



September 15, 2016

Occupational Safety and Health Standards Board  
2520 Venture Oaks Way, Suite 350  
Sacramento, CA 95833

Submitted via e-mail to: [oshsb@dir.ca.gov](mailto:oshsb@dir.ca.gov)

**Comments of the American Petroleum Institute and the American Fuel & Petrochemical Manufacturers on Cal/OSHA's New Section 5189.1 of the General Industry Safety Orders, Process Safety Management for Petroleum Refineries, Proposed Rule, July 15, 2016**

The American Petroleum Institute (API) and the American Fuel & Petrochemical Manufacturers (AFPM) appreciate the opportunity to provide comments on the State of California's Department of Industrial Relations Occupational Safety and Health Standards Board's (Board) proposal to adopt new regulations governing Process Safety Management (PSM) for petroleum refineries. Furthermore, we are particularly interested in providing these comments since similar discussions are taking place at the national level on potential revisions to the Federal OSHA PSM program.

API represents more than 650 companies involved in all aspects of the oil and natural gas industry including exploration, production, refining, marketing, pipeline, and marine transport, as well as service and supply companies that support all segments of the industry. AFPM is a trade association whose members include nearly 400 companies that encompass virtually all of the U.S. refining and petrochemical manufacturing capacity. Several API and AFPM members operate refineries in California (CA) and as such, our members are significantly affected by the proposed New Section 5189.1 of the General Industry Safety Orders Process Safety Management for Petroleum Refineries (GISO § 5189.1).

API and AFPM share Cal/OSHA's commitment to improving public and worker safety at oil refineries throughout California. Safety is a top priority for API, AFPM, and our members who devote substantial resources to ensuring safe and reliable operations through numerous safety programs, conformance to industry standards, training, and information sharing.

While API and AFPM share Cal/OSHA's goal to strengthen process safety management at refineries, we have a number of concerns about the proposed changes. We believe that the potential changes in the proposed PSM rule would represent a drastic departure from the current regulatory framework that could ultimately threaten the refining industry in California.

Since the early 1980s, California has seen a slow but steady decline in the number of operable refineries, from a peak of 43 down to fewer than 20 today.<sup>1</sup> During that same time, Atmospheric Crude Oil Distillation Capacity has decreased by almost 20%.<sup>2</sup> This is problematic for Californians as the Notice of Proposed Rulemaking (NPRM) correctly points out, the vast majority of gasoline sold in California is refined within California. Even if there is no further decline in refining capacity, the State's continued growth will put a significant strain on the remaining refineries' ability to meet the demands of its residents. Should history repeat itself, the situation will prove even more problematic for Californians. After the PSM Standard was first promulgated, California saw at least six refineries permanently shutdown in the following five years.<sup>3</sup> While several factors may have impacted the closure of these refineries, API and AFPM believe the issuance of the original PSM Standard contributed to the demise of these refineries.

In contrast, the Board stated in the NPRM that:

Department of Industrial Relations (DIR) makes an initial determination that the action ***will not have a significant, statewide adverse economic impact directly affecting business***, including the ability of California businesses to compete with businesses in other states. The estimated costs of the proposed regulations are relatively small compared to the size of the industry (\$131 billion per year and the fourth-largest industry by output in the state). (emphasis added)

API and AFPM suggest these statements should be given little weight as refiners are already exiting the state. To suggest that new regulatory burdens will halt the trend would be illogical given the competitive nature of the refining industry.<sup>4</sup> If promulgated, it is likely, according to many of our members, that California will witness the shutdown of all but its largest refineries, a situation that would result in the elimination of hundreds of jobs and have “a significant, statewide adverse economic impact directly affecting business.”

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<sup>1</sup> U.S. Energy Information Administration, Independent Statistics and Analysis *available at* [https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=8\\_NA\\_800\\_SCA\\_C&f=A](https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=8_NA_800_SCA_C&f=A).

<sup>2</sup> U.S. Energy Information Administration, Independent Statistics and Analysis *available at* [https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=8\\_NA\\_8DO\\_SCA\\_4&f=A](https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=8_NA_8DO_SCA_4&f=A).

