

RECEIVED



DEC 11 2015

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

Memorandum

To: Marley Hart, Executive Officer
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833

Date: December 07, 2015

From: Juliann Sum, Chief
Division of Occupational Safety and Health
Department of Industrial Relations

Re: Petition (No. 550) for amendment of Title 8 Construction Safety Orders

1.0 INTRODUCTION AND BACKGROUND

On September 3, 2015, the Division of Occupational Safety and Health (Cal/OSHA) received a petition to adopt a safety and health standard for the performance of corrosion prevention work on industrial and infrastructure projects. The petition was filed by Scott Kronland and Zoe Palitz, attorneys at law with Altusher Berzon, LLP (petitioner), on behalf of the International Union of Painters and Allied Trades (IUPAT).

The petition requests new regulatory language that would be added to Title 8 Construction Safety Orders (CSO). No specific location within Title 8 CSO was suggested by the petitioner.

2.0 PETITIONER'S REQUEST

The petitioner is requesting a new regulatory standard that would require all employees performing corrosion prevention work to be trained and certified as required by the NACE No. 13/SSPC-ACS-1 consensus standard. This consensus standard was published in 2008 as a joint venture by the National Association of Corrosion Engineers (NACE) and the Society of Protective Coatings (SSPC), formerly the Steel Structures Painting Council. The NACE No. 13/SSPC-ACS-1 standard is described in more detail in Section 6.0 of this evaluation.

The scope of the recommended regulation would encompass the qualification and certification requirements of all aspects of corrosion protection for industrial steel and concrete buildings and structures. This includes both the preparation of their surfaces and application of protective coatings. Surface preparation for protective coatings involves processes including, but not limited to, sanding, grinding, water jetting and sand blasting whereas the application of protective coatings is done with pressurized spray equipment. A phase-in schedule for the recommended regulation is also included within the regulation itself. The full text of the suggested regulatory language is provided in section 7.0 of this evaluation.

3.0 HAZARDS TO EMPLOYEES PERFORMING CORROSION PREVENTION WORK

Employees performing corrosion prevention work may be exposed to a variety of dangers while performing their work. Such dangers include working from heights, in confined spaces, with hazardous substances and with high pressure equipment.

3.1 Hazardous locations

Because much of the work involves multistory buildings and structures, employees are often exposed to fall from heights while working from ladders, scaffolds, aerial devices, suspended platforms, equipment and unguarded edges of structures. Potential injuries from falls from heights include fractures, lacerations, contusions and impalement.

Other common locations of corrosion prevention operations include tanks and vaults which can expose employees to the hazards associated with confined space entry including engulfment, entrapment as well as potentially toxic, explosive or oxygen deficient environments.

3.2 Hazardous Air Contaminants

Due to the nature of the work, corrosion prevention workers may also be exposed to hazardous air contaminants during both the surface preparation and coating application processes.

As existing coatings are removed by sanding, grinding or sand blasting, hazardous chemicals within the coatings and surfaces are released. This creates the potential for employees to be exposed to hazardous levels of lead, asbestos, as well as heavy metals including but not limited to cadmium and chromium. The process of sandblasting itself can also produce hazardous levels of crystalline silica due to its presence in the blasting sand.

Employees apply protective coatings to structures as an aerosolized liquid with spray equipment. The chemical components of protective coatings commonly contain numerous hazardous chemicals such as xylene, methyl ethyl ketone, ethylbenzene and

hexamethylene diisocyanates. Employees may be exposed to harmful concentrations of the hazardous chemicals during the spray coating operations.

Potential illnesses and diseases from exposure to airborne harmful chemicals include cancer, systemic toxicity, asphyxiation, respiratory diseases, neurological disorders, and dermatitis.

3.3 High Pressure equipment

High pressure spray equipment is normally used to apply protective coatings. High-pressure injection injuries will likely occur if an employee's exposed skin is contacted by the pressurized spray. Often, the injury may initially appear insignificant or benign, but may result in a life threatening infection or permanent loss of function if not treated immediately. A high-pressure injection injury is considered a surgical emergency.

4.0 EXISTING TITLE 8 REGULATIONS

Title 8 Safety Orders do not currently contain regulations specific to the qualification and certification of employees performing corrosion prevention work. Training related to hazards posed by these operations, however, is addressed the by following Title 8 regulations. The regulations below do not include all applicable Title 8 standards relating to corrosion prevention work.

Title 8 CCR Construction Safety Orders

§1509. Injury and Illness Prevention Program

(a) Every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program in accordance with section 3203 of the General Industry Safety Orders.

Reference:

Title 8 CCR§3203. Injury and Illness Prevention Program.

(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program. The Program shall be in writing and, shall, at a minimum:

(7) Provide training and instruction:

(A) When the program is first established;

(B) To all new employees;

(C) To all employees given new job assignments for which training has not previously been received;

(D) Whenever new substances, processes, procedures or equipment are introduced to the workplace and represent a new hazard;

(E) Whenever the employer is made aware of a new or previously unrecognized hazard; and,

(F) For supervisors to familiarize themselves with the safety and health hazards to which employees under their immediate direction and control may be exposed.

§1510. Safety Instructions for Employees.

(a) When workers are first employed they shall be given instructions regarding the hazards and safety precautions applicable to the type of work in question and directed to read the Code of Safe Practices.

(b) The employer shall permit only qualified persons to operate equipment and machinery.

(c) Where employees are subject to known job site hazards, such as, flammable liquids and gases, poisons, caustics, harmful plants and animals, toxic materials, confined spaces, etc., they shall be instructed in the recognition of the hazard, in the procedures for protecting themselves from injury, and in the first aid procedure in the event of injury.

§1529. Asbestos.

(k) Communication of hazards

(9) Employee Information and Training.

(A) The employer shall, at no cost to the employee, institute a training program for all employees who are likely to be exposed in excess of a PEL and for all employees who perform Class I through IV asbestos operations, and shall ensure their participation in the program.

(B) Training shall be provided prior to or at the time of initial assignment and at least annually thereafter. Employees engaged in asbestos-related work that requires employer registration under Section 341.6 or engaged in asbestos cement pipe operations as defined in subsection (r), shall be trained and certified by a Division approved training provider. To be approved by the Division, training providers shall (1) apply to the Division for course approval and (2) pay fees covering the cost of the approval process to the Division as specified in regulations promulgated by the Division pursuant to the provisions of Chapter 3.5 (beginning with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code.

