



July 28, 2009

Mr. Ed Stroud, Compliance Lead
Radiation Management Unit
Hazardous Materials and Waste Management Division
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Re: Notice of Violation
June 25, 2009

Dear Mr. Stroud,

The following is the response by Cotter Corporation to the Notice of Violation (NOV) received June 25, 2009 for the inspection of May 4 through 6, 2009. The following are the listed violations, items of concern, recommendations and Cotter's response.

1. License Condition (LC) 8.7 requires the licensee's management and radiation safety officer shall take prompt and appropriate action to correct known deficiencies in the facility's procedures, processes, equipment, and site conditions.

Contrary to this requirement, the Emergency Response Plan Procedure, ER 010 did not have updated CDPHE emergency contact information. This was fixed at the time of inspection.

Cotter Response: The procedure in question had not been updated at the time of the inspection with the current emergency contact information. The information was added to the procedure at the time of inspection.

2. LC 23 requires that the licensee shall conduct management of liquids and solids at the facility as described in Cotter's *Site Liquids and Solids Material Management Plan*.

Contrary to this requirement, the pH in the primary impoundment fell below a value of 4.0 numerous times in 2008 and 2009. Cotter was cited for this issue for excursions that happened in 2007; therefore this is a repeat violation.

Cotter Response: There are recorded instances where pH was below 4.0 in the PI prior to August, 2008, the date that Cotter received the first Notice of Violation. However, these instances of low pH all occurred prior to receiving the violation. Since receiving the first NOV, Cotter has worked aggressively to maintain the pH within the allowable bounds. Additionally, the low pH values from which this citation is derived were actually grab samples collected by operators for control purposes and not the samples normally taken to determine compliance.

As such, the low pH samples do not represent the overall condition of the PI pool. For these reasons, Cotter respectfully disagrees that this is a repeat violation.

The pH of the impoundments during operational periods are easily controlled because pH is adjusted in slurries prior to discharge into the impoundment and the tailings batches are generally large relative to the standing pool volume. The pH becomes more difficult to control when no routine tailings additions are being made and pool levels are reduced by evaporation or by dewatering operations. Evaporation tends to increase the concentration of hydrogen ions thereby lowering the pH and dewatering accelerates this process since fresh water additions are not made. When the surface pool is shallow, circulation of fluids is poor or nonexistent and amendments added to the pool for pH control are not as effective.

Cotter initiated dewatering operations as a result of LC 29.4.3 to remove fluids from the deeper tailings in the PI. The deeper tailings are in hydraulic connection to the surface pool through a series of drains effectively reducing the surface pool as the deeper fluids are removed. Recent calculations indicate that evaporation is approaching 700 gallons per minute at the site which has dramatically reduced the pool. Cotter's efforts to maintain the pH within specifications have been effective until aggressive evaporation and dewatering efforts kicked in.

Since receiving the Notice of Violation in August, 2008, Cotter has added more than 200 tons of calcium oxide (CaO) to the impoundments for pH adjustment. Cotter is continuing with the actions as outlined in our letter of October 10, 2008. Attached is the record of pH measurements in the Primary and Secondary Impoundments taken by Cotter personnel to demonstrate compliance. The data starts 30 days after receipt of the first Notice of Violation, August 15, 2008. Note that, since the recent inspection was conducted, a low pH was recorded in the PI. This is thought to be the result of dewatering operations and very high evaporation rates. Cotter is currently in compliance with the pH requirement.

The following were listed as Items of Concern.

1. Written operating procedures shall be maintained for all routine operations and shall incorporate at a minimum, responsibilities, operating instructions and safety precautions. These include, at a minimum, Cotter's *Radiation Protection Program Procedures, Site Safety Manual, Site Security Manual, Laboratory Procedures Manual, Site Liquids and Solid Materials Management Plan*, and the *Quality Assurance Program Plan*.

The Integrated Safety Management process was adopted at Cotter through SOPs SPA 12 and 13 and approved by the Division in January 2009. Cotter needs to incorporate the provisions of Integrated Safety Management into its plans and procedures, as well as complete an update to the Radiation Safety Procedures Manual.

Cotter response: As noted in the statement of concern above, Cotter has implemented SPA 12 and SPA 13 in the normal flow of work at the Mill. SPA 12 has been used to develop plans and procedures submitted to CDPHE for approval and SPA 13 is actively used in implementation of the work plans and procedures.

Plans for the constructability project on the Secondary Impoundment and the plans for CCD demolition are examples of the ISM implementation. All plans and procedures developed or revised in the future will incorporate the ISM.

