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Part V

Department of Labor

**Occupational Safety and Health
Administration**

**Hazardous Materials; Request for
Comments**

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1910

[Docket No. S-013]

Hazardous Materials

AGENCY: Occupational Safety and Health Administration, U.S. Department of Labor.

ACTION: Advance notice of proposed rulemaking; request for comments and notice of an informal public meeting.

SUMMARY: The Occupational Safety and Health Administration (OSHA) (the Agency) is planning to revise its safety standards concerning hazardous materials which are contained in Subpart H of 29 CFR Part 1910, §§ 1910.101 through 1910.116. The existing hazardous materials standards cover safety hazards associated with compressed gases; flammable and combustible liquids including those used in spray finishing or dip tank operations; explosives and blasting agents; liquefied petroleum gases; and anhydrous ammonia.

The purpose of this notice is to solicit information regarding the content, scope and format of a complete revision of Subpart H. This information will also be used by the National Institute for Occupational Safety and Health (NIOSH) which is seeking to supplement its safety research in the area of petroleum refinery maintenance.

In addition, this notice announces the scheduling of an informal public meeting to give the public an opportunity for making oral presentations of comments and information regarding the issues discussed here.

DATES: Notice of intention to appear at the public meeting scheduled below must be received by March 13, 1981.

The informal public meeting will be held on April 8 and 9, 1981.

The written information requested in this notice must be submitted on or before July 30, 1981.

ADDRESSES: Send notices of intention to appear to Mr. Tom Hall, Division of Consumer Affairs, Room N3635, U.S. Department of Labor, Occupational Safety and Health Administration, 200 Constitution Avenue, N.W., Washington, D.C. 20210, (202) 523-8024.

The informal public meeting will be held in the Auditorium, Frances Perkins Department of Labor Building, 200 Constitution Avenue, N.W., Washington, D.C. 20210.

Written comments requested in this notice should be submitted, in

quadruplicate, to the Docket Officer, Docket S-013, Room S6212, U.S. Department of Labor, Occupational Safety and Health Administration, 200 Constitution Avenue, N.W., Washington, D.C. 20210, (202) 523-7894.

FOR FURTHER INFORMATION CONTACT:*Public Meeting:*

Mr. Tom Hall, Division of Consumer Affairs, at the address above, (202) 523-8024.

Directorate of Safety Standards Programs:

Mr. Glen E. Gardner or Ms. Joanne E. Slattery, Directorate of Safety Standards Programs, Office of Fire Protection Engineering and Systems Safety Standards, Occupational Safety and Health Administration, U.S. Department of Labor, Room N3463, 200 Constitution Avenue, N.W., Washington, D.C. 20210, (202) 523-7225.

SUPPLEMENTARY INFORMATION:**Background**

The present OSHA standards covering safety hazards associated with hazardous materials are contained in Subpart H of 29 CFR Part 1910, §§ 1910.101 through 1910.116. The hazardous materials addressed in Subpart H include compressed gases; flammable and combustible liquids including those used in spray finishing or dip tank operations; explosives and blasting agents; liquefied petroleum gases; and anhydrous ammonia. These Subpart H standards became effective on August 27, 1971, after promulgation under Section 6(a) of the Occupational Safety and Health Act of 1970 (the Act), 29 U.S.C. 655(a). Section 6(a) of the Act authorized OSHA to promulgate standards based on national consensus standards such as those published by the National Fire Protection Association (NFPA) and the American National Standards Institute (ANSI), and on established Federal standards.

Several factors indicate to OSHA that a comprehensive revision of its Subpart H standards may be necessary. One factor is that since the original promulgation of OSHA standards, NFPA and ANSI have revised and updated their standards. OSHA has been petitioned by these organizations and other interested persons to adopt the more recent versions of these standards or to make other changes to the existing standards.

Another factor concerns the possible need for extending coverage to some industrial operations that are not currently addressed in Subpart H. For example, current OSHA standards may

not adequately address significant hazards associated with oil refineries, chemical processing plants, or combustible dust processes.

OSHA also recognizes that since the adoption of Subpart H in 1971, there have been advances in technology and industrial practices associated with hazardous materials. These changes may have created a need for revising the present hazardous materials standards to better address current safety problems.

In addition, although OSHA has already revoked many public and property protection provisions in its standards which were not directly relevant to employee safety and health (43 FR 49728; October 24, 1978), OSHA still feels that there is a need to revise these hazardous materials standards so that they more directly address significant employee safety hazards.

Finally, this advance notice is another step in the Agency's continuing program of using a common sense approach by streamlining and simplifying standards while focusing on the more serious workplace hazards. In this regard, OSHA has already undertaken the comprehensive revision of its fire protection standards (Subpart L of 29 CFR Part 1910: 45 FR 60656 (September 12, 1980)) and its electrical standards (Subpart S of 29 CFR Part 1910: 48 FR 4034 (January 16, 1981)).

For these reasons, OSHA has concluded that a comprehensive revision of its Subpart H standards may be necessary to provide more effective protection for employees who work with and around hazardous materials which pose a risk of fire, explosion, acute exposure and other safety hazards. Any rulemaking proceeding to revise Subpart H will be conducted in accordance with Section 6(b) of the Act (29 U.S.C. 655(b)) and 29 CFR Part 1911, and will provide adequate public notice of and opportunity to comment on proposed changes.

