



ENVIRONMENTAL EVALUATION GROUP



AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

7007 WYOMING BOULEVARD, N.E.  
SUITE F-2  
ALBUQUERQUE, NEW MEXICO 87109  
(505) 828-1003  
FAX (505) 828-1062



December 10, 2001

Dr. Inés Triay, Manager  
U.S. Department of Energy  
Carlsbad Field Office  
P.O. Box 3090  
Carlsbad, NM 88221

Dear Dr. Triay:

Attached is Dr. Jim Channell's trip report on RFETS Audit A-02-05 that was conducted on November 27-30, 2001.

We believe that concern 6 might have been handled differently but this is not a major issue with us.

Please call Jim Channell if there are questions.

Sincerely yours,

Matthew K. Silva  
Director

MKS:JKC:pf  
Attachments

cc: Steve Zappe, NMED  
Charlie Riggs, CBFO





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**DATE:** December 6, 2001  
**TO:** Matthew K. Silva  
**FROM:** James K. Channell *JKC*  
**SUBJECT:** Trip Report for RFETS Audit A-02-05, November 27-30, 2001

I attended, as an observer, Audit A-02-05 at Rocky Flats Environmental Technology Site from the pre-audit conference on Tuesday November 27 until the beginning of the audit team caucus on Thursday November 29.

The following technical areas were audited. (1) Acceptable Knowledge; (2) Headspace Gas (HSG) automated unit; (3) HSG for Standard Waste Boxes (SWBs); (4) Project Level Verification & Validation; (5) Visual Examination (VE) of SWBs; (6) VE of Newly Generated Waste; (7) Electronic Waste Stream and Residue Identification and Characterization (WSRIC). Staff and contractors representing the NM Environmental Department also participated in the audit. I followed VE areas 5 and 6 during the audit and participated in team caucuses on November 27 and 28.

### Summary of Audit Concerns

Seventeen concerns arose during the audit. These are summarized in the attached table which was used at the post-audit conference on Friday November 30, 2001. These were broken down into 5 CARs (Corrective Action Reports), 4 CDAs (Corrected During Audit), 3 Observations, and 4 Recommendations.

Another interesting discussion that arose was whether the automated HSG system had the required sensitivity. The problem is that Table B3-2 of the HWFP requires an MDL of 10 nanograms based on delivering a 10 ml sample to the analytical system. This HSG system only uses 0.1 ml which Table B3-2 implies requires a sensitivity of 0.1ng. The sensitivity is only about 0.3 ng. This potential problem had been recognized by RFETS and previously submitted to the CBFO hot line for an interpretation (its hot line number 193). Review by WTS and CBFO is presently underway. Therefore, the issue was considered to be outside the scope of the audit and not listed as a concern.

Memo: Trip Report  
Page 2  
December 6, 2001

### **Personal Activities**

During Tuesday November 27, I sat in on review of video tapes and data packages for VE confirmatory evaluation of SWBs. During this review, I was the one who picked up the discrepancies in layers of confinement and weight of a SWB and contents, that became Concern 6 (and CDA 4).

The issue of rejecting containers selected for VE confirmation came up for discussion (see attached October 31, 2001 memo from Randy Leitner). A proposed class 2 modification to the HWFP that would have allowed rejection for safety reasons was denied by NMED during the audit. The attached memo gives a good justification for avoiding VE of the selected SWBs. However, 2 out of the first 3 selected containers had the same safety concern and it was acknowledged (in response to my question) that a safety related rejection would eliminate a fair number of the 135 SWBs in this population from ever having a visual examination.

In the morning of Wednesday November 28, 2001 our group went to Building 771, put on anti-contamination clothing and observed size reduction of piping and loading into an SWB and 55 gallon drums. Those performing the operation are inside a plastic tent and wear respirators. After the piping was cut, it was drained and, if liquid is found, desiccant is added. Ends are wrapped and the piping placed in an SWB without further wrapping. Auditors expressed concern about the role of the VE expert in this process (see CAR C).

In the afternoon of November 28, we dressed in anti-contamination clothing in Building 371 and observed Raschig rings being vacuumed out of tanks and into 55-gallon drums. Operations were inside a plastic tent with 2 workers and the radiation technician using respiratory protection. Six drums per day are being loaded with Raschig rings at the present time. Eventually there will be about 3000 drums of Raschig rings coming to WIPP from RFETS.

### **Personal Observation**

I am generally satisfied with the concerns that were raised in the VE audit and the way they were designated. However, concern 6 (designated CDA 4) while it was corrected during the audit seemed to me to be indicative of carelessness that perhaps justified greater attention. Also, the manner in which corrections were made without explanation and with careless adding of weights was similar to concern 7 under Visual Verification that resulted in CAR A. Perhaps the corrections that could occur from CAR A will also result in a tightening up of the VE paper work.