(C) Training for Class I operations and for Class II operations that require the use of critical barriers (or equivalent isolation methods) and/or negative pressure enclosures under this section shall be the equivalent in curriculum training method and length to the EPA Model Accreditation Plan (MAP) asbestos abatement workers training (40 CFR Part 763, Subpart E, Appendix C).

(D) Training for other Class II work.

1. For work with asbestos containing material involving roofing materials, flooring materials, siding materials, ceiling tiles, or transite panels, training shall include at a minimum all the elements included in subsection (k)(9)(H) of this section and in addition, the specific work practices and engineering controls set forth in subsection (g) of this section which specifically relate to that category. Such course shall include "hands-on" training and shall take at least 8 hours.

2. An employee who works with more than one of the categories of material specified in subsection (k)(9)(D)1. of this section shall receive training in the work practices applicable to each category of material that the employee removes and each removal method that the employee uses.

3. For Class II operations not involving the categories of material specified in subsection (k)(9)(D)1. of this section, training shall be provided which shall include at a minimum all the elements included in subsection (k)(9)(H) of this section and in addition, the specific work practices and engineering controls set forth in subsection (g) of this section which specifically relate to the category of material being removed, and shall include "hands-on" training in the work practices applicable to each category of material that the employee removes and each removal method that the employee uses.

(E) Training for Class III employees shall be consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(2). Such a course shall also include "hands-on" training and shall take at least 16 hours.

EXCEPTION: For Class III operations for which the competent person determines that the EPA curriculum does not adequately cover the training needed to perform that activity, training shall include as a minimum all the elements included in subsection (k)(9)(H) of this section and in addition, the specific work practices and engineering controls set forth in subsection (g) of this section which specifically relate to that activity, and shall include "hands-on" training in the work practices applicable to each category of material that the employee disturbs.

(F) Training for employees performing Class IV operations shall be consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(1). Such a course shall include available information concerning the locations of thermal system insulation and surfacing ACM/PACM, and asbestos-containing flooring material, or flooring material where the absence of asbestos has not yet been certified; and instruction in recognition of damage, deterioration, and delamination of asbestos containing building materials. Such course shall take at least 2 hours.

(G) Training for employees who are likely to be exposed in excess of the PEL and who are not otherwise required to be trained under subsections (k)(9)(C) through (F) of this section, shall meet the requirements of subsection (k)(9)(H) of this section.

(H) The training program shall be conducted in a manner that the employee is able to understand. In addition to the content required by provisions in subsections (k)(9)(C) through (F) of this section, the employer shall ensure that each such employee is informed of the following:

- 1. Methods of recognizing asbestos, including the requirement in subsection (k)(1) of this section to presume that certain building materials contain asbestos;*
- 2. The health effects associated with asbestos exposure;*
- 3. The relationship between smoking and asbestos in producing lung cancer;*
- 4. The nature of operations that could result in exposure to asbestos, the importance of necessary protective controls to minimize exposure including, as applicable, engineering controls, work practices, respirators, housekeeping procedures, hygiene facilities, protective clothing, decontamination procedures, emergency procedures, and waste disposal procedures, and any necessary instruction in the use of these controls and procedures where Class III and IV work will be or is performed, the contents of EPA 20T-2003, "Managing Asbestos In-Place" July 1990 or its equivalent in content;*
- 5. The purpose, proper use, fitting instructions, and limitations of respirators as required by Section 5144;*
- 6. The appropriate work practices for performing the asbestos job;*
- 7. Medical surveillance program requirements;*
- 8. The content of this standard including appendices;*
- 9. The names, addresses and phone numbers of public health organizations which provide information, materials and/or conduct programs concerning smoking cessation. The employer may distribute the list of such organizations contained in Appendix J to this section, to comply with this requirement; and*
- 10. The requirements for posting signs and affixing labels and the meaning of the required legends for such signs and labels.*

(10) Access to training materials.

(A) The employer shall make readily available to affected employees without cost, written materials relating to the employee training program, including a copy of this regulation.

(B) The employer shall provide to the Chief and the Director, upon request, all information and training materials relating to the employee information and training program.

(C) The employer shall inform all employees concerning the availability of self-help smoking cessation program material. Upon employee request, the employer shall distribute such material, consisting of NIH Publication No. 89-1647, or equivalent self-help material, which is approved or published by a public health organization listed in Appendix J to this section.

§1530.1. Control of Employee Exposures from Dust-Generating Operations Conducted on Concrete or Masonry Materials.

(e) Training.

(1) Employee training. An employer whose operations include using powered tools or equipment to cut, grind, core, or drill concrete or masonry materials shall provide training on the following topics to all employees prior to their assignment to jobs or work areas where the employer will be conducting these operations:

(A) The potential health hazards of overexposure to airborne dust generated from concrete and masonry materials, including silicosis, lung cancer, chronic obstructive lung disease (COPD) and decreased lung function.

(B) Methods used by the employer to control employee exposures to airborne dust from concrete and masonry materials, including wet cutting, local exhaust ventilation systems, and isolation of the process from the operator or other employees by means of distance, enclosure, or other method, as applicable.

(C) Proper use and maintenance of dust reduction systems, including the safe handling and disposal of waste materials collected in connection with their use.

(D) The importance of good personal hygiene and housekeeping practices when working in proximity to dust from concrete and masonry materials including:

1. Not smoking tobacco products; appropriate methods of cleaning up before eating, and appropriate methods of cleaning clothes.

2. Avoiding, to the extent practical, activities that would contribute significantly to an employee's exposure to airborne dusts.

(2) Supervisor training. Prior to engaging in supervision of employees who will be cutting, grinding, drilling, or coring concrete or masonry materials, supervisory employees shall be trained on the following topics:

(A) The information required to be provided by subsection (e)(1) above.

(B) Identification of tasks the employees will perform, which may result in employee exposure to concrete or masonry dust.

(C) Procedures for implementation of the measures used by the employer to reduce the exposure to concrete or masonry dust.

(3) Periodic training. The employer shall conduct the training required by this section at least annually.

§1532. Cadmium

(m) Communication of Cadmium Hazards to Employees.

(4) Employee Information and Training.

(A) The employer shall institute a training program for all employees who are potentially exposed to cadmium, assure employee participation in the program, and maintain a record of the contents of such program.

(B) Training shall be provided prior to or at the time of initial assignment to a job involving potential exposure to cadmium and at least annually thereafter.

