

Manual Section 3	Issue Date 11/18/09	Revision Date 01/15/26	Policy Number LLCP-032
	<b>Lead</b>		

### **Purpose**

This policy has been developed to ensure that Company employees are protected when they work with or near any lead related substance. This policy applies to all work where an employee may be occupationally exposed to lead. All construction work excluded from coverage in the general industry standard for lead by 29 CFR 1910.1025(a)(2) is covered by this standard. Construction work is defined as work for construction, alteration and/or repair, including painting and decorating. It includes but is not limited to the following:

- Demolition or salvage of structures where lead or materials containing lead are present.
- Removal or encapsulation of material containing lead
- New construction, alteration, repair or renovation of structures, substitutes or portion thereof that contain lead or materials containing lead.
- Installation of products containing lead
- Lead contamination/emergency cleanup
- Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed
- Maintenance operations associated with the construction activities

### **Scope**

All GIS Holdings, LLC Companies and affiliates including, Blanchard Industrial, LLC, GIS Engineering, LLC, Grand Isle Shipyard, LLC., GWIS, Mack Steel, NuWave, Valvemax, Discovery Industries, Inc., Global Inspections, LLC, and EIS, hereafter identified as "Company".

### **Definitions**

"Action level" means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30 ug/m<sup>3</sup>) calculated as an 8-hour time-weighted average (TWA).

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

"Competent person" means one who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them.

"Director" means the Director, National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, or designee.

"Lead" means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.

"This section" means this policy.

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### **Lead Protection Program**

Lead has been poisoning workers for thousands of years. In the construction industry, traditionally, most over-exposed to lead have been found in the trades, such as welding and painting lead-based paint abatement work. Operations that generate lead dust and fumes include the following:

- Flame-torch cutting, welding, the use of heat guns, sanding, scraping and grinding of lead painted surfaces in repair, reconstruction, dismantling, and demolition work;
- Abrasive blasting of pipe and other structures containing lead-based paints;
- Use of torches and heat guns, sanding, scraping, and grinding lead-based paint surfaces during rehabilitation work or abating lead-based paint; and
- Maintaining process equipment.

This policy is essential in minimizing worker risk of lead exposure. Construction projects vary in their scope and potential for exposing workers to lead and other hazards. Many projects may involve limited exposure, such as the removal of paint consisting lead. Others may involve the removal, or stripping off, of substantial quantities of lead-based paints on large projects. The employer should, as needed, consult a qualified safety and health professional to develop and implement an effective worker protection program.

The most effective way to protect workers is to minimize exposure through the use of engineering controls and good work practices. It is an OSHA policy that respirators are not to be used in lieu of engineering and work practices to reduce employee exposures to below the PEL (permissible exposure limits). Respirators can only be used in combination with engineering controls and work practices to control employee exposures. OSHA's new interim final standard for lead in construction limits worker exposures to 50 micrograms of lead per cubic meter (50 g/m<sup>3</sup>) of air averaged over an 8-hour workday.

The following elements are included in the Company's Lead Protection Program for employees exposed to lead:

- Hazard determination, including exposure assessment
- Engineering and work practice controls
- Respiratory protection
- Signs and Symptoms of Lead
- Protective clothing and equipment
- Housekeeping
- Hygiene facilities and practices
- Medical surveillance and provisions for medical removal
- Training and Signs
- Recordkeeping

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**Hazard Determination, Including Exposure Assessment**

Prior to accepting work with a customer, the Company shall be notified of Lead Related Products that employees may come in contact with. At this time, we will make a determination to accept or deny the contract based on the availability of trained personnel that can assist with such task. If the contract would be acceptable, a competent person shall perform an evaluation of the job and verify what types of engineering controls and/or PPE will be required in order to perform the necessary task to complete the contract. Often times, analysis will be performed to evaluate the threshold limits that employee's may face upon the assignment of work. These analyses shall be performed by a qualified person and/or organization.

**Engineering and Work Practice Controls**

Because lead is a cumulative and persistent toxic substance and because lead-caused health effects may result from low levels of exposure over prolonged periods of time, engineering controls and good work practices must be used where available to minimize employee exposure to lead. At a minimum, exposures must not exceed the OSHA interim final PEL of 50 g/m<sup>3</sup> of air averaged over an 8-hour period. When feasible, if engineering controls and work practice controls cannot reduce worker exposure to lead at or below 50 g/m<sup>3</sup>, then respirators must be used to supplement the continued use of engineering and work practice controls.

