SECTION 17

LEAD ABATEMENT/ REMOVAL

1. Lead Removal and/or Abatement

A. **Scope:** This policy applies to all situations where abatement, contact or removal of materials containing lead, are encountered. Lead containing materials may include, but are not limited to the following:

1. Paints and Coatings
2. Cements
3. Mortars
4. Solders
5. Tank Linings
6. Electrical Conduit
7. Sewer Line Sealant
8. Mastics
9. Roofing Material
10. Manufacturing and Occupational Lead Dust

B. **Application:** This policy applies to all Maul Electric, Inc. employees and employees their Subcontractors. Where Subcontractor Firms are hired to remove and/or abate lead, and their policy exceeds the requirements of this policy, OSHA and/or state requirements, the Subcontractor policy, upon approval by the Safety Director will be followed. Where the Client mandates their lead removal and/or abatement policy be followed, the Safety Director shall review the Client's policy for OSHA and/or state compliance before approving the use of the Client policy. Written approval by the Safety Director and President is required.

C. **Training:** All affected employees are required to attend initial and annual training programs. The employees shall be informed of the specific nature of the operations which could result in exposure to lead above the action level, the purpose, proper selection, fitting, use, and limitation of respirators, engineering controls, purpose & a description of the medical surveillance program & the medical removal program.

D. **Responsibility:** It is the responsibility of the Project Manager, Project Supervisor and Safety Director to require and oversee compliance with the lead abatement/removal plan. Subcontractors are responsible to ensure employee compliance with the Project Specific Lead Abatement/Removal Plan, Client Safety and Health requirements, Federal, State and Local requirements.

E. **Symptoms :** Program must identify health effects of lead. Common symptoms of acute lead poisoning are loss of appetite, nausea, vomiting, stomach cramps, constipation, difficulty in sleeping, fatigue, moodiness, headache, joint or muscle aches, and anemia. Long term (chronic)

overexposure to lead may result in severe damage to the blood-forming, nervous, urinary, and reproductive systems.

F. **Abatement and/Or Removal Approval:** All lead removal and/or abatement projects must include a Project Specific Plan to be reviewed and approved by the Safety Director and President during the pre-bid review or prior to the onset of abatement/removal work. This Project Specific Plan must include, as a minimum, the following:

1. A job hazard analysis.
2. The location of lead containing materials and anticipated quantity.
3. Method of removal.
4. Method of disposal.
5. The approved bulk testing lab.
6. The type, number and method of environmental monitoring.
7. The type, number and method of personal monitoring.
8. Method of containment and cleaning.
9. A copy of the Subcontractor Lead Abatement Plan.
10. Subcontractor employee training records.
11. Subcontractor medical surveillance certifications and respiratory medical evaluations.
12. Subcontractor Employee respiratory fit test certifications.
13. List of equipment to be used for manual removal and cleaning.
14. Copies of all Material Safety Data Sheets for Chemical Stripping Agents.
15. State or Municipality requirements.

Employees must abide by any signs/labels/assessment reports indicating the presence of lead containing materials. Appropriate work practices should be followed to ensure the lead containing materials are not disturbed.

G. **Recordkeeping Requirements:** The record keeping requirements for lead abatement, as established by OSHA are extensive. The employer must retain medical records and exposure monitoring data for the duration of employment plus thirty (30) years, unless the duration of employment is less than one (1) year. In that event, records must be given to the employee upon termination. If the employer ceases to do business, medical records must be transferred to the successor employer who will retain and maintain the medical records. If there is no successor employer, medical records will be transferred to the U.S. Secretary of Labor. State and municipality requirements will be addressed in project specific documents. All records outlined in this procedure will be immediately provided to the designated client representative, the Project Manager and Safety Director. Copies will be retained by the employer and accessible to

the employees and employee representative. These records include, but are not limited to:

1. Lead Sample Tracking logs.
2. Analytical data supplied by approved labs.
3. "Lead free" certifications provided by the client, manufacturer, installer, etc.
4. Employee training and certification records.
5. Employee medical surveillance and testing records.
6. All exposure assessments, including medical surveillance, medical removals, reports by industrial hygiene perimeter and personnel monitoring reports.
7. Copies of licensing or permit forms issued by the state or municipalities.
8. Job records, such as job logs, dairies, etc. pertaining to removal or abatement.
9. Work permits provided by clients.
10. Periodic Safety Inspections.
11. Hazardous Waste disposal records.

H. **Initial Determination Procedure:** The presence or absence of lead in materials will determine the need for the implementation of this section.

