




**State of Alaska
Department of Labor and Workforce Development
Division of Labor Standards and Safety**

AKOSH Program Directive 09-01

Date: December 15, 2008

To: Distribution List

From: Grey R. Mitchell, Director 

Subject: **CPL 03-00-009 National Emphasis - Lead**

This Program Directive, PD 09-01, is formal notice that the Alaska Department of Labor and Workforce Development, Division of Labor Standards and Safety recognizes and will implement CPL 03-00-009 National Emphasis – Lead with some exceptions.

This NEP is implemented to direct AKOSH field inspection efforts to address lead exposures in the workplace, including General Industry (1910), and Construction (1926). These efforts meet the Department's Strategic Plan goals. The reduction of occupational illnesses and employee exposures to lead continues to be one of AKOSH's goals.

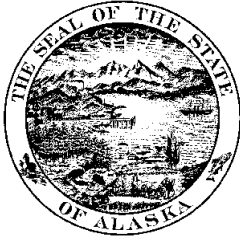
Please ensure that all members of your staff receive a copy of this program directive.

Effective Date: January 31, 2009

Attachment: AKOSH National Emphasis Program – Lead

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AKOSH National Emphasis Program - Lead

Executive Summary

This NEP is implemented to direct AKOSH field inspection efforts to address lead exposures in the workplace, including General Industry (1910), and Construction (1926). These efforts meet the Department's Strategic Plan goals. The reduction of occupational illnesses and employee exposures to lead continues to be one of AKOSH's goals.

Significant Changes

This document supersedes the previous AKOSH adoption of a National Emphasis Program: Lead, CPL 02-00-130, formerly, CPL 02-0.130, dated July 20, 2001 (AKOSH PD 02-02). Appendix A is a list of industries included to assist AKOSH in determining industries for targeting. The data for this appendix were provided by the National Institute for Occupational Safety and Health under the Adult Blood Lead Epidemiology and Surveillance Program for the calendar year 2002.

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- I. Purpose. This instruction describes policies and procedures for implementing a National Emphasis Program (NEP) to reduce occupational exposures to lead.
- II. Scope. This instruction applies AKOSH-wide.
- III. References.
 - A. OSHA Instruction CPL 02-00-103, Field Inspection Reference Manual (FIRM), September 26, 1994 and AKOSH PD 96-9.
 - B. OSHA Instruction TED 01-00-015: Occupational Safety and Health Administration Technical Manual; January 20, 1999 and AKOSH PD 96-14, February 1, 1996.
 - 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. OSHA Notice 08-03, (CPL 02) Site-Specific Targeting 2008 (SST-08), May 19, 2008. AKOSH did not adopt this CPL.
 - F. Memorandum for Regional Administrators, From OSHA National Office Directorates; November 17, 2003, Subject: Coding Instruction Update for the 2003-2008 Strategic Management Plan.
 - G. OSHA Instruction, CPL 02-00-051, Enforcement Exemptions and Limitations under the Appropriations Act, May 28, 1998.
 - H. OSHA Instruction, CPL 02-00-025, Scheduling System for Programmed Inspections, January 4, 1995 and AKOSH PD 05-09, December 8, 2004.
 - I. 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).
 - J. Enander, R.T., et al., Lead and Methylene Chloride Exposures among Automotive Repair Technicians; J OCC Env Hyg; 1: 119-125 (2004).
 - K. 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).

L. 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).

IV. Cancellations.

A. AKOSH PD 02-02; National Emphasis Program: Lead, July 17, 2001.

V. Action Offices.

A. Responsible Office. AKOSH Enforcement

B. Action Offices. AKOSH

C. Information Offices. AKOSH

VI. 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 AKOSH field inspection efforts to address lead exposures in the workplace, including General Industry (1910) and Construction (1926). These efforts continue to assist the Department in meeting the goals of AKOSH's Strategic Plan 2009-2013.

AKOSH'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 this NEP is to outline an effective strategy for decreasing occupational lead exposures.