A competent person should review all site operations and stipulate the specific engineering controls and work practices designed to reduce worker exposure to lead. Engineering measures include local and general exhaust ventilation, process and equipment modification, material substitution, component replacement, and isolation or automation. Examples of recommended engineering controls that can be used to reduce worker exposure to lead are as follows:

**Exhaust Ventilation**

Power tools used for the removal of lead-based paint should be equipped with dust collection shrouds or other attachments exhausted through a high-efficiency particulate air (HEPA) vacuum system. Operations such as welding, cutting/burning, heating should be provided with local exhaust ventilation. HEPA vacuums should be used during clean-up activities.

For abrasive blasting operations where full containment exists or is required, the containment structure should be designed to optimize the flow of ventilation air past the worker(s), so that the airborne concentration of lead is reduced and the visibility is increased. The affected area should be maintained under negative pressure to reduce the chances that lead dust will contaminate areas outside the enclosure. A containment structure should be equipped with dust collection and an air-cleaning device to control emissions of particulate matter to the environment.

**Enclosure/Encapsulation**

Lead-based paint can be made inaccessible either by encapsulating it with a material that bonds to the surface or by enclosing it.

The owner or other responsible person should oversee the preventative measures utilized by contractors with regard to all activities that involve enclosed or encapsulated lead-based paint. This will minimize potential inadvertent release of lead during maintenance, renovation, or demolition.

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### **Substitution**

Zinc-containing primers covered by an epoxy intermediate coat and polyurethane topcoat are commonly used instead of lead-containing coatings.

Mobile hydraulic shears can be substituted for torch cuffing under certain circumstances.

Surface preparation equipment, such as needle guns with multiple reciprocating needles completely enclosed within an adjustable shroud, can be substituted for abrasive blasting under certain operations. The shroud captures dust and debris at the cuffing edge and can be equipped with a HEPA vacuum filtration system with a self-drumming feature. One such commercial unit can remove lead-based paint from flat steel and concrete surfaces, outside edges, inside corners, and pipes. Chemical removal/stripping generate less airborne lead dust.

These strippers, however, can be hazardous and the material safety data sheets (MSDSs) for the products used must be reviewed by the employer for information on worker exposure hazards from the chemical ingredients and protective measures recommended by the manufacturer.

### **Process/Equipment Modification**

Brush/roller application of lead paints or other lead-containing coatings is a safer method than spraying. This method of application introduces little or no paint mist into the air where the mist can present a lead inhalation hazard.

Non-silica containing abrasive (e.g., steel or iron shot/grit) should be used where practical instead of sand in abrasive blasting operations. The free silica portion of the dust presents a respiratory health hazard.

Blasting techniques that are less dusty than abrasive blasting and that can be effective under some conditions include:

- (1) Hydro- or wet-blasting (using high pressure water with or without abrasive or surrounding the blast nozzle with a ring of water), and
- (2) Vacuum blasting where a vacuum hood for material removal is positioned around the exterior of the blasting nozzle.

Heat guns used to remove lead-based paints should be of the flameless electrical softener type. Heat guns should have electronically controlled temperature settings to allow usage below 7000° F. Heat guns should be equipped with various nozzles to cover all common applications and to limit heated work area.

When using abrasive blasting with vacuum on exterior surfaces, care should be taken that the configuration of the heads on the blasting nozzle matches the configuration of the substrate so that the vacuum is effective in containing debris.

Since HEPA vacuum cleaners can be used to clean surfaces other than just floors, operators should have attachments appropriate for use on unusual surfaces.

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The proper use of brushes of various sizes, crevice tools and angular tools, when needed, will enhance the quality of the HEPA-vacuuming process and help reduce the amount of lead dust released into the air.

### **Isolation**

Although it is not feasible to completely enclose and ventilate some abrasive blasting operations, it is possible to isolate many operations to help reduce the potential for exposure to lead. Isolation, in this instance, consists of keeping employees not involved in the blasting operations as far away as possible from the work area. By placing the employees at a greater distance from the source of lead exposure, their exposures will be reduced.

