

September 25, 2007

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
U.S. ARMY	)	Docket No. 40-8838-MLA
	)	
(Jefferson Proving Ground Site)	)	

NRC STAFF REPLY AND SUR-REBUTTAL

INTRODUCTION

Pursuant to the Order (Scheduling for Preparation of Evidentiary Hearing) (May 15, 2007) as amended by the Memorandum and Order (Granting Unopposed Motion for 1-Day Delay to Schedule) (August 28, 2007), the Staff of the U.S. Nuclear Regulatory Commission ("Staff") submits its written Reply and Sur-rebuttal testimony in response to the Intervenor's (Save the Valley, Inc. ("STV")) rebuttal testimony ("Reply of Intervener Save the Valley, Inc." (September 18, 2007) ("STV Reply")).

BACKGROUND

The hearing stems from the US Army's request for an alternate schedule to submit a decommissioning plan for the Jefferson Proving Ground site. Letter and Attachments from Alan G. Wilson to Dr. Tom McLaughlin, dated May 25, 2005. Pursuant to an Order from the Commission, STV filed several contentions against the application for the alternate schedule. *US Army* (Jefferson Proving Ground Site), CLI-05-23, 62 NRC 546, 550 (2005); Petition to Intervene and Request for Hearing of Save the Valley, Inc. (November 23, 2005) ("STV Petition"). The Board ruled that only the following contention, called "Contention B-1" was admissible:

As filed, the FSP [Field Sampling Plan] 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.

*US Army* (Jefferson Proving Ground Site), LBP-06-6, 63 NRC 167, 183-85 (2006).

STV filed its initial testimony on July 13, 2007 and July 20, 2007. Initial Statement of Position of Intervenor Save the Valley, Inc. and Testimony of Norris; Testimony of Henshel. The Staff's Statement of Position was provided on August 17, 2007. Initial Statement of Position of NRC Staff. STV provided its Reply on September 18, 2007. The NRC Staff is now providing its sur-rebuttal position and testimony.

## DISCUSSION

### I. Scope of Proceeding

The Board has clearly stated that "contrary to Intervenor's assertions, this proceeding does not encompass 'the entire JPG DU site decommissioning process'" but instead the scope of the proceeding is limited to whether the Army's proposed site characterization during the alternate schedule period meets the three criteria of 10 C.F.R. § 40.42(g)(2): (1) It is necessary to the effective conduct of decommissioning operations; (2) It poses no undue risk from radiation to the public health and safety; and (3) It is otherwise in the public interest. *U.S. Army* (Jefferson Proving Ground Site), LBP-06-27, 64 NRC 438, 447-448 (2006). Furthermore, the scope of a proceeding is limited by the nature of the application and pertinent Commission regulations. Policy on Conduct of Adjudicatory Proceedings; Policy Statement, CLI-98-12, 48 NRC 18 at 22 (1998) (Recently endorsed by Draft Statement of Policy on Conduct of New Reactor Licensing Proceedings, 72 Fed. Reg. 32139 at 32140 (June 11, 2007)). Finally, the Commission itself has shown that the scope of the proceeding is limited to the alternate schedule request by specifically ordering STV to file contentions against the application for the alternate schedule. *Jefferson Proving Ground Site*, CLI-05-23, 62 NRC at 550. Therefore, the

NRC Staff's statements regarding the relevant regulatory framework of 10 C.F.R. § 40.42(g)(2) are well-founded and consistent with Commission policy, the Commission Order of October 26, 2005, and the Board's Order of December 20, 2006.

In its rebuttal, STV presents issues regarding the legal standards for a decommissioning plan, and discusses what STV believes needs to be present in an environmental impact statement (EIS) and safety evaluation report (SER) STV Reply at 5-12. The Board clearly and explicitly addressed when challenges to the decommissioning plan may be made, and showed that such challenges are outside of the scope of the present hearing. *Jefferson Proving Ground Site*, LBP-06-27, 64 NRC 438 at 448 n. 27.<sup>1</sup> Therefore, STV's discussions on 10 C.F.R. § 20.1403 and the review standards for a decommissioning plan (STV Reply at 5-7) are premature and outside of the scope of the admitted contention. Similarly, discussions of the content of an SER and EIS for an unsubmitted decommissioning plan are premature and not relevant to the alternate schedule request.