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 AKOSH when developing their targeting strategies under this 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 AKOSH field offices in the implementation of this NEP.

- VII. 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 this NEP as a Strategic Plan inspection.

AKOSH and 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 NEP 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.

NEP inspections must be designated as such in the IMIS by marking "Strategic Plan Activity" and "National Emphasis Program" on the OSHA 1 (see Section XIV, "IMIS Coding"). This guidance applies to all AKOSH inspections (programmed and unprogrammed) in all industries, regardless of whether sampling was conducted.

- VIII. National Emphasis Program Goals. Under this NEP, AKOSH and 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, AKOSH and 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

AKOSH 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.

IX. Program Procedures.

A. LEP Development.

Inspections conducted under this NEP will focus on industries where employees are potentially exposed to levels of lead in excess of the permissible exposure limit (PEL). To assist the Area Office in their selection, a list of industries and their SICs is provided in Appendix A. Appendix A to this document provides a list of SIC codes for industries where employees exhibit high blood lead levels. This blood lead data was obtained from the 2002 Adult Blood Lead Epidemiological Survey (ABLES) which was provided to OSHA from NIOSH. This list is by no means comprehensive, but is intended as a resource.

1. Industry Selection

AKOSH will identify the industry sectors that are to be selected and shall then prepare a master list of SIC codes from those listed in Appendix A. The rationale 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 within AKOSH's jurisdiction 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 AKOSH, 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 Regional or Area Office, using all available information, will prepare a master list of establishments within the designated industries. These lists shall be prepared using either the procedures set forth in AKOSH PD 96-4 Revised Scheduling System for Programmed Inspections (SST).

Establishments with fewer than 10 employees shall also be included in this NEP. Establishments will be placed on the list in alphabetical order, and appropriate deletions shall be made in accordance with AKOSH PD 03-01 Implements AK-OSH High Hazards Targeting (HHT) Inspection Plan for Orgs w/10+ Lost Time / Injury Illness cases or 10%+ Lost Time Case Rate. Establishment sources may include:

- 1) the Dun and 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;
- 6) certified payroll data.

b. Deletions.

AKOSH may delete from their list any facility/site that meets the applicable deletion criteria. Further, AKOSH 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

Each establishment on the corrected list will be assigned a sequential number, starting at the top of the list with number one. A random number table will then be applied to create the first inspection cycle of five or more establishments. Subsequent cycles will be created in the same way until the expiration of this program or until all establishments on the list have been assigned to a cycle. Cycles may be created all at once or as needed, and need not be of the same size.

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

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

3. High Hazards Targeting (HHT)

a. Initial Inspection Targeting List

The HHT list is sorted to extract those organizations that reported ten or more LTIIC or show a 10% or higher LTCR in the previous reporting year. The list will then be compared to the current Appendix A to OSHA Instruction CPL 2-0.51J, Enforcement Exemptions and Limitations under the Appropriations Act, and all applicable SICs will be removed from the final targeting list. However, these organizations will remain on the master list as a means of comparing prior and future year statistics.

A new inspection-targeting (HHT) list will be developed for use each year using data collected from July 1 through June 30 each year. This parallels the State of Alaska fiscal year and allows time to compile the list before the start of the federal fiscal year on October 1. Data will be refreshed using the annual Workers Compensation databases and the Division of Occupational Licensing SIC data.

The list will be sorted first by area of responsibility (e.g., Anchorage, Fairbanks, or Southeast) then by Lost Time Case Rate (LTCR). Organizations that conduct business under one corporate name but conduct business out of various locations will be extracted based on the corporate name with the addresses of the various locations listed in notes at the end of the HHT list. Additionally, those organizations that have occurrences of ten or more incidents but whose employee totals are missing from the database will be listed in a section immediately after the full list. This will prevent eligible organizations from being dropped off the list due to clerical/ data input errors.

