

# U.S. Department of Energy

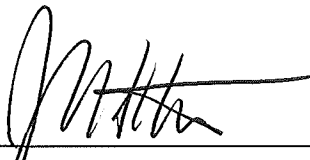
Corrective Action Plan for  
Environmental Management Headquarters  
*Accident Investigation Report Underground  
Salt Haul Truck Fire at the Waste Isolation  
Pilot Plant February 5, 2014*



Washington, DC 20585

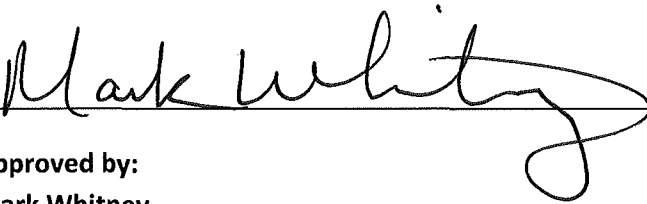
August 2014

Corrective Action Plan for  
Environmental Management Headquarters  
*Accident Investigation Report Underground  
Salt Haul Truck Fire at the Waste Isolation  
Pilot Plant February 5, 2014*



Date: 8/26/14

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Date: 8/27/2014

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## **ACRONYMS**

AIB	Accident Investigation Board
CAP	Corrective Action Plan
CAR	Corrective Action Report
CBFO	Carlsbad Field Office
CRAD	Critical Review and Approach Documents
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
EM	Office of Environmental Management
HQ	Headquarters
LOI	Line of Inquiry
MOU	Memorandum of Understanding
MSHA	Mine Safety and Health Administration
NWP	Nuclear Waste Partnership
WIPP	Waste Isolation Pilot Plant

## **1.0 PURPOSE**

The purpose of this Corrective Action Plan (CAP) is to specify U.S. Department of Energy (DOE) actions for addressing Office of Environmental Management (EM) Headquarters (HQ) issues identified in the Accident Investigation Report for the Underground Salt Haul Truck Fire at the Waste Isolation Pilot Plant (WIPP) February 5, 2014. The report identified 22 Conclusions and 35 Judgments of Need (JON). Two of the Conclusions and five of the JON were determined to be associated with DOE HQ oversight of the operations. As such, EM HQ has taken the action to develop the CAP for those JON specific to HQ (i.e., JONs 27-31). This report documents those corrective actions, along with the responsible office and due dates for completing the actions. The information from this CAP will be included in or attached to the CAP developed by the Carlsbad Field Office (CBFO) and Nuclear Waste Partnership (NWP) staff. The overall approval process for the CAPs associated with this event will involve both CBFO and EM HQ offices. Specifically, CBFO will approve the NWP CAP (with EM HQ concurrence); EM HQ will approve the CBFO CAP; and EM-1 will approve the EM HQ CAP.

## **2.0 BACKGROUND**

On February 5, 2014, an underground fire involving a salt haul truck occurred at the DOE WIPP site near Carlsbad, New Mexico. The fire necessitated the evacuation of 86 workers from the underground, and 13 of the workers required treatment for smoke inhalation. An Accident Investigation Board (AIB) was formed and completed its investigation on March 8, 2014. The AIB included analysis of the facts to determine the direct, contributing, and root causes of the event; develop conclusions; and determine Judgments of Need for actions that, when implemented, should prevent recurrence of the accident. As discussed in the report, DOE HQ provides support to WIPP in the form of policies, DOE orders, resources, mission support, emergency management, and independent oversight. The report identified that DOE HQ does not currently provide qualified technical resources to WIPP that address the unique challenge of operating a Hazard Category 2 facility in a mine. The report also identified that DOE HQ does not provide adequate oversight to ensure issues are identified and corrective actions are implemented to correct the issues. In many cases, no CAPs were developed or implemented, corrective action responses were not developed in a timely manner, or implementation of corrective actions was either incomplete or ineffective. Several of the deficiencies were identified numerous times.

The specific Conclusions and JON that were associated with DOE HQ and a summary of the Accident Investigation Report discussions are included in this section.

### **Conclusion #17:**

DOE HQ failed to ensure that CBFO was held accountable for correcting repeatedly identified issues involving fire protection, maintenance, emergency management, work planning and control, and oversight.

- **Judgment of Need #27:** DOE HQ needs to ensure that repeatedly identified issues related to safety management programs are confirmed closed and validated by the local DOE office. This process should be considered for application across the DOE complex and include tracking,

closure, actions to measure the effectiveness of closure (line management accountability), and trending to identify precursors and lessons learned.

- Judgment of Need #28: HQ should enhance its required oversight to ensure site implementation of the emergency management policy and requirements are consistent and effective. Emphasis should be placed on ensuring Incident Command Systems are functioning properly and integrated exercises are conducted where personnel are evacuated.

