. In response, STV timely filed yet another hearing request on November 26, 2003, again accompanied by a motion asking that the hearing await the completion

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[2]In the wake of those developments, and given that decommissioning was no longer being considered by either the Army or the Staff, the pending decommissioning proceeding instituted by STV was dismissed as moot on December 10, 2003. The dismissal was, however, expressly stated to be without prejudice to the subsequent filing by STV of a motion to revive that proceeding and its associated hearing should the decommissioning of the site once again receive active Staff consideration at the Army's behest. *See* LBP-03-28, 58 NRC 437.

of the Staff's technical review of the new POLA proposal. Once again, STV cited as a reason for its hearing request concerns regarding inadequate site characterization. STV also raised legal concerns regarding the Army's request for an indefinite delay of decommissioning and challenged the factual basis for the Army's claims that UXO dangers warranted such delay. On January 7, 2004, the ASLBP granted both STV's request for a hearing in subdocket 04-819-04 and its motion to defer that hearing pending completion of the Staff technical review. *See* LBP-04-01, at 3-5.

On June 1, 2004, the Presiding Officer issued an unpublished order in which he called upon the NRC Staff to submit a report "setting forth with particularity the present state of the technical review and furnishing the Staff's best current estimate as to when the review will be completed." *See* LBP 05-09, at 4. In a June 8 response, the Staff stated that it had informed the Army in a May 20, 2004 letter that it required further information to complete its evaluation of the Environmental Radiation Monitoring (ERM) Program Plan that had been submitted in support of the Army's most recent POLA request. The Army had been given until August 30, 2004 to supply the information sought and, assuming that it proved adequate, the Staff advised that it thought it could complete the technical review and issue an environmental assessment (EA) and safety evaluation report (SER) "between early January and early March 2005." Id.

In an October 4, 2004 order (unpublished), the Presiding Officer took note of the August 30 deadline for the Army's submission of the additional information and asked the Staff to advise whether it had been received and, if so, whether it was deemed sufficient to enable the issuance of an EA and SER no later than March, 2005. Id. In an October 14, 2004 response, the Staff reported that it was still in need of additional information to enable it to have "sufficient data to complete its evaluation of the

ERM Program Plan and issue an EA and SER." Staff thus no longer believed that the technical review might be completed by March, 2005. Rather, it anticipated "a delay of approximately two months in preparing its analyses commensurate with the additional time required for the Licensee to furnish the necessary information." The Staff added that it "would be able to provide a more precise estimate for completion of its technical review following actual receipt of the requested information." Id., at 4-5.

Finally, in a March 3, 2005 order (unpublished), the Presiding Officer once again endeavored to determine where matters stood. In its March 18 response to that order, the Staff advised that the information the Army had supplied in November, 2004 and January, 2005 was "not sufficient to allow the Staff to proceed with preparation of an EA or SER." Id., at 5. The Staff went on to note that, based upon a January 31, 2005 letter that it had received from the Army, it was not clear "how the Licensee intends to proceed." At the Staff's request, however, the Army "agreed to provide a letter clarifying its planned path forward with regard to the pending license amendment request." Pending that clarification, the Staff was "not in a position to provide an estimated issuance date for the EA and SER." Id.

Given the extended delay in the Staff's technical review and the continued uncertainty regarding the Army's intentions, the Presiding Officer issued a Memorandum on March 31, 2005, bringing the unsatisfactory state of, and protracted delays in the Army's decommissioning activities at the JPG site to the Commission's attention. *See* LBP 05-09, 61 NRC ___. Before the Commission acted on the Presiding Officer's Memorandum, however, the Army submitted a letter clarifying the intent of its pending POLA request on May 25, 2005. In particular, the Army clarified that, rather than delay decommissioning at the JPG site indefinitely, it intended to submit a decommissioning plan for restricted

release of the site within five years of approval of its POLA request. In view of this clarification, the Staff considered the May 25, 2005 letter to be a new POLA request superseding the Army's September 22, 2003 POLA request and therefore directed publication of its June 27, 2005 Federal Register notice of opportunity for comment and request for hearing. *See* 70 Fed. Reg 36,964.

In the interim, on June 20, 2005, the Commission issued a Memorandum and Order directing the Army and the Staff and inviting STV to respond to the Presiding Officer's March 31, 2005 Memorandum. The Army submitted its response on July 8, 2005, and the Staff submitted its response on July 20, 2005. On July 19, 2005, the Army sent a letter to the Staff formally withdrawing its September 22, 2003 POLA request and confirming that its May 25, 2005 letter constituted a new POLA request. On the same date, the Army also filed a separate motion to dismiss ASLBP subdocket 04-819-04. STV's responses to the Commission's June 20, 2005 Memorandum and Order and the Army's July 19, 2005 were timely filed on July 29, 2005.

On September 12, 2005, the Presiding Officer issued his Memorandum and Order with respect to the Army's motion to dismiss ASLBP subdocket 04-819-04 and STV's response. On his own motion, the Presiding Officer (1) conditionally reinstated the prior proceeding on JPG decommissioning (Docket No. 40-8838-MLA) which had been conditionally dismissed without prejudice on December 10, 2003, by LBP-03-28, 58 NRC 437, (2) referred the conditional reinstatement to the Commission for consideration, and (3) held in abeyance any ruling on the Army's motion to dismiss pending the Commission's decision on the referral. *See* LBP-05-25, 62 NRC ___. On October 26, 2005, the Commission issued its order responding to the Presiding Officer's referral of this matter in his Memorandum of March 31, 2005, and his Memorandum and Order of September 12, 2005. In its

order, the Commission ruled:

> 1. The Presiding Officer's reinstatement of the earlier JPG decommissioning proceeding (Docket No. 40-8838-MLA) was affirmed.
>
> 2. STV's standing shall be considered already established in the reinstated proceeding.
>
> 3. The case shall continue under the jurisdiction of a Board composed of the two current judges and a third, to be designated by the Chief Judge of the Atomic Safety and Licensing Board Panel.
>
> 4. Future proceedings shall be conducted under the NRC's revised rules of procedure, with STV to file its contentions and request for hearing pursuant to those rules within thirty (30) days (i.e., by November 25, 2005).

See CLI-05-23, 62 NRC ___. Thereafter, on November 1, 2005, the Presiding Officer granted the Army's motion to dismiss Docket No. 40-8838-MLA-2 as moot. *See* LBP-05-30, 62 NRC ___. Also on November 1, 2005, the ASLB established a three-judge panel to conduct further proceedings in this matter.

IV. STV CONCERNS AND CONTENTIONS: THE ENVIRONMENTAL RADIATION MONITORING PLAN, FIELD SAMPLING PLAN, HEALTH AND SAFETY PLAN, AND TIMETABLE AND FINANCIAL ASSURANCE SUBMITTED IN SUPPORT OF THE REQUESTED POLA ARE INADEQUATE AND DEFICIENT IN MEETING THE REQUIREMENTS OF 10 CFR § 40.42(g)(2).

In its May 25, 2005 letter requesting its most recent POLA, the Army stated:

> [T]he Army is proposing a plan and strategy for site characterization, as outlined in the attachments hereto, to be conducted within 5 years of approval and commencement of plan execution. The intention of the Army is then at the end of the 5 year period to present the Nuclear Regulatory Commission (NRC) a Decommissioning Plan. Under the current proposal, the Decommissioning Plan to be presented at that time will propose license termination under restricted release, as authorized by the NRC regulations. Therefore, the Army is requesting only an alternative schedule for submittal of a Decommissioning Plan for the JPG licenese SUB-1435 in accordance with 10 CFR 40.42(g)(2) as supported by the details in the enclosed plans ("Field Sampling

Plan for Depleted Uranium (DU) Impact Area Site Characterization, Jefferson Proving Ground, Indiana" and the "Health and Safety Plan for DU Impact Area Site Characterization, Jefferson Proving Ground, Indiana").[3]

NRC regulations state that an alternate schedule for the filing of a decommissioning plan may be approved only if it meets three general requirements:

1. It is necessary to the effective conduct of decommissioning operations;

2. It presents no undue risk from radiation to the public health and safety; and

3. It is otherwise in the public interest.

10 CFR § 40.42(g)(2). In other regulations and guidance documents, the Commission has explained the specific requirements which a licensee must meet in order to satisfy these three general requirements. In making its specific contentions below, STV explains in detail the specific bases for its position that the Environmental Radiation Monitoring Plan, Field Sampling Plan, Health and Safety Plan, and timetable and budget submitted by the Army in support of its requested POLA are inadequate and deficient in meeting the general requirements of 10 CFR § 40.42(g)(2) as explained in more detail in other Commission regulations and guidance documents.

In making its contentions, STV recognizes and appreciates that the Army's most recent POLA request has the potential to differ materially from its prior requests for which STV has sought hearings.

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[3]Inasmuch as the Army has not submitted a new Decommissioning Plan (or reinstated its prior Decommissioning Plan) as part of its current POLA request, STV expressly reserves its right to request a hearing with respect to the new Decommissioning Plan when, and if, it is submitted by the Army. However, it is the understanding of STV based on a telephone conversation with the Army and the NRC Staff on November 9, 2005 that the Environmental Radiation Monitoring Plan ("ERMP") submitted by the Army with its 2003 POLA request is also applicable to its current POLA request. Thus, STV addresses that ERMP in its Contentions and includes it within this Request for Hearing.

In particular, the current request proposes to address serious deficiencies in site characterization identified by the Staff and STV which have heretofore precluded development of an appropriate decommissioning plan for JPG. In STV's view, this is potentially a major step forward in the Army's approach to JPG decommissioning. Additionally, in SAIC the Army has hired a contractor with the experience and expertise to design and conduct the necessary site characterization activities and analyses if so directed. Finally, in proposing a Health and Safety Plan, the Army is recognizing the reality that the necessary site characterization activities may be safely performed notwithstanding the presence of UXO at the JPG DU site.

Nonetheless, STV believes that there are four general areas in which the Army's most recent request does not meet the relevant regulatory requirements:

1. The Environmental Radiation Monitoring Plan ("ERMP") previously submitted by the Army in 2003 has several noteworthy deficiencies which, if not corrected, would result in the Plan failing to assure that there would be no undue risk from radiation during the lengthy time period contemplated by the Army's requested alternate schedule for decommissioning, as required by 10 CFR § 40.42(g)(2).

2. The Field Sampling Plan ("FSP") has a number of serious and glaring deficiencies which, if not corrected, will prevent the FSP from providing the data necessary for proper site characterization pursuant to 10 CFR § 40.42(g)(2);

3. The Health and Safety Plan ("HASP") has a number of serious and glaring deficiencies which, if not corrected, will impede the Army in conducting the field sampling activities necessary for proper site characterization pursuant to10 CFR § 40.42(g)(2); and

4. The timeliness and financial assurance commitments for implementing the FSP and HSP and

then finally preparing and submitting a decommissioning plan for JPG are too vague and indefinite to truly represent an alternate schedule for decommissioning as contemplated by 10 CFR § 40.42(g)(2).

Specific contentions regarding each of these general concerns are discussed in detail below.

A. ERMP Contention

In conjunction with its superseded 2003 request for an alternate decommissioning schedule, the Army submitted an Environmental Radiation Monitoring Plan ("ERMP"). *See* ADAMS Document ML032731017. This ERMP has not been further updated by the Army in conjunction with its current request for an alternate schedule to correct deficiencies previously identified by STV. *See* STV Comments and Request for Hearing, ADAMS Document ML040360299. Consequently, STV submits the following contention:

1. Contention A-1: The Army's most recent Environmental Radiation Monitoring Plan is still inadequate in several material respects to meet the requirements of 10 C.F.R. § 10.42(g)(2).

a. Basis. The ERMP states with respect to the monitoring results for the various environmental media that, at 50% of Action Level, SBCCOM will conduct an "independent assessment" of the results and any trends. See ERMP, Table 3-1. Yet, there is no specification of the assessment which will be performed and no explanation offered as how an assessment, however specified, will be "independent" if it is performed by the Army. The ERMP should further define and explain the "independent assessment."

b. Basis. The ERMP also states with respect to the monitoring results for the various environmental media that, if an Action Level is reached and that result is confirmed by additional sampling, specific remedial actions and timetables "may" be defined. *See* ERMP, Table 3-1. But, the whole point of an "Action Level" is to establish a monitoring result at which defined remedial action "shall" occur. Otherwise, the concept becomes meaningless. The ERMP should define and commit to perform remedial actions at specified "action levels."

c. Basis. The ERMP incorrectly denies the existence of neighbors who use private wells for

drinking water:

> Onsite and offsite human and ecological receptors could be impacted by DU leaching through soil to the underlying aquifer. Contaminated groundwater can enter the human or ecological food chain indirectly (e.g., livestock drinking water) or directly (e.g., drinking water supply). Direct exposure of humans to drinking water is unlikely given that the aquifer is not a drinking water source and is of poor quality (Rust 1998).

