



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

 **ENTERED**

DEC 20 2012



Trais Kliphuis
WIPP Staff Manager
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive E, Building 1
Santa Fe, New Mexico 87505

Subject: CBFO Response to Observer Inquiry Regarding Real-Time-Radiography

Dear Ms. Kliphuis:

Enclosed are the National Transuranic Program (NTP) responses to an Observer Inquiry submitted to us from your office on November 28, 2012. The concern identified a potential for compromised independence while reviewing Real-Time-Radiography (RTR) videos, based on the actions of the original observer. We have discussed the concern with the Central Characterization Program (CCP), who conduct RTR for NTP at all sites except the Advanced Mixed Waste Treatment Project (AMWTP) in Idaho, and the management of AMWTP. Both understood that the position of your office is that the potential for an observer's objectivity to be compromised could exist. NTP requested that the contractors alleviate your concern. CCP has assembled a training brief, and a procedure modification for their RTR training program, which has been shared with AMWTP. Attachments provided to assist you in your review are listed below:

- Attachment 1 – Copy of your concern;
- Attachment 2 - Timeline for completion of remedial actions received from both contractors;
- Attachment 3 - CCP training briefing, which has been shared with AMWTP for similar briefings.

We believe these actions have satisfied the concern expressed in your inquiry. If you have any questions, please contact Tom Morgan at (575) 234-7462, or myself at (575) 234-7313.

Sincerely,

J.R. Stroble, Director
Office of the National TRU Program

Attachments



Ms. Kliphuis

-2-

DEC 20 2012

cc: w/attachments

J. Franco, CBFO	* ED
R. Unger, CBFO	ED
C. Fesmire, CBFO	ED
T. Morgan, CBFO	ED
N. Castaneda, CBFO	ED
R. Maestas, NMED	ED
S. Holmes, NMED	ED
P. Gilbert, LANL-CO	ED
G. Lyshik, LANL-CO	ED
RCRA Chronology Record	ED
WIPP Operating Record	ED
CBFO M&RC	

*ED denotes electronic distribution

United States Government

Department of Energy

memorandumCarlsbad Field Office
Carlsbad, New Mexico 88221

DATE: DEC - 4 2012

**REPLY TO
ATTN OF:** CBFO:OQA:CF:CC:12-1590:UFC 2300.00

SUBJECT: Observer Inquiry Identified During Recertification Audits A-13-01 and A-13-02

TO: J.R. Stroble, Director, National TRU Program

Attached, in accordance with Carlsbad Field Office (CBFO) Management Procedure 10.3, *Audits*, is a completed Observer Inquiry submitted by the New Mexico Environment Department (NMED). This Observer Inquiry was discussed during CBFO Recertification Audits A-13-01 of the Advanced Mixed Waste Treatment Project and A-13-02 of the Savannah River Site Central Characterization Project. A written response to the Observer Inquiry is required from the Office of the National TRU Program to the NMED within thirty days of the inquiry submission dated November 28, 2012.

If you have any questions or concerns, please contact me at (575) 234-7065.



Courtland G. Fesmire, P.E.
Quality Assurance Engineer

Attachment

cc: w/attachment

J. Franco, CBFO	*ED
R. Unger, CBFO	ED
T. Kliphuis, NMED	ED
R. Maestas, NMED	ED
S. Holmes, NMED	ED
P. Martinez, CTAC	ED
P. Y. Martinez, CTAC	ED
P. Hinojos, CTAC	ED
WIPP Operating Record	ED
CBFO QA File	
CBFO M&RC	

*ED denotes electronic distribution

Observer Inquiry Form

Observer: Ricardo Maestas/TLK Tracking No. _____ Date: November 28, 2012

Discussion of Request:

During the AMWTP A-13-01 audit NMED observed an operations technician performing on site Real Time Radiography (RTR) as well as review of audio/video records as part of the audit process. NMED observed practices that may affect the RTR independence as required by the WIPP Permit.

NMED and the Audit team were informed of new computer software (VJ Technologies) being utilized for RTR. NMED first observed the use of this software with the High Energy (HE) RTR Unit at the Hanford Site during CBFO WIPP Audit A-11-10 in April of 2011.

When audio/video records are created during RTR scans of waste containers using this new software the cursor (arrow that is controlled by a computer mouse) also shows up in the recorded scan. During the Hanford A-11-10 audit a recommendation (Recommendation 3) was issued by the audit team and reads, "The audit team identified a concern while reviewing the audio/video records generated by the operator while using the HERTR system. The RTR operator was not using the cursor for its intended purpose, which is to make adjustments to the image contrast. The audit team observed the RTR operator identifying container contents using the cursor. This practice could influence the person performing independent observations. The audit team recommended that the cursor not be used to identify container contents." NMED supported this recommendation.