The accident investigation report noted that several scheduled assessments were completed and documented, but many of the scheduled evaluations logged within the Integrated Evaluation Plans (from fiscal year (FY) 2011 to the present) were either irretrievable from the system or did not exist. There was no objective evidence provided that senior management walkthroughs, Safety System Oversight for ventilation, nuclear safety management program reviews, Office of Site Operations management assessments, vital safety systems walk downs of Continuous Air Monitoring Systems, Technical Qualification Program assessments, Maintenance procedure assessments, or Baseline Needs Assessment (BNA)/Fire Hazard Analysis assessments were completed as listed on the plan. Several externally [DOE HQ, Defense Nuclear Facilities Safety Board (DNFSB), Office of Health, Safety and Security, EM Consolidated Business Center, etc.] generated oversight documents that contained findings, observations, and opportunities for improvement for the CBFO and WIPP site were reviewed by the AIB. In many cases, no CAPs were developed or implemented, corrective action responses were not developed in a timely manner (for example, a year lapsed between the assessment and development of a CAP), or implementation of corrective actions was either incomplete or ineffective. Several of the deficiencies have been identified numerous times. In addition, CBFO staff members have been required to use the Office of Quality Assurance Corrective Action Report (CAR) system to identify non-conformances. Interviews with several CBFO staff members indicate that this process is cumbersome, administratively burdensome, and many do not use it. In reviewing CAR submittals since the beginning of FY 2012, the AIB found that only 15 CARs have been generated by site staff outside of the CBFO Quality Assurance group.

#### Conclusion #18:

DOE HQ failed to ensure CBFO was provided with qualified technical resources to oversee operation of a Hazard Category 2 Facility in a mine.

- Judgment of Need #29: DOE HQ needs to develop and implement a process for ensuring that technical expertise is available to provide support in the unique area of ground control, underground construction, and mine safety and equipment.
- Judgment of Need #30: DOE HQ needs to assist CBFO with leveraging expertise from Mine Safety and Health Administration (MSHA), in accordance with the DOE/MSHA Memorandum of Understanding, in areas of ground control, underground construction, and mine safety where DOE does not have the expertise.
- Judgment of Need #31: DOE HQ needs to re-evaluate resources (i.e., funding, staffing, infrastructure, etc.) applied to the WIPP project to ensure safe operations of a Hazard Category 2 Facility.

DOE HQ needs to ensure that adequate resources are available for mission support (e.g., specialized expertise to support WIPP's unique work scope, and resources to ensure safe mine operations) and that projects are held accountable for effective and timely corrective actions to issues identified during independent oversight activities. As an example (not all inclusive), the Facility Representative program has been reviewed several times over the last few years. Deficiencies have been identified related to staffing not meeting the staffing analysis, procedures that are incomplete and not used, no structured surveillance/oversight program, and no clear mechanism being used to communicate issues to management and the contractor. While CBFO management has brought in supplemental support from HQ and EM Consolidated Business Center to try to correct these issues, the Facility Representative program is still not effectively implemented.

### **3.0 UNDERLYING CAUSES**

As part of the accident investigation report, the team identified direct, root, and contributing causes for the fire event. The results from the investigation report are summarized here and discussed in more detail in the report.

Direct Cause – the immediate events or conditions that caused the accident.

The AIB identified the direct cause of this accident to be contact between flammable fluids (either hydraulic fluid or diesel fuel) and hot surfaces (most likely the catalytic converter) on the salt haul truck, which resulted in a fire that consumed the engine compartment and two front tires.

Root Cause – causal factors that, if corrected, would prevent recurrence of the same or similar accidents.

The AIB identified the root cause of this accident to be the failure of NWP and the previous management and operations contractor to adequately recognize and mitigate the hazard regarding a fire in the underground. This includes recognition and removal of the buildup of combustibles through inspections and periodic preventative maintenance (e.g., cleaning), and the decision to deactivate the automatic onboard fire suppression system.

Contributing Causes – events or conditions that collectively with other causes increased the likelihood or severity of an accident but that individually did not cause the accident. For the purposes of this investigation, contributing causes include those related to the cause of the fire, as well as those related to the subsequent response.

The AIB identified ten contributing causes to this accident or resultant response. The contributing causes are listed below.

- 1) The preventative and corrective maintenance program did not prevent or correct the buildup of combustible fluids on the salt truck. There is a distinct difference between the way waste-handling and non-waste-handling vehicles are maintained.

