

STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department
of Public Health
and Environment

Cotter Corporation – Canon City Mill
0502 Fremont County Road 68
P.O. Box 1750
Canon City, CO 81215-1750

Attention: Steve Landau, Manager of Environmental Affairs
 Jim Cain, Radiation Safety Officer

SUBJECT: **Notice of Violation**

This letter is a Notice of Violation of certain conditions of your Colorado Radioactive Materials License Number 369-01, and the *State of Colorado Rules and Regulations Pertaining to Radiation Control* (the Regulations). These violations were discovered in an announced routine inspection conducted on September 13-17, 2004, by Mr. James Jarvis, and Mr. Edgar Ethington of this Division, and Mr. Ed Wallace, a consultant to this Department. Several aspects of the program were reviewed since the Divisions last routine inspection on June 9-12, 2003. The focus of the September 2004 inspection was on Emergency Preparedness related activities, sealed source handling activities, water sampling activities and protocols, general radiological safety requirements, and laboratory operations and analysis. The results of the analytical laboratory evaluation are currently under review and will be forwarded in a future correspondence. The analytical laboratory evaluation may or may not result in additional Items of Non-compliance, Items of Concern, and/or Recommendations.

If proper actions are not taken by the licensee, on the basis of the violations (noncompliance items) cited in this letter, the Division will consider the institution of proceedings to revoke, suspend or modify the license as may be necessary, and imposition of civil penalties under 25-11-107 (5), CRS 1989, as amended.

A written response to the Item of Noncompliance and the following Items of Concern and Recommendations is required within thirty (30) days from the date of this letter. The response must include (1) demonstrations of remedial actions taken and achievement of compliance; (2) corrective steps which will be taken to avoid further Items of Noncompliance; and, (3) the date when full compliance will be achieved.

Prepared by: JJ Reviewed by: _____ Reviewed by: _____ Reviewed by: _____ Mailed by: _____ file
Date: _____ Date: _____ Date: _____ Date: _____ Date Mailed: _____ License
369-01 File 5.2 "Notice of Violation for September 13-17, 2004 inspection"

The following violation was identified and the corrective actions to achieve compliance are outlined.

1. RH 4.28.4 and RH 4.30 of the Regulations require specific radiological postings to be used to identify radiological hazards. Contrary to this at the time of the inspection, it was noted that 4 drums containing radioactive material located at the north end of Vanadium/U processing building were posted with signage indicating the words “caution”, the trefoil (radiation) symbol, “drum contents” and date (Refer to Image 1.1 and Image 1.2 of Attachment 1). This posting information is not consistent with the regulations. Containers of radioactive materials require posting as “Caution – Radioactive Material” in accordance with RH 4.30.

Similarly, radiological postings located near the north conveyor entrance of the building previously used for CaF processing, showed postings of “respiratory protection required” and the trefoil symbol (Refer to Image 2.1 and Image 2.2 of Attachment 1). Areas where respiratory protection is required must be posted as an “airborne radioactivity area” in accordance with RH 4.28.4.

The licensee should review all radiological postings to ensure that all postings used for radiological hazards are consistent with the requirements of RH 4.28 and RH 4.30.

This violation is a Severity Level IV and each type of this violation would have an associated civil penalty of \$625.

In addition to the above item of non-compliance, the following items of concern were noted during the inspection:

1. An area between one CCD tank and a building has been posted as contaminated for an extended period but has not been cleaned up. Discussions with personnel indicated that the contamination and radiological posting in this area has existed for an extended period. Prompt cleanup or covering of spilled radioactive materials is necessary to minimize the potential for personnel contamination, and additional spread of contamination due to environmental conditions (Refer to Image 3 of Attachment 1).
2. Some records associated with the respiratory protection program did not indicate the date on which the inspection or maintenance activities were conducted. The form used for documenting respirator maintenance (form RH-180A issue 8-19-02) does not include a blank for documenting the date of the maintenance activity. This form requires modification to ensure that the date of respirator maintenance activities is documented. Similarly, records associated with calibration of general area air samplers do not have spaces for the name or signature for personnel performing the calibration. This may lead to questionable data. As a general rule, the licensee should review all procedures and forms used to document the radiation safety program and verify that spaces are provided for the name, signature, and date of the person performing the activity.