See ERMP, at 3-4. However, it has previously been established that two of the original STV affiants who live directly west of JPG get their drinking water from a private well, as do some other nearby residents. The Training Range Site Characterization and Risk Screening, Regional Range Study, JPG Madison, IN, Final (CHPPM, August 2003) (hereafter "Regional Range Study) also acknowledges that "[t]here are limited numbers of private wells in the area surrounding JPG (Ebasco, 1990)." *See* Regional Range Study, Section 6, at 4. The ERMP should acknowledge and address this fact.

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d. Basis. The aquifer underlying the JPG site is not sufficiently characterized to demonstrate its extent and gradient – as the Army itself has previously conceded. *See* Regional Range Study, Section 6.5.2.3.2, Hydrogeology, at 35 ("Monitoring wells near and within the Delta Impact Area south of Big Creek are too widely spaced to construct a meaningful ground-water elevation contour map.") The ERMP should acknowledge and address this critical fact.

e. Basis. The entire monitoring data history for the JPG site is not used in the ERMP's trend analyses. Most of the trending analyses begin in 1994 or 1996, with some beginning as late as 1998. The absence of discernable trends over the selected time period is then cited as the justification for not performing expanded sampling. *See, e.g.* ERMP, at 3-6. Examination of the entire data history, i.e. 1984/85 to present, would provide a more complete picture for analysis purposes. Moreover, the ERMP characterizes historic data trends (or the absence thereof) in narrative terms, but the actual data are not included for review and confirmation of the Army's conclusions. The ERMP should acknowledge and address the entire monitoring history of JPG site.

f. Basis. The ERM dismisses the need for air monitoring during future prescribed burns. *See* ERMP, at 3-10 to 11. It also denies the need for future biota sampling. *See* ERMP, at 3-12. However, this conclusion is based on insufficient site-specific information and general references to other studies at other sites which are not representative of JPG. The ERMP should either provide for air monitoring during future prescribed burns or support its absence with site-specific information. The ERMP should also be updated to reference the future biota sampling included in the Army's Field Sampling Plan ("FSP") filed May 25, 2005, as it may be modified in response to NRC Staff comments and/or STV's contentions below regarding the FSP.

2. Support for ERMP Contention. The ERMP contention and bases are technical in

character. STV will support them at the requested hearing with the expert testimony of Charles Norris, President, GeoHydro, Inc., regarding Bases a - d, and Diane Henshel, Associate Professor, School of Public and Environmental Affairs, Indiana University, regarding Bases e-f. The professional resumes of Mr. Norris and Dr. Henshel are attached.

B. FSP Contentions.

In its requests for hearings on prior Army POLA requests, STV has repeatedly identified two primary concerns regarding JPG site characterization. First, without adequate site characterization, the Army cannot properly estimate the immediate and long-term risks to public health and safety from radiation resulting from an indefinite delay in decommissioning and decontamination. Second, without expanded and improved ground and surface water monitoring, the Army will not be able to detect the current level of risk and whether that risk is increasing over time as decommissioning and decontamination are delayed.

To construct an adequate exposure scenario for a site, the licensee must utilize accurate and complete information about the site and the surrounding area. Site characterization plays a foundational role in making calculations and determinations about radioactive dose, environmental remediation, and institutional controls at a site. If the site characterization is inaccurate or invalid, the calculations and determinations required to predict future effects on public health and safety will be correspondingly erroneous and the source term model will be invalid.

As previously noted by both STV and the Staff during the review of prior POLA requests, the JPG Conceptual Site Model (CSM), is generic, flawed, inaccurate and incomplete. Specifically, the Army has failed to present verifiable data regarding dose modeling or the effects on exposure pathways

of meteorological, geological, hydrological, animal, and human features specific to JPG and the surrounding area. This failure results in an inability by the Army to predict with accuracy the effects from radiation on public health and safety of an indefinite delay in decommissioning and decontamination. While it should and could correct this failure, the FSP proposed in conjunction with the current POLA does not do so.

1. Contention B-1: As filed, the FSP is not properly designed to obtain all of the verifiable data required for reliable dose modeling and accurate assessment of the effects on exposure pathways of meteorological, geological, hydrological, animal, and human features specific to the JPG site and its surrounding area.

a. Basis. The EI geophysical study which will follow the fracture analysis study, as described in section 6.1 of the FSP, is supposed to find all significant karst features and location of the water table. From these studies, 10 to 20 pairs of monitoring wells are proposed to attempt to tie into "conduits" of ground water flow. This study may help to site monitoring wells, but stream gauging studies should be an early and integral part of the search for likely conduits. The stream reaches of strong gain would be a very strong direct indicator of the discharge points of ground water "conduits." EI is an indirect technique and can miss conduits or identify features that are not conduits. The FSP alludes to doing stream gauging in its discussion of well location criteria, but the time table shown indicates stream studies will follow the ground water studies by a year.

b. Basis. The discussion in section 6.2.1 is disturbing in its failure to set out the chemistry of the monitoring system at this stage and its cavalier dismissal of ground water as a direct exposure route to humans due to its supposedly "poor quality." The "poor quality" that is being cited is, in part, a function of existing data being sampled from wells that are definitely not in "conduits" that would presumably flush frequently and carry good water. Instead, the "poor quality" data are drawn often from tight, clayey wells and wells that may well have had multiple types of contaminating material falling into them due to poor maintenance.

c. Basis. The wells to be used for staging should not be limited *by assumption* to six wells, as proposed in section 6.2.2. Six may be enough, but it also may not be. The actual number should be a function of results achieved, not assumptions made. (It is hoped that the last sentence in this section mistakenly left an "s" off the word "well."

d. Basis. The FSP specifies in section 6.2.4 that the "conduit" wells will be paired, but does not describe or explain the reason(s) for the relative positions of the two wells at each well site. Presumably, the objective is to provide a means of measuring vertical gradients at each site, but that is not explained or discussed. Nor is there an indication of whether the "paired" well will be above or below the "conduit" well or whether that relative position would change depending upon unspecified geologic or hydrogeologic conditions.

e. Basis. The FSP also specifies in section 6.2.4.3 that a boring that does not produce enough water for a well will be abandoned. If lack of production occurs because the system is "tight" (i.e., impermeable), that makes some sense. However, the nature of karst terrain is such that conduits may not produce water because the flow is highly transient and, unless there is a new flow event at the time of drilling and/or testing, a well may be dry even though it has been placed in an appropriate and important location. To ensure the problem is a temporary lack of water, rather than a permanent lack of permeability, it is necessary to monitor the boring for enough time to be sure it never produces before abandoning it.

f. Basis. The FSP states in section 6.2 that all new wells to be completed will be in "conduit" settings in bedrock. This placement is too limited. Certainly, most off-site transport is likely to occur through bedrock karst features. But, the projectiles and the DU reside in the till and/or the weathered bedrock/colluvium. Simply because good, shallow wells were not completed in the original set of JPG wells does not mean that properly located and completed shallow wells are not necessary to characterize properly the hydrogeology of the site.

g. Basis The FSP states in section 6.2.4.4 that the new wells will not be tested for permeability. Granted, if a particular well is sunk into a well-developed conduit, it will not be feasible to measure permeability. But, the nature of karst features is to be hard to locate precisely, so it is likely that at least some of the wells will simply be in bedrock with some enhanced permeability, which should be measured if it can be. Moreover, the conductivity of the rock adjacent to and feeding the conduit is a major determinant of flow through the system. The same holds true for aquifer testing. If pumping the aquifer shows interconnection among two or more of these conduit pairs, that result will provide very valuable information about the system transporting DU from the site.

h. Basis. Contrary to section 6.2.4.3, geophysical testing and video taping of all of the well drilling should be required in intervals where it is physically possible. The understanding obtained from cuttings, particularly air-drilled cuttings, what material has been drilled through and in which a well is being completed is extremely limited. Logging and videoing the borings as they are being drilled actually records what the boring encountered and provides much valuable information for reasonably interpreting the water data that is later collected over time. If turbidity precludes video taping of a boring, teleview logging is a valuable alternative. Where boring logs cannot safely be run, logging through the casing can be done.

i. Basis. Specifying the exact number and precise locations of the surface water sampling and gauging points at the outset of FSP implementation, as proposed in section 6.4.1, is not a good idea. Until the ground water data show where to look for discharges, such points cannot be reasonably selected. There is no scientific reason why the surface water sampling locations and the sediment samples need be in the same location(s). Each medium should be sampled at locations that are appropriate for that medium. Sediment buildup has nothing to do with the location of base flow connections between ground and surface water. Similarly, the FSP concept in section 6.4.2 of putting in only five gauging stations which are sited before the ground water system is better understood is both too limited in number and may well be counter productive in location.

j. Basis. The entire Kd exercise described in section 2.3.4.3 is inaccurate, unreliable, and, particularly when it forms such a key element of the modeling, rife with opportunities for abuse. It is described in the FSP text as "an important input parameter" for the results of exposure calculations. But, the exercise does not yield a real number and its functionality is based upon assumptions that are known to be invalid. The biggest erroneous assumption is the one spelled out in the text: "the underlying assumption is that rapid equilibrium is reached between the dissolved and sorbed concentrations of a chemical species, and that these two concentrations are linearly related through the Kd factor." At best, there are an infinite number of Kd values based upon the infinite number of combinations of soil types, sorbent contents, ground water compositions and oxidation states that may exist along the flow path from any individual DU projectile. USEPA tried to use the Kd approach in its modeling for solid wastes, and only recently completed spending almost five years to find an alternative way because Kds just do not work. They don't even work for such simple, monovalent contaminants as lead or cadmium; it is preposterous to rely on the Kd approach for something that is so pH-Eh dependent as the uranium system. Field observations should be used to calibrate geochemical modeling with a program on a par with Geochemist's Workbench, with a lot of soil analyses to identify the abundances of sorbents in the soil that will control the mobility of the uranium. And, if the exposure program that SAIC is using requires the Kd approach, it should also be replaced with one that has more sophistication.

k. Basis. The FSP lacks any plan for analysis of penetrators for transuranics such as plutonium, americium, technetium and neptunium or other impurities such as uranium-236. Table 4-1, p. 4-3 of the FSP indicates that 24 penetrators will be collected to establish a "corrosion/dissolution rate." However, there is no mention in the plan to assay the rounds for these other elements. This failure was challenged in previous Army plans by the NRC Staff (Sept. 27, 2001) and ATSDR (Oct. 30, 2002), but has not been corrected in the FSP.

l. Basis. The background levels being proposed in sections 6.2.3, 6.3.1, and 6.6.1.4 of the FSP are inappropriate. There is an assumption that natural uranium could exist in the rock and geological formations of JPG. This could be true. However, given the nature and chronology of DU use at JPG, standard fate and transport theory would say that DU onsite but away from the DU area and even offsite would have increased since DU was first used at JPG. Conditions such as the air and

water dispersal of aerosolized or particulate DU that occurs when the DU projectiles land on hard objects (rocks, other DU and UXO projectiles, etc.), and the physical movement of DU fragments due to flooding that occurs especially in the spring would all contribute to this increase.

Risk Assessment Guidance for Superfund (RAGS) and eco-risk texts (e.g., Suter, G.W. II, et al) say that a monitoring site is inappropriate for background if it is potentially contaminated by the contaminant of concern. Therefore, two alternatives could be used for the "background" readings that are required for accurate assessments and reliable models:

1) Data obtained from USGS cores, or any other soil, water and air data obtained prior to the start of DU testing (i.e. 1983 or earlier) is preferred.

