



**HEALTH AND SITE SAFETY PLAN
EXIDE LEAD
RESIDENTIAL REMEDIATION
SOUTH PROPERTIES
VARIOUS LOCATIONS**



Project # 89665

NRC PROJECT PERSONNEL AND EMERGENCY CONTACTS		
Project Manager	Asher Grimes	310-629-2760
Project Supervisor	Ken Woodhall	310-629-2040
Site Safety Officer	Gary Bissonnette	714-244-6712
Regional EH&S Manager	Ken Koppler CIH, CSP	971-285-0450
Medical Hospital	White Memorial Medical Center	323-268-5000
Advanced GeoServices Site Contact	Benjamin Brockman	

GENERAL INFORMATION & SITE DESCRIPTION

This site specific health and safety plan has been developed to provide a safe work environment for the contracted work to be performed within the residential area surrounding the Exide battery recycling facility located at 2700 South Indiana St, Vernon, CA 90058. General scope of work is to excavate potentially lead contaminated soils from 22 residential properties and restore with clean backfill and new grass. All collected soil will be disposed offsite.

SCOPE OF WORK

SITE ORIENTATION AND PRE-MOBILIZATION

- Pre-operation meeting and site training with Client.
- Selection of personnel to be assigned to this project.
- Selected personnel scheduled for blood draw for Blood Lead levels [BLL] and zinc protoporphyrin.
- **This operation is not subject to the Certification of Training of employees per 8 CCR 1532.1(l) (3), since this operation is not being conducted in a residential or public building.**
- **Pre-op meeting to review the objectives and goals of the decontamination and Hazard Communication training related to lead (refer to the lead standard 8 CCR 1532.1 and specifically Appendix A – Attachment 3 and Fact Sheet – Attachment 4).**
- **Submit Lead-Work Pre-Job Notification 8 CCR 1532.1(p) at minimum 24-Hours prior to initiating lead operations – see Attachment 5 – to Cal OSHA District Office, 1450 Enea Circle, Suite 525, Concord, CA 94520, Telephone 925.602.6517, Fax 925.676.0227.**
- Notify employees of pre / post blood lead results.

MOBILIZATION

- Mobilize required equipment and personnel.
- Site orientation prior to work assignment (layout, ingress; egress; decontamination area, emergency evacuation, phones)
- Conduct daily safety meeting with onsite personnel.
- Temporary fencing & setup traffic control signs
- Install SWPP devices
- Permits / Notifications
- NOTE: all work activities associated with lead containing soil removal will be in Level D.

Remediation of contaminated soil

- Utilizing a combination of small excavation equipment and hand labor, excavate contaminated soil and stockpile at or near the front of each property.
- Excavate contaminated soil to a depth of down to a maximum of 18” or less as shown on the drawings or as



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- directed by onsite AGS representative.
- Load soil into designated trucks for transportation to disposal facility
 - Decontaminate trucks before departure
 - Employees/PPE will be properly decontaminated or removed prior to leaving the contamination reduction zone.
- Restoration**
- Import, place, and compact clean structural fill and topsoil to restoration plan specifications.
 - Perform compaction with small walk behind vibratory plate compactors.
 - Resurface with selected sod.
 - Attach watering system to home owner supplied spigot and supply timer, hose(s) and sprinkler(s).
 - Instruct home owner or home owner representative in the proper use of equipment.
- DECONTAMINATION AND DEMOBLIZATION**
- Decontaminate all equipment utilized on-site
 - Demobilize equipment and personnel

EQUIPMENT
<ul style="list-style-type: none"> • Mini-Excavators • Skidsteer Loaders • Rubber tire excavator • Wheel barrels • Reach forklift • Skip loader • Crew trucks • Electric Shovels • Misc. hand tools • Temporary construction fencing • Traffic control devices • Disposable PPE and Level C Half-face respiratory protection • Pickup trucks and trailers

ATTACHMENTS

ATTACH.	TITLE	ATTACH.	TITLE
1	Daily Safety Meeting	8	OSHA Poster- Medical Access
2	Hospital Map	9	SMS - Procedure 13.2 NRC Respiratory Protection Plan
3	CA Lead Standard	10	SMS – Procedure 27.3 NRC Lead Protection Program
4	Lead Fact Sheet	11	SMS – Form 12.1.1 NRC Personal Area / TWA Samples
5	OSHA Notification	12	SMS – Procedure 15.2 Decontamination
6	Lead Warning Sign	13	SMS – Procedure 12.1 NRC Air Monitoring
7	OSHA Poster-Safety on Job	14	Incident Reporting Forms <ul style="list-style-type: none"> ▪ Root Cause Analysis ▪ Employee Incident Form ▪ First Aid Form



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CHEMICAL INFORMATION				
CHEMICAL / CAS	Chemical Properties	Exposure Limits 8 hour vs. 12 hour	ROUTES OF ENTRY	SYMPTOMS
Lead	<input type="checkbox"/> IP = NA <input type="checkbox"/> LEL = NA <input type="checkbox"/> UEL = NA <input type="checkbox"/> MW: 207.2 VP = 0 mmHg	8 hour REL = TWA 0.050 mg/m3 PEL = TWA 0.050 mg/m3 Action level = 0.03 mg/m3 IDLH = 100 mg/m3 12 hour PEL = TWA 0.033 mg/m3	<input type="checkbox"/> Inhalation <input type="checkbox"/> Contact (skin/eyes) <input type="checkbox"/> Ingestion TARGET ORGANS: Eyes, gastrointestinal tract, central nervous system, kidneys, blood	Weakness, exhaustion, insomnia; facial pallor; anorexia; weight loss; malnutrition; abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; kidney disease; irritation eyes; hypotension

PERSONAL PROTECTIVE EQUIPMENT			
PPE requirements will be referenced to the EPA levels of protection (A-D). Specific descriptions for each task and level of protection is provided below			
TASK	Level	MASK /CARTRIDGE /AIR	ADDITIONAL PPE
Site mobilization, & traffic control	D	N/A	Steel toed Boots, Hardhats, Safety glasses, Hi-visibility vest, Cut resistant gloves, long sleeved shirts or coveralls.
Hand Excavating contaminated soils, General Labor in Hot Zone.	C	Half-face APR with P100 cartridges	Steel toed Rubber Boots, Hardhats, Tyvek coveralls, Nitrile disposable gloves with inner, Safety glasses.
Operating mini-excavator.	C	Half-face APR with P100 cartridges	Steel toed Rubber Boots, Hardhats, Tyvek coveralls, Nitrile disposable gloves with inner, Safety glasses. Hearing protection (as require).
Apply Water for Dust Control if needed from outside hot zone (if inside hot zone Mod. D PPE)	D	N/A	Steel toed rubber Boots, Hard Hat, Safety glasses, Nitrile inner gloves, Tyvek coveralls or equivalent.
Decontaminate Equipment Dry Method - after completion of hot zone work	D	N/A	Steel toed rubber Boots, Hard Hat, Safety glasses, Nitrile inner gloves, Tyvek coveralls or equivalent.
Restoration	D	N/A	Hardhats, safety glasses, cotton coveralls, hearing protection as required, high visibility vest, gloves, leather or other appropriate to task, steel toe boots



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AIR MONITORING

Instrument	Reading	Action
Lead Air Sampling Cartridge – integrated air monitoring		
<ul style="list-style-type: none"> Pre and Post calibrated Personnel air sampling pumps with MCE filter cassette will be mounted and placed in the breathing zone of representative employees actively involved in the residential soil remediation. Full shift samples will be collected on representative tasks. Samples will follow strict chain of custody procedures and be analyzed by LA Testing, an AIHA accredited laboratory. Sample results will be reviewed by a CIH prior to posting and employees made aware of the results within 5 working days from receipt of the results. Based upon the results of the personnel air monitoring, a decision will be made to maintain Level C respiratory protection or down grade to modified Level D PPE. 		

ACTIVITY HAZARD ANALYSIS

Hazards Throughout the Job		
ITEM	HAZARD	PREVENTION
General Work Area	Slip / trip / fall	<ul style="list-style-type: none"> Conduct SPSAs. Limit all walking in work zones especially in excavation zone where poor footing due to rocks, loose soil, steep incline, etc. Site orientation relative to existing hazards Establish & follow established walkways/paths & clear any trip hazards immediately Keep designated pathways cleared of debris Maintain awareness & enforce good house keeping Park equipment when possible as close to decon area as possible to reduce length of travel Look where you walk before stepping Take normal deliberate steps when walking Take short deliberate steps when on slippery, uneven or steep surfaces Wear appropriate footwear & keep soles/tread clean Use three points of secure contact when climbing on or off equipment Do not jump or step off equipment-climb down backwards using 3 points of secure contact Keep bars, steps or rungs on equipment clean of soils or other material
Behavior Based Safety	Hazard identification	<ul style="list-style-type: none"> PM or Supervisor will remind crew before start of each shift of their responsibility to perform an SPSA before each task PM or Supervisor will remind crew of their authority to Stop Work & contact Project Supervisor if they discover a hazard PM or Supervisor will conduct / document a task observation / audit on a weekly basis using the NRC site audit form
Prolonged	Over heating	<ul style="list-style-type: none"> Follow the ACGIH Recommendations for rest/work



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ACTIVITY HAZARD ANALYSIS		
Hazards Throughout the Job		
ITEM	HAZARD	PREVENTION
exposure to elements	Dehydration Heat Stress Heat exhaustion Heat Stroke Death	<ul style="list-style-type: none"> • Provide break periods for employees to cool down as needed • Drink plenty of cold fluids available onsite & replace electrolytes as needed • Use buddy system cross check for heat stress, slurred speak, odd behavior, problems, etc • Monitor work/rest schedule & adjust accordingly for individuals & group
Break time	Ingestion Improper hygiene Smoking, chewing Eating & drinking	<ul style="list-style-type: none"> • Follow decontamination procedures and thoroughly wash hands and face before eating, drinking or smoking. • Review behavior based safety principles • Smoking/use tobacco only in designated areas only after washing hands & face at designated times (break/lunch) • No chewing of tobacco, gum, smoking, eating, etc in exclusion zone or anywhere onsite except designated area • No spitting of tobacco, tobacco juice, spit, etc on the ground, parking surface or anywhere onsite • Drink fluids like water, gator aid, power aid, etc that will replace lost body fluids • Avoid soft, caffeinated, energy drinks, etc that do not aid in replacing lost body fluids • Eat appropriate food for the weather and work conditions; no hot or spicy food in hot weather, etc
Hygiene Facilities	Contaminant spread	<ul style="list-style-type: none"> • NRC will provide portable toilet facilities near work zone • NRC will provide hand wash (soap/water) near work zone
General Labor; Hand digging and hauling soil via wheel barrels	Slip/Trip/Falls Strains Lead contamination	<ul style="list-style-type: none"> • Use designated pathways and remove obstacles. • Use proper lifting techniques and body positioning when shoveling and loading soil. • Avoid over filling when barrels and get assistance when needed. • Wear proper PPE as designated on Page 3.
Excavation, loading, compacting, and transportation activities	Struck by Noise Exposure to: Lead slips, trips & falls	<ul style="list-style-type: none"> • PPE on page 3 • Personnel will remain 2' or more from excavation leading edge. • Hearing protection • Back up alarms or rotating beacons • Keep unauthorized personnel out of operating areas • Train personnel on working safely around equipment • Wear Reflective Vests • Make eye to eye contact between operator/driver; • signal or communicate movements • Equipment operator controls movement of personnel in and out of swing zone or equipment travel area • Stay clear of swing zone of equipment
Noise Control	Noise Control	<ul style="list-style-type: none"> • Equipment engines may exceed 85 dbA. • Hearing protection worn during operation or in vicinity of



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ACTIVITY HAZARD ANALYSIS		
Hazards Throughout the Job		
ITEM	HAZARD	PREVENTION
		equipment. <ul style="list-style-type: none"> • Avoid equipment operating & traffic areas to the extent possible • Use hearing protection when around equipment, trucks, & other construction noise • Use phones only when absolutely necessary for work communication or site emergency

HAZARDS UNIQUE TO EACH PHASE OF PROJECT		
ITEM	HAZARD	PREVENTION
Mobilization to site	Site Security Slips, Trips, Falls	<ul style="list-style-type: none"> • Provide identification and spill site information. • Maintain NRC part of site control and minimize or prevent entry of outside personnel into NRC site area. • Maintain clear pathways. • Conduct SPSAs. • Limit all walking in work zones especially in excavation zone where poor footing due to rocks, loose soil, steep incline, etc. • Site orientation relative to existing hazards • Establish & follow established walkways/paths & clear any trip hazards immediately • Keep designated pathways cleared of debris • Maintain awareness & enforce good house keeping • Park equipment when possible as close to decon area as possible to reduce length of travel • Look where you walk before stepping • Take normal deliberate steps when walking • Take short deliberate steps when on slippery, uneven or steep surfaces • Wear appropriate footwear & keep soles/tread clean • Use three points of secure contact when climbing on or off equipment • Do not jump or step off equipment-climb down backwards using 3 points of secure contact
Delivery of Site Equipment & Supplies	Back Strains, hand injuries	<ul style="list-style-type: none"> • Verify before lifting that all materials are secure • Get & use assistant for heavy (30# or more) & awkward loads, if in doubt get help first • Split heavy loads into smaller loads. • Review behavior based safety principles • Plan and stage materials to minimize long distance carry • Use mechanical lifting aids (i.e. forklift, etc) to extent



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HAZARDS UNIQUE TO EACH PHASE OF PROJECT

		<p>possible & can be done safely</p> <ul style="list-style-type: none"> Utilize proper lifting techniques (bend knees not back, lift with legs, solid footing, good balance, etc.) Position fingers, hands, feet, etc to avoid pinch points or load if it drops Always maintain good footing and balance Do not rotate your torso when lifting or carrying an object Clear the area of any slips, trips
Decontaminate Equipment (dry)	Contact Noise Spill	<ul style="list-style-type: none"> See PPE section on page 3. Contain and control all contaminated material removed. Remove all contaminated solids from equipment.
Decontaminate Personnel	Absorption Contamination	<ul style="list-style-type: none"> Follow decontamination plan for clothing removal / disposal. Wash hands and face thoroughly.

DECONTAMINATION AND DISPOSAL

DECONTAMINATION PLAN	<ul style="list-style-type: none"> Establish Decon area (3 stage) Ensure work area exits through decon line / not around it Provide safe walkway / visqueen represents slip hazard Place empty lined drums or plastic bags for contaminated PPE Sit down and remove boot covers and place in lined drum Remove Tyvek coveralls and place in lined drum Remove respirator and place in wash tub Remove inner gloves and place in lined drum Wash hands and face thoroughly.
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SAFETY EQUIPMENT REQUIRED

✓	Decon supplies	✓	Fire Extinguisher	✓	Level C PPE
✓	First Aid Kit	✓	Eye Wash Station	✓	Personnel Air Monitors for Lead

TRAINING REQUIREMENTS

✓	HAZWOPER 40	✓	Hazwoper Supervisor	✓	Current 8 Hour Refresher
✓	First Aid /CPR		Aerial Man Lift	✓	Lead Awareness

MEDICAL SURVEILLANCE PROGRAM

Contaminants	Pre Job Requirement**	Post Job Requirement
Medical Clearance Certificate	Yes	N/A



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Respirator Use	Yes	N/A
Lead Blood Levels	Yes	Yes
** Not required if these have already been done as part of pre-employment physical examination		

ACCIDENT REPORTING	
<ul style="list-style-type: none"> • FIRST AID • INJURIES REQUIRING MEDICAL TREATMENT • VEHICLE ACCIDENT • NEAR MISS • ENVIRONMENTAL SPILL 	<ul style="list-style-type: none"> • Employees <u>immediately report</u> all accidents or incidents to the operations supervisor. • The supervisor will immediately notify the NRC Regional Safety Manager, Ken Koppler (971-285-0450) • Safety Manager will provide employee disposition guidelines and coordinate an accident investigation either by himself or Project Manager. • Safety Manager will relay information to the NRC Operations Manager. • Accident reporting forms are included in the appendix. • Determination will be made regarding the need for post accident drug testing.

EMERGENCY MEDICAL TREATMENT AND FIRST AID	
TYPE CONTACT	FIRST AID
Eyes	<ul style="list-style-type: none"> • Flush each eye continuously for 15 minutes. • Tilt head to side to ensure liquid runs onto floor not other eye. • Refer to EMT for evaluation.
Skin	<ul style="list-style-type: none"> • Remove contaminated clothing immediately. • Wash skin continuously for 15 minutes. • Refer to physician if redness, swelling, or pain persists after washing
Breathing	<ul style="list-style-type: none"> • Call 911; • Remove to fresh air immediately; • begin CPR until EMT arrives
Ingestion	<ul style="list-style-type: none"> • Aspiration hazard • Do not induce vomiting • Do not give anything by mouth

EMERGENCY RESPONSE PLAN	
ELEMENT	LOCATION, SPECIFICATION OR REASON FOR USE
NEAREST HOSPITAL	White Memorial Medical Center 1720 E. Cesar Chavez Ave.



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	Los Angeles, CA 90033 323-268-5000
MEDICAL AMBULANCE	911
NEAREST PHONE	NRC Supervisors cell phone
FIRST AID KIT	CPR/FA trained personnel will be staffed on site First aid kit located in NRC Supervisor & Crew Truck.
FIRE EXTINGUISHER	NRC Supervisors Truck and on all equipment
EYEWASH STATION	The decon line will be equipped with an Eye Wash station.



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**ATTACHMENT 1
Daily Safety Meeting**



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	INJURY ILLNESS PREVENTION PROGRAM	NRC West
IIPP Form 9.1.1	Daily Safety Meeting	Revision: 03/2013

Project Manager: Eric Ruby	Cell Phone: 310-701-4917
Project Supervisor:	Cell Phone:
Client Name: Exide	Location: 2700 S. Indiana St. Vernon, CA
Meeting Date / Time:	Project #: 86802

ACCIDENTS/ INCIDENTS/ INJURIES / NEAR MISS/ PROPERTY DAMAGE / CREW SUGGESTIONS
After an injury/accident/near miss is reported, the PM or Site Supervisor must call the H & S Manager

Before Shift (write in "none" if 0 to report)
Supervisor signature acknowledging _____

After Shift: (write in "none" if 0 to report)
Supervisor signature acknowledging _____

BEHAVIOR BASED SAFETY REMINDER TO ALL EMPLOYEES

- Stand Down For Safety: You have authority to report an unsafe situation to your site supervisor.
- Buddy system: Coach your fellow employee if they are performing at-risk tasks.
- Observations: Will be discussed in advance and are on a no name basis.



HAZARD COMMUNICATION - / CHEMICAL HAZARDS (Refer to Product Specific Information)
* <http://www.osha.gov/chemicaldata/>

NAME OF CHEMICAL Manufacturer	PHYSICAL PROPERTIES	ROUTES OF ENTRY	EXPOSURE LIMITS 12 hour	Monitor Instrument	Action Levels* Resp. Protection**
Lead	MW ____ Air = 29 VD= ____ VP= IP: eV - PID=10.6eV LEL: %UEL: %	<input checked="" type="checkbox"/> Inhalation <input checked="" type="checkbox"/> Ingestion <input type="checkbox"/> Contact <input type="checkbox"/> Absorption	PEL: 0.03mg/m3 IDLH: _____	<input type="checkbox"/> 4 Gas / LEL Meter <input type="checkbox"/> PID <input checked="" type="checkbox"/> Other; personnel air monitoring.	>0.05 mg/m3 = C



SPECIAL NOTES / HAZARDS



***Action Levels:** Note that 29 CFR 1910.120 air monitoring guidelines stipulate that if you cannot verify airborne levels, you must start in Level B PPE. Action levels defined above are for breathing zone air monitoring levels sustained for fifteen minutes to obtain stable readings.
****Respiratory Protection:** Specify Level [A/B/C/D] and type of cartridge if applicable.

