

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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Attachment No. 2

INITIAL STATEMENT OF REASONS

CALIFORNIA CODE OF REGULATIONS

TITLE 8: Division 1, Chapter 4, Subchapter 7, Article 145, Section 5605
of the General Industry Safety Orders and Subchapter 4, Article 7, New Section 1550
of the Construction Safety Orders

Tank Storage Subject to Flooding, Precautionary Measures**SUMMARY**

The Occupational Safety and Health Standards Board (Board) notes that the Federal standards, 29 CFR 1910.106(b)(5)(vi) and 1926.152(i)(5)(vi) have expanded and comprehensive procedures addressing the issue of safeguarding storage tanks located in flood areas. Title 8, Section 5605 of the General Industry Safety Orders (GISO) states installation of tanks be in accordance with the provisions of the National Fire Protection Association (NFPA) No. 30-1973 and does not elaborate or provide further direction. The NFPA standard referenced in Section 5605 is badly outdated and no longer available for review. Furthermore, the state standard has no provisions under the Construction Safety Orders (CSO) to address tanks located in flood areas.

This rulemaking action proposes amending Section 5605 to reflect the latest edition (2012) of NFPA 30 citing Chapter 21, Section 21.7.3, Chapter 22, Section 22.5.2.5, and Section 22.14, Chapter 23, Section 23.14, and Annex A.23.14.1, which will be incorporated by reference in proposed Subsection (a). These specific sections in the code address underground and above ground tanks subjected to flooding. The proposal also adds a new Section 1550 to the CSO to align Title 8 with the Federal construction standard 29 CFR Section 1926.152(i)(5)(vi). The proposed amendment essentially duplicates the existing Federal language affecting storage tanks in the general and construction industries. The equivalent Federal standards do not refer to the NFPA 30 code for guidance, but provides expanded details for taking precautions necessary to secure and maintain tanks in flood prone areas.

This proposal will render Title 8, GISO Section 5605 and CSO new Section 1550 at least as effective as (ALAEA) the Federal standard as required by Labor Code Section 142.3(a)(2). Clarifying the regulatory language will provide consistency and eliminate the discrepancy between existing Title 8 and its Federal counterpart standards.

SPECIFIC PURPOSE AND FACTUAL BASIS OF PROPOSED ACTION

This regulatory proposal is intended to provide worker safety at places of employment in California.

This proposed rulemaking action:

- Is based on the following authority and reference: Labor Code Section 142.3, which states, at Subsection (a)(1) that the Board is “the only agency in the state authorized to adopt occupational safety and health standards.” When read in its entirety, Section 142.3 requires that California have a system of occupational safety and health regulations that at least mirror the equivalent federal regulations and that may be more protective of worker health and safety than are the federal occupational safety and health regulations.
- Aligns Title 8 with the equivalent federal standards by essentially adopting the more comprehensive federal language that pertains to precautionary measures for storage tanks subjected to flooding. Updates a badly outdated reference to NFPA 30 with the current 2012 edition and identifies the provisions of the code that directly impact all storage tanks located in flood-prone areas. The proposal will ensure that Title 8 is ALAEA the counterpart Federal standards.
- Is not inconsistent or incompatible with existing state regulations. This proposal is part of a system of occupational safety and health regulations. The consistency and compatibility of that system’s component regulations is provided by such things as: (1) the requirement of the federal government and the Labor Code to the effect that the State regulations be at least as effective as their federal counterparts, and (2) the requirement that all state occupational safety and health rulemaking be channeled through a single entity (the Standards Board).
- This proposal will clarify regulatory language pertaining to above ground and underground tanks subjected to flooding and will provide consistency by eliminating the discrepancy between existing Title 8 and its Federal counterpart standards.

Section 5605. Protection of Tanks in Locations That May Be Flooded.

Existing Section 5605 requires storage tanks in an area that may be subjected to flooding be installed in accordance with the provisions of NFPA 30-1973.

New Subsection (a)

New subsection (a) corrects the outdated citation to the latest NFPA 30-2012 edition and identifies Chapter 21, Section 21.7.3, Chapter 22, Section 22.5.2.5, and Section 22.14, Chapter 23, Section 23.14, and Annex A.23.14.1 that directly address storage tanks subjected to flooding. These standards will be incorporated by reference, and are necessary to ensure that only applicable guidance directly related to the installation of flood prone storage tanks is provided.

New Subsection (b)

New subsection (b) lists applicable requirements when an underground or above ground storage tank is located in a flood area (i.e., an area prone to flooding). These proposed requirements are necessary to ensure that specific precautions are observed prior to locating storage tanks in flood prone areas.