b. Number of Establishments or Worksites to Inspect

Each listing on the inspection list should generally represent a single establishment or worksite. However, in the case of some industries and in the case of some employers, the listing may represent a central office or data for several sites rather than a single location where hazardous work is taking place. In the event that information relating to the location/s of specific worksites is not readily available through AKOSH resources, it will be the responsibility of the assigned inspecting officer and his/her supervisor to locate this information. If, during the conduct of an inspection, the CSHO determines that there are multiple worksites, he/she will analyze the available data and determine which worksites need to be inspected based on the specific functions of each site, the potential for injuries and/or illnesses, and available historical data.

c. Deletions

The Compliance Program chief will be responsible for making appropriate deletions to the inspection list. Appropriate reasons for deletion are:

- 1) establishment is no longer in business
- 2) establishment on the list is in federal rather than state jurisdiction
- 3) establishments that are exempted due to VPP or SHARP certifications

- 4) establishment having had a recent comprehensive inspection. If an establishment has had a comprehensive safety (alternatively, health) inspection during the previous federal fiscal year, only a comprehensive health (alternatively, safety) inspection needs to be considered. However, the Compliance Chief will determine the need for subsequent inspections based on the inspection history, the hazards of the industry and the injury and illness data for the establishment.

B. 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 and AKOSH PD 07-04.
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 Chief of Enforcement, 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.

C. 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 AKOSH 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 AKOSH Enforcement Chief with the information. Based upon the information provided, all potential lead work sites brought to the attention of the Chief must be handled in accordance with the procedures outlined in AKOSH PD 07-04 and 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 license 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 AKOSH Enforcement Chief, referred worksites may be inspected even if the employee's blood lead level is below 25 µg/dL when the Chief 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 NEP may be the result of a search to find a specific type of operation, at the discretion of the Division Director. 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.

X. Inspection Procedures

- A. All inspections under this NEP 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 NEP 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 AKOSH and OSHA's current policy on MSDS review.
 3. All inspections conducted under this NEP 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 and AKOSH PD 98-16.
 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 and AKOSH PD 96-14) for all inspections under this NEP 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.

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 sample results, the CSHO will conduct the necessary air monitoring.
 8. In certain circumstances, the Enforcement Chief 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 Enforcement Chief 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, AKOSH 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 Sale 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 NEP, 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 Chapter II A.1.b. of the FIRM 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. The AKOSH Enforcement Chief is 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.

XI. 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 Inspection Reference Manual (FIRM), OSHA CPL 2.103, Chapter II.B.1.a.

Personal air sampling will be conducted by AKOSH 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 NEP unless an exception applies (see Section XI.A.6).

- B. Abatement documentation/verification will be submitted to or otherwise collected by AKOSH for all other violations of the lead standards or other AKOSH and 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.

XII. IMIS Coding

- A. The following instructions remove the requirement for recording "Optional Information" for lead on IMIS forms. The instructions which follow are for recording lead inspections under this Lead NEP and the Strategic Plan. This instruction does not affect the coding of approved LEPs. Coding for approved LEPs will continue as before. The following instructions for completing enforcement forms OSHA-1, OSHA-7, OSHA-36, OSHA-55 and OSHA-90 and Consultation Request Form-20 and Visit Form-30 must be applied when recording inspections or consultation visits conducted under this NEP:

OSHA-1: Select Lead from both choice lists in Item 25d, National Emphasis Program and in Item 25f, Strategic Plan Activities.

OSHA-7: Complete in the normal manner. It is not necessary to code for this NEP on the OSHA-7.

OSHA-36: Complete in the normal manner. It is not necessary to code for this NEP on the OSHA 36.

OSHA-55: Select Lead from both choice lists in Item 15, National Emphasis Program and in Item 17, Strategic Plan Activities.

OSHA-90: Complete in the normal manner. It is not necessary to code for this NEP on the OSHA 90.

