



Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221
March 21, 2001

 **ENTERED**

Mr. Steve Zappe, Project Leader
Hazardous Waste Bureau
New Mexico Environment Department
2044 – A Galisteo
Santa Fe, New Mexico 87502



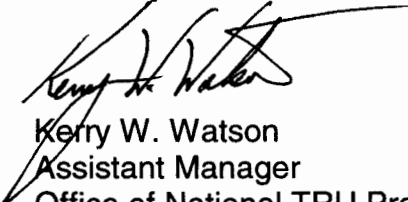
RE: Transmittal of Response to Carlsbad Field Office CAR 01-019

Dear Mr. Zappe:

This letter transmits the response to the Carlsbad Field Office (CBFO) Corrective Action Report (CAR) provided by the Rocky Flats Environmental Technology Site (RFETS) in a memorandum dated March 8, 2001.

If you have any questions or concerns, please contact me at (505) 234-7357.

Sincerely,


Kerry W. Watson
Assistant Manager
Office of National TRU Program

Enclosure

cc: w/enclosure
J. Kieling, NMD
J. Bearzi, NMED
R. Dinwiddie, NMED
G. Lewis, NMED
S. Vega, CBFO
J. VandeKraats, CBFO
M. Gerle, WTS Operating Record

CBFO:QA:SAV:VW:01-0664:UFC:2300

010328



CORRECTIVE ACTION REPORT

1. CAR No.: 01-019	2. Activity Report No.: A-01-07	3. Page <u>1</u> of <u>4</u>															
4. Controlling Document: 4-H80-776-ASRF-007	5. CBFO Assessment Team Leader: Sam Vega																
6. Responsible Organization: : RFETS, VE	7. CAQ Was Discussed With: Frank Grady																
8. Requirement that was violated: Appendix 3 of 4-H80-776-ASRF-007 requires that the visual exam expert (VEE) and closure personnel (visual examination operators) determine whether there are PCBs evident in the waste undergoing visual examination.																	
9. Condition Adverse to Quality: During the visual examination (VE) of drum D72774, a fluorescent light fixture with a clearly visible ballast was found in the contents of the drum. The VE personnel did not note that the light ballast could indicate the presence of PCBs.																	
10. Suggested Actions (Optional):																	
<table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">11a. Significant CAQ</td> <td>(Yes or No): Yes</td> </tr> <tr> <td>11b. Work Suspension Recommended</td> <td>(Yes or No): No</td> </tr> <tr> <td>11c. CCA-Related</td> <td>(Yes or No): No</td> </tr> <tr> <td>11d. RCRA-Related</td> <td>(Yes or No): Yes</td> </tr> </table>			11a. Significant CAQ	(Yes or No): Yes	11b. Work Suspension Recommended	(Yes or No): No	11c. CCA-Related	(Yes or No): No	11d. RCRA-Related	(Yes or No): Yes							
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11b. Work Suspension Recommended	(Yes or No): No																
11c. CCA-Related	(Yes or No): No																
11d. RCRA-Related	(Yes or No): Yes																
12. Types of Actions: Remedial: <u>X</u> Investigative: <u>X</u> Root Cause: <u>X</u> Actions to Preclude Recurrence: <u>X</u>																	
13. CAR Initiator: <u>W. Ledford</u> Date: <u>2/1/2001</u>																	
14. Response Due Date: <u>March 9, 2001</u> Corrective Action Plan Required: YES																	
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">15. Concurrence:</td> <td style="width: 33%;"></td> <td style="width: 33%;"></td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">Assessment Team Leader</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Responsible Assistant Manager</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">Quality Assurance Manager</td> <td style="text-align: center;">Date</td> <td></td> </tr> </table>			15. Concurrence:			_____	_____	_____	Assessment Team Leader	Date	Responsible Assistant Manager	_____	_____	_____	Quality Assurance Manager	Date	
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_____	_____	_____															
Quality Assurance Manager	Date																
16. Corrective Actions Proposed by the Responsible Organization: Use CAR Continuation Sheet																	
17. Acceptance of Proposed Corrective Actions:																	
<table style="width: 100%; border: none;"> <tr> <td style="width: 60%; text-align: center;">_____</td> <td style="width: 40%; text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">Assessment Team Leader</td> <td style="text-align: center;">Date</td> </tr> </table>			_____	_____	Assessment Team Leader	Date											
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Assessment Team Leader	Date																
1. Verification of Corrective Action Completion: (Use CAR Continuation Sheet)																	
19a. Verified By: _____																	
19b. Trend Cause Code: _____																	
20. Closure: _____																	
Quality Assurance Manager		Date															