- 2) The fire protection program was less than adequate in flowing down upper-tier requirements relative to fire suppression system actuation and did not consider the impact of a vehicle fire near the Air Intake Shaft, and combustible loading exceeded site limits.
- 3) The training and qualification of the operator was inadequate to ensure proper response to a vehicle fire. He did not initially notify the Central Monitoring Room that there was a fire or describe the fire's location.
- 4) The Central Monitoring Room Operations response to the fire, including evaluation and protective actions, was less than adequate.
- 5) Elements of the emergency preparedness and response program were ineffective.
- 6) A nuclear versus mine culture exists where there are significant differences in the maintenance of waste-handling versus non-waste-handling equipment.
- 7) The NWP Contractor Assurance System was ineffective in identifying the conditions and maintenance program inadequacies associated with the root cause of this event.
- 8) DOE CBFO was ineffective in implementing line management oversight programs and processes that would have identified NWP Contractor Assurance System weaknesses and the conditions associated with the root cause of this event.
- 9) Repeat deficiencies were identified in DOE and external agencies assessments, e.g., DNFSB emergency management, fire protection, maintenance, CBFO oversight, and work planning and control, but were allowed to remain unresolved for extended periods of time without ensuring effective site response.
- 10) There are elements of the Conduct of Operations program that demonstrate a lack of rigor and discipline commensurate with the operation of a Hazard Category 2 Facility.

#### **4.0 ISSUE RESOLUTION/CORRECTIVE ACTIONS**

EM HQ will provide Federal staff to direct, track and validate the specific corrective actions in this plan. The "Lead" designated in the following actions is intended to indicate the individual responsible for coordinating that action. Other offices will be involved in the corrective action closure. The EM-40 office will collect a status of the actions identified in this plan and will provide a written status report to EM-1/2 as requested, but at a minimum of once per quarter.

**4.1 Judgment of Need #27:** DOE HQ needs to ensure that repeatedly identified issues related to safety management programs are confirmed closed and validated by the local DOE office. This process should be considered for application across the DOE complex and include tracking, closure, actions to measure the effectiveness of closure (line management accountability), and trending to identify precursors and lessons learned.

##### **Issue Description**

The accident investigation team identified a number of reports and assessments that were conducted by DOE HQ of the CBFO and WIPP programs. The associated reports included a number of findings, observations, and recommendations across the safety management program areas (e.g., Quality Assurance, Conduct of Operations, Maintenance, Fire Protection, Emergency Management, etc.)



The issues identified were by various organizations, but a recurring theme was that HQ offices did not track, verify closure, or verify effectiveness of corrective actions on a regular and consistent basis. In many cases, no CAPs were developed or implemented, corrective action responses were not developed in a timely manner (for example, a year lapsed between the assessment and development of a CAP), or implementation of corrective actions was either incomplete or ineffective. EM HQ has also conducted management assessments and identified that corrective actions are not properly tracked and closed. As such, EM HQ agrees with this JON and will address the issue in the following corrective actions.

#### Approach

The Office of Standards and Quality Assurance (EM-43) within the Safety, Security and Quality Program (EM-40) is the responsible office for tracking and closure of actions associated with this Judgment of Need. The EM-40 Deputy Assistant Secretary (DAS) will review the status of actions listed herein on a periodic basis (approximately bi-weekly). The EM-43 Office Director (OD) will ensure the deliverables are prepared and reviewed within the timeframe specified for the actions. The actions associated with this Judgment of Need will require coordination within EM-40 offices as well as other EM HQ offices. EM-43 will be responsible to coordinate the actions with the other interested parties and ensure consensus in the deliverables before approval. Once approved by the DAS for EM-40, the deliverables will be distributed to the appropriate offices. The objectives of the corrective actions associated with this JON are to:

- Develop a formal process for preparing a corrective action program for EM HQ.
- Determine what issues have been identified in past EM-40 reviews but not tracked.

#### Deliverable/Milestone/Due Dates

*Objective 1: Develop a formal corrective action program for EM-HQ reviews.*

Action JON 27-1.1: Develop and implement an EM-40 policy to ensure EM HQ oversight activities include provisions to evaluate the status and closure of corrective actions from other agencies (e.g., DNFSB, Office of Independent Enterprise Assessments (IEA), etc.) during oversight activities.

Deliverables: Approved memo from EM-40 to the ODs.

Due Date: December 30, 2014

Lead: Bob Murray, EM-43; recommend EM-40 approval of memo

Action JON 27-1.2: Develop a corrective action procedure for implementation within EM-40. The procedure will specify the process for corrective action plan approval and subsequent tracking, trending, and closure of corrective actions from EM-40 oversight activities (e.g. assessments, trip reports). Use of this procedure will ensure a formal and consistent process is utilized for follow-up on EM-40 oversight activities.

Deliverables: Approved procedure with concurrence from the associated EM-40 offices that will be utilizing the document.

Due Date: December 30, 2014

Lead: Bob Murray, EM-43, with support/concurrence from EM-40 ODs

Action JON 27-1.3: Select an individual that is responsible for tracking corrective actions in accordance with the program developed in JON 27-1.2.

Deliverable: A memo from EM-40 to the EM-40 ODs identifying the individual that will be responsible for tracking corrective actions associated with EM-40 oversight activities from corrective action approval through closure.

Due Date: December 30, 2014

Lead: Bob Murray, EM-43, with concurrence from EM-40 ODs; recommend EM-40 approval of memo

Action JON 27-1.4: Implement the EM-40 corrective action program.

