

Lesson #:	LES-EM-2/7/2013-48323
Entered By:	[REDACTED]
Date Entered:	2/7/2013
Site:	Advanced Mixed Waste Treatment Facility (AMWTF)
Contract:	AMWTP
Other Contract:	
ORPS/NRC Reportable:	Yes
Responsible Organization (DOE-ID):	EM-NSP-FR-TEAM
Lesson Learned Trending Keyword:	Initial Notification Report
Other Tracking System?:	Trackwise
Other Tracking #:	
Title:	AMWTP - Charcoal filter breakdown in PAPRs
Discussion:	<p>On 2-6-2013, the FR was informed of the discovery of charcoal dust in the masks of several operators' Powered Air Purifying Respirators (PAPR).</p> <p>Late in the day on 2-5-2013 and then again on 2-6-2013, ITG encountered two reported instances where Powered Air Purifying Respirator's experienced charcoal filter media from the filter cartridge inside the hood of the PAPR. On 2-5-2013, an entrant in the Treatment Facility (WMF-676) noted fine carbon dust on the interior of their respirator hood mask and reported the issue to ISIH. ISIH saved the PAPR and had initiated investigations into its failure mechanism. The next day, another operator, in Retrieval (WMF-636) complained of charcoal dust in their eyes. Retrieval operations immediately removed all entrants from the Retrieval Contamination Enclosure and the Plant Manager ordered a Step-Back on the use of PAPRs at AMWTP. ITG initiated investigations into the two PAPR failures and discovered that the PAPRs were both the same model (North model 4001 HE combo HEPA/Organic filter) and from the same purchase lot (W498933 manufactured 1/16/2013). ITG conducted a bench evaluation of another PAPR from this purchase lot and found charcoal being</p>

2 RTs asserted they supported cell entries in North PAPRs during the ITG fact finding.

Manufactured by Honeywell plant in Cranston, RI

Manufactured by
Honeywell plant in
the Netherlands

released within a 15 minutes of the unit's pump being started. As the failures appeared to be confined to one lot, ITG released the use PAPRs from different purchase lots.

Later that afternoon (2-6-2013), reports of charcoal release from PAPRs of the same model but a different purchase lot (SFC028141 manufactured 12/7/2012) were received from two radcon technicians in the Treatment Facility cells. Later, a report of a failed bench evaluation of a different type of PAPR (North model 4003), with a triple cartridge arrangement was received. ITG suspended use of all PAPRs at AMWTP. All of the respirators were manufactured by Honeywell Corporation and sold under the North Safety Products brand name. The breakdown fragmentation resulted in carbon dust in the user's breathing zone and soot-like deposits on the inside surfaces of the facemask. The fragmentation occurred in as little as 15 minutes of use in some cases. The charcoal filters are meant to prevent exposure to Volatile Organic Chemicals. The HEPA media on all of these PAPRs remained intact. A Fact Finding was held on 2-6-2013.

From the Fact Finding

- The failures in the Treatment Facility and Retrieval occurred on PAPR 4001HE Cart Filter, PAPR, OV/HEPA type filters classified as Combo HEPA/Organic Filter Cartridges from two different lots. Manufacturer: North Safety Products manufactured by Honeywell. Lot numbers: W498933 and SFC028141.

- ITG has notified the manufacturer and initiated a product concerns investigation of failures on the North Safety Products.

- None of the operators who experienced the charcoal particulate from the PAPR reported smelling any VOCs and those areas did not have any indication on PID samplers of the presence of any VOCs.

- Radiological air samples and personal lapel samplers in the areas and where workers experienced charcoal particulate were all negative. The operators who experienced the breakdown fragmentation in the airborne areas have all provided bioassay samples.

Corrective actions

Employees were trained on MSA brand PAPRs and returned to work Thursday 2/7/13.

- PAPR use at AMWTP is suspended and will remain so pending confirmation of the extent of the equipment issues.

- ITG is in contact with the manufacturer who will visit ITG next week to help with investigations. The manufacturer has initiated a product investigation themselves and will provide the results to ITG.