(C) The employer shall make the training program understandable to the employee and shall assure that each employee is informed of the following:

1. The health hazards associated with cadmium exposure, with special attention to the information incorporated in Appendix A;
2. The quantity, location, manner of use, release, and storage of cadmium in the workplace and the specific nature of operations that could result in exposure to cadmium, especially exposures above the PEL;
3. The engineering controls and work practices associated with the employee's job assignment;
4. The measures employees can take to protect themselves from exposure to cadmium, including modification of such habits as smoking and personal hygiene, and specific procedures the employer has implemented to protect employees from exposure to cadmium such as appropriate work practices, emergency procedures, and the provision of personal protective equipment;
5. The purpose, proper selection, fitting, proper use, and limitations of respirators and protective clothing;
6. The purpose and a description of the medical surveillance program required by subsection (l);
7. The contents of this section and its appendices, and,
8. The employee's rights of access to records under section 3204(e) and (g).

(D) Additional access to information and training program and materials.

1. The employer shall make a copy of this section and its appendices readily available to all affected employees and shall provide a copy without cost if requested.
2. Upon request, the employer shall provide to the Chief or NIOSH all materials relating to the employee information and the training program.

§1532.1. Lead.

(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 (1)(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.

* * * * *

§1532.2. Chromium (VI)

* * * * *

(j) Communication of chromium (VI) hazards to employees.

(1) Hazard communication. The employer shall include chromium (VI) 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 chromium and safety data sheets, and is trained in accordance with the provisions of Section 5194 and subsection (j)(2) of this section. The employer shall provide information on at least the following hazards: Cancer; eye irritation; and skin sensitization.

(2) Employee information and training.

(A) The employer shall ensure that each employee can demonstrate knowledge of at least the following:

1. The contents of this section; and
2. The purpose and a description of the medical surveillance program required by subsection (i) of this section.

(B) The employer shall make a copy of this section readily available without cost to all affected employees.

Title 8 CCR General Industry Safety Orders

§5144. Respiratory Protection.

(k) Training and information. This subsection requires the employer to provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable, and recur annually, and more often if necessary. This subsection also requires the employer to provide the basic information on respirators in Appendix D to employees who wear respirators when not required by this section or by the employer to do so.

(1) The employer shall ensure that each employee can demonstrate knowledge of at least the following:

(A) Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;

(B) What the limitations and capabilities of the respirator are;

(C) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;

(D) How to inspect, put on and remove, use, and check the seals of the respirator;

(E) What the procedures are for maintenance and storage of the respirator;

(F) How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and

(G) The general requirements of this section.

(2) The training shall be conducted in a manner that is understandable to the employee.

(3) The employer shall provide the training prior to requiring the employee to use a respirator in the workplace.

(4) An employer who is able to demonstrate that a new employee has received training within the last 12 months that addresses the elements specified in subsection (k)(1)(A) through (G) is not required to repeat such training provided that, as required by subsection (k)(1), the employee can demonstrate knowledge of those element(s). Previous training not repeated initially by the employer must be provided no later than 12 months from the date of the previous training.

(5) Retraining shall be administered annually, and when the following situations occur:

(A) Changes in the workplace or the type of respirator render previous training obsolete;

(B) Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or

(C) Any other situation arises in which retraining appears necessary to ensure safe respirator use.

(6) The basic advisory information on respirators, as presented in Appendix D, shall be provided by the employer in any written or oral format, to employees who wear respirators when such use is not required by this section or by the employer.

(l) Program evaluation. This section requires the employer to conduct evaluations of the workplace to ensure that the written respiratory protection program is being properly implemented, and to consult employees to ensure that they are using the respirators properly.

(1) The employer shall conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

(2) The employer shall regularly consult employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

(A) Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);

(B) Appropriate respirator selection for the hazards to which the employee is exposed;

(C) Proper respirator use under the workplace conditions the employee encounters; and

(D) Proper respirator maintenance.

* * * * *

§5158. Other Confined Space Operations.

* * * * *

(c) Operation Procedures and Employee Training. The employer shall implement the provisions of this subsection before any employee is permitted to enter a confined space.

* * * * *

(2) Employee Training. Employees, including standby persons required by subsection (e)(1)(D), shall be trained in the operating and rescue procedures, including instructions as to the hazards they may encounter.

* * * * *

§5194. Hazard Communication

* * * * *

(h) Employee Information and Training.

(1) Employers shall provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new chemical hazard is introduced into their work area. Information and training may relate to general classes of hazardous chemicals to the extent appropriate and related to reasonably foreseeable exposures of the job. Chemical-specific information must always be available through labels and safety data sheets.

(2) Information and training shall consist of at least the following topics:

(A) Employees shall be informed of the requirements of this section.

(B) Employees shall be informed of any operations in their work area where hazardous chemicals are present.

(C) Employees shall be informed of the location and availability of the written hazard communication program, including the list(s) of hazardous chemicals and safety data sheets required by this section.

(D) Employees shall be trained in the methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.).

(E) Employees shall be trained in the physical, health, simple asphyxiation, combustible dust and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area, and the measures they can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.

(F) Employees shall be trained in the details of the hazard communication program developed by the employer, including an explanation of the labels received on shipped containers and the workplace labeling system used by their employer and the safety data sheet, and how employees can obtain and use the appropriate hazard information.

(G) Employers shall inform employees of the right:

1. To personally receive information regarding hazardous chemicals to which they may be exposed, according to the provisions of this section;
2. For their physician or collective bargaining agent to receive information regarding hazardous chemicals to which the employee may be exposed according to provisions of this section;
3. Against discharge or other discrimination due to the employee's exercise of the rights afforded pursuant to the provisions of the Hazardous Substances Information and Training Act.

(3) Whenever the employer receives a new or revised safety data sheet, such information shall be provided to employees on a timely basis not to exceed 30 days after receipt, if the new information indicates significantly increased risks to, or measures necessary to protect, employee health as compared to those stated on a safety data sheet previously provided.

* * * * *

5.0 APPLICABLE FEDERAL REGULATIONS

Federal OSHA regulations do not specifically address the qualification and certification of employees performing corrosion prevention work. Training related to hazards posed by these operations, however, is addressed in the following federal regulations. The regulations below do not include a comprehensive list of all applicable Federal OSHA standards relating to corrosion prevention work.