3. Signs and postings used to communicate requirements and information to mill personnel are sometimes vague as to whether they are a requirement or not, or signs are faded, too small to read, or are unclear. Unclear postings may lead personnel, contractors, or visitors into not complying with the requirements resulting in possible contamination spread or present a possible danger to personnel. Efforts must be made to improve all postings to clearly indicate the required actions and information (Refer to Image 4 of Attachment 1).
4. During the inspection, movement and relocation of drums from the product storage building was observed. Four (4) drums located on pallets were moved by forklift with the drums secured to the forklift with only a small, inadequate rope. Industrial safety requirements would indicate that movement of four 55 gallon drums weighing in excess of 900 lbs. each require more secure transport. Inadequate securing of drums during transport may result in personnel injury, loss or damage to the drums, and possible personnel, equipment, and site radiological contamination (Refer to Image 5 of Attachment 1).

In addition to the above item of non-compliance and items of concern, the following recommendations were made at the time of the inspection closeout:

1. Radiological instrumentation used for personnel self-survey exiting the mill site should be provided to mill personnel so that they are easy to use and they facilitate the required surveys. Instrumentation should be mounted to promote easy hand and foot monitoring or provide instruments with probe cables that are sufficiently long to reach the necessary survey locations.
2. Establish and implement a written risk based graded process for identifying areas having the most significant radiological hazards in the mill buildings and site. Use this approach to establish and apply access controls so that personnel are alerted – through postings and boundary controls – to those areas which present the greatest hazards so that appropriate radiological and non-radiological safety actions may be taken, including use of protective equipment, notification requirements, and Radiological Work Permit (RWP) requirements.
3. Consideration should be given to establish one or more centrally located survey stations within the main mill building area for operations personnel to utilize when exiting mill process buildings. This will provide a first level of defense for contamination control from the personnel having the greatest risk of contamination spread, and may permit use of reduced survey requirements prior to final exit from the site.
4. Emergency response drills, training, and exercises need to involve more diversity in the scenarios presented and should require more consistent involvement in key mill management personnel. (Note – this item was not specifically identified at the time of the inspection closeout meeting, but was observed during more in-depth review of inspection notes.)

5. The use of a single plastic bucket for collection of larger volume samples at residential wells located offsite of the Cotter Mill property should be discontinued. The use of a single bucket with minimal rinsing between sampling events can lead to cross contamination of samples and questionable data reliability. Laboratory or similarly appropriate sample containers should be taken directly to the well head for sample collection. Alternatively, and only where residents insist, water samples can be drawn directly from the end of the hose and into sample containers.
6. The use of a water sampling “fish” for surface water sampling activities should include disposable sampling containers and use of a rinsing process with anionic and cationic detergents and multiple rinsing with deionized water between sampling locations. This cleaning process will help to eliminate bias in lower level environmental samples that may result in questionable data reliability.
7. During sampling of well and surface water it was observed that no sampling equipment blank samples are being obtained. It is strongly recommended that a program of equipment blank samples be obtained at a rate of one equipment blank per sampling day or one equipment blank per 20 samples, whichever is greater. This type of program will aid in maintaining defensible data and provides baseline values for comparison.

If you have any questions, please contact Mr. James Jarvis of the Radiation Management Unit at james.jarvis@state.co.us or (303) 692-3454.

Tim G. Bonzer, Compliance Lead
Radiation Management Unit
Hazardous Materials and Waste Management Division

TGB:jsj

ATTACHMENT 1

Image 1.1 Photograph of 4 drums containing radioactive material not posted in accordance with RH 4.30 requirements. (Refer to Item of Non-Compliance #1).



Image 1.2 Close-up photograph of drum containing radioactive material not posted in accordance with RH 4.30. (Refer to Item of Non-Compliance #1).



“trefoil symbol”
CAUTION

Drum Contents:
Yellowcake Sludge
Contaminated with
Zirconium for Reprocessing

Temporary Storage Only

September 13, 2004

ATTACHMENT 1

Image 2.1 Postings not in accordance with RH 4.28.4 (Refer to Item of Non-compliance #1).