2) For fill-in data, potential "background" samples (air, water, and soil) that clearly do not have the DU isotope ratio signature could be used. However, it is better to be conservative in what is considered to be a background isotope ratio.

m. Basis. Air remains a potential exposure pathway as evidenced by the air sampling requirements to be implemented for the field workers (Health and Safety Plan, Section 4.2.2.1). If short-term air exposure is a concern for the workers, long-term air exposure is a concern for residents in surrounding communities, as well as for the animals living in the JPG ecosystem. Thus, the FSP is deficient for purposes of adequate site characterization in providing for no air sampling whatsoever.

n. Basis. In order to really do a site-specific environmental and human health risk assessment, understanding the fate and transport (F&T) of DU within the JPG ecosystem is critical. In order to develop such a model, standard eco-risk-associated field sampling practices specify samples from different parts of the ecosystem within the same approximate period of time and definitely within the same field season in order to identify the distribution of the contaminant (DU) at that time. Further it is best to take multiple samples from these different locations over time. Thus, to truly model F&T within the JPG ecosystem (which is NOT the Yuma or Aberdeen Proving Ground ecosystem), a particular sample taken at a particular time should include all media and relevant biota and each of these media and biota should be sampled on multiple occasions. Ideally, samples should also be taken under different types of field conditions, as appropriate for the changes that occur at the site of concern. For example, at a site that floods, as JPG does, samples should be taken from all media and biota at high flow (flood season) and low flow. Similarly, in a seasonal environment like JPG, samples should be taken from all media and biota in different seasons. When reproduction is seasonal for the biota of potential concern, seasonal sampling is of special concern. Thus, the much more limited sampling described in section 6.3 of the FSP is deficient for purposes of adequate site characterization.

o. Basis. Although deer are not the most representative biota to sample, they are the only biota proposed for sampling by section 6.3 of the FSP. Nonetheless, when data from samples early and late in DU testing are not combined, it is evident that DU levels in even the deer are increasing.

This result in deer clearly mandates sampling other, more representative biota as well. Based on what little data is available, the bioaccumulation factors (BAFs) for vegetation and the aquatic filter feeders such as crayfish (both of which are eaten by higher animals and humans) are relatively high, on the order of 10^2 to 10^3 times as high as the BAFs for persistent, bioaccumulative, and toxic chemicals (PBTs) listed as being of concern by the U.S. EPA and the Persistent Organic Pollutants (POPs) Treaty. Clearly, vegetation and aquatic filter feeders are better indicators of DU migration into the eco-food chain than are deer and they should be sampled.

p. Basis. Several non-standard data gathering and modeling tools are not being employed in the FSP, but should be. These would help the future risk modeling. For example, GIS modeling of individual data points (all samples) will help identify migration and will better pinpoint movements of DU into and through JPG and its surrounding ecosystem. Identification of individual vegetation samples will also help identify whether there is preferential uptake of DU into specific types of plants – a potentially significant phenomenon which can be detected by the relatively new phyto-remediation technologies being developed at Purdue with EPA funding.

q. Basis.. DU dissolution rates should be calculated for different soils and under different site-specific wetness and temperature regimes in order to measure accurately DU dissolution at JPG. However, Table 4-1 and related text of the FSP do not specify such multiple measurements.

r. Basis.. The Independent Technical Review Team Leader for the HSP and FSP is the same person as the Project Manager (Corinne Shia, SAIC). *See* FSP, Certification 4- Contractor Certification of Independent Technical Review, and HSP, Certification 4 - Contractor Certification of Independent Technical Review. To assure "independent" technical review, these roles should be performed by different individuals.

2. Support for FSP Contentions: The FSP contentions are technical in character. STV will support them at the requested hearing with the expert testimony of Charles Norris, President, GeoHydro, Inc., regarding Bases a - k, and Diane Henshel, Associate Professor, School of Public and Environmental Affairs, Indiana University, regarding Bases k -r. The professional resumes of Mr. Norris and Dr. Henshel are attached. In preparing their expert analyses of the FSP, Mr. Norris and Dr. Henshel have been and will be guided especially but not exclusively by the criteria in NUREG-1757, Vol.2, Section 4.2, and NUREG-1575, Section 5.3.

C. HASP Contentions

In its request for hearing on the Army's 2003 POLA request, STV pointed out that the Army had not provided an adequate factual basis for its contention that necessary site characterization activities could not be carried out due to the presence of UXO at the JPG site. In its most recent POLA request, the Army has addressed this concern by proposing both the FSP and the HASP, a combination which STV believes to be appropriate. However, STV does have multiple noteworthy concerns with the HASP.

1. Contention C-1: The HASP is very generic and not site-specific in nature, without identification of the particular UXO hazards to be addressed or the specific locations in which they are found.

a. Basis. Table 2-1, "DU Impact Area Site Characterization Project Onsite Tasks" (page 2-2), lists "Installation of 10 multi-well clusters ...", "Collect 24 samples (penetrators) from the DU Impact Area", and an optional task to sample "other biota (plants, earthworms, birds, mammals, and fish)" as project tasks that will be accomplished. It is possible that UXO may be encountered while performing these operations, but there is very little specific information on the UXO safety precautions required to be followed during these activities. For example, common industry practice is to have a UXO specialist locate a clear entry and exit pathway for the drill rig and then ensure that no subsurface metal objects are located at the well location. Then, the UXO specialist usually performs downhole geophysical avoidance surveys during the well drilling operation (this is usually done by hand boring the cleared area as far as possible and then removing the drill from the well at 2-ft. increments to check that no metal objects are in the path of the drill until a specified depth is reached).

b. Basis. In section 8.12, "Drill Rig Operations," there are also no specific precautions described for UXO. The text in this section appears to be standard drill rig precautions and should be modified to emphasize the potential UXO hazards that may be encountered during this intrusive operation and what specific UXO avoidance measures will be used to ensure the safety of the drillers.

c. Basis. Section 8.13 on "Unexploded Ordnance" is more general boilerplate. There is no site-specific information presented. This is highly unusual for field operations on a known UXO contaminated site. In what specific locations are the samples going to be collected? What is the type

and density of UXO that is expected to be encountered in these locations? How deep are these UXO expected to penetrate (important information for the drillers)?

d. Basis. Appendix B is an "Example Activity Hazard Analysis." However, since this HASP is intended to be a site-specific health and safety plan it would be most appropriate to include the completed activity hazard analyses instead of just an example. Since this HASP does not contain the site-specific activity hazard analyses, when will they be completed and how will they be presented to the site personnel? This question was addressed to Army and SAIC personnel during a conference call on September 8, 2005. The only response was that that the HASP would be subsequently supplemented with the necessary site-specific hazard analyses. To date, no such supplementary analyses have been supplied.

2. Contention C-2: The HASP is not effecitvely integrated with the FSP.

a. Basis. The person identified in Table 3-1 to serve as Field Manager for the FSP (Seth Stephenson) possesses the training and experience required to serve as the UXO expert on the project. However, he is the only UXO support person listed for the project. One UXO specialist is only able to monitor one field operation at a time, such as one sampling team or one drill rig. It is not likely that he will be able to perform any additional duties associated with being the Field Manager when sampling operations are being conducted because his presence will be required at the sampling site as the UXO expert. It is likely to be much more efficient to have the project Field Manager and UXO support specialist(s) be different people.

b. Basis. The last bullet in Section 4.0 notes that UXO is present at the site and also states that, "Site investigation plans will be adjusted, as appropriate and necessary, to ensure that the H&S of all field personnel are always protected." This type of statement shows an almost complete lack of knowledge and concern for UXO on the project. Accepted safety procedures on UXO sites require plans to be developed to safely perform sampling operations before beginning work, thereby minimizing the need to adjust the plans to maintain safety once sampling has begun. There is an virtually no planning for UXO safety incorporated into the sampling procedures included in the FSP.

c. Basis. Section 4.2 on "Applicable Regulations/Standards" does not mention any of the guidance documents covering UXO avoidance and safety procedures for environmental sampling projects. These documents are available on the website of the U.S. Army Corps of Engineers Engineering and Support Center, Huntsville, Alabama.

d. Basis. Section 6.1 describes the field procedures that will be accomplished during "Geophysics (Electrical Imaging)." This process involves driving electrodes into the ground and transmitting electrical current between the electrodes. This involves UXO hazards caused by driving the electrodes into the ground and also by emitting electromagnetic radiation which may be a potential initiation source for electrically initiated ordnance. UXO safety procedures must be specified to

support this sampling procedure and the issues involved with electromagnetic radiation must be incorporated in the plan.

e. Basis. Section 6.2 on sampling "Groundwater" contains no information on UXO avoidance or safety even though this section describes drilling wells. For example, Figure 6-1, the "Drill Rig Operational Checklist," lists numerous safety requirements including fire extinguishers, grounding the drill rig, watching for electrical lines, etc. However, there is *nothing* on the safety requirements for drilling in an area contaminated with UXO. Also, page 6-14 references setting three or four steel well guards in concrete 2-ft. into the ground around each well. But, again, there is no mention of having UXO safety support for this intrusive operation.

f. Basis. Sections 6.5 and 6.6 relate, respectively, to "Soil Sampling" and "Sediment Sampling." These sections contain no information on or references to specific UXO safety procedures for performing these two operations, both of which are intrusive and would be expected to encounter UXO.

3. Support for HASP Contentions: The HASP contentions are technical in character. STV will support them at the requested hearing with the expert testimony of James Pastorick, President, UXO Pro, Inc., whose professional resume is attached. STV will also support them with technical references developed by the U.S. Army Corps of Engineers, Huntsville, Alabama (Huntsville). Huntsville is the munitions and explosives of concern (MEC) Center of Expertise for the Army Corps. As such, it develops technical guidance for working in UXO contaminated environments. The guidance documents that apply to the HASP contentions are:

a. Data Item Description ME-001 - Type 1 Work Plan, dated December 1, 2003, and available at http://www.hnd.usace.army.mil/oew/policy/dids/FY04DIDs/MR/mr001.pdf. This document requires the development of an Accident Prevention Plan (see 2.12.d).

b. Data Item Description ME-005-06 - Accident Prevention Plan, dated December 1, 2003, and available at http://www.hnd.usace.army.mil/oew/policy/dids/FY04DIDs/MR/mr005-06.pdf .

c. Also, the Huntsville guidance document EP 75-1-2, Munitions and Explosives of Concern (MEC) Support During Hazardous, Toxic, and Radioactive Waste (HTRW) and Construction Activities, dated August 1, 2004 and available at http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep75-1-2/toc.htm provides specific requirements for performing this work including:

(1) Developing an MEC Support Work Plan with specific content requirements (section 3.3)

(2) Developing an Activity Hazard Analysis (section 3-8.b)

(3) Determining the probability of encountering MEC and developing the plans and procedures appropriately (section 1-1.b)

(4) Chapter 5 provides specific guidance and direction on how to provide MEC avoidance support including specific requirements for UXO support personnel (training and team compositon, section 5-2)), direction on how to perform site access surveys (section 5-6), surface soil sampling (section 5-7), passive soil gas sampling (section 5-8), active soil gas sampling and direct push sampling

(section 5-9), subsurface soil sampling and installation of monitoring wells (section 5-10), test pitting and trenching (section 5-11), groundwater monitoring (5-12)

D. Timeliness and Financial Assurance Contentions

In addition to its technical concerns with the ERMP, FSP and HASP, STV also has significant legal and regulatory policy concerns with the Army's most recent POLA request regarding both the timeliness of the eventual decommissioning of the JPG site and the financial assurance provided for both site characterization and eventual decommissioning.

1. Contention D-1. The alternate schedule being proposed fails to meet the requirements of 10 C.F.R. § 40.42 of a *definite* schedule for *timely* decommissioning of the JPG site.

a. Basis. A major STV concern with the Army's 2003 POLA request was that the indefinite postponement of decommissioning and decontamination at JPG would be inimical rather than essential to the conduct of effective decommissioning operations. The whole purpose of 10 C.F.R. § 40.42 is **timely** decommissioning and decontamination. In particular, the NRC said in proposing the rule in 1993:

> The lack of definitive criteria as to when licensees shall commence and complete decommissioning their facilities has resulted in instances where the Commission has had to issue orders to establish schedules for timely decommissioning. Because timeliness in decommissioning is a generic issue, the Commission is proposing to amend its regulations to clearly delineate the licensee's responsibility for timely decommissioning. **The proposed rule would provide the needed regulatory basis for compelling decommissioning in a timely manner. In addition, the proposed rule would place a limit on the time permitted to decontaminate and decommission and place the burden of proof directly on the licensee to demonstrate that a longer period of time is required for completing decommissioning.**

See 58 Fed. Reg. at 4100 (emphasis added).

