

**OREGON OCCUPATIONAL SAFETY AND HEALTH DIVISION  
DEPARTMENT OF CONSUMER AND BUSINESS SERVICES**

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**PROGRAM DIRECTIVE**

Program Directive: A-282

Issued: August 24, 2011

- SUBJECT:** National Emphasis Program (NEP): Primary Metal Industries
- PURPOSE:** This directive describes policies and procedures for implementing a National Emphasis Program (NEP) to identify and reduce or eliminate worker exposures in facilities under the **Primary Metal Industries**, Major Group 33 in the Standard Industrial Classification (SIC) Manual. This NEP will heighten health and safety awareness of the potential for worker exposure to harmful chemicals and physical health hazards so employers may voluntarily take steps to correct hazards and comply with the applicable safety and health standards.
- SCOPE;** This instruction applies Oregon OSHA-wide.
- REFERENCES:** Oregon OSHA Field Inspection Reference Manual (FIRM)
- [Division 1, General Administrative Rules](#)
- Oregon OSHA Program Directive [A-266, Oregon OSHA Access to Employee Medical Records](#)
- Oregon OSHA Program Directive [A-211, PPE: General Industry](#)
- Oregon OSHA Program Directive [A-113, PPE: Foundries](#)
- Oregon OSHA Program Directive [A-150, Hazard Communication](#)
- Oregon OSHA Program Directive [A-233, Respiratory Protection: General Guidelines](#)
- Oregon OSHA Program Directive [A-253, Local Emphasis Program \(LEP\): Silicosis](#)
- Oregon OSHA, Program Directive [A-273, National Emphasis Program \(NEP\): Lead in general industry and construction](#)

**EXPIRATION:** This instruction expires three (3) years from the date of issuance.

**APPLICATION:** This instruction applies to all primary metal manufacturing facilities under SIC 3300. (See appendix B for comparable North American Industry Classification System (NAICS) 2002 codes.

**BACKGROUND:** The Primary Metal Industries were identified as a concern during a review of data from the Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries. The BLS report showed that five of the top 20 industries with non-fatal occupational injuries and illness cases were within these SICs/NAICs codes.. The Department of Health information from one state regarding elevated blood lead levels also indicated that the Primary Metal Industries accounted for 26% of the establishments having at least one worker with blood lead levels of 30 µg/100g of whole blood or greater in 2005.

OSHA inspection history indicates that individuals employed in the Primary Metal Industries are exposed to serious safety and health hazards on a daily basis. Previous inspections of these establishments have resulted in citations for overexposures to a wide variety of health hazards including chemical exposures as well as physical stressors such as noise and heat. Chemical exposures found in these facilities include carbon monoxide, lead, silica, metal dusts and fumes, and various other chemical substances. A more extensive list is provided in Appendix A.

The Primary Metal Industries are a group of establishments engaged in the smelting and refining of both ferrous and nonferrous metals. These metals are refined from ore, pig and scrap, during rolling, drawing, casting and alloying metal operations. Some of the products they manufacture include nails, spikes, insulated wires and cables, steel piping, sheets and bars, copper and aluminum products, and coke. These SICs/NAICSS codes are listed in Appendix B.

**NATIONAL EMPHASIS  
PROGRAM GOALS:**

- A. To minimize or eliminate worker exposure to both physical and chemical hazards, which are known to be present in the Primary Metal Industries. Reduction or elimination of chemical exposures will help reduce and prevent the occurrence of skin and eye injuries as well as occupational lung injury and other illnesses. Reduction of worker exposures to physical hazards will help prevent adverse effects such as hearing loss. This goal will be accomplished by a combined effort of inspection targeting, outreach to employers, and compliance assistance.

- B. To direct inspections to those facilities known to manufacture primary metals and metal products.
- C. To ensure abatement and to measure the effectiveness of this NEP. Follow-up site visits will often be necessary where overexposures have been documented.