Comments and Information Requested

Through this advance notice, OSHA invites interested persons and organizations to provide written and oral comments relating to the need for and content of a Subpart H revision. In particular, OSHA invites comments regarding any needed changes, additions or deletions to Subpart H and information in response to the questions below. OSHA also invites comments pertaining to any economic considerations (including, but not limited to, costs) and environmental impact regarding the questions posed in this notice. OSHA further requests that

any available injury data be provided where applicable.

A revision of OSHA's hazardous materials standards may have a significant economic impact on a substantial number of small entities, particularly small businesses. In accordance with the provisions of the Regulatory Flexibility Act (Pub. L. 99-354, 94 Stat. 1164 (5 U.S.C. 601 *et seq.*)), OSHA invites information regarding the economic impact which any of these contemplated changes to Subpart H might have on small businesses, including, but not limited to, compliance, reporting and recordkeeping costs. OSHA also requests comments regarding alternatives which would minimize the economic impact on small businesses while at the same time accomplishing the objective of protecting worker safety and health.

OSHA realizes that this notice addresses a large amount of material. However, the Agency anticipates that interested persons and organizations will concentrate their remarks on those areas of concern to them. OSHA also anticipates that the information received will provide OSHA with some guidance on the sequence in which the hazardous materials standards should be revised or developed.

As noted above, NIOSH is participating with OSHA in this information gathering process. Material concerning petroleum refinery maintenance is of particular interest. It is the intention of the Division of Safety Research, NIOSH, both to develop standards recommendations to assist OSHA and, simultaneously, to develop safety guidelines for petroleum refinery maintenance. Therefore, a copy of all relevant communications received in response to this notice will be forwarded to NIOSH for its use.

It should be noted that safety requirements concerning the storage and handling of anhydrous ammonia, presently § 1910.111, will not be discussed in this notice. Revision of the anhydrous ammonia provisions was the subject of an April 23, 1976, advance notice of proposed rulemaking in the Federal Register (41 FR 17227).

Additionally, grain handling facilities will not be specifically addressed in this notice. Grain handling facilities were the subject of a February 15, 1980, request for information published in the Federal Register (45 FR 10732). Comments and information received in response to the anhydrous ammonia and grain handling facilities notices will be considered in the development of standards for these areas which may be included in Subpart H.

The remaining standards in Subpart H will be discussed in this advance notice. Discussion will be limited to safety issues and will not address health issues. OSHA invites written or oral comments and information regarding the following general and specific issues concerning Subpart H.

A. *General Issues:* Several issues have been raised which are common to a number of the hazardous materials standards contained in Subpart H. OSHA invites comments on these general issues which are set forth below.

(1) Should OSHA use a new format in revising its hazardous materials standards? On September 12, 1980, OSHA published in the Federal Register (45 FR 60656) a revision of its fire protection standards contained in Subpart L of 29 CFR Part 1910. Revised Subpart L utilizes a new format consisting primarily of performance, or goal-oriented mandatory standards. These performance standards are accompanied by several nonmandatory appendices which contain compliance guidelines intended to provide compliance flexibility. Compliance can be effected through the means suggested in the appendices or in some other manner as long as the level of performance required by the standard is met. Additionally, Appendix C to Subpart L contains a list of applicable references intended to provide the employer with additional information which will be helpful in the implementation of the mandatory performance standards. OSHA is considering the use of this format in revising its hazardous materials standards. Comments are invited on the advantages or disadvantages of such a format.

(2) Do particular provisions of Subpart H need simplification or clarification? For example, would it be simpler to have all of the definitions applicable to Subpart H contained in one section, or would it be simpler to continue to have applicable definitions accompany each section to Subpart H? Comments which identify other Subpart H provisions in need of simplification or clarification are invited as well as suggested corrections to such provisions.

(3) Are there gaps in the coverage of Subpart H with regard to both the hazards and types of workplaces covered? For example, current OSHA standards may not adequately address significant hazards associated with oil refineries, chemical processing plants, or combustible dust processes. OSHA invites public comment on these issues by posing the following questions: (a) what are these significant gaps; (b) how can OSHA best eliminate these gaps;

through the revision of existing standards, the development of new standards, or both; and, (c) should new standards apply to all industries (horizontal standards) or only to a particular industry (vertical standards), or should a combination of both types of standards be used?

(4) Should OSHA expand the coverage of Subpart H in order to more fully address the problems involved with hazardous materials? Should OSHA also recognize and change the section titles? Such expansion and reorganization of Subpart H as envisioned by OSHA would include section designations for any new standards that are developed to cover gaps which exist in current standards.

The following outline for Subpart H is under consideration by OSHA and is being presented to solicit comments from the public regarding its content and the need for expansion, deletion, and reorganization:

Subpart H—Hazardous Materials

- 1910.10 Scope and application.
- .102 Definitions.

Gases

- 1910.103 General requirements (including containers, storage, handling, and use).
- .104 Liquefied energy gases (LEG).
- .105 Hydrogen.
- .106 Oxygen.
- .107 Acetylene.
- .108 Cryogenics (cryogenic gases including refrigerants).