## II. NRC Staff Witnesses

The attached sur-rebuttal testimony presents the opinions of five highly-qualified witnesses: 1) Dr. Thomas McLaughlin, the Project Manager for JPG, 2) Mr. Jon M. Peckenpaugh, a Systems Performance Analyst, 3) Dr. A. Christianne Ridge, a Systems Performance Analyst, 4) Mr. Dale Condra, Laboratory Manager for the Independent Environmental Assessment and Verification Program of the Oak Ridge Institute for Science and

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<sup>1</sup> The Board provided very clear instructions to STV regarding when STV may challenge the decommissioning plan. *Jefferson Proving Ground*, 64 NRC 438 at 448 n. 27. ("To be clear, if it so chooses, Intervenor will have an opportunity to challenge the adequacy of the Licensee's decommissioning plan once it is formally docketed with the NRC Staff; presumably in 2011. At that time, a notice of opportunity to request a hearing will be published in the Federal Register and Intervenor, or any other member of the public, will be able to file a petition to intervene and request for a hearing challenging specific components of that decommissioning plan.")

Education, and 5) Mr. Adam Schwartzman, an Environmental Scientist. Each witness previously provided initial testimony in this case, and their qualifications were included with their initial testimony. See Initial Statement of Position of NRC Staff at 8-10. Through their sur-rebuttal testimony, staff witnesses present their opinions on issues brought forward by STV's rebuttal. These issues include air sampling, the ability of the FSP to detect karst features, sampling locations, the use of RESRAD, the absence of DU in deer samples, and laboratory analytical methods.

III. NRC Staff Sur-rebuttal Testimony

A. Biota Sampling Is Adequate

As shown in Dr. McLaughlin's sur-rebuttal testimony, biota other than deer do not currently need to be sampled at the site. The deer samples were a threshold sample, requested because they are the only significant completed pathway to humans. McLaughlin Initial Testimony at 9. Squirrels, turkeys, and aquatic organisms are not currently sampled because of either their insignificant quantity, or their remoteness from being a pathway. McLaughlin Sur-rebuttal A.5, A.6, A.8, and A.12. STV is relying on unsupported anecdotal information regarding what animals are taken from JPG and eaten, and the information fails to address that fishing is prohibited at JPG and collecting shellfish is prohibited by law. *Id.* at A5, A8.

B. DU Has Not Affected Cave Fauna

Dr. Henshel is relying on unsupported conjecture of connections between the DU at JPG and the observations of Lewis Study showing missing populations in the caves and the anecdotal information from her students. McLaughlin Sur-rebuttal A.6. The study used by Dr. Henshel does not state that DU is present. *Id.* The speculation by Dr. Henshel appears to ignore known chemical hazards. *Id.*

C. Deer Sampling Has Not Shown DU

Mr. Condra, as an analytical laboratory expert concerning the analysis of samples for

uranium, definitively provides that there is no indication of DU in the deer samples from JPG. Condra Sur-rebuttal Testimony A.5 through A.9. In answers A.5 through A.9, he explains how the continual assertion of the STV witnesses that DU was found in deer samples is not true. He provides clarification to portions of his initial testimony that Dr. Henshel challenges. Condra Sur-rebuttal Testimony A.5. Mr. Condra also explains how Dr. Henshel's assertion that none of the deer represent background is inconsequential. Condra Sur-rebuttal Testimony A.6. Mr. Condra also shows that statistical uncertainties must be used when evaluating data, especially when readings near detection limits are assessed, and consideration of the uncertainties supports his conclusion that no DU was present in the deer samples. *Id.* A.9, A.5.

D. Assumptions are Needed to Express Results as percentage DU

In response to an STV proposal regarding how to express laboratory results as a percentage DU and percentage natural U in a single sample, Mr. Condra notes that certain assumptions would be required, and that making such assumptions is not a good scientific practice. Condra Sur-rebuttal Testimony A.12. Further, the method suggested by STV is not generally achievable in the industry. *Id.* In addition, following STV's suggestion also requires an assumption that no uncertainties exist in the level of depletion in the DU. *Id.*

E. Bounding Modeling Is Appropriate

Dr. Ridge's sur-rebuttal testimony states that a Kd model would over-predict the peak concentration of DU in groundwater when compared to model that explicitly predicts non-equilibrium behavior, and, as a result, would be a conservative estimate. Dr. Ridge Sur-rebuttal A.4 and A.5. Dr. Ridge notes that the Kd model will likely result in an over-estimate of the peak concentrations. *Id.* at A.4. Clearly, the over-estimate is not a concern for public health and safety. Dr. Ridge states that STV's concern that using bounding doses would somehow result in the inappropriate elimination of a groundwater pathway is incorrect. *Id.* at A.5. Dr. Ridge's testimony clarifies that the use of bounding and conservative values results in a higher

anticipated peak dose, thereby countering the misinterpretation of bounding and conservative values by Mr. Norris. Dr. Ridge Sur-rebuttal A.5.