Here, the alternate schedule being proposed fails to "place a limit on the time permitted to decontaminate and decommission" the site, as required by the Timely Decommissioning Rule. The Army's May 25, 2005 letter does not state when decommissioning will start nor when it will end.

Instead, it simply requests approval to extend the time for submission of a DP by five years following approval of the current POLA request. In effect, the current five-year POLA request, as filed, represents no more than the first installment of the indefinite POLA with five year renewals previously proposed and supposedly withdrawn by the Army.

b. Basis. The current proposal also fails to "place the burden of proof directly on the licensee to demonstrate that a longer period of time is required for completing decommissioning" as required by the Timely Decommissioning Rule. The Army's May 25, 2005 letter does not even commit to completing decommissioning with twenty-four months of DP approval. Instead, it effectively places the burden on STV (or any other concerned group in the future) to demonstrate that a shorter, more definite period is required. This effectively turns the Timely Decommissioning Rule on its head and creates precisely the type of situation which the rule was adopted to correct and prevent: the indefinite postponement of the decommissioning and decontamination of licensed sites. And, it does so at a former SDMP site at which there have already been multiple, lengthy delays in decommissioning.

c. Basis. The Army's current proposal provides no description of its regulatory history, especially but not exclusively at the JPG site, to establish a pattern of compliance with Commission decommissioning rules and guidance which would instill confidence that timely decommissioning will actually occur at JPG. Such a showing is especially critical in a situation in which the Army is once again requesting an extended period of delay in decommissioning and decontamination at a former SDMP site at which there have already been multiple, lengthy delays in decommissioning. Such a showing is also expressly contemplated by Commission guidance on the evidence required for an alternate schedule for decommissiong. In particular, NUREG-1757, Vol.3, Section 2.6, provides, in pertinent part: "To demonstrate that delaying the start of decommissioning will not be detrimental to public health anad safety, a licensee should submit the following: A discussion of its record of regulatory compliance, particularly its compliance with NRC regulations."

2. Contention D-2: The financial assurance provided for the Army's alternate schedule for decommissioning is insufficient to meet the requirements of 10 C.F.R. §§ 40.36 and 40.42 for a *complete, definite and quantified* financial commitment for the decommissioning of the JPG site.

a. Basis. The indefiniteness of the Army's alternate schedule is compounded by the vagueness of its funding. All the Army says in its May 25 letter to the NRC Staff is, "All actions under the plan are subject to funding of course." There is no specific budget for the overall plan, its principal components, or the individual years in the five-year implementation period. There is no formally expressed or executed statement of intent on the part of an Army official with the authority to approve or even to request the necessary funds. This effectively turns the relationship between the NRC as

regulator and the Army as licensee on its head, making the Army the ultimate authority with respect to JPG decommissioning by virtue of its budgeting decisions and funding requests determining whether and when the site is characterized, decommissioned and decontaminated in accordance with NRC regulations. This inverted relationship promises nothing other than continuation of the pattern of repeated delays and changes in plans which has characterized the Army's decommissioning activities regarding the JPG site over the past ten years and recently resulted in the establishment of this docket following the referral of this unacceptable situation to the Commission for its consideration and action.

b. Basis. In response to a Request for Additional Informtion from the NRC Staff following submission of its May 25 letter, the Army belatedly submitted a purported Statement of Intent on September 14, 2005. *See* ADAMS Document ML052710071. However, this Statement does not satisfy the requirements of 10 C.F.R. § 40.36(e)(4): "In the case of Federal, State, or local government licensees, a statement of intent containing a cost estimate for decommissioning . . . and indicating that funds for decommissioning will be obtained when necessary." In the first place, the Statement of Intent submitted by the Army contains no cost estimate to conduct the FSP and implement the HASP, let alone to perform eventual site decommissioning as required by the rule. There is also no indication in the Army's Statement as to what effect, if any, the requested delay in decommissioning will have on the eventual cost of decommissioning. NRC guidance puts the Army on specific notice that this is significant information to be submitted in support on an alternate schedule request. *See, e.g.,* NUREG-1757, Vol.3, Section 2.6 (requiring "discussion of the current decommissioning cost estimate and the potential for increased decommissioning costs if an extension of the time period is approved") *and* Vol.1, Section 5.4 (stating "waste disposal costs have, in the past, increased at rates significantly higher than the rate of inflation and therefore delaying remediation will result in higher costs to the public.") In the second place, the Army's Statement of Intent does not provide adequate documentation that the funds required to perform decommissioning, whatever the amount may be, will be obtained when necessary. The stated intention to seek and secure funds is limited to the actions contemplated in the Army's May 25 letter to support an alternate schedule, namely conducting the FSP and implementing the HASP; it does not include eventual decommissioning itself. There is also no documentation whatsoever of the authority of the letter's signator to request and approve disbursement of the funds necessary for these actions, let alone decommissioning of the site. Indeed, there is no express reference or other evidence in the Army's statement of any conscious effort to follow the Commission's written guidance for a statement of intent which would meet the applicable regulatory requirements. *See* NUREG-1757, Vol. 3, Sections 4.3.1 and 4.3.2.13 and Appendix A-16.

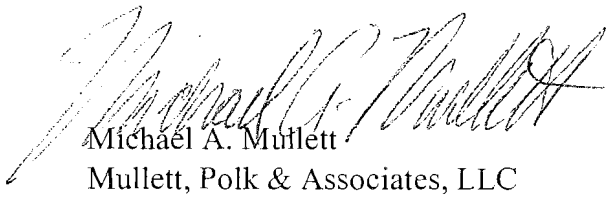
3. Support for Timetable and Budget Contentions: Contentions C-1 and C-2 raise legal and/or regulatory policy rather than technical issues. STV will support them by reference to applicable NRC regulations, guidance documents, and precedents relevant to the Army's request for an alternate decommissioning schedule pursuant to 10 C.F.R. 10.42(g)(2) in memoranda, briefs and arguments

submitted by its attorney, Michael A. Mullett, Senior Counsel, Mullett, Polk & Associates, LLC, who also serves as an Adjunct Professor at the Indiana University School of Law in Indianapolis, IN and the Lewis & Clark School of Law in Portland, OR. Mr. Mullett's professional resume is attached.

V. CONCLUSION

STV has standing in this matter. It has submitted multiple contentions complying with the Commission's regulations regarding form and content which identify, describe and support with particularity material deficiencies in the Army's submissions supporting its request for an alternate decommission schedule which are clearly within the scope of this proceeding and relevant to its outcome. Most of these contentions raise triable issues of fact; the others disputed issues of law and/or regulatory policy. For these reasons, STV respectfully requests that the Commission grant its petition to intervene, admit all of its contentions, and approve its request for a hearing. If the requested hearing is granted, STV requests that, consistent with its separately and concurrently filed motion that the hearing be held in abeyance pending completion of the Staff's technical review and the hearing record.

Respectfully submitted,



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SUMMARY OF QUALIFICATIONS

Thirty plus years of professional experience in geology, hydrogeology and management in the applied and theoretical geosciences. Experience includes performance, oversight review, or management of site assessment; RI/FS; computer modeling of fluid flow, contaminant transport, and geochemistry (applications and code development); policy and rule making procedures; aquifer evaluation; resource development; and litigation support; nationwide and internationally.

PROFESSIONAL EXPERIENCE

GEO-HYDRO, INC., Denver, Colorado, (1996-present), Principal, President
HYDRO-SEARCH, INC., Golden, Colorado, (1992-1996), Director of Hydrogeology
UNIVERSITY OF ILLINOIS, Urbana, Illinois, (1987-1992), Research Associate; Manager, Industrial Consortium for Research and Education for the Laboratory for Supercomputing in Hydrogeology
Consulting Hydrogeologist/Geologist, Champaign, Illinois and Denver, Colorado, (1980-1992)
MGF OIL CORPORATION, Denver, Colorado, (1985 - 1986), Manager Geological Engineering
EMERALD GAS AND OIL, Denver, Colorado, (1980 - 1986), President and Owner
PETRO-LEWIS CORPORATION, Denver, Colorado (1980), Districts Geologist
TENNECO OIL COMPANY, Denver, Colorado and Houston, Texas, (1977-1980), Senior Geological Engineer
AMOCO INTERNATIONAL OIL COMPANY, Chicago, Illinois, (1975-1977), Senior Geologist
SHELL OIL COMPANY, Houston and Midland, Texas, (1972-1975), Exploration Geologist

PROFESSIONAL REGISTRATIONS, MEMBERSHIPS, AND AFFILIATIONS

Professional Geologist: Illinois (# 196-001082), Indiana (# 2100), Pennsylvania (PG003994), Utah (#5532631-2250), Wisconsin (# 924), Wyoming (#2989)
Registered Environmental Professional (#5350), State of Colorado, Petroleum Storage Tank Fund

National Ground Water Association
Colorado Groundwater Association (Vice President 1999, President 2000, Past-President 2001)
Professional Geologists of Indiana (past)
The Colorado Mining Association (past)
Illinois Groundwater Association (past)
American Association of Petroleum Geologists (past)

Phi Beta Kappa, Phi Kappa Phi, Sigma Xi

EDUCATION

B.S., Geology, University of Illinois, High Honors and Distinction in Geology, 1969
M.S., Geology, University of Washington, National Science Foundation Fellow, 1970
University of Illinois, all but dissertation completed for Ph. D., Hydrogeology, 1992

PROJECT EXPERIENCE

RI/FS & GENERAL SITE INVESTIGATIONS

- Manager for technical assistance through a Technical Assistance Program (TAP) grant from PRPs to local citizens' group. Assistance through grant to provide assessment and feedback on site work products as they are developed and implemented, explain the remediation processes and activities to the citizens, and serve as technical liaison between citizens and remediation team.

- Modeler and hydrogeologic consultant at industrial tank farm adjacent to the Chicago Sanitary and Ship Canal in northeastern Illinois. Assess hydrogeologic data, interpret aquifer testing, and model groundwater flow in soil and fractured carbonate bedrock in area of DNAPL accumulation as part of site characterization and voluntary remediation design.

- Manager and Hydrogeologist of groundwater investigation at an industrial dump site adjacent to the Illinois River in north Central Illinois. Investigated fate and transport of 3-4 decades of disposal of mixed, hazardous industrial wastes at a non-engineered floodplain dump site. Expert testimony and legal support. Pre-trial settlement provided for installation of monitoring system in lieu of site characterization.

- Manager of groundwater flow modeling performed as part of the groundwater characterization effort and as part of the preliminary remedial designs. The site is a Superfund site involving both organic and metals contaminants at a wood treating facility in an urban area in Alabama adjacent to a major commercial waterway.

- Manager of groundwater flow modeling performed as part of the groundwater characterization effort and as part of the 90% and Final remedial designs. The site is a high profile Superfund site involving both organic and metals contaminants at a wood treating facility in Northern California.

- Technical Advisor assisting in the evaluation of aquifer properties and well performances for an extraction well field near Sacramento CA. A high volume pump and treat system for chlorinated solvents showed strong and anomalous decline in productivity. Detailed evaluation identified both possible causes and recommended operations changes to alleviate the problems.

- Technical Advisor assisting in the evaluation of aquifer properties and well performances for initial installation of a high volume extraction well field in Southern California. The chlorinated solvent plume associated with a Superfund site impacted a large area in a layered, heterogeneous groundwater basin managed intensively for public water supplies.

- Senior oversight and review in the evaluation of aquifer and soil properties, and the remediation of the soils contamination and groundwater impacts associated with compressor facilities of interstate gas transmission companies. Various projects and sites in western Colorado, Wyoming, and the Texas panhandle.

- Technical Advisor for the Remedial Investigation/Feasibility Study (RI/FS) of the Landfill Solids and Gases Operable Units at the Lowry Landfill CERCLA site located near Denver, Colorado. This project involves the characterization of the extent of potential contamination within the unsaturated zone adjacent to this high profile site. Work involves extensive coordination and interaction with multiple PRP groups as well as various regulatory agencies.