<sup>3</sup> Golden West Refinery in Santa Fe Springs, Fletcher Oil & Refining in Carson, Chemoil Refining Corp in Long Beach, Powerine Oil Co. in Santa Fe Springs, Sunland Refining Corp. in Bakersfield, and Pacific Refining Co in Hercules. (Information provided by California Energy Commission *available at* [http://www.energy.ca.gov/almanac/petroleum\\_data/refinery\\_history.html](http://www.energy.ca.gov/almanac/petroleum_data/refinery_history.html) and verified against the U.S. Energy Information Administration, Table 13. Refineries Permanently Shutdown by PAD District Between January 1, 1990 and January 1, 2016 *available at* <http://www.eia.gov/petroleum/refinerycapacity/>).

<sup>4</sup> As was noted in the Washington Post in 1991, burdensome regulations can cause even the largest refiners to shutdown profitable refinery operations. *See* “California’s Oil Refiners Eye Closings” Washington Post (July 24, 1991) *available at* <https://www.washingtonpost.com/archive/business/1991/07/24/californias-oil-refiners-eye-closings/d3a4138a-14cc-4709-9e62-ec61108fadfa/>.

## **I. The California Legislature, Not the Governor, Grants the Board the Authority to Promulgate New Regulations.**

The Board cites Labor Code § 7856 as providing it the statutory authority to adopt the new GISO § 5189.1.<sup>5</sup> Labor Code § 7856 provides that the Board “shall adopt safety management standards for refineries, chemical plants, and other manufacturing facilities” and that the Board “shall give priority to facilities and areas of facilities where the potential is greatest for preventing severe or catastrophic accidents because of the size or nature of the process or business.”

There is no basis for the Board simply to presume that the Labor Code authorizes the promulgation of GISO § 5189.1. While Labor Code § 142.3(a) provides that the Board “shall be the only agency in the state authorized to adopt occupational safety and health standards” and that it “shall adopt standards at least as effective as the federal standards for all issues for which federal standards have been promulgated,” the provision does not by itself operate to give the Board carte blanche to adopt standards in whatever form the Board may deem appropriate.

In fact, the Board has identified no other provision of law<sup>6</sup> that would authorize it to deviate so dramatically from what the California Legislature prescribed. It is not enough to cite the Governor’s February 2014 Report as providing a basis for the proposed GISO. While the Report might provide a rationale for why the Board believes that the existing PSM regulations should be revised and expanded, the Report does not grant the necessary statutory authority to promulgate an entirely new set of regulatory requirements that go beyond what the California Legislature intended.

The Legislature, through Labor Code § 7857, provides that the standards the Board adopts “shall include provisions dealing with the items prescribed by Sections 7858 to 7868, inclusive, of this chapter.” Sections 7858 through 7868 set forth, in considerable and comprehensive detail, the elements that the safety management standards are to contain.<sup>7</sup> The detail specified indicates that the California Legislature had a clear intent

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<sup>5</sup> NPRM at 2 (“The proposed regulations implement, interpret, and make specific Labor Code Section 7856.”). The Board said the same in its Initial Statement of Reasons at 1 (“Labor Code Section 7856 mandates the adoption of process safety management standards for refineries. The proposed regulations implement, interpret, and make specific Labor Code Section 7856.”).

<sup>6</sup> The statutory and legislative history of the 1990 enactment of Labor Code §§ 7855, et seq., affirms that those statutory provisions do not authorize the Board’s promulgation of GISO § 5189.1. For instance, the comments on the bill as passed note that, while the “safety standards in the Senate amendments basically parallel those of federal OSHA’s proposed safety regulations of July of this year for process safety management of highly hazardous chemicals . . . this bill . . . has more of a role for employee participation (e.g., input into safety information, hazard analysis, and Prestart-up Safety Review.”) AB 3672, Concurrence in Senate Amendments, As Amended: August 28, 1990 (Aug. 31, 1990).

<sup>7</sup> These include Process Safety Information (§ 7858), Process Hazard Analysis (§ 7859), Operating Procedures (§ 7860), Training (§ 7861), Contractors (§ 7862), Pre-Startup Safety Review (§ 7863), Mechanical Integrity (§ 7864), Hot Work Permits (§ 7865), Management of Change (§ 7866), Investigations (§ 7867), and the Emergency Action Plan (§ 7868).

as to the form and content of the PSM Standard. The proposed GISO § 5189.1, however, would add provisions for which there is no corresponding statutory provision in the Labor Code or would expand the scope of the existing regulatory requirements.<sup>8</sup>

In other words, the legislators were aware of, and took an interest in, the specific ways that the Labor Code would differ from the then-analogous federal requirements. This indicates, at a minimum, that the Legislature did not view the Labor Code provisions, as enacted, as extending to the Board open-ended authority to adopt whatever PSM standards it might, in its own judgment, find warranted.