Ten procedures from the Radiation Protection Program Plan (RPPP) were submitted for your review and approval in June 2009. At present, 19 procedures from the Safety Program Manual (SPM) have been revised to include SPA 12 guidance, and reviewed internally in preparation for submitting them to CDPHE. An additional 11 Procedures have been developed in light of the requirements of SPA 12. Procedures from both the RPPP and SPM are in various stages of internal review prior to submittal to CDPHE.

2. LC 22.9 requires Cotter to implement and maintain Department-approved controls for limiting the release of radon and radioactive particulates from all waste repositories and ore piles.

Cotter is using a sprinkler system to mitigate particulate and radon releases from the Primary Impoundment. The radon flux report for 2008 came very close to exceeding the release limits. Cotter shall ensure that the sprinkler system is adequate as well as adopting other measures (e.g., soil cover) to ensure that releases of radon and radioparticulates from the Primary Impoundment are ALARA, taking into consideration the desire to reduce water levels in the Primary Impoundment per LC 29.4.3.

Cotter response: Prior to by the time of this inspection, Cotter had identified areas of the Primary Impoundment that were major contributors to the calculated average radon flux and had covered those areas with soil. Cotter also measured the radon flux from the recently covered areas to verify the effectiveness of the additional cover or point to the need for further action. Recent rains have increased solution levels in the Primary Impoundment further reducing the radon flux. These actions and conditions should provide additional margin below the limit to ensure that variations in conditions will not jeopardize compliance. Cotter will continue to monitor conditions and take actions in accordance with standards and requirements. The ALARA Review Committee has been actively tracking radon and radioparticulate emissions and has not identified any additional actions in the PI area.

3. LC 8.2.2 requires a hazard analysis which includes an ALARA evaluation, for each proposed system weighing merits of the proposed system(s) against potential alternative operating systems or technologies, as appropriate.

Numerous items in the hazards analysis were determined to be ALARA by Cotter through limiting access to the area or postponing remediations until BFSU, or before start up. Cotter must address those areas now that a determination has been made to not go into decommissioning. In addition to areas that have elevated gamma exposure rates and considerable surface contamination, numerous areas of the mill are simply full of excess equipment that needs to be moved out of the building.

Cotter response: Cotter has completed the stand-down analyses and has completed all the activities to ensure that the Mill is ALARA as required by CDPHE.

A separate condition, LC 8.2.2, requires that Cotter complete a readiness review of all existing and new equipment and systems that will be used during the next operational phase. The final assessment of Mill structures, systems and components that may have a future use will be completed and submitted to CDPHE as outlined in our March 31, 2009 letter. The studies referred to in the letter will set the operational parameters and equipment that may be required for mill startup.

Cotter is committed to removing equipment that will not be needed during the next operational period. The Kiln, CCD structures and components, Old Mill Maintenance Shop, and interim closure of the SI are examples of current or completed actions resulting from studies for restart. Some structures, systems and components remain that have surface contamination or elevated gamma levels which may not be used during the next operational period. However, until a final decision has been made on refurbishment wholesale demolition cannot occur.

Cotter has done a preliminary review of the likely work that remains and determined that personnel exposures to remove selected components would not be ALARA. The preferred method of removal would be to use shears or other remote, mechanical means which cannot be used at present. This would reduce exposures to the workers during demolition. Thus, until the refurbishment plans are complete, Cotter has isolated or otherwise controlled exposure generating areas rather than removing the equipment which would increase exposures.

4. LC 8.6.1 requires in part that the licensee shall implement engineering controls to maintain all releases of radioactive materials into the environment to levels As Low As Reasonably Achievable (ALARA), and LC 8.7 states the licensee's management and radiation safety officer shall take prompt and appropriate action to correct known deficiencies in the facility's procedures processes, equipment, and site conditions.

Gamma exposure rates at the inactive ore pad adjacent to the guard shack are not ALARA, and remain elevated despite not using this pad for more than 2 years. The Division has noted this for three consecutive inspection reports.

Cotter has either remediate this pad or place an interim cover over the pad to reduce gamma exposure rates and radon flux from residual radioactive material left in the base of the pad. Failure to address this pad during the next inspection period may result in a violation.

Cotter response: Cotter has applied a partial cover to this Ore Pad along the berm adjacent to the guard shack which should provide some immediate reduction in dose rates. This Ore Pad may be contributing to the NW plume which is currently under investigation. Removal of this Ore Pad requires approval by CDPHE and will likely be proposed as part of the response to the NW plume.