- ITG contacted the other INL contractors to inform them of this issue.

Comments:

ITG has determined this event to be ORPS reportable as a Management Concern Group 10, #2 , Sig Cat 4, An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager (see def.) or line management to be of safety significance or of concern for that facility or other facilities or activities in the DOE complex.

The FR agrees

Last Edited By:

[Redacted]

Last Edit Date:

2/7/2013

Step Back and Stop Work Authority

Advanced Mixed Waste Treatment Project

Approved:

(Signature on file. See DCR-10925.)

Nuclear Operations Manager

03/03/12

Date

AMWTP MANAGEMENT PROCEDURE		
MP-COPS-9.31, Rev. 2	Issued: 03/03/12	Effective: 03/04/12
Step Back and Stop Work Authority		

TABLE OF CONTENTS

1.0	PURPOSE/SCOPE	1
2.0	ROLES AND RESPONSIBILITIES	1
3.0	PROCEDURE.....	1
3.1	Stepping Back	1
3.2	Stopping Work.....	2
4.0	DEFINITIONS.....	4
5.0	REFERENCES	4
6.0	RECORDS	5
7.0	EXHIBITS	5
8.0	APPENDICES	5

AMWTP MANAGEMENT PROCEDURE		
MP-COPS-9.31, Rev. 2	Issued: 03/03/12	Effective: 03/04/12
Step Back and Stop Work Authority		

1.0 PURPOSE/SCOPE

This procedure defines Advanced Mixed Waste Treatment Project's (AMWTP's) process for *Step Back* (see def.) or *Stop Work* (see def.) in the event employees identify a potentially unsafe condition, procedure deficiencies, or are uncertain how to proceed with an activity.

This procedure does not apply to "Stop Work Order" associated with conditions adverse to quality as defined in MP-Q&SI-5.4, Identification of Nonconforming Conditions.

2.0 ROLES AND RESPONSIBILITIES

Performer	Responsibilities
All Employees	<ul style="list-style-type: none"> • Requests a Step Back or Stop Work when work conditions warrant • Honors any Step Back or Stop Work declaration.
<i>Line Management</i> (see def.)	<ul style="list-style-type: none"> • Honors a Step Back or Stop Work declaration • Resolves concerns (with assistance of support organizations as needed) prior to allowing work to continue.

3.0 PROCEDURE

3.1 Stepping Back

- 3.1.1 A Step Back can be called by any employee at any time for any reason in which the employee feels that the path forward is unclear or potentially unsafe.
- 3.1.2 If employee in conjunction with their coworkers, supervisor(s), and support organizations, as appropriate, can resolve the issue within their training and approved work documents, then work can resume.
- 3.1.3 If the condition cannot be resolved within existing training or through clarification of the path forward within approved work documents, then the situation is elevated to a Stop Work.

AMWTP MANAGEMENT PROCEDURE		
MP-COPS-9.31, Rev. 2	Issued: 03/03/12	Effective: 03/04/12
Step Back and Stop Work Authority		

- 3.1.4 Step Back examples include, but are not limited to:
- Obtaining and using correct personnel protective equipment
 - Repositioning an unbalanced load during a lifting operation
 - Removing stored material that obstructs an exit path
 - Cleaning up water spills in walkways
 - Eliminating an electrical cord tripping hazard
 - Clarifying unclear procedural requirements
 - Determining whether a document can be performed as written.
- 3.1.5 When a Step Back is called by an employee, all employees involved in the task in question shall stop until the concern is resolved.
- 3.1.6 The resolution (see def.) and return to work for Step Back conditions are normally verbal.
- 3.1.7 Feedback should be disseminated, as appropriate, to capture any lessons learned; conduct of operations, and/or human performance indicators.
- 3.1.8 For situations affecting operating facilities, the Step Back request and resolution should be logged in the appropriate operations log books (plant shift managers [PSMs], shift supervisors [SSs], and/or workstation).