The Labor Code was amended in 2013, by SB 71. The legislative history of SB 71 establishes that the amendments were focused on funding issues exclusively and that the California Legislature did not intend for those amendments to afford to the Board any new authority to adopt additional safety requirements that the Board previously lacked.

In 2014, SB 1300 made further amendments to the Labor Code by adding § 7872 and § 7873, addressing the specific matter of refinery “turnarounds,” directing that refinery operators submit to the DIR annually a schedule for planned turnarounds for the following year. It is clear that, in enacting these new provisions, the Legislature did not otherwise intend to expand the Board’s authority with respect to the adoption or revision of PSM standards that deviate significantly from the prescriptive requirements for those standards set forth in §§ 7858-7868. Specifically, the Legislative Counsel Digest on SB 1300, in the course of explaining the amending bill (*i.e.*, a budget bill), described *existing* law – that is, the substantive provisions of which were *not* being amended – as “provid[ing] for the adoption by the Occupational Safety and Health Standards Board of *specified process safety management standards* for, among others, refineries that handle acutely hazardous material.”<sup>9</sup> The Digest continued that the 1990 “act declares the intent of the Legislature for the standards board and the Division of Occupational Safety and Health to promote worker safety through implementation of training and process safety management, *as defined*, in refineries and other facilities as deemed appropriate.”<sup>10</sup>

Notably, at the time of consideration of SB 1300 in 2014, the Board’s existing GISO § 5189 regulations had been in place for nearly 25 years. Those regulations contain provisions that track and parallel, section-by-section, the substantive requirements set forth in Labor Code §§ 7858-7868. If the California Legislature considered the Board’s regulatory implementation of those statutory requirements, as reflected in GISO § 5189 to be inadequate, it gave no indication of such when it described what those statutory requirements “provide” and the legislative “intent” underlying those requirements. By

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<sup>8</sup> These include Damage Mechanism Review (§ 5189.1(k), Hierarchy of Hazard Controls Analysis (§ 5189.1(l)), Incident Investigation – Root Cause Analysis (§ 5189.1(o)), Process Safety Culture Assessment (§ 5189.1(r)), and Management of Organizational Change (§ 5189.1(t)).

<sup>9</sup> See Cal. Senate Bill No. 1300, Chapter 519, Legislative Counsel’s Digest (Approved by Governor Sept. 20, 2014, filed with the Secretary of State Sept. 20, 2014) (emphasis added).

<sup>10</sup> *Id.* (emphasis added).

its silence, the Legislature can be seen to have endorsed, at least implicitly, the existing regulatory regime as being essentially adequate and requiring only the minor revisions that SB 1300 would be making.

As for SB 1300 itself, which required refineries to submit to the Division their schedule of planned “turnarounds” – meaning a planned, periodic shutdown of a refinery process unit or plant to perform maintenance, overhaul, and repair operations, and to inspect, test, and replace process materials and equipment – an analysis prepared by the California Senate Committee on Labor and Industrial Relations, shortly after the bill was introduced, described the need for the bill, while at the same time noting that, “[u]nder *current law*, ‘process safety management’ procedure regulations require refineries to implement a comprehensive safety plan that includes a precise determination of what hazards exist and procedures to eliminate or reduce them.”<sup>11</sup> Here, what is significant is that the Legislative gave no indication that it considered either “current law,” or the existing GISO § 5189 regulations implementing that current law, were themselves inadequate. Rather, the new requirement that refineries submit “turnaround” schedules was seen as a mechanism to ensure better compliance with those existing requirements.

As to this, it is particularly significant that the SB 1300 Analysis described the need for the bill with reference to the 2012 incident at the “that occurred at the Chevron Richmond Refinery,” and the resulting “discussion and debate on current safety standards, their effectiveness, or lack thereof, and need for improvement.”<sup>12</sup> Again, the new “turnaround” requirements, rather than a wholesale reworking of the existing regulatory regime, was prescribed by the California Legislature as the suitable remedy.