During Audit A-13-01 NMED observed practices that may affect the independence of the independent observer. NMED understands that AMWTP does not utilize a High Energy RTR unit to characterize waste but the same software is currently being utilized by the existing RTR units.

During the field observation of an RTR scan the operations technician used the cursor to point out a couple of container contents. NMED concurs that the operator did so for the benefit of the audit team to see what the technician was calling out. NMED is aware that the container that was being scanned was not a WIPP bound container. The concern is that there does not appear to be sufficient training and guidance on how to use this new software so that independence is assured. NMED believes that if the technician had appropriate guidance, he would not have pointed out container contents to the audit team unless it is made clear that it is not part of the formal RTR process and was being used for demonstration only.

During the review of audio/video records, NMED and the audit team also identified an RTR operations technician using the cursor to point out a horsetail in one of the containers. In addition, NMED has a copy of a container scan in which the cursor is used to point out several items (container 10311408). AMWTP personnel provided NMED with a copy of four scanned containers so that NMED could review and discuss internally. It must be noted that the audit team did not have these scan copies to take into consideration.

The audit team concluded that upon reviewing all the objective evidence that was requested plus additional audio/video records, there was no evidence of using the cursor to point items out. NMED understands this conclusion but is still very concerned that the lack of guidance may risk RTR operations technicians to continue to point out items in waste containers leading to deficiencies with Permit required RTR independence.

Permit Attachment C1, Section C1-3 Radiography, states, "Independent replicate scans and replicate observations of the video output of the radiography process shall be performed under uniform conditions and procedures. Independent replicate scans shall be performed... by a qualified radiography operator that was not involved in the original scan of the waste container. Independent observations of one scan (not the replicate scan) shall also be made... by a qualified radiography operator that was not involved in the original scan of the waste container."

Permit Attachment C3-10a(1) Independent Technical Review, states, "One hundred percent of the Batch Data Reports must receive an independent technical review by a trained and qualified individual who was not involved in the generation or recording of the data under review. This review shall be performed by an individual other than the data generator who is qualified to have performed the initial work."

AMWTP procedure INST-OI-12, Rev. 49, Real-Time Radiography Operations (Drum), section 4.10.13 states, "Ensure that a qualified RTR OT who was not involved in the original scan performs the replicate scan." Section 4.10.15 states, "Ensure that a qualified RTR OT who was not involved in the original scan of the waste performs the independent observation." The NOTE between these two sections reads, "The independent observation is performed by reviewing the recording from a waste container (not the replicate scan), and documenting the results on a radiography analysis sheet in WTS. The independent observation is performed without reference to the original radiography analysis sheet in WTS." In the interest of ensuring RTR Independence one could also interpret this last sentence to be more inclusive and to mean without reference to the original radiography cursor as well.

NMED believes that when performing the replicate scan, independent observation and/or independent technical review and seeing the previous operator's cursor pointing out waste items from the original scan, RTR independence may not be met per the Permit requirements in Attachment C1, Section C1-3. This is similar in nature to the instructions for the second operator to turn off the volume on the audio/video records and using a separate analysis sheet.

NMED also noticed that the cursor, when not being used to adjust window leveling would on many occasions be left over the container that was being scanned. NMED is concerned that this cursor, left in the middle of the screen may also effect the replicate scan, independent observation and/or independent technical review and suggests that training and/or guidance be established so that RTR operators do not use the cursor to point out container contents and to move the cursor away from the container scan when it is not being used to adjust window leveling. Another possible solution would be to format the software so that the cursor does not show up in the recordings.

Finally, during the Savannah River Site (SRS)/CCP Audit A-13-02 on November 6-8, 2012, the auditors documented concern #9 which reads, "While observing the video for RTR scan of container #MDL0500775 (Large Box) in BDR# SRLBR0057, the audit team observed the operator using the VJ Technology software feature of "Window Leveling", which enhances the screen contrast. At 3:19 (minutes/seconds) into the video, the operator was observed using the cursor and pointing to an area of the box and is heard verbally stating "You can see the bottom of a plastic container". This practice could potentially influence the results of the independent observation (OI) if the container was selected for IO from the batch."

NMED takes RTR independence very serious, as documented in two previous observer inquiries from January and May of 2009. These previous concerns were dealt with satisfactorily. NMED looks forward to discussing these new concerns with the Permittees.

ATL Response: Inquiry will be forwarded to the appropriate CBFU manager/Office Director for Resolution.

