

**HQ OC Notification:**

Date	Time	Person Notified	Organization
NA	NA	NA	NA

**Other Notifications:**

Date	Time	Person Notified	Organization
05/01/2014	10:00 (PTZ)	James Mumma	NFO/FR
05/01/2014	10:45 (PTZ)	Executvie Office	NSTec

**Authorized Classifier(AC):** N/A Date: 05/01/2014

**2)Report Number:**

[EM-CBFO--NWP-WIPP-2014-0006](#) After 2003 Redesign

**Secretarial Office:**

Environmental Management

**Lab/Site/Org:**

Carlsbad Field Office

**Facility Name:**

Waste Isolation Pilot Plant

**Subject/Title:**

Potential for the presence of untreated nitrate waste salts in TRU waste packages

**Date/Time Discovered:**

05/01/2014 13:00 (MTZ)

**Date/Time Categorized:**

05/01/2014 13:10 (MTZ)

**Report Type:**

Notification

**Report Dates:**

Notification	05/01/2014	19:57 (ETZ)
Initial Update		
Latest Update		
Final		

**Significance Category:**

3

**Reporting Criteria:**

3B(2) - Declaration of a potential inadequacy of the documented safety analysis (a potential positive USQ), per 10 CFR Section 830.203(g). [Note: When a potential inadequacy of a documented safety analysis is found, it would be initially reported under Criterion 3B(2). If further analysis results in a positive USQ determination, then the occurrence report should be updated to recategorize it under Criterion 3B(1). If the analysis results in a negative USQ determination, the occurrence report should be updated to recategorize it under Criterion 3B(3).]

**Cause Codes:****ISM:****Subcontractor Involved:**

Yes  
Waste Control Specialists - LLC

**Occurrence Description:**

On 2/14/2014, a radiological release from the underground area of the Waste Isolation Pilot Plant occurred. This event was reported in Occurrence Reporting and Processing System (ORPS) report EM-CBFO- -NWP-WIPP-2014-0002. This radiological release event was also the subject of a DOE Headquarters Accident Investigation Board Report, Phase 1, April 2014. The Phase 1 report did not investigate the cause of the release because of the prohibition on access to the underground following the incident also prohibited definitive determination of the physical cause of the waste container(s)

breach/failure. Nuclear waste Partnership LLC (NWP) and the DOE Carlsbad Field Office (CBFO) implemented a detailed recovery plan to systematically re-enter the underground to make a determination of the cause.

The re-entry plan involved conservative incremental entries to verify and establish safe conditions for further investigation. After following the indications of radioactive contamination and advancing to waste panel 7, room 7, photographic evidence of the conditions of waste packages was taken. The photographs revealed a condition where some bags of magnesium oxide placed on waste packages were observed to have disintegrated to the point where the bag material was no longer visible. The evidence was reviewed by Subject Matter Experts to postulate what could have caused the observed condition. On 5/1/2014, a critique was held to determine if the observations constituted new information from a nuclear safety basis standpoint. It was concluded that a possible cause of the condition was the presence of untreated nitrate salts in waste packages. It was postulated that an energetic chemical reaction could result if an untreated nitrate compound came into contact with cellulosic material (Kimwipes) that were also present in the packages. This conclusion was supported by the presence of nitrate bearing waste drums in the affected area containing the americium/plutonium ratio similar to the isotopic ratios seen on environmental filter samples taken during the release event. It was also the conclusion of nuclear safety personnel that the condition constituted a potential inadequacy of the documented safety analysis (a potential positive USQ), per 10 CFR Section 830.2013(g).

It was determined that waste packages containing this particular waste stream were also at the generator site, at the subcontracted waste storage site but not in the WIPP surface facilities.

**Cause Description:**

**Operating Conditions:**

Does not apply

**Activity Category:**

Shutdown

**Immediate Action(s):**

Actions taken at the WIPP surface facilities:

1) Identify location of suspect waste packages in the WIPP surface facilities

Actions to be taken if suspect waste packages are present in WIPP surface facilities: (since it was determined that no suspect waste packages were present in WIPP surface facilities, these actions were not taken)

2) Thermograph drums to identify potential thermochemical activity

3) Establish an isolation zone around suspect containers

4) Place the waste handling ventilation system in recirculation mode

5) Verify the operation of two continuous air monitors in the waste handling bay

6) Identify potential products of combustion and perform gas monitoring in the vicinity of the waste

7) Prohibit waste container handling

Actions taken in the waste generator site:

- 1) Notify the waste generator site of the issue and the proposed immediate actions for WIPP surface facilities
- 2) Suspend shipments of this waste stream from the waste generator site

Actions taken in the subcontracted waste storage site:

- 1) Notify the waste storage site of issue and the proposed immediate actions for WIPP surface facilities
- 2) Identify waste packages that contain the waste stream of concern
- 3) Travel to the subcontracted storage site to consult with site personnel

**FM Evaluation:**

Further investigation of the cause of the radiological release is required. This will be performed in conjunction with the DOE Headquarters Accident Investigation Board. The PISA determination process and USQD will be performed.

**DOE Facility Representative**

**Input:**

**DOE Program Manager**

**Input:**

**Further Evaluation is**

Yes.

**Required:**

Before Further Operation? Yes  
 By Whom: NWP and DOE  
 By When: 05/30/2014

**Division or Project:**

NWP/WIPP

**Plant Area:**

SURFACE/UNDERGROUND

**System/Building/Equipment:**

WASTE HANDLING

**Facility Function:**

Nuclear Waste Operations/Disposal

**Corrective Action:**

**Lessons(s) Learned:**

**HQ Keywords:**

**HQ Summary:**

**Similar OR Report Number:**

**Facility Manager:**

Name	SCOTT KENNEDY
Phone	(575) 234-8434
Title	FACILITY MANAGER

**Originator:**

Name	Ito, Francis M.
Phone	(575) 234-8380
Title	MANAGER, CONTRACTOR ASSURANCE

**HQ OC Notification:**

Date	Time	Person Notified	Organization
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**Other Notifications:**

Date	Time	Person Notified	Organization
05/01/2014	13:10 (MTZ)	Robert McQuinn	NWP/PM