Liquids and oxidizers

- 1910.109 Flammable and combustible liquids.
- .110 Anhydrous ammonia.
- .111 Oxidizing materials (liquids and solids).
- .112 Corrosive liquids.

Solids

- 1910.113 Explosive materials (manufacturing, storage, handling, and use).
- .114 Ammonium nitrate.
- .115 Fireworks.
- .116 Combustible dusts (metal and organic).
- .117 Flammable solids.
- .118 Reserved.
- .119 Reserved.

Operations involving hazardous materials

- 1910.120 Grain handling facilities.
- .121 Spray application using flammable or combustible liquids.
- .122 Dip tanks containing flammable or combustible liquids.
- .123 Oil refineries.
- .124 Chemical plants.
- .125 Reserved.

Is the scope of this expanded version of Subpart H too broad? Should some of the subject areas be consolidated and are there any subject areas that should be eliminated entirely? Conversely, is

the scope of this expanded revision of Subpart H too narrow? What other hazardous materials should OSHA include in Subpart H?

(5) Should OSHA require controls such as labeling or other means of marking piping and hose transfer systems to prevent the inadvertent mixing of chemicals or other materials at loading and unloading points? What information is available on the number of employee injuries and fatalities caused by the inadvertent mixing of chemicals or other materials at these points? What type of controls are currently in use to prevent these occurrences? How effective are such controls in preventing employee injuries and fatalities? What additional controls would provide greater employee protection?

(6) Should OSHA specifically require special protective equipment for employees who repair piping containing hazardous materials? (See present OSHA requirements for protective equipment in Subpart I of 29 CFR Part 1910, particularly §1910.132(a).) For example, should breathing apparatus be made available and ready for use during repair work? Should fire-resistant protective clothing be required when repair work is performed on piping which contains flammable material? Should emergency ventilation equipment and, when necessary, a water supply and hose, be accessible and ready for use to dilute vapors or liquid leaks that occur during repair work taking place inside of buildings? Should OSHA require written emergency rescue procedures? What other measures should OSHA consider?

(7) Should OSHA develop standards for the hazards of in-plant piping systems that use flammable premixed gases? How should OSHA define flammable gas? What test procedures should be used? What source materials should be used?

(8) Should OSHA require testing of piping used for flammable, combustible, or toxic gases or liquids? For example, should OSHA require an acceptance static pressure test on piping that is newly installed or has been repaired, to assure that the piping will not leak? If static pressure testing of piping were to be required, what test methods and testing equipment should be acceptable to OSHA?

(9) Should employers be required to provide information and training to those employees who handle or use materials covered in Subpart H? Should OSHA require material safety data sheets or equivalent forms for those substances covered in Subpart H? What information should be contained in these material safety data sheets, e.g.,

manufacturer name, chemical and trade name, physical and chemical properties, hazards? By what other means should OSHA require employers to inform employees of hazards? What employee training should OSHA require? Is there a need for requirements in addition to those which would be created by the proposed Hazards Identification standard (46 FR 4412; January 16, 1981)?

(10) What types of personal protective equipment and clothing should be required for handling hazardous materials (e.g., gloves, full body clothing, boots, eye protection)? What specifications should be used and what test methods and pass/fail criteria should be applied to such equipment? Are specifications possible for broad industry application? What would be an alternative to the use of specifications that would assure appropriate protection from specific hazards? What protective equipment and clothing are presently being used and how effective are they? How often must equipment and clothing be replaced? What training should employees have in the use of protective equipment and clothing? How often should such training be provided? Should OSHA standards include provisions for a broad class or general use type of protective equipment and clothing for handling a class of similar materials? For which substances should protective equipment and clothing be addressed only on a substance by substance basis? Is further research on the question of protective equipment and clothing necessary for the materials or processes covered by this notice before suitable protection can be specified?

(11) What injury data is available concerning the storage, handling, and use of hazardous materials? What circumstances were involved in such accidents? Were there control or safeguard failures, pipeling ruptures, uncontrolled sources of ignition, procedural errors, or the inability of personal protective equipment and clothing to prevent injury?

(12) Should OSHA require the use of monitoring devices for various hazardous materials which would indicate when an unsafe condition is beginning to develop? For example, a device which monitors the hazardous material-to-air volume ratio would serve as a warning when a hazardous atmosphere is being approached. OSHA invites comments on the types of monitoring devices which are available (both fixed and portable types) and on devices which are presently being used to monitor gases, vapors, and dusts. Should these devices produce an

audible alarm? Are common monitoring devices available which are approved for use in hazardous (explosive) atmospheres? If so, when should OSHA require such monitoring devices? What degree of accuracy should be required of such monitoring devices?

(13) Should OSHA require planning for workplace disasters as a part of a written emergency action plan as addressed in the new § 1910.38, Subpart E, as revised September 12, 1980 (45 FR 60656)? Under what conditions? What type of training should be required for employees who will be affected by such plans? How often should such training activities be conducted? Should such plans require planning and coordination with outside resources such as hospitals, ambulance services, and police and fire departments to ensure appropriate response to workplace disasters? Can allowances be made for an employer's inability to control performance of such outside agencies? Should OSHA encourage the development of community cooperation in planning for workplace disaster situations? If so, how?