Observer: Accept Response 11/30/12 Do Not Accept Response

Inquiry Closed: [Signature] Date: 11/30/12

* NMED accepts this response with the understanding that this inquiry will only be closed in regards to the responsibilities of CTAL per procedure CBFU mp 10.3 Rev. 7.

Per ATL Response, NMED acknowledges that this Inquiry will be forwarded to the appropriate CBFU manager/office Director for resolution and that DOE shall be responsible for submitting a written response to NMED within 30 days of the inquiry submission, as required in section C6-4 of the WIPP Permit.

Response to NMED Inquiry on Use of RTR Cursor

NMED Observer Inquiry Form (Attachment 1), dated November 28, 2012, reported that NMED, on three separate occasions, has observed practices that NMED considers may affect the independence of the independent observer during RTR characterization activities. The concern deals specifically with RTR operators not using the cursor on High Energy RTR units for its intended purpose, which is to make adjustments to the image contrast. NMED attributes the observed practices to a lack of sufficient guidance to RTR personnel on the use of the cursor in such a way that independence is assured.

Responses to Observer Inquiry

In response to the NMED Observer Inquiry, We are implementing the following steps from CCP:

1. CCP has developed additional guidance to RTR personnel in the form of a briefing given (Attachment 2) by the Cognizant Engineer for NDE that tells RTR operators when to use the cursor (to adjust the contrast on units that utilize the upgraded software) and when not to use the cursor (not to point to, trace, outline, or in any way identify an item on the screen. The cursor is to be kept out of view or off the screen unless it is being used to adjust contrast levels). The Cognizant Engineer for NDE completed the required briefing on December 5, 2012.
2. In order to ensure that the same guidance is provided to any new RTR operators, the information in the briefing will be incorporated into the CCP Real-Time Radiography TRU Waste Characterization Briefing (CCP-RTR-101) that is required for initial qualification and two year requalification of all RTR operators. CCP will revise CCP-RTR-101 as described above, by December 20, 2012.

In response to the Observer Inquiry, Performances of the replicate scan, independent observation, and independent technical review have different requirements and are conducted in different fashions at AMWTP.

Replicate scan: This scan is conducted on a drum in the batch on a separate recorded scan by a qualified operator that has not performed any work in the BDR. This allows the replicate to be completed with their own changes for the window leveling and discussing the items on the audio/video; e.g. stopping the scan, looking at areas more than once, increasing the zoom and decreasing the zoom. Therefore the cursor use does not affect this review.

Independent observation, this scan is completed using the previously recorded audio/video media for the container. However, the second operator turns off the volume. This eliminates any of the audio cues; however, this reviewer still gets indications that the original operator had potential issues. These can be indicated by: stopping the scan, looking at areas more than once, increasing the zoom and decreasing the zoom. Only the audio cues are missing.

Independent technical reviewer: The review of the scan for the entire BDR is completed using the previously recorded audio/video media for the container. This review uses the existing audio cues for the entire batch and all of the recorded data. The purpose of this scan is to ensure the operators adequately/compliantly complete the scans. All of the presented information is reviewed, so no issues on the cursor or the audio.

AMWTP will be implementing training in their program to the RTR operators and ITRs on the correct use of the cursor and this information will be added to the RTR and ITR qualification package and requalification packages. These actions will be completed by January 31, 2013.

Cursor Usage During Certified RTR Scans

Prepared By: Andrew Stallings
CCP Cognizant Engineer for NDE
12/3/12

Purpose

- This briefing is part of a response required to address multiple observations and recommendations by NMED on the use of cursors during RTR scans.
- This briefing is intended to give guidance to RTR Operators and ITRs on the usage of the computer's cursor during certified RTR scans performed under CCP-TP-053 and CCP-TP-508.

Background

- During several audits at multiple sites, NMED observed the use of the computer cursor being used in a way they feel jeopardizes the independence, required by sections C1 and C3 of WIPP's HWFP, of Independent Observations (IOs).
- During the scans observed, the operator used the cursor to point out items in the waste container.

When to use the Cursor

- The cursor can and should be used to adjust the contrast on units that utilize the upgraded Vi3 software.

When Not to use the Cursor

- The cursor should not be used to point to, trace, outline or in any way identify an item on the screen.
- Additionally, the cursor should be kept out of view or off the screen unless being used to adjust contrast levels.

ITR Guidance

- The ITR operator will monitor the use of the cursor via the ITR process.
- If the cursor is found to have been used the ITR will contact the CCP Cognizant Engineer for RTR to evaluate whether independence has been compromised.

Additional Information

- To ensure this guidance is passed on to any new operators this briefing will be incorporated into the RTR-101 briefing required for qualification of RTR operators.
- Questions regarding this process modification should be addressed with the CCP Cognizant Engineer for NDE.