SCOPE OF WORK / EQUIPMENT NEEDED



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EMERGENCY PROCEDURES

http://www.hospitalconnect.com	Hospital Name: White Memorial Medical Center	Address / Phone: 1720 E. Cesar Chavez Ave. Los Angeles, CA 90033 323-268-5000		
Meeting Location in Emergency				
Location of Emergency Equipment:	First Aid Kit:	Fire Extinguisher:	Eye Wash:	

	INJURY ILLNESS PREVENTION PROGRAM	NRC West
IIPP Form 9.1.1	Daily Safety Meeting	Revision: 03/2013

HAZARD ASSESSMENT - POTENTIAL HAZARDS THAT MAY BE ENCOUNTERED

ATMOSPHERIC HAZARDS	CHEMICAL HAZARDS	PHYSICAL HAZARDS		
<input type="checkbox"/> O2 Deficiency < 19.5%	<input type="checkbox"/> Corrosive	<input checked="" type="checkbox"/> Activities near area	<input type="checkbox"/> Floor Holes	<input checked="" type="checkbox"/> Overhead Hazards
<input type="checkbox"/> O2 Enriched > 22%	<input type="checkbox"/> Irritant	<input type="checkbox"/> Baffles	<input type="checkbox"/> Elevated Work	<input type="checkbox"/> Power Tools
<input type="checkbox"/> Flammable >10% LEL	<input type="checkbox"/> Toxic [skin]	<input type="checkbox"/> Burns	<input type="checkbox"/> Electrical Shock	<input type="checkbox"/> Product Lines
<input type="checkbox"/> Toxics > ½ PEL	<input checked="" type="checkbox"/> Toxic [Inhalation]	<input checked="" type="checkbox"/> Cold / Heat Stress	<input type="checkbox"/> Engulfment	<input checked="" type="checkbox"/> Slip/Trip/Falls
<input type="checkbox"/> Toxics > ½ IDLH	<input checked="" type="checkbox"/> Toxic [Ingestion]	<input checked="" type="checkbox"/> Excavations	<input type="checkbox"/> Falling Objects	<input type="checkbox"/> Sumps /Low Spots
OTHER		<input type="checkbox"/> Containment Cavities	<input type="checkbox"/> Ladders	<input checked="" type="checkbox"/> Vehicle /Traffic
<input type="checkbox"/> On Water hazards	<input type="checkbox"/>	<input checked="" type="checkbox"/> Heavy equipment	<input type="checkbox"/> Lockout	<input type="checkbox"/> Ventilation
<input type="checkbox"/> Vessel Hazards	<input type="checkbox"/>	<input type="checkbox"/> Cuts /Abrasions	<input type="checkbox"/> Moving Parts / Pinch	<input type="checkbox"/> Stored Energy

PHYSICAL HAZARDS / JHA

TASK	HAZARD	HAZARD PREVENTION	PPE
Mobilization, job set up.	Slip, trip and fall. Vehicle safety Struck by	Clear pathways Clear communications SPSA, Behavior Based Safety	<input checked="" type="checkbox"/> Hard Hat <input checked="" type="checkbox"/> Safety Glasses <input checked="" type="checkbox"/> Steel Toed Boots <input checked="" type="checkbox"/> Coveralls <input type="checkbox"/> High Vis Vest
			<input type="checkbox"/> Hard Hat <input type="checkbox"/> Safety Glasses <input type="checkbox"/> Steel Toed boots <input type="checkbox"/> Nitrile Gloves <input type="checkbox"/> Disposable PPE <input type="checkbox"/> High Vis Vest
			<input type="checkbox"/> Hard Hat <input type="checkbox"/> Safety Glasses <input type="checkbox"/> Steel Toed boots <input type="checkbox"/> Nitrile Gloves <input type="checkbox"/> Disposable PPE <input type="checkbox"/> High Vis Vest
			<input type="checkbox"/> Hard Hat <input type="checkbox"/> Safety Glasses <input type="checkbox"/> Steel Toed boots <input type="checkbox"/> Nitrile Gloves <input type="checkbox"/> Disposable PPE <input type="checkbox"/> High Vis Vest
			<input type="checkbox"/> Hard Hat <input type="checkbox"/> Safety Glasses <input type="checkbox"/> Steel Toed boots <input type="checkbox"/> Nitrile Gloves <input type="checkbox"/> Disposable PPE <input type="checkbox"/> High Vis Vest



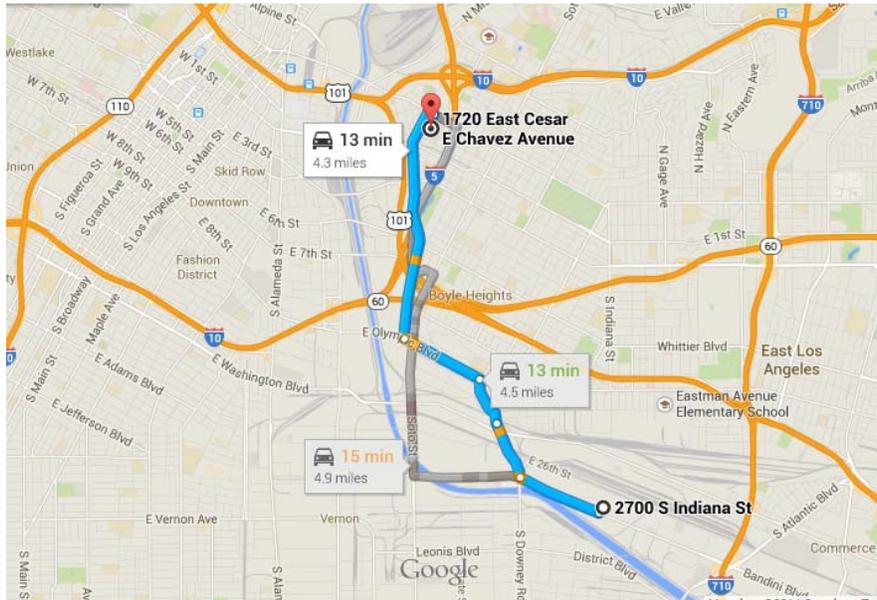
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**ATTACHMENT 2
HOSPITAL MAP**

White Memorial Medical Center
1720 E. Cesar Chavez Ave.
Los Angeles, CA 90033
323-268-5000



- 1. Head south on S Indiana St toward Bandini Blvd (262 ft)
Continue on Bandini Blvd.
Take E Olympic Blvd to S Boyle Ave in Los Angeles (2.3 mi / 5 min)**
- 2. Turn right onto Bandini Blvd (0.7 mi)**
- 3. Turn right onto S Downey Rd (0.5 mi)**
- 4. Continue onto S Grande Vista Ave (0.4 mi)**
- 5. Turn left onto E Olympic Blvd (0.7 mi)**
- 6. Turn right onto S Boyle Ave (1.9 mi / 5 min)**
- 7. Turn right onto East Cesar E Chavez Avenue (253 ft)**
- 8. Take the 1st right (171 ft.)**

**1720 East Cesar E Chavez Avenue
Los Angeles, CA 90033**



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**ATTACHMENT 3
CA Lead Standard 8 CCR 1532.1
With Appendix A**

WestlawNext California Code of Regulations

[Home Table of Contents](#)**§ 1532.1. Lead.**

8 CA ADC § 1532.1

BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS

Barclays Official California Code of Regulations [Currentness](#)

Title 8. Industrial Relations

Division 1. Department of Industrial Relations

Chapter 4. Division of Industrial Safety

Subchapter 4. Construction Safety Orders

Article 4. Dusts, Fumes, Mists, Vapors, and Gases (Refs & Annos)

8 CCR § 1532.1

§ 1532.1. Lead.

(a) Scope. This section applies to all construction work where an employee may be occupationally exposed to lead. All construction work excluded from coverage in the general industry standard for lead by section 5198(a)(2) is covered by this standard. Construction work is defined as work for construction, alteration and/or repair, including painting and decorating. It includes but is not limited to the following:

- (1) Demolition or salvage of structures where lead or materials containing lead are present;
- (2) Removal or encapsulation of materials containing lead;
- (3) New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
- (4) Installation of products containing lead;
- (5) Lead contamination/emergency cleanup;
- (6) Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed, and
- (7) Maintenance operations associated with the construction activities described in this subsection.

(b) Definitions.

Action level means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air ($30\mu\text{g}/\text{m}^3$) calculated as an 8-hour time-weighted average (TWA).

Chief means the Chief of the Division of Occupational Safety and Health or designee.

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

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

Supervisor means one who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them. Supervisors shall be trained, as required by this section, and, when required, be certified consistent with section (l)(3).

(c) Permissible exposure limit.

- (1) The employer shall assure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air ($50\mu\text{g}/\text{m}^3$) averaged over an 8-hour period.
- (2) If an employee is exposed to lead for more than 8 hours in any work day the employees' allowable exposure, as a time weighted average (TWA) for that day, shall be reduced according to the following formula:
Allowable employee exposure (in $\mu\text{g}/\text{m}^3$)=400 divided by hours worked in the day.
- (3) When respirators are used to limit employee exposure as required under subsection (c) and all the requirements of subsections (e)(1) and (f) have been met, employee exposure may be considered to be at the level provided by the protection

factor of the respirator for those periods the respirator is worn. Those periods may be averaged with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure.

(d) Exposure assessment.

(1) General.

(A) Each employer who has a workplace or operation covered by this standard shall initially determine if any employee may be exposed to lead at or above the action level.

(B) For the purposes of subsection (d), employee exposure is that exposure which would occur if the employee were not using a respirator.

(C) With the exception of monitoring under subsection (d)(3), where monitoring is required under this section, the employer shall collect personal samples representative of a full shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level.

(D) Full shift personal samples shall be representative of the monitored employee's regular, daily exposure to lead.

(2) Protection of employees during assessment of exposure.

(A) With respect to the lead related tasks listed in subsection (d)(2)(A), where lead is present, until the employer performs an employee exposure assessment as required in subsection (d) and documents that the employee performing any of the listed tasks is not exposed above the PEL, the employer shall treat the employee as if the employee were exposed above the PEL, and not in excess of ten (10) times the PEL, and shall implement employee protective measures prescribed in subsection (d)(2)(E). The tasks covered by this requirement are:

1. Where lead containing coatings or paint are present: manual demolition of structures (e.g., dry wall), manual scraping, manual sanding, heat gun applications, and power tool cleaning with dust collection systems;
2. Spray painting with lead paint

(B) In addition, with regard to tasks not listed in subsection (d)(2)(A), where the employer has any reasons to believe that an employee performing the task may be exposed to lead in excess of the PEL, until the employer performs an employee exposure assessment as required by subsection (d) and documents that the employee's lead exposure is not above the PEL the employer shall treat the employee as if the employee were exposed above the PEL and shall implement employee protective measures as prescribed in subsection (d)(2)(E).

(C) With respect to the tasks listed in this subsection (d)(2)(C), where lead is present, until the employer performs an employee exposure assessment as required in subsection (d), and documents that the employee performing any of the listed tasks is not exposed in excess of $500 \mu\text{g}/\text{m}^3$, the employer shall treat the employee as if the employee were exposed to lead in excess of $500 \mu\text{g}/\text{m}^3$ and shall implement employee protective measures as prescribed in subsection (d)(2)(E). Where the employer does establish that the employee is exposed to levels of lead below $500 \mu\text{g}/\text{m}^3$, the employer may provide the exposed employee with the appropriate respirator prescribed for such use at such lower exposures, in accordance with Table 1 of this section. The tasks covered by this requirement are:

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

(D) With respect to the tasks listed in this subsection (d)(2)(D) of this section, where lead is present, until the employer performs an employee exposure assessment as required in subsection (d) and documents that the employee performing any of the listed tasks is not exposed to lead in excess of $2,500 \mu\text{g}/\text{m}^3$ (50 x PEL), the employer shall treat the employee as if the employee were exposed to lead in excess of $2,500 \mu\text{g}/\text{m}^3$ and shall implement employee protective measures as prescribed in subsection (d)(2)(E). Where the employer does establish that the employee is exposed to levels of lead below $2,500 \mu\text{g}/\text{m}^3$, the employer may provide the exposed employee with the appropriate respirator prescribed for use at such lower exposures, in accordance with Table 1 of this section. Interim protection as described in this subsection is required where lead containing coatings or paint are present on structures when performing:

1. Abrasive blasting,
2. Welding,
3. Cutting, and
4. Torch burning.

(E) Until the employer performs an employee exposure assessment as required under subsection (d) and determines actual employee exposure, the employer shall provide to employees performing the tasks described in subsections (d)(2)(A), (d)(2)(B), (d)(2)(C) and (d)(2)(D) with interim protection as follows:

1. Appropriate respiratory protection in accordance with subsection (f).

2. Appropriate personal protective clothing and equipment in accordance with subsection (g).
3. Change areas in accordance with subsection (i)(2).
4. Hand washing facilities in accordance with subsection (i)(5).
5. Biological monitoring in accordance with subsection (j)(1)(A), to consist of blood sampling and analysis for lead and zinc protoporphyrin levels, and
6. Training as required under subsection (l)(1)(A) regarding section 5194, Hazard Communication; training as required under subsection (l)(2)(C), regarding use of respirators; and training in accordance with section 1510, Safety Instruction for Employees.

(3) Basis of initial determination.

(A) Except as provided under subsections (d)(3)(C) and (d)(3)(D) the employer shall monitor employee exposures and shall base initial determinations on the employee exposure monitoring results and any of the following, relevant considerations:

1. Any information, observations, or calculations which would indicate employee exposure to lead;
2. Any previous measurements of airborne lead; and
3. Any employee complaints of symptoms which may be attributable to exposure to lead.

(B) Monitoring for the initial determination where performed may be limited to a representative sample of the exposed employees who the employer reasonably believes are exposed to the greatest airborne concentrations of lead in the workplace.

(C) Where the employer has previously monitored for lead exposures, and the data were obtained within the past 12 months during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the employer's current operations, the employer may rely on such earlier monitoring results to satisfy the requirements of subsections (d)(3)(A) and (d)(6) if the sampling and analytical methods meet the accuracy and confidence levels of subsection (d)(9).

(D) Where the employer has objective data, demonstrating that a particular product or material containing lead or a specific process, operation or activity involving lead cannot result in employee exposure to lead at or above the action level during processing, use, or handling, the employer may rely upon such data instead of implementing initial monitoring.

1. The employer shall establish and maintain an accurate record documenting the nature and relevance of objective data as specified in subsection (n)(4), where used in assessing employee exposure in lieu of exposure monitoring.
2. Objective data, as described in subsection (d)(3)(D), is not permitted to be used for exposure assessment in connection with subsection (d)(2).
3. Objective data for surface coatings and materials that contain lead shall meet the following methodology:
 - a. Lead analysis shall be performed for each unique surface coating and material that may constitute a health hazard to employees engaged in activities within the scope of this section and;
 - b. Analysis of surface coatings and materials shall be performed in a manner that meets the requirements of subsection (d)(9) and shall be recorded, as described in subsection (n)(4),

(4) Positive initial determination and initial monitoring.

(A) Where a determination conducted under subsections (d)(1), (2) and (3) shows the possibility of any employee exposure at or above the action level the employer shall conduct monitoring which is representative of the exposure for each employee in the workplace who is exposed to lead.

(B) Where the employer has previously monitored for lead exposure, and the data were obtained within the past 12 months during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the employer's current operations, the employer may rely on such earlier monitoring results to satisfy the requirements of subsection (d)(4)(A) if the sampling and analytical methods meet the accuracy and confidence levels of subsection (d)(9).

(C) Objective data for an initial assessment that demonstrate surface coating or material that contain lead at concentrations equal to or exceeding 0.06% lead dry weight (600 ppm) demonstrate the presence of lead surface coatings or material that constitute a health hazard to employees engaged in lead-related construction work. The lead concentration of paint or materials is based on the lead content in the nonvolatile components of the surface coating or material such as paint. Objective data as described in this subsection are not permitted to be used in lieu of exposure assessment in connection with lead-related tasks listed in subsection (d)(2).

(5) Negative initial determination.

(A) Where a determination, conducted under subsections (d)(1), (2), and (3) is made that no employee is exposed to airborne concentrations of lead at or above the action level the employer shall make a written record of such determination. The record

shall include at least the information specified in subsection (d)(3)(A) and shall also include the date of determination, location within the worksite, and the name and social security number of each employee monitored.

(B) Objective data that meet the requirements of subsection (n)(4) for an initial assessment that demonstrate surface coating or material that contain lead at concentrations less than 0.06% lead dry weight (600 ppm) are sufficient to establish a negative determination. The lead concentration of surface coatings or materials is based on the lead content in the nonvolatile components of the surface coating or material such as paint. Objective data as described in this subsection are not permitted to be used in lieu of exposure assessment in connection with lead-related tasks listed in subsection (d)(2).

(6) Frequency.

(A) If the initial determination reveals employee exposure to be below the action level further exposure determination need not be repeated except as otherwise provided in subsection (d)(7).

(B) If the initial determination or subsequent determination reveals employee exposure to be at or above the action level but at or below the PEL the employer shall perform monitoring in accordance with this subsection at least every 6 months. The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least 7 days apart, are below the action level at which time the employer may discontinue monitoring for that employee except as otherwise provided in subsection (d)(7).

(C) If the initial determination reveals that employee exposure is above the PEL the employer shall perform monitoring quarterly. The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least 7 days apart, are at or below the PEL but at or above the action level at which time the employer shall repeat monitoring for that employee at the frequency specified in subsection (d)(6)(B), except as otherwise provided in subsection (d)(7). The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least 7 days apart, are below the action level at which time the employer may discontinue monitoring for that employee except as otherwise provided in subsection (d)(7).

(7) Additional exposure assessments. Whenever there has been a change of equipment, process, control, personnel or a new task has been initiated that may result in additional employees being exposed to lead at or above the action level or may result in employees already exposed at or above the action level being exposed above the PEL, the employer shall conduct additional monitoring in accordance with this subsection.

(8) Employee notification.

(A) Within 5 working days after completion of the exposure assessment the employer shall notify each employee in writing of the results which represent that employee's exposure.

(B) Whenever the results indicate that the representative employee exposure, without regard to respirators, is at or above the PEL the employer shall include in the written notice a statement that the employees exposure was at or above that level and a description of the corrective action taken or to be taken to reduce exposure to below that level.

(9) "Accuracy of measurement". The employer shall use a method of monitoring and analysis which has an accuracy (to a confidence level of 95%) of not less than plus or minus 25 percent for airborne concentrations of lead equal to or greater than 30 $\mu\text{g}/\text{m}^3$. Methods for the determination of lead concentrations of surface coatings and material shall be determined by methods which have an accuracy (to a confidence level of 95 percent) of not less than plus or minus 25 percent at 0.06% lead dry weight (600 ppm).

(e) Methods of compliance

(1) Engineering and work practice controls.

(A) General. The employer shall implement engineering and work practice controls, including administrative controls, to reduce and maintain employee exposure to lead to or below the permissible exposure limit to the extent that such controls are feasible. Wherever all feasible engineering and work practices controls that can be instituted are not sufficient to reduce employee exposure to or below the permissible exposure limit prescribed in subsection (c), the employer shall nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them by the use of respiratory protection that complies with the requirements of subsection (f).

(2) Compliance program.

(A) Prior to commencement of the job each employer shall establish and implement a written compliance program to achieve compliance with subsection (c).

(B) Written plans for these compliance programs shall include at least the following:

1. A description of each activity in which lead is emitted; e.g. equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices;
2. A description of the specific means that will be employed to achieve compliance and, where engineering controls are required engineering plans and studies used to determine methods selected for controlling exposure to lead;
3. A report of the technology considered in meeting the PEL;

4. Air monitoring data which documents the source of lead emissions;
5. A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;
6. A work practice program which includes items required under subsections (g), (h) and (i) and incorporates other relevant work practices such as those specified in subsection (e)(5);
7. An administrative control schedule required by subsection (e)(4), if applicable;
8. A description of arrangements made among contractors on multi-contractor sites with respect to informing affected employees of potential exposure to lead and of regulated areas.
9. Other relevant information.

(C) The compliance program shall provide for frequent and regular inspections of job sites, regulated areas, materials, and equipment to be made by a supervisor.

(D) Written programs shall be submitted upon request to any affected employee or authorized employee representatives, to the Chief and NIOSH, and shall be available at the worksite for examination and copying by the Chief and NIOSH.

(E) Written programs shall be revised and updated at least every 6 months to reflect the current status of the program.

(3) Mechanical ventilation. When ventilation is used to control lead exposure, the employer shall evaluate the mechanical performance of the system in controlling exposure as necessary to maintain its effectiveness.

(4) Administrative controls. If administrative controls are used as a means of reducing employees TWA exposure to lead, the employer shall establish and implement a job rotation schedule which includes:

(A) Name or identification number of each affected employee;

(B) Duration and exposure levels at each job or work station where each affected employee is located; and

(C) Any other information which may be useful in assessing the reliability of administrative controls to reduce exposure to lead.

(5) The employer shall ensure that, to the extent relevant, employees follow good work practices such as described in Appendix B of this section.

(f) Respiratory protection.

(1) General. For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(A) Periods when an employee's exposure to lead exceeds the PEL;

(B) Work operations for which engineering controls and work practices are not sufficient to reduce exposures to or below the PEL;

(C) Periods when an employee requests a respirator; and

(D) Periods when respirators are required to provide interim protection for employees while they perform the operations specified in subsection (d)(2).

(2) Respirator program.

(A) An employer must implement a respiratory protection program in accordance with section 5144(b) (except (d)(1)(C)) through (m).

(B) If an employee exhibits breathing difficulty during fit testing or respirator use, the employer must provide the employee with a medical examination in accordance with subsection (j)(3)(A)2. to determine if the employee can use a respirator while performing the required duties.

(3) Respirator selection.

(A) The employer shall select, and provide to employees, the appropriate respirator or combination of respirators specified in Section 5144(d)(3)(A)1.

(B) The employer shall provide a powered, air-purifying respirator in lieu of the respirator specified in Section 5144(d)(3)(A)1 whenever:

1. An employee chooses to use this type of respirator; and
2. This respirator will provide adequate protection to the employee.

(C) The employer shall provide employees with a full facepiece respirator instead of a half mask respirator for protection against lead aerosols that may cause eye or skin irritation at the use concentrations.

(D) The employer shall provide HEPA filters for powered and non-powered air-purifying respirators.

(g) Protective work clothing and equipment.

(1) Provision and use. Where an employee is exposed to lead above the PEL without regard to the use of respirators, where employees are exposed to lead compounds which may cause skin or eye irritation (e.g. lead arsenate, lead azide), and as interim protection for employees performing tasks as specified in subsection (d)(2), the employer shall provide at no cost to the employee and assure that the employee uses appropriate protective work clothing and equipment that prevents contamination of the employee and the employee's garments such as, but not limited to:

(A) Coveralls or similar full-body work clothing;

(B) Gloves, hats, and shoes or disposable shoe coverlets; and

(C) Face shields, vented goggles, or other appropriate protective equipment which complies with section 1516.

(2) Cleaning and replacement.

(A) The employer shall provide the protective clothing required in subsection (g)(1) in a clean and dry condition at least weekly, and daily to employees whose exposure levels without regard to a respirator are over $200\mu\text{g}/\text{m}^3$ of lead as an 8-hour TWA.

(B) The employer shall provide for the cleaning, laundering, and disposal of protective clothing and equipment required by subsection (g)(1).

(C) The employer shall repair or replace required protective clothing and equipment as needed to maintain their effectiveness.

(D) The employer shall assure that all protective clothing is removed at the completion of a work shift only in change areas provided for that purpose as prescribed in subsection (i)(2).

(E) The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container in the change area which prevents dispersion of lead outside the container.

(F) The employer shall inform in writing any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead.

