20 - MERCURY MEDICAL SURVEILLANCE

Title: Mercury Medical Surveillance **Doc. No.** 2015-MMTS-20

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
2	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
1	Pg. 20-3, §20.3.2, deleted Baseline handwriting sample.	

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
	Blando, James D., December 2004. *Controlling Metallic Mercury Exposure in the Workplace—A Guide for Employers*, New Jersey Department of Health and Senior Services, Trenton, New Jersey, http://www.nj.gov/health/surv/documents/mercemp.pdf

20.1 INTRODUCTION

The Mercury Medical Surveillance Program (MMSP) presented in this document is focused on monitoring potential worker exposure to mercury from operations in theMMTS and is intended to supplement similar worker safety programs at HWAD.

The MMSP, in conjunction with many of the procedures governing operations in the MMTS, will ensure a safe work environment for the health of the workers.

20.2 SCOPE

Exposure to mercury vapor over time can affect different organs in the body, especially if exposure is high. Symptoms of high exposures to metallic mercury may include nausea, vomiting, diarrhea, increased blood pressure and heart rate, chest tightness, and numerous other irregularities. However, in most cases exposure is low and health effects are more subtle, requiring careful medical evaluation. The MMSP is focused on monitoring the subtle effects of mercury exposure because the administrative and engineered controls in the MMTS are designed to avoid high exposure. The MMSP is intended to apply to workers with the potential for direct contact with mercury, including Mercury Transfer Operators and Drum Area Workers, MMTS Supervisor, and staff maintaining equipment that is contaminated with mercury.

20.3 MEDICAL SURVEILLANCE

20.3.1 Implementation

A daily worker list (example provided in Table 20.1) shall be maintained by the supervisor of staff handling flasks and drums containing mercury in the MMTS, or staff doing maintenance on mercury contaminated equipment. The list shall be made available to the HWAD medical services as needed. Medical Services, after consulting with the MMTS Facility Manager, shall determine the frequency of medical exams and which workers should receive exams, upon reviewing the daily sheets at least monthly. An example of the daily worker list is shown below; it is maintained by the MMTS Facility.

Table 20.1. Example daily worker list

Worker	Drum handling	Flask handling	Metric ton container replacement	Maintenance (describe)	Duration (h)
Name		√			3.5
Name	√				1.5
Name				Replace pump tubing	0.5

Name		√			3.0
Name			√		0.5

20.3.2 Medical Monitoring

Periodic evaluation of workers who may be exposed to mercury vapor shall be done to ensure they are experiencing no subtle adverse effects. The periodic evaluation also serves as a back-up for routine air monitoring, which is the primary means for ensuring that exposure is below threshold levels that may cause adverse health effects.

A baseline examination should be given to all workers trained to handle flasks and other potentially contaminated equipment in the MMTS. The purpose is to provide a baseline for future health monitoring. Examinations should be conducted by a physician knowledgeable in occupational medicine, repeated annually, and compared to the baseline data.

The examination should include:

- Complete medical history and symptom questionnaire.
- Physical examination focusing on target organs such as kidneys, lungs, eyes, and skin.
- Blood analysis

Urinalysis – biologic monitoring is recommended for workers exposed to mercury. (Collection should be made over a 24-hour period, but spot sampling may also be done.)

***NOTE**: Urine samples must be submitted to a laboratory proficient in mercury analyses. The laboratory selected by DLA Strategic Materials will outline the procedure for collecting samples and provide mercury-free containers that have a special preservative.*

20.4 METRICS

Trending of the results of medical monitoring should be analyzed to determine if changes should be made in the MMTS operations or staffing assignments.

20.5 RECORDS

- Daily record of worker activities in MMTS are maintained in the MMTS
- Baseline medical examination for MMTS workers and results of medical monitoring are maintained in DLA Headquarters records.