In sum, nothing on the face of Labor Code § 7856 authorizes the Board to adopt GISO § 5189.1 nor is there any indication that the California Legislature intended that the Board have open-ended authority to adopt regulations containing requirements that are in addition to, or significantly depart from, those specified in §§ 7858 through 7868. Insofar as GISO § 5189.1 contains such requirements and does so depart, the proposed Standard is unlawful.

## **II. New Regulations Should be Based Upon Evidence That a Need Exists.**

API and AFPM are concerned that the proposed PSM standard singles out refineries for increased regulation particularly when Cal/OSHA has not provided compelling data to show that California refineries are unique from a process safety performance perspective.

U.S., and California, refineries are safer than they have ever been in history. Key safety indicators, including Total Recordable Incident Rates (TRIR) and Fatality/Days Away from Work F/DAW rates, demonstrate that refinery safety has significantly improved

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<sup>11</sup> See Cal. Senate Comm. On Industrial Relations, Senator Ben Hueso, Chairman, Analysis, SB 1300 (Hancock) (As Introduced/Amended Feb. 21, 2014) (March 26, 2014) (emphasis added) (“SB 1300 Analysis”).

<sup>12</sup> Cal. Senate Comm. on Industrial Relations, Senator Ben Hueso, Chairman, Analysis, SB 1300 (Hancock) (as Introduced/Amended Feb. 21, 2014) (March 26, 2014).

over the past two decades. Indeed, the refining industry has steadily reduced its average total recordable incident rates by 70% over the past 15 years, much of which has been achieved through voluntary programs and performance-based standards, rather than command and control, regulation. The U.S. refining industry as a whole has similarly reduced its average Fatality/Days Away from Work (F/DAW) rate by 85% over this same 15-year period.

According to the 2014 Bureau of Labor Statistics (BLS), the total recordable incident rate for the manufacturing sector as a whole is 3.4 job-related injuries and illnesses per 100 full-time employees. The 2014 AFPM Occupational Injury & Illness Report total recordable incident rate for both company employees and onsite contractors working at petroleum refining facilities was 0.5 incidents per 100 full time employees. Out of these recordable incidents, 79% of injuries were minor in nature and allowed the worker to return to work immediately.

API and AFPM members continuously work to minimize the risk of serious injuries at refineries since their goal is to have no serious injuries or fatalities. BLS data indicates refining businesses have been reducing the risk of all injuries – including serious injuries and fatalities - for the last 20 years. Based on 2012 data from AFPM, the petroleum refining sector suffered only 0.0042 fatalities per every 100 full-time employees.

In the table below, which is based on BLS data, we provide a comparison of the injury rates for 2014 for the petroleum refining sector nationally to all industries (including state and local government), private industry (which performs better than the combined industry/government cohort), the construction industry, taxi service, and florists, all of which exhibit higher injury rates than the petroleum refining sector according to BLS. Indeed, the refining industry is among the best performing of industries for which BLS provided 2014 data.

Industry Sector	Total recordable cases	Cases with days away from work, job transfer, or restriction			Other recordable cases
		Total	Cases with days away from work	Cases with job transfer or restriction	
All industries, including state and local government	3.4	1.8	1.1	0.7	1.6
Private industry	3.2	1.7	1.0	0.7	1.5
Construction	8.6	4.2	3.0	1.3	4.4
Taxi service	3.0	2.1	1.8	0.3	0.9
Florists	1.6	0.6	0.4	0.2	1.0
Petroleum Refining	0.7	0.4	0.2	0.1	0.3

In the NPRM, the Board states “the industry continues to experience significant upset events.” The Board then links to the U.S. Dept. of Energy’s publication *Energy Assurance Daily*. API and AFPM believe relying on the data included in the EAD is highly misleading. The EAD includes a listing of events ranging from short-term power outages and compressor trips that result in flaring events<sup>13</sup> to releases that occur during longer-term outages which occur during planned shutdowns.<sup>14</sup> Our own analysis indicates that very few of the entries should be characterized as potential or actual catastrophic releases.

