



## California LABOR Federation

**September 2, 2016 Detailed Comments of the BlueGreen Alliance, California Labor Federation and United Steelworkers on California's Proposed §5189.1 *Process Safety Management for Petroleum Refineries*.**

**CCR Title 8, Division 1, Chapter 4; Subchapter 7. General Industry Safety Orders; Group 16. Control of Hazardous Substances; Article 109. Hazardous Substances and Processes.**

This document describes specific requests for text changes that are shown in track-changes in the attached document. A rationale is provided for each requested text change.

### **(a) Scope and Purpose (p. 1)**

Request: Restore Sept 2015 text.

Rationale: This subsection establishes the objective of the PSM regulation. DIR's new text allows for the possibility of a major incident by using the phrase, "reduce the risk of major incidents," whereas the Sept text used the phrase, "reduce risks by preventing major incidents."

Rather than "reduce the risk of a major incident," it is appropriate within the Scope and Purpose of the PSM regulation to state that the objective is to require that the industry actually *prevent major incidents*. We believe that this is the point of the regulation.

### **(b) Application (p. 1)**

Request: Insert clarifying text "including processes under partial or complete turnaround."

Rationale: During turnarounds, contractors perform repair and maintenance work on refinery processes. These processes, while not in operation, still can contain highly hazardous materials, such as nitrogen used to purge vessels, and residual hydrocarbon vapors. The PSM standard should cover these hazards during this period of refinery work. While other construction standards will also apply during turnaround work, all applicable elements of PSM should also be enforced.

### **(c) Definitions:**

#### **Feasible (p. 1)**

Request: Remove ambiguous text so the definition reads, “Capable of being accomplished.”

Rationale: BGA’s language is standard usage for the definition of “feasible.” DIR’s text is ambiguous because (1) “accomplished in a successful manner” is undefined; (2) “reasonable period of time” is undefined; and (3) the factors that the proposal requires the employer to take into account are undefined and are not comprehensive.

### **Highly Hazardous Material (p. 2)**

Request: Restore Sept. 2015 text to add, “This definition includes water when it is used as part of a process, or when it could affect a process, and it includes steam and asphyxiants, such as nitrogen and carbon dioxide.”

Rationale: Steam used in refinery processes is usually under high pressure and temperature. Steam releases have caused worker fatalities and burns. Asphyxiants are used to purge vessels and piping systems and have injured and killed workers. Steam and asphyxiants are integral to refinery processes and turnarounds and should be covered under the requirements of PSM.

### **Major Change (p. 3)**

Request: Restore Sept 2015 text by removing the words, “change in.”

Rationale: DIR’s addition of the words “change in” assumes that processes will be operated outside of safe operating limits, and a major change would only be triggered when operations *outside* of safe operating limits are “changed.” This does not make sense. If a refinery operates a process outside of safe operating limits, this constitutes a major change that should trigger the Management of Change (MOC) procedures. The Sept text accomplishes this objective.

### **Recognized and Generally Accepted Good Engineering Practices (RAGAGEP) (p. 4)**

Request: Restore Sept 2015 text to add the American Institute of Chemical Engineers (AIChE)/Center for Chemical Process Safety (CCPS),

Rationale: The American Institute of Chemical Engineers (AIChE) houses the Center for Chemical Process Safety (CCPS), which produces important process safety recommendations and best practices. These should be included in the list of RAGAGEPs.

Request: Restore the last sentence, “RAGAGEP does not include standards, guidelines or practices developed for internal use by the employer.”

Rationale: By definition, internal employer practices do not constitute “recognized and generally accepted good engineering practices.” Faulty internal practices have resulted in catastrophic incidents in some California refineries. The employer’s internal standards should not be allowed under the definition of RAGAGEP.

### **Temporary Pipe Repair (p. 5)**

Request: Restore Sept 2015 text by deleting “high energy.”

Rationale: The term “high energy” is undefined in the proposal.

#### **Utility (p. 5)**

Request: Amend text to allow PSM coverage of steam and asphyxiants when used outside of a process.

Rationale: Steam and asphyxiants are sometimes used in refinery operations that are ancillary to a process. Nitrogen (an asphyxiant), for example, is used to purge tanks of flammable vapors before repairs are conducted. This practice has caused worker injuries and fatalities and should be covered by PSM requirements.

#### **(d) Process Safety Information (p. 5)**

Request: At (3) restore Sept 2015 text, “...in developing and compiling the PSI...”

Rationale: Without this text, it’s not clear for what purpose the employer is required to “provide for employee participation.” It’s not clear if this sentence applies to this single paragraph or to all paragraphs in the subsection.

Request: At (7), remove “or with other equally or more protective internal standards that ensure safe operation.”

Rationale: Internal corporate standards have resulted in fires, explosions and releases. The requested change will remove the burden on the Division of refuting the refinery’s claim that its procedures are equally or more protective than Recognized and Generally Accepted Good Engineering Practices (RAGAGEP).

#### **(e) Process Hazard Analysis (p. 7)**

Request: At (4), add, “...in the performance of all PHAs...”

Rationale: Without this text, it’s not clear for what purpose the employer is required to “provide for employee participation.” It’s not clear if this sentence applies to this single paragraph or to all paragraphs in the subsection.

Request: At (6) restore Sept 2015 text, pertaining to the six-month timeline for completion of the HCA.

Rationale: A timeline enables enforceability. Without a timeline, the requirement to perform an HCA is ambiguous. The employer could perform the HCA in a year, two years, five years, or more, at the employer’s discretion. This weakens the HCA requirement.

#### **(f) Operating Procedures (p. 10)**

Request: At (5)(A), strike the sentence pertaining to defining “conditions for handling leaks, spills or discharges...”

Rationale: This is precisely what Chevron did in August 2012, with catastrophic results. The current language places the burden on the Division of refuting the refinery's claim that its procedures are "functionally equivalent to, or safer than, shutting down or isolating the process." It is reasonable to require isolation, shutdown or depressurization in the event of an emergency, which this paragraph references.

**(h) Contractors (p. 13)**

Request: At (2)(B), insert "effectively."

Rationale: Without the word *effectively*, informing employees of safety hazards can be a cursory exercise consisting of a "check-off" sheet, for example, which employees simply sign and thereby acknowledge that they have been informed of all safety hazards on the site. The word *effectively* is enforceable and requires increased diligence on the part of the *refinery* in ensuring the quality of contractors and the safety of contractor employees.

Request: At (3)(B), insert "effectively."

Rationale: Without the word *effectively*, informing employees of safety hazards can be a cursory exercise by contractors, as noted above. The word *effectively* is enforceable and requires increased diligence on the part of the *contractor* in ensuring the safety of his or her employees.

**(i) Pre Start-Up Safety Review (p. 14)**

Request: At (1), add, "...and for unplanned shut-downs where process equipment was replaced."

Rationale: This phrase will require a pre start-up safety review after a process has been shut down in response to an emergency, and a piece of equipment has been replaced. Without this text, this type of start-up would not be covered by the PSSR requirements. This could result in unsafe start-up conditions given the pressure on refinery operators to get a process back up and running as quickly as possible.

**(j) Mechanical Integrity (p. 15)**

Request: At (2)(B), strike "...or other equally or more protective internal standards."

Rationale: Internal corporate standards have resulted in fires, explosions and releases. The requested change will remove the burden on the Division of refuting the refinery's claim that its procedures are equally or more protective than Recognized and Generally Accepted Good Engineering Practices (RAGAGEP).

Request: At (3)(A), strike "...or other equally or more protective internal standards."

Rationale: See above.

**(k) Damage Mechanism Review (p. 16)**

Request: At (5), see track changes that require the employer to conduct a DMR after a major incident if that incident involved a damage mechanism instead of the current language that simply authorizes the incident investigation team to make a *recommendation* to the employer, who is then able to accept or reject that recommendation.

Rationale: The lessons learned from a Damage Mechanism Review following a major incident will inform investigators about the mechanisms that led up to the incident, which the refinery can then use to prevent a similar incident in the future at site throughout the plant where similar kinds of damage mechanisms are occurring.

Request: At (7), add “...in the performance of all DMRs...”

Rationale: Without this text, it’s not clear for what purpose the employer is required to “provide for employee participation.” It’s not clear if this sentence applies to this single paragraph or to all paragraphs in the subsection.

#### **(l) Hierarchy of Hazard Controls Analysis (p. 18)**

Request: At (3), add “...in determining the make-up of the HCA team...”

Rationale: Without this text, it’s not clear for what purpose the employer is required to “provide for employee participation.” It’s not clear if this sentence applies to this single paragraph or to all paragraphs in the subsection.

Request: At (5), replace “developing” with “issuing.”

Rationale: “Issuing” is a clear term that describes a specific action, whereas “developing” is ambiguous.

#### **(n) Management of Change (p. 20)**

Request: Insert a new (2) (A) (B) (C) (D) pertaining to leak seal repairs.

Rationale: Refineries apply leak seal repairs as a temporary measure in lieu of replacing sections of pipe; some refineries leave these in place for years, simply adding more repairs to piping systems as those systems degrade over time. At some point, the pipe itself can fail, as occurred at Chevron, Richmond. Pipe repairs are therefore an important process safety indicator that shows how much or how little a refinery is investing in maintaining its infrastructure. This is important information for operators, who can use this information to gauge the relative hazards of different refinery processes. It is also important information for investigating incidents that occur in areas where leak seal repairs are in place.

Request: At (6), add “...in the performance of all MOCs...”

Rationale: Without this text, it’s not clear for what purpose the employer is required to “provide for employee participation.” It’s not clear if this sentence applies to this single paragraph or to all paragraphs in the subsection.

**(o) Incident Investigation (p. 22)**

Request: At (4), add “in the performance of all incident investigations...”

Rationale: Without this text, it’s not clear for what purpose the employer is required to “provide for employee participation.” It’s not clear if this sentence applies to this single paragraph or to all paragraphs in the subsection.

Request: At (11), see track changes, requiring the refinery to proactively notify employees of the availability of incident investigation reports.

Rationale: DIR’s proposed passive language allowing investigation reports to simply be “made available” will result in these reports being largely unseen by the workforce. Incident reports are important vehicles for learning and continuous improvement in process safety. Our proposed language requires the employer to actively notify employees as part of making the reports available.

**(q) Employee Participation (p. 24)**

Request: At (1)(A), add “...throughout all phases...”

Rationale: This clarifies the degree to which the employer is required to provide for effective employee participation in the teams that perform the analyses listed in this paragraph. Without these words, an employer could reasonably interpret this requirement to mean employee participation at one or a few aspects of the analyses listed.

Request: At (1)(B), add “...throughout all phases...” and replace “the” with “all.”

Rationale: See above

Request: At (5), see text changes requiring the employer to “develop and *implement* the following,” as compared to simply developing “a *system* to implement the following.”

Rationale: DIR’s proposed language is ambiguous. Requiring the employer to develop a *system* to implement Effective Stop Work procedures is less effective and less enforceable than requiring the employer to actually develop and implement Effective Stop Work *procedures*. In the former, the simple presence of a *system* would meet the requirement, even if that system has ineffective procedures; in the latter, the actual *procedures* would be assessed for their effectiveness. A system does not necessarily implement effective procedures in actual practice.

**(r) Process Safety Culture Assessment (p. 25)**

Request: At (3), add “...in the performance of all PSCAs...”

Rationale: Without this text, it’s not clear for what purpose the employer is required to “provide for employee participation.” It’s not clear if this sentence applies to this single paragraph or to all paragraphs in the subsection.

Request: At (6), see track changes pertaining to priority recommendations.

Rationale: I think we're on the same page here, but the language proposed by DIR is unclear. We hope our revision is clearer.

**(s) Human Factors (p. 26)**

Request: At (2), strike "where relevant."

Rationale: Human factors are relevant in all of the elements listed in this paragraph. The term "where relevant" places the burden on the Division of refuting the refinery's claim that Human Factors are not relevant in any number of the analyses listed here.

Request: At (3) Change 3 and 5 years to 2 and 4 years.

Rationale: Five years is excessive for conducting human factors analyses in operating and maintenance procedures. This timeline de-prioritizes human factors, when in fact human factors can play an important role in the effectiveness of procedures.

**(t) Management of Organizational Change (p. 27)**

Request: At (2), see track changes pertaining to experience and classification.

Rationale: Experience and classification levels level can be equally important in ensuring the safety of refinery operations.

Request: at 92), add, "...in the performance of all MOOCs..."

Rationale: Without this employee participation clarification, it's not clear for what purpose the employer is required to "provide for employee participation." It's not clear if this sentence applies to this single paragraph or to all paragraphs in the subsection.

**(x) Implementation (p. 29)**

Request: At (6), see changes requiring employer to actively communicate back to PSM team members if the employer changes or rejects a team recommendation.

Rationale: In actual practice, simply making the employer's decision passively "available" is ineffective. This information will become lost in the sea of information that team members are required to manage. Active reporting improves accountability by refinery managers to the subject matter experts who participate on PSM teams.

Request: At (13), delete "...prioritized and..."

Rationale: We are probably on the same page here, but as written, DIR's language allows for a two-step process: prioritization and then prompt correction of process safety hazards. We prefer a one-step process: prompt correction.

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