- Project Manager for independent oversight of a proposed low-level radioactive waste disposal site. Task was to develop technical and legal program for governmentally funded intervener's case as part of adjudicatory hearings on a high-profile, proposed disposal facility and involved identifying, retaining and educating legal staff, retaining a team of technical experts, negotiating fees, coordinating work product and presentations, providing liaison with citizen's groups, responding to press and integrating personal testimony on hydrogeology

and modeling. Expert testimony and legal support.

- Technical Reviewer of site assessment and re-assessment of a proposed inter-governmental regional landfill in central Illinois. Verified unanticipated, politically unacceptable risks to major aquifer system serving public water supplies. Assisted in drafting of technical policy statement that permitted new siting efforts to proceed in the jurisdiction. Expert testimony.

LANDFILL SERVICES

- Project Manager and Hydrogeologist for a geologic and hydrogeologic assessment for siting of a proposed regional landfill by expansion of local landfill in Kankakee County, Illinois. Expert testimony and legal support. Review identified errors in application, unaddressed existing off-site leakage, and inappropriate modeling design and implementation. Application was denied, revised and resubmitted, and again denied.

- Project Manager and Hydrogeologist for a geologic and hydrogeologic assessment for siting of a proposed regional landfill by expansion of local landfill in Ogle County, Illinois. Expert testimony and legal support. Review identified in errors application, unaddressed existing leakage, and potential risk to public water supply. Application was denied, revised and resubmitted and again denied.

- Project Manager and Hydrogeologist for a geologic and hydrogeologic assessment of a proposed regional landfill in Will County, Illinois. Expert testimony and legal support. Research documented numerous errors in application which resulted in underestimation of infiltration rates and potential migration rates. Established evidence of sub-karstic migration pathway from site to nearby stream. Application was approved with some 56 modifications.

- Project Manager and Hydrogeologist for a geologic and hydrogeologic assessment of a proposed regional landfill expansion at East Peoria, Illinois. Research documented current leakage from the existing landfill into the regional unconfined aquifer within the cone of depression of the municipal water supply wells. In part as a result of the evaluation, the proposed expansion has been abandoned. Expert testimony and legal support.

- Project Manager and Hydrogeologist for a geologic and hydrogeologic assessment of a proposed regional landfill at Ottawa, Illinois. Provided testimony at county hearings identifying and documenting site-specific conditions that invalidated part of the ground water evaluation testing, necessitating the need to re-evaluate the groundwater flow system and redesign the monitoring system. Expert testimony and legal support.

- Project Manager and Hydrogeologist for a geologic and hydrogeologic assessment of existing municipal landfills and a proposed landfill redesign and expansion at Salem, Illinois. Provided testimony at city hearings documenting existing landfill leakage and identifying site-specific conditions that complicate the design of a reliable monitoring system. Expert testimony and legal support.

- Project Manager and Hydrogeologist for site evaluations of the geology and hydrogeology of several proposed municipal landfills and a landfill expansion in Bartholomew County, Indiana. The review of the expansion demonstrated inadequate monitoring of the existing facility. One proposed site showed possible, current ground water usage from under the proposed facility and conditions that may preclude state-level site approval.

- Project Manager and Hydrogeologist serving in consultation to the Board of Wayne County, Illinois, regarding a proposed expansion to a regional landfill. Investigation and oversight established viability of the physical site and improvements that were needed in operating procedures and monitoring efforts. Expert testimony and legal support.

- Project Manager and Hydrogeologist for an assessment of an existing regional municipal landfill at Urbana, Illinois. Principle problems included ground water contamination, unplugged well(s) within the facility

boundary that penetrated the aquifer serving public water supplies and a monitoring system inadequate to evaluate the contaminant migration. Results of the evaluation include an expanded system of monitoring wells, improved protocols for ground water sampling and revised statistical procedures to determine background water chemistries.

- Project Manager and Hydrogeologist for a site assessment of a proposed municipal landfill expansion in west central Indiana. Established feasibility of using the engineering and design features of the expansion to prevent contamination from the pre-existing non-engineered facility.

- Project Hydrogeologist for a site assessment of a proposed saturated-zone, regional balefill in central Illinois. Principal problems involved the evaluation of the hydrogeologic characteristics of the strip mine spoils within which excavation would occur, the blasted mine bottom upon which the liners would be built and the materials available for liner construction. Numerous improvements to the initial design were incorporated in the approved and permitted facility. Expert testimony and legal support.

- Project Manager and Hydrogeologist for a site assessment of a proposed municipal landfill expansion in Livingston County, Illinois. Principal problems involved the evaluation of the impact of shallow coal tunnel mining beneath the site and reaction of waste leachate with unusual clay mineralogy important to waste isolation at the site. Expert testimony.

WATER RESOURCE EVALUATION & DEVELOPMENT

- Manager for review of an application for an expansion of a large long-wall mine in southeastern Ohio. The review identified extensive unrecognized mining-related impacts to water supplies from historic mining and identified hydrologic risks to a unique old-growth forest adjacent to the proposed expansion, and resulted in an appeal of the application. Expert testimony and legal support.

- Manager for ground water modeling effort associated with the development of a surface reservoir designed for conjunctive use of ground and surface water to reduce peak ground water pumping demands in Denver metro area. The effort included investigating and evaluating a previously used, model, adapting and updating the model, and applying the model to assess the impacts of project on other water rights. Study is a component of the EIS.

- Manager for ground water modeling effort associated with the development of a high-volume ground-water supply and delivery project in Colorado. The effort included investigating and evaluating a previously used, court-accepted model, adapting and updating the model, and applying the model to assess the impacts of a proposed private ground-water diversion project that would be the largest in the United States. Ongoing effort includes regulatory interfacing and litigation support.

- Project Manager for multi-company effort to model thermal loading of northern Nevada surface waters as a result of mine dewatering project. Successful liaison among technical staffs and regulators and modeling work for a high profile EIS resulted in approval of discharge permit.

- Project Hydrogeologist for the feasibility study of a small lake for a northern Illinois nursery, to be used for recreation, fishing and irrigation. Evaluated shallow and intermediate ground water and surface run-off, reviewed engineering design and directed ground and surface water sampling program to determine nutrient levels.

HYDROCHEMISTRY

- Appointed member of a Quality Assurance Committee under the West Virginia Department of Environmental

Protection. The committee, comprised of representative of state and federal regulators, industry , and interveners, was charged with a year-long review of state mining applications and approval practices relative to mining under the state and federal surface mining laws.

- Principal Investigator for grant to research the geochemical implications of using alkaline addition as one means for preventing and/or remediating inorganic contamination resulting from acid mine/rock drainage. Empirical and modeling evidence showed conditions under which alkaline addition can cause or exacerbate contamination of some constituents of concern.

- Project Manager, hydrogeologist, geochemist for ongoing investigation of metals contamination of a trout stream in West Virginia. Impacts from natural and industrial sources , present and past, evaluated to segregate relative significance of various sources. Includes expert testimony and legal support.

- Project Geochemist and Hydrogeologist for evaluation and critique of modeling protocols used by USEPA for risk assessments performed as part of regulatory determinations for various solid wastes. Identified errors in methodology and input that had caused previous modeling to mischaracterize risks for settings with observed damage cases. Computer modeling.

- Geochemist and Hydrogeologist for evaluations of inorganic groundwater chemistry at an industrial RCRA site near Joplin MO. Federal lawsuit filed pursuant to PRP contribution and sources and timing of contamination. Was able to use geochemical interpretations to establish significant elements of aquifer characteristics and implications for contamination routes. Expert testimony.

- Project Hydrogeologist and Geochemist for evaluations of proposed coal combustion waste disposal as part of reclamation activities at surface coal mines in Southwestern Indiana. Ongoing efforts are targeted toward refining regulatory framework for disposal efforts, establishing effective characterization and monitoring programs and determining appropriate operation and engineering practices. Project involves extensive interdisciplinary effort and expert testimony.

- Project Geochemist for the investigation of the impacts of remediating acid mine drainage by installing bulkheads to flood exhausted mine working. Predictively modeled water chemistries in situ, within flooded mine, along flow paths and upon surface discharge. Assisted in preparation of testimony that resulted in permit approval for the San Juan County, Colorado project.

- Project Manager and Project Geochemist/Hydrogeologist for investigation of potential environmental impacts of disposal of coal combustion wastes (CCW) as part of a reclamation plan at a surface coal mine in northern New Mexico. Performed or directed geochemical, infiltration and flow modeling of the proposed project to identify optimum disposal methods and worst case impacts. Presentation to State resulted in approval of this precedent-setting project.

- Project Manager, Geochemist and Hydrogeologist for an investigation of a proposed disposal/construction project to build a central Illinois ski mountain from fly ash produced by a co-generating plant operated by a major food products manufacturer. The investigation involved overseeing an engineering review of project plans, a site investigation and evaluation, geochemical modeling of initial and final mineralogical composition of the mass and of the leachate chemistry and evolution and the impact on the hydrogeologic and structural integrity of the project. Expert testimony and legal support.

RELATED PETROLEUM INDUSTRY EXPERIENCE

- Project Manager for the environmental assessment of 82 Texas producing properties targeted for acquisition. Evaluations included site walk-overs, surface soil and liquid sampling, radiological monitoring and geoprobe sampling of soils and ground water. The assessments documented a multitude of impacts from both exempt and non-exempt wastes that, unrecognized, could have resulted in substantial financial exposure to the client.

- Project Geologist and Petrophysicist for an investigation of resource potential of coal bed methane in San Juan Basin of New Mexico and Colorado. Study focused on innovative log analysis techniques; formation water chemistries, production rates and disposal problems; well drilling, completion and re-completion practices; and detailed subsurface facies and structural mapping and stratigraphic correlation in shallow coal beds of Kirtland/Fruitland/Pictured Cliffs shoreline complex and relationships to overlying Tertiary sandstones.

- Developed a successful play in the Hunton and Mississippi Lime formations of northwest Oklahoma. The play recognized the secondary porosity systems of both formations (dolomitization and fracturing, respectively) and the genetic significance to each of the buried topography at the intervening unconformity.

- Managed a detailed reservoir study of a Cotton Valley gas field in east Texas that resulted in RRC approval of non-standard spacing based upon the recognition of secondary porosity and a dual-conductivity system that resulted from drape-induced fractures. The revised spacing both protected resource ownership and conserved the costs of infill drilling. Expert testimony and legal support.

- Project Geologist, Petrophysicist and Expert for various contested adjudicatory hearings apportioning oil and gas ownership. Cases involved primary recovery of both oil and gas and secondary recovery of oil. Accepted as expert (geology, hydrogeology, and/or geological engineering) in Oklahoma, Texas, and Wyoming.

ADDITIONAL PROJECT EXPERIENCE

- Project Manager and Hydrogeologist for the review of Proposed and Revised Proposed Criteria for the Siting of a Low Level Radioactive Waste Disposal Facility in Illinois. Evaluation was targeted toward both technical content and processes of selection. Testimony and written comments led to significant improvements and flexibility in the Criteria as finally published.

- Project Hydrogeologist testifying at hearings before the Illinois Pollution Control Board on regulatory language for the Illinois Ground Water Protection Act. Contributed major conceptual and specific language changes to the final promulgated rules for Ground Water Quality Standards and Regulations for Existing and New Activities with Setback Zones and Regulated Recharge Areas. Expert testimony and legal support.

- Project Hydrogeologist and Log Analyst for three applications to U.S. EPA for permits to continue deep well disposal of hazardous wastes in east central Illinois and southern Ohio. Project required evaluation of geophysical logging data to determine injection zone and confining layer properties, regional flow systems, chemical interactions of the waste stream with the native rock and the ability of the injection system to isolate the waste from the environment.

REPORTS, PRESENTATIONS, AND PUBLICATIONS

Norris, Charles H., 2005, "Water Quality Impacts from Remediation Acid Mine Drainage with Alkaline Addition", draft version released to National Research Council of the National Academy of Sciences, Committee on Mine Placement of Coal Combustion Wastes, Geo-Hydro, Inc., Denver CO, July 3, 2005

Norris, C. H., "notes from the front. . . Overview of three sites", invited paper before National Research Council of the National Academy of Sciences, Committee on Mine Placement of Coal Combustion Wastes, Evansville IN, March, 2005.