I. **Pre-work determination of lead containing materials:** The presence or absence of lead may be pre-determined by several different methods. The following pre-work determinations may be used:

1. Pre-work samples analyzed by an accredited laboratory for determination of composition.
2. Written statements, such as Material Safety Data Sheets, technical data sheets, etc. prepared by the manufacturer and/or client may be used.
3. Testing results and certifications supplied by the manufacturer, installer, and client.
4. Portable X-ray Fluorescence (XRF) detection results.
5. Previous personal and environmental monitoring results obtained by the employer, client, and subcontractor.
6. All documents must be forwarded to the Safety Director and maintained on file in the field. Clients must also be provided with documentation.
7. Employees will be provided with the results of testing.

J. **No Pre-Work Lead Assessment Data:** In the event that no pre-work lead assessment data is available, the lead content must be established.

1. An assumption of exposure to lead above the OSHA Permissible Exposure Limit (PEL) of 50ug/m3, and not exceeding 500ug/m3 is mandated by OSHA for the following tasks:

    a) Where lead containing coatings or paint are present: manual demolition of structures (e.g. dry wall), manual scraping, manual sanding, heat gun application, and power tool cleaning with dust collection systems.
    b) Spray painting with lead paint.
    c) Where the employee has any reason to believe that an employee is exposed to lead in excess of the PEL.

2. An assumption of exposure to lead above the OSHA Permissible Exposure Limit (PEL) and in excess of 500ug/m3 is mandated for:

    a) Using lead containing mortar; lead burning.

    b) Where lead containing coatings or paint are present: rivet busting; power tool cleaning without dust collection systems; cleanup activities where dry expendable abrasives are used; and abrasive blasting enclosure movement and removal.

3. An assumption of exposure to lead in excess of 50 X the PEL or in excess of 2500ug/m3 is mandated for the following:

    a) Abrasive blasting.
    b) Welding
    c) Cutting
    d) Torch burning
    e) Grinding

4. Until an employee exposure assessment is performed and appropriately documented, the following interim protection is required at no expense to the employee:

    a) Respiratory protection as outlined in 29 CFR 1926.62
        (1) The respirator shall be used during the time period necessary to install or implement engineering or work practice controls, where engineering and work practice controls are insufficient and in emergencies

    b) Personal Protective Clothing and Equipment is required as follows:
        (1) Coveralls or similar full-body work clothing.

(2) Gloves, hats and shoes or disposable shoe covers.
(3) Face shields, vented goggles, or other appropriate protective equipment.
(4) Clothing will be supplied in a clean and dry condition weekly. Clothing will be provided on a daily basis for exposure levels over 200ug/mg3.
(5) Cleaning, laundering, and disposal of clothing will be provided.
(6) Repair and replacement of all Personal Protective Equipment to insure effectiveness shall be provided.
(7) Clothing must be removed at the completion of a work shift in a change area specifically provided for that purpose.
(8) Contaminated clothing will be placed in a closed container in the change area, which will prevent dispersion of lead outside the container.
(9) All persons involved in cleaning, laundering or disposal of contaminated clothing will be advised in writing of the hazards of lead exposure.
(10) All containers of contaminated clothing or equipment shall be labeled with the following statement: **Caution: Clothing contaminated with lead. Do not remove dust by blowing or shaking. Dispose of contaminated wash water in accordance with applicable local, state or federal regulations.**
(11) Shaking and/or blowing off dust particles are prohibited.

5. Change areas are required.

a) Change areas will be equipped with separate storage facilities for protective work clothing and equipment for street clothes to prevent cross contamination.
b) Employees will not be allowed to depart the work area with any potentially contaminated clothing or equipment.
c) Hand washing facilities will be provided in accordance with 29 CFR 1926.51(f). If showers are not provided, all employees must wash their hand and face at the end of the workday, prior to leaving the work site.

6. Biological monitoring to consist of blood sampling and analysis for lead and zinc protoporphyrin levels are required every six (6) months until two consecutive blood samples and analysis are

acceptable. The sampling and monitoring should be performed at least monthly during the removal period. Any employee with elevated blood levels should be temporarily removed. Employees should be notified in writing within five (5) days when lead levels are not acceptable. (The standard requires temporary medical removal with Medical Removal Benefits).

7. Training under 29 CFR 1926.62 (lead) and 29 CFR 1926.59 (hazard communication), respiratory protection and fit testing and safety training in accordance with 29 CFR 1926.21 (safety training and education), 29 CFR 1910.20.

K. **Sampling Procedure:** If bulk sampling is required for positive identification, the following procedure must be followed:

1. The individual taking the samples must wear all required Personnel Protective Equipment, and dispose of contaminated equipment as follows:

   a) Outer protective clothing (i.e. Tyvek suit).
   b) Full Face Negative Pressure Respirator equipped with HEPA cartridges or Powered Air Purifying Respirator (PAPR).
   c) All potentially contaminated clothing will be disposed placed in properly marked lead disposal bags.
   d) All samples will be taken as far away from the breathing zone and body as possible.

