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California Proposes Major Changes to Refinery PSM Standard

The California Department of Industrial Relations (DIR) has proposed a new Process Safety Management standard for oil refineries (the “Refinery PSM Standard”). The proposal, which is a precursor to formal notice and comment rulemaking, proposes a sweeping rewrite of the PSM standard for oil refineries as well as several new management system elements. California’s efforts may drive consideration of similar issues as the federal Occupational Safety and Health Administration (OSHA) considers revisions to its PSM regulations.

The draft proposal is part of an ongoing effort that began with the California Interagency Working Group on Refinery Safety (the “Refinery Working Group”). The Refinery Working Group’s February 2014 report, entitled, “Improving Public and Worker Safety at Oil Refineries” (the “Report”) identified several perceived inadequacies in existing regulations and systems for petroleum refineries. Based on the Refinery Working Group’s review of existing regulatory schemes, it determined that the Contra Costa Industrial Safety Ordinance (ISO) was the “most far-reaching” and held “the most promise for improving safety.” Using the ISO as a model, the Refinery Working Group recommended “state-of-the art prevention strategies” that “must be incorporated into the CalARP [California Accidental Release Prevention program] and Cal/OSHA [California Division of Occupational Safety and Health] PSM programs and made enforceable statewide.”

Following the release of the Report, California established a permanent Interagency Refinery Task Force. The task force is charged with improving public and worker safety at the state’s oil refineries, and has continued the efforts to carry out the recommendations in the Report. The proposed Refinery PSM Standard is one of the results of these efforts.

The proposed Refinery PSM Standard would make several significant changes to the existing California PSM standard. As the scope section explains, “These regulations contain requirements to prevent major incidents . . . and to eliminate, *to the greatest extent feasible*, health and safety risks to which employees may be exposed” (emphasis added). The proposal’s emphasis on “to the greatest extent feasible” represents a nod to the safety case and the concept of “as low as reasonable practicable,” which the US Chemical Safety Board has championed in the context of recent refinery investigations.

Importantly, the proposed Refinery PSM Standard would apply only to the refinery sector. It would greatly expand the Refinery PSM standard’s applicability to these facilities because (unlike the existing PSM standard), it is not limited to covered processes. Rather, the proposed rule provides that “[t]hese regulations shall apply to *all processes and appurtenances, operations and substances* at petroleum refineries that have the potential to cause serious physical harm or a major incident” (emphasis added).

For more information, or if you have any questions, please contact your Katten Muchin Rosenman LLP attorney or the following member of the firm’s **Environmental practice**.

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The proposed Refinery PSM Standard also includes a definition for recognized and generally accepted good engineering practices (RAGAGEPs). In pertinent part, the Refinery PSM standard defines RAGAGEPs as “[e]ngineering, operation, or maintenance activities based on established codes, standards, published technical reports or recommended practices or similar documents. . . .” This definition is a modified version of the definition of RAGAGEPs used in the federal OSHA’s Petroleum Refinery PSM National Emphasis Program guidance. Notably, this definition may preclude internal company documents from serving as RAGAGEPs, an issue that has been a point of dispute between employers and the federal OSHA.

In addition, the proposed Refinery PSM Standard represents major changes to the existing PSM management system elements. Some changes are consistent throughout. These include revisions to incorporate the new management system elements (described below), provisions to expand employee participation, and provisions expanding employee access to reports and other information developed pursuant to the standard. Specific changes to existing PSM elements include the following:

- **Process Safety Information (PSI):** The PSI provision is expanded to require that employers develop information relating to controls, safeguards and appurtenances used in the process (as opposed to the current standard’s requirement relating to only equipment). This provision also addresses reactive hazards by requiring employers to include in their PSI “the consequences of deviations, including chemical mixing and/or reactions that may affect the safety and health of employees.”
- **Process Hazard Analysis (PHA):** The PHA provision now incorporates an explicit risk-reduction goal. The proposed PHA language states that the goal of the PHA is “to reduce the risks associated with the process to the greatest extent feasible.” “Feasible,” in turn, is defined as “capable of being achieved.”
- **Operating Procedures:** The proposed Refinery PSM Standard expands upon the procedures required for each phase of operation. For example, under the proposed standard, procedures must define the conditions requiring emergency shutdown, and assign “responsibilities to *qualified operators* in order to ensure that [an] emergency shutdown is executed in a safe and timely manner” (emphasis added). Likewise, procedures for emergency operations “shall provide that *only qualified operators* may initiate these operations,” and that prior to allowing operators into the vicinity of a leak, the employer must have either shutdown or depressurized the process where the leak is occurring or isolated the equipment.
- **Contractors:** The proposed Refinery PSM Standard significantly expands the existing requirements relating to contractors. The revisions emphasize the employer’s role in informing contractors of potential hazards associated with the process, and impose additional duties on contractors to ensure their employees have sufficient training and understand hazards of the process.
- **Pre-Start-Up Safety Review (PSSR):** The revisions to the PSSR provisions incorporate the new safeguards analysis and hierarchy of hazard controls analysis. In addition, the revised PSSR provision requires that employees involved in the PSSR “shall be selected by employees and their representatives. . . .”
- **Process Integrity:** The proposed Refinery PSM Standard substitutes the term “process integrity” for “mechanical integrity.” In addition, the proposed provision strengthens the language requiring development of a mechanical integrity program. The proposed language requires employers to “*develop, implement and maintain* effective written procedures to *ensure* the ongoing integrity of process equipment, controls, safeguards and appurtenances” as opposed to the prior version’s requirement to “*establish and implement* written procedures to *maintain* the integrity of process equipment and appurtenances” (emphasis added). The process integrity provisions also require that employers develop a method for employees to report unsafe equipment, and require employers to respond to these concerns in writing within 60 calendar days. Finally, the process integrity section provides new requirements relating to quality assurance. These provisions require the employer to ensure that existing equipment complies with RAGAGEPs and is designed, operated installed and maintained “to reduce the risk of failure to the greatest extent feasible.”
- **Hot Work:** The hot work permit provision has been revised to require keeping hot work permits on file for the life of the unit (instead of until completion of the hot work operations).
- **Management of Change (MOC):** The proposed Refinery PSM Standard requires implementing MOC procedures as a part of the new damage mechanism review, hierarchy of hazards control analysis and safeguard protection analysis. The proposed language would also require reviewing potential changes with maintenance workers and contractor employees in addition to employees involved in the process.

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- **Incident Investigation – Root Cause Analysis:** The proposed Refinery PSM Standard makes significant revisions to the incident investigation provision. The revised version requires investigating and reporting of any major incident or potential major incident. “Major incident” is defined to include not only releases of hazardous substances, but also: (1) events that cause community evacuation; (2) shelter-in place events that cause pressure-relief devices to discharge to the atmosphere; or (3) unplanned releases of nontoxic or nonflammable materials, such as steam, which could result in death or serious harm. The proposed language would also require root cause analysis methods that allow employers to reduce risk to the greatest extent feasible, require that investigation teams include employees or employee representatives, and require including a contractor employee if the incident involved a contractor. Finally, corrective actions not requiring a shutdown must be implemented within two years after completion of the report, or, in the case of those requiring a shutdown, after the first regularly scheduled turnaround. Recommendations addressing hazards that present the potential for death or serious physical harm must be corrected immediately.
 - **Employee Participation:** The proposed Refinery PSM Standard expands upon the access requirements in the current PSM standard. In addition, it requires that any employee who serves on any committee or in an advisory committee must be selected by employees or employee representatives. This section also incorporates a new provision requiring development and implementation of a Stop Work Authority and Hazard Reporting Program.

In addition to the changes to existing PSM management system elements, the proposed Refinery PSM Standard proposes significant new requirements, including the following:

- **Damage Mechanism Reviews:** The proposed Refinery PSM Standard includes a new provision requiring employers to perform a damage mechanism review (DMR) for each process. The review must be performed by a team of engineers, operators, inspectors and persons familiar with damage mechanisms, and must include a broad assessment of potential damage mechanisms and inspection history. Following the review, the team must issue a DMR report that must be provided to and reviewed with personnel whose work assignments are within the scope of the DMR. This DMR must be revalidated on a five-year schedule, and must be available for teams performing incident investigations and PHAs. Finally, corrective actions not requiring a shutdown must be implemented within two years after completion of the report, or in the case of those requiring a shutdown, after the first regularly scheduled turnaround. Recommendations that address hazards that present the potential for death or serious physical harm must be corrected immediately.
- **Hierarchy of Hazard Controls Analysis:** The new hierarchy of controls analysis (HCA) is required to be performed in several situations, including during the implementation of corrective actions that result from PHAs, following a major change as a part of an MOC, when an incident occurs, when ensuring the quality of new equipment, and, at the request of Cal/OSHA. The HCA must also identify and evaluate inherently safer measures to reduce risk to the greatest extent feasible. Under the proposed language, an inherent safety measure is deemed feasible if it is a RAGAGEP, a control technique or a management system that has been achieved in practice at a petroleum refinery, or a control technique or management system that has been required or recommended for the petroleum refining sector in a regulation or report by a federal, state or local agency. Employers must notify Cal/OSHA of the completion of the analysis, and, upon the agency’s request, provide Cal/OSHA with a copy of the HCA. If Cal/OSHA identifies deficiencies with the HCA, it may require the employer to submit additional information, perform a reanalysis or modify the HCA to incorporate changes or proposed measures.
- **Human Factors:** The proposed Refinery PSM Standard requires development of a human factors program. This program must include an assessment of human factors under all aspects of the PSM standard.
- **Management of Organizational Change:** The proposed Refinery PSM Standard requires development of a management of organizational change program. This program must include a management of organizational change assessment that the facility manager certifies, and must include employees and their representatives.
- **Safeguard Protection Analysis:** The proposed Refinery PSM Standard must include a safeguard protection analysis (SPA) for each process. The SPA must be performed on the same schedule as the PHA for that process, and must assess the combined effectiveness of existing safeguards and safeguards recommended in a PHA and HCA. The SPA must also assess whether additional or alternative inherent safety measures or independent layers of protection may be needed to reduce the risk of a major incident to the greatest extent feasible. The SPA is to be performed using quantitative or semi-quantitative methods.

- **Safety Culture Assessments:** Employers are required to performed a safety culture assessment every three years. The resulting report and action plan must be communicated and made available to employees, their representatives and contractors, and also available to the Cal/OSHA upon request.
- **PSM Management System:** Employers are required to develop and implement a PSM management system. This system must be administered by a PSM management coordinator who is responsible for compliance with the Refinery PSM standard. The PSM management coordinator, along with a PSM management team, must develop and maintain several categories of information, including employee participation policies and written policies and procedures to ensure that action items are communicated to employees. The PSM management team is required to include an employee or employee representative, and the team must also consult with operators. The PSM management coordinator must also document, and make available to Cal/OSHA upon request, process safety performance indicators including past due inspections and past due recommendations.

In a press release accompanying the proposed standard, DIR Director Christine Baker stated that “[t]he proposed changes will provide a framework for anticipating, preventing and responding to refinery safety problems at the earliest possible point.” The proposed Refinery PSM Standard has not yet begun the rulemaking process. To begin the formal rulemaking process, Cal/OSHA must publish a notice in the California Regulatory Notice Register (Notice Register), and must include statement of reasons and an economic and fiscal impact statement. In California, an administrative agency must complete its rulemaking and submit the rulemaking file to the California Office of Administrative Law within one year of the date of publication of a notice of proposed action in the Notice Register.

The DIR will hold a series of public meetings to review the proposed changes with the public. Initial meetings were held on September 16 and 17 in Oakland. While no dates have been set, the DIR plans to conduct additional public meetings in October. A copy of the DIR press release can be found [here](#). Katten will be tracking these issues carefully for California refineries and other employers interested in how this effort may impact the federal OSHA’s review of the federal standard in the context of the recent request for information.

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