Norris, Charles H., 2004, "Environmental Concerns and Impacts of Power Plant Waste Placement in Mines", Presented at Harrisburg PA, May 4-6, 2004. Published in Proceedings of State Regulation of Coal Combustion By-Product Placement at Mine Sites: A Technical Interactive Forum, Kimery C Vories and Anna Harrington, eds, by U. S. Department of Interior, Office of Surface Mining, Alton IL, and Coal Research Center, Southern Illinois University, Carbondale IL.

Norris, C. H., "Developing Reasonable Rules for Coal Combustion Waste Placement in Mines. Why? When? Where? How?", USEPA Contract 68-W-02-007, IEI Subcontract 7060-304, Invited paper at USEPA MRAM meeting, Rosslyn VA, September, 2003.

Norris, C. H., "So, You think You're a Geologist? (F. Kafka to A. Liddell, In Wonderland)", Colorado Ground Waster Association Monthly Meeting,, Denver CO, September, 2002.

Norris, C. H., "Assessment of the Anker Energy Corporation proposal for mining and reclamation, Upshur County, West Virginia." Independent evaluation on behalf of Anker Energy Corporation and West Virginia Highlands Conservancy , July, 2002.

Norris, C. H., "Coal Combustion Waste: Coming soon to a neighborhood (and maybe a faucet) near you." Colorado Ground Waster Association Monthly Meeting,, Denver CO, May, 2001.

Norris, C. H., "Slurry-to-ashes, and ashes-to . . . A case of a coal company and citizens working together to evaluate alternatives." Invited paper before National Research Council of the National Academy of Sciences, Subcommittee on Alternatives, Study on Coal Waste Impoundments, St. Louis MO, June, 2001.

Norris, C.H., and C. E. Hubbard, "Use of MINTEQA2 and EPACMTP to Estimate Groundwater Pathway Risks from the Land Disposal of Metal-Bearing Wastes", for Environmental Technology Council, submitted as public comment to USEPA on regulatory determination for Fossil Fuel Combustion Wastes, May, 1999.

Norris, C.H., "Report on the Determination of Intermittent Streams and the Potential Impacts of Valley Fill on Area Drainages, Southern West Virginia", expert report for litigation prepared for Mountain State Justice, Inc, Charleston WV, March, 1999.

Norris, C.H., "Report on the Geology and Hydrogeology of the Caterpillar Levee Site with an Evaluation of Potential Pathways on- and off-site for the Movement of Solid and Hazardous Wastes", expert report for litigation prepared for Citizens for a Better Environment, Chicago IL, March, 1998.

Norris, C.H., "Dr Pepper, Biorhythms, and the Eight-Hour Pumping Test ", Colorado Ground Waster Association Annual Meeting, Golden CO, December, 1997.

Norris, C.H., "Characterizing Ash Composition and (vs.) Projecting Environmental Impact for Purposes of Permitting CCW Disposal ", Coal Combustion By-Products Associated with Coal Mining - Interactive Forum, Southern Illinois University at Carbondale, Carbondale IL, October, 1996.

Norris, C.H., "Geochemical Modeling". Co-instructor for Short Course on Hydrogeologic Issues Related to Mine Permitting, Reclamation and Closure, SME Annual Convention, Phoenix AZ; March, 1996.

Norris, C.H., in prep., An Improved Method for Middle Time Analysis of Slug and Bail Test. 1994.

Norris, C.H., "Evolution of the Landfill", presentation as part of a Telnet program, *Garbage Dilemma Educational Series*, sponsored by Illinois Farm Bureau and Cooperative Extension Service of the College of Agriculture, University of Illinois, Urbana, Illinois, April 20, 1992.

Norris, C.H., "Technical Analysis or Political Acceptability: The Domesticated Fowl or its Ovum", Solid Waste Management and Local Government Workshop, sponsored by Institute of Government and Public Affairs, University of Illinois, Urbana, Illinois, Jan-Apr, 1992.

Norris, C.H., Report on the Geology and Hydrogeology [of the] SWDA Proposed Landfill Site, Township 8 North, Range 6 East, Section 31, Bartholomew County, Indiana, for Central States Education Center, Champaign, Illinois, 1991.

Norris, C.H., Hydrogeology and Modeling of the Proposed Illinois Low Level Radioactive Waste Disposal Site at Martinsville, Illinois; testimony before the LLRW Siting Commission, October and November, 1991, Martinsville, Illinois.

Norris, C.H., Ground Water Quality Standards for the Illinois Ground Water Protection Act; testimony before Illinois Pollution Control Board, Chicago, Illinois; February, May, October and December, 1990; May, 1991.

Norris, C.H., Hearing on a Petition for a Special Use Permit for the Construction of a Ski Mountain in Oakley Township, Macon County, Illinois; testimony before the Macon County Zoning Board of Appeals; February 16, 1990.

Norris, C.H., Hearing on a Solid Waste Disposal Permit for the Siting of a Municipal Landfill for Streator, Illinois; testimony before the Livingston County Board; August 6, 1990.

Norris, C.H., In the matter of the Gallatin National Company Proposed Balefill, Fulton County, Illinois, written comments to the Illinois Environmental Protection Agency, Springfield, Illinois, 1990.

Norris, C.H., 1990, Log Analysis of the Allied Chemical Corporation Waste Injection Well, Danville, Illinois, for Alberto Nieto, Champaign, Illinois.

Norris, C.H., 1989, Log Analysis of the Cabot Corporation Waste Disposal Wells, Tuscola, Illinois, for Alberto Nieto, Champaign, Illinois.

Norris, C.H., Regulations for Existing and New Activities Within Setback Zones and Regulated Recharge Areas for the Illinois Ground Water Protection Act; testimony before Illinois Pollution Control Board, Chicago, Illinois, June, 1989.

Norris, C.H., and C.M. Bethke, (Abstract) "Mathematical Models of Subsurface Processes in Sedimentary Basins", Conference on Mathematical and Computational Issues in Geophysical Fluid and Solid Mechanics, Society for Industrial and Applied Mathematics Annual Meeting, Houston, Texas, September 28 (invited paper), 1989.

Norris, C.H., "An Evaluation of the Geology and the Monitoring Well Data [at the] City of Urbana Regional Landfill", report submitted to the City of Urbana, Champaign County, Illinois, for Central States Education Center, Champaign, Illinois, 1989.

Norris, C.H., Gallatin National Proposed Balefill/Landfill [at] Fairview, Illinois; testimony before Fairview Town

Council, Fairview, Illinois, November, 1988.

Norris, C.H., "Evaluation of the Hydrogeologic Factors Influencing Risk [at the] ISWDA Regional Landfill Site B", report submitted to the Inter-Governmental Solid Waste Disposal Association, Champaign County, Illinois, 1988.

Norris, C.H., and C.M. Bethke, "Status and Future Directions of Quantitative Flow Modeling in Sedimentary Basins", Workshop on Quantitative Dynamic Stratigraphy (QDS), Colorado School of Mines, Lost Valley Ranch, Colorado, February 14-18, 1988.

Faculty Profiles

Diane Henshel
Associate Professor

Ph.D., Neurobiology, Washington University, 1987

Professor Henshel's interests focus on the sublethal health effects of environmental pollutants, especially on pollutant effects on the developing organism. Recent research has emphasized the effects of polychlorinated dibenzo-p-dioxins (PCDDs) and related congeners on the developing avian nervous system using a combination of neuroanatomical, immunohistological, biochemical and behavioral techniques. In order to understand the environmental implications of these effects, she studies both animals exposed in the wild, and animals exposed to known concentrations under controlled conditions in the laboratory. The studies are designed for ultimate use in improved risk assessment procedures.

Her teaching interests lie in the fields of developmental toxicology, risk assessment and risk communication.

Developmental Neurobiology and Environmental Toxicology Laboratory

Recent Publications

"Developmental and neurotoxic effects of dioxin and dioxin-like compounds on domestic and wild avian species" Henshel, D.S. *Environmental Toxicology and Chemistry* 17(1):88 - 98 (1998)

"The relative sensitivity of chicken embryos to yolk or aircell - injected 2,3,7,8 - tetrachlorodibenzo-p-dioxin." D.S. Henshel, B. Hehn, R. Wagey, M. Vo, J.D. Steeves. *Environmental Toxicology and Chemistry* 16(4):725-732 (1997).

"Brain Asymmetry as a Potential Biomarker for Developmental TCDD Intoxication: A Dose-Response Study." Henshel, D.S., Martin, J.W., DeWitt, J.C. *Environmental Health Perspectives*, 105(7):718-725 (1997).

"Risk Assessment of Mercury Exposure Through Risk Consumption by the Riverside People in the Madeira Basin, Amazon", 1991 A.A.P. Boschio and D.S. Henshel, *Neurotoxicology* 17 (1): 169-176 (1996).

"A short-term test for dioxin teratogenicity using chicken embryos," D.S. Henshel, M.T. Vo, B. Hehn, and J.D. Steeves. In: Hughes, J., et al. (eds.), *ASTM STP #1173: Second Symposium*

on Environmental Toxicology and Risk Assessment. American Society for Testing and Materials (ASTM), Philadelphia pp. 159-174 (1993).

James P. Pastorick, CQM
Professional Qualifications

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Jim Pastorick is an Unexploded Ordnance (UXO) Technician with over eighteen years of active Explosive Ordnance Disposal (EOD) and UXO experience. He has served in various missions as an officer in U.S. armed forces EOD including Officer-in-Charge of an EOD unit deployed in the Mediterranean Sea and tasked with providing emergency EOD response to the Sixth Fleet. Since leaving the military he has continued his EOD activities as Senior UXO Project Manager for UXB International, Inc. and IT Corporation and as President of the specialty UXO consulting companies Geophex UXO, Ltd. and UXO Pro, Inc.

Mr. Pastorick is currently serving on the National Research Council Committee on Disposal of Non-Stockpile Chemical Warfare Material (CWM). This important committee is investigating ways to safely handle and dispose of UXO containing CWM in an efficient manner to allow cost-effective cleanup of non-stockpile CWM burial sites. He is also a member of the ITRC UXO Work Team where he develops and presents UXO training courses and assists in the development of technical guidance documents related to UXO technical issues of interest to state regulators.

Education

B.A., Journalism, The University of South Carolina, Columbia, South Carolina; 1980

Additional Training:

EOD Technician, U.S. Naval School of EOD, Indian Head, Maryland; 1986
U.S. Navy Diver and Salvage Officer, Naval Diving and Salvage Training Center, Panama City, Florida; 1982
40-Hour OSHA Hazardous Waste Operator Training (with annual refreshers)
8-Hour OSHA Hazardous Waste Supervisor Health and Safety Training
Department of Energy Radiation Worker II
CPR

Registrations/Certifications

Certified Surface Blaster, State of Virginia; 1990
EOD Technician, U.S. Navy, 1986
Deep Sea Diver, U.S. Navy, 1982
Certified Quality Manager (CQM) #8236, 2004, American Society for Quality

Experience and Background

1999 - Present

President, Geophex UXO, Ltd and UXO Pro, Inc.., Alexandria, Virginia

Mr. Pastorick is President of this UXO consulting company that assists private sector clients and state governments in the planning, management, and quality assurance (QA) of UXO investigation and cleanup projects. Specifically, Mr. Pastorick reviews and develops written comments on MEC-related technical documents, attends technical and public meetings to provide technical support to state regulator Project Managers, and performs site visits to ensure that work is being performed in accordance with the approved work plan.

Mr. Pastorick is currently serving as the UXO technical consultant to the State of Alaska Department of Environmental Conservation (ADEC) on the cleanup of the former **U.S. Naval Base on Adak Island**, the former **Fort Glenn on Umnak Island** and the former World War II facility on **Amchitka Island**. Previous projects for ADEC have included the former **Gerstle River Expansion Area**, near Delta Junction, and former Department of Defense facilities on **St. Lawrence Island**, **Kodiak Island**, and at **Dutch Harbor**. The **Adak UXO cleanup** has recently reached a milestone with the transfer of property from the U.S. Navy to a Native American corporation. This land transfer required the completion and signing of the first Record of Decision (ROD) for a Superfund UXO site.