The original purpose behind the development of process safety management elements was “preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals.”<sup>15</sup> Both OSHA’s PSM Standard and EPA’s RMP Rule have their genesis with the 1990 Clean Air Act Amendments. The legislative history and much of the regulatory text makes clear that the PSM Standard and RMP Rule were promulgated to ensure industry worked towards the prevention of catastrophic releases such as those that occurred in Flixborough, UK,<sup>16</sup> Seveso, Italy,<sup>17</sup> and Bhopal, India.<sup>18</sup> Catastrophic releases such as those can also be characterized as disasters whereas accidental releases cannot. Yet repeatedly, enforcement agencies attempt to blur the distinction between the two by using the terms interchangeably.<sup>19</sup> While it is true that a good PSM program will have a positive impact on the number of accidental releases, the elements of PSM are designed to address potential catastrophic releases not the various potential accidental releases that may occur.

While Cal/OSHA cites a limited number of recent incidents as impetus for its new regulatory scheme, continued downward trends in injury and incident data for refineries in California demonstrate there is no failure or deficiency with the current regulatory requirement structure. Cal/OSHA has not put forth evidence that compliance with existing regulations leaves hazards unaddressed.

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<sup>13</sup> Energy Assurance Daily, Monday Evening, December 29, 2014 *available at* <http://www.oe.netl.doe.gov/docs/eads/ead122914.pdf>.

<sup>14</sup> Energy Assurance Daily, Thursday Evening, December 18, 2014 *available at* <http://www.oe.netl.doe.gov/docs/eads/ead121814.pdf>.

<sup>15</sup> 29 C.F.R. 1910.119 Purpose Clause.

<sup>16</sup> June 1, 1974.

<sup>17</sup> July 10, 1976.

<sup>18</sup> December 3, 1984.

<sup>19</sup> See Notice of Proposed Rule Making, Informative Digest/Policy Statement Overview *and compare* “The federal Clean Air Act Amendments of 1990 [42 U.S.C. Section 7412(r)] directed the federal Occupational Safety and Health Administration (OSHA) and the United States Environmental Protection Agency (EPA) to develop regulations to **prevent accidental chemical releases.**” with “Section 5189 is substantially the same as the federal counterpart, in that it addresses the **prevention of catastrophic releases** of toxic, reactive, flammable, and explosive chemicals . . . .” (emphasis added).

Cal/OSHA has the burden to show additional regulations are “reasonably necessary”. API and AFPM do not believe Cal/OSHA has provided the requisite showing to support promulgation of the proposed, expansive regulatory requirements under the California Administrative Procedure Act. Courts may invalidate a regulation where the promulgating agency fails to show it is “reasonably necessary to effectuate the purpose of the statute... by substantial evidence.”<sup>20</sup> Moreover, the Office of Administrative Law (OAL) reviews proposed standards to determine if there is “substantial evidence” supporting the “need for [the] regulation . . . .”<sup>21</sup> In the current rulemaking, however, the Board’s “substantial evidence” is limited to two incidents in the past four years. This is insufficient to justify creating a standalone PSM framework for refineries. Indeed, the “reasonable necessity” standard exists to avoid “substantial time and public funds [being] spent adopting regulations, the necessity for which has not been established.”<sup>22</sup> Here the Board offers no data to indicate that the current PSM standard is deficient and therefore fails to show that the proposed revisions to PSM are reasonably necessary.

### III. New Regulations are Not Economically Justified

Cal/OSHA relied upon a flawed cost-benefit prepared by RAND in their Initial Statement of Reasons.<sup>23</sup> The approach to estimate implementation costs of the proposed regulation by surveying refiners is flawed. The survey questionnaire is deficient and fails to correctly ascertain cost data. Uncertainty surrounding implementation and enforcement led to a wide variation in survey responses and likely an underestimate of regulatory costs. This is reinforced by RAND’s \$58 million best estimate for annual industry costs being significantly below estimated annual industry benefits of \$220 million in avoided costs. RAND’s methodological approach to measure economy wide impacts of the proposed regulation contains flawed results and an overestimate of economy wide impacts, because they appear to rely on a bad assumption related to upstream (oil and natural gas extraction) sectors. Simulating economic impacts with IMPLAN (2013 data) indicates around 36% of economy wide impacts reported by RAND are related to upstream segments. It is a bad assumption that upstream industry segments will experience these negative impacts resulting from an unplanned refinery outage.