New subsection (b)(1) requires that above ground tanks containing hazardous liquids shall not be located such that the liquid level in the tank is below the established maximum flood stage, unless provided with structural guides as described in subsections (b) (12), (13), and (14). This proposed requirement is necessary to ensure that the tank will remain anchored or can adjust to the level of the flood waters if equipped with structural guides.

New subsection (b)(2) requires that an independent water source is available for loading partially empty tanks. This proposed amendment is needed to ensure the employer will have the ability to add weight to the tank for greater stability and prevent it from floating away.

New subsection (b)(3) requires that submerged tanks with more than 70 percent, but less than 100 percent, of its storage capacity shall be safeguarded either (i) by raising the tank until its top is above the maximum flood stage a distance equal to 30 percent or more of its capacity and the submerged portion of the tank does not exceed two and one-half times its diameter; or (ii) by providing noncombustible structural guides that will allow tanks to float vertically without the loss of product. This subsection is necessary to ensure the tanks are able to adjust to the rise and fall of the floodwaters and maintain its integrity.

New subsection (b)(4) addresses horizontal tanks where more than 70 percent of the tank's capacity is submerged must be secured to prevent movement and from floating away. These proposed amendments are necessary to ensure that tanks remain stable and do not detach from its foundation.

New subsection (b)(5) requires that in locations where water for filling underground tanks is not available for securing the tanks, each tank will be safeguarded from movement by anchoring, weighting with concrete or secured by other means. This safeguard procedure is necessary to prevent tanks from movement or floating away.

New subsection (b)(6) requires underground tanks containing hazardous liquids where an ample supply of water is available and more than 70 percent of its storage capacity is submerged, must be anchored, weighted or secured by other means. This procedure is necessary to ensure that submerged tanks with hazardous liquids will be prevented from movement or being detached from its anchorage.

New subsection (b)(7) requires pipe connections below the liquid level be equipped with valves or cocks as close as practicable to the tank shell and be made of steel or other material suitable for the liquid being stored. These proposed amendments are necessary to ensure ease of access to the valves and provide extended durability for the pipe connections.

New subsection (b)(8) stipulates that an independent source of water is required when floodwaters reach a level not less than 10 feet below the bottom of the lowest tank on the property. This proposed amendment is necessary to ensure that an independent water supply is available when needed and not reliant on public power and water.

New subsection (b)(9) requires a self-contained power and pumping unit be located, designed and capable of continuous operation throughout the rise in floodwaters. This proposed amendment is necessary to provide the employer with an uninterrupted capability to provide water to anchor the tank during rising floodwaters.

New subsection (b)(10) requires the pumping unit to have the capacity to match the rise of water in all tanks to the potential average rate of rise of floodwaters. This proposed requirement is needed to ensure that as the floodwaters rise; the tanks will be commensurately filled to maintain its anchorage.

New subsection (b)(11) requires each pumping unit be periodically tested. This procedure is necessary to ensure that the pumping units are regularly maintained and will operate when needed.

New subsections (b)(12), (13) and (14) describe the design, construction and strength requirements of structural guides which allow above ground vertical storage tanks to move freely with the rise in floodwaters. These proposed requirements are necessary to ensure that structural guides are capable of withstanding the forces of floodwaters and the tank(s) remain stable during an inundation event.

New subsection (b)(15) requires that storage tanks protected by water loading must be filled as soon as flood waters reach flood stage. This procedure is necessary to ensure that the rate of filling the tank is commensurate with the rate of rise of the floodwaters to maintain the integrity of the tank.

New subsection (b)(16) requires that fuel be available at all times to operate the water pumps. This proposed requirement is necessary to ensure that fuel to run the pumps is accessible.

New subsection (b)(17) requires that valves on connecting pipelines be locked in the closed position after water loading is complete. This proposed requirement is necessary to ensure that each tank maintains its load should other tanks become damaged or separated.

New subsection (b)(18) requires that all rigid connections between tanks and pipelines must be disconnected and blanked off or blinded (to close the ends of piping systems) where structural guides are used for the protection of floating tanks, unless the connections are of the type that prevents breakage between the valve and the tank shell. This requirement is necessary to ensure that leakage or the loss of product is prevented through isolating the tank by capping or sealing the pipe connections.

New subsection (b)(19) requires that all valves connected to the storage tank must be closed and locked with the exception of those valves used for water loading operations. This proposed requirement is necessary to ensure that tank-saving, water loading operations can continue while floodwaters are rising.

New subsection (b)(20) requires the swing pipe be raised to its highest position and secured if the tank is equipped with a swing line. The swing pipe is controlled by the swing line which directs the pipe within the tank to various elevated positions. This requirement is necessary to ensure that in the event of a fire, the uncontrolled and dangerous release of tank contents is prevented.