He is also managing contracts in support of the Environmental Quality Board (EQB) of Puerto Rico on the cleanup of **Vieques Island** and in support of the Arizona Department of Environmental Quality (ADEQ) in support of the investigation and cleanup of **Camp Navajo**. In Puerto Rico Mr. Pastorick is providing technical support to EQB on the cleanup of the former **Vieques Naval Bombing Range and former Naval Ammunition Support Detachment**. These two project sites are currently undergoing remediation by the U.S. Navy and their contractors. Mr. Pastorick provides technical consulting services directed toward achieving an adequate cleanup of the island to permit the planned end use of the property by Puerto Rico and the Municipality of Vieques. In Arizona he is managing a Geophex UXO employee in assisting ADEQ in the oversight of the National Guard and U.S. Army Corps of Engineers (USACOE) cleanup of UXO contaminated areas of **Camp Navajo**.

Mr. Pastorick has recently completed providing UXO technical support to Laing/Village LLC on the cleanup of a portion of the **former Lowry Bombing and Gunnery Range** in Aurora, Colorado. On this project he supervised another Geophex UXO employee in working with the client, the contractor and Colorado State regulators in devising and implementing a UXO removal project which would allow the property to be used for residential development. This work resulted in the successful issuance of a letter from the Colorado State regulators certifying that the work done is adequate for reuse of the property for residential development.

He has also provided extensive UXO technical support to a legal team working for **Panama** to assess the cleanup of UXO in the former **Canal Zone and on San Jose Island**. In Panama Mr. Pastorick provided technical support to lawyers retained by Panama to help them evaluate the condition of property formerly used by the DoD. This evaluation consisted of conventional UXO contamination in the Canal Zone Ranges and chemical weapons contamination on San Jose

Island. He investigated and documented the ordnance contamination at both locations and presented the findings to high-ranking delegations from the U.S., Panama, and the United Nations.
UXO Pro has recently begun providing UXO technical support to the Alabama Department of Environmental Management (ADEM) and the Texas Commission on Environmental Quality (TCEQ). Since beginning the ADEM support work in March 2005 Mr. Pastorick has been providing technical consulting to ADEM Project Managers on the base closure and site reuse project at **Fort McClellan,** the active facility MEC cleanup at **Redstone Arsenal,** and on the non-stockpile chemical ordnance live-fire area at the **Camp Sibert Formerly Used Defense Site.** For the Texas state regulators he has provided similar technical consulting services for the **Pantex, Camp Bowie, Camp Swift and Camp Maxey Formerly Used Defense Sites.**

1991 - 1998
Senior UXO Project Manager, IT Corporation, Pittsburgh, Pennsylvania
Responsible for management and supervision of projects concerning investigation and remediation of sites contaminated with explosives and UXO for federal government and industrial clients. Specific experience includes the following:

UXO Technical manager for the base closure environmental restoration of **Fort Ord, California** performed under the USACOE Sacramento District Total Environmental Restoration Contract (TERC). UXO was encountered routinely during the environmental restoration work at Fort Ord and Mr. Pastorick was responsible for ensuring the safe detection, removal and disposal of UXO interfering with the restoration work. UXO was encountered and handled safely during site investigations, fence and pipeline installations, and landfill excavations. Mr. Pastorick worked closely with USACOE and California Department of Toxic Substances Control (DTSC) as he developed the Fort Ord UXO Program Management Plan and individual Site Specific UXO Plans.

UXO Technical Manager for the environmental restoration field activities performed under the USACOE Southeast Division TERC at **Redstone Arsenal** and **Fort McClellan, Alabama**. This work required the development of an overall UXO Program Plan and Site Specific Plans, including procedures for handling UXO containing CWM, and periodic monitoring of site workers to ensure compliance with the plans. UXO was routinely encountered on these sites during intrusive operations including well drilling, cutting access roads through wooded areas, and while excavating.

UXO Technical Manager during environmental restoration activities on **Wake Island**. This work, performed for the U.S. Navy NAVFAC Pacific Division, required the development of UXO safety plans for the live U.S. and Japanese ordnance expected to be encountered on this World War II battle site. U.S. 5-in. projectiles, U.S. bombs and U.S. anti-aircraft rounds were discovered and marked for later disposal. Mr. Pastorick also developed and supervised a diving plan for the underwater inspection of the **Peacock Point debris pile**. This required planning and implementing the work for a five-person SCUBA team to perform an underwater inspection of the trash pile and to document the inspection with still and video cameras. The documentation of the inspection is being used to determine whether or not the debris pile should be removed as part of the environmental restoration

of Wake Island.

UXO Technical Manager for the remediation of various U.S. Army World War II encampments in the vicinity of **Nome, Alaska** for USACOE. This project required developing an overall UXO Safety Plan to allow work to safely be conducted at these remote sites. UXO Specialists were provided, under Mr. Pastorick's supervision, to inspect each site prior to work being performed to determine if UXO was a potential hazard. The UXO Specialists then provided UXO safety support to those sites determined to potentially contain UXO to ensure the safety of the field workers.

Project Manager for the thermal decontamination of an explosively contaminated building and its associated external wastewater sump for USACOE at the **U.S. Army Depot Activity, Umatilla, Oregon**. This former TNT process building had been dismantled and gross decontaminated by water washing. Mr. Pastorick directed a team of UXO Specialists in the restacking and open burning of the building and components in accordance with the Scope of Work requirements. The same team built a remote excavation apparatus, designed by Mr. Pastorick, and used it to remotely excavate the TNT contaminated sludge from the wastewater sump. Approximately 500-lb. of removed explosive sludge was transported to the facility burn area and burned. The contaminated sump was then loaded with charcoal and an air injection system, designed by Mr. Pastorick, and in accordance with the Scope of Work requirements, and was burned to decontaminate it for removal and disposal

Project Manager and onsite supervisor of the geophysical site survey and the removal and disposal of landmines at the USACOE **Fort Belvoir Engineer Proving Ground, Virginia**.

Project Manager for the base closure UXO survey of **Fort George G. Meade, Maryland**. Duties included the development of all project plans and coordinating the survey, location, removal, and disposal of UXO from 1,400 acres of this former tank training area in support of the DOD Base Closure and Realignment Program. Mr. Pastorick supervised all phases of this large UXO remediation project including site mapping using Global Positioning System (GPS) interfaced with Autocad and a computerized database.

Project Manager for the UXO survey of a 50-acre area of the former **Fort Sheridan, Illinois** in support of the USACOE under the DoD Base Realignment and Closure Program.

Project Manager for the explosives investigation at the former **Chemical Insecticide Corporation in Edison, New Jersey**. This USACOE project required development of field sampling and analysis methods to identify buried deposits of black powder, which had previously caused two accidental detonations during drilling by another contractor. The sampling and analysis methods developed by Mr. Pastorick were successfully implemented and the construction of a landfill cap and venting system were successfully completed.

UXO Technical Manager for the UXO removal and disposal of a surface-dumping site at the **U.S. Naval Weapons Station, Yorktown, Virginia**. This site was used for the disposal of mixed scrap and UXO and over 4,300 UXO, including 743 large naval mines, were recovered and disposed of.

UXO Technical Manager for the UXO removal and disposal of six surface disposal pits at the **U.S. Department of Energy's (DOE) Tonopah Test Range in Nevada**. UXO and debris were removed and disposed of from the six pits. UXO including more than 20,700 antipersonnel bomblets, 2,000-lb., 1,000-lb., and 500-lb. bombs, large artillery projectiles, and missile components were disposed of by detonation or explosive cutting. Demilitarized UXO and large amounts of decontaminated scrap were sold by the DOE to a local scrap dealer for recycling.

1989 - 1991
Senior UXO Project Manager, UXB International, Inc., Chantilly, VA
Responsible for management and supervision of UXO and explosive-related projects for prime contractors working under U.S. Department of Defense (DOD) contracts. Specific project experience includes the following:

Managing USACOE explosive waste and UXO remediation projects at the **former Naval Ammunition Depot, Hastings, Nebraska** and the former **Temecula Practice Bombing Range, Orange County, California**. Specific duties performed include conducting site visits, project cost estimating and accounting, work plan and safety plan development, monitoring field activities to ensure compliance with requirements, and development of project final reports.

Managing investigations to determine the amount and type of UXO contamination remaining at the USACOE projects at the **former Kingsbury Ordnance Plant, LaPorte, Indiana**; the former **Pantex Ammunition Plant, Amarillo, Texas**; and the former **Sioux Ammunition Depot, Sidney, Nebraska**.

Managing UXO site clearance and safety escort services during soil sampling and well drilling operations at USACOE UXO projects at **Umatilla Army Depot Activity, Oregon**; **Fort Sheridan, Illinois**; **Savanna Army Depot Activity, Illinois**; **Milan Army Ammunition Plant, Tennessee**; **Cornhusker Army Ammunition Plant, Nebraska**; **Fort Jackson, South Carolina**; and **Sierra Army Depot, California**.

Managing and supervising field operations on USACOE projects involving hazardous and toxic materials and requiring Level "B" personal protective equipment including the decanting and removal of explosive Lead Azide Sludge from 55 gallon storage drums at the **Savanna Army Depot Activity, Illinois** and testing for toxic military chemical agents at **Umatilla Army Depot Activity, Oregon**; **Aberdeen Proving Ground, Maryland**, and **Fort Sheridan, Illinois**.

Conducting an underwater live firing range clearance at **Tuno Knob, Denmark**. Mr. Pastorick provided planning, management, and supervision of eight UXO Specialist/Divers performing the location, identification, and disposal of UXO at this former target area. The removal and disposal of over 500 UXO and the removal and salvaging of two former Danish Navy warships that were used as targets was accomplished.

1981 - 1989

Naval Officer and EOD Technician/Diver, U.S. Navy, Various Commands

Responsibilities and achievements include managing, directing and supervising personnel assigned to a variety of units from five-person EOD teams to fifty-person shipboard divisions, and maintaining all equipment assigned including specialized EOD tools and diving life-support systems. Completed two Western Pacific deployments and one Mediterranean deployment as Diving Officer and EOD Team Officer-In-Charge. Conducted frequent EOD training and operational deployments, and advanced to final rank of Lieutenant Commander.

1978 - 1981

Photojournalist, The Columbia Record, Columbia, South Carolina

Responsibilities and achievements include reporting on news, sports, and feature stories for a daily newspaper using photographs supplemented by written articles. 1980 South Carolina Photojournalist of the Year. Developed exceptional writing skills under deadline pressure.

1972 - 1976

Enlisted Service, U.S. Navy Seabees, Various Commands.

Publications

Carberry, John B. et. al., 2004, *Assessment of the Army Plan for the Pine Bluff Non-Stockpile Facility,* National Research Council Board on Army Science and Technology, National Academy Press, Washington, DC.

Carberry, John B. et. al., 2002, *Systems and Technologies for the Treatment of Non-Stockpile Chemical Warfare Materiel*, National Research Council Board on Army Science and Technology, National Academy Press, Washington, DC.

Carberry, John B. et. al., 2001, *Disposal of Neutralent Wastes*, National Research Council Board on Army Science and Technology, National Academy Press, Washington, DC.

Carberry, John B. et. al., 1991, *Disposal of Chemical Agent Identification Sets*, National Research Council Board on Army Science and Technology, National Academy Press, Washington, DC.

Pastorick, J. P., 1994, "Ordnance, Explosive Waste, and Unexploded Ordnance," *Protecting Personnel at Hazardous Waste Sites*, W. F. Martin and S. P. Levine, ed., 2nd ed., Butterworth-Heinemann, Stoneham, Massachusetts, pp. 404-421.

Pastorick, J. P., 1993, "Detection, Retrieval, and Disposal of Unexploded Ordnance at U.S. Military Sites," *Handbook: Approaches for the Remediation of Federal Facility Sites Contaminated with Explosive or Radioactive Wastes*, U.S. Environmental Protection Agency (EPA), Office of Research and Development, Washington, DC (EPA/625-R-93-013).

Pastorick, J. P., 1993, "Critical Considerations for Project Sites Containing Unexploded Ordnance," *Remediation Journal*, vol. 3, No. 2, pp. 221-232 and *Federal Facilities Environmental Journal* Vol.

4, No. 1, pp. 81-92.

Pastorick, J. P., J. Bern, and F. Adeshina, 1992, "Ranking Combined UXO/CSM /HTW Sites Requiring Restoration: An Initial Protocol," presented at the *Annual Explosive Safety Seminar of the Department of Defense Explosive Safety Board*, Anaheim, California.