5. Section 10.2.3 of Part 10 of the Radiation Regulations requires that form R-15 Notice to Employees be posted by each licensee. Cotter has numerous copies of this posting around the facility. All Notice to Workers and Emergency call lists must have the current CDPHE emergency contact number. Unfortunately, the current Form R-15 has the old

emergency contact number for CDPHE. In case of an emergency, the correct contact numbers need to be correct on this form, just as they need to be correct in the Emergency Response Procedure.

Since our poster does not have the correct number, the licensee must post the correct number in all areas where it is required. CDPHE will provide new posters with the proper contact number when they are printed.

Cotter response: Cotter has revised all CDPHE-supplied forms with the current emergency phone numbers.

In addition, the following recommendations were provided for Cotter's consideration.

1. Birds are nesting and leaving droppings that are not being controlled in the buildings that are locked down. This may cause a health hazard when the buildings are accessed. This is not a radiation issue, but is of concern to CDPHE.

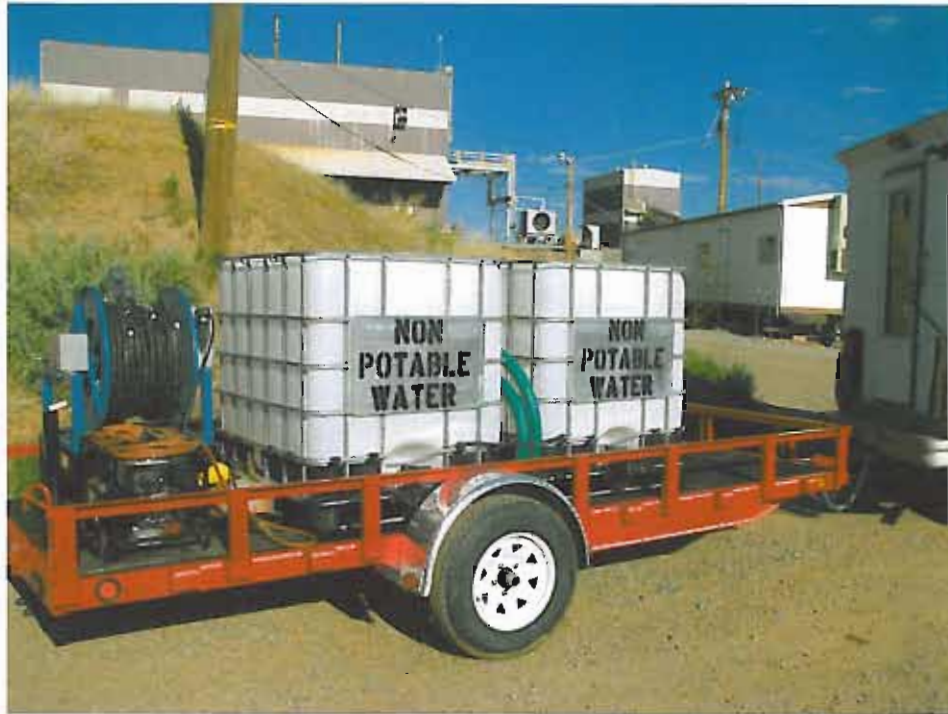
Cotter response: Cotter personnel are proceeding to secure against unauthorized bird entry on a building-by-building basis and have begun the wash down process on affected areas.

2. Since the Emergency Response procedure relies on the PA system, it should be tested on a periodic basis and maintained in operable condition.

Cotter response: The PA system has been tested. Periodic testing will be written into the procedure.

3. Care should be taken to ensure that purge water above standards not discharged to ground surface.

Cotter response: Cotter has added approximately two-300 gallon carboys to a new water sampling trailer. The carboys are used to collect water as recommended, above.



If you have any questions regarding this request please contact me at (719) 275-7413 ext. 202 or john.hamrick@cottercc.com.

Sincerely,

A handwritten signature in black ink, appearing to read "John S. Hamrick".

John S. Hamrick
Vice President of Milling

JH: kju

cc: Mr. Amory Quinn
Mr. Jim Cain
Mr. Craig Harlin
Mr. Steve Tarlton, CDPHE

Attachment

Cotter Corporation
Canon City Milling Facility

Average pH
Primary and Secondary Impoundments

Date	Primary Impoundment Average pH	Secondary Impoundment Average pH
09/15/08	4.4	4
09/30/08	4.2	4
10/17/08	4.3	4.4
10/31/08	4.6	4.4
11/21/08	4.3	4.6
12/16/08	NS	4.6
01/16/09	4.2	4.4
02/25/09	4.2	4.8
03/23/09	4.9	4.4
04/27/09	4.3	4.4