(G) 1. The employer shall assure that the containers of contaminated protective clothing and equipment required by subsection (g)(2)(E) of this section are labeled as follows:

DANGER: CLOTHING AND EQUIPMENT CONTAMINATED WITH LEAD, MAY DAMAGE FERTILITY OR THE UNBORN CHILD. CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM. DO NOT EAT, DRINK OR SMOKE WHEN HANDLING. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

2. Prior to June 1, 2015, employers may include the following information on bags or containers of contaminated protective clothing and equipment required by subsection (g)(2)(E) in lieu of the labeling requirements in subsection (g)(2)(G)1. of this section: Caution: Clothing contaminated with lead. Do not remove dust by blowing or shaking. Dispose of lead contaminated wash water in accordance with applicable local, state, or federal regulations.

(H) The employer shall prohibit the removal of lead from protective clothing or equipment by blowing, shaking, or any other means which disperses lead into the air.

(h) Housekeeping.

(1) All surfaces shall be maintained as free as practicable of accumulations of lead.

(2) Clean-up of floors and other surfaces where lead accumulates shall wherever possible, be cleaned by vacuuming or other methods that minimize the likelihood of lead becoming airborne.

(3) Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and found not to be effective.

(4) Where vacuuming methods are selected, the vacuums shall be equipped with HEPA filters and used and emptied in a manner which minimizes the reentry of lead into the workplace.

(5) Compressed air shall not be used to remove lead from any surface unless the compressed air is used in conjunction with a ventilation system designed to capture the airborne dust created by the compressed air.

(i) Hygiene facilities, practices and regulated areas.

(1) The employer shall assure that in areas where employees are exposed to lead above the PEL without regard to the use of respirators, food or beverage is not present or consumed, tobacco products are not present or used, and cosmetics are not applied.

(2) Change areas.

(A) The employer shall provide clean change areas for employees whose airborne exposure to lead is above the PEL, and as interim protection for employees performing tasks as specified in subsection (d)(2), without regard to the use of respirators.

(B) The employers shall assure that change areas are equipped with separate storage facilities for protective work clothing and equipment and for street clothes which prevent cross-contamination.

(C) The employer shall assure that employees do not leave the workplace wearing any protective clothing or equipment that is required to be worn during the work shift.

(3) Showers.

(A) The employer shall provide shower facilities, where feasible, for use by employees whose airborne exposure to lead is above the PEL.

(B) The employer shall assure, where shower facilities are available, that employees shower at the end of the work shift and shall provide an adequate supply of cleansing agents and towels for use by affected employees.

(4) Eating facilities.

(A) The employer shall provide lunchroom facilities or eating areas for employees whose airborne exposure to lead is above the PEL, without regard to the use of respirators.

(B) The employer shall assure that lunchroom facilities or eating areas are as free as practicable from lead contamination and are readily accessible to employees.

(C) The employer shall assure that employees whose airborne exposure to lead is above the PEL, without regard to the use of a respirator, wash their hands and face prior to eating, drinking, smoking or applying cosmetics.

(D) The employer shall assure that employees do not enter lunchroom facilities or eating areas with protective work clothing or equipment unless surface lead dust has been removed by vacuuming, downdraft booth, or other cleaning method that limits dispersion of lead dust.

(5) Hand Washing facilities.

(A) The employer shall provide adequate handwashing facilities for use by employees exposed to lead in accordance with section 1527.

(B) Where showers are not provided the employer shall assure that employees wash their hands and face at the end of the work shift.

(6) Regulated Area.

(A) Employers shall establish regulated areas, where feasible, for work areas where employees are exposed to lead at or above the PEL or performing the tasks described in subsection (d)(2).

(B) Regulated areas shall be posted with signs as described in subsection (m)(2).

(C) Employers shall restrict access to the regulated area to employees authorized by the supervisor, to representatives of affected employees, as described in subsection (o) and to persons authorized by the Chief or NIOSH.

(D) Each employee authorized to enter the regulated area shall be provided with and be required to wear protective equipment required by subsections (f) and (g).

(j) Medical surveillance.

(1) General.

(A) The employer shall make available initial medical surveillance to employees occupationally exposed on any day to lead at or above the action level. Initial medical surveillance consists of biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels.

(B) The employer shall institute a medical surveillance program in accordance with subsections (j)(2) and (j)(3) for all employees who are or may be exposed by the employer at or above the action level for more than 30 days in any consecutive 12 months;

(C) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician.

(D) The employer shall make available the required medical surveillance including multiple physician review under subsection (j)(3)(C) without cost to employees and at a reasonable time and place.

(2) Biological monitoring.

(A) Blood lead and ZPP level sampling and analysis. The employer shall make available biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels to each employee covered under subsections (j)(1)(A) and (B) on the following schedule:

1. For each employee covered under subsection (j)(1)(B), at least every 2 months for the first 6 months and every 6 months thereafter;
2. For each employee covered under subsections (j)(1)(A) or (B) whose last blood sampling and analysis indicated a blood lead level at or above 40 µg/dl, at least every two months. This frequency shall continue until two consecutive blood samples and analyses indicate a blood lead level below 40 µg/dl; and
3. For each employee who is removed from exposure to lead due to an elevated blood lead level at least monthly during the removal period.

(B) Follow-up blood sampling tests. Whenever the results of a blood lead level test indicate that an employee's blood lead level is at or above the numerical criterion for medical removal under subsection (k)(1)(A), the employer shall provide a second (follow-up) blood sampling test within two weeks after the employer receives the results of the first blood sampling test.

(C) Accuracy of blood lead level sampling and analysis. Blood lead level sampling and analysis provided pursuant to this section shall have an accuracy (to a confidence level of 95 percent) within plus or minus 15 percent or 6 µg/dl, whichever is greater, and shall be conducted by a laboratory approved by OSHA.

(D) Employee notification.

1. Within five working days after the receipt of biological monitoring results, the employer shall notify each employee in writing of his or her blood lead level; and
2. The employer shall notify each employee whose blood lead level is at or above 40 µg/dl that the standard requires temporary medical removal with Medical Removal Protection benefits when an employee's blood lead level is at or above the numerical criterion for medical removal under subsection (k)(1)(A).

(3) Medical examinations and consultations.

(A) Frequency. The employer shall make available medical examinations and consultations to each employee covered under subsection (j)(1)(B) on the following schedule:

1. At least annually for each employee for whom a blood sampling test conducted at any time during the preceding 12 months indicated a blood lead level at or above 40 µg/dl;
2. As soon as possible, upon notification by an employee either that the employee has developed signs or symptoms commonly associated with lead intoxication, that the employee desires medical advice concerning the effects of current or past exposure to lead on the employee's ability to procreate a healthy child, that the employee is pregnant, or that the employee has demonstrated difficulty in breathing during a respirator fitting test or during use; and
3. As medically appropriate for each employee either removed from exposure to lead due to a risk of sustaining material impairment to health, or otherwise limited pursuant to a final medical determination.

(B) Content. The content of medical examinations made available pursuant to subsection (j)(3)(A)2. - 3. shall be determined by an examining physician and, if requested by an employee, shall include pregnancy testing or laboratory evaluation of male fertility. Medical examinations made available pursuant to subsection (j)(3)(A)1. shall include the following elements:

1. A detailed work history and a medical history, with particular attention to past lead exposure (occupational and non-occupational), personal habits (smoking, hygiene), and past gastrointestinal, hematologic, renal, cardiovascular, reproductive and neurological problems;
2. A thorough physical examination, with particular attention to teeth, gums, hematologic, gastrointestinal, renal, cardiovascular, and neurological systems. Pulmonary status should be evaluated if respiratory protection will be used;
3. A blood pressure measurement;
4. A blood sample and analysis which determines:
 - a. Blood lead level;
 - b. Hemoglobin and hematocrit determinations, red cell indices, and examination of peripheral smear morphology;
 - c. Zinc protoporphyrin;
 - d. Blood urea nitrogen; and,
 - e. Serum creatinine;
5. A routine urinalysis with microscopic examination; and
6. Any laboratory or other test relevant to lead exposure which the examining physician deems necessary by sound medical practice.

(C) Multiple physician review mechanism.

1. If the employer selects the initial physician who conducts any medical examination or consultation provided to an employee under this section, the employer may designate a second physician:
 - a. To review any findings, determinations or recommendations of the initial physician; and
 - b. To conduct such examinations, consultations, and laboratory tests as the second physician deems necessary to facilitate this review.
2. The employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician conducts a medical examination or consultation pursuant to this section. The employer may condition its participation in, and payment for, the multiple physician review mechanism upon the employee doing the following within fifteen (15) days after receipt of the foregoing notification, or receipt of the initial physician's written opinion, whichever is later:
 - a. The employee informing the employer that he or she intends to seek a second medical opinion, and
 - b. The employee initiating steps to make an appointment with a second physician.
3. If the findings, determinations or recommendations of the second physician differ from those of the initial physician, then the employer and the employee shall assure that efforts are made for the two physicians to resolve any disagreement.
4. If the two physicians have been unable to quickly resolve their disagreement, then the employer and the employee through their respective physicians shall designate a third physician:
 - a. To review any findings, determinations or recommendations of the prior physicians; and
 - b. To conduct such examinations, consultations, laboratory tests and discussions with the prior physicians as the third physician deems necessary to resolve the disagreement of the prior physicians.
5. The employer shall act consistent with the findings, determinations and recommendations of the third physician, unless the employer and the employee reach an agreement which is otherwise consistent with the recommendations of at least one of the three physicians.

(D) Information provided to examining and consulting physicians.

1. The employer shall provide an initial physician conducting a medical examination or consultation under this section with the following information:
 - a. A copy of this regulation for lead including all Appendices;
 - b. A description of the affected employee's duties as they relate to the employee's exposure;
 - c. The employee's exposure level or anticipated exposure level to lead and to any other toxic substance (if applicable);
 - d. A description of any personal protective equipment used or to be used;
 - e. Prior blood lead determinations; and
 - f. All prior written medical opinions concerning the employee in the employer's possession or control.
2. The employer shall provide the foregoing information to a second or third physician conducting a medical examination or consultation under this section upon request either by the second or third physician, or by the employee.

(E) Written medical opinions.

1. The employer shall obtain and furnish the employee with a copy of a written medical opinion from each examining or consulting physician which contains only the following information:
 - a. The physician's opinion as to whether the employee has any detected medical condition which would place the employee at increased risk of material impairment of the employee's health from exposure to lead;
 - b. Any recommended special protective measures to be provided to the employee, or limitations to be placed upon the employee's exposure to lead;
 - c. Any recommended limitations upon the employee's use of respirators, including a determination of whether the employee can wear a powered air purifying respirator if a physician determines that the employee cannot wear a negative pressure respirator; and
 - d. The results of the blood lead determinations.
2. The employer shall instruct each examining and consulting physician to:
 - a. Not reveal either in the written opinion or orally, or in any other means of communication with the employer, findings, including laboratory results, or diagnoses unrelated to an employee's occupational exposure to lead; and

b. Advise the employee of any medical condition, occupational or nonoccupational, which dictates further medical examination or treatment.

(F) Alternate physician determination mechanisms. The employer and an employee or authorized employee representative may agree upon the use of any alternate physician determination mechanism in lieu of the multiple physician review mechanism provided by subsection (j)(3)(C) so long as the alternate mechanism is as expeditious and protective as the requirements contained in this subsection.

(4) Chelation.

(A) The employer shall assure that any person whom he/she retains, employs, supervises or controls does not engage in prophylactic chelation of any employee at any time.

(B) If therapeutic or diagnostic chelation is to be performed by any person in subsection (j)(4)(A), the employer shall assure that it be done under the supervision of a licensed physician in a clinical setting with thorough and appropriate medical monitoring and that the employee is notified in writing prior to its occurrence.

(k) Medical removal protection.

(1) Temporary medical removal and return of an employee.

(A) Temporary removal due to elevated blood lead level. The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a periodic and a follow-up blood sampling test conducted pursuant to this section indicate that the employee's blood lead level is at or above 50 µg/dl; and,

(B) Temporary removal due to a final medical determination.

1. The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a final medical determination results in a medical finding, determination, or opinion that the employee has a detected medical condition which places the employee at increased risk of material impairment to health from exposure to lead.

2. For the purposes of this section, the phrase "final medical determination" means the written medical opinion on the employees' health status by the examining physician or, where relevant, the outcome of the multiple physician review mechanism or alternate medical determination mechanism used pursuant to the medical surveillance provisions of this section.

3. Where a final medical determination results in any recommended special protective measures for an employee, or limitations on an employee's exposure to lead, the employer shall implement and act consistent with the recommendation.

(C) Return of the employee to former job status.

1. The employer shall return an employee to his or her former job status:

a. For an employee removed due to a blood lead level at or above 50 µg/dl when two consecutive blood sampling tests indicate that the employee's blood lead level is below 40 µg/dl;

b. For an employee removed due to a final medical determination, when a subsequent final medical determination results in a medical finding, determination, or opinion that the employee no longer has a detected medical condition which places the employee at increased risk of material impairment to health from exposure to lead.

2. For the purposes of this section, the requirement that an employer return an employee to his or her former job status is not intended to expand upon or restrict any rights an employee has or would have had, absent temporary medical removal, to a specific job classification or position under the terms of a collective bargaining agreement.

(D) Removal of other employee special protective measure or limitations. The employer shall remove any limitations placed on an employee or end any special protective measures provided to an employee pursuant to a final medical determination when a subsequent final medical determination indicates that the limitations or special protective measures are no longer necessary.

(E) Employer options pending a final medical determination. Where the multiple physician review mechanism, or alternate medical determination mechanism used pursuant to the medical surveillance provisions of this section, has not yet resulted in a final medical determination with respect to an employee, the employer shall act as follows:

1. Removal. The employer may remove the employee from exposure to lead, provide special protective measures to the employee, or place limitations upon the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status.

2. Return. The employer may return the employee to his or her former job status, end any special protective measures provided to the employee, and remove any limitations placed upon the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status, with two exceptions. If:

a. the initial removal, special protection, or limitation of the employee resulted from a final medical determination which differed from the findings, determinations, or recommendations of the initial physician or;

b. If the employee has been on removal status for the preceding eighteen months due to an elevated blood lead level, then the employer shall await a final medical determination.

(2) Medical removal protection benefits.

(A) Provision of medical removal protection benefits. The employer shall provide an employee up to eighteen (18) months of medical removal protection benefits on each occasion that an employee is removed from exposure to lead or otherwise limited pursuant to this section.

(B) Definition of medical removal protection benefits. For the purposes of this section, the requirement that an employer provide medical removal protection benefits means that, as long as the job the employee was removed from continues, the employer shall maintain the total normal earnings, seniority and other employment rights and benefits of an employee, including the employee's right to his or her former job status as though the employee had not been medically removed from the employee's job or otherwise medically limited.

(C) Follow-up medical surveillance during the period of employee removal or limitation. During the period of time that an employee is medically removed from his or her job or otherwise medically limited, the employer may condition the provision of medical removal protection benefits upon the employee's participation in follow-up medical surveillance made available pursuant to this section.

(D) Workers' compensation claims. If a removed employee files a claim for workers' compensation payments for a lead-related disability, then the employer shall continue to provide medical removal protection benefits pending disposition of the claim. To the extent that an award is made to the employee for earnings lost during the period of removal, the employer's medical removal protection obligation shall be reduced by such amount. The employer shall receive no credit for workers' compensation payments received by the employee for treatment-related expenses.

(E) Other credits. The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly or employer-funded compensation program, or receives income from employment with another employer made possible by virtue of the employee's removal.

(F) Voluntary removal or restriction of an employee. Where an employer, although not required by this section to do so, removes an employee from exposure to lead or otherwise places limitations on an employee due to the effects of lead exposure on the employee's medical condition, the employer shall provide medical removal protection benefits to the employee equal to that required by subsection (k)(2)(A) and (B).

(l) Communication of hazards.

(1) General.

(A) Hazard communication. The employer shall include lead in the program established to comply with the Hazard Communication Standard (HCS) (Section 5194). The employer shall ensure that each employee has access to labels on containers of lead and safety data sheets, and is trained in accordance with the provisions of HCS and subsection (l) of this section. The employer shall ensure that at least the following hazards are addressed:

1. Reproductive/developmental toxicity;
2. Central nervous system effects;
3. Kidney effects;
4. Blood effects; and
5. Acute toxicity effects.

(B) For all employees who are subject to exposure to lead at or above the action level on any day or who are subject to exposure to lead compounds which may cause skin or eye irritation (e.g. lead arsenate, lead azide), the employer shall provide a training program in accordance with subsection (l)(2) and assure employee participation.

(C) The employer shall provide the training program as initial training prior to the time of job assignment or prior to the start up date for this requirement, whichever comes last.

(D) The employer shall also provide the training program at least annually for each employee who is subject to lead exposure at or above the action level on any day.

(E) Where the certification of employee and supervisor training is required, as described in subsection (l)(3), the training shall be conducted by a training provider accredited by the California Department of Health Services, in accordance with Title 17, California Code of Regulations, Division 1, Chapter 8.

(2) Training program.

The employer shall assure that each employee is trained in the following:

- (A) The content of this standard and its appendices;
- (B) The specific nature of the operations which could result in exposure to lead above the action level;
- (C) The purpose, proper selection, fitting, use, and limitations of respirators;

(D) The purpose and a description of the medical surveillance program, and the medical removal protection program including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females and hazards to the fetus and additional precautions for employees who are pregnant);

(E) The engineering controls and work practices associated with the employee's job assignment including training of employees to follow relevant good work practices described in Appendix B of this section;

(F) The contents of any compliance plan and the location of regulated areas in effect;

(G) Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician; and

(H) The employee's right of access to records under section 3204.

(3) Certification of training for residential and public buildings.

The employer shall ensure that all employees and supervisors who are engaged in lead related construction work as defined in Title 17, California Code of Regulations, Section 35040, and have been shown to be exposed to lead at or above the permissible exposure limit, meet the training requirements of this section, are trained by an accredited training provider and are certified by the California Department of Health Services. Lead related construction work is defined in Title 17 to be any construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup, that, by using or disturbing lead containing material or soil, may result in significant exposure of adults or children to lead. As used in the definition of lead related construction work, "public building" means a structure which is generally accessible to the public, including but not limited to, schools, daycare centers, museums, airports, hospitals, stores, convention centers, government facilities, office buildings and any other building which is not an industrial building or a residential building. Regulations for accreditation of training providers and for the certification of employees and supervisors are found in Title 17, California Code of Regulations, Division 1, Chapter 8.

(4) Access to information, training and certification materials.

(A) The employer shall make readily available to all affected employees a copy of this standard and its appendices.

(B) The employer shall provide, upon request, all materials relating to the employee information training program and certification to affected employees, their designated representatives, the Chief and NIOSH.

(m) Signs.

(1) General.

(A) The employer shall post the following warning signs in each regulated area or work area where an employee's exposure to lead is above the PEL.

DANGER

LEAD WORK AREA

MAY DAMAGE FERTILITY OR THE UNBORN CHILD

CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM

DO NOT EAT, DRINK OR SMOKE IN THIS AREA

(B) The employer shall ensure that no statement appears on or near any sign required by this subsection (m) that contradicts or detracts from the meaning of the required sign.

(C) The employer shall ensure that signs required by this subsection (m) are illuminated and cleaned as necessary so that the legend is readily visible.

(D) The employer may use signs required by other statutes, regulations or ordinances in addition to, or in combination with, signs required by this subsection (m).

(E) Prior to June 1, 2016, employers may use the following legend in lieu of that specified in subsection (m)(1)(A) of this section:

WARNING

LEAD WORK AREA

POISON

NO SMOKING OR EATING

(n) Recordkeeping.

(1) Exposure assessment.

(A) The employer shall establish and maintain an accurate record of all monitoring and other data used in conducting employee exposure assessments as required in subsection (d).

(B) Exposure monitoring records shall include:

1. The date(s), number, duration, location and results of each of the samples taken if any, including a description of the sampling procedure used to determine representative employee exposure where applicable;
2. A description of the sampling and analytical methods used and evidence of their accuracy;
3. The type of respiratory protective devices worn, if any;
4. Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent; and
5. The environmental variables that could affect the measurement of employee exposure.

(C) The employer shall maintain monitoring and other exposure assessment records in accordance with the provisions of section 3204.

(2) Medical surveillance.

(A) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by subsection (j).

(B) This record shall include:

1. The name, social security number, and description of the duties of the employee;
2. A copy of the physician's written opinions;
3. Results of any airborne exposure monitoring done on or for that employee and provided to the physician; and
4. Any employee medical complaints related to exposure to lead.

(C) The employer shall keep, or assure that the examining physician keeps, the following medical records:

1. A copy of the medical examination results including medical and work history required under subsection (j);
2. A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information;
3. A copy of the results of biological monitoring.

(D) The employer shall maintain or assure that the physician maintains medical records in accordance with the provisions of section 3204.

(3) Medical removals.

(A) The employer shall establish and maintain an accurate record for each employee removed from current exposure to lead pursuant to subsection (k).

(B) Each record shall include:

1. The name and social security number of the employee;
2. The date of each occasion that the employee was removed from current exposure to lead as well as the corresponding date on which the employee was returned to his or her former job status;
3. A brief explanation of how each removal was or is being accomplished; and
4. A statement with respect to each removal indicating whether or not the reason for the removal was an elevated blood lead level.

(C) The employer shall maintain each medical removal record for at least the duration of an employee's employment.

(4) "Objective data for exemption from requirement for initial monitoring".

(A) For purposes of this section, objective data are information demonstrating that a particular product or material containing lead or a specific process, operation, or activity involving lead cannot release dust or fumes in concentrations at or above the action level under any expected conditions of use. Objective data can be obtained from any industry-wide study or from laboratory product test results from manufacturers of lead containing products, including surface coatings or other materials. The data the employer uses from an industry-wide survey must be obtained under workplace conditions closely resembling the processes, types of material, control methods, work practices and environmental conditions in the employer's current operations.

(B) The employer shall maintain the record of the objective data relied upon for at least 30 years.

(5) Availability. The employer shall make available upon request all records required to be maintained by subsection (n) to affected employees, former employees, and their designated representatives, and to the Chief and NIOSH for examination and copying.

(6) Transfer of records.