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Block # 16. Corrective Actions Proposed By the Responsible Organization

Remedial Actions: The RTR videotape and data reporting forms for drum D72774 were retrieved. D72774 was RTR'd on February 15, 2000 and then on March 1, 2000 a subsequent review of the RTR tape was performed because the RTR Waste Package Report form was revised. The RTR operator on March 1, 2000 documented on the RTR Waste Package Report that fluorescent light fixtures with ballasts were present in the drum. However the Report also has a box checked "No" for the presence of "PCBs with concentrations \geq 50 ppm (such as transformers, capacitors, and ballasts)." The RTR operators were trained to check "No" if there is no evidence of leakage or free liquids. After the audit, the only WIPP shipment that included metals waste drums was RF010011, shipped on February 3, 2001. The RTR supervisor had the videotapes re-reviewed for the 14 metals drums in RF010011 as additional verification that they did not contain fluorescent light ballasts. Additional shipments will not include metals waste drums until the corrective actions identified in this CAR are implemented. The RTR Waste Package Reports for those metals drums previously RTR'd will be re-reviewed to determine if there are other drums that contain fluorescent light ballasts. This includes the 573 metals drums that have been shipped to WIPP and approximately 218 metals drums that have been RTR'd but not shipped to WIPP yet. If necessary, NCR's will be issued.

Since identification of this deficiency, and pending completion of corrective actions to preclude recurrence, VE to confirm RTR has been limited to visual examination of pipe overpack component (POC) drums containing repackaged residues waste. VE to confirm RTR is not performed continuously only on an as needed basis. Prior to January 23, 2001 the last time VE to confirm RTR was performed was May 25, 2000. The VE for Confirmation of RTR procedure, 4-H80-776-ASRF-007, was revised and issued on January 17, 2001. This revision only allows for visual examination to confirm RTR of POC drums. In other words, VE to confirm RTR for non-POCs is not included in any procedures so this work cannot currently be performed. POCs were packaged with visual examination procedures prohibiting the packaging of fluorescent light ballasts in the drums. Visual examination to confirm RTR of non-POC debris waste drums will not be performed until ASRF-007 is revised to address the concerns raised by this CAR and retraining to the procedure is conducted.

Investigative Actions: TRU Waste Programs personnel have investigated the two primary issues surrounding this condition adverse to quality and the following information was gathered.

Issue 1: Why the visual examination expert did not take a closer look at the fluorescent light ballasts in drum D72774 for confirmation that they do not contain PCBs?

- Discussions during the audit with the visual examination expert (VEE) for drum D72774 indicated that the visual examination training needs to be enhanced for both the VEE and operators. The training needs to provide samples or photographs of potential items containing PCBs, i.e. ballasts and capacitors. The VE procedure, at the time of performing the VE for D72774, did have a statement that the examiner shall look for fluorescent light ballasts that are not marked with "No PCBs" but this statement needs to be expanded to provide a comprehensive list of items.

Issue 2: Determine if there are other means of verifying that the ballasts do not contain PCBs?

- Drum 72774 was packaged in room 114 of Building 771 on November 29, 1989. D72774 was visually examined on February 24, 2000 and shipped to WIPP for disposal on March 17, 2000. The shipping paperwork was pulled and the drum traveler reviewed. There is nothing in the paperwork identifying the presence of PCBs in the waste. In addition WEMS reports (Package History Report and Package Audit Report) were printed and again there is no record of PCBs in the drum.
- Available Building 771 drawings, work packages and maintenance records were reviewed to determine if they would help in identifying the ballasts in drum D72774. The information gathered has not been of much use. Work packages and maintenance records were not as detailed as those generated today and they were only required to be stored for 3 years.
- Chronological files revealed that, in the 1988-1990 time period, Plant inventories of PCB equipment/waste included drums containing fluorescent light ballasts which had been removed and properly designated as containing PCBs.