1910 Occupational Safety and Health Standards

1910.134 Respiratory Protection

1910.134(k)

Training and information. This paragraph requires the employer to provide effective training to employees who are required to use respirators. The training must be comprehensive,

understandable, and recur annually, and more often if necessary. This paragraph also requires the employer to provide the basic information on respirators in Appendix D of this section to employees who wear respirators when not required by this section or by the employer to do so.

1910.134(k)(1)

The employer shall ensure that each employee can demonstrate knowledge of at least the following:

1910.134(k)(1)(i)

Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;

1910.134(k)(1)(ii)

What the limitations and capabilities of the respirator are;

1910.134(k)(1)(iii)

How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;

1910.134(k)(1)(iv)

How to inspect, put on and remove, use, and check the seals of the respirator;

1910.134(k)(1)(v)

What the procedures are for maintenance and storage of the respirator;

1910.134(k)(1)(vi)

How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and

1910.134(k)(1)(vii)

The general requirements of this section.

1910.134(k)(2)

The training shall be conducted in a manner that is understandable to the employee.

1910.134(k)(3)

The employer shall provide the training prior to requiring the employee to use a respirator in the workplace

** * * * **

1910.1200 Hazard Communication

** * * * **

1910.1200(h)

Employee information and training

1910.1200(h)(1)

Employers shall provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new chemical hazard the employees have not previously been trained about is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and safety data sheets.

1910.1200(h)(2)

Information. Employees shall be informed of:

1910.1200(h)(2)(i)

The requirements of this section;

1910.1200(h)(2)(ii)

Any operations in their work area where hazardous chemicals are present; and,

1910.1200(h)(2)(iii)

The location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and safety data sheets required by this section.

1910.1200(h)(3)

Training. Employee training shall include at least:

1910.1200(h)(3)(i)

Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);

1910.1200(h)(3)(ii)

The physical, health, simple asphyxiation, combustible dust, and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area;

1910.1200(h)(3)(iii)

The measures employees can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used; and,

1910.1200(h)(3)(iv)

The details of the hazard communication program developed by the employer, including an explanation of the labels received on shipped containers and the workplace labeling system used by their employer; the safety data sheet, including the order of information and how employees can obtain and use the appropriate hazard information.

1926 Safety and Health Regulations for Construction

1926.21 Employee training and education

1926.21(b)

Employer responsibility.

1926.21(b)(1)

The employer should avail himself of the safety and health training programs the Secretary provides.

1926.21(b)(2)

The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.

1926.21(b)(3)

Employees required to handle or use poisons, caustics, and other harmful substances shall be instructed regarding the safe handling and use, and be made aware of the potential hazards, personal hygiene, and personal protective measures required.

1926.21(b)(5)

Employees required to handle or use flammable liquids, gases, or toxic materials shall be instructed in the safe handling and use of these materials and made aware of the specific requirements contained in Subparts D, F, and other applicable subparts of this part.

1926.21(b)(6)(i)

All employees required to enter into confined or enclosed spaces shall be instructed as to the nature of the hazards involved, the necessary precautions to be taken, and in the use of protective and emergency equipment required. The employer shall comply with any specific regulations that apply to work in dangerous or potentially dangerous areas.

1926.62 Lead

* * * * *

1926.62(l) Communication of hazards

1926.62(l)(1)

General.

1926.62(l)(1)(i)

Hazard communication. The employer shall include lead in the program established to comply with the Hazard Communication Standard (HCS) (§ 1910.1200). 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 paragraph (l) of this section. The employer shall ensure that at least the following hazards are addressed:

1926.62(l)(1)(i)(A)

Reproductive/developmental toxicity;

1926.62(l)(1)(i)(B)

Central nervous system effects;

1926.62(l)(1)(i)(C)

Kidney effects;

1926.62(l)(1)(i)(D)

Blood effects; and

1926.62(l)(1)(i)l

Acute toxicity effects.

1926.62(l)(1)(ii)

The employer shall train each employee who is subject to exposure to lead at or above the action level on any day, or who is subject to exposure to lead compounds which may cause skin or eye

irritation (e.g., lead arsenate, lead azide), in accordance with the requirements of this section. The employer shall institute a training program and ensure employee participation in the program.

1926.62(l)(1)(iii)

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.

1926.62(l)(1)(iv)

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.

1926.62(l)(2)

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

1926.62(l)(2)(i)

The content of this standard and its appendices;

1926.62(l)(2)(ii)

The specific nature of the operations which could result in exposure to lead above the action level;

1926.62(l)(2)(iii)

The purpose, proper selection, fitting, use, and limitations of respirators;

1926.62(l)(2)(iv)

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);

1926.62(l)(2)(v)

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;

1926.62(l)(2)(vi)

The contents of any compliance plan in effect;

1926.62(l)(2)(vii)

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

1926.62(l)(2)(viii)

The employee's right of access to records under 29 CFR 1910.20.

1926.1101 Asbestos

* * * * *

1926.1101(k)(9)

Employee Information and Training.

1926.1101(k)(9)(i)

The employer shall train each employee who is likely to be exposed in excess of a PEL, and each employee who performs Class I through IV asbestos operations, in accordance with the requirements of this section. Such training shall be conducted at no cost to the employee. The employer shall institute a training program and ensure employee participation in the program.

1926.1101(k)(9)(ii)

Training shall be provided prior to or at the time of initial assignment and at least annually thereafter.

1926.1101(k)(9)(iii)

Training for Class I operations and for Class II operations that require the use of critical barriers (or equivalent isolation methods) and/or negative pressure enclosures under this section shall be the equivalent in curriculum, training method and length to the EPA Model Accreditation Plan (MAP) asbestos abatement workers training (40 CFR Part 763, subpart E, appendix C).

1926.1101(k)(9)(iv)

Training for other Class II work.

1926.1101(k)(9)(iv)(A)

For work with asbestos containing roofing materials, flooring materials, siding materials, ceiling tiles, or transite panels, training shall include at a minimum all the elements included in paragraph (k)(9)(viii) of this section and in addition, the specific work practices and engineering controls set forth in paragraph (g) of this section which specifically relate to that category. Such course shall include "hands-on" training and shall take at least 8 hours.

1926.1101(k)(9)(iv)(B)

An employee who works with more than one of the categories of material specified in paragraph (k)(9)(iv)(A) of this section shall receive training in the work practices applicable to each category of material that the employee removes and each removal method that the employee uses.