**PROGRAM  
PROCEDURES:**

A. Targeting Sources

Inspections conducted under this NEP will focus on facilities with workers in the NAICS listed in Appendix B. Oregon OSHA will conduct inspections each year from the list of industries in these NAICS codes scheduled in the order called for by the regular scheduling system. The number of inspections completed will vary by year; at least three NEP inspections are projected to be completed yearly. The same exemption criteria for programmed inspections apply per Division 1, OAR 437-001-0057.

B. Complaints and Referrals

Complaint or referral inspections alleging worker exposure to any other hazards at facilities in these NAICS may be expanded to address the issues covered under this NEP. For further guidance, refer to the Field Inspection Reference Manual (FIRM).

C. Programmed Inspections

This NEP, which is based on exposure hazards in the Primary Metal Industries, will be run **concurrently** with the normal fixed site scheduling system.

D. Follow-up Inspections

Where citations are issued for overexposures, or abatement documentation provided by the employer for other serious citations is not adequate, follow-up site visits will be conducted to determine whether the employer is eliminating or reducing exposures below the permissible exposure limit (PEL). Where exposures could not be reduced below the PEL, engineering and administrative controls still need to be implemented to reduce exposures to the extent feasible. Workers must be provided with adequate respiratory protection and other appropriate PPE where necessary.

## **INSPECTION PROCEDURES:**

This section outlines procedures for conducting inspections and preparing citations for hazards related to worker exposures. For further guidance, Compliance Safety and Health Officers (CSHOs) should consult the Oregon OSHA directives, appendices, and other references provided below.

### A. Opening Conference and Records Review

CSHOs should explain the goals of this NEP to the employer when the employer is in one of the targeted industries. Request information on any hazard analyses performed at the facility per the Industrial Hygiene Information Request form used in all health inspections.

### B. Walk-around

1. **Production process evaluation:** Request and review the employer's production and processing records. Document the types and quantities of chemicals used, processes involved, and the frequency of use.

Evaluate and document the extent of engineering controls relative to the processes, the work practices implemented, and any protective equipment used during these operations.

Primary means for controlling exposures include: local exhaust ventilation to remove contaminants at their source, enclosing production processes or exposure sources, isolation of the processes or exposure sources, substitution of less hazardous materials and general dilution ventilation.

Evaluate workers' respirator usage, if any, and request a copy of the employer's respiratory protection program.

2. **MSDS:** CSHOs should review the MSDSs for chemicals used or manufactured at the facility to ensure they are in compliance with the requirements of 1910.1200(g). If any deficiency is found for any chemicals not manufactured at the workplace, referrals should be made to the appropriate jurisdiction where the manufacturer or upstream supplier is located.

3. **Medical records access:** Based on information obtained from illness/injury records and interviews, review worker medical information. When accessing worker medical information, follow the procedures in Program Directive A-266, Oregon OSHA Access to Employee Medical Records and obtain a written medical access order. Consider obtaining specific written consent (medical release form) from a worker and ensure that you are listed on the consent form as the designated representative to receive the information.

C. Exposure Monitoring

Evaluate personal air and noise monitoring records conducted by the employer

CSHOs will normally conduct full-shift personal air monitoring or short-term personal air monitoring as appropriate. For some chemicals, monitoring to assess short-term exposure limits (STELs), ceiling (C) or Oregon OSHA Permissible Exposure Limits (PELs) may be necessary. If the employer has conducted representative sampling in the previous six months, which shows no overexposures for processes that have potential for worker exposures, and changes in the process are not likely to have increased exposures, the CSHO will do screening sampling of the work operation(s) with the highest potential exposures to determine if additional sampling is necessary. When reviewing the employer's sampling, ensure that all job functions and the heaviest production shifts have been evaluated.

D. CSHO Protection (See Program Directive A-113, PPE: Foundries)

Wear the appropriate PPE before entering any hazardous areas. Hard hat, safety shoes, safety glasses (or goggles), and hearing protection will usually be required when inspecting any of these areas. When inspecting melting and pouring operations, avoid the use of urethane foam earplugs, which may be combustible.

Remain at least twenty feet from melting and pouring operations.