Deliverable: Memo from EM-40 ODs to EM-40 stating their Office has implemented the corrective action program.

Due Date: March 31, 2015

Lead: Pattie Agee, EM-40, with support from EM-40 ODs

Action JON 27-1.5: Perform a management assessment of the new corrective action process to evaluate implementation and effectiveness.

Deliverable: Approved Management Assessment Report

Due Date: September 30, 2015

Lead: Bob Murray, EM-43

Action JON 27-1.6: Develop and implement a CAP for any issues identified in the management assessment of Action JON 27-1.5.

Deliverable: Approved CAP

Due Date: March 31, 2016

Lead: Bob Murray, EM-43, with concurrence from EM-40 ODs; recommend EM-40 approval of the CAP

Action JON 27-1.7: Expand the corrective action procedure from JON 27-1.2 to include other EM HQ offices/oversight. Use of this procedure will ensure a formal and consistent process is utilized for follow-up on EM HQ oversight activities.

Deliverables: Approved procedure with concurrence from the associated EM HQ DASs that will be utilizing the document.

Due Date: March 31, 2016

Lead: Bob Murray, EM-43, with concurrence from EM-40 ODs; recommend EM-40 approval of the procedure

Action JON 27-1.8: Select an individual that is responsible for tracking corrective actions in accordance with the program developed in JON 27-1.7.

Deliverable: A memo from EM-1/2 to the EM HQ DASs identifying the individual that will be responsible for tracking corrective actions associated with EM HQ oversight activities from corrective action approval through closure.

Due Date: March 31, 2016

Lead: Jim Hutton, EM-40, with concurrence from EM HQ offices, recommend an individual for EM-2 approval to fill this role

Action JON 27-1.9: Implement the EM HQ corrective action program.

Deliverable: Memo from EM HQ DASs to EM-1/2 stating their Office has implemented the corrective action program.

Due Date: September 30, 2016

Lead: Bob Murray, EM-43, with support from the Environmental Management Correspondence Center

Action JON 27-1.10: Perform a management assessment of the EM HQ-wide new corrective action process to evaluate implementation and effectiveness.

Deliverable: Approved Management Assessment Report

Due Date: April 30, 2017

Lead: Bob Murray, EM-43

Action JON 27-1.11: Develop and implement a CAP for any issues identified in the management assessment of Action JON 27-1.10.

Deliverable: Approved CAP

Due Date: September 30, 2017

Lead: Bob Murray, EM-43, with concurrence from EM-HQ offices; recommend EM-2 approval of the CAP

*Objective 2: Determine what issues have been identified in past EM-40 reviews but not tracked. (Note: The other EM HQ offices will determine what legacy issues warrant entry into the expanded system from JON 27-1.7 once that implementation is complete.)*

Action JON 27-2.1: Perform an extent of condition review for EM HQ reviews to determine the status and tracking of actions still relevant since 2012.

Deliverable: Summary report from EM-43 to EM-40 of open actions from other EM-40 reviews conducted since January 2012.

Due Date: December 30, 2014

Lead: Bob Murray, EM-43

Action JON 27-2.2: Enter actions identified in the extent of condition review into the selected corrective action tracking system.

Deliverable: Objective evidence of open actions from the corrective action tracking system demonstrating open actions from JON 27-2.1 have been entered and are being tracked.

Due Date: February 28, 2015

Lead: Bob Murray, EM-43

Action JON 27-2.3: In accordance with the program developed in JON 27-1.2, develop a report for tracking open issues that is routinely (e.g., monthly) provided to senior management via EM-40 (i.e., EM-1/EM-2).

Deliverable: April 2015 report distributed to senior EM management.

Due Date: April 30, 2015

Lead: Bob Murray, EM-43, with concurrence from EM-40 ODs

Note: Management assessment is performed in JON 27-1.5

**4.2 Judgment of Need #28:** DOE HQ should enhance its required oversight to ensure site implementation of the emergency management policy and requirements are consistent and effective. Emphasis should be placed on ensuring Incident Command Systems are functioning properly and integrated exercises are conducted where personnel are evacuated.

### Issue Description

DOE HQ, through its oversight processes, needs to ensure the adequacy of the Emergency Preparedness program (e.g., incident command, conduct of exercises, and evacuations) including its interfaces with fire protection and operations.

### Approach

DOE HQ will confirm that WIPP has viable, customized Emergency Planning Hazards Assessment (EPHA) and emergency action levels that are representative of, and bound, the site's activities. The site's emergency operations will be continuously validated through drills and exercises, including coordination of emergency response activities under control of the incident commander and the emergency operation center. Additionally, planned assessments will ensure timely and accurate notification and categorization is made during all exercises and actual events. Assessment corrective actions will be administered in accordance with the new EM-40 corrective action management process developed under JON 27.

