

**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 14, Article 2, Section 6505, Article 46, Section 6651, and Article 35, New Section 6625.1 of the Petroleum Safety Orders, Drilling and Production (PSO-D&P)

Diesel Engine Runaway Protection**SUMMARY**

The Occupational Safety and Health Standards Board (Board) staff initiated this rulemaking as the result of Petition No. 516, filed on July 8, 2010, by Mr. Jogen Bhalla, Vice President, AMOT Inc. The petition was granted by the Board on October 21, 2010, to the extent that Board staff convene a representative advisory committee (committee) to consider the petitioner's request to mandate the use of automatic shut-off devices for diesel powered engines/equipment and address the hazards associated with the failure to control runaway diesel engines. The petitioner opined that the overrun of diesel powered equipment constitutes a source of ignition capable of igniting a gas and/or vapor cloud of flammable substances such as oil and natural gas emanating from an open well or as a result of leakage which could lead to fire and explosion. Having employees run to haphazardly block off the diesel ignition source in the event of a runaway condition and conflagration is both dangerous and unreliable. Therefore, the petitioner proposed Title 8 be amended to require automatic diesel overrun control devices.

As directed by the Board, staff convened a committee meeting which included the petitioner and labor and management representatives on February 8, 2011. The committee considered the petitioner's request and supporting documentation which included various American and Canadian consensus standards, accident statistics and testimony and comments from committee members and the petitioner.

At present, the PSO-D&P addresses definitions and clarifications of terms used in the PSO-D&P but does not define or clarify some of the key terms used in the proposed text. Other sections contain general requirements for overspeed protection on stationary internal combustion engines driving air or gas compressors. However, they do not specifically address requirements for air intake shut-off valves to control runaway conditions for diesel engines. The PSO-D&P addresses emergency stop devices on prime movers including air-intake shut-off valves for diesel engines (prime movers) for drilling rigs and well servicing machinery but does not regulate diesel engines

used exclusively as vehicular diesel engines nor is there a specific requirement for automatically actuated emergency stop devices.

Section 6651 regulates the safe loading and unloading of flammable liquids into or from tank trucks and trailers. Subsection 6651(c) is a performance standard that requires the engine to be stopped or if the engine is used to transfer the flammable liquids, subsection (c) requires that any released flammable vapors be prevented from reaching the engine. However, Section 6651 does not address the specific hazards associated with diesel engine runaway conditions.

This proposed rulemaking action addresses definitions, diesel engine runaway protection within 50 feet of an open well bore through selection by the employer of one or more precautionary measures, and addresses loading and unloading operations into which diesel powered tank, vacuum trucks and auxiliary equipment are operated during the loading of unrefined fuel.

SPECIFIC PURPOSE AND FACTUAL BASIS OF PROPOSED ACTION

The proposed amendments are as follows:

§6505. Definitions.

The proposal adds definitions of terms used in the amended articles of PSO-D&P including “Actuation Test,” “Air intake shut-off valve,” “Open well bore,” “Prime Mover,” “Remote Control,” and “Runaway.”

The proposal is necessary to clarify the intended meaning of the proposed standards and to insure proper understanding of the scope and application of the proposed requirements. The proposed definition of “Prime Mover” addresses confusion expressed by the advisory committee members with its meaning and scope in existing regulations of Article 52, so titled. The definition of “Prime Mover” is consistent with a similar definition used in Section 3941 of the General Industry Safety Orders and with the definition in 29 CFR, Section 1910.211(f)(9). All other proposed definitions are consistent with commonly used oil and gas drilling and production industry terminology.

§6625.1. Diesel Engines Runaway Protection.

The proposal adds Section 6625.1 specifically to address the hazards associated with diesel engine runaway. New subsections (a) and (b) prohibit the operation of stationary, vehicular and mobile diesel engines within 50 feet of the open well bore or other existing source of ignitable gas or vapor unless at least one of the five conditions specified in subsections (b)(1)-(5) is complied with. The five conditions under which a diesel engine can operate within the 50-foot safety zone prevent diesel engine runaway conditions by either blocking the oxygen/fuel mixture from entering the engine as set forth in subsections (1) and (2), providing gas and vapor free combustion air as set forth in subsection (3), displacing the oxygen/fuel mixture from the engine with an inert gas as set forth in subsection (4), or using any other approved and effective method or device designed to stop a diesel engine runaway as in subsection (5).

The proposed subsections are necessary to ensure the safe operation of diesel engines within 50 feet of an open well bore and other sources of ignitable gas or vapor and prevent a catastrophic fire and explosion which could result in significant employee casualties and destruction of property and the environment. The choice of the five conditions in subsection (b) will provide employers with flexibility to tailor their compliance strategy effectively and efficiently. The proposal is consistent with Section 6521 in the Petroleum Safety Orders and Section 5416 in the General Industry Safety Orders which mandate eliminating sources of ignition and conducting air monitoring for flammable gases and vapors in environments where a flammable atmosphere exists. The proposed 50 feet safety zone in subsection (a) is consistent with requirements in Section 6684 in these safety orders for spark control systems for internal combustion engines, including diesel engines, within 50 feet of drilling wells.