(A) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by subsection (n).

(B) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records required to be maintained by this section for the prescribed period, these records shall be transmitted to NIOSH.

(C) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify NIOSH at least 3 months prior to the disposal of such records and shall transmit those records to NIOSH if requested within the period.

(D) The employer shall also comply with any additional requirements involving transfer of records set forth in section 3204(h).

(o) Observation of monitoring.

(1) Employee observation. The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to lead conducted pursuant to subsection (d).

(2) Observation procedures.

(A) Whenever observation of the monitoring of employee exposure to lead requires entry into an area where the use of respirators, protective clothing or equipment is required, the employer shall provide the observer with and assure the use of such respirators, clothing and equipment, and shall require the observer to comply with all other applicable safety and health procedures.

(B) Without interfering with the monitoring, observers shall be entitled to:

1. Receive an explanation of the measurement procedures;
2. Observe all steps related to the monitoring of lead performed at the place of exposure; and
3. Record the results obtained or receive copies of the results when returned by the laboratory.

(p) **Lead-Work Pre-Job Notification.** The employer shall provide written notification to the nearest Division District Office in the manner prescribed by subsections (p)(1) through (p)(4) when work is planned that includes any of the tasks listed in subsection (d)(2).

EXCEPTION NO. 1: The employer is not required to notify the Division if:

A. The amount of lead-containing materials to be disturbed is less than 100 square or 100 linear feet; or

B. The only subsection (d)(2) task to be performed consists of torch cutting or welding, not to exceed a duration of 1 hour in any shift.

EXCEPTION NO. 2: The employer is not required to notify the Division if the percentage of lead in the material disturbed is less than 0.5%, 5,000 parts per million (weight by weight), or 1.0 mg/cm².

(1) The employer shall ensure that the information required by subsection (p)(2) is received by the nearest Division District Office at least 24 hours prior to the commencement of the work by any of the following means:

(A) Letter;

(B) Facsimile;

(C) Electronic mail; or

(D) Telephone call, followed by written notification sent or mailed within 24 hours of placing the call.

EXCEPTION: When an employer intends to initiate unforeseen lead-work on an urgent basis within 24 hours, the notification requirement may be met by giving telephone notice to the Division at any time prior to commencement of the work, followed by written notification sent or mailed within 24 hours of telephoning the Division.

(2) The written notification provided by the employer shall contain the following:

(A) The name, address and phone number of the employer;

(B) The address of the job (or common name of the site with closest streets or roadways identified);

(C) The precise physical location of the lead related work at the job site;

(D) The projected starting date;

(E) The expected completion date or approximate duration of the work in days;

(F) The approximate number of workers planned to do the lead-related work;

(G) The type of structure(s) in which or on which the work is to be performed;

(H) The amount of lead containing material to be disturbed in square feet or linear feet;

(I) A description of the type of lead-related work to be performed and work practices that will be utilized;

(J) The name of the supervisor who will be responsible for the lead-related work; and

(K) The amount of lead in the disturbed materials (percent by weight, parts per million or milligrams per square centimeter) if known.

(3) The employer shall notify the Division, and provide the current information, if changes are made to the starting date, the surface area to be disturbed, or the type of lead-related work performed or work practices to be utilized, before or upon adoption of that change.

(4) An employer conducting ongoing, lead-related operations and maintenance work on stationary steel structures need only notify the Division once for each structure if the duration of the operations and maintenance work is less than one year. If the duration of the work is more than one year, the employer shall submit to the Division at least once per year a supplemental written notification updating all of the information required by subsection (p)(2) for each structure.

(q) Appendices. The information contained in the appendices to this section is not intended by itself, to create any additional obligations not otherwise imposed by this standard nor detract from any existing obligation.

Note: Authority cited: Sections 142.3 and 6717, Labor Code. Reference: Sections 142.3 and 6717, Labor Code.

HISTORY

1. New section filed 9-28-93; operative 11-4-93 pursuant to Labor Code section 142.3(a)(4) (Register 93, No. 40). This section is identical to the interim final rule adopted by the federal Occupational Safety and Health Administration on 5-4-93 and is exempt from OAL review. Pursuant to Labor Code section 142.3(a)(4)(c), this section shall remain in effect until 5-4-94 unless readopted for an additional 6 months or superseded by permanent regulations.
2. Change without regulatory effect amending opening paragraph filed 10-18-93 pursuant to title 1, section 100, California Code of Regulations (Register 93, No. 43).
3. New section refiled 4-28-94 with amendments; operative 5-4-94 pursuant to Labor Code section 142.3(a)(4) (Register 94, No. 17). This section is identical to the interim final rule adopted by the Federal Occupational Safety and Health Administration on 5-4-93 and is exempt from OAL review. Pursuant to Labor Code section 142.3(a)(4)(C), this section shall remain in effect for six months unless superseded by permanent regulations.
4. Amendment of section and amendment of Appendices headings and text filed 10-19-94; operative 10-19-94. Submitted to OAL for printing only pursuant to Labor Code section 142(a)(3) (Register 94, No. 42).
5. Change without regulatory effect amending Appendix A heading filed 2-16-95 pursuant to section 100, title 1, California Code of Regulations (Register 95, No. 7).
6. Editorial correction of subsection (d)(2)(E)5. (Register 95, No. 36).
7. Amendment of section, Appendix B and Note filed 2-5-97; operative 3-7-97 (Register 97, No. 6).
8. Amendment of former subsections (f)(1)-(f)(4)(C) including subsection renumbering and relettering resulting in newly designated subsections (f)(1)-(f)(3)(B)2., amendment of Appendix B, subsection IV, and amendment repealing appendix D and adding editorial reference filed 8-25-98; operative 11-23-98 (Register 98, No. 35).
9. Change without regulatory effect amending subsection (a) filed 2-16-2000 pursuant to section 100, title 1, California Code of Regulations (Register 2000, No. 7).
10. Amendment of subsection (f)(3)(B)2. (Table I) filed 5-24-2000; operative 6-23-2000 (Register 2000, No. 21).
11. Repealer of subsection (p) and new subsections (p)-(p)(4) filed 12-26-2001; operative 1-25-2002 (Register 2001, No. 52).
12. Change without regulatory effect amending subsection (f)(3) filed 7-24-2003 pursuant to section 100, title 1, California Code of Regulations (Register 2003, No. 30).
13. Amendment of subsection (f)(2)(A) filed 7-31-2003; operative 8-30-2003 (Register 2003, No. 31).
14. Editorial correction of subsection (p)(1)(B) designator (Register 2006, No. 29).
15. Amendment of subsections (f)(3)(A)-(B) and (f)(3)(B)2. and new subsections (f)(3)(C)-(D) filed 3-6-2007; operative 3-6-2007. Submitted to OAL for printing only pursuant to Labor Code section 142.3(a)(3) (Register 2007, No. 10).
16. Change without regulatory effect amending subsection (g)(2)(D) filed 8-8-2008 pursuant to section 100, title 1, California Code of Regulations (Register 2008, No. 32).

17. Amendment of subsections (j)(2)(B), (j)(2)(D)2. and (k)(1)(C)1.a. filed 1-18-2012; operative 1-18-2012 pursuant to Labor Code section 142.3(a)(4)(C). Submitted to OAL for printing only pursuant to Labor Code section 142.3(a)(3) (Register 2012, No. 3).

18. Amendment of subsection (j)(2)(D)2. filed 9-4-2012; operative 10-4-2012 (Register 2012, No. 36).

19. Redesignation and amendment of former subsection (g)(2)(G) as new subsection (g)(2)(G)1., new subsection (g)(2)(G)2., repealer and new subsections (l) and (l)(1)(A), new subsections (l)(1)(A)1.-5., amendment of subsections within subsection (m) and amendment of Appendix B, item XI. filed 5-6-2013; operative 5-6-2013 pursuant to Labor Code section 142.3(a)(4)(C). Submitted to OAL for printing only pursuant to Labor Code section 142.3(a)(4) (Register 2013, No. 19).

20. Redesignation and amendment of former subsection (g)(2)(G) as new subsection (g)(2)(G)1., new subsection (g)(2)(G)2., repealer and new subsections (l) and (l)(1)(A), new subsections (l)(1)(A)1.-5., amendment of subsections within subsection (m) and amendment of Appendix B, item XI. refiled 11-6-2013; operative 11-6-2013 pursuant to Labor Code section 142.3(a)(4)(C). Submitted to OAL for printing only pursuant to Labor Code section 142.3(a)(4) (Register 2013, No. 45).

21. Repealer of 11-6-2013 order by operation of law 5-6-2014 pursuant to Labor Code 142.3 (Register 2014, No. 19).

22. Redesignation and amendment of former subsection (g)(2)(G) as new subsection (g)(2)(G)1., new subsection (g)(2)(G)2., repealer and new subsections (l) and (l)(1)(A), new subsections (l)(1)(A)1.-5., amendment of subsections within subsection (m) and amendment of Appendix B, item XI. filed 5-5-2014; operative 5-6-2014 pursuant to Government Code section 11343.4(b)(3) (Register 2014, No. 19).

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Title 8. Industrial Relations

Division 1. Department of Industrial Relations

Chapter 4. Division of Industrial Safety

Subchapter 4. Construction Safety Orders

Article 4. Dusts, Fumes, Mists, Vapors, and Gases (Refs & Annos)

8 CCR Appendix A

Appendix A to § 1532.1 - Substance Data Sheet for Occupational Exposure to Lead**I. Substance Identification**

A. Substance: Pure lead (Pb) is a heavy metal at room temperature and pressure and is a basic chemical element. It can combine with various other substances to form numerous lead compounds.

B. Compounds covered by the standard: The word "lead" when used in this standard means elemental lead, all inorganic lead compounds and a class of organic lead compounds called lead soaps. This standard does not apply to other organic lead compounds.

C. Uses: Exposure to lead occurs in several different occupations in the construction industry, including demolition or salvage of structures where lead or lead-containing materials are present; removal or encapsulation of lead-containing materials, new construction, alteration, repair, or renovation of structures that contain lead or materials containing lead; installation of products containing lead. In addition, there are construction related activities where exposure to lead may occur, including transportation, disposal, storage, or containment of lead or materials containing lead on construction sites, and maintenance operations associated with construction activities.

D. Permissible exposure: The permissible exposure limit (PEL) set by the standard is 50 micrograms of lead per cubic meter of air (50 $\mu\text{g}/\text{m}^3$) averaged over an 8-hour workday.

E. Action level: The standard establishes an action level of 30 micrograms of lead per cubic meter of air (30 $\mu\text{g}/\text{m}^3$) averaged over an 8-hour workday. The action level triggers several ancillary provisions of the standard such as exposure monitoring, medical surveillance, and training.

II. Health Hazard Data

A. Ways in which lead enters your body. When absorbed into your body in certain doses, lead is a toxic substance. The object of the lead standard is to prevent absorption of harmful quantities of lead. The standard is intended to protect you not only from the immediate toxic effects of lead, but also from the serious toxic effects that may not become apparent until years of exposure have passed. Lead can be absorbed into your body by inhalation (breathing) and ingestion (eating). Lead (except for certain organic lead compounds not covered by the standard, such as tetraethyl lead) is not absorbed through your skin. When lead is scattered in the air as a dust, fume or mist it can be inhaled and absorbed through your lungs and upper respiratory tract. Inhalation of airborne lead is generally the most important source of occupational lead absorption. You can also absorb lead through your digestive system if lead gets into your mouth and is swallowed. If you handle food, cigarettes, chewing tobacco, or make-up which have lead on them or handle them with hands contaminated with lead, this will contribute to ingestion. A significant portion of the lead that you inhale or ingest gets into your blood stream. Once in your blood stream, lead is circulated throughout your body and stored in various organs and body tissues. Some of this lead is quickly filtered out of your body and excreted, but some remains in the blood and other tissues. As exposure to lead continues, the amount stored in your body will increase if you are absorbing more lead than your body is excreting. Even though you may not be aware of any immediate symptoms of disease, this lead stored in your tissues can be slowly causing irreversible damage, first to individual cells, then to your organs and whole body systems.

B. Effects of overexposure to lead.

(1) Short term (acute) overexposure. Lead is a potent, systemic poison that serves no known useful function once absorbed by your body. Taken in large enough doses, lead can kill you in a matter of days. A condition affecting the brain called acute encephalopathy may arise which develops quickly to seizures, coma, and death from cardiorespiratory arrest. A short term dose of lead can lead to acute encephalopathy. Short term occupational exposures of this magnitude are highly unusual, but not impossible. Similar forms of encephalopathy may, however, arise from extended, chronic exposure to lower doses of lead. There is no sharp dividing line between rapidly developing acute effects of lead, and chronic effects which take longer to acquire. Lead adversely affects numerous body systems, and causes forms of health impairment and disease which arise after periods of exposure as short as days or as long as several years.

(2) Long-term (chronic) overexposure. Chronic overexposure to lead may result in severe damage to your blood-forming, nervous, urinary and reproductive systems. Some common symptoms of chronic overexposure include loss of appetite, metallic taste in the mouth, anxiety, constipation, nausea, pallor, excessive tiredness, weakness, insomnia, headache, nervous irritability, muscle and joint pain or soreness, fine tremors, numbness, dizziness, hyperactivity and colic. In lead colic there may be severe abdominal pain. Damage to the central nervous system in general and the brain (encephalopathy) in particular is one of the most severe forms of lead poisoning. The most severe, often fatal, form of encephalopathy may be preceded by vomiting, a feeling of dullness progressing to drowsiness and stupor, poor memory, restlessness, irritability, tremor, and convulsions. It may arise suddenly with the onset of seizures, followed by coma, and death. There is a tendency for muscular weakness to develop at the same time. This weakness may progress to paralysis often observed as a characteristic "wrist drop" or "foot drop" and is a manifestation of a disease to the nervous system called peripheral neuropathy. Chronic overexposure to lead also results in kidney disease with few, if any, symptoms appearing until extensive and most likely permanent kidney damage has occurred. Routine laboratory tests reveal the presence of this kidney disease only after about two-thirds of kidney function is lost. When overt symptoms of urinary dysfunction arise, it is often too late to correct or prevent worsening conditions, and progression to kidney dialysis or death is possible. Chronic overexposure to lead impairs the reproductive systems of both men and women. Overexposure to lead may result in decreased sex drive, impotence and sterility in men. Lead can alter the structure of sperm cells raising the risk of birth defects. There is evidence of miscarriage and stillbirth in women whose husbands were exposed to lead or who were exposed to lead themselves. Lead exposure also may result in decreased fertility, and abnormal menstrual cycles in women. The course of pregnancy may be adversely affected by exposure to lead since lead crosses the placental barrier and poses risks to developing fetuses. Children born of parents either one of whom were exposed to excess lead levels are more likely to have birth defects, mental retardation, behavioral disorders or die during the first year of childhood. Overexposure to lead also disrupts the blood-forming system resulting in decreased hemoglobin (the substance in the blood that carries oxygen to the cells) and ultimately anemia. Anemia is characterized by weakness, pallor and fatigability as a result of decreased oxygen carrying capacity in the blood.

(3) Health protection goals of the standard. Prevention of adverse health effects for most workers from exposure to lead throughout a working lifetime requires that a worker's blood lead level (BLL, also expressed as PbB) be maintained at or below forty micrograms per deciliter of whole blood (40µg/dl). The blood lead levels of workers (both male and female workers) who intend to have children should be maintained below 30µg/dl to minimize adverse reproductive health effects to the parents and to the developing fetus. The measurement of your blood lead level (BLL) is the most useful indicator of the amount of lead being absorbed by your body. Blood lead levels are most often reported in units of milligrams (mg) or micrograms (µg) of lead (1 mg=1000µg) per 100 grams (100g), 100 milliliters (100 ml) or deciliter (dl) of blood. These three units are essentially the same. Sometime BLLs are expressed in the form of mg or µg. This is a shorthand notation for 100g, 100 ml, or dl. (Reference to BLL measurements in this standard are expressed in the form of µg/dl.)

BLL measurements show the amount of lead circulating in your blood stream, but do not give any information about the amount of lead stored in your various tissues. BLL measurements merely show current absorption of lead, not the effect that lead is having on your body or the effects that past lead exposure may have already caused. Past research into lead-related diseases, however, has focused heavily on associations between BLLs and various diseases. As a result, your BLL is an important indicator of the likelihood that you will gradually acquire a lead-related health impairment or disease.

Once your blood lead level climbs about 40µg/dl, your risk of disease increases. There is a wide variability of individual response to lead, thus it is difficult to say that a particular BLL in a given person will cause a particular effect. Studies have associated fatal encephalopathy with BLLs as low as 150µg/dl. Other studies have shown other forms of diseases in some workers with BLLs well below 80µg/dl. Your BLL is a crucial indicator of the risks to your health, but one other factor is also extremely important. This factor is the length of time you have had elevated BLLs. The longer you have an elevated BLL, the greater the risk that large quantities of lead are being gradually stored in your organs and tissues (body burden). The greater your overall body burden, the greater the chances of substantial permanent damage. The best way to prevent all forms of lead-related impairments and diseases -- both short term and long term -- is to maintain your BLL below 40µg/dl. The provisions of the standard are designed with this end in mind.

Your employer has prime responsibility to assure that the provisions of the standard are complied with both by the company and by individual workers. You, as a worker, however, also have a responsibility to assist your employer in complying with the standard. You can play a key role in protecting your own health by learning about the lead hazards and their control, learning what the standard requires, following the standard where it governs your own actions, and seeing that your employer complies with provisions governing his or her actions.

(4) Reporting signs and symptoms of health problems. You should immediately notify your employer if you develop signs or symptoms associated with lead poisoning or if you desire medical advice concerning the effects of current or past exposure to lead or your ability to have a healthy child. You should also notify your employer if you have difficulty breathing during a respirator fit test or while wearing a respirator. In each of these cases, your employer must make available to you appropriate medical examinations or consultations. These must be provided at no cost to you and at a reasonable time and place. The standard contains a procedure whereby you can obtain a second opinion by a physician of your choice if your employer selected the initial physician.

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8 CCR Appendix A, 8 CA ADC Appendix A

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**HEALTH AND SITE SAFETY PLAN
EXIDE LEAD
RESIDENTIAL REMEDIATION
SOUTH PROPERTIES
VARIOUS LOCATIONS**



Project # 89665

**ATTACHMENT 4
Lead Fact Sheet**

Safety & Health Fact Sheet



March 2002

Cal/OSHA Consultation Service
California Department of Industrial Relations
P. O. Box 420603 • San Francisco, CA 94142-0603

Lead in Construction

Special Emphasis Program

Cal/OSHA is conducting a Special Emphasis Program to reduce the hazard from **lead in construction** affecting workers, their families and the public.

Why a Special Emphasis Program now?

Cal/OSHA is particularly concerned about lead in construction because of:

- Recognition of significant risk to children from take-home lead, even at very low levels of exposure.
- A boom in housing and public works renovation and rehabilitation projects that disturb lead paint.
- The need for greater protection for workers, their families and the public through a focused inspection and consultation effort.

What are the goals of this program?

Significantly reduce lead exposures for workers, their families and the public by:

- Increased enforcement and consultation to get the word out to contractors, workers, and owners of buildings and other structures that lead is a significant hazard in the construction business.
- Informing employers of regulations they must follow when lead may be present on a construction job.
- Informing workers of the hazards of lead on the job, and to their families, especially children, from lead carried into vehicles or homes on their bodies, shoes or clothing.

What steps do I take to comply with the Cal/OSHA regulation for lead in construction?

Section 1532.1 in Title 8 of the California Code of Regulations makes construction employers responsible, by law, for basic steps in compliance.

Step 1—Recognize the hazard. Lead can be present in a wide range of materials including paints and other coatings, lead mortars, and base metals to be welded on or treated with abrasive blasting. Look at the age of the building or structure, the presence of coatings and other materials that may contain lead, and information from the property owner.

Send samples of materials to be disturbed to a laboratory for lead analysis. Laboratories accredited by the U.S. Environmental Protection Agency National Lead Laboratory Accreditation Program are listed at www.leadlisting.org. Testing methods for lead must meet requirements of Title 8 Section 1532.1(d)(9).

Step 2—On all construction jobs where lead is present the following is required:

- **Housekeeping.** Lead dust on surfaces, especially in eating areas, must be controlled by HEPA vacuuming, wet clean-up, or other effective methods.
- **Hand and face washing.** Workers must have washing facilities with soap and clean water.
- **Training.** Workers must receive training on lead hazards and how to protect themselves.
- **A written compliance program** to assure control of hazardous lead exposures.
- **Exposure determination.** Employers must assess the amounts of lead breathed by workers. This is usually done by employee breathing-zone air sampling. Air sampling results are used to determine if the protective measures in Step 4 must be taken, as well as the type of respirator that must be worn for protection.

Step 3—For certain highly hazardous tasks, called trigger tasks, special protective measures must be taken—including specified respirators—until the employer determines that worker airborne exposures to lead are below levels specified in Section 1532.1.

■ Level 1 trigger tasks

Any of the following with lead-containing coatings or materials: spray painting, manual demolition, manual scraping or sanding, use of heat gun, power tool cleaning with dust collection system.

Minimum required respirator: half-mask respirator with N-100, R-100 or P-100 filters.

■ Level 2 trigger tasks

Any of the following with lead-containing coatings or materials: using lead-containing mortar, lead burning, rivet busting, power tool cleaning without dust collection system, clean-up activities using dry expendable abrasives, abrasive blasting enclosure movement or removal.

Cal/OSHA Consultation Service Offices

For telephone assistance and to request a no-cost consultation at your workplace:

Fresno 559-454-1295	San Bernardino 909-383-4567
Oakland 510-622-2891	San Diego 619-767-2060
Sacramento 916-263-0704	Santa Fe Springs 562-944-9366
	Van Nuys 818-901-5754

Or toll-free **1-800-963-9424**

Minimum required respirator: air-supplied hood or helmet, or loose fitting hood or helmet powered air-purifying respirator with N-100, R-100 or P-100 filters.

