



Department of Energy
Washington, DC 20585

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MEMORANDUM FOR DISTRIBUTION

THROUGH:

MARK WHITNEY
ACTING ASSISTANT SECRETARY
FOR ENVIRONMENTAL MANAGEMENT

A handwritten signature in black ink, appearing to read "Mark Whitney", written over the typed name.

FROM:

JAMES HUTTON
DEPUTY ASSISTANT SECRETARY FOR
SAFETY, SECURITY, AND QUALITY PROGRAMS

SUBJECT:

Deferred Maintenance Report Recommendations and
Implementation Plan

On January 12, 2015, I transmitted the Deferred Maintenance (DM) Report for your review and distribution. The DM Report summarized the results of the EM extent of condition reviews performed in response to the Waste Isolation Pilot Plant events, and proposed nine recommendations to address generic concerns identified during the DM review.

Recommendations 2, 7 and 9 of the DM Report require the following actions by the EM Field Elements:

2. Perform a review to identify and address long-standing fire protection impairments involving long-term compensatory measures and/or administrative controls, and identify corrective actions to resolve such impairments.
7. Provide direction to EM contractors to track and report trending information for the minimum set of maintenance related metrics identified in section IV.D.4 of the DM Report to local Department of Energy quarterly.
9. Formally define their applicable set of safety-related systems, and initiate adjustments to their data collection/metrics systems to allow for the periodic monitoring of these systems and tracking of operable status.

As indicated in the January 12 EM memorandum, the Office of Safety, Security, and Quality Programs (EM-40) has developed an Implementation Plan and schedule for the DM Report recommendations (Attachment A). Attachment B identifies EM expectations related to the appropriate use of fire protection impairments and equivalencies, and provides guidance on performing the fire protection impairment review required by



Recommendation 2. Additional guidance required by Recommendation 8 (definition/approach for corrective maintenance backlog tracking) will be communicated once developed by EM-40.

Completion of the above recommendations will require two submittals to EM-40:

- Your documented reviews for any longstanding fire protection impairments, along with any associated corrective action plans, should be submitted within 5 months of the date of this memorandum.
- Once defined and identified, your listings of systems considered safety-related should be submitted within 3 months of the date of this memorandum.

Please provide the requested information to Terrance Tracy, Director, Office of Operational Safety, at Terrance.Tracy@em.doe.gov.

If you have any further questions, please contact me or Mr. Tracy at (301) 903-7964.

Attachments

cc: Candice Trummell, EM-1
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Deferred Maintenance (DM) Report Implementation Plan

A – EM HQ Actions			
No.¹	Recommendation/Actions	Responsible	Due Date
1	<p>Systematically collect and evaluate EM site corrective actions taken in response to the AIB report on the salt haul truck fire at WIPP.</p> <p><i>Update</i> – This action will be combined with the EM-1 transmittal to the field of the pending WIPP Radiological Release Phase II AIB report.</p>	EM-40	TBD
3	An EM HQ Fire Protection Subject Matter Expert should independently review corrective action plans developed in association with Recommendation 2 (see section B).	EM-41	Transmittal Date (TD ²) + 6 months
4	<p>Issue clarifying guidance outlining EM expectations related to the appropriate use of impairments and fire protection equivalencies.</p> <ul style="list-style-type: none"> • Working with field Fire Protection Engineer (FPE) input, develop guidance/expectations on impairments, also guidance on performing impairment reviews discussed in Recommendation 2. • Transmit guidance in the EM-40 memorandum to the field directing the FP impairment review and communicating this Implementation Plan. 	EM-41	Complete
		EM-40	Complete
5	<p>Perform follow-up reviews at those sites reporting increasing CM backlog trends to evaluate the effectiveness of corrective actions. Sites included Savannah River (SRNS and SRR), Idaho (ITG and CWI), WIPP, Richland (MSA), Portsmouth (FBP).</p> <ul style="list-style-type: none"> • Perform desktop reviews (through coordination with local DOE and review of maintenance metrics) to evaluate corrective action effectiveness. • As necessary based on above, perform more detailed follow-up reviews. 	EM-42	TD + 6 months
		EM-42	TBD

Attachment A

6	<p>Perform follow-up reviews at those sites reporting issues associated with nuisance and/or sporadic alarms to evaluate the effectiveness of corrective actions. Sites included West Valley, the PPPO DUF6 facilities, Idaho (ITG), Savannah River (SRR).</p> <ul style="list-style-type: none"> • Perform desktop reviews (through coordination with local DOE and review of alarm data) to evaluate corrective action effectiveness. • As necessary based on above, perform more detailed follow-up reviews. 	EM-42	TD + 3 months
		EM-42	TBD
8	<p>Develop a standardized definition/approach for tracking maintenance backlogs, to ensure the metric conveys meaningful information about planned work activities.</p> <ul style="list-style-type: none"> • Identify working group of EM HQ, EM field representatives, AU, EFCOG • Develop recommended definition/approach for maintenance backlog tracking • Communicate definition/approach to EM complex as appropriate 	EM-42	TD + 1 month
		Working Group	TD + 12 months
		EM-40	TD + 15 months
<i>B – EM Field Element Actions</i>			
2	<p>Perform a review to identify and address long-standing fire protection impairments involving long-term compensatory measures and/or administrative controls and identify corrective actions to resolve such impairments.</p> <ul style="list-style-type: none"> • Utilize criteria provided by EM-40 to perform the review • Provide documented reviews and developed corrective action plans to EM-40 	EM Field	TD + 5 months
7	<p>Provide direction to EM contractors to track and report quarterly to local DOE trending information for the minimum set of maintenance related metrics identified in section IV.D.4 of the DM Report.</p>	EM Field	TD + 3 months