XIII. Full Service Program Support

- A. For states that have enacted requirements for mandatory reporting of elevated blood lead levels, AKOSH contact the state agencies responsible for these programs and request information on workplace exposures associated with elevated blood lead levels. AKOSH 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 Department of Health and/or Labor.
- B. AKOSH is encouraged to develop outreach programs that will support the efforts of the Agency in meeting the Strategic Plan goals. Such programs could include letters to employers, professional associations, local safety councils, apprenticeship programs, local hospitals and occupational health clinics, and/or other industry employer organizations that work with or potentially generate lead exposures. Speeches, training sessions, and/or news releases through the local newspapers, safety councils and/or industrial hygiene organizations can provide another avenue for dissemination of information. AKOSH Alliances developed with industries would also be an effective way to reach out to affected employers and employees.
- 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. 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 AKOSH's limited resources, Appendix A provides a list of industries where lead exposures occur. AKOSH 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 this 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 NCR 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 SOHA'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 this NEP.

SIC TABLE

SIC	Industry	Historical	Previous ABLES	Other
1521	GC Single Family Residential Construction			Y-Operations#
1522	GC Other Residential Construction			Y-Operations#
1541	GC Non Residential Construction			
1622	Bridge Tunnel Construction	Y		
1629	Heavy Construction, NEC	Y		
1721	Painting & Paper Hanging	Y		
1791	Steel Erection	Y*		
1795	Wrecking and Demolition Work	Y		
1799	Special Trade Contractors NEC	Y		
2816	Manufacturing: Inorganic Pigments	Y*		
2819	Manufacturing: Inorganic Chemicals NEC	Y*		
2821	Plastics Materials, Synthetic Resins, & Non-Vulcanizable Elastomers		Y	Y - Paper
2851	Mfr of Paints, Varnishes, Lacquers, Enamels			
3053	Mfr of Gaskets, Packing and Sealing Devices			
3211	Manufacturing: Flat Glass		Y	Y - MI data
3229	Manufacturing: Pressed & Blown Glass Products		Y	
3231	Mfr of Glass Products Made of Purchased Glass			
3312	Steel Works-Blast Furnaces			
3331	Primary Smelting of Copper	Y*		
3339	Primary Smelting of Non Ferrous Metals	Y		
3341	Secondary Smelting of Non-Ferrous Metals		Y	
3351	Rolling, Drawing, Extruding of Copper			
3356	Rolling of Non Ferrous Metals Except Cu and Al			
3366	Copper Foundries	Y		
3369	Non-Ferrous Foundries Except Cu and Al			
3399	Primary Metal products, NEC			
3489	Ordinance & Accessories, NEC			
3491	Manufacture of Industrial Valves			
3492	Manufacture of Fluid Power Valves			Y-Operations#
3568	Mechanical Power Transmission Equipment NEC			
3675	Manufacture of Electronic Capacitors	Y*		
3691	Storage Batteries	Y		
3692	Primary Batteries	Y		
3713	Manufacture of Truck/Bus Bodies	Y*		
3715	Manufacture of Truck Trailers	Y*		
5093	Scrap and Waste Materials	Y		
7532	Automotive Repair & Painting			Y - Papers
7539	Automotive Repair Shops NEC	Y	Y	
7997	Membership Sports & Recreation Clubs			Y-Operations#
7999	Misc. Sports, Recreation & Amusement, NEC		Y	

* These industries were selected for targeting as they are SICs 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.

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

MI Data – although this SIC (3211) did not meet the selection criteria under this 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.