### **Respiratory Protection**

Although engineering and work practice controls are the primary means of protecting workers, source control at construction sites is often not sufficient to control exposure, and airborne lead concentrations may be high or may vary widely.

Presently, in the construction industry, respirators must often be used to supplement engineering controls and work practices whenever these controls are technologically incapable of reducing worker exposures to lead to or below 50 g/m<sup>3</sup>.

To provide adequate protection, respirators must be donned before entering the work area and should not be removed until the worker has left the area, or as part of a decontamination procedure. Employers must assure that the respirator issued to the employee is properly selected and properly fitted so that it exhibits minimum face piece leakage. The employer at no cost to employees must supply respirators. Employers must perform either qualitative or quantitative fit tests for each employee wearing negative pressure respirators. Fit testing is to be performed at the time of the initial fitting and at least semiannually thereafter.

### **Respirator Program**

When respirators are provided, the employer must establish a respiratory protection program in accordance with the OSHA standard on respirator protection, 29 CFR 1910.134.

Minimum requirements for an acceptable respirator program for lead include the following elements:

- Written standard operating procedures governing the selection and use of respirators.
- Selection of respirators on the basis of hazards to which the worker is exposed.
- Instruction and training in the proper use of respirators and their limitations.
- Regular inspection and cleaning, maintenance and disinfection of worn or deteriorated parts whenever an increase in breathing resistance is detected.
- Storage in a convenient, clean, and sanitary location and protection against sunlight and physical damage.
- Appropriate surveillance of work area conditions and degree of worker exposure or stress (physiological or psychological) must be maintained.
- Evaluation to determine the continued effectiveness of the program.

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- Physician's determination that the employee is physically able to perform the work and wear a respirator while performing the work (respirator user's medical capacity to wear and work with a respirator should be reviewed annually).
- Use of Mine Safety and Health Administration/National Institute for Occupational Safety and Health (MSHA/NIOSH) certified respirators.
- Fit testing of negative-pressure respirators.
- Breathing air used for supplied-air respirators must meet the requirements prescribed in 1910.134(d)(1).
- Standing permission for employees to leave the work area to wash their faces and respirator face pieces whenever necessary to prevent skin irritation associated with respirator use.

Lead concentrations may vary substantially throughout a work shift as well as from day-to-day. The highest anticipated work concentration is to be used in the initial selection of an appropriate respirator.

The table, "NIOSH-recommended Respiratory Protection for Workers Exposed to Inorganic Lead," which appears here provides specific recommendations for the type of respirator to use when the actual workplace exposure reaches certain multiples of a 50-g/m<sup>3</sup> permissible exposure limit (PEL). When an employer finds that exposures are lower or higher by personal air monitoring, then respirator selection can be adjusted accordingly.

In addition, if exposure monitoring or experience indicates airborne exposures to contaminants other than lead, such as solvents or polyurethane coatings, these exposures must be considered when selecting respiratory protection. A re-evaluation of the respiratory protection program is required when a worker demonstrates a continued increase in blood lead levels.

### **Protective Clothing and Equipment**

At no cost to employees, employers must provide workers, who are exposed to lead above the PEL and for whom the possibility of skin contamination or skin/ eye irritation exists, with clean, dry protective work clothing and equipment. Appropriate changing facilities must also be provided. Appropriate protective work clothing and equipment used on construction sites can include:

- Coveralls or other full-body work clothing, gloves, vented goggles or face shields with protective spectacles or goggles.
- Welding or blasting helmets, when required.

Disposable coveralls and separate shoe covers may be used, if appropriate to avoid the need for laundering. Non-disposable coveralls should be replaced daily. If an employee leaves the work area wearing protective clothing, the clothing should be cleaned with high-efficiency particulate air (HEPA) filter vacuum equipment to remove loose particle contamination; or as an alternative, the coveralls should be removed.

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Before respirators are removed, HEPA vacuuming or other suitable method, such as damp wiping, should be used to remove loose particle contamination on the respirator and at the facemask seal. Use work garments of appropriate size, and use duct tape to reinforce their seams (e.g., underarm, crotch, and back).