■ **Level 3 trigger tasks**

Abrasive blasting, welding, cutting, or torch burning on structures where lead-containing coatings or materials are present.

Minimum required respirator: half-mask supplied air respirator operated in a positive pressure mode.

Pre-job notification is required for jobs involving all trigger tasks. Written notification must reach the nearest Cal/OSHA district office or be made online at www.dir.ca.gov/dosh/Permits.html at least 24 hours before the job starts. See Section 1532.1(p) for details on required information and types of jobs covered.

Protective measures required for all trigger tasks until worker airborne exposures are shown to be below levels specified in Section 1532.1:

- Respirators, protective equipment and clothing.
- Clothing change areas.
- Initial blood testing for lead and zinc protoporphyrin.
- Basic lead hazard, respirator, and safety training.

Also, Section 1532.1(i)(6) requires regulated areas with warning signs for all trigger tasks.

In addition to the specific trigger tasks, whenever there is reason to believe that any other task may cause a hazardous lead exposure, the above protective measures must be taken until the exposure is shown to be below the airborne Permissible Exposure Limit (PEL).

Questions frequently asked

Q. Before starting work on a job that involves disturbance of paint or other coatings, am I required to have a sample of the paint analyzed for lead content?

A. This is the best way to begin assessing the lead hazard at the jobsite. While not specifically required by the Cal/OSHA regulation, material sampling—combined with knowledge of the tasks being done—is the best indicator of the chance of high airborne lead levels, and can help guide the air sampling and exposure control efforts and the choice of required respirators.

Q. If I'm already doing air monitoring and protecting workers with respirators during tasks with high exposures, why do I also need to do blood lead and ZPP monitoring?

Step 4—Where air sampling shows employee exposures above the PEL from any operation, the following controls are required in addition to those for trigger tasks: respirators appropriate to the levels of exposure measured, clean areas for eating and clothing change, showers, full worker training, and medical monitoring with routine blood testing for lead and zinc protoporphyrin (ZPP).

Certification. On jobs at residential and public access buildings, workers exposed to lead above the PEL—and their supervisors—must receive state-approved training and be certified by the California Dept. of Health Services. **[TIP: Information on lead worker certification—phone 800-597-LEAD—or go to www.childlead.com and click on “Prevention”]**

What's in it for me?

Consider the alternatives to compliance: fines up to \$70,000 per violation, medical removal payments to workers with high blood lead levels, and costly job shutdowns.

Some companies find that following the Cal/OSHA regulation increases their business because clients want jobs that are safe for both workers and the environment.

Where can I get help?

The Cal/OSHA Consultation Service helps employers at no cost. Employers can request an industrial hygienist to come to a construction job site, show how air sampling is done and assist in employee training. The Consultation Service is independent of Cal/OSHA's Enforcement Unit.

A. Blood lead and ZPP monitoring are tools that help assess workers' total exposure to lead—including through ingestion, unmonitored operations, and lead contamination in the vehicle and home. It is the most important benchmark for answering the question: “Am I protecting my workers from the hazards of lead on the job?”

Q. How do I get started with a lead medical monitoring program and where do I find a physician to do this?

A. The Department of Health Services Occupational Lead Poisoning Prevention Program listed below can help you get started with this program.

— More resources —

■ At the Cal/OSHA website you can find all Title 8 regulations, including Section 1532.1 for lead in construction: www.dir.ca.gov/dosh

■ California Department of Health Services Occupational Lead Poisoning Prevention Program website: www.dhs.ca.gov/ohb/olppp phone: 510-622-4332

■ Painting and Decorating Contractors of America website: www.pdca.org • phone: 703-383-0800

■ SSPC: Society for Protective Coatings website: www.sspc.org • phone: 412-281-2331

■ The National Lead Service Providers' Listing System website: www.leadlisting.org



**HEALTH AND SITE SAFETY PLAN
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SOUTH PROPERTIES
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**ATTACHMENT 5
OSHA Notification**



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**ATTACHMENT 6
Lead Warning Sign**

**WARNING
LEAD WORK
AREA**

POISON

**NO
SMOKING
OR EATING**



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**ATTACHMENT 7
OSHA Poster Safety on the Job**

SAFETY AND HEALTH PROTECTION ON THE JOB



State of California
Department of Industrial Relations

California law provides job safety and health protection for workers under the Cal/OSHA program. This poster explains the basic requirements and procedures for compliance with the state's job safety and health laws and regulations. The law requires that this poster be displayed. (Failure to do so could result in a penalty of up to \$7,000.)

WHAT AN EMPLOYER MUST DO:

All employers must provide work and workplaces that are safe and healthful. In other words, as an employer, you must follow state laws governing job safety and health. Failure to do so can result in a threat to the life or health of workers, and substantial monetary penalties.

You must display this poster so everyone on the job can be aware of basic rights and responsibilities.

You must have a written and effective injury and illness prevention program for your employees to follow.

You must be aware of hazards your employees face on the job and keep records showing that each employee has been trained in the hazards unique to each job assignment.

You must correct any hazardous condition that you know may result in serious injury to employees. Failure to do so could result in criminal charges, monetary penalties, and even incarceration.

You must notify the nearest Cal/OSHA office of any serious injury or fatality occurring on the job. Be sure to do this immediately after calling for emergency help to assist the injured employee. Failure to report a serious injury or fatality within 8 hours can result in a minimum civil penalty of \$5,000.

WHAT AN EMPLOYER MUST NEVER DO:

Never permit an employee to do work that violates Cal/OSHA law.

Never permit an employee to be exposed to harmful substances without providing adequate protection.

Never allow an untrained employee to perform hazardous work.

EMPLOYEES HAVE CERTAIN RIGHTS IN WORKPLACE SAFETY & HEALTH:

As an employee, you (or someone acting for you) have the right to file a complaint and request an inspection of your workplace if conditions there are unsafe or unhealthful. This is done by contacting the local district office of the Division of Occupational Safety and Health (see list of offices). Your name is not revealed by Cal/OSHA, unless you request otherwise.

You also have the right to bring unsafe or unhealthful conditions to the attention of the Cal/OSHA investigator making an inspection of your workplace. Upon request, Cal/OSHA will withhold the names of employees who submit or make statements during an inspection or investigation.

Any employee has the right to refuse to perform work that would violate a Cal/OSHA or any occupational safety or health standard or order where such violation would create a real and apparent hazard to the employee or other employees.

You may not be fired or punished in any way for filing a complaint about unsafe or unhealthful working conditions, or using any other right given to you by Cal/OSHA law. If you feel that you have been fired or punished for exercising your rights, you may file a complaint about this type of discrimination by contacting the nearest office of the Department of Industrial Relations, Division of Labor Standards Enforcement (State Labor Commissioner) or the San Francisco office of the U.S. Department of Labor, Occupational Safety and Health Administration. (Employees of state or local government agencies may only file these complaints with the State Labor Commissioner.) Consult your local telephone directory for the office nearest you.

EMPLOYEES ALSO HAVE RESPONSIBILITIES:

To keep the workplace and your coworkers safe, you should tell your employer about any hazard that could result in an injury or illness to people on the job.

While working, you must always obey state job safety and health laws.

HELP IS AVAILABLE:

To learn more about job safety rules, you may contact the Cal/OSHA Consultation Service for free information, required forms and publications. You can also contact a local district office of the Division of Occupational Safety and Health. If you prefer, you may retain a competent private consultant, or ask your workers' compensation insurance carrier for guidance in obtaining information.

SPECIAL RULES APPLY IN WORK AROUND HAZARDOUS SUBSTANCES:

Employers who use any substance listed as a hazardous substance in Section 339 of Title 8 of the California Code of Regulations, or subject to the Federal Hazard Communications Standard (29 CFR 1910.1200), must provide employees with information on the contents on Material Safety Data Sheets (MSDS), or equivalent information about the substance that trains employees to use the substance safely.

Employers shall make available on a timely and reasonable basis a Material Safety Data Sheet on each hazardous substance in the workplace upon request of an employee, an employee collective bargaining representative, or an employee's physician.

Employees have the right to see and copy their medical records and records of exposure to potentially toxic materials or harmful physical agents.

Employers must allow access by employees or their representatives to accurate records of employee exposures to potentially toxic materials or harmful physical agents, and notify employees of any exposures in concentration or levels exceeding the exposure limits allowed by Cal/OSHA standards.

Any employee has the right to observe monitoring or measuring of employee exposure to hazards conducted pursuant to Cal/OSHA regulations.

WHEN CAL/OSHA COMES TO THE WORKPLACE:

A trained Cal/OSHA safety engineer or industrial hygienist may periodically visit the workplace to make sure your company is obeying job safety and health laws.

An inspection will also be conducted when a legitimate complaint is filed by an employee with the Division of Occupational Safety and Health.

Cal/OSHA also goes to the workplace to investigate a serious injury or fatality.

When an inspection begins, the Cal/OSHA investigator will show official identification from the Division of Occupational Safety and Health.

The employer, or someone the employer chooses, will be given an opportunity to accompany the investigator during the inspection. A representative of the employees will be given the same opportunity. Where there is no authorized employee representative, the investigator will talk to a reasonable number of employees about safety and health conditions at the workplace.

VIOLATIONS, CITATIONS & PENALTIES:

If the investigation shows that the employer has violated a safety and health standard or order, then the Division of Occupational Safety and Health issues a citation. Each citation specifies a date by which the violation must be abated. A notice, which carries no monetary penalty, may be issued in lieu of a citation for certain non-serious violations.

Citations carry penalties of up to \$7,000 for each regulatory or general violation and up to \$25,000 for each serious violation. Additional penalties of up to \$7,000 per day for regulatory or general violations and up to \$15,000 per day for serious violations may be proposed for each failure to correct a violation by the abatement date shown on the citation. A penalty of not less than \$5,000 nor more than \$70,000 may be assessed an employer who willfully violates any occupational safety and health standard or order. The maximum civil penalty that can be assessed for each repeat violation is \$70,000. A willful violation that causes death or permanent impairment of the body of any employee results, upon conviction, in a fine of not more than \$250,000, or imprisonment up to three years, or both and if the employer is a corporation or limited liability company the fine may not exceed \$1.5 million.

The law provides that employers may appeal citations within 15 working days of receipt to the Occupational Safety and Health Appeals Board.

An employer who receives a citation, Order to Take Special Action, or Special Order must post it prominently at or near the place of the violation for three working days, or until the unsafe condition is corrected, whichever is longer, to warn employees of danger that may exist there. Any employee may protest the time allowed for correction of the violation to the Division of Occupational Safety and Health or the Occupational Safety and Health Appeals Board.

OFFICES OF THE DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

HEADQUARTERS: 1515 Clay Street, Ste. 1901, Oakland, CA 94612 — Telephone (510) 286-7000

District Offices

Concord	1465 Enea Circle—Bldg. E, Suite 900, Concord 94520	(925) 602-6517
Foster City	1065 East Hillsdale Blvd.—Suite 110, Foster City 94404	(650) 573-3812
Fremont/San Jose	39141 Civic Center Dr. Suite 310, Fremont 94538	(510) 794-2521
Fresno	2550 Mariposa St.—Room 4000, Fresno 93721	(559) 445-5302
Los Angeles	320 West Fourth St.—Room 850, Los Angeles 90013	(213) 576-7451
Modesto	1209 Woodrow—Suite C-4, Modesto 95350	(209) 576-6260
Oakland	1515 Clay St.—Suite 1301, Oakland 94612	(510) 622-2916
Monrovia/Pico Rivera	750 Royal Oaks Dr.—Suite 104, Monrovia 91016	(626) 256-7913
Sacramento	2424 Arden Way—Suite 165, Sacramento 95825	(916) 263-2800
San Bernardino	464 West Fourth St.—Suite 332, San Bernardino 92401	(909) 383-4321
San Diego	7575 Metropolitan Dr.—Suite 207, San Diego 92108	(619) 767-2280
San Francisco	121 Spear Street, Ste. 430, San Francisco 94105	(415) 972-8670
Santa Ana	2000 E. McFadden Ave, Ste. 122, Santa Ana 92705	(714) 558-4451
Santa Rosa	1221 Farmers Lane—Suite 300, Santa Rosa 95405	(707) 576-2388
Torrance	680 Knox St.—Suite 100, Torrance 90502	(310) 516-3734
Van Nuys	6150 Van Nuys Blvd.—Suite 405, Van Nuys 91401	(818) 901-5403
Ventura	1655 Mesa Verde Ave.—Room 150, Ventura 93003	(805) 654-4581
West Covina	1906 West Garvey Ave. S.—Suite 200, West Covina 91790	(626) 472-0046

Regional Offices

Sacramento	2424 Arden Way—Suite 125, Sacramento 95825	(916) 263-2803
Santa Rosa	1221 Farmers Lane—Suite E, Santa Rosa 95405	(707) 576-2419
Santa Ana	2000 E. McFadden Ave, Ste 119, Santa Ana 92705	(714) 558-4300
West Covina	1906 West Garvey Ave. S.—Suite 200, West Covina 91790	(626) 472-0046

Cal/OSHA Consultation Service

Headquarters: 2424 Arden Way—Suite 485, Sacramento CA 95825 — (916) 263-5765

Area & Field Offices:

• Fresno/Central Valley	1901 North Gateway Blvd. Suite 102, Fresno 93727	(559) 454-1295
• Oakland/Bay Area	1515 Clay St.—Suite 1103 Oakland 94612	(510) 622-2891
• Sacramento/Northern CA	2424 Arden Way—Suite 410 Sacramento 95825	(916) 263-0704
• San Bernardino	464 West Fourth St.—Suite 339 San Bernardino 92401	(909) 383-4567
• San Diego/Imperial Counties	7575 Metropolitan Dr.—Suite 204 San Diego 92108	(619) 767-2060
• San Fernando Valley	6150 Van Nuys Blvd.—Suite 307 Van Nuys 91401	(818) 901-5754
• Santa Fe Springs/Los Angeles/Orange County.	10350 Heritage Park Dr.—Suite 201 Santa Fe Springs 90670	(562) 944-9366

Regional Office

Sacramento 2424 Arden Way—Suite 485, Sacramento 95825 (916) 263-5750

Enforcement of Cal/OSHA job safety and health standards is carried out by the Division of Occupational Safety and Health, under the California Department of Industrial Relations, which has primary responsibility for administering the Cal/OSHA program. Safety and health standards are promulgated by the Occupational Safety and Health Standards Board. Anyone desiring to register a complaint alleging inadequacy in the administration of the California Occupational Safety and Health Plan may do so by contacting the San Francisco Regional Office of the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor (Tel: 415-975-4310). OSHA monitors the operation of state plans to assure that continued approval is merited.

FEBRUARY 2006



**HEALTH AND SITE SAFETY PLAN
EXIDE LEAD
RESIDENTIAL REMEDIATION
SOUTH PROPERTIES
VARIOUS LOCATIONS**



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**ATTACHMENT 8
OSHA Poster – Access to Medical Records**

ACCESS TO MEDICAL AND EXPOSURE RECORDS

BY CAL/OSHA REGULATION
—GENERAL INDUSTRY SAFETY ORDER 3204—
YOU HAVE THE RIGHT TO SEE AND COPY:

- Your medical records and records of exposure to toxic substances or harmful physical agents.
- Records of exposure to toxic substances or harmful physical agents of other employees with work conditions similar to yours.
- Material Safety Data Sheets or other information that exists for chemicals or substances used in the workplace, or to which employees may be exposed.

THESE RECORDS ARE AVAILABLE AT: _____
(Location)

FROM: _____
(Person Responsible)

A COPY OF GENERAL INDUSTRY SAFETY ORDER 3204
IS AVAILABLE FROM: _____

The above information satisfies the requirements of GISO 3204 (g), which may be done by posting this placard in the workplace, or by any similar method the employer chooses.



November 1993
8-11



State of California
Department of Industrial Relations
Cal/OSHA Publications
P.O. Box 420603
San Francisco, CA 94142-0603



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**ATTACHMENT 9
SMS – Procedure 13.2
Respiratory Protection Plan**

	SAFETY MANAGEMENT SYSTEM	
Procedure 13.2	Respiratory Protection	Revision: 07/2014

1.0 PURPOSE

The purpose of this procedure is to provide information and guidance for the selection, use and care of respiratory protective equipment worn by all NRC (including NRC West, East, Compliance, SRS, et al.) employees and contractor personnel. No employee will be assigned to work in an area where respiratory protective equipment is required unless the person has been medically evaluated, fit-tested and trained in the selection, use, care and limitations of the respirators. The respirators, training and medical examinations are provided at no cost to the employee. This procedure complies with the requirements of 29 CFR 1910.134 and state laws.

2.0 GENERAL

2.1 The use of engineering controls (i.e. eliminating the hazard) is the primary method to limit employee exposure to respiratory hazards. Whenever possible, ventilation and administrative controls will be used to minimize the exposure.

2.2 Training

Employees will be trained prior to issuance and retrained on an annual basis in the following areas of employee knowledge of respirators:

Fit testing	Job specific uses
When respirators are required	Types of respirators
Cartridge selection	Respirator selection criteria
Maintenance / use and repair	Storage of respirators
Medical signs /symptoms of effective use	Respirator limitations
Requirements of 29 CFR 1910.134	

2.3 Respirators shall be worn when engineering controls are unsuccessful or unfeasible and:

- When the legal exposure limit (PEL, STEL or ceiling) or action level for the material is approached or exceeded. This level is determined through air sampling, modeling and other demonstrable methods.
- As determined necessary by the Corporate Director of Safety.

2.4 Only qualified (documented fit testing and fitness for duty) NRC employees are allowed to work in respirator-required areas.

2.5 The respirator program administrator for each region is the Regional Safety & Health Manager.

	SAFETY MANAGEMENT SYSTEM	
Procedure 13.2	Respiratory Protection	Revision: 07/2014

2.6 The NRC Regional Safety Managers / Program Administrator will evaluate the effectiveness of the respirator program annually and report findings to the Director of Health and Safety.

2.7 Only respirators & cartridges approved by the National Institute for Occupational Safety and Health (NIOSH) potential hazard shall be used.

2.8 Employees who use respirators voluntarily will, at a minimum, complete the respiratory health questionnaire for review by a qualified health care provider and be provided with a copy of Appendix D of 29 CFR 1910.134.

2.9 Clean Shaven:

- It is an OSHA and NRC requirement that all personnel will be clean shaven of any: *“Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function; or any condition that interferes with the face-to-face piece seal or valve function”*
- Refer to the photographs at the end of this procedure for examples provided by OSHA of clean shaven for respirators.
- The clean shaven examples pictured at the end of this procedure are the *minimum* for a half-face respirator. A full face respirator requires this and any other areas under the respirator coming into contact or interfering with the seal including the side burns, glasses, bangs, etc to be shaven or removed of interfering object.
- Passing a fit test is not a proof of meeting the standard. Proof of meeting the standard is the visual “clean shaven” areas in question and satisfactory fit testing on a qualitative or quantitative approved method.

3.0 SELECTION OF RESPIRATORS

3.1 Engineering controls should always be the primary method to minimize the hazard of contaminated air.

3.2 Once the potential for respiratory hazard has been established, the NRC Safety Manager and Project Supervisor shall select the respiratory protection. Selection criteria includes:

- General hazard assessment

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- Scope of work
- Oxygen concentration & potential for depletion
- Measurement of suspected contaminant concentrations; in the absence of quantifiable data, IDLH conditions may be assumed
- Physical stresses, such as temperature, humidity, access, additional PPE and work level
- Additional evaluation by respirator program administrator, safety professional, industrial hygienist, marine chemist or other qualified professional whenever necessary
- Specific selection criteria will be defined in each site specific safety plan and signed by the affected employee.

3.3 Respirators used by NRC are air purifying or air supplying (SCBA or airline with self-contained escape system).

3.4 Respirator selection will be specified in all Site-Specific Health & Safety Plans (HASP) or Daily Tool Box Safety Meeting forms. This applies to all tasks requiring respiratory protection. If respirators are not required, this is also noted.

- Characterization of the hazard and proper respirator data will be utilized to determine respirator selection. This includes direct-read and personnel air sampling, modeling, SDS review and current information on respirator limitations and qualifications.
- Respirator Selection Table Criteria

On August 24th, 2006, OSHA announced the final revision to the Respiratory Protection standard (29 CFR 1910.134) in Department of Labor Federal Register (volume 71, Number 164). The revisions address two sections: Assigned Protection Factors and Maximum Use Concentrations. If you look these sections up in the present standard, you will simply see the word *Reserved*, meaning there was no definition.

Assigned Protection Factors (APFs)

APFs as defined by OSHA in this revision, is “*the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory program as specified by this section.*” We are all familiar with this concept, because for years we have been using the NIOSH and ANSI APF numbers of 10 for half-face and 50 – 100 for full face air purifying respirators. The only wrinkle thrown into this was the old recommended standards and some

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still in use by state OSHA's i.e. the 1992 ANSI recommendation that you can assign a protection factor of 100 to full-face air purifying respirators *only if they are quantitatively fit tested and achieve a minimum Fit Factor of 1,000*. This meant that a half-face and full-face respirator had the same protection factor of 10 unless the full-face was quantitatively fit tested. **The new OSHA revision eliminates this double standard and assigns a protection factor of 50 to full face air purifying respirators as long as you have an approved respirator program and follow the fit test protocols in the standard.** This means as long as you fit test with banana oil or smoke tubes exactly the way it is described in the standard, we can assigned a PF of 50 to full-face air purifying respirators. NRC will continue to use quantitative fit testing as its fit test protocol. The attached table (1) provides the new OSHA assigned protection factors for each type of respirator.