(14) Should OSHA require communication devices such as radio, telephone, etc., to be available for emergency use by employees who work with hazardous materials while alone or in isolated areas?

(15) Should OSHA require some form of systems safety analysis such as failure mode and effects analysis for operations involving hazardous materials? If so, what sizes and types of operations should be covered?

(16) Should fire retardant coatings and mastics be acceptable under Subpart H with respect to protection against fire? For example, certain OSHA standards, such as § 1910.106(d)(4)(ii), require walls to have a specified fire-resistance rating when used to protect employees from exposure to hazardous materials. Should walls having fire retardant coatings and mastics which afford a specified level of protection, be acceptable to OSHA as alternatives to fire-resistance rated walls? What criteria and test methods should be specified to evaluate the protective characteristics of fire retardant coatings and mastics? What field compliance techniques or devices are available to determine if the fire retardant coatings and mastics are capable of providing the intended level of protection?

B. Specific Issues: In addition to the general issues discussed above, OSHA invites comments on the following specific issues relating to hazardous materials.

(1) *Compressed gas cylinders.* (a) Should OSHA develop inspection

procedures for compressed gas cylinders? Should cylinder inspection continue to be conducted in accordance with the Hazardous Materials Regulations of the Department of Transportation (DOT) (49 CFR Parts 171-179) and with Compressed Gas Association (CGA) Pamphlets C-6 and C-8 as prescribed in § 1910.101(a)?

(b) Should standards for compressed gas cylinders be contained in Subpart H or should such standards be contained in Subpart M, Compressed Gas and Compressed Air Equipment?

(c) Should OSHA standards include quality assurance provisions for compressed gas cylinders manufactured outside of the United States? Should DOT approval of such cylinders be acceptable to OSHA?

(d) Is there a need for standards which specifically address the use of compressed gas cylinders in hospitals and laboratories?

(e) Should OSHA develop requirements for the handling, in-plant transportation, securing during use, and storage of compressed gas cylinders?

(f) Should OSHA require a color coding system for compressed gas cylinders that would serve to identify the contents? What type of system should be required?

(2) *Liquefied petroleum gas (LPG)*. (a) Should MAPP (methylacetylene-propadiene) gas be considered a liquefied petroleum gas? Although MAPP gas possesses some of the same characteristics as LP gases (especially the LP gas, propane) it does not technically conform to the definition in the National Fire Protection Association (NFPA) Standard 58, "Liquefied Petroleum Gases, Storage and Handling," nor to the OSHA definition of LP gases in § 1910.110(a)(7). Consequently, MAPP gas is not presently covered by a specific OSHA standard. A new section is being considered (§ 1910.104 in the outline discussed above) entitled "liquefied energy gases" which would include liquefied natural gas (LNG), liquefied synthetic natural gas (SNG), MAPP gas, and LP gases. OSHA invites comments concerning the appropriateness and effectiveness of such an approach.

(b) Should OSHA adopt applicable provisions of the latest edition of the NFPA standard for LP gases (NFPA 58)? The 1968 edition of NFPA 58 was used as the source for the present OSHA standard for LP gases (§ 1910.110) and OSHA has not revised or updated this standard since its promulgation in 1971.

(c) Should LP gas-fired temporary heaters (salamanders) be tested and approved in accordance with the American National Standards Institute

(ANSI) standard for gas-fired construction heaters (ANSI Z83.7)? Who should perform the testing? Should testing and approval by the American Gas Association (AGA) be acceptable?

(d) Should OSHA standards include maintenance provisions for LP gas distribution equipment? What maintenance provisions should be specified?

(e) Should OSHA incorporate applicable provisions of ANSI Standard B138-1, "Design and Construction of LP-Gas Installations at Marine and Pipeline Terminals, Natural Gas Processing Plants, Refineries and Tank Farms," for all of general industry?

(f) Should OSHA adopt standards to cover aerosol container filling processes which use LP gases or some other flammable gas as the propellant? Are injury data available which would indicate a need for such standards? Should OSHA use the provisions of the latest edition of NFPA 58 which apply to filling LP gas containers as a basis for any requirements pertaining to aerosol container filling processes? What precautions and special procedures are presently being used for filling rooms? What are proper procedures for disposal of leaking containers?

(3) *Liquefied natural gas (LNG) and synthetic natural gas (SNG)*. (a) Should OSHA develop standards for LNG and SNG? What source standards should be used? What hazards need to be addressed?

(b) Should OSHA develop standards for underground and above-ground storage of LNG and SNG?

(4) *Cryogenics*. Should OSHA develop standards which address the safe handling, use, in-plant transportation, and storage of cryogenics (gases compressed to a liquid state of extremely low temperatures)? Should cryogenics be defined in terms of temperature alone or both temperature and pressure? Should OSHA develop design criteria for pressure vessels and other storage containers based on the extreme low temperature properties of cryogenics?

(5) *Flammable and combustible liquids*. (a) Should OSHA allow storage tanks for flammable and combustible liquids to be constructed of materials other than steel? What minimum criteria should these other materials meet? If storage tanks were constructed of other materials, would there be an increased risk of leaks? What other hazards, if any, would be presented by the use of other materials?