Proposed subsection (c) requires actuation testing by a qualified person for air intake shut-off valves at weekly intervals for rig diesel engines and at least monthly intervals for all other diesel engines. Additionally, subsection (c) establishes a recordkeeping requirement for the actuation tests pursuant to Section 3203(b)(1) of the General Industry Safety Orders.

The proposed subsection (c) is necessary to ensure that air intake shut-off valves and their controls function properly to prevent and control the fire and explosion risk and the employer can demonstrate that the required system maintenance is being performed and system integrity is preserved.

Proposed subsection (d) requires that a diesel engine experiencing runaway conditions be shut-down and the area affecting the safe operation of the diesel engine is free of flammable gas or vapor before the diesel engine is restarted.

The proposed text in subsection (d) is necessary to ensure the condition that caused the diesel engine to overspeed (runaway) has been abated before the diesel engine is operated.

§6651. Loading and Unloading Operations.

The proposed new subsection (d) addresses the hazards associated with diesel engine runaway conditions for tank truck and vacuum truck diesel engines or auxiliary diesel engines used in the transfer of a flammable liquid. Proposed subsection (d) would prevent diesel engine runaway conditions by requiring the subject diesel engines to comply with Sections 6625.1(b) through (d).

Subsection (d) is necessary to ensure the safe operation of tank truck and vacuum truck diesel engines when transferring flammable liquid and is consistent with Section 5416 in the General Industry Safety Orders which mandates the elimination of sources of ignition and air monitoring for flammable gases and vapors in environments where the concentration of the flammable gases or vapors exceeds or may reasonably be expected to exceed 25 percent of the lower explosive limit.

DOCUMENTS RELIED UPON

- 1) Board staff Summary of Oil and Gas Well Drilling and Production, United States Department of Labor, Occupational Safety and Health Administration, 1/1990 – 1/2011.
- 2) U.S. Department of Labor, OSHA IntraNet, Establishment Search Inspection Detail--- OSHA View.
- 3) American Petroleum Institute (API), Recommended Practice for Occupational Safety for Oil and Gas Well Drilling and Servicing Operations, API Recommended Practice 54 Third Edition, August 1999 Reaffirmed, March 2007.
- 4) Alberta, Canada, Alberta Occupational Health and Safety Regulations, Oil and Gas Conservation Regulations, Alta Reg 151/1971. Current Version: as posted between May 13, 2011 and Jun 3, 2011.
- 5) Manitoba, Canada, Workplace Safety and Health Regulation - Part 41 - Oil and Gas.
- 6) Prince Edward Island, Canada, Prince Edward Island Occupational Health and Safety Regulations, Oil and Gas Conservation Regulations, P.E.I. Reg. EC170/74.
- 7) Yukon, Canada, Yukon Occupational Health and Safety Regulations, YOIC 2006/178, Part 17 – Oil and Gas Industry.
- 8) Petition dated July 1, 2010, submitted by Jogen Bhalla, VP, Amot.
- 9) Division Evaluation of Petition File No. 516, dated August 24 2010.
- 10) Occupational Safety and Health Standards Board Decision dated October 21, 2010, in the matter of Petition File No. 516 by Jogen Bhalla, VP, Amot.

These documents are 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.

Impact on Businesses

The proposal provides optional methods for controlling the diesel overrun hazard when work is performed within 50 feet of an open well bore and addresses record keeping and vacuum and tanker truck operations. Drilling and production employers have likely already implemented one or more proposed control methods, such as airborne monitoring. The cost of implementing one or more of the proposed methods, maintaining inspection records and controlling vacuum truck hazards is insignificant compared to overall drilling and production operation costs.

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 regulation does not impose a local mandate. Therefore, reimbursement by the state is not required pursuant to Part 7 (commencing with section 17500) of Division 4 of the Government Code because the proposed amendment will not require local agencies or school districts to incur additional costs in complying with the proposal. Furthermore, the regulation does not constitute a "new program or

higher level of service of an existing program within the meaning of section 6 of Article XIII B of the California Constitution."

The California Supreme Court has established that a "program" within the meaning of section 6 of Article XIII B of the California Constitution is one which carries out the governmental function of providing services to the public, or which, to implement a state policy, imposes unique requirements on local governments and does not apply generally to all residents and entities in the state. (County of Los Angeles v. State of California (1987) 43 Cal.3d 46.)

The proposed regulation does not require local agencies to carry out the governmental function of providing services to the public. Rather, the regulation requires local agencies to take certain steps to ensure the safety and health of their own employees only. Moreover, the proposed regulation does not in any way require local agencies to administer the California Occupational Safety and Health program. (See City of Anaheim v. State of California (1987) 189 Cal.App.3d 1478.)

The proposed regulation does not impose unique requirements on local governments. All state, local and private employers will be required to comply with the prescribed standard.

EFFECT ON SMALL BUSINESSES

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

ASSESSMENT

The adoption of the proposed amendments to these regulations will neither create nor eliminate jobs in the State of California nor result in the elimination of existing businesses or create or expand businesses in the State of California.

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.