3.2 Stopping Work

- 3.2.1 A Stop Work can be called by any employee at any time for any reason in which the employee feels that the path forward is unclear or potentially unsafe and the condition can NOT be corrected as a Step Back.

AMWTP MANAGEMENT PROCEDURE		
MP-COPS-9.31, Rev. 2	Issued: 03/03/12	Effective: 03/04/12
Step Back and Stop Work Authority		

3.2.2 Stop Work examples include:

- Not all information agrees on a lockout/tagout (prints, equipment labels, lockout/tagout form)
- Procedure or work document is incorrect or inadequate as written
- A new hazard is identified, an existing hazard changes, and/or the mitigation of a hazard is inadequate
- Workers feel training is inadequate for the task being performed.

3.2.3 When a Stop Work is called by an employee, all employees involved in the task in question shall stop and the appropriate line manager shall be notified.

3.2.3.1 Stop Work associated with hazardous conditions shall be responded to in accordance with MP-COPS-9.7, Control of Equipment and System Status.

3.2.3.2 Stop Work associated with deficient equipment shall be responded to in accordance with MP-COPS-9.7.

3.2.3.3 Stop Work associated with a Condition Adverse to Quality requires TrackWise reporting and evaluation in accordance with MP-Q&SI-5.3, Corrective Action, or MP-Q&SI-5.4.

3.2.3.4 Stop Work associated with a work document (e.g., procedure, instruction, permit to work, maintenance instruction, work order, method statement) which is inadequate or incorrect, shall be responded to in accordance with appropriate document change control process, such as MP-DOCS-18.4, Document Control.

3.2.4 If an agreement on the Stop Work cannot be reached between concerned party and line management, the elevation to the next level of management will be performed, ultimately ending at the President and Project Manager for final resolution.

3.2.5 After the issue is resolved, the appropriate line manager may allow activity to resume.

AMWTP MANAGEMENT PROCEDURE		
MP-COPS-9.31, Rev. 2	Issued: 03/03/12	Effective: 03/04/12
Step Back and Stop Work Authority		

- 3.2.6 The resolution and return to work for Stop Work conditions normally require documentation or document changes.
- 3.2.7 Within the operations and maintenance departments, the Stop Work declarations and resolutions shall be logged in the appropriate SS log and notifications made to the nuclear facility manager for categorization purposes.
- 3.2.8 Feedback should be disseminated, as appropriate, to capture any lessons learned, conduct of operations, and/or human performance indicators.

4.0 DEFINITIONS

Line management. Supervisors or managers, typically in operations or plant management roles, who authorize or approve work in AMWTP areas (i.e., can be considered to be in an “ownership” position in AMWTP areas).

Step Back. A work pause that can be called by any employee at any time for any reason in which the employee feels that the path forward is unclear or potentially unsafe that can be resolved by workers and their supervisor with input from support organizations within existing training and approved work documents.

Stop Work. A Stop Work is a process to halt work in order to resolve issues or concerns that are not readily resolved by the performing employees and their first line supervisors.

Resolution. The actions required to satisfy worker concerns and allow work to resume. It is an employee’s right to request the elevation of issue resolution through their chain of command up to the AMWTP President and Project Manager if the issue is not resolved to their satisfaction.

5.0 REFERENCES

- (1) MP-COPS-9.7, Control of Equipment and System Status
- (2) MP-DOCS-18.2, Records Management
- (3) MP-DOCS-18.4, Document Control
- (4) MP-Q&SI-5.3, Corrective Action
- (5) MP-Q&SI-5.4, Identification of Nonconforming Conditions

AMWTP MANAGEMENT PROCEDURE		
MP-COPS-9.31, Rev. 2	Issued: 03/03/12	Effective: 03/04/12
Step Back and Stop Work Authority		

6.0 RECORDS

Records generated by this procedure are classified in accordance with the table below, and dispositioned in accordance with MP-DOCS-18.2, Records Management.

Record Description	Classification
MP-COPS-9.31, Case File	Facility Operating Record/A16-1.2 /Destroy 5 years after submittal or being superseded

7.0 EXHIBITS

None

8.0 APPENDICES

None