Wear long sleeve cotton shirts and long pants. Polyester, nylon or other manmade fabrics that can melt or readily ignite must not be worn. Fire resistant clothing is encouraged. In most foundry areas, long sleeve cotton coveralls which have no outside pockets or cuffs should be worn. Pant legs must cover the top of the boot edge.

It is not anticipated that CSHOs will handle chemicals in foundries; however, the presence of airborne gases, fumes, and caustics, which may cause dermal irritation require the use of gloves. Leather gloves are mildly chemical resistant and heat tolerant. Where chemical exposures are found to be higher than average, treated leather or kevlar gloves should be worn. Sleeves must cover the cuff of the glove. Do not tuck sleeves into the cuffs of the gloves. When the arm is fully extended, the cuff of the glove and sleeve must not allow bare skin to be exposed.

Impact and chemical resistant goggles are appropriate for these industries. Safety glasses with side shields are not recommended in the presence of and potential exposure to caustics, corrosives, dusts and acid. Impact resistance is required since the industry has the potential for flying and falling debris. Where molten ferrous metal operations must be viewed for a significant length of time, #3-#5 green goggles (or #3-#5 safety glasses under goggles) should be worn.

Respiratory protection may also be required in many work areas. A list of potential contaminants is found in Appendix A. When in the vicinity of operations where the presence of silica is known or suspected, CSHOs must wear a half-mask or full face respirator equipped with N100 cartridge(s). If other respiratory hazards exist, you must wear the appropriate combination cartridge and respirator.

Discuss the need for further PPE with your manager.

#### E. Citation Guidance

1. **Oregon OSHA PELs:** Where exposures are in excess of the permissible exposure limits (PELs), ceiling limits (C) or STELs, for substances listed in Tables Z-1, Z-2, or Z-3 of OAR 437-002-0382, cite the applicable sections. Exposures above the PEL would be cited as Serious, or perhaps even Death, if greatly over exposed, depending on contaminant.
2. **Engineering and Work Practice Controls:** If an employer has failed to implement administrative, engineering or work practice controls where feasible to reduce exposures to levels below the PEL, the CSHO will usually cite 437-002-0382(5), or the appropriate engineering control section of the substance specific standard.

3. **Respiratory Protection:** If there are respiratory hazards present at the work site, use the inspection and citation guidance provided in PD A-233, Respiratory Protection: General Guidelines.
4. **Personal Protective Equipment (PPE) Standards:** The employer must conduct a hazard assessment to determine if hazards are likely to be present that necessitate the use of PPE and have a written certification that the assessment was conducted. Follow Program Directive A-211, PPE: General Industry

F. Housekeeping and Hygiene Practices

1. Determine whether the employer's housekeeping and hygiene practices may contribute to overexposure. Violations may be cited as Serious for contributing to exposures. Note: Review vertical standards to assess housekeeping and hygiene requirements.
  - Exposed surfaces should be as free as practicable of hazardous dusts, such as lead and chromium (bulk samples of the dust may need to be collected).
  - Contaminated surfaces should not be blown clean with compressed air or other forced air (such as leaf blowers).
  - If vacuuming is used for cleaning, the exhaust air should be properly filtered to prevent release of contaminants back into the workroom.
  - There should be separate break areas, for consuming food and beverages, that are kept free of harmful dusts.
  - Clothes contaminated with hazardous dusts should not be blown or shaken to remove dust.
2. Document poor housekeeping and hygiene practices.

G. Access to Employee Exposure and Medical Records

Interview workers to determine whether they were informed of their right to review their medical and exposure records annually and if they understand their rights regarding the confidentiality of such records.

Review the employer's recordkeeping program to ensure that the required information is being collected and reported.

Evaluate the employer's method for ensuring the confidentiality of worker medical records.

When it is necessary to review worker medical records, ensure they are obtained and remain confidential in accordance with 1913.10 and 1910.1020.

If violations are found, CSHOs should cite the applicable section of 1910.1020. These rules do not require the creation of any records, only preservation and access requirements.

#### H. Heat Stress

Engineering, administrative and work practice controls should be evaluated in areas where there is a potential for heat stress (e.g. furnaces) or when cases of heat stress are recorded on the OSHA 300 log. Investigation guidelines and other information can be found in the [Oregon OSHA Technical Manual, Section 2, Chapter 4, Heat Stress](#).