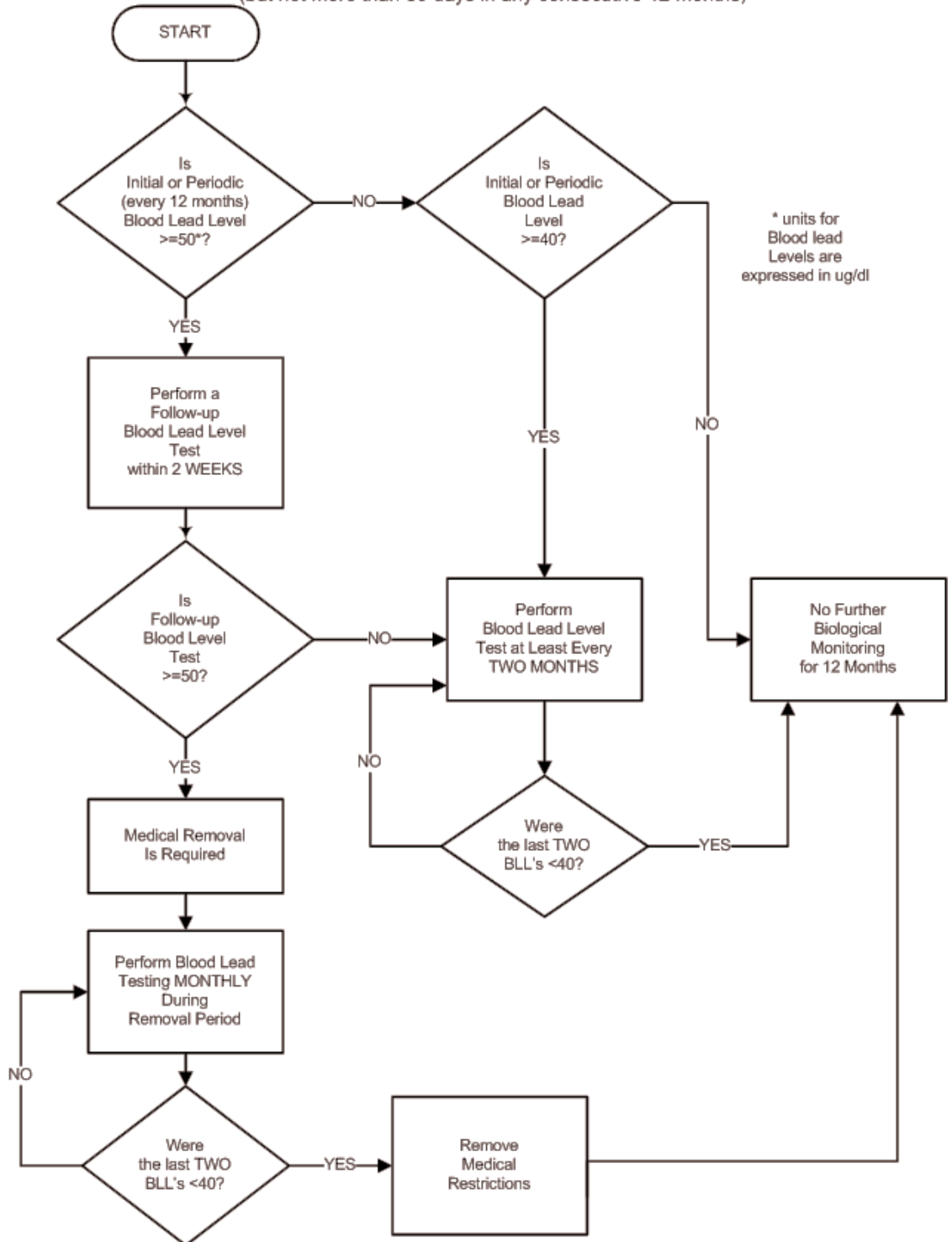
Paper Referenced for SIC 2821 – Coyle, P., Kosnett, M.J., Hipkins, K., Severe Lead Poisoning in the Plastics Industry: A report of Three Cases; *Am. J. Ind. Med.*, 47:172-175 (2005). This SIC was also flagged in the targeting list for the previous Lead NEP.