### Deliverable/Milestone/Due Dates

DOE HQ will conduct an assessment of the WIPP emergency management program after the EPHA/Emergency Action Levels (EAL) have been rewritten, approved by CBFO, and implemented by the contractor. This assessment will evaluate the site's emergency preparedness, response, and recovery capabilities including interfaces with fire protection and operations.

Action JON 28-1: Develop Criteria Review and Approach Documents (CRAD) and Line of Inquiries (LOI) to address the emergency plan/emergency plan implementing procedures and their linkage to alarm response/abnormal event procedures, the BNA, and the Fire Hazards Analysis.

Deliverable: CRADs and LOIs

Due Date: August 25, 2014 (Complete)

Lead: Frank Moussa, EM-44

Action JON 28-2: Develop integrated assessment plan, including the CRADs and LOIs.

Deliverable: Assessment Plan

Expected Completion Date: August 31, 2014

Lead: Frank Moussa, EM-44

Action JON 28-3: Conduct of the Integrated Emergency Management Assessment

Deliverable: Approved Assessment Report

Expected Completion Date: 90 days after NWP implements new EPHA, EAL, and BNA

Lead: Frank Moussa, EM-44

4.3 Judgment of Need #29: DOE HQ needs to develop and implement a process for ensuring that technical expertise is available to provide support in the unique area of ground control, underground construction, and mine safety and equipment.

#### Issue Description

The fire Accident Investigation Report identified in CON#18 that DOE HQ failed to ensure that Carlsbad Field Office (CBFO) was provided with qualified technical resources to oversee operation of a Hazard Category 2 Facility in a mine. JON #29 addresses acquiring expertise in ground control, underground construction and mine safety and equipment.

#### Approach

The Office of Disposal Operations (EM-31) within the Office Waste Management (EM-30) will coordinate with the CBFO and affected Mission Units and Mission Support organizations to identify specific areas of expertise needed. Existing Department resources will be identified to fulfill the requirement, or these services will be acquired such that they are available when needed.

#### Deliverable/Milestone/Due Dates

*Objective 1: Hire and/or acquire technical expertise/support to be available to CBFO in the unique area of ground control, underground construction, and mine safety and equipment for CBFO oversight of unique challenges of operating a Hazard Category 2 facility in a geologic repository.*

Action JON 29-1.1: In coordination with CBFO and affected Mission Units and Mission Support organizations, identify and hire expertise needed. This action was subsumed by the review of necessary resources performed by CBFO and assisted by EM's team supporting the recovery effort.

Deliverable: On June 9, 2014, the Principal Deputy Assistant Secretary for Environmental Management approved an increase to the CBFO positions that included a new Mine Safety position among other hires.

Due Date: June 9, 2014 (complete)

Lead: Doug Tonkay, EM-31

Action JON 29-1.2: New hires and/or support services on board at CBFO.

Deliverable: Verify that new hires on board or technical support services in place for services at CBFO

Due Date: July 1, 2015

Lead: Doug Tonkay, EM-31

### Issue Description

The fire Accident Investigation Report identified in CON#18 that DOE HQ failed to ensure that CBFO was provided with qualified technical resources to oversee operation of a Hazard Category 2 Facility in a mine. JON#30 addresses the need to assist CBFO with leveraging expertise from MSHA. MSHA is required to inspect WIPP not less than four times each year and in the same manner as it evaluates mine sites under the Federal Mine Safety and Health Act of 1977.

### Approach

EM-31 will coordinate with the CBFO and affected Mission Units and Mission Support organizations to update the Memorandum of Understanding (MOU) with MSHA such that resources in the areas of ground control, underground construction, and mine safety are available to CBFO when needed, and that the required inspections are performed.

### Deliverable/Milestone/Due Dates

*Objective 1: Develop an updated/revised MOU between DOE and MSHA.*

Action JON 30-1.1: Develop an updated/revised MOU between DOE and MSHA that identifies points of contact, roles and responsibilities, resource requirements and guidelines for regular communications. The MOU will take into account needs, identified with the assistance of CBFO, such as, but not limited to: definition of the role of MSHA as a supporting agency as opposed to a regulator; identification of resources for quarterly inspections at WIPP; MSHA train-the-trainer support for WIPP in-house mine safety; access to MSHA inspection expertise; and associated resource needs.

Deliverable: Approved revised MOU between DOE and MSHA with concurrence from cognizant DOE HQ offices for MSHA quarterly WIPP inspections and technical assistance.

Due Date: March 1, 2015

Lead: Doug Tonkay, EM-31

Action JON 30-1.2: In coordination with the CBFO, develop grant or alternate contract/grant mechanism to provide funding to and implement updated/revised MOU between DOE and MSHA. This grant or contract will provide for a multi-year framework of collaboration between DOE and MSHA to implement the terms of the updated/revised MOU.

Deliverable: Develop Interagency Agreement or alternate contract/grant mechanism to provide funding to and implement updated/revised MOU between DOE and MSHA.