New subsection (b)(21) stipulates that the Chief of the Division of Occupational Safety and Health (Division) will ensure inspections are conducted. The Chief or his/her authorized representative will conduct periodic inspections to verify that tanks are in compliance, flood emergency instructions are posted, and operators/employees are informed and knowledgeable of the operation and equipment. This proposed requirement is necessary to ensure that the requirements of this section are maintained by the Division.

New Section 1550. Protection of Tanks in Locations That May Be Flooded.

A new Section 1550 is proposed for addition to the CSO to apply the same requirements for construction work as with the general industry. The proposal is consistent with its Federal counterpart standard regarding storage tanks in locations subject to flooding. The proposed amendments are necessary to render Title 8, Section 1550 ALAEA the Federal standard.

DOCUMENTS RELIED UPON

1. 29 CFR, 1910.106(b)(5)(vi), and 1926.152(i)(5)(vi), Flammable Liquids, <http://www.osha.gov>.

This document is available for review Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California.

DOCUMENTS INCORPORATED BY REFERENCE

1. National Fire Protection Association, (NFPA) 30-2012, *Flammable and Combustible Liquids Code*, Chapter 21, Section 21.7.3, Chapter 22, Section 22.5.2.5, and Section 22.14, Chapter 23, Section 23.14, and Annex A.23.14.1.

This document is available for review Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California.

REASONABLE ALTERNATIVES THAT WOULD LESSEN ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES

No reasonable alternatives were identified by the Board and no reasonable alternatives identified by the Board or otherwise brought to its attention would lessen the impact on small businesses.

SPECIFIC TECHNOLOGY OR EQUIPMENT

This proposal will not mandate the use of specific technologies or equipment.

COST ESTIMATES OF PROPOSED ACTION

Costs or Savings to State Agencies

No costs or savings to state agencies will result as a consequence of the proposed action.

Impact on Housing Costs

The Board has made an initial determination that this proposal will not significantly affect housing costs.

Economic Impact Analysis

The Board has made a determination that this proposal will not result in a significant, statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states. The proposal expands the provisions of the existing standard by adopting the federal language and specifying the chapters in the NFPA 30 code that directly affect storage tanks subjected to flooding. This proposal amends Section 5605 to reflect the latest edition (2012) of NFPA 30 and divulges the specific instructions that have existed for decades from which the Federal language has been developed. The proposal also adds a new CSO Section 1550 to align Title 8 with the Federal construction standard. The amendment is consistent with CFR 1910.106(b)(5)(vi) and 1926.152(i)(5)(vi) and renders Title 8, GISO, Section 5605 and CSO, new Section 1550 ALAEA the Federal standards.

Therefore, the adoption of the proposed amendment to this standard will not have any effect on the creation or elimination of California jobs nor result in the creation or elimination of existing businesses or affect the expansion of existing California businesses.

This regulatory proposal is intended to provide worker safety at places of employment in California.

Cost Impact on Private Persons or Businesses

The Board is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

Costs or Savings in Federal Funding to the State

The proposal will not result in costs or savings in federal funding to the state.

Costs or Savings to Local Agencies or School Districts Required to be Reimbursed

No costs to local agencies or school districts are required to be reimbursed. See explanation under "Determination of Mandate."

Other Nondiscretionary Costs or Savings Imposed on Local Agencies

This proposal does not impose nondiscretionary costs or savings on local agencies.

DETERMINATION OF MANDATE

The Occupational Safety and Health Standards Board has determined that the proposed standards do not impose a local mandate. There are no costs to any local government or school district which must be reimbursed in accordance with Government Code Sections 17500 through 17630.

EFFECT ON SMALL BUSINESSES

The Board has determined that the proposed amendment may affect small businesses. However, no adverse economic impact is anticipated.

RESULTS OF THE ECONOMIC IMPACT ASSESSMENT

The proposed regulation will not have any effect on the creation or elimination of California jobs or the creation or elimination of California businesses or affect the expansion of existing California businesses.

BENEFITS OF THE REGULATION

The proposal would provide businesses, small or large, clear direction in maintaining and protecting storage tanks located in flood areas. The adoption of this proposal will ensure that current and expanded information is provided when preparing tanks that may be subjected to flooding. This regulatory proposal will render Title 8, GISO and CSO at least as effective as the counterpart Federal regulations.

ALTERNATIVES THAT WOULD AFFECT PRIVATE PERSONS

No reasonable alternatives have been identified by the Board or have otherwise been identified and brought to its attention that would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.