(b) Should certain industries which are presently exempted from the OSHA standard for flammable and combustible liquids as specified in § 1910.106 (i) (9)

be covered by a revised OSHA standard for flammable and combustible liquids? What requirements should be provided to cover these industries?

(c) Should OSHA require safety coated (plastic-coated) glass containers to be used for the storage of flammable and combustible liquids where plain glass containers are presently permitted? Should OSHA permit greater quantities of flammable and combustible liquids to be stored in plastic-coated glass containers than those which are presently permitted in plain glass containers? What should the maximum quantity be? Should OSHA continue to permit plain glass containers and then, as an alternative, permit greater quantities to be stored in plastic-coated glass containers? What types of accidents or incidents, whether they produced injury or not, have occurred with plain glass containers that might have been prevented if plastic-coated glass containers were used? What criteria for coating glass containers are already available and how were they developed? What criteria should be developed?

(d) Should any container acceptable to DOT for the shipment of flammable and combustible liquids also be acceptable to OSHA for the storage of flammable and combustible liquids in the workplace? If so, what limitations should be placed on the use of the containers and their storage facilities? What hazards can be expected during the transfer of flammable and combustible liquids from storage containers? Is there a hazard in transferring flammable and combustible liquids from shipping containers acceptable to DOT, to storage containers acceptable to OSHA? What hazards are associated with the storing of flammable and combustible liquids in the shipping containers? Which specific operations involving storage, handling, or transferring of liquids, can be considered more hazardous than others and why? What problems can be encountered during the storage and handling of non-metallic containers? Are there significant hazards associated with the generation of static electricity during the transfer of flammable and combustible liquids from non-metallic containers? What procedures are used to dissipate the static electrical charge normally associated with the transfer of flammable and combustible liquids? Are sufficient charges of electrical energy generated and stored in non-metallic containers which can be later released as a potential ignition source? What level of static electrical charge is necessary to ignite flammable and

combustible liquid vapors found in dispensing areas and what distance can this electrical charge be expected to travel if the conductor is: (1) the ambient atmosphere, or, (2) the rack or holding device that holds the container during dispensing operations? Does the construction material of spouts or spigots (i.e. metallic versus non-metallic) affect the dissipation of the electrical charge developed during dispensing of flammable and combustible liquids?

(e) Should OSHA limit vapor concentrations to a specific percentage of a liquid's lower flammable limit (LFL) (also known as lower explosive limit (LEL)) when determining hazardous concentrations? If so, what should that specific percentage be for nonhazardous, or Class I, Division 1, Class I, Division 2 locations?

(f) Should OSHA develop separate standards for the storage of flammable and combustible liquids in laboratories? If so, how should they differ from general storage requirements?

(g) Should OSHA permit the use of automatic closing nozzles with latch open devices on Class I liquid dispensers (such as gasoline service pumps) used in industrial occupancies? Automatic closing nozzles with latch open devices are currently allowed on Class I liquid dispensers in service stations accessible to the public when dispensing is done by the attendant (§ 1910.109(g)(3)(vi)(b)) but they are not allowed in industrial occupancies. Would spillage increase if automatic closing nozzles with latch open devices were permitted in industrial occupancies?

(h) Should OSHA continue to require that all rebuilt or repaired nozzle valves be recertified as specified in § 1910.106(g)(3)(iv)(b)(2)? Why or why not?

(i) Should OSHA permit the use of military-type "jerry cans" for the storage of flammable and combustible liquids? Under what conditions?

(j) Should OSHA recognize alternative flash point determination test methods (such as the Setaflash closed cup tester) in addition to those specified in § 1910.109(a)(14)?

(k) Should OSHA change the drainage requirements as prescribed in § 1910.107(b)(2)(vii) for outdoor storage facilities for flammable and combustible liquids? What should be required?

(l) Should OSHA change its definition of a liquid as specified in § 1910.106(a)(17) to exclude the more viscous liquids such as certain paints and coatings? What test method should be used for flash point determination of such viscous liquids?

(m) Should OSHA continue to limit the size of indoor storage rooms as specified in § 1910.106(d)(4)(ii)? If OSHA does not continue to limit the size, what additional requirements should apply?

(n) Should OSHA redefine flammable and combustible liquids in order to exclude those water base liquids (such as water base paints) which have a flash point but do not have fire points? Should liquids (such as wine) containing 24 percent or less alcohol by volume be excluded provided that the remainder of the liquid does not present a hazard? What criteria and test methods should OSHA use to define flammable and combustible liquids?

(8) *Oxidizing materials.* (a) Should OSHA develop standards which address the storage, handling and use of oxidizing materials? What source materials should be used?

(b) Would fire protection measures and storage provisions alone be appropriate and adequate for protecting employees involved with the storage, handling and use of oxidizing materials?

(c) Should oxidizing materials be classified? In what manner should they be classified? What criteria and test methods should OSHA use to define oxidizing materials?

(7) *Corrosive liquids.* (a) Should OSHA develop standards which address the storage, handling and use of corrosive liquids? What sources of information should OSHA use to develop standards?