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 this NEP, AKOSH would not be interested in inspecting establishments within these SIC codes unless lead exposure is suspected, such as at shooting ranges. (Also, AKOSH does not have jurisdiction with respect to exposures of employees.) In this regard, AKOSH 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

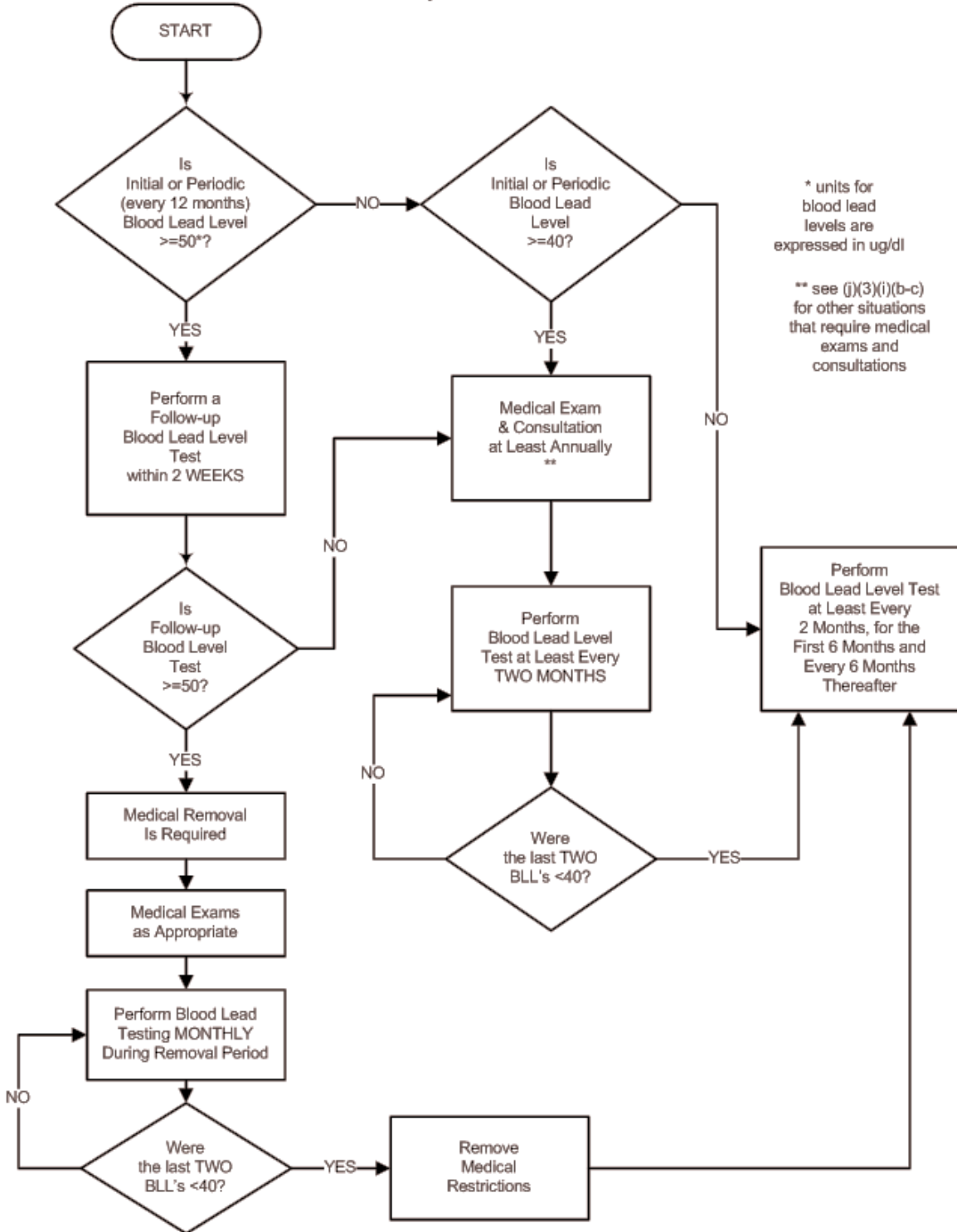
FREQUENCY OF BIOLOGICAL MONITORING (CONSTRUCTION)

When Employee Exposure \geq AL on Any Day
(but not more than 30 days in any consecutive 12 months)



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)

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