Maximum Allowable Concentrations (MUC)

MUC as defined by OSHA means the maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator; it is determined mathematically by multiplying the APF for the respirator by the required OSHA PEL, STEL or Ceiling Limit. If there is no OSHA limit, the employer must determine an MUC on the basis of relevant information and informed professional judgment. The concept is that the employee's direct exposure to hazardous substances inside the respirator must be below the applicable standard; or the highest multiple of a contaminant's PEL that an employee can use a respirator safely. This concept has been around as long as the APFs, but again, OSHA had never defined it. See the Example below for how MUCs work:

Contaminant	OSHA PEL	Selected Respirator	APF	MUC
Lead	0.050 mg/m ³	Half-face Air Purify	10	APF x PEL 0.050 mg/m ³ x 10 =0.5 mg/m ³

In the example above, you could use a half-face air purifying respirator for up to 0.5 mg/m³ concentration of lead in the air. If air monitoring results indicated levels above 0.5 mg/m³, you would have to switch to a full-face respirator because it has a higher APF of 50. (50 x 0.050 mg /m³ = 2.5 mg /m³ MUC). The OSHA revision still requires air monitoring prior to selecting what type of air purifying respirator is used.

	SAFETY MANAGEMENT SYSTEM	
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Other MUC imitations in the OSHA 2006 revision:

- You cannot use MUCs to calculate entering an IDLH atmosphere. This still requires full-face pressure-demand supplied air respirators with auxiliary self-contained air supply.
- When the calculated MUC exceeds the IDLH level for a hazardous substance, or the performance limits of the cartridge or canister, employers must set the maximum MUC at the lower limit. As an example, if you were going into a *toluene* environment and determined that the MUC using a half-face air purifying respirator was (APF x Toluene PEL or 10 x 200 ppm = 2,000 ppm), even though your MUC calculation was 2000 ppm; the MUC would actually be the lowest of the limiting factors of the Organic vapor cartridge (1000 ppm) or the IDLH for toluene (500 ppm). So, in this case, regardless of what the MUC calculation showed, your real MUC would be 500 ppm. Anything above 500 ppm in the air, would require a full-face SCBA respirator with a service life of at least 30 minutes or a combination full face piece pressure-demand supplied-air respirator with an auxiliary self-contained air supply.

OSHA Table 1 - Assigned Protection Factors		
TYPE RESPIRATOR	HALF MASK	FULL FACE PIECE
Air Purifying Respirator	10	50
Powered Air-Purifying Respirator (PAPR)	50	1,000
Supplied Air / Airline Respirator (SAR)		
- Demand mode	10	50
- Continuous Flow	50	1,000
- Pressure-Demand / Positive Press.	50	1,000
Self- Contained Breathing (SCBA)		
- Demand Mode	10	50
- Pressure Demand or other Positive pressure mode	10,000	10,000

	SAFETY MANAGEMENT SYSTEM	
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3.7 General Respirator Selection Guidelines

Atmosphere	Minimum Assigned Protection Factor	Minimum Respirator
O ₂ 23.5%-19.5%	N/A	Based upon contaminant
O ₂ 19.5%-16.0%	1000	Pressure Demand Supplied Air with escape
O ₂ < 16.0%	No entry allowed	No entry allowed
Contaminant 5 times over limit	10	Air Purifying half-mask
Contaminant 5-10 times over limit	50	Air Purifying full face
Contaminant 10 times over limit	1000	Pressure-Demand Supplied Air
Non-filterable contaminant	1000	Pressure Demand Supplied Air
Unknown Atmosphere	10,000	Positive Pressure Supplied Air / Escape Bottle

3.8 Cartridge changing

3.8.1 Changing cartridges for air purifying respirators must be done under an established schedule, or perceive difficulties in breathing [breakthrough /resistance].

3.8.2 Cartridges should be changed no less than once per work shift.

3.8.3 The NRC Safety Manager or designee (Site Supervisor) must ensure that employees leave the work area to wash, change cartridges, or if they detect breakthrough or resistance.

4.0 MEDICAL EVALUATION

4.1 Prior to fit testing or initial use of respirators, a qualified medical provider shall medically evaluate employees who are required to use respirators.

4.2 A medical questionnaire equivalent to Appendix C of 29 CFR 1910.134 will be given confidentially and reviewed only by a qualified medical professional. Additional testing can be done as needed.

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5.0 FIT TESTING

A respirator fit test is done to check that the mask size and model chosen actually fits the face. Although a respirator may look as though it fits correctly, gaps can occur around the nose, chin or eyes. A fit test confirms that the mask fits properly and that there is minimal to no air leakage between the face and the mask. A fit test is different from the fit check or user seal check. A fit check should be done each time you don the mask to check to see that the properly fitted mask is adequately tightened and seated on your face. There are two basic types of fit testing; quantitative and qualitative. A brief description of each type of fit test follows:

5.1 Qualitative Fit Testing

Qualitative fit testing is a pass / fail test that relies on the respirator user to indicate when he / she can smell, taste or sense the test agent. The OSHA standard allows the use of four fit test protocols using the test agents: Bitrex, saccharin, Isoamyl acetate or irritant smoke. NRC employs the following two methods:

- **Isoamyl Acetate:** This involves subjecting the respirator wearer to an aromatic vapor and relying upon a subjective response (i.e. can you smell it?) as an indication of a leakage. The test involves doing seven, one –minute exercises such as turning the head from side to side and touching the toes. This test is subject to many false negatives either from nasal sensitivity or employee intentionally providing a false positive or negative response. Previously, this type of test could be used for half or full-face respirators but successful completion of the test only yielded the employee a Protection factor of 10 for negative pressure full and half-face masks.
- **Irritant Smoke:** (stannic chloride): This qualitative test requires the respirator wearer to be subjected to smoke from a ventilation smoke test tube. The tube contents are stannic chloride which when exposed to air, produces hydrochloric acid, a strong irritant. This test tends to be more definitive than the aromatic test because it produces a strong involuntary reaction (coughing or gagging) in the event of a face piece leak. As with aromatic, it is an all or nothing pass/fail test. If you do not cough or gag, you are deemed to have a satisfactory fit and are assigned the APF defined by OSHA in Table 1. This test involves extreme caution particularly with half-face respirators because it is a strong eye irritant.

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5.2 Quantitative Fit Testing

Quantitative fit testing provides a numerical measure of leakage. It does not rely upon the respirator user's sense of taste or smell. The quantitative fit test requires the user to perform exercises while the test is on going. At the end of the test, an average fit factor is calculated. The fit test is passed if the result is 500 or greater. There are currently two commercially available quantitative fit test instruments. Both require the use of either a fit test mask or a sample adaptor in order to do the fit testing. Both methods are approved OSHA methods.

- **TSI Portacount:** This unit measures the ambient particle concentration outside the mask and compares two values to determine the amount of leakage inside the masks.
- **OHD Fit Tester 3000:** This unit provides a direct measure of leakage by creating a negative pressure inside the mask and measuring the pressure difference inside and outside the mask.

Pros and Cons Of Fit Test Type	
Qualitative	Quantitative
Cheaper up front cost	More expensive up front cost
Requires less technical equipment	Requires more technical equipment
Relies on Users sense of taste or smell	Relies upon quantifiable data
Test is pass or fail	Gives numerical measure of leakage
Could fake results or inadvertently pass or fail the test (with exception of irritant smoke)	Cannot fake results
Done on users own mask	Done on modified test mask
Strong temptation to accelerate test and by-pass the seven minute test	Software program requires completion of each test prior to continuing on to next

5.3 The employee's regional office and/or corporate human resources shall maintain records of the most recent fit test.

5.3.1 Inability to get a satisfactory fit disqualifies an employee from respirator required work. NRC will make every effort to provide equipment to fit individuals.

6.0 RESPIRATOR USE INSTRUCTIONS

CAUTION: Air-purifying respirators cannot be used where there is an oxygen deficiency (under 19.5%) or an IDLH situation. Only air-supplied, positive pressure

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demand full-face respirators with an emergency escape cylinder will be worn when an oxygen deficiency or IDLH condition exists.

CAUTION: A respirator does not protect against excessive heat or against hazardous substances that can attack the body through the skin.

6.1 Employees must be properly trained, fit tested and medically qualified for the specific type of respirator to be used.

6.2 Only respirators and cartridges approved for the hazardous atmosphere to be encountered will be used.

6.3 Employees will only use NIOSH/MSHA approved respirators and filters.

6.4 It is not permissible for facial hair, glasses, hats or other conditions to interfere with the seal of a respirator.

6.5 Employees are prohibited from removing respirators in a hazardous atmosphere.

6.6 A user seal check must be performed every time the respirator is donned. This involves checking the seal under negative pressure by covering the inlet and breathing in, then covering the exhalation valve and breathing out normally. No air leakage should be detected.

6.7 Cartridges must be changed, according to the schedule, whenever they are damaged or the filter gets wet, whenever an end-of-service-life indicator indicates, whenever breathing resistance increases or whenever the employee detects an odor or sensation that the filter is no longer efficient.

6.8 Emergency Respirator Use

The following applies to emergency respirator use outside of Permit-Required Confined Space Entry or Hazwoper emergency responses:

- An Immediately Dangerous to Life & Health (IDLH) atmosphere can be oxygen-deficient, at or above published values for a known contaminant or an unknown atmosphere.
- At least one stand-by employee will be available for emergency rescue under these conditions.

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- All employees in an IDLH atmosphere will carry an escape respirator. These respirators will be inspected monthly and before being taken to a jobsite. SCBA's are not considered escape respirators.

6.9 Supplied Air Respirators

- Cascade air supply systems must have NIOSH approval label on all bottles, and a certificate of grade D breathing air must be available from the supplier.
- Breathing air couplings must be incompatible with non-respirable air or pure oxygen fittings on the jobsite.
- Self-Contained Breathing Apparatus (SCBA's) are maintained according to all manufacturers' recommendations. The Respiratory program administrator is responsible for these inspections.

7.0 RESPIRATOR INSPECTION, MAINTENANCE & REPAIR

7.1 The user shall inspect the respirator before each use and during cleaning. This inspection includes cleanliness, face piece visibility, filters, strap wear, all valves & covers and face seal integrity. All substandard conditions found during the inspections shall be corrected prior to use.

7.2 SCBA inspection must be done monthly, using a qualified third-party maintenance contractor, based on the manufactures' recommendation. Monthly inspections include inspections of the mask, regulator, connections, alarms, air pressure over 90% and hydrotest date of cylinder.

7.3 A record of respirator inspections including date and inspectors initials will be maintained for all pieces of supplied air respiratory protective equipment.

7.4 Damaged respirators are to be immediately tagged out and returned to the yard trailer or resources manager for repair or replacement.

7.5 Respirators are individually assigned and the user is responsible for cleaning. Decontamination can be performed with disposable respirator swabs, or using the procedure in Appendix B-2 of 29 CFR 1910.134.

7.6 When not in use, respirators must be stored to protect them from dust, sunlight, heat, extreme cold, excessive moisture, damaging chemicals, and physical damage.

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7.7 Individually assigned respirators are to be stored in clean bags and kept under the user's control. Storage should be in individual gear bags for use during emergency response and dispatch directly to a jobsite.

8.0 OSHA DEFINITION OF CLEAN SHAVEN /SEALING SURFACE

OSHA CLEAN SHAVEN EXAMPLE	
	
<p>Painted area of respirator is the area considered "sealing surface" by OSHA / WISHA / CALOSHA / OROSHA</p>	<p>The paint rubs off indicating the area of facial hair considered to be "out of compliance" for a half-face respirator.</p>
	
<p>Picture above demonstrates amount of what OSHA would consider "clean shaven" face for purposes of meeting the requirements of the standard.</p>	<p>Picture above demonstrates amount of what OSHA would consider "clean shaven" chin for purposes of meeting the requirements of the standard.</p>

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Summation of Clean Shaven Pictures:

- The clean shaven examples above are the *minimum* for a half-face respirator. A full face respirator requires this and any other areas under the respirator coming into contact or interfering with the seal including the side burns, glasses, bangs, etc to be shaven or removed of interfering object.
- Passing a fit test is not a proof of meeting the standard. Proof of meeting the standard is the visual “clean shaven” areas in question and satisfactory fit testing on a qualitative or quantitative approved method.



**HEALTH AND SITE SAFETY PLAN
EXIDE LEAD
RESIDENTIAL REMEDIATION
SOUTH PROPERTIES
VARIOUS LOCATIONS**



Project # 89665

**ATTACHMENT 10
SMS – Procedure 27.3
Lead Protection Program**

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1.0 PURPOSE

To provide a hazard free workplace and have a Lead Protection Program to ensure the safety and health of all NRC (including NRC West, East, Compliance, SRS, et al.) employees performing job tasks in which a potential lead exposure could occur.

Compliance with this program is mandatory and is applicable to all company employees who work in an environment where lead is present in any amount. Failure to comply will result in disciplinary action and/or is grounds for termination.

2.0 METHODS OF COMPLIANCE

The nature of job activities sometimes involves working with lead environments where there is a potential for lead exposure. Prior to commencing work on a job where potential lead exposure is identified as a hazard, a pre-job investigation using the Lead Assessment Form is completed which allows the company to provide effective control methods for employees. The Lead Protection Program incorporates all of the requirements of 29 CFR 1926.62(e)(2)(ii)(A)-(I) as follows:

- 1926.62(e)(2)(ii)(A) A description of each activity in which lead is emitted; e.g. equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices.
- 1926.62(e)(2)(ii)(B) A description of the specific means that will be employed to achieve compliance and, where engineering plans and studies used to determine methods selected for controlling exposure to lead.
- 1926.62(e)(2)(ii)(C) A report of the technology considered in meeting the PEL.
- 1926.62(e)(2)(ii)(D) Air monitoring data which documents the source of lead emissions.
- 1926.62(e)(2)(ii)(E) A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, contracts, etc.
- 1926.62(e)(2)(ii)(F) A work practice program which includes items required under paragraphs (g) protective work clothing and equipment, (h) housekeeping, and (i) hygiene facilities and practice of this program and incorporate other relevant work practices such as those specified in paragraph (e)(5) employees will follow safe work practice.

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- 1926.62(e)(2)(ii)(G) An administrative control schedule required by paragraph (e)(4) administrative controls-implementation of a job rotation schedule.
- 1926.62(e)(2)(ii)(H) A description of arrangements made among contractors on multi-contractor sites with respect to informing affected employees of potential exposure to lead and with respect to responsibility for compliance with this program.
- 1926.62(e)(2)(ii)(I) Other relevant information. (e.g. site inspections, revision of the program every six months, and reviewing the performance of mechanical ventilation).

Once the site specific Safety Plan is completed (this provides a specific step by step sequence for implementing all aspects of the program) all applicable employees will receive information and training for the identified areas of potential lead exposure at that site. During work activities, the supervisor will periodically inspect the area to maintain the effectiveness of the lead protection program. If the inspection reveals a change in the work environment that could increase potential lead exposure, all employees will evacuate the area and a follow-up lead assessment will be completed and the necessary additional precautions will be implemented before work activities resume.

3.0 DEFINITIONS

Permissible Exposure Limit - means the dermal or inhalation exposure limit figured on an (8) eight-hour time weighted average of (50) micrograms per cubic meter of air.

Time Weighted Average (TWA) - the sum of all exposure over an 8-hour work shift.

Action Level - employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 ug/m³ averaged over an (8) hour time weighted average.

Exposure Assessment - Employers are required to determine if any employee is exposed to lead concentrations at or above the action level of (30) thirty microns per cubic meter of air at an (8) eight hour TWA.

Lead (Pb) - metallic lead, all inorganic lead compounds, and organic lead soaps. It is a heavy metal at room temperature and pressure and is a basic chemical element. It can combine with various other substances to form numerous lead compounds. Excluded from this definition are all other organic lead compounds.

Final Medical Determination - the outcome of a multiple physical review or an alternate medical determination.

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4.0 LEAD EXPOSURE

Exposure to lead occurs in at least 120 different occupations, including primary and secondary lead smelting, lead storage, battery manufacturing, lead pigment manufacturing and use, shipbuilding and ship repair, auto manufacturing, and printing. As an employee of the company, potential exposure to various forms and amounts of lead may occur during certain job activities. Lead exposure is not limited to the lead industries; in fact, food, water, and air all contain certain amounts of lead. Therefore, each of us has normal amounts of lead stored in body tissue.

5.0 FORMS OF LEAD EXPOSURE

- 5.1 Lead Metal
- 5.2 Lead Dust
- 5.3 Lead Fumes
- 5.4 Lead Mist

Non-occupational exposure to lead is less than industrial exposure. Lead and lead forms are found at operations such as stacking, pasting, casting, burning and smelting, oxide manufacturing and assembly. There may be a potential health hazard at manufacturing facilities where lead is a part of operations.

6.0 WAYS LEAD CAN ENTER THE BODY

- 6.1 Inhalation
- 6.2 Ingestion

When lead is absorbed into the body in certain doses it is a toxic substance. Lead is not absorbed through the skin, but can enter the body by inhalation and ingestion.

When lead is scattered through the air as a dust, fume, or mist it can be inhaled and absorbed by the lungs and upper respiratory tract.

Inhalation of airborne lead is generally the most important source of occupational lead absorption. Lead can also be absorbed through the digestive system if swallowed. Handling food, cigarettes, chewing tobacco, or make-up with hands contaminated with lead will contribute to ingestion. It is for these reason that eating, drinking, and smoking in identified lead areas are avoided.

Lead blood levels will continue to increase if exposure is not controlled. A significant portion of the lead that you inhale or ingest gets into the blood stream.

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Once in your blood stream, lead is circulated throughout your body and stored in various organs and body tissue. Some of the lead is filtered out of the body by excretion, but some remains in the blood and other tissues. The amount of lead stored in the body will increase if lead absorption is more than body excretion. The lead stored in the body can slowly cause irreversible damage to cells, organs, and the body system.

7.0 HEALTH EFFECTS OF LEAD OVEREXPOSURE

7.1 If steps are not taken to control exposure, continued absorption of lead could result in:

- Constipation or diarrhea
- Lack of appetite
- Weight loss
- Nausea
- Abdominal pain
- Adverse effects in the male and female reproductive systems
- Adverse effects in an unborn fetus

7.2 Short Term Overexposure (Acute)

7.2.1 Lead is a systemic poison that serves no known useful function once absorbed by the body. Exposure to lead in large enough quantities can kill in a matter of days. A condition affecting the brain may arise, known as acute encephalopathy that develops into seizures, coma, and death. A short-term exposure of this magnitude is highly unlikely, but not impossible. There is no sharp dividing line between developing acute and chronic health effects. Lead adversely affects numerous body systems and causes forms of health impairment and disease that arise after periods of exposure as short as days or as long as several years.

7.3 Long Term Overexposure (Chronic)

7.3.1 Chronic overexposure to lead may result in severe damage to your blood forming, nervous, urinary, and reproductive systems. Some common symptoms of chronic overexposure include loss of appetite, metallic taste in the mouth, anxiety, constipation, nausea, excessive tiredness, weakness, insomnia, headache, nervous irritability, muscle and joint pain or soreness, fine tremors, numbness, dizziness, and hyperactivity. At this stage, a qualified physician may diagnose lead poisoning.

7.4 Human Reproductive & Fetal Health

7.4.1 The medical and scientific community has recognized that lead exposure can have significant adverse health effects on an unborn fetus and the reproductive

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systems of males and females. At current acceptable OSHA blood-lead levels there are no known teratogenic effects that may result in birth defects or malformations, however, at higher blood-lead levels diverse effects have been reported. Some symptoms of lead overexposure affecting the male reproductive system may include a decrease in sexual drive, impotence, decreased ability to produce healthy sperm and sterility. With respect to females, these effects may include menstrual disturbances, decreased viability of the fertilized ovum and changes in reproductive capacity.

7.5 Reporting of Problems

7.5.1 Immediately notify your supervisor if you develop potential signs or symptoms associated with lead poisoning. You should also notify your supervisor if you have difficulty breathing while wearing a respirator or suspect problems with other personal protective equipment.

7.6 Exposure Assessment

7.6.1 The company will determine if employees are exposed to concentrations of lead at or above the action level of 30 ug/m³ on an eight-hour TWA. Employees will be provided protection to ensure they do not exceed this limit. The exposure determination shall be based on the following:

7.6.1.1 Personal exposure monitoring

7.6.1.2 Objective data demonstrating that the lead containing material, product, process, operation, or activity cannot result in exposure at or above the action level.

7.6.1.3 Historical measurements of airborne lead that have been taken within the last 12 months.

7.6.2 If the initial exposure determination reveals employee exposure to be at or below the PEL, monitoring will be performed at least every six months. If the exposure determination reveals employee exposure above the PEL, monitoring will be performed quarterly. Additional monitoring will take place if a change in an operations production process occurs which may result in additional exposure to lead. In addition, employees will be given written notification of the results of their exposure assessment within five working days.

7.6.2.1 If the exposure level is above the permissible limit for more than 30 days per year, actions shall be taken to reduce the exposure to or below the permissible exposure. If engineering and work practice controls are not feasible, respirators will be supplied.

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8.0 PREVENTING LEAD ABSORPTION

Proper control of exposure to lead is the responsibility of both the employer and the employee. All of the control methods discussed below are essential to minimize additional sources of lead absorption from inhalation or ingestion of lead that may accumulate on you, your clothing, or your possessions. High personal standards of cleanliness are necessary. Strict compliance with these provisions can virtually eliminate several sources of lead exposure that significantly contribute to excessive lead absorption.

A site specific safety plan will be written for each anticipated exposure to lead. The plan will address a description of each task and area where lead is present, work practice controls, and the specific means to maintain exposure below PELs. All air monitoring will be documented. The safety plan will be read and signed by each member of the assigned crew.

9.0 RESPIRATORY PROTECTION

Exposure to hazardous materials requires special precautions against absorption of toxic compounds. While engineering controls (e.g. ventilation systems) are the primary means of controlling materials such as lead dust, fumes, vapors, and mists, it is often necessary to rely on respiratory protection. The respirator will give employees the proper amount of protection based on the nature of the hazard.

NRC will provide only respirators tested and certified by the National Institute for Occupational Safety & Health (NIOSH) for the level of exposure selection of the respirator and cartridges will take into account: level of expected airborne lead, assigned protection factor of respirator, result of quantitative fit testing. Levels of protection provided will range from full-face air purifying (negative pressure) Powered Air Purifying respirators (PAPR) to positive pressure demand supplied air. Personal Protective Equipment required to protect personnel is to be supplied at no cost to the employees.