(b) Should OSHA require the employer to have special safety procedures for treatment of in-plant accidents involving corrosive liquids? Should OSHA prohibit the use of plain glass containers and require the use of plastic-coated glass containers for storage and handling of corrosive liquids?

(c) Should corrosive liquids be classified? In what manner should they be classified? What criteria and test methods should OSHA use to define corrosive liquids?

(8) *Explosives and blasting agents.* (a) Should OSHA develop standards for the manufacture of explosives? Section 1910.109 of the current OSHA Subpart H covers the transportation, storage, and use of explosives and blasting agents, but does not cover the manufacture of explosives.

Standards of the Bureau of Alcohol, Tobacco and Firearms (BATF) contain requirements for the storage of explosives (Subpart J of 27 CFR Part 181, Sections 181.181 through 181.200); standards of the Department of Transportation (DOT) contain requirements for the transportation of explosives (49 CFR Parts 171 through

179); and, the OSHA Construction Standards (29 CFR Part 1926, Subpart L) contain requirements for the use of explosives in blasting.

It has been suggested that § 1910.109 be revised to include provisions for the manufacture of explosives and to incorporate the above noted standards by reference where appropriate. OSHA is interested in receiving comments concerning the usefulness and feasibility of this approach.

(b) Should OSHA develop a separate standard for the manufacture, storage, and handling of fireworks? In the alternative, should requirements for fireworks be more clearly delineated in the context of present standards for explosives?

(c) Should OSHA permit the transportation of blasting caps in the same vehicle with other explosives when the safety procedures specified by DOT in 49 CFR 177.835(g) are followed?

(d) Should OSHA ever permit blasting operations to be performed during non-daylight hours? Under what conditions? Present OSHA standards (§ 1910.109(e)(1)(v)) require blasting operations to be performed only during daylight hours.

(e) Are present OSHA definitions for "explosive" as specified in § 1910.109(a)(3) and "blasting agent" as specified in § 1910.109(a)(1) technically accurate? Are there other definitions which would be as accurate but would also be consistent with those of other agencies, such as DOT?

(f) When testing circuits to charged holes, should OSHA require that blasting galvanometers, which verify that circuitry is completed, be equipped with a silver chloride cell which is especially designed for this purpose? Are there alternative batteries available which are equally safe? There has been some controversy concerning this issue. Some experts state that specifying the use of a silver chloride battery is necessary to ensure against accidental detonation of the charged holes. Other experts argue that specifying the use of a silver chloride battery creates a monopoly market for this type of battery, restricts innovative technology, and needlessly excludes other types of batteries which could be used without jeopardizing employee safety.

(9) *Combustible dusts.* (a) Should OSHA develop standards in Subpart H which define and regulate combustible dusts? If so, should various classes of combustible dusts be individually addressed, e.g., metal, organic, plastic? Or would it be sufficient to develop general requirements applicable to all combustible dusts? What source standards should be used?

(b) Should OSHA require specific dust control criteria for those industries whose manufacturing processes involve combustible dusts, e.g., the pharmaceutical industry and food processing industry? Under what condition, if any, should explosion venting be required?

(10) *Flammable solids*. Should OSHA develop standards for the use, handling, and storage of flammable solids (such as camphor, potassium, sodium, and phosphorus)? What source standards should be used? What definitions and test methods should OSHA specify to accurately identify these substances?

(11) *Spray application using flammable or combustible materials*. (a) Should ventilation requirements for spray finishing operations presently contained in § 1910.94(c) be incorporated into a Subpart H standard for spray application using flammable or combustible materials? Confusion frequently exists when reference must be made to § 1910.94(c) concerning spray booth ventilation requirements when the other spray application requirements are contained in Subpart H, § 1910.107. Would this confusion be eliminated if requirements for ventilation and spray finishing were contained in one standard?

(b) Should the requirement for a 20 foot distance between a spray booth and electrical equipment as specified in § 1910.107(c)(2) be reduced to ten feet, and under certain conditions, five feet, to be consistent with the latest editions of the National Fire Protection Association (NFPA) Standard 33, "Spray Application Using Flammable and Combustible Materials" and the National Electrical Code. The 20 foot distance requirement was originally adopted from the 1968 edition of NFPA 33. Would employee safety be adequate at these reduced distances?

(c) Should OSHA ever permit the recirculation of air exhausted from a spray operation back to the same spray operation? If so, under what conditions? What precautions should OSHA require? Present OSHA standards (§ 1910.107(d)(9)) prohibit the recirculation of air exhausted from spray operations. However, recirculation is permitted by the latest edition of NFPA 33 under certain conditions.

(d) Should OSHA permit open spraying, i.e., spraying outside of a spray booth or spray room, as is presently permitted in the latest edition of NFPA 33? If so, under what conditions should OSHA permit this practice?

(e) The present OSHA ventilation standard for spray operations (§ 1910.94(c)(6)) requires specific

ventilation rates. It further requires that ventilation must dilute solvent vapors to less than 25 percent of the lower flammable limit (LFL) (also called the lower explosive limit, LEL). Is compliance with the specified percentage alone, sufficient to provide for employee safety? If not, what else should be required?