RESUME
of
MICHAEL A. MULLETT

PERSONAL DATA

Home Office Address: 723 Lafayette Street, Columbus, IN 47201
Home Office Telephone and Fax: (812) 376-0734

Height: 5'll" Weight: 210 lbs Health: Excellent
Birthdate: December 15, 1945 Citizenship: U. S.
Marital Status: Married

EMPLOYMENT HISTORY

Self-employed attorney, Mullett, Polk & Associates, LLC, and Mullett & Associates, Indianapolis & Columbus, IN, 1982 to Present. Extensive litigation and legislative experience concentrated in representation of environmental and consumer groups on high-profile environmental, natural resources and public utility issues and cases. Listed in Who's Who in American Law since 1990 and Who's Who in Finance and Industry since 1996. Indiana Environmental Litigator of the Year, 1999 and 2004. Indiana Trial Lawyer of the Year, 1994 (co-recipient).

Clients have included the Indiana Clean Energy Campaign, the Hoosier Environmental Council, the Hoosier Environmental Council Action Fund, Save The Valley, Protect Our River Environment, Protect Our Woods, the Citizens Action Coalition of Indiana, the Citizens Action Coalition Education Fund, and numerous individuals and community groups.

Major reported cases include Save the Valley, Inc. v. Indiana-Kentucky Elec. Co., 820 N.E.2d 667 (Ind. Ct. App. 2005), *aff'd on reh'g*, 824 N.E.2d 776, *trans. denied* (authorizing associational standing for citizens organizations under Indiana Administrative Orders and Procedures Act); Norris v. Indiana Board of Licensure for Professional Geologists, 9 CADDNAR 67 (Ind. Nat'l Res. Comm'n 2002) (ordering issuance of professional license improperly denied to geologist in retaliation for expert testimony on behalf of environmental groups); Indiana Gas Co. & Citizens Gas & Coke Utility, 2002 Ind. PUC LEXIS 293 (Ind. Util. Reg. Comm'n 2002) (approving innovative alternative regulatory plan for joint procurement of natural gas services by local distribution companies); PSEG Lawrenceburg, LLC, 2000 Ind. PUC LEXIS 512 (Ind. Util. Reg. Comm'n 2000) (approving innovative regulatory framework for siting of merchant power plant); Hoosier Environmental Council v. U. S. Army Corps of Engineers, 105 F. Supp. 2d 953 (S.D. Ind. 2000) (rebuffing Clean Water Act and NEPA challenge to siting of riverboat casino); Citizens Action Coalition v. PSI Energy, 612 N.E.2d 199 (Ind. Ct. App. 1993) (reversing "sliding-scale" incentive rate plan for electric utility); Citizens Action Coalition v. PSI Energy, 582 N.E.2d 330 (Ind. 1991) (disallowing recovery through rates of $100+ million of "hidden charges" for cancelled Marble Hill nuclear project); NIPSCO v. Citizens Action Coalition, 548 N.E. 123 (Ind. 1989) (mandating $56 million refund, $25 million in interest, and attorneys' fees for consumers who successfully challenged recovery through rates of costs of cancelled Bailly nuclear project); and Citizens Action Coalition v. NIPSCO, 485 N.E.2d 610 (Ind.

1985), appeal dismissed & cert. denied, 486 U.S. 1137 (1986) (reversing recovery through rates of sunk costs of cancelled Bailly nuclear project).

Executive Director, Governor's Committee on Youth Employment, Indianapolis, IN. 1980 - 1982. Responsibilities included research, policy analysis, pilot projects and published reports on youth employment in Indiana for blue-ribbon panel advising two Governors.

Project Consultant, Cummins Engine Foundation, Columbus, IN, 1978 - 1980. Projects included internal review and summary documentation of national grants program, feasibility study of a statewide network of volunteer community advocates for low-income persons, policy analysis of structural unemployment, and proposal for legislatively-funded study of local post-secondary and vocational education, which subsequently led to new facilities and programs for IV Tech Region 10 and IUPUI - Columbus.

Executive Director, Human Services, Inc., Columbus, IN, 1975 - 1978. Responsibilities included rebuilding the administrative, programmatic and financial structures of a bankrupt community action agency. Projects included original program of para-legal service delivery through volunteer community advocates (later replicated by the Legal Services Corporation as a national demonstration project) and the Poor People's Yellow Pages (later a Volunteers in Service to America (VISTA) project).

Research Associate, Indiana Center on Law and Poverty, Indianapolis, IN, 1974 - 1975. Projects included legislative information program on poverty-related issues, policy analyses of poverty-related legislation, and research for class-action lawsuits.

Personnel Manager and Personnel Director, Cummins Engine Company, Columbus, IN, 1969 - 1971. Responsibilities included corporate wage and salary, organizational planning, and personnel development programs. Projects included transfer of office workforce from hourly to salaried status, revision of shop job evaluation system, computerization of organizational directory, and initial career planning data system for management personnel.

Personnel Administrator, Ford Motor Company, Dearborn, MI, 1966 - 1969. Responsibilities included organizational planning, salary administration and recruiting for Ford Division. Projects included initial Executive Authorities Manual, initial college co-op and disadvantaged hiring programs and revision of several significant operating policies for the Division.

EDUCATIONAL BACKGROUND

L.L.M., Northwestern School of Law, Lewis & Clark College, 1999. Coursework concentrated in environmental and natural resources law, especially hazardous waste law. Thesis directed to the implications of the ongoing restructuring of the electric utility industry for the financing of the storage and disposal of high-level nuclear waste from commercial power plants.

J. D., Indiana University School of Law, 1982. Graduated magna cum laude, with honors including Dean's List and an academic standing in the top 12% of the 1982 class. Related activities included a clerkship at the Indiana Judicial Center providing legal research and analyses to Indiana trial judges on a wide variety of issues.

M. A., Public Policy and Administration, University of Michigan, 1973. Graduated with honors including Edwin F. Coneley Scholarship in Government, Ford Foundation Fellowship and a Rackham Prize. All requirements except dissertation completed for Ph. D. Related activities included service as a student government representative and a student member of a departmental committee on admissions and financial aid.

B. A., Political Science, University of Michigan, 1966. Graduated with high distinction, with honors including Phi Beta Kappa, Phi Kappa Phi and Political Science Honorary. Related activities limited to full-time work to finance education.

TEACHING EXPERIENCE

Adjunct, Lewis & Clark Law School - Portland, OR, Winter 2005 to present. Teach seminar in Nuclear Waste Law and Policy for second- and third-year and LL.M. students.

Adjunct, Indiana University School of Law - Indianapolis, Fall 1999 to present. Teach seminars in Public Utility Regulation and Deregulation and Nuclear Waste Law and Policy for second- and third-year students.

Adjunct, Indiana University School of Law - Indianapolis, Fall 1989 through Spring 1990. Taught Legal Research and Writing I and II to first-year students.

Instructor, Indiana University School of Law - Indianapolis, Fall 1984 through Spring 1987. Courses taught included a Seminar in Public Utility Regulation for second- and third-year students and Legal Research and Writing I and II for first-year students.

Teaching Assistant, University of Michigan, 1972. Team-taught a section of undergraduates in an American Government course.

PUBLICATIONS

Financing for Eternity the Storage of Spent Nuclear Fuel: A Crisis of Law and Policy Precipitated by Electric Deregulation Will Face New President, 18 Pace Envtl L. Rev. 383 (Summer, 2001). Article analyzing the implications of the ongoing restructuring of the electric utility industry for the financing of the storage of spent nuclear fuel from commercial power plants.

Utility Regulation in Indiana: Restriking the Balance. 8 SPEA Rev. 13 (Fall, 1986). Article analyzing past performance and recommending future action by the Indiana Utility Regulatory Commission in balancing the interests of utility customers and investors.

Interim Report of the Governor's Committee on Youth Employment (1982). Report presenting factual background and policy prescriptions for the youth employment problem in Indiana.

Preliminary Report of the Governor's Committee on Youth Employment (1980). Report assessing the nature and magnitude of the youth employment problem in Indiana.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	Docket No. 40-8838-MLA
	)	
U.S.ARMY	)	ASLBP No. 00-776-04-MLA
	)	
(Jefferson Proving Ground Site)	)	November 23, 2005
	)	

MOTION TO SCHEDULE HEARING
FOLLOWING COMPLETION OF STAFF TECHNICAL REVIEW

Intervener Save The Valley ("STV") respectfully moves the Atomic Safety and Licensing Board ("Board" or "ASLB") to schedule the hearing STV is concurrently requesting in the above captioned matter at a time following completion of the NRC Staff's technical review of the pending request of the Department of the Army ("Army" or "DA") for an amendment to its license (Material License No. SUB-1435) for the depleted uranium ("DU") ordnance testing site at the Jefferson Proving Ground ("JPG") near Madison, Indiana.

In support of its Motion, STV would respectfully show the Board:

1. This proceeding falls within the scope of 10 CFR § 2.309.

2. On June 27, 2005, the NRC published in the Federal Register its notice of consideration of the Army's possession only license amendment ("POLA") request for the JPG DU site[1] and of the

[1] See Letter from the Army Requesting an Alternate Decommissioning Schedule for the Decommissioning of Jefferson Proving Ground and Transmitting a Technical Memorandum, Field Sampling Plan, and Health and Safety Plan (available at www.nrc.gov as ADAMS document no. ML051520319).

opportunity for interested persons to request a hearing on that request. *See* 70 Fed. Reg. 36,964.

3. Concurrently with filing this Motion, STV is timely filing its Request for Hearing pursuant to the Federal Register notice and extensions of time duly granted by the Commission.

4. STV respectfully requests that the hearing it has requested in this proceeding be scheduled at a time following completion of the NRC Staff's technical review of the requested POLA. STV submits that this action will not delay ultimate action on the Army's request while permitting STV to base its testimony and other evidence in this matter on a complete Hearing File.

5. STV submits that this action would be consistent with the scheduling of the prior hearings granted in this proceeding. See LBP-03-02, at 6-7. STV further submits that this action would be consistent with similar action taken under comparable circumstances in the Sequoyah Fuels Corp. case. See Memorandum and Order, at 3-4, Docket No. 40-8027-MLA-4, ASLB No. 99-70-09-MLA (March 23, 2000). In the Sequoyah case, the Presiding Officer accepted the State of Oklahoma's view that the hearing it had requested should be deferred until completion of the NRC Staff technical review because "[t]he Hearing File must be complete when the parties present their formal presentations on the issues." Id., at 4.

6. STV further submits that the requested action would provide for judicial economy and not prejudice the interests of either the Army or the Staff.

7. Based on the information publicly available to it, STV would expect that granting its scheduling request would likely result in a hearing in Spring, 2006.

WHEREFORE, Save The Valley, Inc., respectfully requests that the hearing it has requested in this proceeding be scheduled following completion of the NRC Staff technical review of the Army's pending POLA request, as well as all other relief just and proper under the circumstances.

Respectfully submitted,

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Attorney for Save the Valley, Inc.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	Docket No. 40-8838-MLA
U.S.ARMY	)	ASLBP No. 00-776-04-MLA
(Jefferson Proving Ground Site)	)	November 23, 2005

CERTIFICATE OF SERVICE

I hereby certify that copies of the Petition to Intervene and Request for Hearing and Motion to Schedule Hearing Following Completion of Staff Technical Review have been served this 23rd day of November, 2005, upon the following persons by electronic mail and by U.S. Mail, first class postage prepaid.

Administrative Judge Alan S. Rosenthal, Chair
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Mail Stop: T-3-F-23
Washington, D.C. 20555-0001

Adjudicatory File
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Washington, D.C. 20555

Administrative Judge Paul B. Abramson
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Administrative Judge Richard F. Cole
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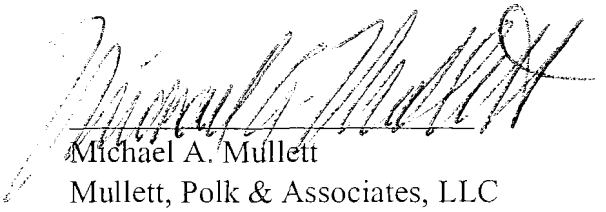

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