G. Groundwater and Karst Assessment are Adequate in the FSP

STV has implied that groundwater pathways are not going to be addressed. Norris Rebuttal A.013. Contrary to this implication, Mr. Peckenpaugh's sur-rebuttal testimony shows that groundwater is being characterized, thus groundwater assessment is not missing from the FSP. Peckenpaugh Sur-rebuttal A8. There can be no argument that the FSP is ignoring groundwater characterization.

STV has alleged that the FSP is assuming that no "deeper" or "paleo" karst network exists. Norris Rebuttal A.017, A019. Mr. Peckenpaugh's testimony points out that no such assumption is made, and instead the FSP includes investigatory wells that are both shallow and deep. Peckenpaugh Sur-rebuttal A.10, A.11.

Mr. Peckenpaugh's sur-rebuttal also shows that a variety of changes STV seeks regarding stream gauging placement, remote-sensing devices, and modifications to the drilling program are unnecessary. Peckenpaugh Sur-rebuttal A.14 - A.16. Mr. Peckenpaugh notes that STV's requested changes would be repetitive and unnecessary because the data potentially provided by the change were already available through fracture trace analysis and electrical imaging. Peckenpaugh Sur-rebuttal A.15. Another requested change would not provide any significant increase in data quality, yet would take at least a year just to develop. Peckenpaugh Sur-rebuttal A.14.

Mr. Peckenpaugh's sur-rebuttal testimony shows that the concerns of STV regarding sampling beyond the DU Impact Area are already addressed in the FSP. Peckenpaugh Sur-rebuttal A.9, A.18. He provides specific examples of characterization activities beyond the DU Impact Area. *Id.* In one instance, it appears that STV was unaware of the placement of stream gauge stations. *Id.* at A.18.

H. Air Sampling is not Needed in the FSP

STV expressed concerns about air sampling during controlled burns based on STV's review of a study at Aberdeen Proving Grounds (APG) and one at Los Alamos National Laboratory (LANL). Initial Testimony of Henshell A.35. STV specifically was concerned about conditions during spring when vegetation has re-grown (presumptively STV would not dispute that the vegetation re-grew in part because of moist spring conditions). *Id.* In its rebuttal testimony, STV has asserted that its initial request was just for "confirmatory air sampling." Henshell Rebuttal A.32. However, the word "confirmatory" implies that the requested sampling is to confirm expected results, in this case that air sampling is not required. Schwartzman Sur-rebuttal A.4.

Mr. Schwartzman's sur-rebuttal testimony shows that air sampling is not a required component of the FSP. Mr. Schwartzman specifically notes that STV admits that two studies, one at Aberdeen Proving Grounds (APG) and one at Los Alamos National Laboratory (LANL) support that health risks from controlled burns are small, thus air sampling is not needed. Schwartzman Sur-rebuttal A.5. Furthermore, Mr. Schwartzman observes that STV's witness Dr. Henshell agrees that both of the studies may be used for JPG, with the APG study for wet years and the LANL study for dry years. Schwartzman Sur-rebuttal A.5. No matter which study is used, Mr. Schwartzman's sur-rebuttal testimony shows that neither study supports the need for air sampling. *Id.* A.4.

CONCLUSION

For the reasons stated above, the Staff's witnesses maintain that the FSP was adequate to support a request for an alternate schedule to submit a decommissioning plan pursuant to 10 C.F.R. § 40.42(g)(2). The rebuttal testimony of STV does not change the Staff's conclusion.

Respectfully Submitted,

**/RA/**

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CERTIFICATE OF SERVICE

I hereby certify that copies of NRC STAFF REPLY AND SUR-REBUTTAL TESTIMONY OF DR. THOMAS MCLAUGHLIN, MR. JON M. PECKENPAUGH, DR. A. CHRISTIANNE RIDGE, MR. DALE CONDRA, MR. ADAM SCHWARTZMAN, in the above captioned proceeding have been served on the following by electronic mail with copies deposited in the Nuclear Regulatory Commission's internal mail system as indicated by a single asterisk or by U.S. Mail, first class, as indicated by a double asterisk, and by e-mail, this 25<sup>th</sup> day of September 2007. Due to his remote location, the original signed affidavit for Mr. Condra, will be transmitted separately to the Secretary of the Commission.

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