Contaminated clothing that is to be cleaned, laundered or disposed of should be placed in closed containers. Containers shall be labeled with the following warning:

**CAUTION: Clothing contaminated with lead. Do not remove dust by blowing or shaking. Dispose of lead-contaminated wash water in accordance with applicable local, state, or federal regulations.**

Persons responsible for handling contaminated clothing should be informed of the potential hazard in writing. At no time should lead be removed from protective clothing or equipment by any means that disperses lead into the work area, such as brushing, shaking, or blowing.

At no time may workers be allowed to leave the worksite wearing lead contaminated clothing or equipment, e.g., shoes, coveralls, or head gear. All contaminated clothing and equipment should be prevented from reaching the workers' homes or vehicles. This is an essential step in reducing the movement of lead contamination from the workplace into the workers' homes and provides added protection to employees and their families.

Gloves and protective clothing should be appropriate for the specific chemical exposure (e.g., solvents and caustics). Cotton gloves provide some protection against the contamination of hands and cuticles with lead dust. Workers should wear clothing that is appropriate for existing weather and temperature conditions under the protective clothing.

### **Heat**

Workers wearing protective clothing can face a risk from heat stress. Additionally, heat stress may be an important concern when working in a hot environment or within containment structures. Heat stress is caused by a number of interacting factors, including: environmental conditions, type of protective clothing worn, and the work activity required and the individual characteristics of the employee.

In situations where heat stress is a concern, employers should use appropriate work/rest regimens and provide heat stress monitoring that includes measuring employees' heart rates, body temperatures, and weight loss.

A source of water or electrolytic drink should be close to the work area (in a non-contaminated eating/drinking area) so that it will be used often. Workers should wash their hands and face prior to drinking any fluid. Frequent fluid intake throughout the day will replace body fluids lost to evaporation. If such measures are used to control heat stress, protective clothing can be safely worn to provide the needed protection against lead exposure. The possibility of heat stress and its signs and symptoms should be discussed with all workers.

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### **Abrasive Blasting and Related Operations**

NIOSH type CE respirators are required for use by abrasive blasting operators. Currently, NIOSH certifies both continuous flow and positive pressure respirators for abrasive blasting operations. The continuous-flow respirators are recommended by NIOSH only for airborne concentrations less than or equal to 25 times the OSHA PEL of 50-g/m<sup>3</sup>. Positive pressure respirators are recommended by NIOSH for airborne concentrations less than 2,000 times the OSHA PEL (50 -g/m<sup>3</sup>). Furthermore, manufacturer's instructions regarding quality of air, air pressure and inside diameter and length of hoses must be strictly followed. Use of longer hoses or smaller inside diameter hoses than the manufacturer's specifications or hoses with bends or kinks may restrict the flow of air to a respirator.

### **Housekeeping**

An effective housekeeping program involves at least daily removal of accumulations of lead dust and lead-containing debris. Vacuuming lead dust with high-efficiency particulate air (HEPA)-filtered equipment or wetting it with water before sweeping are effective control measures. Such cleaning operations should be conducted, whenever possible, at the end of the day, after normal operations cease. Furthermore, all persons doing the cleanup should be provided with suitable respiratory protection and personal protective clothing to prevent contact with lead.

In addition, all lead-containing debris and contaminated items accumulated for disposal should be collected and put into sealed impermeable bags or other closed impermeable containers. Bags and containers should be appropriately labeled as lead-containing waste. These measures are especially important as they minimize additional sources of exposure that engineering controls generally are not designed to control.

### **Personal Hygiene Facility and Practices**

To minimize exposure to lead, special attention should be given to workers' personal hygiene. . The employer must provide and ensure that workers use washing facilities. . Clean change areas, and separate non-contaminated eating areas must also be provided. . Cars should be parked where they will not be contaminated with lead. . These measures will reduce the workers' period of exposure to lead and the ingestion of lead, ensure that the duration of lead exposure does not extend beyond the work shift, significantly reduce the movement of lead from the worksite, and provide added protection to employees and their families.

### **Change Areas**

The employer must provide a clean change area equipped with storage facilities for street clothes and a separate area with facilities for the removal and storage of lead-contaminated protective work clothing and equipment. This separation is essential in preventing cross contamination of the employee's clothing.

