23 - OPERATIONS UNDER ADVERSE CONDITIONS

Title: Operations Under Adverse Conditions **Doc. No.** 2015-MMTS-23

Approval Signatures and Date

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	Initial Release		Annual Review/No Revision Required		Annual Review/Update (see history below)

***NOTE:** This document will be reviewed at least annually to ensure its suitability.*

Revision History

Rev. No.	Change description	Author
1	Change description Crosswalk Between NDEP CAPP Review Comments (dated 2014-12-09, 2015-01-30 and 2015-02-26) and Mercury Storage and Transfer Program Document Contents March 10, 2015	Burton Packard and Renee Rodriguez

***NOTE**: Hard copies of this document may not be the current version. Refer to the "IAmTheKey" to verify the current version.*

Reference Documents

Document number	Document title
QP.EMS.HG.0007	Management of Change (Tier 1)

23.1 PURPOSE

This procedure outlines boundaries of operation, i.e., conditions under which operations are considered to be unsafe; safe shutdown under those conditions; and emergency evacuation for the MMTS staff under certain conditions.

23.2 SCOPE

This procedure deals with worker activities primarily in the Drum Handling Area and the Flask Handling Area, whereby worker safety could be adversely affected by conditions inside or outside of the MMTS. These conditions include severe dust storm, severe thunderstorm, loss of power, loss of building air conditioning, loss of building exhaust ventilation, and loss of mercury.

23.3 OPERATIONS

23.3.1 Dust Storm

Severe dust storms are capable of clogging the filtered-ventilation for the HVAC system. All controlled outside air enters the MMTS through the HVAC system filters. This air supplies the HVAC system, fume hood ventilation, and snorkel ventilation. All of this air passes through the filters of the building exhaust ventilation system before entering the building stack.

- Facility Manager determines if a dust storm is severe; if it is, calls for a work stoppage.
- Workers safely cease operations in the fume hoods; shutdown operating equipment; close all fume hood doors; and safely cease operations in the Drum Handling Area such as transporting pallets and drums, or loading flasks into conveyer 6-packs.
- Facility Manager ensures that personnel doors and rollup doors are closed.
- All workers remain within the building until it is determined that the severity of the storm has subsided.
- Facility Manager maintains contact with HWAD FES until the storm diminishes.

23.3.2 Severe Thunder Storm

Severe thunder storms are capable of intense lightening that may cause loss of power to MMTS.

- Follow the actions detailed in Section 23.3.3.

23.3.3 Loss of Power

Loss of power to MMTS requires ceasing routine operations. If the standby diesel generator is available and can be connected without exposing workers to unsafe conditions, the standby diesel generator is started and operations resume long enough to ensure no open mercury remains in the MMTS. However, if the use of the generator is not feasible, safe shutdown of all operations is required.

- Following the availability of power from the standby generator, workers ensure that no open mercury remains in the MMTS. After that is accomplished, workers safely cease operations in the fume hoods, close switches to equipment that was operating, close all fume hood doors, and safely cease operations in the Drum Handling Area such as transporting pallets and drums, or loading flasks into conveyer packs.
- Facility Manager ensures that personnel doors and rollup doors are closed.
- Facility Manager maintains contact with HWAD FES.
- If it is determined that the power outage will be prolonged, Facility Manager will dismiss workers and ensure that MMTS is secured upon leaving.

23.3.4 Loss of Building Air Conditioning

Loss of the air conditioning system in MMTS does not necessarily require ceasing operations. If the outside temperature is near or below 75° F, the personnel doors and/or the rollup doors may be opened to maintain a comfortable work environment.

- Facility Manager determines if worker operations may continue operations based on weather and temperature conditions outside MMTS; if conditions are not suitable, supervisor will call for MMTS shutdown as noted above.
- Facility Manager attempts to determine the cause of loss of air conditioning and arranges for inspection and maintenance of the system.

23.3.5 Loss of Building Exhaust Ventilation

Loss of the building exhaust ventilation system in MMTS requires ceasing operations that have open sources of mercury vapor. The exhaust ventilation system provides the air flow into and through the fume hoods and overhead snorkels, and is the means for collecting and filtering vapor-contaminated air. As a temporary measure during safe shutdown, the Airfiltronix® snorkels may be used to locally capture mercury vapor while shutdown procedures are under way.

- Workers safely cease operations in the fume hoods; close switches to equipment that was operating, close all fume hood doors, and safely cease operations in the Drum Handling Area such as transporting pallets and drums, or loading flasks into conveyer packs.

- Facility Manager ensures that personnel doors and rollup doors are closed.
- Facility Manager attempts to determine the cause of loss of exhaust ventilation and arranges for inspection and maintenance of the system.

23.3.6 Loss of Mercury

This section deals with a major loss of mercury outside the fume hoods or in the Drum Handling Area.

- Workers safely cease operations in the fume hoods; close switches to equipment that was operating, close all fume hood doors, and safely cease operations in the Drum Handling Area.
- Worker who notices loss of mercury advises Facility Manager and alerts others in the vicinity to exit the Flask Handling Area and/or the Drum Handling Area.
- Worker who notices loss of mercury should provide containment before leaving the area, if it is safe to do so.
- Facility Manager or designee contacts HWAD FES and states the extent of loose mercury that is outside the MMTS (i.e., the estimated quantity and where it resides).

***NOTE**: There are two areas of responsibility for the cleanup of loose mercury: within the MMTS and outside the MMTS.*

<u>Within the MMTS:</u> MMTS workers are responsible for cleaning up loose mercury within the MMTS.

<u>Outside the MMTS:</u> HWAD FES is responsible for cleanup of all mercury spills.

- Facility Manager ensures that all personnel have exited the MMTS and all personnel doors and rollup doors are closed.

23.4 RECORDS

- Management of Change records as required