Due Date: June 26, 2015

Lead: Doug Tonkay, EM-31

Due Date: June 26, 2015

Lead: Doug Tonkay, EM-31

Action JON 30-1.3: Identify required resources to implement MSHA technical assistance and annual WIPP inspections associated with the MOU between DOE and MSHA.

Deliverable: Propose funding in the FY 2016 CBFO budget request, or in EM-30 non-labor request for MSHA technical assistance and WIPP inspections associated with MOU between DOE and MSHA.

Due Date: March 6, 2015

Lead: Doug Tonkay, EM-31

4.5 Judgment of Need #31: DOE HQ needs to re-evaluate resources (i.e., funding, staffing, infrastructure, etc.) applied to the WIPP project to ensure safe operations of a Hazard Category 2 Facility.

#### Issue Description

The fire Accident Investigation Report identified in CON#18 that DOE HQ failed to ensure that CBFO was provided with qualified technical resources to oversee operation of a Hazard Category 2 Facility in a mine. JON#31 addresses the need to re-evaluate resources applied to the WIPP to ensure safe operations.

#### Approach

EM-31 will coordinate with the CBFO and affected Mission Units and Mission Support organizations to evaluate CBFO staffing resources, infrastructure needs and the annual CBFO budget request.

#### Deliverable/Milestone/Due Dates

*Objective 1: Hire and/or acquire technical expertise/support to be available to CBFO for overseeing operations of a Hazard Category 2 facility.*

Action JON 31-1.1: In coordination with CBFO and affected Mission Units and Mission Support organizations, Headquarters and CBFO determined the resources necessary for operations of a Hazard Category 2 facility. This action was subsumed by the review of necessary resources performed by CBFO and assisted by EM's team supporting the recovery effort. The required organizational changes and staff increases at Carlsbad were proposed and approved following evaluation of the incident.

Deliverable: On June 9, 2014, the Principal Deputy Assistant Secretary for Environmental Management approved hiring 12 additional staff positions at CBFO that include: a Nuclear Safety Senior Technical Advisor, Nuclear Safety Specialist, Director Safety Programs Division, Confinement Ventilation SSO, and other operations and management positions.

Due Date: June 9, 2014 (Complete)



*Objective 2: Ensure the EM Budget Request fully takes into account WIPP resources needed to provide adequate infrastructure investment and to ensure safe operations of a Hazard Category 2 facility.*

Action JON 31-2.1: In coordination with CBFO and affected Mission Units and Mission Support organizations, develop request for plus-up of FY 2015 Budget Request to address WIPP recovery and infrastructure needs, with support of CBFO and other HQ organizations.

Deliverable: Input to EM-60 to inform Appropriators for FY 2015 Markup and appropriation appeal submittals.

Due Date: June 30, 2014 (Complete)

Lead: Mark Senderling, EM-32

Action JON 31-2.2: In coordination with CBFO and affected Mission Units and Mission Support organizations, ensure that deliberations within the FY 2016 EM Internal Budget Formulation process fully take into account WIPP recovery and infrastructure needs; taking into account CBFO resource requests.

Deliverable: Proposed changes (as needed) to FY 2016 OMB budget request that includes WIPP recovery and infrastructure needs.

Due Date: August 29, 2014

Lead: Frank Marcinowski, EM-30

Action JON 31-2.3: In coordination with CBFO and affected Mission Units and Mission Support organizations, identify a mechanism to be incorporated into the annual budget formulation guidance for annual evaluation and prioritization of infrastructure and maintenance investments needed at WIPP to ensure safe operations of a Hazard Category 2 nuclear facility.

Deliverable: Recommended changes to annual budget formulation guidance to include evaluation and prioritization of infrastructure and maintenance investments.

Due Date: September 30, 2014

Lead: Doug Tonkay, EM-31

## **5.0 SUMMARY**

The actions described in this CAP address the two Conclusions and five Judgments of Need associated with HQ from the WIPP fire Accident Investigation Report. The CAP is consistent with the Department's commitment to Integrated Safety Management and draws on the feedback and improvement core function. The Department's Federal HQ employees will assert control of the plan and its actions from initiation to closure and validation of effectiveness. The Department believes these actions are responsive and appropriate for implementing the overall intent of the issues in the investigation report.

The actions that resulted from this effort are summarized in Table 1 and the schedule is depicted in Figure 1.

## **6.0 ORGANIZATION AND MANAGEMENT**

The DOE EM-40 DAS is the Responsible Manager for the execution of this CAP. EM-40 will provide a periodic (i.e., quarterly) update of the status of the associated actions to EM-1/2 via a verbal briefing or email. EM-40 will coordinate the actions identified in this report and track their status and closure on an ongoing basis. To assure the various Department implementing elements and the DNFSB remain informed of the status of the corrective action implementation, the Department will provide progress briefings to the DNFSB and/or DNFSB staff as requested.