Clean change areas are to be used for taking off street clothes, suiting up in clean working clothes (protective clothing), donning respirators prior to beginning work, and dressing in street clothes after work. No lead-contaminated items should enter this area,

Work clothing must not be worn away from the job site. Under no circumstances should lead-contaminated work clothes be laundered at home or taken from the worksite, except to be laundered professionally or properly disposed of following applicable federal, state, and local regulations.

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### **Showers**

When there is potential for extensive contamination of the employees' skin, hair, and protective clothing, shower facilities must be provided if feasible so the exposed employees can wash lead from their skin and hair prior to leaving the worksite. Where showers are provided, employees must change out of their work clothes and shower before changing into their street clothes and leaving the worksite.

Workers who do not change into clean clothing before leaving the worksite may contaminate their homes and automobiles with lead dust. Other members of the household may then be exposed to harmful amounts of lead.

### **Personal Practices (eating, drinking, etc.)**

The employer must ensure that employees who work with lead either clean or remove their protective clothing and wash their hands and face prior to eating, drinking, smoking or applying cosmetics and that these latter practices are never permitted while in the work area or in areas subject to the accumulation of lead. HEPA vacuuming can be used to remove loose contamination from the work clothing prior to eating. Employees' hands and faces should be washed if lead containing materials are contacted.

### **Washing Facilities**

Adequate washing facilities shall be provided for employees. Such facilities shall be in near proximity to the worksite and provided with water, soap, and clean towels to enable employees to remove lead contamination from their skin.

Contaminated water from washing facilities and showers must be disposed of in accordance with applicable local, state, or federal regulations.

### **End-of-Day Procedures**

Workers who are exposed to lead should follow these procedures upon finishing work for the day:

- Place disposable coveralls and shoe covers with the lead waste.
- Place lead-contaminated clothes, including work shoes, and personal protective equipment for laundering/cleaning (by the employer) in a closed container.
- Take a shower and wash hair.
- Change into street clothes.

### **Medical Surveillance and Provisions for Removal**

When a construction employee is occupationally exposed to lead at or above the action level of 30  $\mu\text{g}/\text{m}^3$ , the employee must be provided initial medical surveillance consisting of biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels. Blood lead levels are currently the best indicator of personal lead exposure. Workers potentially exposed to lead at or above the action level must be monitored for the presence of lead in the blood and the effects of lead on the blood-forming system. The blood sampling & monitoring should be conducted every 6 months until two consecutive blood samples & analysis are acceptable. The sampling & 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 days when lead levels are not acceptable. The standard requires temporary medical removal with Medical Removal Protection benefits. Full medical surveillance is to be provided to employees exposed to lead at or above the action level for more than 30 days per year.

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All medical examinations and consultations shall be performed by or under the direct supervision of a qualified physician and should be provided to employees at no cost, without loss of pay, and at a reasonable time and place. A qualified physician is a doctor of medicine (M.D.) or osteopathy (D.O.) familiar with the objectives and requirements of a medical surveillance program for lead exposure.

The following conditions necessitate an immediate medical consultation including, as determined by the qualified physician, a physical examination and a venous blood sample for lead analysis (biological monitoring):

- Whenever a worker develops signs or symptoms associated with lead toxicity.
- Before a worker restarts work following medical removal.

### **Signs and Symptoms 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.

### **Biological Monitoring**

The purpose of biological monitoring is to identify workers with elevated blood lead levels. The data from biological monitoring is objective evidence of a worker's body burden from lead exposure and this data can be used to follow changes in worker exposure.

Blood lead and zinc protoporphyrin or free erythrocyte protoporphyrin (FEP) should be monitored for those workers exposed to lead. The qualified physician should determine the required frequency for biological monitoring on an individual basis. In general, workers in high-risk occupations should be monitored as often as needed to prevent adverse health effects.

A laboratory currently approved by OSHA should conduct analysis of blood samples. Employers should contact their local OSHA area office for a current list of approved labs.

### **Reproductive Hazard Issues**

Lead is toxic to both male and female reproductive systems. Workers who are actively seeking to have children or who are pregnant should contact qualified medical personnel to arrange for a job evaluation and medical follow-up. Employers who have been contacted by employees with concerns about reproductive issues should refer them to qualified medical personnel.