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Block # 16. Corrective Actions Proposed By the Responsible Organization (continued)

- A historical copy of the Waste Packaging Requirements document, WO-4034, applicable to the time at which D72774 was packaged, was retrieved and it includes a requirement that if PCB waste is encountered the generator shall contact Waste Compliance and Planning for guidance.
- EPA Final Rule for "PCBs; Manufacturing, Processing, Distribution in Commerce and Use Bans", dated May 31, 1979; required manufacturer's of fluorescent light ballasts to mark the ballasts "No PCBs" at the time of manufacture. Ballasts manufactured prior to May 31, 1979 generally contained PCBs greater than 50 ppm in both the small capacitors and the potting material within the ballast.
- The former manager of Building 771, at the time the drum was packaged, was interviewed and provided the following input:
 - Item 13 on the VE tape, one of the light fixtures, was reviewed and the former manager stated that the fixture was probably part of a cleanup effort from a contamination incident. He said the fixture was probably from room 146 because the waste generator that packaged the drum was assigned to room 146. That waste generator retired several years ago and was not available for an interview.
 - The former manager also said light fixtures like the ones in D72774 were located on top of gloveboxes and they were typically operated 24 hours a day, 7 days a week. Because of continuous use they were routinely replaced at a frequency of between 1 to 2 years. This replacement rate indicates that the ballasts in D72774 were probably manufactured in the 1980s and therefore did not contain PCBs. The PCB Rules 40 CFR 761 required that fluorescent light ballasts manufactured after May 31, 1979 shall not contain PCBs.
 - The former manager stated that in the late 1980s or early 1990s there was a Sitewide campaign to identify, label and remediate PCB-containing items. In an attempt to read the labels from the D72774 videotape, close-up photographs of the ballast labels were taken and magnified. Images from the videotape were also transferred to a computer to enhance them. The writing on the magnified photographs and enhanced images were not legible.
- The Procurement Quality Assurance Manager and his lead were contacted to determine if there are procurement records available for use in identifying the fluorescent light ballast manufacturer. There are no light fixture procurement records on Site from the 1980s but there may be some at the Federal Records Center. However it is believed that whatever records could be retrieved would not provide sufficient information to determine a manufacturer.
- Experienced maintenance electricians reviewed the VE videotapes but were not able to identify the ballast manufacturer. The electricians stated there are so many different models that unless you can read the labels the manufacturer cannot be identified.
- The WIPP-WAP, section B2-1, states miscertified drums are those that radiography indicates meet the WIPP-WAP and TRAMPAC, but visual examination indicates do not meet these criteria. For drum D72774, the ballasts recorded on the RTR report were identifiable on the VE videotape. The VE personnel did not verify the presence of a "No PCB" label but based on the results of this investigation the ballasts in D72774 do not contain PCBs therefore D72774 is not considered a miscertified drum. None of the eighty S5000 drums visually examined to confirm RTR last year were miscertified. Therefore by default the miscertification rate is 1%. If drum D72774 had been determined to be miscertified then the miscertification rate would still be 1% because 1 in 80 drums is 1.25% which when rounded to the nearest integer as required by the WAP is 1%.
- The Backlog Waste Reassessment Baseline Book will be updated to reflect Acceptable Knowledge information gathered from this investigation.

Conclusion: To the best of our knowledge based on the information presented, the fluorescent light ballasts found in TRU waste drum D72774 were manufactured sometime in the 1980s and therefore do not contain PCBs.

- The fluorescent light ballasts were packaged into the drum D72774 in 1989.
- The light fixtures in Building 771 were replaced on a frequent basis.
- Federal regulations prohibited the manufacture of PCB containing fluorescent light ballasts after 5/31/79.
- Fluorescent light ballasts containing PCBs were being segregated from other waste back in 1989.

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Block # 16. Corrective Actions Proposed By the Responsible Organization

Root Cause (Direct Derivation): The training for identifying potential sources of PCB-contamination is not adequate. Characterization procedures stipulate the prohibition of wastes containing PCBs in concentrations ≥ 50 ppm but do not provide enough information as to the items that may be sources of PCB contamination.

Actions to Preclude Recurrence:

1. Revise WO-4034, Radioactive Waste Packaging Requirements, to specifically list items that are common sources of PCBs.
2. Revise the RTR procedures, NDT-00569 and NDT-00664, to describe what items may contain PCBs and how they are identified, documented, and controlled.
3. Revise the VE procedure to Confirm RTR, ASRF-007, to describe what waste items may contain PCBs, how to determine whether the items contain PCBs and what information should be recorded on the datasheets/ videotapes.
4. Conduct remedial training for these procedural changes in accordance with the Training Implementation Plan, PLN-97-007, section 7.5. RTR and VE to confirm RTR for metals drums will not resume until the procedures and remedial training are completed.

Overall Completion Date: March 23, 2001

Responsible Individual:


G. A. O'Leary
Site Project Manager

3/5/01
Date