1926.1101(k)(9)(iv)(C)

For Class II operations not involving the categories of material specified in paragraph (k)(9)(iv)(A) of this section, training shall be provided which shall include at a minimum all the elements included in paragraph (k)(9)(viii) of this section and in addition, the specific work practices and engineering controls set forth in paragraph (g) of this section which specifically relate to the category of material being removed, and shall include "hands-on" training in the work practices applicable to each category of material that the employee removes and each removal method that the employee uses.

1926.1101(k)(9)(v)

Training for Class III employees shall be consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(2). Such a course shall also include "hands-on" training and shall take at least 16 hours. Exception: For Class III operations for which the competent person determines that the EPA curriculum does not adequately cover the training needed to perform that activity, training shall include as a minimum all the elements included in paragraph (k)(9)(viii) of this section and in addition, the specific work practices and engineering controls set forth in paragraph (g) of this section which specifically relate to that activity, and shall include "hands-on" training in the work practices applicable to each category of material that the employee disturbs.

1926.1101(k)(9)(vi)

Training for employees performing Class IV operations shall be consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(1). Such a course shall include available information concerning the locations of thermal system insulation and surfacing ACM/PACM, and asbestos-containing flooring material, or flooring material where the absence of asbestos has not yet been certified; and instruction in recognition of damage, deterioration, and delamination of asbestos containing building materials. Such course shall take at least 2 hours

1926.1101(k)(9)(vii)

Training for employees who are likely to be exposed in excess of the PEL and who are not otherwise required to be trained under paragraph (k)(9)(iii) through (vi) of this section, shall meet the requirements of paragraph (k)(9)(viii) of this section.

1926.1101(k)(9)(viii)

The training program shall be conducted in a manner that the employee is able to understand. In addition to the content required by provisions in paragraphs (k)(9)(iii) through (vi) of this section, the employer shall ensure that each such employee is informed of the following:

1926.1101(k)(9)(viii)(A)

Methods of recognizing asbestos, including the requirement in paragraph (k)(1) of this section to presume that certain building materials contain asbestos;

1926.1101(k)(9)(viii)(B)

The health effects associated with asbestos exposure;

1926.1101(k)(9)(viii)(C)

The relationship between smoking and asbestos in producing lung cancer;

1926.1101(k)(9)(viii)(D)

The nature of operations that could result in exposure to asbestos, the importance of necessary protective controls to minimize exposure including, as applicable, engineering controls, work practices, respirators, housekeeping procedures, hygiene facilities, protective clothing, decontamination procedures, emergency procedures, and waste disposal procedures, and any necessary instruction in the use of these controls and procedures; where Class III and IV work will be or is performed, the contents of EPA 20T-2003, "Managing Asbestos In-Place" July 1990 or its equivalent in content;

1926.1101(k)(9)(viii)(E)

The purpose, proper use, fitting instructions, and limitations of respirators as required by 29 CFR 1910.134;

1926.1101(k)(9)(viii)(F)

The appropriate work practices for performing the asbestos job;

1926.1101(k)(9)(viii)(G)

Medical surveillance program requirements;

1926.1101(k)(9)(viii)(H)

The content of this standard including appendices;

1926.1101(k)(9)(viii)(I)

The names, addresses and phone numbers of public health organizations which provide information, materials and/or conduct programs concerning smoking cessation. The employer may distribute the list of such organizations contained in Appendix J to this section, to comply with this requirement; and

1926.1101(k)(9)(viii)(J)

The requirements for posting signs and affixing labels and the meaning of the required legends for such signs and labels.

1926.1126 Toxic and Hazardous Substances

1926.1126(j)

Communication of chromium (VI) hazards to employees.

Hazard communication. The employer shall include chromium (VI) in the program established to comply with the Hazard Communication Standard (HCS) (§ 1910.1200). The employer shall ensure that each employee has access to labels on containers of chromium and safety data sheets, and is trained in accordance with the provisions of § 1910.1200 and paragraph (j)(2) of this section. The employer shall provide information on at least the following hazards: Cancer; eye irritation; and skin sensitization.

1926.1126(j)(2)

Employee information and training.

1926.1126(j)(2)(i)

The employer shall ensure that each employee can demonstrate knowledge of at least the following:

1926.1126(j)(2)(i)(A)

The contents of this section; and

1926.1126(j)(2)(i)(B)

The purpose and a description of the medical surveillance program required by paragraph (i) of this section.

1926.1127 Cadmium

1926.1127(m)(4)

Employee information and training.

1926.1127(m)(4)(i)

The employer shall train each employee who is potentially exposed to cadmium in accordance with the requirements of this section. The employer shall institute a training program, ensure employee participation in the program, and maintain a record of the contents of the training program.

1926.1127(m)(4)(ii)

Training shall be provided prior to or at the time of initial assignment to a job involving potential exposure to cadmium and at least annually thereafter.

1926.1127(m)(4)(iii)

The employer shall make the training program understandable to the employee and shall assure that each employee is informed of the following:

1926.1127(m)(4)(iii)(A)

The health hazards associated with cadmium exposure, with special attention to the information incorporated in Appendix A to this section;

1926.1127(m)(4)(iii)(B)

The quantity, location, manner of use, release, and storage of cadmium in the workplace and the specific nature of operations that could result in exposure to cadmium, especially exposures above the PEL;

1926.1127(m)(4)(iii)(C)

The engineering controls and work practices associated with the employee's job assignment;

1926.1127(m)(4)(iii)(D)

The measures employees can take to protect themselves from exposure to cadmium, including modification of such habits as smoking and personal hygiene, and specific procedures the employer has implemented to protect employees from exposure to cadmium such as appropriate work practices, emergency procedures, and the provision of personal protective equipment;

1926.1127(m)(4)(iii)(E)

The purpose, proper selection, fitting, proper use, and limitations of respirators and protective clothing;

1926.1127(m)(4)(iii)(F)

The purpose and a description of the medical surveillance program required by paragraph (l) of this section;

1926.1127(m)(4)(iii)(G)

The contents of this section and its appendices, and

1926.1127(m)(4)(iii)(H)

The employee's rights of access to records under 1926.33(g)(1) and (2).