Table 1

Conclusion # 17		Judgment of Need (JON) # 27		
Action	Corrective Action	Lead	Deliverable	Due Date
JON 27-1.1	Develop and implement an EM-40 policy to ensure EM HQ oversight activities include provisions to evaluate the status and closure of corrective actions from other agencies (e.g., DNFSB, IEA, etc.) during oversight activities.	Bob Murray, EM-43; recommend EM-40 approval of memo	Approved memo from EM-40 to the ODs.	12/30/14
JON 27-1.2	Develop a corrective action procedure for implementation within EM-40. The procedure will specify the process for corrective action plan approval and subsequent tracking, trending, and closure of corrective actions from EM-40 oversight activities (e.g., assessments, trip reports). Use of this procedure will ensure a formal and consistent process is utilized for follow-up on EM-40 oversight activities.	Bob Murray, EM-43, with support/concurrence from EM-40 ODs	Approved procedure with concurrence from the associated EM-40 offices that will be utilizing the document.	12/30/14
JON 27-1.3	Select an individual that is responsible for tracking corrective actions in accordance with JON 27.1-2.	Bob Murray, EM-43, with concurrence from EM-40 ODs; i.e. recommend EM-40 approval of memo	A memo from EM-40 to the EM-40 ODs identifying the individual that will be responsible for tracking corrective actions associated with EM-40 oversight activities from corrective action approval through closure.	12/30/14
JON 27-1.4	Implement the EM-40 corrective action program	Jim Hutton, EM-40, with support from EM-40 ODs	Memo from EM-40 ODs to EM-40 stating that their Office has implemented the corrective action program.	3/31/15
JON 27-1.5	Perform a management assessment of the new corrective action process to evaluate implementation and effectiveness.	Bob Murray, EM-43	Approved Management Assessment Report	9/30/15

JON 27-1.6	Develop and implement a CAP for any issues identified in the management assessment of Action JON 27-1.5.	Bob Murray, EM-43, with concurrence from EM-40 ODS; recommend EM-40 approval of the CAP	Approved CAP	3/31/16
JON 27-1.7	Expand the corrective action procedure from JON 27-1.2 to include other EM HQ offices/oversight. Use of this procedure will ensure a formal and consistent process is utilized for follow-up on EM HQ oversight activities.	Bob Murray, EM-43, with concurrence from EM-40 ODS; recommend EM-40 approval of the procedure	Approved procedure with concurrence from the associated EM HQ DASs that will be utilizing the document.	3/31/16
JON 27-1.8	Select an individual that is responsible for tracking corrective actions in accordance with the program developed in JON 27-1.7.	Jim Hutton, EM-40, with concurrence from EM HQ offices; recommend an individual for EM-2 approval to fill this role	A memo from EM-1/2 to the EM HQ DASs identifying the individual that will be responsible for tracking corrective actions associated with EM HQ oversight activities from corrective action approval through closure.	3/31/16
JON 27-1.9	Implement the EM HQ corrective action program.	Jim Hutton, EM-40, with support from EM-HQ DASs	Memo from EM HQ DASs to EM-1/2 stating their Office has implemented the corrective action program.	9/30/16

JON 27-1.10	Perform a management assessment of the EM HQ-wide new corrective action process to evaluate implementation and effectiveness.	Bob Murray, EM-43	Approved Management Assessment Report	4/30/17
JON 27-1.11	Develop and implement a CAP for any issues identified in the management assessment of Action JON 27-1.10.	Bob Murray, EM-43, with concurrence from EM-HQ offices; recommend EM-2 approval of the CAP	Approved CAP	9/30/17

Conclusion # 17 Judgment of Need (JON) # 27 (cont)				
Action	Corrective Action	Lead	Deliverable	Due Date
JON 27-2.1	Perform an extent of condition review for EM HQ reviews to determine the status and tracking of actions still relevant since 2012.	Bob Murray, EM-43	Summary report from EM-43 to EM-40 of open actions from other EM-40 reviews conducted since January 2012.	12/30/14
JON 27-2.2	Enter actions identified in the extent of condition review into the selected corrective action tracking system	Bob Murray, EM-43	Objective evidence of open actions from the corrective action tracking system demonstrating open actions from JON 27-2.1 have been entered and are being tracked.	2/28/15
JON 27-2.3	In accordance with the program developed in JON 27-1.2, develop a report for tracking open issues that is routinely (e.g., monthly) provided to senior management via EM-40 (e.g., EM-1/EM-2).	Bob Murray, EM-43, with concurrence from EM-40 ODs	October 2014 report distributed to senior EM management.	4/30/15