10.0 PROTECTIVE WORK CLOTHING & EQUIPMENT

Protective clothing and equipment must be worn when the exposure to lead and lead compounds is above the PEL. If work clothing is provided, it will be given to you in a clean and dry condition at least weekly, and daily if your airborne exposure to lead is greater than 200 ug/m³. Protective work clothing and equipment can include coveralls, tyvek coveralls, gloves, hats, shoes, shoe coverlets, face shield or vented goggles. All clothing and equipment will be repaired, replaced, cleaned, laundered, or disposed of as necessary by the company. Contaminated work clothing and equipment must be removed in the designated change room and

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placed in the provided closed containers to be cleaned or disposed of. At no time may lead be removed from protective clothing or equipment by any means which disperses lead into the workplace air.

11.0 HYGIENE FACILITIES & PRACTICES

Employees exposed to lead above the PEL must change, shower, and eat in designated areas. After changing and showering no clothing or equipment worn during the shift should be carried home, this includes shoes and underwear. The change area will be equipped with separate storage facilities for protective work clothing and equipment and for street clothing to prevent cross-contamination. The container for lead contaminated clothing will be labeled as follows:

- CAUTION: CLOTHING
- CONTAMINATED WITH LEAD.
- DO NOT REMOVE DUST BY BLOWING OR SHAKING.
- DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

Lunchrooms may not be entered with protective clothing or equipment unless surface dust has been removed by vacuuming, down draft booth, or other accepted cleaning method. Finally, workers exposed above the PEL must wash both their hands and face prior to eating, drinking, smoking, or applying cosmetics.

12.0 HOUSEKEEPING & CLEANING PRACTICES

All surfaces will be maintained as free as practicable of accumulation of dust. In addition, the use of compressed air to clean floors and other surfaces is restricted. When vacuuming methods are used, take special precaution when emptying the vacuum to minimize the re-entry of lead into the workplace atmosphere. Where vacuuming methods are not feasible, shoveling, dry or wet sweeping and brushing are acceptable.

13.0 ADMINISTRATIVE CONTROLS & PRACTICES

Based on the specific site lead assessment, the facility may implement a job rotation schedule as one means of reducing an employees TWA exposure to lead. The schedule includes the name or identification number of each effected employee, the duration and exposure levels at each job or work station where effected employees are located, and any other information useful in assessing the reliability of the administrative controls used to reduce potential lead exposure.

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14.0 MEDICAL SURVEILLANCE PROGRAM

The medical surveillance program is provided for all employees who are or may be exposed above the action level for more than 30 days. Medical examinations and procedures shall be performed by or under the supervision of a licensed physician. The medical surveillance is provided by the employer at no cost to the employee.

15.0 BIOLOGICAL MONITORING

15.1 The initial phase of the medical surveillance program includes blood-lead and zinc level tests. Biological monitoring will be made available to all employees who are exposed in excess of the action level for more than thirty days a year:

15.1.1 At least every six months.

15.1.2 If the last blood sampling and analysis indicated a blood lead level at or above 40 ug/100g of whole blood, monitoring will continue every two months.

15.1.3 Monitoring will continue until two consecutive blood samples and analysis indicate a blood lead level below 40 ug/100g of whole blood. Written notification of test results will be given to employees within five days indicating blood lead levels and be given medical removal protection benefits when blood sampling and analysis indicate a blood lead level at or above 40 ug/100g of whole blood.

16.0 MEDICAL EXAMINATIONS & CONSULTATIONS

16.1 The second phase of medical surveillance is medical examinations and consultations for employees who meet the following conditions:

16.1.1 Employees who are exposed in excess of the action level for more than thirty days a year.

16.1.2 At least annually for each employee for whom a blood-sampling test conducted at any time during the preceding 12 months indicated a blood level at or above 40 ug/100g.

16.1.3 Prior to the assignment for the first time to an area in which airborne concentrations of lead are at or above the action level.

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16.1.4 As soon as possible, upon notification by an employee, that he/she has developed signs and symptoms commonly associated with lead intoxication, or desire medical advice concerning the effects of current or past exposure to lead and the ability to procreate a healthy child.

16.1.5 For each employee removed from exposure to lead due to risk of chronic health conditions, or otherwise limited pursuant to a final medical determination.

16.1.6 A licensed physician will perform all medical examinations and a laboratory licensed by the Center for Disease Control will perform consultations, sampling and analysis.

17.0 MEDICAL REMOVAL PROTECTION

Excessive lead absorption subjects employees to increased risk of disease. Medical Removal Protection (MRP) is a means of protecting employees when, for whatever reasons, such as engineering controls, work practices, and respirators, have failed to provide the needed protection. MRP involves the temporary removal of an employee from his or her regular job to a place of lower exposure without loss of earnings, seniority, or benefits.

18.0 POSTING WARNING SIGNS

A warning sign must be illuminated, kept clean, and posted in work areas where the exposure to lead exceeds the PEL. The sign must read:

WARNING-LEAD WORK AREA-POISON-NO SMOKING OR EATING

19.0 EMPLOYEE INFORMATION & TRAINING

19.1 Information and training will be given to all affected employees who may be exposed to lead above the action level, or who may suffer skin or eye irritation from lead. The training shall be provided prior to the time of the initial job assignment and at least annually the training program will inform employees of the following:

19.1.1 Specific hazards associated with their work environment which could result in exposure to lead above the action level.

19.1.2 Personal protective equipment including the purpose, selection, proper fitting, uses and limitations of respirators.

19.1.3 Lead exposure

19.1.4 Dangers of lead

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19.1.5 Health hazards associated with lead overexposure and the purpose and description of the medical surveillance program and the medical removal program.

19.1.6 Employee rights under the lead standard. Including Appendices A & B of the standard.

19.1.7 Limitations of engineering controls when performing lead cleanup tasks.

19.1.8 Documentation of employee information and training is kept on file at the Corporate office.

20.0 RECORD KEEPING

The following records will be kept on file at the Corporate office, if applicable:

- Exposure monitoring for airborne lead.
- Name and job classification of employees measured.
- Details of the sampling and analytic techniques.
- Results of the sampling.
- Type of respiratory equipment worn.
- Records will be kept on file for 40 years or for at least 20 years after termination of employment, whichever is longer.

21.0 BIOLOGICAL MONITORING & MEDICAL EVALUATIONS

- Names of employees and social security numbers.
- Physician's written opinion.
- Copy of exam results.
- Records will be kept on file for 40 years or for at least 20 years after termination of employment, whichever is longer.

22.0 TEMPORARY REMOVAL

- Name and social security number.
- Date of removal and return.
- How the removal was or is being accomplished.
- Whether or not the removal was an elevated blood lead level.
- Kept for duration of employment.

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23.0 JOB ROTATION SCHEDULES

- Name and identification number of each effected employee.
- Duration and exposure levels at each job or work station where each affected employee is located.
- Any other information useful in assessing the effectiveness and reliability of the rotation schedule.

24.0 LEAD ASSESSMENT FORM

- Description of the facility and potential lead exposure areas.
- Job description of employees working in the potential lead exposure area.
- Any specific operating and maintenance procedures.
- Any engineering controls necessary or in place to prevent potential exposure to lead.
- All air and emissions monitoring results of the area are copied for company records.
- Any specific protective clothing and respiratory protection required.
- Any job specific rotation schedules.
- Necessary hygiene facilities and practices.
- Mandatory housekeeping and cleaning practices.
- All mechanical ventilation will be evaluated for effective performance.
- Identification of safe work practice controls.

25.0 ACKNOWLEDGMENT OF TRAINING FORM

- Documentation of employee training.

26.0 DOCUMENT MANAGEMENT

If after reading this program, you find that improvements can be made, please contact the NRC Safety Director. We encourage all suggestions because we are committed to the success of our Lead Safety Program. We strive for clear understanding, safe behavior, and involvement from every level of the company.

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Job-Site Lead Assessment Form

Company Name & Address:

Job Location Address:

Crew Size & Job Activities:

Does job site already use Lead Standard Operating Procedures & Practices?
 ___Yes ___ No If yes please list or attach:

List Lead Exposure Controls in Place at the job site: _____

List identified areas of potential lead exposure: _____

Did the company receive all Air Monitoring Data? ___Yes ___No If yes please attach.

Is a Job Rotation Schedule Required? ___Yes ___No

List Specific Personal Protective Equipment Required: _____

List Specific Housekeeping Requirements: _____

Location of Hygiene Facilities and Specific Procedures: _____

List Specific Safe Work Practice Procedures: _____

Inspector: _____

Date: _____



**HEALTH AND SITE SAFETY PLAN
EXIDE LEAD
RESIDENTIAL REMEDIATION
SOUTH PROPERTIES
VARIOUS LOCATIONS**



Project # 89665

**ATTACHMENT 11
SMS Form 12.1.1
Personal Air / TWA Sample**



SAFETY MANAGEMENT SYSTEM



Form 12.1.1

Personal / Area Time Weighted Average Samples

Revision: 07/2014

DAY _ MO. __ YEAR __		JOB NAME / LOCATION:				PROJECT NUMBER							
Collected By: (Name of IH)													
{PRIVATE }PUMP / NUMBER													
SAMPLE NUMBER													
Employee Name and SSAN or Sample Location													
Exposure Length		Hours/Day	Days/Wk or	Hours/Day	Days/Wk or	Hours/Day	Days/Wk or	Hours/Day	Days/Wk or				
Materials Being Used		A		A		A							
		B		B		B							
		C		C		C							
		D		D		D							
Describe Operation (What is Being Done)													
Observations													
Air Flow		<input type="checkbox"/> Still <input type="checkbox"/> Crossflow <input type="checkbox"/> Laminar <input type="checkbox"/> Disturbed <input type="checkbox"/> Toward Sample <input type="checkbox"/> Away from Sample		<input type="checkbox"/> Still <input type="checkbox"/> Crossflow <input type="checkbox"/> Laminar <input type="checkbox"/> Disturbed <input type="checkbox"/> Toward Sample <input type="checkbox"/> Away from Sample		<input type="checkbox"/> Still <input type="checkbox"/> Crossflow <input type="checkbox"/> Laminar <input type="checkbox"/> Disturbed <input type="checkbox"/> Toward Sample <input type="checkbox"/> Away from Sample							
Conditions Causing Air Flow													
Distance From Source to Sample		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert				
Sample Represents		<input type="checkbox"/> Worse Case <input type="checkbox"/> Normal Case <input type="checkbox"/> Phantom Odor <input type="checkbox"/>		<input type="checkbox"/> Worse Case <input type="checkbox"/> Normal Case <input type="checkbox"/> Phantom Odor <input type="checkbox"/>		<input type="checkbox"/> Worse Case <input type="checkbox"/> Normal Case <input type="checkbox"/> Phantom Odor <input type="checkbox"/>							
Contaminant													
Sampling Instrument													
Collection Media		Brand		Brand		Brand							
		Part		Part		Part							
		Lot #		Lot #		Lot #							
Sample Number													
Time of Day													
Ambient Conditions		Temp	c°	B. Pres	R	Temp	c°	B. Pres	R	Temp	c°	B. Pres	R
Wind Speed / Direction													
GPS Coordinate (N / S)													
GPS Coordinate (E /W)													
RESULTS / TWA													



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{PRIVATE } CALIBRATION RECORDS

PUMP	MANUFACTURER	SERIAL NUMBER
A		
B		
C		
{PRIVATE }	PRESURVEY	POSTSURVEY
DATE AND TIME	_ _ _ _ hours	_ _ _ _ hours
LOCATION / TEMP & ALT		
VOLTAGE CHECKED	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
CALIBRATION METHOD		
FLOW RATE	PUMP A	
	PUMP B	
	PUMP C	
CALIBRATOR'S NAME		

{PRIVATE } LOCAL GRAVIMETRIC DETERMINATIONS

SAMPLE NO.					
FINAL WEIGHT					
INITIAL WEIGHT					
NET WEIGHT					

{PRIVATE } PERSONAL EXPOSURE DATA

CONTAMINANT	HOURS PER DAY	DAYS PER WEEK
A		
B		
C		
D		
E NONE		

CALCULATIONS (8 hr TWA, STEL, etc.)



SAFETY MANAGEMENT SYSTEM



Form 12.1.1

Personal / Area Time Weighted Average Samples

Revision: 07/2014

DAY _ MO. __ YEAR __		JOB NAME / LOCATION:				PROJECT NUMBER							
Collected By: (Name of IH)													
{PRIVATE }PUMP / NUMBER													
SAMPLE NUMBER													
Employee Name and SSAN or Sample Location													
Exposure Length		Hours/Day	Days/Wk or	Hours/Day	Days/Wk or	Hours/Day	Days/Wk or	Hours/Day	Days/Wk or				
Materials Being Used		A		A		A							
		B		B		B							
		C		C		C							
		D		D		D							
Describe Operation (What is Being Done)													
Observations													
Air Flow		<input type="checkbox"/> Still <input type="checkbox"/> Laminar <input type="checkbox"/> Toward Sample <input type="checkbox"/> Away from Sample	<input type="checkbox"/> Crossflow <input type="checkbox"/> Disturbed	<input type="checkbox"/> Still <input type="checkbox"/> Laminar <input type="checkbox"/> Toward Sample <input type="checkbox"/> Away from Sample	<input type="checkbox"/> Crossflow <input type="checkbox"/> Disturbed	<input type="checkbox"/> Still <input type="checkbox"/> Laminar <input type="checkbox"/> Toward Sample <input type="checkbox"/> Away from Sample	<input type="checkbox"/> Crossflow <input type="checkbox"/> Disturbed						
Conditions Causing Air Flow													
Distance From Source to Sample		Horz	Vert	Horz	Vert	Horz	Vert						
Sample Represents		<input type="checkbox"/> Worse Case <input type="checkbox"/> Normal Case <input type="checkbox"/> Phantom Odor <input type="checkbox"/>		<input type="checkbox"/> Worse Case <input type="checkbox"/> Normal Case <input type="checkbox"/> Phantom Odor <input type="checkbox"/>		<input type="checkbox"/> Worse Case <input type="checkbox"/> Normal Case <input type="checkbox"/> Phantom Odor <input type="checkbox"/>							
Contaminant													
Sampling Instrument													
Collection Media		Brand		Brand		Brand							
		Part		Part		Part							
		Lot #		Lot #		Lot #							
Sample Number													
Time of Day													
Ambient Conditions		Temp	c°	B. Pres	R	Temp	c°	B. Pres	R	Temp	c°	B. Pres	R
Wind Speed / Direction													
GPS Coordinate (N / S)													
GPS Coordinate (E /W)													
RESULTS / TWA													



SAFETY MANAGEMENT SYSTEM



Form 12.1.1

Personal / Area Time Weighted Average Samples

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{PRIVATE } CALIBRATION RECORDS

PUMP	MANUFACTURER	SERIAL NUMBER
A		
B		
C		
{PRIVATE }	PRESURVEY	POSTSURVEY
DATE AND TIME	_ _ _ _ hours	_ _ _ _ hours
LOCATION / TEMP & ALT		
VOLTAGE CHECKED	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
CALIBRATION METHOD		
FLOW RATE	PUMP A	
	PUMP B	
	PUMP C	
CALIBRATOR'S NAME		

{PRIVATE } LOCAL GRAVIMETRIC DETERMINATIONS

SAMPLE NO.					
FINAL WEIGHT					
INITIAL WEIGHT					
NET WEIGHT					

{PRIVATE } PERSONAL EXPOSURE DATA

CONTAMINANT	HOURS PER DAY	DAYS PER WEEK
A		
B		
C		
D		
E NONE		

CALCULATIONS (8 hr TWA, STEL, etc.)



**HEALTH AND SITE SAFETY PLAN
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SOUTH PROPERTIES
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Project # 89665

**ATTACHMENT 12
SMS Procedure 15.2
Decontamination**

	SAFETY MANAGEMENT SYSTEM	
Procedure 15.2	Decontamination	Revision: 07/2014

1.0 PURPOSE

The purpose of this procedure is to describe the requirements for decontamination when working with hazardous materials. All personnel, tools and equipment that have entered the contaminated area (exclusion zone) at NRC (including NRC West, East, Compliance, SRS, et al.) jobsites involving hazardous materials, require decontamination upon leaving the exclusion zone as required in 29 CFR 1910.120.

2.0 REQUIREMENTS

2.1 The Site Health and Safety Plan will include a section regarding decontamination. Specific decontamination requirements will be included.

2.2 Decontamination areas will be located with the following considerations:

- Downwind from command post (prevailing winds do not blow decon dust /materials into clean zones.
- Convenient access for exit from hot zones.
- In areas that will minimize exposure of uncontaminated employees or equipment.

2.3 Every exit from the exclusion zone requires decontamination. The exception is an emergency situation. If an employee is injured, decontaminate to the extent possible given the nature of the injury.

2.4 Large equipment such as vessels, skimmers and heavy equipment will be decontaminated by using a steam or hot water wash or by an appropriate detergent wash.

2.5 Personnel decontamination will vary from site to site but will always include the following steps:

- Equipment drop
- Outer boots and gloves wash/rinse (step off)
- Outer boots and gloves removal
- Suit wash/rinse/removal
- Inner glove wash/rinse

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Procedure 15.2	Decontamination	Revision: 07/2014

- Face piece removal, wash/rinse
- Inner glove removal
- Field wash (face, hands)

2.6 Personnel assigned to the decontamination process will assist workers and decontaminate equipment and reusable protective gear.

2.7 An on-site portable shower facility will be provided whenever necessary. If temperature conditions (freezing) prevent the effective use of water, other effective means (dry decon) shall be provided and used.

2.8 During hazardous waste site activities, the Project Manager, Safety Manager or the Site Supervisor will verify that proper decontamination procedures are being followed. Verification of decontamination for personal protective equipment and equipment may be accomplished by direct reading monitoring instruments and/or visual inspection as it is brought out of the contamination reduction zone. In some cases samples may be collected to document that the decontamination effort is effective.

2.9 PPE and personal equipment will be decontaminated, cleaned, laundered, maintained or disposed of and replaced as needed to maintain their effectiveness. Clothing or materials that cannot be effectively decontaminated will be disposed of and removed with other contaminated materials.

2.10 Unauthorized Removal

Unauthorized employees shall not remove protective clothing or equipment from change rooms. Potentially contaminated clothing will not be taken home for laundering

2.11 In the event that decontamination is ineffective based upon site samples or biological testing results, the decontamination plan will be redesigned to ensure effectiveness.



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Project # 89665

**ATTACHMENT 13
SMS Procedure 12.1
Air Monitoring**

	SAFETY MANAGEMENT SYSTEM	
Procedure 12.1	Air Monitoring	Revision: 07/2014

1.0 PURPOSE

The purpose of this procedure is to describe the air monitoring that will be performed at NRC (including NRC West, East, Compliance, SRS, et al.) project sites to identify and control personnel exposures, potentially hazardous atmospheres, and off-site migration of contaminants. Air monitoring will be conducted on all projects involving hazardous materials in order to determine the appropriate level of dermal and respiratory protection, to alert personnel of potentially explosive hazardous conditions, and ensure sufficient oxygen for work if in confined spaces.

Monitoring programs for activities conducted on United States Army Corp. of Engineers project sites will conform to the requirements in EM 385-1-1, 07.B.05., and 08.A.04.,05.,06., as well as the above. Air monitoring results must be posted for employee information and results entered into employee medical files.

2.0 REQUIREMENTS

2.1 Direct reading instruments (if capable of realistic detection) will be used on sites involving hazardous materials. The instruments to be utilized will be specified in the site health and safety plan.

2.2 Instruments available include: portable organic vapor analyzers (OVA), photo-ionization detectors (PID), combustible gas indicator / oxygen meter (4 gas / LEL CGI Meter)², hydrogen sulfide monitors, hydrogen cyanide monitors, carbon monoxide monitors, Draeger tubes, miniature random aerosol monitor (Mini-Rams). Additional special purpose meters including Radiological Survey Meters will be stipulated in the Site Safety Plan on a project specific basis.

2.3 An action level specific to the capability of the instrument used will be established in the site health-and-safety plan for each suspected airborne contaminant.

3.0 PERIMETER SAMPLING ACTION LEVELS

Concentrations of organic vapors, fugitive dust, and other materials will be kept as low as possible to maintain environmental air quality. Any elevated reading should be investigated and the appropriate actions taken to control the emission.

4.0 ESTABLISHMENT OF BACKGROUND CONCENTRATIONS

A "competent person" as defined in 29 CFR 1926.32 is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who

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Procedure 12.1	Air Monitoring	Revision: 07/2014

has authorization to take prompt corrective measures to eliminate them. NRC will use a "competent person" to perform a site survey prior to site operations to determine the concentration of contaminants in non-contaminated areas (generally up wind from the site). This is referred to as a background concentration. This background concentration will be subtracted from measurements made in potentially contaminated areas.

5.0 AIR MONITORING LOG

5.1 The site supervisor will ensure that all air monitoring data is logged into a monitoring notebook.

5.2 Data will include the name of the instrument used, calibration, wind direction, work process, etc.

5.3 A sample Real Time Air Monitoring Log, Area Time Weighted Sampling Data Sheet and any additional documentation forms are each contained in this manual.

6.0 CALIBRATION / BUMP TEST AND MAINTENANCE REQUIREMENTS

6.1 Combustible Gas / CGI / LEL Meters

6.1.1 Each NRC office uses various brands of CGIs. But at present the primary model is an IBRID/ MX 6 which is docked in a calibration unit. This docking station calibrates the unit the 15th of each month and provides a read out.

6.1.2 A Bump Test is a manual system check to ensure the unit is performing as expected. Refer to accompanying instruction sheet for method of bump testing your particular instrument. A bump test should be done daily prior to use.

6.1.3 Each CGI kit will contain instructions for the calibration and bump tests prior to use. These instructions will also specify the type of calibration gas and the accompanying Response Factor for various chemicals.