Attachment A

9	EM field sites formally define their applicable set of safety-related systems, and initiate adjustments to their data collection/metrics systems to allow for the periodic monitoring of these systems and tracking of operable status.	EM Field	TD + 3 months
	<ul style="list-style-type: none"> • Define (identify) the set of safety-related systems and communicate the list of such systems to EM-40 		
	<ul style="list-style-type: none"> • Implement tracking of operability/availability for defined set of safety-related systems 	EM Field	TD + 9 months

Note 1 – Recommendation numbering is consistent with numbering in the Deferred Maintenance Report.

Note 2 – Transmittal Date (TD) is the date of the transmitting EM-40 memorandum

Environmental Management Headquarters Guidance and Expectations
Fire Protection System Impairments

Issue

The recent Office of Environmental Management (EM) Deferred Maintenance Review (DMR) identified several instances in which facility Fire Protection (FP) system impairments were inoperable for multiple year periods due to long-standing impairments. Compensatory measures were being implemented for the impaired systems; however some deficiencies were noted with their implementation and the DMR Team noted that administrative compensatory measures have the potential to degrade when extended over long periods. In response to these concerns, the Office of Safety, Security, and Quality Programs (EM-40) is issuing this guidance reinforcing the Department of Energy (DOE) expectations related to the appropriate use of FP system impairments. This satisfies Recommendation 4 of the DMR report.

EM Headquarters Expectations

The routine impairment of FP system impairments to address operational and maintenance issues is an expected element of a FP program. Industry standards applicable to DOE operations, however, clearly communicate the need to effectively manage and minimize the duration such of FP system impairments. National Fire Protection Association (NFPA) Standard 801, *Fire Protection for Facilities Handling Radioactive Materials*, 2008, discusses FP system impairments and indicates (section 4.5.2) that impairments to FP system impairments shall be managed to minimize the duration of the equipment outage. NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2014, section 15.1.1 indicates that measures shall be taken during FP system impairments to ensure the increased risks are minimized and the duration of the impairment is limited. NFPA 1, *Fire Code*, section 13.1.7 requires, in part, that fire protection systems and devices be maintained in a reliable operating condition and replaced or repaired where defective or recalled.

In consideration of the above standards, DOE Field Elements should be aware of the status of FP system impairments on their site and have a means of regular communication with their contractor to monitor that status (e.g., access to electronic status boards maintained by the contractor). Their contractor should regularly provide DOE with a status of impaired systems, what compensatory measures are implemented for each system, and maintain a status of such systems until they are returned to full operation. The duration of any FP system impairments should be kept to a minimum; and impairments lasting longer than 90 days should be acknowledged by the DOE Fire Protection Engineer. For any impairment lasting longer than 180 days, DOE should request a formal corrective action plan from the contractor outlining actions and a schedule to complete repairs, along with a justification for continued operations in the affected facility. Such justifications should be reviewed and approved by DOE. DOE Field Element oversight activities should include the regular review of the FP systems impairments program, and the adequacy of implementation of any associated compensatory measures.

Guidance for Review of Long-Standing Impairments

Recommendation 2 of the DMR recommended EM Field Elements perform a review to identify and address long-standing FP system impairments involving long-term compensatory measures and/or administrative controls, and identify corrective actions to resolve such impairments. The following elements should be included in the review; however individual Field Elements may want to go well beyond the scope identified below based on their specific operational status or concerns identified during the course of the review.

- DOE should review the status of open fire protection impairments to identify whether any have been open > than 180 days. As part of this review, DOE should evaluate contractor implementation of any DOE Field Element-established criteria for impairment reporting and recording as described in DOE-STD-1066-2012, *Fire Protection*, section 5.1.5.2.
- If impairments open > 180 days exist, DOE should review the implementation of the associated compensatory measures to verify that surveillances and/or controls are being implemented at the required frequency, and that the scope of the surveillance/control as implemented meets the intent of the compensatory measure as described on the impairment permit.
- As part of the above review, a sampling of actual FP system impairments permits (not just a review of an impairment database) should be reviewed to evaluate whether permits are being appropriately completed, authorized and closed out in accordance with procedure. A comparison of permit information against data contained on databases used by the contractor to monitor FP system impairments should be performed, to evaluate the reliability of secondary information maintained on the database.

If FP system impairments open > 180 days are identified in the above review, DOE should request the contractor to develop a formal corrective action plan outlining actions and a schedule to complete repairs, along with a justification for continued operations in the affected facility.

DOE should complete and submit the documented reviews and any associated corrective action plans/justifications for continued operation to EM-40 within 5 months of the transmittal date of the attached EM-40 memorandum.