### **IMIS (Integrated Management Information System) CODING INSTRUCTIONS:**

The instruction below is for recording inspections under this NEP. The majority of inspections conducted under this NEP will be "Health" inspections and should be coded as such. When this NEP is conducted in conjunction with a scheduled inspection, mark the OSHA-1 Forms as "programmed planned" in item 24, and in item 21, record Inspection Category as "H". In addition, record the item 25d with the NEP code "PMETALS".

This new "PMETALS" code applies to any OSHA forms.

Whenever a consultation visit is made in response to this NEP, consultants will track it in the consultation data base.

Appendix A  
 Chemical Exposure Hazards Found In Major Group 33 of the SIC Manual  
 Including but not limited to:

acrolein ammonia antimony arsenic asbestos benzene 2-butoxyethanol carbon dioxide carbon monoxide chlorine chromium coal tar pitch volatiles copper fume dimethylamine dimethyl ethylamine formaldehyde furfuryl alcohol hexachloroethane hydrogen chloride hydrogen sulfide iron oxide isocyanates isopropyl alcohol lead methane methyl alcohol methyl formate methylene bisphenyl isocyanate molybdenum naphthalene	nitric acid nitrogen nuisance dust ozone phenol polycyclic aromatic hydrocarbons propane silica sulfuric acid sulfur dioxide tetraethyl lead toluene vanadium wood dust xylene zinc oxide metal dusts including: iron aluminum manganese beryllium cadmium tin copper silver nickel lead
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**Appendix B**  
**Primary Metal Industries - NAICS/SIC Codes**

The Primary Metal Industries (PMI) are a group of establishments engaged in the smelting and refining of both ferrous and nonferrous metals. These metals are refined from ore, pig, and scrap, during rolling, drawing, casting, and alloying metal operations. Some of the products they manufacture include nails, spikes, insulated wires and cables, steel piping, sheets and bars, copper and aluminum products, and coke. These NAICS/SIC codes include:

<b>NAICS</b>	<b>Description</b>	<b>SIC</b>
324199	Steel Works, Blast Furnaces (including Coke Ovens), and Rolling Mills	3312
331111	Steel Works, Blast Furnaces (including Coke Ovens), and Rolling Mills	3312
331112	Electrometallurgical Products Except Steel	3313
331210	Steel Pipe and Tubes	3317
331221	Steel Works, Blast Furnaces (including Coke Ovens), and Rolling Mills	3312
331222	Steel Wiredrawing and Steel Nails and Spikes	3315
331312	Primary Production of Aluminum	3334
331314	Secondary Smelting and Refining of Nonferrous Metals	3341
331315	Aluminum Sheet, Plate, and Foil	3353
331316	Aluminum Extruded Products	3354
331319	Aluminum Rolling and Drawing, Not Elsewhere Classified	3355
331411	Primary Smelting and Refining of Copper	3331
331419	Primary Smelting and Refining of Nonferrous Metals, Except Copper and Aluminum	3339
331421	Rolling, Drawing and Extruding of Copper	3351

<b>NAICS</b>	<b>Description</b>	<b>SIC</b>
331423	Secondary Smelting and Refining of Nonferrous Metals	3341
331491	Rolling, Drawing, and Extruding of Nonferrous Metals, Except Copper and Aluminum	3356
331492	Secondary Smelting and Refining of Nonferrous Metals	3341
331511	Gray and Ductile Iron Foundries	3321
331512	Steel Investment Foundries	3324
331513	Steel Foundries, Not Elsewhere Classified	3325
331521	Aluminum Die-Casings	3363
331522	Nonferrous Di-Casings, Except Aluminum	3364
331524	Aluminum Foundries	3365
331525	Copper Foundries	3366
331528	Nonferrous Foundries Except Aluminum and Copper	3369
332618	Primary Metal Products Not Elsewhere Classified	3399
332811	Metal Heat Treating	3398
332813	Primary Metal Products Not Elsewhere Classified	3399