(f) Should OSHA ever permit the placing of electric motors (approved for use in hazardous locations) in exhaust ducts that are less than five feet in length? This practice is currently prohibited by § 1910.107(d)(5). Should this practice be allowed provided that: (1) the motors are shielded from direct overspray; (2) the fan blades are mounted directly on the motor shaft; and (3) inspections, cleaning, and maintenance are conducted on a regularly scheduled basis? Are there other precautions that are necessary?

(g) Should OSHA permit the use of thin plastic or paper bags as protective covers on sprinkler heads? It has been suggested that thin coverings on sprinkler heads would not slow the activation of the sprinkler heads to any significant extent and would protect the heads from overspray which could slow their activation. OSHA is seeking any data on the use of such protective coverings.

(h) Should OSHA permit the use of strippable coatings or kraft paper in spray areas to facilitate cleaning? It has been suggested that the use of kraft paper to cover exposed areas in spray operations facilitates cleaning and does not significantly increase the fire hazard once it is covered with a thin coating of overspray. Under what conditions, if any, should OSHA permit this practice to be used?

(i) Should OSHA develop standards which specifically address the use of water base finishes in spray operations? Most of these finishes involve little or no hazard in the liquid state but leave highly combustible residue upon the vaporization of the liquid carrier.

(j) Should ventilation requirements for powder coating operations be different from those for liquid spray operations? For example, the latest edition of NFPA 33 addresses ventilation for powder coating operations by requiring sufficient airflow to maintain the exhaust duct at a powder concentration that will not exceed one half of the lower flammable limit or minimum explosive concentration (MEC) of the powder in use as compared with 25 percent of the lower flammable limit (LFL) for liquids. If the MEC of the powder has not been established, the NFPA standard requires that the exhaust duct powder concentration be

maintained below 0.015 ounces per cubic foot (15 g/m³). Does this approach provide an adequate margin of safety for employees?

(k) Should OSHA allow the use of spray buildings? A spray building is a detached building where only spray operations are conducted. What special conditions should be required for this type of building? Are the present OSHA requirements in § 1910.107 unnecessarily stringent for application to spray buildings?

(1) Should OSHA change the title of § 1910.107, "Spray Finishing Using Flammable and Combustible Materials," to the NFPA title, "Spray Application Using Flammable and Combustible Materials," to be consistent with the source standard as well as to eliminate confusion in the application of the standard?

(12) *Dip tanks containing flammable or combustible liquids*. (a) Should the title of the present standard, § 1910.108, "Dip Tanks Containing Flammable or Combustible Liquids," be changed to be consistent with the proposed title of the National Fire Protection Association (NFPA) Standard 34, "Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids?"

(b) At present all dip tanks containing flammable or combustible liquids are covered by § 1910.108 without regard to the flash point of the liquid. Should OSHA limit coverage only to those liquids with flash points below 200 degrees F, and to those liquids with flash points above 200 degrees F whose temperatures are raised to within 50 degrees F below their flash point? Would this approach provide adequate employee safety?

(c) Should the present requirements for dip tank bottom drains (§ 1910.108(c)(3)) be revoked? It has been suggested that bottom drains are for the protection of the tank contents rather than for employee safety. Additionally, it has been suggested that in the event of fire, draining the tanks may not contribute significantly to employee safety, and may actually decrease safety because draining the tanks results in exposing more residue-laden surfaces.

(d) Should OSHA permit alternatives to its present requirement that overflow piping lead to a safe location outside the building as specified in § 1910.108(c)(2)? Suggested alternatives include overflow piping which leads to a safe location inside the building or, instead of overflow piping, having a dike around the dip tank in conjunction with limiting employee exposures? What criteria should be applied?

(e) Should OSHA ever permit the heating of liquids in dip tanks to temperatures above their flash points? Under what conditions? Present OSHA standards prohibit the heating of liquids in dip tanks to within 50 degrees F below their flash points as specified in § 1910.108(c)(7). However, the latest edition of NFPA 34 permits the heating of liquids to their boiling points or to within 100 degrees F below their autoignition temperatures. Should OSHA revise its standard in this regard? If so, what additional requirements should be specified for ventilation and employee safety?

(f) Should applicable provisions of § 1910.94(d) concerning ventilation for open surface tanks be incorporated into the Subpart H standard for dip tanks?

(g) Should present provisions addressing hardening and tempering tanks as specified in § 1910.108(h)(1) be made applicable to internal quench tanks, i.e., fully enclosed tank systems used in heating-treating materials?

(h) Should ventilation required for dip tanks be based on a percentage of the lower flammable limit (LFL)? The proposed NFPA Standard 34 would require that ventilation systems maintain vapor concentrations at or below 25 percent of the LFL five feet or more from the vapor source. If OSHA adopts this approach, what type of monitoring should be used to ensure that the vapor concentration does not exceed specified levels?

(13) *Molten metal operations.* Should OSHA develop standards for operations involving molten metal? If so, what problems should be addressed? What measures are available to minimize the incidence of steam explosions resulting from spills or the introduction of moisture into furnaces? Should OSHA require monitoring for carbon monoxide (CO) in areas of employee exposure near furnaces to prevent employees from being overcome by acute exposures?