Conclusion # 17 Judgment of Need (JON) # 28				
Action	Corrective Action	Lead	Deliverable	Due Date
JON 28-1	Develop CRADs and LOIs to address the emergency plan/emergency	Frank Moussa,	CRADs and LOIs	8/25/14

	plan implementing procedures and their linkage to alarm response/abnormal event procedures, the Baseline Needs Assessment, and the Fire Hazards Analysis.	EM-44		Complete
JON 28-2	Develop integrated assessment plan, including the CRADs and LOIs.	Frank Moussa, EM-44	Assessment Plan	8/31/14
JON 28-3	Conduct of the Integrated Emergency Management Assessment	Frank Moussa, EM-44	Approved Assessment Report	90 days after NWP implements new EPHA, EAL, and BNA
<b>Conclusion # 18 Judgment of Need (JON) # 29</b>				
JON 29-1.1	In coordination with CBFO and affected Mission Units and Mission Support organizations, identify and hire expertise needed. This action was subsumed by the review of necessary resources performed by CBFO and assisted by EM's team supporting the recovery effort.	Doug Tonkay, EM-31	On June 9, 2014, the Principle Deputy Assistant Secretary for Environmental Management approved an increase to the CBFO positions that included a new Mine Safety position among other hires.	6/9/14 Complete
JON 29-1.2	New hires and/or support services on board at CBFO.	Doug Tonkay, EM-31	Verify that new hires are on board or technical support services are in place for services at CBFO	7/01/15

Conclusion # 18		Judgment of Need (JON) # 30		
Action	Corrective Action	Lead	Deliverable	Due Date
JON 30-1.1	Develop an updated/revised MOU between DOE and MSHA that identifies points of contact, roles and responsibilities, resource requirements and guidelines for regular communications. The MOU will take into account needs, identified with the assistance of CBFO, such as, but not limited to: definition of role of MSHA as a supporting agency as opposed to a regulator; identification of resources for quarterly inspections at WIPP; MSHA train-the-trainer support for WIPP in-house mine safety; access to MSHA inspection expertise; and, associated resource needs.	Doug Tonkay, EM-31	Approved revised MOU between DOE and MSHA with concurrence from cognizant DOE HQ offices for MSHA quarterly WIPP inspections and technical assistance.	3/01/15
JON 30-1.2	In coordination with the CBFO, develop grant or alternate contract/grant mechanism to provide funding to and implement updated/revised MOU between DOE and MSHA. This grant or contract will provide for a multi-year framework of collaboration between DOE and MSHA to implement the terms of the updated/revised MOU.	Doug Tonkay, EM-31	Develop Interagency Agreement or alternate contract/grant mechanism to provide funding to and implement updated/revised MOU between DOE and MSHA.	6/26/15
JON 30-1.3	Identify required resources to implement MSHA technical assistance and annual WIPP inspections associated with the MOU between DOE and MSHA.	Doug Tonkay, EM-31	Propose funding in the FY 2016 CBFO budget request or in EM-30 non-labor request for MSHA technical assistance and annual WIPP inspections associated with MOU between DOE and MSHA.	3/06/15

Conclusion # 18		Judgment of Need (JON) # 31		
Action	Corrective Action	Lead	Deliverable	Due Date
JON 31-1.1	In coordination with CBFO and affected Mission Units and Mission Support organizations, Headquarters and CBFO determined the resources necessary for operations of a Hazard Category 2 facility. This action was subsumed by the review of necessary resources performed by CBFO and assisted by EM's team supporting the recovery effort. The required organizational changes and staff increases at Carlsbad were proposed and approved following evaluation of the incident.	Doug Tonkay, EM-31	On June 9, 2014, the Principle Deputy Assistant Secretary for Environmental Management approved hiring 12 additional staff positions at CBFO that include: a Nuclear Safety Senior Technical Advisor, Nuclear Safety Specialist, Director Safety Programs Division, Confinement Ventilation SSO, and other operations and management positions.	6/9/14 Complete
JON 31-2.1	In coordination with CBFO and affected Mission Units and Mission Support organizations, develop request for plus-up of FY 2015 Budget Request to address WIPP recovery and infrastructure needs, with support of CBFO and other HQ organizations.	Mark Senderling, EM-32	Input to EM-60 to inform Appropriators for FY 2015 markup and appropriation appeal submittals.	6/30/14 Complete
JON 31-2.2	In coordination with CBFO and affected Mission Units and Mission Support organizations, ensure that deliberations within the FY 2016 EM Internal Budget Formulation process fully take into account WIPP recovery and infrastructure needs; taking into account CBFO resource requests.	Frank Marcinowski, EM-30	FY 2016 OMB budget request	8/29/14
JON 31-2.3	In coordination with CBFO and affected Mission Units and Mission Support organizations, identify a mechanism to be incorporated into the annual budget formulation guidance for annual evaluation and prioritization of infrastructure and maintenance investments needed at WIPP to ensure safe operations of a Hazard Category 2 nuclear facility.	Doug Tonkay, EM-31	Proposed changes (as needed) to FY 2016 OMB budget request that includes WIPP recovery and infrastructure needs.	9/30/14



Figure 1

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