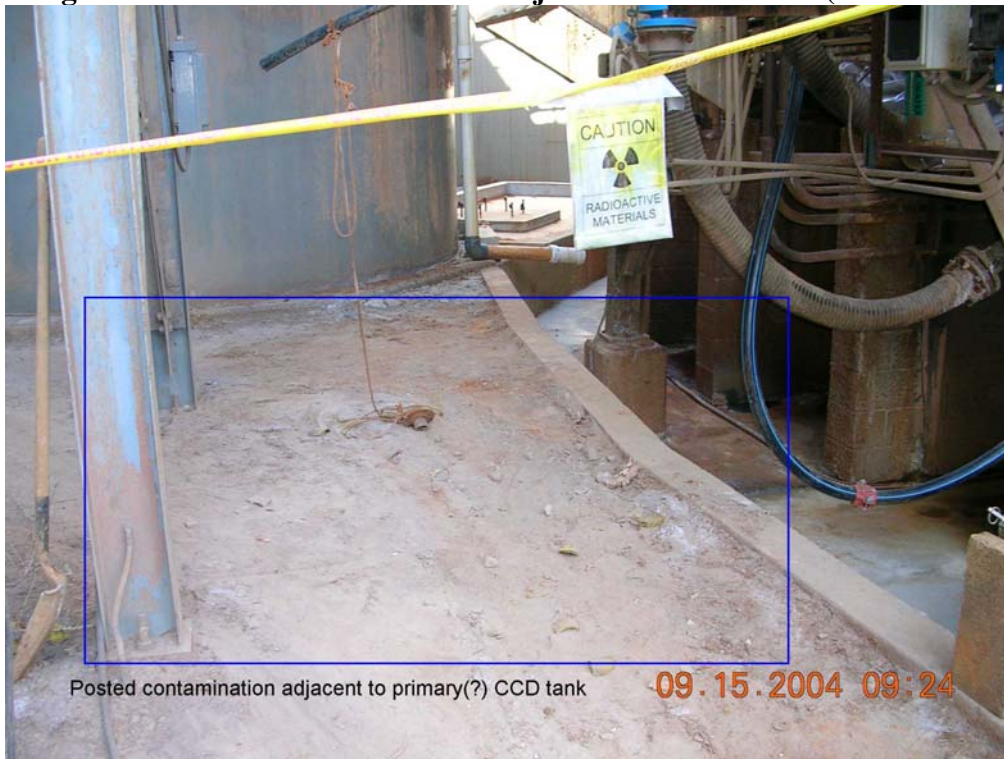


Image 2.2 Enlargement of Figure 2.1 above. (Refer to Item of Non-compliance #1).



ATTACHMENT 1

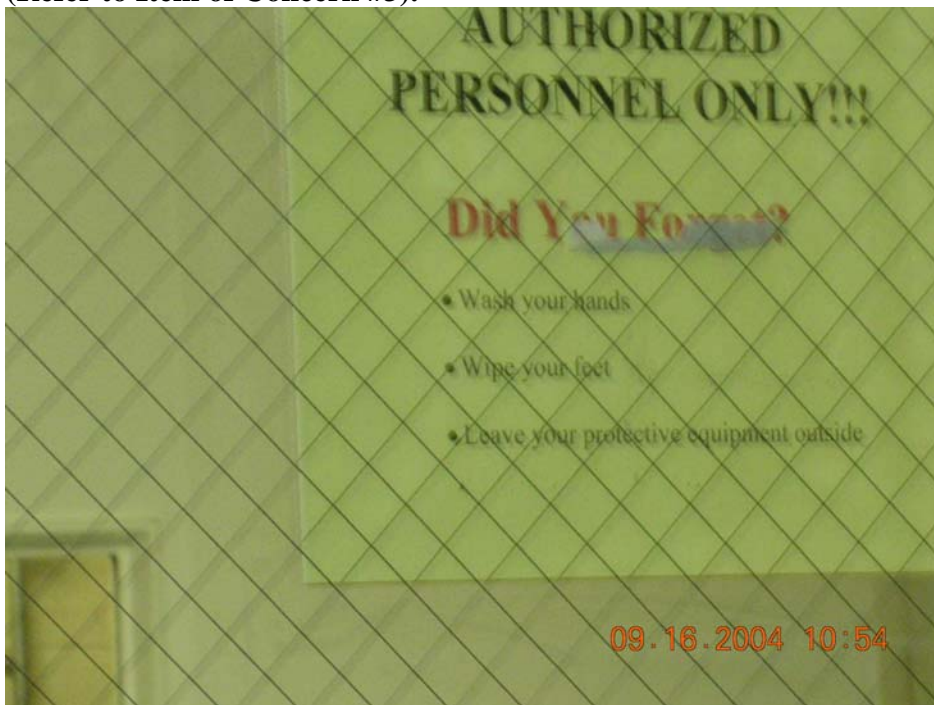
Image 3. Posted contaminated area adjacent to CCD tank. (Refer to Item of Concern #1).



Posted contamination adjacent to primary(?) CCD tank

09.15.2004 09:24

Image 4. Example of vague informational posting on door to control room. (Refer to Item of Concern #3).



09.16.2004 10:54

ATTACHMENT 1

**Image 5. Inadequate securing and movement of drums containing radioactive material.
(Refer to Item of Concern #4)**



Small rope used to secure RAM drums to forklift