### **Written Medical Opinion**

Employers must obtain a written, signed opinion from the examining physician for each medical examination performed for each employee. This opinion should contain the results of the medical examination as they relate to occupational exposure to lead and must include:

- Whether the employee has any detected medical condition which would place his/her health at increased risk from lead exposure.
- Any special protective measures or limitations on worker's exposure to lead.

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- Any limitation on respirator use.
- Results of blood lead determination.
- A statement that the physician of the results of the consultation or medical examination and any medical condition that may require further examination or treatment has informed the employee.

Findings of lab results or diagnoses unrelated to the workers' exposure to lead must not be communicated to employers or included in a written opinion.

Each physician of any medical condition, occupational or non-occupational, which necessitates further medical evaluation or treatment, should advise employees. The employer should furnish the employee with a copy of the written medical opinion.

### **Chelation**

The use of chelating drugs as a prophylactic measure (i.e., to prevent a detectable rise in blood lead) is an unacceptable medical practice. Chelation may be used by a qualified physician only for diagnostic or therapeutic reasons (that is, to diagnose or treat the signs and symptoms of severe lead toxicity).

### **Medical Removal**

Medical removal will protect worker health both by stopping further occupational exposure and by enabling the worker to excrete the absorbed lead naturally. With good engineering, work practices, personal hygiene, and respiratory protection practices in place, very few employees should reach the medical removal trigger level specified in the OSHA standard.

OSHA's interim final standard for lead in construction uses a medical removal trigger level of 50 g/dl. However, some authorities believe that medical removal should take place at lower levels.

Presently, 15 states require laboratories and health care providers to report cases of elevated blood lead concentrations to their state health departments. A list of the states that require such reporting, contact person, and the concentration that requires reporting for each state can be found in the NIOSH Alert.

### **Preventing Lead Poisoning in Construction Workers**

When employees are removed or otherwise limited, they must be placed in jobs that will not result in exposure to lead at or above the action level of 30 g/m<sup>3</sup>. The employer may return the employee to his or her former job status when a qualified physician's medical determination is that the employee is no longer at risk from exposure to lead or when the employee's blood lead level drops below 40-g/dl.

In the case of medical removal, records must include the following information:

- The name and social security number of the worker.
- The date of each occasion that the worker was removed from current exposure to lead.
- The date on which the worker was returned to his or her former job status
- A brief explanation of how each removal was or is being accomplished.

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- A statement indicating whether or not the reason for the removal was an elevated blood-lead level.

The employer must maintain this record for at least the duration of any worker's employment.

If a removed employee files a worker's compensation claim for a lead-related disability, the employer must continue medical removal protection benefits pending the disposition of the claim. The employer's obligation will be reduced to the extent that the employee received compensation for earnings lost during removal either from a publicly or employer-funded compensation program or from employment with another employer during the employee's removal.

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.

### **Compliance Program**

Prior to each job where employee exposure exceeds the PEL, the employer must establish and implement a written compliance program to reduce employee exposure to the PEL or below. The compliance program must provide for frequent and regular inspections of job sites, materials, and equipment by a competent person. Written programs, which must be revised and updated at least every six months, must include the following:

- A description of each activity in which lead is emitted (e.g., equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures, and maintenance practices).
- Specific plans to achieve compliance and engineering plans and studies where engineering controls are required.
- Information on the technology considered meeting the PEL.
- Air monitoring data that document the source of lead emissions.
- A detailed schedule for implementing the program, including copies of documentation (e.g., purchase orders for equipment, construction contracts).
- A competent person is one who can identify existing and predictable lead hazards in the surroundings or working conditions that are hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate those hazards.
- A work practice program including regulations for the use of protective work clothing and equipment, housekeeping and hygiene facility guidelines.
- An administrative control schedule for job rotation, if used.
- A description of arrangements made among contractors on multi-contractor sites to inform affected employees of potential exposure to lead and their responsibility to comply with this standard.
- Any other relevant information.

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### **Exposure Monitoring and Medical Surveillance**

Where initial employee exposure is at or above the action level, the employer must collect personal samples representative of a full work shift, including at least one sample for each shift or for the shift with the highest exposure level for each job classification in each work area. These samples must represent the monitored employee's regular, daily exposure to lead. Measurements made within the previous 12 months also may be used to determine how far above the action level employee exposure may be. The Company will notify all employees in writing of air monitoring results and corrective actions.

An initial determination of whether employees are exposed to lead at or above the action level and the results of that determination must be made available based on the following:

- Any information, observation, or calculation that indicates employee exposure to lead.
- Any previous measurements of airborne lead.
- Any employee complaints of symptoms attributable to lead exposure.
- Objective data regarding materials, processes, or operations.

If initial air monitoring is above the action level, monitoring is conducted every six months. The employer may discontinue required monitoring when at least two consecutive measurements - taken at least seven days apart - are below the action level.

Monitoring for the initial determination whether employees are exposed at or above the action level may be limited to a representative sample of those employees exposed to the greatest concentrations of airborne lead. Measurements made within the preceding 12 months, which were performed by the same employer and applicable to the same employee tasks, may be used.

The employer must establish and maintain an accurate record documenting the nature and relevancy of previous exposure data. Instead of performing initial monitoring, the employer may rely on objective data that demonstrates that a particular lead-containing material or product does not result in employee exposure at or above the action level when processing, using, or handling.

Until the employer performs an exposure assessment and documents that employees are not exposed above the PEL, the employer must treat employees performing certain operations as if they were exposed above the PEL. This means providing respiratory protection, protective work clothing and equipment, change areas, hand washing facilities, biological monitoring, and training - as required by the standard. These operations include:

- Manual demolition of structures (e.g., dry wall), manual scraping, manual sanding, and use of heat gun where lead containing coatings or paints are present.
- Abrasive blasting enclosure movement and removal.
- Power tool cleaning.
- Lead burning.
- Using lead-containing mortar or spray painting with lead-containing paint.

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- Abrasive blasting, rivet busting, or welding, cutting, or burning on any structure where lead-containing coatings or paint are present.
- Clean-up activities where dry expendable abrasives are used.
- Any other task the employer believes may cause exposures in excess of the PEL.

### **Training**

Lead awareness training is required for employees whose work activities may contact lead containing materials but do not disturb the material during their work activities. Lead awareness training is required at time of hire, during orientation, or before assignment to areas containing lead. Refresher training must be given annually. All Lead awareness training shall be documented including dates of training, employee name, and trainer name.

### **Signs**

The employer must inform employees about lead hazards according to the requirement of OSHA's Hazard Communication standard for the construction industry, 29 CFR 1926.59, including, but not limited to:

- Requirements for warning signs and labels
- Material safety data sheets (MSDS's), and employee information and training.

All signs must be well lit and kept clean so that they are easily visible. Statements that contradict or detract from the signs' meanings are prohibited. Signs required by other statutes, regulations, or ordinances, however, may be posted in addition to, or in combination with, this sign.

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.

The employer must institute a training program and ensure participation by all employees subject to exposure to lead or lead compounds at or above the action level on any day. Initial training must be provided prior to initial job assignment or the startup date for this requirement, whichever comes last. Training must be repeated at least annually and must include the following:

- The content of the standard and its appendices.
- The specific nature of operations that could lead to lead exposure above the action level. The purpose, proper selection, fit, use, and limitations of respirators.
- The purpose and a description of the medical surveillance program, and the medical removal protection program.
- The engineering and work practice controls associated with employees' job assignments.
- The contents of the compliance plan in effect.
- Instructions to employees that chelating agents must not be used routinely to remove lead from their bodies and when necessary only under medical supervision.
- The right to access records under "Access to Employee Exposure and Medical Records," 29 CFR 1910.20.

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	<b>Lead</b>		

For example, the following warning signs must be posted in each work area where employee exposure to lead is above the PEL.

<b>WARNING LEAD WORK AREA POISON NO SMOKING OR EATING</b>
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**Record keeping:**

The employer must maintain any employee exposure and medical records to document ongoing employee exposure, medical monitoring, and medical removal of workers. This data provides a base to properly evaluate the employee's health.

Employers must properly record cases on their OSHA form when the worker:

- Has a blood lead level that exceeds 50 mg/dl.
- Has a symptom of lead poisoning, such as colic, nerve damage, renal damage, anemia, or gum problems.
- Receives medical treatment to lower blood lead levels or for lead poisoning.