RFETS AUDIT A-02-05 NOVEMBER 27-30, 2001

No.	Who	Description of Concern	Concern	CAR	CDA	Obs	Rec.	Status
1	Blauvelt/ Calvert	Procedure PRO-484-WIPP-003, Section 6.1.1 contains information that should be deleted from the procedure.			1			
2	Blauvelt/ Calvert	Procedure PRO-484-WIPP-003, Section 6.1.1 is missing the list of information that must be included as part of the AK written record.			1			
3	Gaydosh/ Ledford	In VE data package VE-2002-001, the Visual Examination Log Forms were typed. Raw data was not attached as part of the data package.			2			
4	Gaydosh/ Ledford	Visual Exam uses multiple forms to record waste items and waste matrix parameter category weights. The totals from each form should be combined to summarize the MPC weights for the container. A total for the column on the form labeled "QC Duplicate Weight" is not necessary.					1	
5	Gaydosh/ Ledford	Procedure PRO-1471-VE-771 states that QC Duplicate weights are performed after all waste items in the Waste Package have been weighed. They are currently doing a duplicate weight after each 10 items have been weighed.			3			
6	Gaydosh/ Ledford	In batch report VE-2002-001, container # S00808, packages numbers 18 and 20 are identified as having 1 layer of confinement. These packages actually have 2 layers of confinement. Also, for this container, the weight of the glovebox in the SWB was calculated incorrectly in the batch report.			4			
7	Blauvelt/ Calvert	Visual Verification packaging data entry form reviewed had changes that are unclear and no explanation has been provided for the changes. Package #S00922 estimated weight percents were changed from "Organic Matrix" to "other inorganic materials" This change was not performed by the original validator, originator, or data reviewer. Package #S00858 estimated weight percent was changed from 25% to 23% for "Plastics"		A				

**RFETS AUDIT A-02-05 NOVEMBER 27-30, 2001**

No.	Who	Description of Concern	Concern	CAR	CDA	Obs	Rec.	Status
8	Blauvelt/ Calvert	An example of implementation of newly generated waste confirmation results should be examined to assure that newly generated waste being assigned to existing waste streams is appropriate and supportable.				1		
9	Blauvelt/ Calvert	The WSRIC waste characterization work sheets need to include required supporting information (analytical results, references to existing process information).  The WSRIC work sheet provides the basis for AK hazardous waste determinations that are made prior to waste generation. This information should be complete and thorough.				2		
10	Blauvelt/ Calvert	The AK waste stream summaries need to include the rate and quantity of newly generated waste production. These summaries should be revised to specifically indicate quantities attributable to newly generated waste. This will be useful in the case of newly generated waste not associated with a current retrievably stored waste stream.				3		
11	Blauvelt/ Calvert	RFETS should consider updating project level documents (QAPjP) to clearly define the newly generated process. It is assumed that newly generated and retrievably stored waste AK data will be generated following the same process. It would be beneficial if documentation explained how newly generated waste will be characterized.					2	
12	Blauvelt/ Calvert	Certification documents (i.e. procedures) should specify applicability to newly generated and retrievably stored waste. It is inferred that certification procedures apply to all TRU Waste.					3	
13	Blauvelt/ Calvert	RFETS should consider differentiating "accuracy" of newly generated waste from retrievably stored waste in the AK accuracy report.					4	
14	Blauvelt/ Calvert	For three SWBs examined during the audit, the net weight of the contents determined during the visual verification process did not agree with the net weight determined in the NDA process. It was determined that the tare weight used by both NDA SWB counters is incorrect. There is also an inconsistency in the gross weights on Form 1B and 1C of visual verification.		B				

**RFETS AUDIT A-02-05 NOVEMBER 27-30, 2001**

No.	Who	Description of Concern	Concern	CAR	CDA	Obs	Rec.	Status
15	Gaydosh/ Ledford	Workers performing VE and identifying waste items are not trained in VE. VE Experts are outside of the enclosure and are told by workers inside what the items are.		C				
16	Verret/D avis	Target Compound Identification Verification in Data Package HGAS-DP-00004 used incorrect reference spectra for comparison to probable Target Analyte compounds. This error was not identified during any of 3 reviews (ITR, TS, or QAO). QAO review form has check mark saying "Confirmation of Spectra Used for results."		D				
17	Verret/D avis	Three out of four procedures for HSG Sampling and Analysis had inaccuracies in work processes and/or responsibilities. The three procedures are L-4231-D, L-4053-D, and L-4321-C.		E				
<b>Totals</b>	<b>17</b>			<b>5</b>	<b>4</b>	<b>3</b>	<b>4</b>	



KAISER - HILL  
COMPANY

## INTEROFFICE MEMORANDUM

DATE: October 31, 2001

TO: Jerry O'Leary, TRU Program Manager, T130J, X3268

FROM: *RML*  
Randy Leitner, B771/774 Waste Manager, T771A, X3537

SUBJECT: SAFETY CONCERN ASSOCIATED WITH CONTAINER SELECTED FOR  
VE CONFIRMATION OF RTR - RML-003-01

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Performance of the Visual Confirmation for RTR procedure (PRO-1471-VE-771), utilizing one of the two Selected SWB Sample containers would pose a significant safety risk to personnel involved in the operation due to the manner in which the waste was loaded into the container.

Container Number S00698 was loaded with highly radioactively contaminated (both internally and externally) components directly from within a size reduction chamber without any individual packaging or wrapping. In order to execute the above procedure, the container liner would be breached and individual waste components would be manually handled, weighed, video tapped, etc. This would result in extremely high levels of airborne radioactive contamination within the contamination control cell. Even with the use of available contamination control devices and PPE, the potential for personnel exposures remains significant.

We therefore intend to substitute another container for the container listed above. Unfortunately, the 3<sup>rd</sup> container identified on the Contingency Selected SWB list (Container Number S00643) was loaded in the same manner as the container listed above. The 4<sup>th</sup> container (Number S00808) was loaded with individually wrapped waste items and therefore does not pose an unmanageable risk to personnel.

Please advise me as soon as possible if this proposed substitution is unacceptable. Otherwise, we will make the substitution described above. The result is that we will perform the verification procedure on the following two containers:

S00723  
S00808.

Thanks for your assistance.

rmd

cc:  
Roger Ballenger  
Jim Ferguson  
Mike Jennings  
Chris Lee  
Ron Robledo  
Greg Rolston

UNCLASSIFIED NOT UCNI  
REFERENCE EXEMPTION LETTER:  
CEX-073-99  
DATE: SEPTEMBER 9, 1999