** * * * **

1926 Subpart AA Confined Spaces in Construction

1926.1207 Training

1926.1207(a)

The employer must provide training to each employee whose work is regulated by this standard, at no cost to the employee, and ensure that the employee possesses the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this standard. This training must result in an understanding of the hazards in the permit space and the methods used to isolate, control or in other ways protect employees from these hazards, and for those employees not authorized to perform entry rescues, in the dangers of attempting such rescues

1926.1207(b)

Training required by this section must be provided to each affected employee:

1926.1207(b)(1)

In both a language and vocabulary that the employee can understand;

1926.1207(b)(2)

Before the employee is first assigned duties under this standard;

1926.1207(b)(3)

Before there is a change in assigned duties;

1926.1207(b)(4)

Whenever there is a change in permit space entry operations that presents a hazard about which an employee has not previously been trained; and

1926.1207(b)(5)

Whenever there is any evidence of a deviation from the permit space entry procedures required by § 1926.1204(c) or there are inadequacies in the employee's knowledge or use of these procedures.

1926.1207(c)

The training must establish employee proficiency in the duties required by this standard and must introduce new or revised procedures, as necessary, for compliance with this standard.

1926.1207(d)

The employer must maintain training records to show that the training required by paragraphs (a) through (c) of this section has been accomplished. The training records must contain each employee's name, the name of the trainers, and the dates of training. The documentation must be available for inspection by employees and their authorized representatives, for the period of time the employee is employed by that employer.

* * * * *

6.0 APPLICABLE CONSENSUS STANDARDS

The NACE No. 13/SSPC-ACS-1 standard specifically addresses the qualification and certification of employees engaged in corrosion prevention operations. As mentioned in section 2.0 of this evaluation, this standard was published as a joint venture of NACE and SSPC and was promulgated via the same procedures followed by the American National Standards Institute (ANSI). The standard comprises three major components

describing requirements for the qualification of industrial coating applications specialists, examinations and certification programs for applications specialists.

Qualifications within the standard are divided into levels, I, II and III. A Level I specialist holds a trainee-level position requiring supervision by a Level II or III specialist to perform application work. Level II specialists are experienced individuals who work independently without supervision and are categorized into two sublevel qualifications; those meeting the basic (core) requirements and a specialty level qualification. Level III specialists are experienced individuals possessing management, communication and training skills necessary to oversee, evaluate and supervise complex corrosion prevention application projects. Qualification within these three levels requires successful completion of a skills assessment program and examination based on a body knowledge described in Appendix A of the standard as well as qualifying hours of applicable apprenticeship training and work experience.

In addition to the skills examination required for Level I application specialist, the standard also requires successful completion of examinations to attain the Level II qualification. This assessment includes both written and practical examinations to qualify for the core and specialty categories.

The NACE No. 13/SSPC-ACS-1 standard also outlines the requirements for certification programs of industrial coating applications specialists. Programs are to be operated as required by the International Organization for Standardization (ISO) 17024¹ standard and must include written and practical examinations based on qualification level. Various operations to be performed by certification applicants are detailed in the standard including surface preparation and coating application to a test panel which must meet criteria required by the American Society of Testing and Materials (ASTM) 4228² standard. Inspection and documentation of the test panel surface preparation and coating application must conform to the ASTM 5161³ standard.

Certifications issued under NACE No. 13/SSPC-ACS-1 are valid for three years and may be maintained by completion of at least 40 hours of applicable training per year or successful completion of the examination(s) for the qualification level attained.

7.0 PETITIONER'S SUGGESTED REGULATORY LANGUAGE

Preparation and Coating for Corrosion Prevention

Section 1. Scope and Application.

¹ Standard designed to harmonize the personnel certification process by providing guidance for evaluating competency, knowledge, skills, personal attributes and effective examinations.

² Standard for evaluating coating applicators for proficiency and ability to attain the required quality of a specified coating to steel surfaces.

³ Standard specifying inspection requirements for coating and lining work on metal substrates.

All employees performing surface preparation and application of protective coatings and linings to steel and concrete surfaces for the purpose of corrosion prevention on industrial or infrastructure projects shall comply with the standards adopted pursuant to this Article.

Section 2. Definitions

- (a) *“Corrosion prevention work” means surface preparation and application of protective coatings and lining to steel and concrete surfaces for the purpose of corrosion prevention.*
- (b) *“Corrosion prevention work” does not include corrosion prevention work on sheet metal and ventilation systems or on plumbing and piping systems or precast concrete work that is performed offsite.*
- (c) *“Industrial” means a structure that is used primarily for industrial activity, which is generally not open to the public including, but not limited to, refineries, factories, warehouses, and storage facilities.*
- (d) *“infrastructure” means the fundamental structures serving the public including, but not limited to, bridges, tunnels, pipelines, and railways.*
- (e) *“NACE 13/ACS 1 standard” means the standard for an industrial coating and lining application specialist determined by the Society for Protective Coatings or the National Association of Corrosion Engineers International.*
- (f) *“Trained and certified” means either of the following: (1) workers who have a valid certificate issued by an organization generally accepted in the industry as meeting the NACE 13/ACS 1 standard; or (2) workers registered as an industrial apprenticeship program approved by the Division of Apprenticeship Standards that provides training to meet the NACE 13/ACS 1 standard and who are receiving the supervision required by the program.*

Section 3. Training and Certification Requirements.

- (a) *The employer shall permit only trained and certified personnel to perform corrosion prevention work on industrial or infrastructure projects.*
- (b) *Notwithstanding the requirements of subsection (a), an employee who is not trained and certified is permitted to perform corrosion prevention work only where all of the following requirements are met:*
 - (1) *The employee has valid certificates issued by an organization generally accepted in the industry as meeting C3, C7, and C12 standards of the Society for Protective Coatings;*

- (2) *The employee performs corrosion prevention work only under the direct supervision of a trained and certified individual within the meaning of paragraph (1) of subsection (f) of section 2. Direct supervision means the supervisor is in the immediate area of the employee, within visual sighting distance, and is able to effectively communicate with the employee; and*
- (3) *The employer shall ensure that at all time on the job site, there are three trained and certified individuals performing corrosion prevention work for every one employee who is not trained and certified performing such work.*

Section 4. Recordkeeping and transparency.

The employer shall maintain records showing its compliance with the requirements of this Article. Copies of such records shall be made available to any employee or the authorized collective bargaining representative of the employer's employees within ten days upon request.

Section 5. Effective dates and phase-in.