(14) *Oil refineries, gas, chemical and petrochemical plants.* (a) Oil refineries, gas, chemical and petrochemical plants have been modified to operate at higher output and with greater storage capacity than contemplated in their original layout. Does improper spacing between certain equipment, resulting from these plant modifications, contribute to substantial safety hazards? Should OSHA propose general spacing requirements for equipment in refineries and plants which are being modified or planned? What should be the basis for these requirements?

(b) Should OSHA require an emergency action plan as addressed in new § 1910.38, Subpart E, as revised

September 12, 1980 (45 FR 60656) for all employees including contractors? What specific elements should be contained in such a plan?

(c) Should OSHA require a "hot work" permit system for types of work which may cause fire or explosion?

(d) Can some flammable vapor or gas concentration (percentage of lower flammable limits) be specified as the upper bound at which regular electrical wiring can be used without hazard to employees? What monitoring and ventilation should be provided to ensure that the concentrations of flammable vapors or gases are kept below an upper limit? What level of accuracy should be required of the monitoring equipment? What monitoring equipment is currently available or in use?

(e) Should OSHA require special safety procedures for employees, including employees of outside contractors, for work performed during breakdown process repairs, refinery turnaround procedures, and other planned process modifications or changes? Should all such procedures be in writing?

(f) Should compressed air be permitted to be used as a purge gas for flammable or combustible material containers and piping? Under what conditions? If compressed air is permitted for purging flammable and combustible material containers and piping, what is the potential for a flammable vapor-air mixture occurring?

(g) Should OSHA develop standards for high pressure steam or water equipment used in the cleaning of equipment?

(h) Should OSHA propose requirements for the use of system safety analysis, such as failure mode and effects analysis, for new operations, shutdowns, and turnarounds involving hazardous materials? Such analysis would be conducted before any new operation, shutdown, or turnaround occurred and would include a study of conditions and environments that effect system failures, the modes in which failure could take place, the problems that could be generated, and the preventive or safety measures to be taken.

(i) Should OSHA require employers to prepare and implement a system safety program which identifies all hazards capable of causing a disabling injury or death in each operation and defines the alternative measures to eliminate or control those hazards?

(j) Should a system safety program include all of the following: failure mode and effect analysis; fault tree analysis; sneak circuit analysis including risk assessment and hazard control?

(h) Should the scope of the system safety plan include: (1) design of new systems/facilities; (2) modifications to existing system/facilities; and, (3) operations and maintenance of systems/facilities?

Public Participation

Written Comments and Information

The written comments and information requested in this notice must be submitted on or before July 30, 1981, in quadruplicate to the Docket Officer, Docket S-013, Room S6212, U.S. Department of Labor, Occupational Safety and Health Administration, 200 Constitution Avenue, N.W., Washington, D.C. 20210.

Public Meeting

In order to provide an informal forum in which interested persons can orally present comments and information regarding the issues discussed in this notice or on any other aspect concerning the regulation of hazardous materials in Subpart H, OSHA has scheduled a public meeting for April 8 and 9, 1981, in the Auditorium, Frances Perkins Department of Labor Building, 200 Constitution Avenue, N.W., Washington, D.C. 20210.

The meeting on each day will begin promptly at 9:00 a.m., will recess from 12 noon until 1:30 p.m. and then continue until 5:00 p.m. The chairperson will be a representative of the U.S. Department of Labor, designated by the Assistant Secretary, and will have the necessary authority to regulate the conduct of the meetings.

OSHA requests that any person wishing to make oral presentations submit a notice of intention to appear by March 13, 1981. Notice should be addressed to Mr. Tom Hall, Division of Consumer Affairs, Room N3635, U.S. Department of Labor, Occupational Safety and Health Administration, 200 Constitution Avenue, N.W., Washington, D.C. 20210. The notice should identify the person and/or organization intending to testify, the amount of time requested for oral presentation, the subject, and a brief summary of the intended oral presentation. All persons giving written advance notice will have time reserved for oral presentations. Persons who do not submit advance notice, but who still wish to testify, are requested to register at the meeting they attend.

As long as time permits, all persons who wish to be heard will be allowed to make oral presentations. However, priority will be given to those who register in advance.

Additional Public Meetings

OSHA would like to determine if holding additional public meetings in locations other than Washington, D.C. will enable more persons to participate. Specifically, OSHA wants to know whether there are significant numbers of persons who cannot attend the April public meetings in Washington, D.C., but who would be able to participate in a public meeting held on a different date in a more convenient location. Such persons should request the Agency to hold additional meetings and indicate when such meetings should be held and the city or region of the country in which to hold the meetings. (Such requests should be sent to the address provided above for written comments.) OSHA will carefully consider such request in determining whether and where to hold additional meetings. Notice of any additional meetings will be published in the Federal Register.

All written and oral submissions, as well as other information gathered by the Agency, will be considered by OSHA in the development of proposed standards or revisions to Subpart H. In addition, these submissions will be available for inspection and copying during normal business hours at the OSHA Docket Office.

Authority

This document was prepared under the direction of Eula Bingham, Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210.

(Sec. 8, 84 Stat. 1593 (29 U.S.C. 655); 29 CFR Part 1911; Secretary of Labor's Order No. 8-76 (41 FR 25059))

Signed at Washington, D.C., this 19th day of January, 1981.

Eula Bingham,

Assistant Secretary of Labor.

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