2. Only the individuals necessary for taking the samples will be present.
3. The material shall be wetted with a light water mist to minimize the discharge of airborne particulate matter during sampling.
4. The material shall be carefully removed to insure a representative sample of all layers of the material.
5. The sample must be placed in a small, transportable container, clearly marked as to the content, location of the sample source, date and time of sample. Zip lock bags are acceptable for this purpose.
6. The sample container must be tightly sealed and prevented from accidental opening. The outer surface of the container should be wiped with a damp cloth to prevent contamination.
7. Any material dislodged during the sampling procedure must be cleaned immediately by use of a HEPA vacuum.
8. The sample identification number, location, date, and time of the sample will be logged on the" Lead Sample Tracking Log" and forwarded to the approved lab for analysis.

9. Results of all samples will be entered on the "Lead Sample Tracking Log".
10. Copies of all testing logs will be provided to the client, one copy will be maintained in the field, and one copy will be provided to the Regional Safety Director. In all cases, the employees will be advised of the sample results.

L. **Positive Initial Determination:** If a positive initial determination has been established which shows the **possibility** of any employee exposure at or above the action level, monitoring representative of the exposure for each employee in the workplace who is exposed to lead must be conducted.

1. If previous monitoring for lead exposure and the data obtained falls within the past 12 months during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used, earlier monitoring results may be used if the sampling and analytical methods meet the accuracy of confidence prescribed by OSHA 29 CFR 1926.62 (d) (10).
2. The frequency of monitoring, for blood sampling, at or above the action level of 30ug/m3 but below the PEL of 50ug/m3, monitoring will be performed every six (6) months. Six-month monitoring must continue until a minimum of two consecutive measurements, taken at least 7 days apart show results below the action level.
3. If the initial determination discloses exposure results above the PEL of 50ug/m3, monitoring must be continued on a quarterly basis until a minimum of two consecutive measurements, taken at least 7 days apart show results below the PEL but above the action level. In this event, the requirements of paragraph 6.2 shall be in force. If consecutive measurements taken at least 7 days apart show results under the action level, monitoring may be discontinued.
4. Maul Electric, Inc shall provide lunch room, hygiene, shower, and changing facilities when exposures are above the PEL.
5. Warning signs should be posted in the work area where the PEL is exceeded "**DANGER DO NOT ENTER – LEAD**"

M. **Negative Initial Determination:** If a determination conducted under 29 CFR 1926.62 (d) (1), (d) (2) and (d) (3) has been made and displays that no employee is exposed to airborne concentrations of lead at or above the action level, a written record of the determination with all support documentation, including the date of determination, the exact location within the worksite, and the name and social security number of each employee monitored must be submitted and maintained.

1. Whenever there has been a change of equipment, process, control, personnel, or a new task is initiated that may result in additional employees being exposed to lead at or above the action level, or may result in employees already exposed at or above the action level being exposed above the PEL, additional monitoring must be accomplished.

N. **Employee Notification:** The employee must be notified within fifteen (15) working days after completion of the exposure assessment. Each employee must be notified in writing of the results that represent the employee's exposure.

O. **Accuracy Of Measurements:** The method of monitoring and analysis used must have an accuracy (to a confidence level of 95%) of not less than plus or minus 25% for airborne concentrations of lead equal to or greater than 30ug/m3.

P. **Engineering Controls:** Engineering controls and work practices controls must be the main method of controlling airborne lead contamination. All feasible engineering practices must be utilized. Personnel protective equipment should be used to supplement engineering and work practice controls.

Q. **Compliance Programs:** No lead removal and/or abatement work will be permitted to begin until a written compliance program has been developed, submitted, and reviewed by the Safety Director, President, and the designated client representative. Compliance programs will include, as a minimum:

1. A description of each activity that may emit lead, including the equipment used, material involved, controls in place, crew size, employee job responsibilities, and operating procedures and maintenance practices.
2. A description of the specific means that will be employed to achieve compliance to include engineering plans and studies used to determine methods selected for controlling exposure.
3. A report of the technology considered in meeting the PEL.
4. Air monitoring data that documents the source of the lead emissions.
5. Detailed schedule for implementation of the program, including documentation i.e., copies of purchase orders for equipment, contracts, and subcontracts, etc.
6. A work practice program including items required for protective clothing, housekeeping and hygiene facilities.
7. An administrative control schedule.

8. Method of informing all affected or potentially affected employees of the potential exposure to lead and the hazards associated with lead exposure.
9. Frequency of inspections of sites, materials, and equipment by a designated, competent person(s).
10. All affected employees, authorized employee representative will be provided with a copy of the compliance program upon request.
11. Plans will be maintained on the job site for review/inspection by the client representative, any governmental regulatory agency, employees and/or employee representatives.
12. Compliance programs will be reviewed at a minimum frequency of 6 months and will reflect the current status of the program.
13. If employees working immediately adjacent to a lead abatement activity are exposed to lead due to the inadequate containment of such job, their employer shall either remove the employees from the area until the enclosure breach is repaired or perform an initial exposure assessment.