For purpose of meeting the requirements of Section 3:

- (a) *On or before January 1, 2016, the employer shall ensure that at least twenty-five percent of all corrosion prevention work hours on projects are performed by trained and certified personnel.*
- (b) *On or before January 1, 2018, the employer shall ensure that at least fifty percent of all corrosion prevention work hours on a project are performed by trained and certified personnel.*
- (c) *On or before January 2, 2020, the employer shall ensure that all corrosion prevention work hours on a project are performed by trained and certified personnel, except as permitted by subsection (b) of section 3.*

8.0 PETITIONER'S BASIS FOR NEW REGULATION

The petitioner asserts that the adoption of the recommended regulation requiring qualification and certification under the NACE No. 13/SSPC-ACS-1 standard will enhance safety for workers engaging in corrosion prevention work. In support of this assertion, the petitioner discusses the variety of potential illnesses suffered by employees conducting corrosion prevention work. The petitioner contends that the incidence of these illnesses, including cancer, lead poisoning, respiratory disease and brain degeneration known as "chronic painter's syndrome", would be reduced with the passage of the petition. Several letters were submitted within the petition from experienced members of the IUPAT and its affiliates, the Finishing Trades Institute and District Council Training Trust providing support for the petition.

8.1 Letter from Jesus Fernandez

In a letter from Jesus Fernandez, training director for the IUPAT District Council 16, the multitude of hazards posed to employees performing corrosion prevention work are discussed. Such hazards referenced include exposure to lead, asbestos, silica, cresol, cadmium and chromium. The author also adds that corrosion prevention work commonly occurs in hazardous locations such as confined spaces, oil refineries, tunnels and areas that might require a worker to be suspended. Hazards of the equipment involved in this type of work are also discussed by Fernandez including sandblasting equipment's potential to create hazardous exposures to silica, the injection hazards posed by spray coating guns as well as the hazards of improper use and decontamination of personal protective equipment. The risk of these hazards, Fernandez contends, is greatly reduced when proper training is provided.

8.2 Letter from Robert Williams III

A letter submitted from Robert Williams III, business representative for the IUPAT District Council 16, also asserts the importance of proper training for corrosion prevention workers. Speaking from his 17 years of experience in the field, Williams conveys the hazards posed during both the preparation and application stages of corrosion prevention work citing exposures to workers similar to Fernandez such as lead, silica and heavy metals resulting in respiratory illnesses and cancer. Additionally, Williams describes the increased toxicity of solvent-based industrial corrosion prevention coatings over common household paints and coating materials. As supplemental evidence to the toxicity of these industrial coatings, Williams references a 2007 International Agency for Research on Cancer (IARC) publication⁴ regarding carcinogenic risk to painters. The publication cites consistent evidence of increased lung and bladder cancer among painters. Additionally, five out of seven studies within this evaluation showed significant excess of childhood leukemia among children of parents who are exposed to paint.

Williams also argues for the granting of the petition on the basis that mandatory trainings are proven more effective than voluntary programs. As evidence of this assertion, Williams cites findings from a 1997 study of painters working in Alaska from the Center to Protect Worker's Rights (CPWR).⁵ The study found that mandatory training is more effective than voluntary training in improving self-protective behaviors (i.e. respirator and ventilation usage), and in reaching a wider range of painters, regardless of previous training, union status, or company size. Under Alaska's mandatory training system, employers appear to spend less per worker on safety-and-health supplies and training.

⁴ Painting, firefighting, and shiftwork / IARC Working Group on the Evaluation of Carcinogenic Risks to Humans (2007: Lyon, France). Available at <http://monographs.iarc.fr/ENG/Monographs/vol98/mono98.pdf>

⁵ Wolford R, Larson M, Merrick D, Tillet S, Morris S, Keiffer M; A Comparison of Safety-and-Health Training of Painters In Alaska, Oregon, and Washington; The Center to Protect Workers Rights (1997).

According to Williams, the corrosion control employees at highest risk for occupational injuries and illnesses are new, untrained, non-union painters working for small contractors. Williams also states that these workers would also most benefit from the adoption of NACE No. 13/SSPC-ACS-1 based on the findings of the CPWR study.

Williams states that he has personally witnessed the effects of NACE No. 13/SSPC-ACS-1 in creating a safer work environment. Due to the comprehensive content of the standard that includes not only technical but safety aspects, he has observed certified workers to have a broader knowledge and understanding of the hazards they face conducting corrosion prevention work. This, in turn, has caused a shift in the safety culture of the trade manifesting in a change in worker attitude and behavior regarding safety in the workplace.

Finally, Williams expresses his opinion that, based on his experience, the NACE No. 13/SSPC-ACS-1 standard should be the minimum qualification requirement for corrosion prevention workers as it is the most comprehensive and successful standard available. As evidence of its success, Williams points out the adoption of the standard within several California governmental agencies such as the Department of Water Resources, Cal Trans and Bay Area Rapid Transit as well as several cities including Los Angeles, San Francisco and San Jose.

8.3 Letter from Chad Smith

A letter from the Assistant to the General President of the IUPAT, Chad Smith, was also submitted in support of the petition. In his letter, Smith cites two studies of the painting trade regarding worker behavior and its effects on blood lead levels and the fatality rates of painters. The first study published in 2010 determined the efficacy of the OSHA lead in construction standard that became effective in 1993.⁶ The study found that blood lead levels of painters decreased after passing of the regulation and was attributed to the change in behavior brought about by compliance with the standard. Such behaviors included respiratory use, hand washing during breaks and showering prior to leaving the job site.

The second study referenced by Smith was published in 1992 and compared work-related deaths of painters compared to other occupations.⁷ The study found the fatality rate of painters was three to five times higher than the general working population. Causal factors of the 129 fatal incidents were determined to be falls, electrocutions and asphyxiation from exposure to solvents and oxygen deficient atmospheres. Recommendations from the authors of the study included improved safety training to decrease the fatality rate of painters.

⁶ Rodrigues E, Virji A, McClean N, Weinberg J, Woskie S, Pepper L; Personal Exposure, Behavior, and Work Site Conditions as Determinants of Blood Lead Among Bridge Painters; Journal of Occupational and Environmental Hygiene: 7(2), 2009.

⁷ Suruda AJ; Work-related deaths in construction painting; Scand J Work Environ Health 18(1):30-3 (1992).

