

August 31, 2011

**LICENSE SUA-1341  
DOCKET NO. 40-8502**

Attn: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Mr. Keith I. McConnell, Deputy Director  
Decommissioning & Uranium Recovery Licensing Directorate  
Division of Waste Management & Environmental Protection  
Office of Federal and State Materials &  
Environmental Management Programs  
11545 Rockville Pike  
Rockville, MD 20852-2738

**Subject: August 3-4, 2011 Brine Spill  
Irigaray Plant Site**

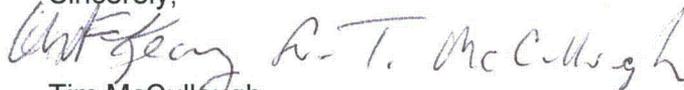
Dear Mr. McConnell:

In accordance with License Conditions 12.2 and 9.2 of the referenced license, this letter serves as the written notification for a spill of sodium chloride (NaCl) brine at the Irigaray Plant site. The spill was reported to the NRC Project Manager and Region IV personnel on August 22, 2011.

The details of the spill are included on the attached Spill Report Summary along with a map of the location. Note that there were no impacts to wildlife or livestock and the potential remediation of the soil is waiting the results of laboratory analysis of the soil samples and guidance from the Wyoming Department of Environmental Quality (WDEQ).

Please contact me should you have any questions regarding this report.

Sincerely,



Tim McCullough  
Manager Site SHE

cc: Larry Arbogast      Bill Kearney  
NRC File; Spill Reports  
Glenn Mooney- WDEQ-LQD, Sheridan WY  
Joe Hunter- WDEQ-WQD, Cheyenne WY

# Uranium One Americas, Inc. - Spill Report Summary

## Date and Estimated Time (beginning & end)

From: Estimated August 3, 2011 (late afternoon)

To: Estimated August 4, 2011 (mid morning)

It was not possible to determine the precise time of the incident due to the release not being readily visible, workers being off shift and delays in notification of the site SHE Department.

## Location

Outside S.E. corner of Irigaray Processing Plant Building

Section 16, Township 45N, Range 77W

Irigaray Processing Plant

Johnson County, Wyoming

## Spill Type

Approximately 20% sodium chloride brine solution

## Estimated Volume

Spilled: 7,000 to 10,000 gallons

Recovered: ½ yard of salt/soil was removed by scraping the surface of the ground with a backhoe to remove the top visible salt contaminated soil (the majority of the solution soaked into the ground and/or evaporated before it could be recovered).

## Spill Analysis Results

No sample of the fluid was collected as it had evaporated and/or soaked into the ground prior to notification of the site SHE Department. It was known to be only NaCl brine that contained no radioactive material potential.

## Soil Surveys & Analysis Results

On August 24, 2011 three soil samples were taken from the impacted area by the WDEQ Inspector with assistance from U1 employees. These samples were split and U1's samples were sent to Inter-Mountain Laboratories in Sheridan WY for EC, pH, texture, Na and Cl. At the same time one sample was taken from an adjacent un-impacted area (background) by the WDEQ Inspector with assistance from U1 employees. This sample was split and U1's sample was sent to Inter-Mountain Laboratories in Sheridan WY for EC, pH, texture, Na and Cl.

### **Remediation Actions**

The need for remedial actions will depend on the results of the soil samples and guidance from the WDEQ. If required, a remediation plan will be developed and implemented as soon as possible. Such a plan may require the removal of impacted soil and replacement with suitable soil from another area.

### **Explanation of the Root Cause**

The water line used to fill the Brine Generator Tank was inadvertently left open by a plant operator causing the tank to overflow. This overflow went undiscovered for approximately 2 days as the release was outside the back of the building and was therefore not readily visible. Additionally, it was determined that the original piping to the bag filter system for the tank had recently been modified such that it passed from the tank to the outside of the plant. The tank did not have the electronic controls in place to alert Operators of high level.

### **Corrective Actions**

A tank level transmitter is being installed with an alarm and an actuator to shut off any inflow to prevent overflow of tank in the future. Additionally, the piping for the bag filter system has been modified such that any fluid from future overflows will remain inside the plant.

Uranium One will implement daily checks outside of the plant building by the Plant Operators to look for any evidence of releases from any processes (radiological or not).

### **Impacts**

The release followed site drainage and entered a dry draw adjacent to the facility. A 110 yard by 5 foot wide strip of vegetation and soil was impacted. No wildlife or livestock were affected. No significant erosion resulted from the spill which soaked into an area of ground that covered ~0.04 acres.

### **Agency Reporting**

WDEQ: Glenn Mooney - Permit Coordinator; August 19, 2011 (email)  
Joe Hunter - Spill Hotline; August 19, 2011 (e-mail)

NRC: Ron Linton - Project Manager; August 22, 2011 (e-mail)  
Linda Gersey – Health Physicist, Region IV; August 22, 2011 (phone)

### **Map of Spill Location and Impacted Area**

Attached

# IRIGARAY PLANT

Brine Solution Flow Path

Buried Culvert

435

## Legend



Brine Solution



907 North Poplar St., Suite 260, Casper, WY 82601 307-234-8235

Willow Creek  
Irigaray Plant Brine Solution Spill  
T45N, R77W, Section 9  
August 2011

Date: September 2011 By: CEO Checked: BK

Rev. No.	Description	Date	By	Sheet: