



# OSHA REGIONAL NOTICE

U.S. DEPARTMENT OF LABOR

Occupational Safety and Health Administration

**DIRECTIVE NUMBER:** 2018-10

**EFFECTIVE DATE:** 6/13/2017

**SUBJECT:** Regional Implementation of National Emphasis Program-Lead

**REGIONAL IDENTIFIER:** Region 2

## ABSTRACT

**Purpose:** This Instruction describes policies and procedures for the continuation of the implementation of the National Emphasis Program (NEP) to reduce occupational exposure to lead.

**Scope:** This instruction applies to all Region II Federal enforcement Area Offices.

**References:** OSHA Instruction; National Emphasis Program-Lead; CPL 03-00-009; August 14, 2008.  
OSHA Instruction CPL 04-00-001, (CPL 2-0.102A) Procedures for Approval of Local Emphasis Programs, November 11, 1999.

**Cancellations:** OSHA Instruction CPL 02-00-130, National Emphasis Program: Lead, July 20, 2001 is cancelled  
Regional Implementation of National Emphasis Program – Lead, 2017-10 (CPL 03-00-009).

**Action Offices:** Region II Regional and Area Offices

**Originating Office:** New York Regional Office

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Attachment: National Emphasis Program - Lead; CPL 03-00-009 dated August 14, 2008

**I. Purpose.** This instruction describes the Region II policies and procedures for the continuation of the implementation of the National Emphasis Program (NEP) to reduce occupational exposures to lead.

**II. Scope.** This instruction applies to all Region II Federal Enforcement Area Offices..

**III. References.**

- A. CPL 02-00-160, Field Operations Manual (FOM), August 2, 2016.
- B. OSHA Instruction TED 01-00-015: Occupational Safety and Health Administration Technical Manual; January 20, 1999.
- C. OSHA Instruction CPL 02-02-058, 29 CFR 1926.62, Lead Exposure in Construction; Interim Final Rule-Inspection and Compliance Procedures, December 13, 1993.
- D. OSHA Instruction STD 03-08-001, October 30, 1978, Welding, Cutting, or Heating of Metals Coated with Lead-Bearing Paint, October 30, 1978.
- E. Memorandum for Regional Administrators, From OSHA National Office Directorates; November 17, 2003, Subject: Coding Instruction Update for the 2003-2008 Strategic Management Plan.
- F. OSHA Instruction, CPL 02-00-051, Enforcement Exemptions and Limitations under the Appropriations Act, May 28, 1998.
- G. OSHA Instruction, CPL 02-00-025, Scheduling System for Programmed Inspections, January 4, 1995.
- H. Rosenman, K.D, et al., Evaluation of the Effectiveness of Following Up Laboratory Reports of Elevated Blood Leads in Adults; AIHAJ; 62:371-378 (2001).
- I. Enander, R.T., et al., Lead and Methylene Chloride Exposures among Automotive Repair Technicians; J Occ Env Hyg; 1: 119-125 (2004).
- J. Enander, R.T., et al., Chemical Characterization of Sanding Dust and Methylene Chloride Usage in Automotive Refinishing: Implications for Occupational and Environmental Health; AIHAJ; 63(6): 741-749 (2002).
- K. Coyle, P., Kosnett, M.J., Hipkins, K., Severe Lead Poisoning in the Plastics Industry: A Report of Three Cases; Am. J. Ind. Med., 47:172-175 (2005).

- L. Council of State and Territorial Epidemiologists (CSTE), *Management Guidelines for Blood Lead Levels in Adults*, June 12, 2013 available at, [www.cste.org/resource/resmgr/OccupationalHealth/ManagementGuidelinesforAdult.pdf](http://www.cste.org/resource/resmgr/OccupationalHealth/ManagementGuidelinesforAdult.pdf)
- M. NIOSH, Health Hazard Evaluation Program, [www.cdc.gov/niosh/hhe](http://www.cdc.gov/niosh/hhe).
- N. Commercially available lead decontamination wipes, for cleaning of hands, tools, equipment, and surfaces.

**IV. Cancellations.**

- A. OSHA Instruction CPL 02-00-130; National Emphasis Program: Lead, July 20, 2001.
- B. Regional Implementation of National Emphasis Program – Lead, 2017-10 (CPL 03-00-009).

**V. Action Offices.**

OSHA Regional Office, Area Offices.

**VI. Federal Program Change.** This instruction describes a Federal Program Change for which State adoption is not required. States with a similar Strategic Plan goal targeting lead may wish to implement procedures analogous to those contained in this directive and are encouraged to use the IMIS Performance Measurement tracking system by submitting the necessary Coding Instructions and appropriately coding all related activities.

**VII. Background.** The toxic effects of occupational exposure to lead are well established. Lead is a potent, systemic poison that serves no known useful function once absorbed by the body. Lead adversely affects numerous body systems and causes forms of health impairment and disease which can arise from acute or chronic exposure, including damage to blood-forming, nervous, urinary, and reproductive systems. In 1990, the National Institute for Occupational Safety and Health (NIOSH) set as a national goal the elimination of lead exposures that result in workers having blood lead concentrations greater than 25 µg/dL of whole blood.

The NEP is being implemented to direct OSHA's field inspection efforts to address lead exposures in the workplace, including General Industry (1910), Construction (1926), Shipyard (1915), Longshoring (1918) and Marine Terminals (1917). These efforts continue to assist the Department in meeting the goals of DOL's Strategic Plan 2006-2011.

DOL's Strategic Plan goals are to effect a reduction in occupational fatalities, injuries, and illnesses. The Agency continues to be committed to the reduction of the most prevalent types of workplace injuries and illnesses. To achieve these goals, the Agency focuses inspection resources on serious workplace hazards including amputations, and

the occurrences of silica and lead exposures. The purpose of the NEP is to outline an effective strategy for decreasing occupational lead exposures.

In addition to the permanent employees found at the establishments, recent inspection reports and activity has identified the use of temporary workers in the targeted industries. Temporary workers are more vulnerable to workplace safety and health hazards as they are often not given adequate safety and health training, equipment, and explanation of their job tasks and duties.

NIOSH provided the 2002 Adult Blood Lead Epidemiological Survey (ABLES) data to OSHA to assist in providing a diverse list of industries to be selected by the Regional and/or Area Offices when developing their targeting strategies under the NEP. During the NEP revision period, the 2004 ABLES data was reviewed by OSHA and was found to be less inclusive of specific industry identifiers than was the 2002 data. It was determined that providing a list of industries selected from the 2002 data, as opposed to the 2004 data, would afford a more representative and comprehensive selection of industries to be used by OSHA field offices in the implementation of the NEP.

**VIII. NEP Inspections.** All inspections, regardless of the industry, where the compliance officer determines that there is potential employee exposure to lead are to be counted under the NEP as a Strategic Plan inspection.

OSHA will measure its progress toward meeting a reduction in lead poisoning by conducting inspections to evaluate employee exposures to airborne lead. In addition, during these inspections, Compliance Officers may evaluate surface concentrations of lead as well as the employer's programs related to the availability of hygiene facilities, practices and engineering controls, personal protective equipment, and medical surveillance.

The activities covered under this LEP include inspections and inquiries conducted in any industry or at any work site where the Agency determines that there is potential employee exposure to lead. Compliance Officers must make an initial determination of whether or not the potential exists for employee exposure to lead. As an example, if the employer is removing lead sewer pipes or is engaged in bridge work, a potential exposure to lead exists if the employees are engaged in activities which generate dust or fumes, such as sawing, grinding, abrasive blasting or torch cutting. In such potential exposure situations, the inspection would be coded as a strategic plan, lead-related NEP inspection. If, in the case of the above example, the sewer pipes are removed without the generation of dust or fumes, there would not be potential employee exposure and the inspection would not be so coded.

**IX. NEP Goals.** Under the NEP, OSHA's progress in meeting the Strategic Plan goals in relation to occupational lead exposures will be determined by measuring airborne exposures to lead and evaluating employers' efforts to minimize or eliminate the hazards from the workplace.

To accomplish this goal, OSHA will direct resources towards inspections of industries in which lead exposures occur. Subsequent to the initial inspection, follow-up site visits will be conducted in all establishments where exposures were measured at or above the permissible exposure limit (PEL) or above the action level where the employer has not taken preventive/corrective action (as required by the standard). Inspections will also be conducted in establishments where reported employee blood lead levels (submitted to OSHA by referral from other government agencies or others such as clinics, physicians, or other licensed healthcare professionals etc.) were at or above 25 µg/dL.

Employee exposure to airborne lead will be sampled, whenever possible, during both the initial and follow-up inspection. Medical surveillance records will be reviewed, whenever available, by CSHOs during NEP lead inspections.

In addition, during both the initial and follow-up inspections, Compliance Officers will evaluate training, use of personal protective equipment, surface concentrations of lead and the availability of hygiene facilities, work practices and engineering controls.

**X. Program Procedures.** This LEP includes four major field activities: industry selection, site selection, inspection and evaluation. Inspections are to begin immediately upon the effective date of this Instruction.

1. **Industry Selection:** The Regional Office will identify the industry sectors that are to be inspected and then the Area Offices will prepare a master list using the NAICS code table and establishments listed in Appendix A of the NEP. The master list will be updated as additional and/ or more current data becomes available. The rational for selecting each industry shall be documented, and may include information such as, but not limited to:
  - a. History of overexposures, based on previous local inspection history of industries listed in Appendix A.
  - b. Limited or no local inspection history of an industry listed in Appendix A.
  - c. Industries that are not included in Appendix A, but are known by the AO or RO, based on local knowledge (i.e. a documented history of referrals from local agencies or healthcare providers, or previous inspection histories, etc.), to have demonstrated a pattern of lead overexposures or reports of employees experiencing elevated blood lead levels.

2. **Site Selection**

- a. **Master List Generation.**

After identifying the relevant industries, each Area Office will prepare a master list of establishments to be inspected using the sources listed below:

- 1) the Dun & Bradstreet employer list (available from the National Office);

- 2) commercial directories;
- 3) telephone listings;
- 4) local knowledge of establishments;
- 5) Dodge reports for construction sites.

Establishments with fewer than 10 employees shall also be included in this LEP. Establishments will be placed on the list in alphabetical order, and appropriate deletions shall be made in accordance with OSHA Instruction CPL 02-00-025 (CPL 2.25I), Scheduling System for Programmed Inspections, at B.1.b(1)(b)(6).

b. Deletions.

The Area Office may delete from their list any facility/site that meets the applicable deletion criteria listed in CPL 02-00-025. Further, the Regional and Area Offices may delete any establishment that has had an inspection where exposures to lead have been evaluated within the current year or previous three (3) fiscal years Where: no serious violations were cited related to lead; a subsequent inspection documented employer efforts to abate all serious hazards; or no cases of increased blood lead levels were identified. In the event an establishment meeting these criteria is not deleted, the decision shall be documented and the reasons for including it shall be stated.

c. Cycle Generation

When performing programmed inspections under this LEP, each Area Office shall develop an inspection master list of establishments. The National Office policy on List Generation and Randomization shall be followed in accordance with the National Office memorandum to Regional Administrators dated November 12, 2014, *Establishment-Targeting Lists for Emphasis Programs*.

Whenever an office becomes aware of a previously unknown establishment in one of the identified NAICSs, that establishment shall be added to the master list for inclusion in the next inspection cycle.

When using the construction site list, the Area Office may check with state agencies such as the DOT to determine whether or not the selected site is active.

3. LEP Evaluation

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- A. Abatement documentation/verification will be submitted to or otherwise collected by the Area Office for all violations. The abatement information must be included in the case file in a timely manner.
- B. Each Region II Office participating in the LEP will prepare a written evaluation of this LEP in the format specified by OSHA Instruction CPL 04-00-001. The evaluation must respond to the questions outlined in Appendix A of the Instruction. Evaluations will be submitted to EP no later than September 15, 2018. The evaluation will include a recommendation for the continuation or elimination of this program. In addition, the evaluation will include the following evaluation factors:
  - 1. The goal of the program and the Area Office's opinion of how effective the program was in meeting its goals.
  - 2. Data and information used to support the conclusions stated above such as enforcement statistics, serious hazards eliminated, any impact on covered, non-inspected employers, and the number of employees affected by enforcement activities covered by the LEP. Data to be evaluated may also include:
    - a. Number and percentage of serious, repeat, 5(a)(1) and willful violations cited
    - b. Number and type of violations issued directly related to hazards targeted by the LEP
    - c. Number of fatality inspections
    - d. Number of visits coded as "No Inspection"
    - e. Number and type of referrals made to other agencies
    - f. Number of outreach activities conducted
    - g. Number of employers contacted through outreach
    - h. Number of individuals affected through outreach

#### General Industry Complaints and Referrals.

Every complaint or referral for any general industry operation where there exists the potential for lead exposure must be handled as follows:

- 1. Based upon the information provided, all potential lead work sites/establishments brought to the attention of the Area Office must be handled in accordance with the procedures outlined in CPL 02-00-140, Complaint Policies and Procedures.
- 2. Referrals received from States' Departments of Health, Labor or Industry alleging elevated employee blood lead levels (defined as blood lead levels at or above 25 µg/dL) and/or involving take-home exposures, shall be considered high-gravity, serious and must be handled by inspection.

Referrals of elevated employee blood leads (which report one or more worker blood lead level(s) which equals or exceeds 25 µg/dL of whole blood) will be inspected. At the discretion of the Area Director, worksites may be inspected even if the employee's blood lead level is below 25 µg/dL when the Area Office is aware of unusual circumstances which would warrant an inspection. Such unusual circumstances may include pregnancy or possible poisoning of family members.

Construction Inspection Complaints and Referrals:

Every complaint or referral for any construction operation where there exists the potential for lead exposure must be handled as follows:

1. Whenever a CSHO observes or the Area Office receives information (through any source or means) regarding work operations where the potential for exposure to lead exists, the CSHO must:
  - a. Document the status and condition of the work operation as far as they are known, noting any serious hazard(s). Documentation of the events leading up to the observation must be maintained in the file.
  - b. Note the location of the worksite and the name and address of the employer(s) performing the operation.
  - c. Provide the Team Leader (Assistant Area Director) or Area Director with the information. Based upon the information provided, all potential lead work sites brought to the attention of the Area Office must be handled in accordance with the procedures outlined in CPL 02-00-140, Complaint Policies and Procedures.
2. Referrals received from States' Departments of Health, Labor, or Industry alleging elevated employee blood lead levels, that is blood lead levels at or above 25 µg/dL, and/or involving take-home exposures, shall be considered high-gravity, serious and must be handled by inspection.

Referrals from other official bodies (clinics, physicians, or other licensed health care professionals) reporting one or more employee blood lead level(s) which equals or exceeds 25 µg/dL of whole blood will be inspected. At the discretion of the Area Director, referred worksites may be inspected even if the employee's blood lead level is below 25 µg/dL when the Area Office is aware of unusual circumstances which would warrant an inspection. Such unusual circumstances may include pregnancy or possible poisoning of family members.

3. The discovery of work sites to be inspected under this LEP may be the result of a search to find a specific type of operation, at the discretion of the Regional Administrator. Such searches will consist of observations that normally occur during the course of routine travel during duty or non-duty hours. When including such sites, the reasons for the search and the manner in which it was conducted shall be documented.
4. If during the course of any construction inspection (including programmed inspections) a safety CSHO encounters a site where lead exposures exist, appropriate health referrals will be made.

## **XI. Inspection Procedures.**

- A. All inspections under this LEP must address all aspects of any potential lead work or exposure and include a review of all related written documentation (i.e., record- keeping, monitoring, compliance program, medical, respirator fit testing and procedures, hazard communication, and training materials).
  1. During the normal conduct of an LEP inspection, the CSHO will review the employer's medical surveillance program for lead. All blood lead information, where available, will be reviewed as part of the inspection.
  2. The CSHO will perform a detailed assessment of the employer's hazard communication program as it relates to the operations and chemicals used in the processes where lead exposures may occur. The evaluation will include an MSDS review in accordance with OSHA's current policy on MSDS review.
  3. All inspections conducted under this LEP will include an evaluation of the employer's engineering controls for the processes where lead exposures above the permissible exposure limit occur. Administrative controls put in place by the employer will also be evaluated as to their effectiveness in reducing exposures.
  4. A detailed evaluation of the employer's personal protective equipment (PPE) and respiratory protection programs will be conducted on every inspection where lead hazards exist. Evaluation of the employer's respirator program will be done in accordance with OSHA Instruction 02-00-120 (CPL 2-0.120), Inspection Procedures for the Respiratory Protection Standard.
  5. The employer's hygiene program will be reviewed to determine if hand-to- mouth contact may be contributing to employee exposure to lead. The housekeeping procedures and evaluation and use of PPE will be assessed and documented.

6. CSHOs will conduct personal air monitoring and collect wipe samples, as appropriate, to document exposures (see OSHA Instruction TED 01-00-015) for all inspections under this LEP where it is possible to sample for lead exposures. Monitoring may not be necessary, however, if at the time of the inspection, the employer provides reliable and recent data showing employees' exposures are below the action level and the conditions in the work place are the same as when the employer completed sampling. Additionally if, during a follow-up inspection, the employer's sampling data shows that engineering controls have reduced the employee exposures to below the AL and the data is reliable, air sampling may not be necessary. This decision will be made in discussions with the compliance officer's supervisor.
7. In any inspection where the decision is made to utilize the employer's monitoring data to characterize employee exposures, documentation related to this decision must be included in the case file, including copies of the employer's exposure data. Where it is not possible to obtain copies of the employer's sampling results, the CSHO will conduct the necessary air monitoring.
8. In certain circumstances, the Area Director may use the employer's monitoring data in issuing proposed citations for employee overexposures to lead. However, employer-generated data may only be used where personal air sampling is not possible and the employer's data meets the requirements of 29 CFR 1910.1025(d) or 29 CFR 1926.62(d). It is expected that this will occur only rarely and the Area Director will be responsible for ensuring that adequate documentation related to that decision is included in the case file.
9. Where air monitoring is conducted during a construction inspection, the area office will request expedited sample analyses from the SLCTC.

B. While evaluating employee exposures to lead, CSHOs also need to be aware of and evaluate potential exposures to other metals including, but not limited to, arsenic, manganese, chromium, cadmium, copper, and magnesium. CSHOs should not request an ICP (inductively coupled plasma) analysis for abrasive blasting operations or when an arsenic analysis is needed without first contacting the inorganic lab of the Salt Lake Technical Center. Atomic Absorption (AA) Spectroscopy can be requested for arsenic and any three of the following metals: lead, cadmium, iron, copper, or zinc, or the other specific metals. With AA spectroscopy a total of four metals can be requested per sampling filter.

C. During inspections conducted under this LEP, CSHOs will provide the employer with informational documents regarding the appropriate lead standard, the health effects of lead, effective control measures, and employer and employee rights and responsibilities. Documents of this nature may be obtained from OSHA's Office of Publications, the Directorate of Technical Support, or from OSHA's web site.

- D. Joint Safety and Health Inspections - Industrial hygienists conducting construction inspections should consult with safety CSHOs on serious safety hazards such as falls, electrocution, struck-by, or caught-in hazards and should file referrals where appropriate. Where resources permit, a joint safety and health inspection should be conducted.
- E. The Compliance Safety and Health Officer (CSHO) may expand the scope of the inspection beyond the areas related to occupational exposures to lead if other hazards or violative conditions are observed and/or brought to their attention. The CSHO shall follow the guidelines in the FOM when expanding the scope of the inspection.
- F. The protection of CSHOs during any inspection is an issue of importance. In order to ensure adequate protections, Compliance Officers shall conduct a hazard determination to establish the presence of lead (or other hazardous substances) prior to initiating the walkaround. This hazard determination will rely on information such as previous inspection history, material safety data sheets, professional judgment, and/or previous exposure monitoring surveys. Personal protective equipment to be used during the inspection, such as respirators, gloves, and/or protective clothing is to be made available to the CSHO prior to the inspection and will be worn based upon the CSHOs determination of a hazard.
- G. Area Directors are instructed to ensure that Compliance Officers understand how their own PPE is to be handled after an inspection, including provisions for laundering and equipment decontamination.
- H. At the opening conference compliance officers shall obtain the necessary information regarding the presence and/or use of temporary workers. If temporary workers are present or utilized at the establishment the compliance officer shall obtain all the necessary documentation and information required to evaluate the safety and health program relating to temp workers and determine compliance with OSHA regulations in providing a safe and healthful workplace for these workers. The compliance officer shall refer to the current National Office guidance found on the Temporary Worker Page to conduct these inspections.

## **XII. Program Evaluation.**

- A. Follow-up inspections will be conducted for all cases with documented exposures above the permissible exposure limit (PEL) for lead and for all cases with documented exposures above the action level where the employer has failed to take appropriate action. The follow-up inspection will be conducted within two to three months after the final abatement date for the cited violations. During the follow-up visit the CSHO shall verify the employer's abatement

documentation/verification by carefully evaluating any and all air monitoring results, implemented engineering controls, personal protective equipment requirements (including respiratory protection), housekeeping and employee information and training. Procedures for follow-up inspections will be in accordance with the Field Operations Manual (FOM).

Personal air sampling will be conducted by OSHA staff in all situations unless the job task or job site is no longer active. Use of employer-generated monitoring data is not permitted for the purpose of abatement verification under this LEP unless an exception applies (see Section XI.A.6.).

- B. Abatement documentation/verification will be submitted to or otherwise collected by the Area Office for all other violations of the lead standards or other OSHA regulations. The abatement information must be included in the case file in a timely manner. Whenever possible, case files are to be closed in the fiscal year in which the intervention was conducted to allow the data to be applied to the Agency's Strategic Goal accomplishments. In cases where implementation of engineering controls extends beyond the fiscal year in which the intervention was conducted, the case files will be closed as soon as possible.

### **XIII. OIS Coding.**

- A. For any programmed inspection under this LEP, under the Inspection Field, in the Inspection Types Field, the initiating type will be marked as "programmed planned" and in the Inspection Emphasis Programs Field under National Emphasis Program select "Lead" and in the Federal Strategic Initiative Field also select "Lead".
- B. For any unprogrammed inspections conducted in conjunction with this LEP (i.e. Accidents, Complaints, Referrals, Fatalities/Catastrophes), under the Inspection Field, in the Inspection Types Field, the initiating type will be marked with the appropriate unprogrammed activity and in the Inspection Emphasis Programs Field under National Emphasis Program select "Lead" and in the Federal Strategic Initiative Field also select "Lead".
- C. For all programmed inspections such as other NEP/LEP's conducted in conjunction with an LEP inspection under this initiative, under the Inspection Field, in the Inspection Types Tab, the initiating type will be marked "program planned" and in the Inspection Emphasis Programs Field under National Emphasis Program select "Lead" and in the Federal Strategic Initiative Field also select "Lead" along with all NEP/LEP OIS codes applicable to the inspection.
- D. OSHA Consultation Project Offices in Federal Enforcement States.

1. Whenever a visit is made in response to the NEP, Consultation Request and/or Visit forms are to be completed as follows:

"National Emphasis Program," Item No. 25, when a request is being scheduled in response to the NEP.

Complete the Visit Form-30 in the normal manner and enter the code Lead in "National Emphasis Program," Item No. 28, when a visit has been made and findings are appropriate to the NEP (potential or actual lead exposures have been found).

#### **XIV. Full Service Program Support.**

- A. For states that have enacted requirements for mandatory reporting of elevated blood lead levels, the Area or Regional Office should contact the state agencies responsible for these programs and request information on workplace exposures associated with elevated blood lead levels. Regional and Area Offices are strongly encouraged to develop alliances, memoranda of understanding, or other agreements which will forge cooperative relationships and result in information sharing with the state's Departments of Health and/or Labor.
- B. During the course of this renewal REP the Area Director will continue to ensure that an outreach program will remain in effect during the enforcement phase of the program. Outreach activities will be directed to reach as many stake holders in the Area Office's jurisdiction as is practicable. Stakeholder such as members of the ASSE, AIHA, representatives from industries listed in Appendix A, and Chambers of Commerce, will be notified and the purpose of the outreach will be to inform interested parties of the existence, purpose and objectives of this emphasis program as well as promote employer knowledge and employee awareness of the hazards and acceptable methods of abatement to prevent illness and injuries. The method of outreach is at the Area Director's discretion and can consist of one or more of the following components:
  1. Broadcast mail-outs or program information.
  2. Stakeholder meetings.
  3. Targeted training sessions.
  4. Presentations to the affected group(s).
  5. Media press release or e-blast
- C. The Directorate of Science, Technology and Medicine has prepared materials which will be of assistance in this outreach effort. A variety of online resources can be accessed through OSHA's public webpage, [www.osha.gov](http://www.osha.gov). There is a technical link page specific to lead under the alphabetical "Site Index". Also included to provide additional assistance (as Appendix B) in this document are **medical surveillance flow charts**.

## APPENDIX A

### Targeting

The goal of the NEP is to affect a reduction in employee blood lead levels by reducing lead exposures throughout industry. To meet this goal, and to effectively manage OSHA's limited resources, Appendix A provides a list of industries where lead exposures occur. Area and Regional Offices will focus enforcement efforts on the industries from this list. They will select the industries to be included by following the procedures previously outlined in this document.

The industries listed in the table in this appendix are provided to assist area offices in targeting. The industry list was culled from the Adult Blood Lead Epidemiological Surveillance (ABLES) database for 2002. The ABLES data was provided to OSHA by the National Institute for Occupational Safety and Health. This data includes employee blood lead levels reported by laboratories in states who participate in the ABLES program. OSHA has analyzed this information resulting in the identification of industries where there was a tendency for elevated employee blood lead levels.

The NIOSH ABLES database for 2002 uses SIC codes for industry designation. While it is understood that the NAICS system is currently in use to identify industries, those codes were not available as part of the ABLES data for 2002. NIOSH is adding a NAICS field as part of the data collection. The NAICS system for industry identification will be available for the NEP in future years.

The NAICS system correlates to the SIC codes in some cases but some industry SICs do not translate directly to a single NAICS code. OSHA's OIS system has a drop down list for NAICS codes and there is a link to the NAICS US Census web site within the Inspection Preparation section of OSHA's home page. The industry data will be updated when future data becomes available.

**SIC Selection Criteria:** In 2002, laboratories for 35 states reported individual blood lead levels to the NIOSH ABLES program. Of these, 27 states reported blood lead levels along with the SIC code for the industry in which the employee worked. The blood lead data for these 27 states was evaluated to determine industries for targeting. The data was first sorted by SIC, then by each individual's peak BLL. The SICs chosen for targeting were those demonstrating that within the industry sector, 40 or more individuals had peak blood lead levels at or above 25 µg/dl.

Additionally, Appendix A includes some SICs which did not meet the selection criteria described above, but were included due to historical significance; similarity to the selected (or "sister") SIC; or were flagged due to other

considerations as described in the table. These industries are denoted by symbols and explanations provided below the table.

Please also note the explanation for SICs 7997/7999, as this industry classification covers a broad range of employment, most of which will not be targeted by the NEP.

In FY 2014, a national office memorandum directed the Regional Offices to consider targeting additional establishments using local knowledge of either contractors that provide specialized de-leading services to firing ranges or to electronics recycling businesses, neither of which were listed in OSHA's Instruction, CPL 03-00-009, National Emphasis Program for Lead(Lead NEP), August 14, 2008. The memorandum was issued because a number of establishments had been cited for lead overexposures, which in many cases revealed workers with high blood lead levels. These establishments include: a) cleaning, remediation, and de-leading (removing spent bullets) contractors working at indoor/outdoor firing ranges; b) landscaping contractors mowing grass at outdoor firing ranges; c) local manufacturers of small arms that may have on-site test firing ranges; and d) electronic waste recycling (e-waste) facilities.

## NAICS TABLE

NAICS	Industry	Historical	Previous ABLES	Other
236115 236118	GC Single Family Residential Construction			Y-Operations#
236116 236118 236220	GC Other Residential Construction			Y-Operations#
236210 236220	GC Non Residential Construction			
237310 237990	Bridge Tunnel Construction	Y		
236210 237110 237120 237130 237990 238910	Heavy Construction, NEC	Y		
237310 238320	Painting & Paper Hanging	Y		
238120 238190 238310	Steel Erection	Y *		

<b>238220</b>				
<b>238910</b>	Wrecking and Demolition Work	Y		
<b>236220</b>	Special Trade Contractors NEC	Y		
<b>237990</b>				
<b>238150</b>				
<b>238190</b>				
<b>238310</b>				
<b>238290</b>				
<b>238320</b>				
<b>238350</b>				
<b>238390</b>				
<b>238910</b>				
<b>238990</b>				
<b>561790</b>				
<b>562910</b>				
<b>325130</b>	Manufacturing: Inorganic Pigments	Y *		
<b>325180</b>				
<b>211112</b>	Manufacturing: Inorganic Chemicals NEC	Y *		
<b>325130</b>				
<b>325180</b>				
<b>325998</b>				
<b>331313</b>				
<b>325211</b>	Plastics Materials, Synthetic Resins, & Non-Vulcanizable Elastomers		Y	Y-Paper
<b>325510</b>	Mfr of Paints, Varnishes, Lacquers, Enamels			
<b>339991</b>	Mfr of Gaskets, Packing and Sealing Devices			
<b>327211</b>	Manufacturing: Flat Glass		Y	Y-MI data
<b>327212</b>	Manufacturing: Pressed & Blown Glass Products		Y	
<b>327215</b>	Mfr of Glass Products Made of Purchased Glass			
<b>324199</b>	Steel Works-Blast Furnaces			
<b>331110</b>				
<b>331221</b>				
<b>331410</b>	Primary Smelting of Copper	Y *		
<b>331410</b>	Primary Smelting of Non Ferrous Metals	Y		
<b>331314</b>	Secondary Smelting of Non-Ferrous Metals		Y	
<b>331420</b>				
<b>331492</b>				
<b>331420</b>	Rolling, Drawing, Extruding of Copper			
<b>331491</b>	Rolling of Non Ferrous Metals Except Cu and Al			
<b>331529</b>	Copper Foundries	Y		
<b>331529</b>	Non-Ferrous Foundries Except Cu and Al			
<b>331110</b>	Primary Metal Products, NEC			
<b>331221</b>				
<b>331314</b>				
<b>331420</b>				

<b>331492</b>				
<b>332618</b>				
<b>332813</b>				
<b>332994</b>	Ordnance & Accessories, NEC			
<b>332911</b>	Manufacture of Industrial Valves			
<b>332912</b>	Manufacture of Fluid Power Valves			<b>Y-Operations#</b>
<b>332992</b>	Small Arms /Ammo			
<b>332993</b>				
<b>332994</b>				
<b>333613</b>	Mechanical Power Transmission Equipment NEC			
<b>334416</b>	Manufacture of Electronic Capacitors	<b>Y *</b>		
<b>335911</b>	Storage Batteries	<b>Y</b>		
<b>335912</b>	Primary Batteries	<b>Y</b>		
<b>336211</b>	Manufacture of Truck/Bus Bodies	<b>Y *</b>		
<b>336212</b>	Manufacture of Truck Trailers	<b>Y *</b>		
<b>423930</b>	Scrap and Waste Materials	<b>Y</b>		
<b>425110</b>				
<b>425120</b>				
<b>541620</b>	De-leaders			
<b>562910</b>				
<b>561720</b>	Cleaning contractors(at firing ranges)			
<b>561730</b>	Landscaping Services (at firing ranges)			
<b>562920</b>	Electronic Waste Recycling			
<b>811121</b>	Automotive Repair & Painting			<b>Y- Papers</b>
<b>811118</b>	Automotive Repair Shops NEC	<b>Y</b>	<b>Y</b>	
<b>811198</b>				
<b>481219</b>	Membership Sports & Recreation Clubs			<b>Y-Operations#</b>
<b>488119</b>				
<b>713910</b>				
<b>713940</b>				
<b>713990</b>				
<b>487110</b>	Misc. Sports, Recreation & Amusement, NEC		<b>Y</b>	
<b>487210</b>				
<b>487990</b>				
<b>532292</b>				
<b>561599</b>				
<b>611620</b>				
<b>611699</b>				
<b>711190</b>				
<b>711219</b>				
<b>711310</b>				
<b>711320</b>				
<b>712190</b>				
<b>713210</b>				
<b>713290</b>				
<b>713920</b>				
<b>713940</b>				
<b>713990</b>				
<b>812990</b>				

\* These industries were selected for targeting as they are NAICSs which are historically significant for lead exposures. They did not meet the selection criteria for this revision of the NEP, but are considered important for targeting purposes, nonetheless.

# NAICS selections marked as indicated were added based on the close link in industrial application between one NAICS and the other “sister” NAICS.

MI Data – Although this SIC (3211) did not meet the selection criteria under the NEP, it appeared on the previous targeting list, and data provided by the State of Michigan indicated that this SIC remains of concern for elevated blood lead levels in that State.

Papers Referenced for SIC 7532 – Enander, R.T., et al., Lead and Methylene Chloride Exposures among Automotive Repair Technicians; *J Occ Env Hyg*; 1: 119-125 (2004). Enander, R.T., et al., Chemical Characterization of Sanding Dust and Methylene Chloride Usage in Automotive Refinishing: Implications for Occupational and Environmental Health; *AIHAJ*; 63(6): 741-749 (2002). Also, information provided by the Commonwealth of Massachusetts flagged this SIC, as elevated airborne exposures have been measured in automotive repainting operations. Many material safety data sheets for auto paint do not indicate lead as a component. Inspections in automotive repainting operations should include air sampling for lead and evaluation of the information on the MSDS.

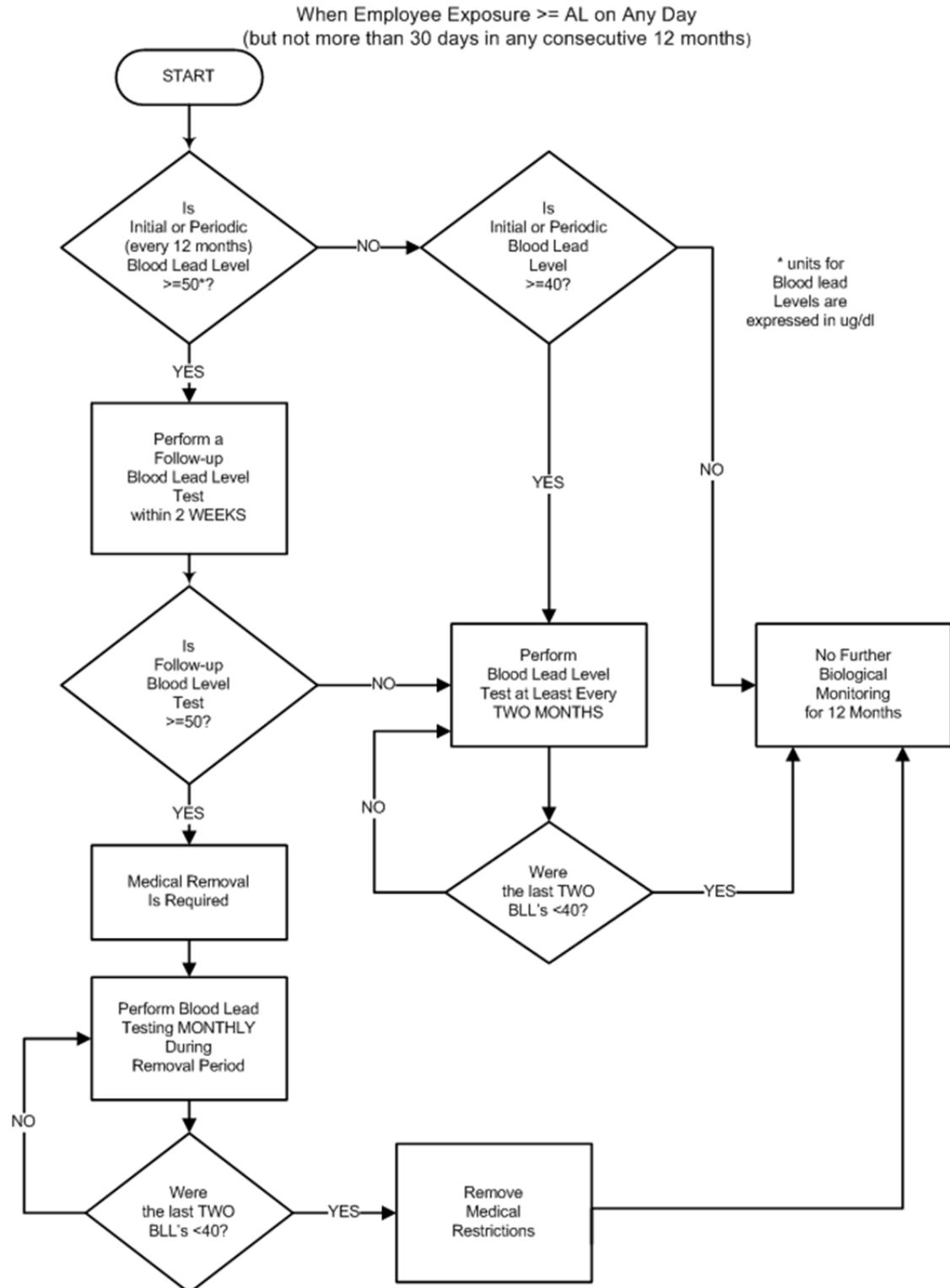
Paper Referenced for SIC 2821 – Coyle, P., Kosnett, M.J., Hipkins, K., Severe Lead Poisoning in the Plastics Industry: A Report of Three Cases; *Am. J. Ind. Med.*, 47:172-175 (2005). This SIC was also flagged in the targeting list for the previous Lead NEP.

7997 is Membership Sport and Recreation Clubs and includes gun clubs, shooting clubs and hunt clubs as well as such establishments as aviation clubs, beach clubs and yacht clubs. Similarly, 7999 is Amusement and Recreation Services, Not Elsewhere Classified and includes shooting galleries and shooting ranges as well as such establishments as baseball instruction schools, moped rental and yoga instruction. It is assumed that the occupational lead exposure to employees in these two SIC codes are from gun clubs and shooting ranges and galleries. Under the NEP, OSHA would not be interested in inspecting establishments within these SIC codes unless lead exposure is suspected, such as at shooting ranges. (Also, OSHA does not have jurisdiction with respect to exposure of non-employee members or participants of these, but only with respect to exposures of employees.) In this regard, Area Offices should be aware that armories and law enforcement organizations may house shooting ranges as well. Federal law

enforcement facilities would fall under Federal OSHA jurisdiction, while municipal facilities would fall under State control.

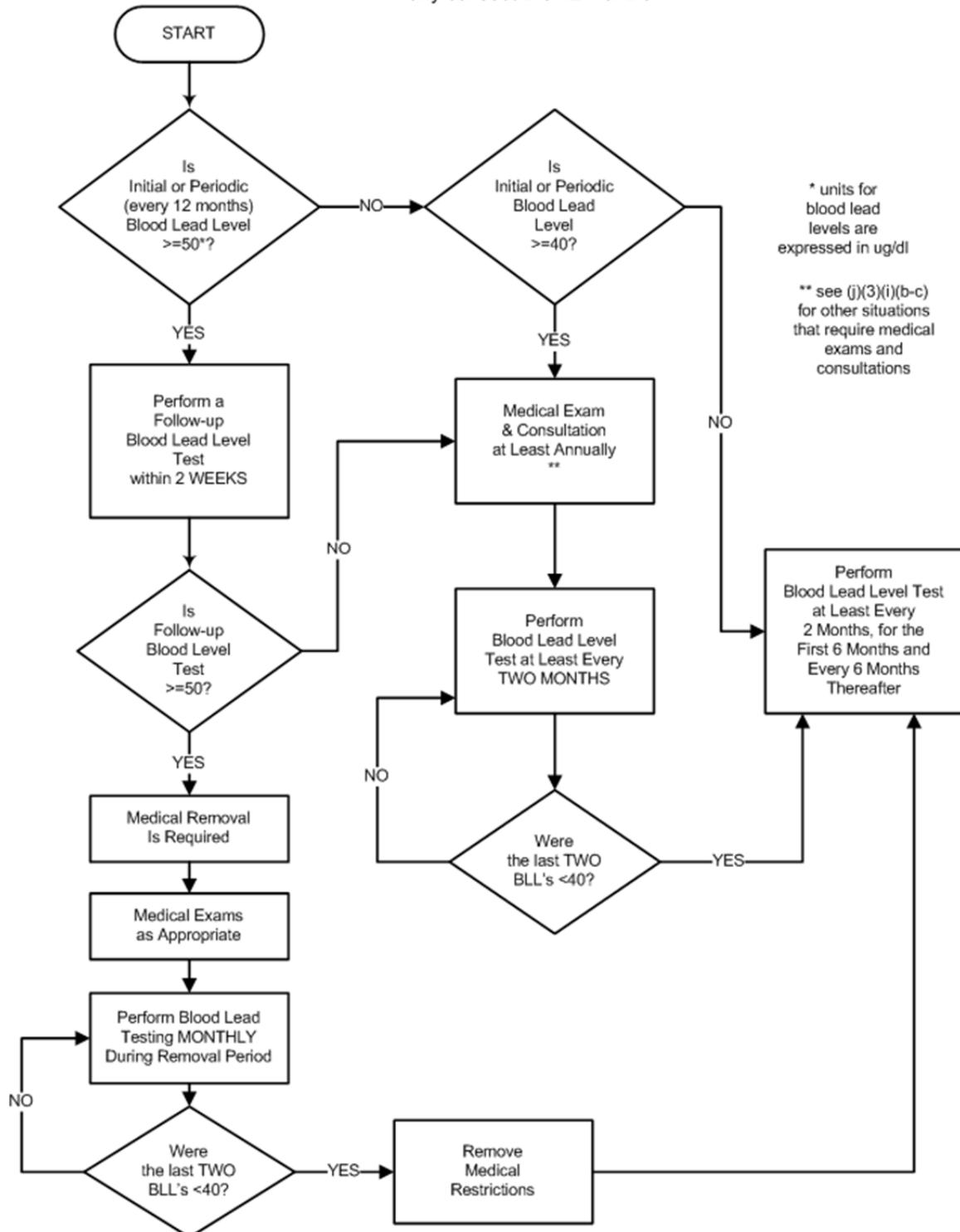
## Appendix B – Medical Surveillance Flow Charts for Lead Standards

### FREQUENCY OF BIOLOGICAL MONITORING (CONSTRUCTION)



## FREQUENCY OF BIOLOGICAL MONITORING AND MEDICAL EXAMS (CONSTRUCTION)

When Employee Exposure  $\geq$  AL  
FOR MORE THAN 30 DAYS  
in any consecutive 12 months



FREQUENCY OF BIOLOGICAL MONITORING  
AND MEDICAL EXAMS (GENERAL INDUSTRY)