8.4 Letters from trade contractors and associations

In addition to the above referenced documentation, multiple copies of a form letter with subtle variations were submitted from various painting contractors and trade associations. These letters contain an endorsement of the NACE No. 13/SSPC-ACS-1 standard as accepted in the corrosion prevention industry and a statement contending that the reliance on untrained workers within the industry presents serious concerns for worker health and safety.

9.0 ANALYSIS

Employees performing corrosion prevention work are exposed to a wide range of hazards as discussed in section 3.0 of this evaluation. Effective worker training plays a critical part in mitigating or eliminating many hazards. This is illustrated by the pervasive inclusion of information, instruction and training components in many Title 8 regulations. Such components are present not only in horizontal but also many vertical Title 8 standards addressing hazards of specific operations and industries, such as the asbestos, lead, cadmium and chromium VI standards in the Construction Safety Orders and the General Industry Safety Orders.

Incorporation of consensus standards can be beneficial in improving worker safety. Such standards are promulgated by subject matter experts via recognized adoption criteria and provide valuable information regarding machinery, equipment, materials, operations and processes. Many consensus standards including those from ANSI/ASME, NFPA, ASTM and ISO have been incorporated by reference in the past within Title 8 regulations. The purpose of incorporating such consensus standards is to augment Title 8 safety and health regulations with specific requirements not contained within the regulations themselves.

The disadvantages as well as the benefits of the recommended regulatory language and the recommended incorporation of the NACE No. 13/SSPC-ACS-1 standard into Title 8 are discussed below.

9.1 Inadequacies of the recommended regulation

9.1.1 There is no additional safety training to what is already required in Title 8

The primary limitation posed by the petition is that the adoption of the recommended regulatory language will not enhance worker protection training requirements in the Title 8 safety standards. Although the NACE No. 13/SSPC-ACS-1 standard does contain a safety component as part of the certification program requirements, specific criteria for the qualifying training are not included within the standard or the recommended regulatory language. As described in section 6.0 of this evaluation, Appendix A of NACE No. 13/SSPC-ACS-1 contains the body of knowledge required for a certification

program to comply with the standard. Section A1 of the appendix specifically addresses safety requirements. This section, entitled “Environmental, Safety and Health”, lists topics regarding local codes and standards, material and equipment safety and ventilation. Specific subject matter for the listed topics however, is not referenced in the appendix, NACE No. 13/SSPC-ACS-1 or the recommended regulatory language. As presented, the regulatory language suggested by this petition does not appear to strengthen or augment requirements established by current Title 8 regulations, but simply acts to reinforce the existing requirements.

9.1.2 Some corrosion work is exempted without reason

The petitioner’s request for corrosion workers to be trained and certified in the suggested regulatory language does not apply to “*corrosion prevention work on sheet metal and ventilation systems or on plumbing and piping systems or precast concrete work that is performed offsite*” on industrial or infrastructure projects. No reasoning is given why the above work is exempt from the recommended regulation.

The following example demonstrates the fallacy of the exception: Employees engaged in corrosion prevention work on refinery piping systems, face similar or greater hazards to employees engaged in corrosion prevention work on a refinery structure. Yet the employees working on the pipelines would be exempt from the proposal and the employees working on the structure would be included in the proposal. The exclusion of the pipeline work is without any justification.

9.1.3 The suggested regulation is unenforceable

The recommended regulatory language requires employees performing certain corrosion prevention work to be trained and certified. However the suggested language defines the organizations which will be allowed to certify workers in a manner which is unenforceable. The proposal states:

*“Trained and certified” means either of the following: (1) workers who have a valid certificate issued by **an organization generally accepted in the industry** [Emphasis Added] as meeting the NACE 13/ACS 1 standard; or (2) workers registered as an industrial apprenticeship program approved by the Division of Apprenticeship Standards that provides training to meet the NACE 13/ACS 1 standard and who are receiving the supervision required by the program.*

The term ‘*generally accepted in the industry*’ is vague and unenforceable. More precise language is needed to describe the organizations which will be allowed to certify corrosion workers.

9.1.4 The NACE standard is not limited to occupational safety and health and is outside the scope of Cal/OSHA jurisdiction.

Although health and safety requirements are included in the NACE 13/ACS 1 standard, job skills, professional knowledge, corrosion control technologies and techniques, quality control, process control, and environmental protection are among the other subjects covered by the standard. Cal/OSHA has neither expertise nor jurisdiction over the additional issues covered by the NACE standard. A standard limited to employee safety and health would be more appropriate.

9.2 Benefits of the recommended regulation

Although the recommended regulation does have several limitations, it may have positive effect on worker safety. Establishing standardized qualification and certification programs provides a structured learning environment which can result in more comprehensive and effective training for workers. Even training required by a program that merely refers to Title 8 standards can reinforce workers knowledge of and compliance with the current safety orders. Additionally, the three-year recertification requirement established by NACE No. 13/SSPC-ACS-1 could act to refresh workers knowledge of Title 8 regulations and keep them abreast of newly adopted standards and regulatory amendments.

10.0 CONCLUSION

This evaluation is based on a review of pertinent information regarding the recommended regulation requiring certification of employees conducting corrosion prevention work pursuant to the NACE No. 13/SSPC-ACS-1 consensus standard. This included testimonials provided by the petitioner from experienced field personnel and training providers as well as submitted studies conducted by various organizations regarding the hazards faced by workers in the field and the importance of adequate training in ensuring a safe work environment. Endorsements from multiple corrosion prevention contractors and labor representatives were also reviewed. The proposed consensus standards as well as other referenced standards were reviewed and evaluated for their applicability and potential benefits of their inclusion within Title 8 standards. Additionally, safety data sheets of corrosion prevention surface preparation and coating materials were requested and reviewed to assess hazard specific to their use in the industry.

Adoption of the recommended regulation and the NACE standard would likely have a positive effect on employee safety by reinforcing current Title 8 regulations through structured training and recertification and limiting the labor pool to the most highly trained employees

However, the recommended regulation, as submitted, has numerous deficiencies that outweigh the benefits of the proposal. The recommended regulation would not augment or enhance existing Title 8 safety regulations. In addition, the language of the proposal in its current form is unenforceable, contains inexplicable exceptions, and covers many

topics not relevant to occupational safety and health and not within the jurisdiction of Cal/OSHA.

Cal/OSHA recommends that the petition as currently written be denied. Since there are potential benefits of the recommendations in the petition, Cal/OSHA recommends that the petitioner be invited to evaluate deficiencies identified in the petition and resubmit the petition with the deficiencies addressed.