Generation
General Order - Environmental

Title		Doc Num / Rev
E-18- Lead Exposure Procedure		SOP-1056 / 4
Location	**Status**	**Release Date**
Bailly Generating Station Oakdale And Norway Hydro Stations Michigan City Generating Station R. M. Schahfer Generating Station Sugar Creek Generating Station	**Approved And Released STANDARD OPERATING PROCEDURE**	4/8/2019 2:05:17 PM

I. PURPOSE

The purpose of this General Order is to provide supervisors and employees with a program to help minimize and control employee exposure to fumes and/or dust from lead-containing products.

II. SCOPE

This procedure applies to work being performed which may result in exposure to lead. Lead, which could result in adverse health effects, can be found in paint on equipment, building materials, rupture diaphragms on LP turbines and Boiler Feed pump turbines, and structure components. Lead carbonate dust may also be present in the turbine generator components when they are disassembled for maintenance.

III. DEFINITIONS

A. Action Level (AL) – an airborne exposure limit of 30 µg/m3 as defined by OSHA for an 8 hour time-weighted average (TWA) in any 8 hour work shift of a 40 hour work week.

B. Competent Person – someone capable of identifying existing and predictable lead hazards in the surroundings and has authorization to take prompt corrective measures to eliminate them.

C. Lead-Based Paint (LBP) – paint or another surface coating that contains lead in an amount equal to or greater than one milligram per square centimeter (1 mg/cm^2) or five-tenths percent (0.5%) by weight as defined the Environmental Protection Agency. Please be aware, the Occupational Safety and Health Administration regulates any and all lead exposures regardless of the content in the material.

D. Permissible Exposure Limit (PEL) – an airborne exposure limit of 50 $µg/m^3$ as defined by OSHA for an 8 hour time-weighted average (TWA) in any 8 hour work shift of a 40 hour work week.

IV. RESPONSIBILITIES

A. CONTRACTORS

1. NIPSCO employees acting as the "Owner Representative" are responsible for ensuring contractors are aware and comply with this procedure. This can be accomplished through the daily Job Safety Analysis (JSA).
2. Contractors working for or on behalf of NIPSCO should be educated on the requirements within this General Order.
    a. NIPSCO's generating stations each have equipment, building materials and structural components which have been painted with lead-based paint (LBP).
    b. All painted surfaces shall be assumed to contain LBP unless otherwise documented or sampled.
3. Contractors may occasionally have to perform work including cutting, burning or welding that may disturb Lead Based Paint (LBP).
4. Contractors working on turbine generator components shall be made aware of the potential for the presence of lead carbonate dust when disassembled for maintenance.
5. Contractors working with sheet lead shall be made aware of the potential for lead exposure when working on the LP Turbine or Boiler Feed Pump Turbine diaphragms or Chimney seals.
6. The contractor is responsible for ensuring any hazard generated from lead abatement work does not expose nearby workers (NIPSCO employees or contractors) or the environment.
7. Contractors are responsible for complying with the safety and health provisions stated within the terms and conditions of their contract as well as applicable OSHA standards and the NiSource Contractor Safety Manual. This includes providing copies of their training records or qualifications upon request.
8. Contractors performing work that has the potential to disturb surfaces coated with LBP shall have an approved work compliance plan in place prior to the commencement of work. Contractors shall submit their Compliance Plan to Safety & Industrial Hygiene (S&IH) for approval upon request.
9. Contractors performing work that has the potential to disturb surfaces coated with LBP must be registered in ISNetworld with an approved lead written program.
10. Copies of any of the monitoring data collected by the contractor shall be provided to S&IH.

B. GENERATION PERSONNEL

1. Managers and supervisors are responsible for ensuring employees are educated on the hazards of lead including the information contained within this General Order.
2. NIPSCO's generating stations each have equipment, building materials and structural components which have been painted with lead-based paint (LBP). All painted surfaces shall be assumed to contain LBP unless otherwise documented or sampled.
3. Work involving the abatement, removal or control of LBP **shall not** be performed by NIPSCO personnel unless properly trained and performed under the direction of the Safety & Industrial Hygiene Organization.
4. Exposure control against fumes and/or dust from lead-containing paint shall be in accordance with OSHA Construction Industry Standard (29 CFR 1926.65). Exposure control against lead carbonate dust shall be in accordance with the General Industry Standard (29 CFR 1910.1025)

C. SAFETY AND INDUSTRIAL HYGIENE ORGANIZATION (S&IH)

1. S&IH or the NIPSCO Contractor Representative shall conduct or coordinate sampling as necessary.
2. S&IH or the Contractor safety representative shall monitor the project for safety compliance.
3. S&IH shall arrange or prepare any necessary training for NIPSCO employees if the need for disturbance of lead-containing material arises.
4. S&IH shall maintain proper records including monitoring records and those supplied by the Contractor.
5. Review and update this General Order as needed.

D. ENVIRONMENTAL PERSONNEL

1. Environmental, or their designee, shall be notified prior to the commencement of lead abatement projects.
2. Environmental shall advise and coordinate for waste management associated with these lead abatement projects.

V. SAMPLING PROCEDURE

A. Safety & IH or a qualified 3rd party consultant shall perform sampling if necessary.

1. One paint or coating chip sample is needed from each testing combination (i.e., each component in each room; e.g., break room door, control room window). The sample should be from a four square inch or larger area and should not include any of the substrate. The sample shall be placed in a rigid, sealable container and labeled. The sample dimensions should be recorded on the chain of custody. Results should be requested in milligrams per square centimeter unless the sample dimensions cannot be accurately provided in which the results should be reported in percent by weight.
2. The sample(s) shall be sent to an AIHA-accredited laboratory and analyzed for "total lead" by ICP analysis. Results should be reported in a part per million or % by weight concentration. A result of 5,000ppm or 0.5% lead or greater is considered LBP.
3. An in-situ determination can be made with a portable X-ray Fluorescence (XRF) tool. A result of the 1000 µg/cm^2 (1.0 mg/cm^2) lead or greater (equates to 0.5% by weight) and is considered LBP.
    i. XRF devices emit gamma radiation when activated. All personnel who operate the XRF tool must have training on the XRF device, radiation safety training and a radiation dosimeter device.

B. Use of Lead Check® swabs, which give an immediate indication of lead content, is only appropriate for making a positive determination of lead.

1. If the Lead Check® results are negative, the material shall be sent to the laboratory for further analysis and confirmation of the negative result.

C. The sample(s) shall be sent to the laboratory and analyzed for lead.

1. If a sample is not obtained, it is assumed to be LBP.
2. If a sample is taken and the results are less than 0.5% (<5,000 ppm, <5,000 mg/kg), then it is NOT LBP.
3. If a sample is taken and the results are ≥ 0.5% (≥ 5,000 ppm, ≥ 5,000 mg/kg), it is LBP.

VI. ENGINEERING AND WORK CONTROL PROCEDURES

A. For planned projects, Environmental or their designee shall be notified prior to the commencement of lead abatement projects for waste disposal recommendations.

B. If flaking or peeling paint is found, a determination of lead content must be made in accordance with Section V (Sampling Procedure). Otherwise, paint chips on the floor must be assumed to be LBP and the following precautions must be followed:

1. Non-aggressive methods of paint chip clean-up such as the use of a soft dust mop, wet mop, or HEPA vacuum must be used to collect paint chips.
2. Contact the Environmental Coordinator when potentially lead-containing paint chips are collected for sampling and disposal considerations.
3. Nitrile gloves must be worn when skin contact with potentially lead-containing paint chips is possible.
4. Compressed air must never be used as a cleaning method to remove lead-containing debris.