6.2 All Other Direct Read Instruments

6.2.1 Calibrated according to manufacturer's specifications. Frequency of calibration will range from monthly to annually.

6.3 Personal Sample Pumps and Sample Trains

6.3.1 Time Weighted Average (TWA) readings are based upon the calibrated flow rate as it is set up for sampling.

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6.3.2 Each personal sample pump and sample train must be calibrated before and after each sample on an employee. The sample results in lpm before and after will be averaged to determine final flow rate.

6.3.3 Sample calibration data sheets are contained in this manual

6.4 Combustible Gas Indicators (CGI)

6.4.1 A separate log will be kept detailing date, time, calibration gas or other standard, and name of person performing the calibration. Current hard copies of calibration results will be kept with each meter for reference in the field. If the meter does not contain proof of calibration, it is the responsibility of the user to calibrate the instrument.

6.4.2 Maintenance of the instruments will be as detailed in the manufacturer's reference manuals.

7.0 PERIMETER MONITORING

Sampling stations may be established around the active work area or spill site (i.e., exclusion zone) for perimeter monitoring. The purpose of perimeter monitoring is to collect upwind and downwind measurements to determine if site operations are affecting the quality of air migrating off site. While exclusion zones are rarely perfectly circular and access to all areas surrounding these zones is never easily accomplished, the general plan will be to establish four monitoring stations: upwind, downwind, and two cross-winds.

8.0 PERSONAL AIR MONITORING

8.1 Personal air monitoring shall be stipulated on a project specific basis and will be done to evaluate full shift time weighted average exposures (TWA). OSHA or NIOSH methods will be used to collect the chosen analyte. An American Industrial Hygiene Association (AIHA) accredited laboratory will be used to analyze the samples with the most expedient analysis time ordered.

8.2 Time Weighted Average versus Real Time

8.2.1 OSHA Permissible Exposure Limits are based upon a Time Weighted Average Monitoring results. The average exposure to a contaminant or condition (such as noise, heavy metals, pcbs, etc) to which workers may be exposed without adverse effect over a period such as in an 8-hour day or 40-hour week. Abbreviated TWA. This sampling also referred to as full shift sampling means that we monitor or account for all period of work during a full shift.

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8.2.2 Real Time Sampling indicates an instantaneous one-time reading taken during the worker's exposure. It is not useful for comparison to Time Weighted Average but it is useful for defining Action Levels.

8.3 Direct reading instrumentation sampling shall be used to determine if and when personal monitoring is needed.

8.4 Any decisions to downgrade respiratory protection from air supplied to air purified or air purified to no respirator will require supportive full shift personal air sampling results for the contaminants of concern.

8.5 All personal air monitoring results shall be entered into the employee's medical records.

8.6 A Personal Sampling Data Sheet for recording personal sampling data is contained in this manual (IIPP Forms 12.1.1 -12.1.6)

9.0 POSTING OF AIR MONITORING RESULTS

All personal air monitoring results will be posted in an area where the employees have direct access to the information. At the request of the employee, the results will be explained. If any results are above permissible exposure limits, the project manager will investigate, identify the cause and take corrective action.

10.0 AIR MONITORING FREQUENCY

Air monitoring shall be conducted at least twice daily (once during the beginning of daily activity and once during peak activity) and:

- When work begins on a new phase or portion of a site.
- When contaminants other than those previously identified are being handled.
- When different types of activities occur (e.g. drum opening as opposed to exploratory well drilling).
- When employees are handling leaking drums or are exposed to obvious contamination.

Upon determination by the NRC Regional Safety Manager, monitoring can be conducted continuously, daily or hourly.

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11.0 AIR MONITORING ACTION LEVELS

AIR MONITORING ACTION LEVELS				
Chemical Hazard	Instrument	Method¹	Action Level	ACTION (3)
Oxygen (O ₂)	CGI/LEL/O ₂ meter	Direct read area sample prior to confined space entry.	<19.5%, or >23.5%	<ul style="list-style-type: none"> Ventilate until readings can be brought to 21% +/- 1% or do not enter. Ventilate until readings can be brought to 21% +/- 1% or do not enter.
Combustible Gas /Vapors (CG)	CGI/LEL/O ₂ meter	Direct reading area sample prior to entering confined space	>10% LEL	Clean, secure source of vapors, ventilate until readings can be brought to +/- 1% LEL or do not enter.
		<ul style="list-style-type: none"> Prior to hot work near flammables Suspect gas leak 	Any detection above background drift or fluctuation	Clean, secure source of vapors, ventilate until readings indicate source has been controlled.
Total Dust	Direct Reading Total Dust by MiniRams or equivalent	Exclusion Zone Perimeter monitoring every hour during intrusive work	<1 mg/m ³	Voluntary use of disposable respirators (N/R/P 99 or 100) (3).
			1-2.5 mg/m ³	<ul style="list-style-type: none"> Evaluate PNOC and respirable silica as described below. Upgrade PPE accordingly (3).
			>2.5 mg/m ³	Stop work, determine source of hazard and apply an engineering control or upgrade PPE to level C.
Respirable PNOC (Particulates Not Otherwise Classified)	Personal sampling pumps, pre-weighted PVC filter cassette in breathing zone of worker	NIOSH 0600 when suspect or monthly	>50% < 10x PEL or TLV	Apply engineering controls. Upgrade PPE as necessary (3).
			>50X PEL or TLV	Apply engineering controls. Upgrade PPE as necessary (3).
			>1000 PPM or > IDLH	Stop work, determine source of hazard and apply an engineering control.

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AIR MONITORING ACTION LEVELS				
Chemical Hazard	Instrument	Method ¹	Action Level	ACTION (3)
			>50X PEL or TLV	Apply engineering controls. Upgrade PPE as necessary (3).
			>1000 PPM or > IDLH	Stop work, determine source of hazard and apply an engineering control.
<p>Comments or special instructions:</p> <ol style="list-style-type: none"> 1. Methodology determines the analytical method used by the laboratory. 2. Breathing zone is the location of the sampling media; it would be attached to the workers shoulder at approximately the same height of the workers nose and mouth. 3. For PPE upgrades refer to HASP. 				

Sampling and Monitoring Strategy

- (1) Chronic exposure risks.
 - (a) The site respiratory hazards pose primarily a chronic exposure risk.
 - (b) Based on the site characterization data and risk assessment presented above, the anticipated respiratory hazards are not expected to exceed action levels for respiratory protection purposes.
- (2) Acute exposure risks.
 - (a) Serious acute respiratory hazards are anticipated only in the event of confined space entries, and in those cases, primarily an oxygen deficiency concern.
 - (b) There may be a potential acute risk of hydrogen sulfide, sulfurous oxides. The site respiratory hazards pose primarily a chronic exposure risk.
 - (c) Based on the site characterization data and risk assessment presented above, the anticipated respiratory hazards are not expected to exceed action levels for respiratory protection purposes.

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Monitoring

- (3) All monitoring will be conducted in accordance with the equipment manufacturer's operating instructions.
- (4) Readings will generally be taken where indications exceed normal background and drift of the equipment.
- (5) Readings other than peak readings will generally be taken as sustained readings lasting for several seconds.

TWA Sampling (see definition in Section 8.2.1)

TWA sampling may include time weighted average sampling of personal exposures as well as specific areas (e.g., EZ boundaries, or worst case locations).

- (6) All TWA sampling will be conducted in accordance with NIOSH or OSHA standard methods for purposes of documenting exposure compliance. In some cases TWA sampling may be used for other purposes such as detecting exposure potential, but these samples shall not be documented as compliance samples.
- (7) Routine TWA sampling includes worst case breathing zone sampling. If three consecutive samples are below action levels no further testing is required unless a change in conditions.
- (8) Where worst case samples indicate exposures above action levels, conduct area TWA sampling of EZ boundaries and discrete job tasks. Where three consecutive samples indicate exposures below the action levels no further testing is required unless/until there is a change in conditions.

Characterization and Confirmation

- (9) Characterize means:
 - (a) Collect 3 worst case TWA personal exposure samples matched against 3 worst case TWA area exposure samples from the exclusion zone work areas.
 - i. These samples shall be taken at different times.
 - ii. Each sample shall reflect a full shift of activities and exposures.
 - iii. These samples shall be matched against applicable direct reading monitoring results.
 - iv. More samples may be taken to evaluate effectiveness of control modifications.

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- (b) At such time as the three latest TWA samples indicate a consistent result the work process may be considered to be characterized if the site safety officer determines that there are no other indicates that these samples should not be considered representative. Consistent results include:
 - i. 3 consecutive samples below the action level;
 - ii. 3 consecutive samples at or below Level C half mask requirements;
 - iii. 3 consecutive samples at or below Level C full face requirements; or
 - iv. 3 consecutive samples at or below Level B respiratory protection requirements.
- (c) Characterization must be repeated or confirmed whenever a change in conditions is identified. Indications of a change in condition include the following:
 - i. New materials are encountered that have been determined to contain significant changes in contaminant concentrations.
 - ii. Odors have changed significantly.
 - iii. Operational methods have changed in a way that could produce different exposures.
 - iv. Direct reading instrument results are no longer consistent with the results taken during characterization.
 - 1. For example the direct reading instrument results associated with a TWA characterization that was half of the action level are now getting close to doubling.
 - 2 A confirmatory TWA sample should be taken to ensure that the current direct readings are still indicative of TWA exposures less than the action level.
 - 3 A change in condition must be assumed and therefore controls must be upgraded (e.g., upgrade respiratory protection).
- (10) Confirmation means:
 - (a) A direct reading monitoring result or a TWA exposure sample that is consistent with the latest characterization is a confirmation sample or monitoring result.

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- (b) 1 UP and 3 DOWN:
 - i. At any time that a confirmatory TWA sample produces a new result which is inconsistent with the latest characterization, a change in condition must be assumed and therefore controls must be upgraded (e.g., upgrade respiratory protection).
 - ii. While any single direct reading or TWA result inconsistent with a lower level of controls must indicate upgrading controls, a full set of 3 consecutive TWA results indicate a consistent characterization appropriate for downgrading controls.
 - iii. Similarly, 3 consecutive direct reading results must be produced to downgrade (provided the direct reading results have been previously confirmed against applicable TWA levels).
 - (c) Routine confirmation by TWA sampling and direct reading monitoring should be performed in accordance with the directions in the table.
 - i. Routine confirmation monitoring or sampling means to perform the evaluation even if there is no other indication of a change in conditions.
 - ii. Unless otherwise specified, routine confirmation sampling is conducted daily for direct reading instrument monitoring and monthly for TWA sampling.
 - (d) Confirmation wipe samples mean to collect a sample from the same location and over the same amount of surface area as a previously characterized location.
- (11) Downgrading of respiratory protection shall be approved by an NRC CIH.

Documentation / Communication to Employees

- (12) All calibration, sampling information and results will be documented using a log or NRC standard forms.
- (13) Sample results for specific individuals will be reviewed by an NRC CIH, quantified and summarized to determine if an exposure has occurred per OSHA PELs. The specific results will be documented with an explanatory letter and passed directly to the applicable employee with a copy to their medical records.

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- (14) Sample results will be generically passed (without mention of specific employee names) to all personnel during morning safety meetings.



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Project # 89665

**Attachment 14
Incident Reporting Forms
-NRCES Root Cause Analysis
- NRCES Employee Incident Form
-NRCES First Aid Reporting Form**



SAFETY MANAGEMENT SYSTEM



Form 3.1.2

**Employee Occupational Injury / Incident Report
(To Be Filled Out By **EMPLOYEE** At Time Of Incident)**

Revision: 07/2014

EMPLOYEE _____ Office Assigned: _____

Address _____

Telephone ____/____/____ SS# XXX/XX/____ Date of Birth ____/____/____

DATE OF INJURY ____/____/____ MO DAY YR	TIME OF INJURY (24-hr clock) ____/____ HR MIN	SHIFT: <input type="checkbox"/> Day	DAY OF <input type="checkbox"/> Swing <input type="checkbox"/> Graveyard	<input type="checkbox"/> Sun WEEK:	<input type="checkbox"/> Thu <input type="checkbox"/> Mon <input type="checkbox"/> Tue <input type="checkbox"/> Wed	REPORTED TO <input type="checkbox"/> Fri <input type="checkbox"/> Sat Hours Worked _____	<input type="checkbox"/> Supervisor <input type="checkbox"/> Other _____
---	--	-------------------------------------	--	---------------------------------------	--	---	---

Incident Location _____ Job Title _____

Dept. Assigned _____ Date of Hire _____ Time on this job: _____

PART OF BODY AFFECTED: Check Box(es)

Head & Neck	Upper Extremities-Rt	Upper Extremities-Lt	Trunk	Lower Extremities- Rt	Lower Extremities-Lt
<input type="checkbox"/> Scalp	<input type="checkbox"/> Shoulder	<input type="checkbox"/> Shoulder	<input type="checkbox"/> Upper Back	<input type="checkbox"/> Thigh	<input type="checkbox"/> Thigh
<input type="checkbox"/> Skull	<input type="checkbox"/> Upper Arm	<input type="checkbox"/> Upper Arm	<input type="checkbox"/> Lower Back	<input type="checkbox"/> Lower Leg	<input type="checkbox"/> Lower Leg
<input type="checkbox"/> Neck <i>Circle one</i>	<input type="checkbox"/> Elbow	<input type="checkbox"/> Elbow	<input type="checkbox"/> Chest	<input type="checkbox"/> Knee	<input type="checkbox"/> Knee
<input type="checkbox"/> Ear(s) Rt Lt Both	<input type="checkbox"/> Forearm	<input type="checkbox"/> Forearm	<input type="checkbox"/> Abdomen	<input type="checkbox"/> Ankle	<input type="checkbox"/> Ankle
<input type="checkbox"/> Eye(s) Rt Lt Both	<input type="checkbox"/> Wrist	<input type="checkbox"/> Wrist	<input type="checkbox"/> Hip(s)	<input type="checkbox"/> Foot	<input type="checkbox"/> Foot
<input type="checkbox"/> Mouth	<input type="checkbox"/> Hand	<input type="checkbox"/> Hand	<input type="checkbox"/> Groin	<input type="checkbox"/> Toe(s)	<input type="checkbox"/> Toe(s)
<input type="checkbox"/> Teeth	<input type="checkbox"/> Finger(s)	<input type="checkbox"/> Finger(s)	<input type="checkbox"/> Side		
<input type="checkbox"/> Face					

NATURE OF INJURY: Check Box (es)

<input type="checkbox"/> Laceration	<input type="checkbox"/> Puncture	<input type="checkbox"/> Gradual Onset	<input type="checkbox"/> Foreign Body, Imbedded	
<input type="checkbox"/> Abrasion	<input type="checkbox"/> Hernia	<input type="checkbox"/> Strain	<input type="checkbox"/> Foreign Body	<input type="checkbox"/> Amputation
<input type="checkbox"/> Burn, Chemical	<input type="checkbox"/> Dermatitis	<input type="checkbox"/> Bruise	<input type="checkbox"/> Fracture	<input type="checkbox"/> Fatality
<input type="checkbox"/> Burn, Thermal	<input type="checkbox"/> Electrocution	<input type="checkbox"/> Sprain	<input type="checkbox"/> Infection	

SEVERITY OF INJURY: Check Box (es)

<input type="checkbox"/> First Aid	<input type="checkbox"/> Return-to-Work Same Day	<input type="checkbox"/> Other _____	Transported by: <input type="checkbox"/> Ambulance <input type="checkbox"/> Car <input type="checkbox"/> Other _____ <input type="checkbox"/> Accompanied by _____
<input type="checkbox"/> Sent to Doctor	<input type="checkbox"/> Unable to Work Next Shift	_____	
<input type="checkbox"/> Hospitalized	<input type="checkbox"/> Work Restrictions (s)	_____	
<input type="checkbox"/> Unconscious	<input type="checkbox"/>	_____	
<input type="checkbox"/> Sutured or Stitched			

Sequence of Events: (be specific, including why actions occurred or conditions existed) _____

Names of Witnesses: _____

Suggestion of employee to prevent recurrence: _____

Signatures:

Employee Date Supervisor Date



SAFETY MANAGEMENT SYSTEM



Form 3.1.1

Root Cause Analysis – Personal Injury / Incident Report
(To Be filled out by **PROJECT MANAGER** at Time of Incident)

Revision: 07/2014

PROJECT INFORMATION

1. PROJECT NAME:	2. PROJECT NUMBER:
3. PROJECT MGR/PHONE:	4. SUPERVISOR/PHONE:

INJURED EMPLOYEE INFORMATION

5. EMPLOYEE:	6. JOB TITLE:	
7. BRANCH OFFICE:	8. DATE OF HIRE:	9. PHONE:
10. EMPLOYEE STATUS: <input type="checkbox"/> Regular-Full Time <input type="checkbox"/> Regular Part-Time <input type="checkbox"/> Temporary <input type="checkbox"/> Seasonal		

INCIDENT INFORMATION

11. DATE OF INCIDENT: ____/____/____ MO DAY YR	12. TIME EMPLOYEE BEGAN WORK: (24 Hour Clock) ____:____ HR MIN	13. DAY OF WEEK: <input type="checkbox"/> Sun <input type="checkbox"/> Thu <input type="checkbox"/> Mon <input type="checkbox"/> Fri <input type="checkbox"/> Tue <input type="checkbox"/> Sat <input type="checkbox"/> Wed	14. TIME OF INCIDENT: (24 Hour Clock) ____:____ HR MIN
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15. LOCATION OF INCIDENT:	16. EMPLOYEE DUTY AT TIME OF INCIDENT:
17. DATE / TIME INCIDENT REPORTED:	18. INCIDENT REPORTED TO:
19. WAS HEALTH & SAFETY NOTIFIED? <input type="checkbox"/> Yes <input type="checkbox"/> No	20. SAFETY MGR:

21. WHAT WAS THE EMPLOYEE DOING JUST BEFORE THE INCIDENT OCCURRED?

22. DESCRIBE THE INCIDENT:

23. WHAT OBJECT (I.E. TOOL, EQUIPMENT, MATERIAL OR SUBSTANCE) DIRECTLY HARMED THE EMPLOYEE/PROPERTY?

24. WITNESSES TO THE INCIDENT: YES If yes, Provide names and contact numbers NO

25. SUPERVISION AT TIME OF INCIDENT: Directly supervised Not supervised

MEDICAL TREATMENT

26. PART OF BODY INJURED:	27. MEDICAL TREATMENT: <input type="checkbox"/> None <input type="checkbox"/> First Aid <input type="checkbox"/> Ambulance <input type="checkbox"/> Driven to Clinic / Hospital
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28. DID EMPLOYEE STOP WORK BECAUSE OF INJURY? Yes (Date /time: _____) No

29. DID EMPLOYEE REFUSE TREATMENT/ EXAM? Yes (Employee Initial _____) No

30. HAS EMPLOYEE RETURNED TO WORK? Yes No

31. NAME /ADDRESS/ PHONE # HOSPITAL/CLINIC:	32. NAME / PHONE NUMBER PHYSICIAN:
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SAFETY MANAGEMENT SYSTEM



Form 3.1.1

Root Cause Analysis – Personal Injury / Incident Report
(To Be filled out by **PROJECT MANAGER** at Time of Incident)

Revision: 07/2014

	SAFETY MANAGEMENT SYSTEM	 IT'S THE WAY TO GO!
Form 3.1.3	First Aid Report – No Trip to Hospital or E.R. (To be filled out by Supervisor & Employee at time of incident)	Revision: 07/2014

EMPLOYEE**Date of Report**

DATE of INCIDENT:	TIME:	SHIFT:	DAY OF	<input type="checkbox"/> Sun	<input type="checkbox"/> Thu
____/____/____	(24-hr clock)		WEEK:	<input type="checkbox"/> Mon	<input type="checkbox"/> Fri
MO DAY YR	HR MIN			<input type="checkbox"/> Tue	<input type="checkbox"/> Sat
				<input type="checkbox"/> Wed	

INCIDENT LOCATION

Location:

Job Task:

PART OF BODY AFFECTED Check Box(es)

<input type="checkbox"/> Scalp	<input type="checkbox"/> Shoulder	<input type="checkbox"/> Upper Back	<input type="checkbox"/> Thigh
<input type="checkbox"/> Skull	<input type="checkbox"/> Upper Arm	<input type="checkbox"/> Lower Back	<input type="checkbox"/> Lower Leg
<input type="checkbox"/> Neck	<input type="checkbox"/> Elbow	<input type="checkbox"/> Chest	<input type="checkbox"/> Knee
<input type="checkbox"/> Ear(s) Rt Both	<input type="checkbox"/> Forearm	<input type="checkbox"/> Abdomen	<input type="checkbox"/> Ankle
<input type="checkbox"/> Eye(s) Rt Lt Both	<input type="checkbox"/> Wrist	<input type="checkbox"/> Hip(s)	<input type="checkbox"/> Foot
<input type="checkbox"/> Mouth	<input type="checkbox"/> Hand		<input type="checkbox"/> Groin
<input type="checkbox"/> Toe(s)	<input type="checkbox"/> Finger(s)	<input type="checkbox"/> Side	
<input type="checkbox"/> Teeth			
<input type="checkbox"/> Face			

HOW WAS FIRST AID TREATED?

Band-Aid
 Ice Pack
 Burn Cream
 No treatment

DESCRIBE HOW THE INCIDENT OCCURRED (employee fills out)

SUGGESTION OF EMPLOYEE TO PREVENT RECURRENCE

IMMEDIATE CORRECTIVE ACTION

<input type="checkbox"/> Job Hazard Analysis written	<input type="checkbox"/> DOT _____
<input type="checkbox"/> Equipment taken out of service	<input type="checkbox"/> NON-DOT _____
<input type="checkbox"/> Follow-up with Corporate Director Safety	(866-454-1911)

SIGNATURES

_____	_____	_____	_____
Employee	Date	Supervisor	Date

Copies to: _____ Corp Director Safety _____ General / Operations Manager