In summary, industry indicated large variability in implementation costs and the range and point estimates calculated by RAND are likely too low. The economy wide benefits are likely overestimated, as the impacts reported by RAND rely on a bad assumption. Making directional changes to the estimates for costs and benefits, all else equal, would

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<sup>20</sup> Cal. Gov. Code § 11350(b)(1); *see also Pulaski v. California Occupational Safety & Health Standards Bd.*, 75 Cal. App. 4th 1315, 90 Cal. Rptr. 2d 54 (1999), as modified on denial of rehearing (Nov. 24, 1999).

<sup>21</sup> Cal. Gov. Code § 11349.1.

<sup>22</sup> Cal. Gov’t Code § 11340.

<sup>23</sup> “Cost-Benefit Analysis of Proposed California Oil and Gas Refinery Regulations”. RAND Corporation. 2016. [http://www.rand.org/pubs/research\\_reports/RR1421.html](http://www.rand.org/pubs/research_reports/RR1421.html)



require a larger reduction to the risk of a refinery incident, than estimated by RAND at 7.3%, to make the proposed regulations economically justifiable.

#### **IV. The Proposed Rule Expands the Scope, Purpose, and Application of PSM.**

Having failed to show the new regulations are necessary, the Board, nonetheless, expands the scope and purpose of the proposed rule. Under the existing Cal/OSHA PSM regulations, the scope and purpose is to “prevent[] or minimiz[e] the consequences of catastrophic releases.”<sup>24</sup> The proposed rule for refineries goes further by stating its scope and purpose is to “reduce the risk of major incidents and eliminate or minimize process safety hazards.” Based on the proposed definition of “major incident” which includes “serious physical harm”, the proposed rule would seek to address potential worker safety and health effects down to lower level types of burns according to California Labor Law.<sup>25</sup> This is a significant expansion of the regulatory scope and purpose.

As for the application, Cal/OSHA plans to drastically expand the areas of the refinery covered by the Standard to include essentially everything within the fence line boundary of a refinery: warehouses, equipment storage buildings, utility systems and other areas of a refinery that do not pose a serious threat to the workers. The result is that limited process safety resources will be analyzing areas of the refinery that pose little to no process safety threat, thereby taking away those same resources from analysis of the higher risk processes.

In addition, the proposal seeks to expand PSM into personnel staffing decisions through the addition of the element, Management of Organizational Change (MOC). The regulation presumes that reductions in staffing levels are inherently unsafe<sup>26</sup> and empowers the compliance officer to cite the refiner for those decisions. Such a regulation may be well intended but is fraught with potential enforcement problems. Instead, refineries should be encouraged to reduce employee exposure not incentivized to maintain the status quo.

#### **V. This Proposal is a Shift Towards Prescriptive Regulations.**

Cal/OSHA should promote performance-based regulations over prescriptive regulations for any potential new requirements or changes to existing requirements. Prescriptive

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<sup>24</sup> Cal. Lab. Code § 5189(a).

<sup>25</sup> Cal. Lab. Code § 6432(e)(4).

<sup>26</sup> Such a presumption ignores the lessons of history that teach as technology advances, the demand for human labor decreases.

regulations are known to stifle innovation and the advancement of technologies, thereby having unintended safety ramifications.<sup>27</sup>

Much of the expanded proposed regulation prescribes employers to conduct several types of analyses as part of a process hazard analysis, damage mechanism review, hierarchy of hazard controls analysis, or a process safety culture assessment based on the premise that information from these analyses will provide the site with information that will reduce risk and minimize or eliminate hazards. Cal/OSHA has not provided, however, any data to show that these additional analyses will result in improved process safety performance. To the contrary, requirements to conduct these analyses will result in vastly increased administrative burdens that shift important process safety resources away from addressing higher risk/higher hazard activities.

The proposal also seeks to prescribe the manner in which incident investigations must be conducted, the order in which safety measures are to be considered and adopted, and the timing of training required by MOCs.

The Board attempts to justify this shift by stating that the proposed changes are needed because safety experts have learned these proposals are “essential to the safe operation of a refinery”. This suggests that all refinery operations up to this point in time have been unsafe because these elements have been absent. As discussed earlier, the data does not support the Board’s conclusion.

## **VI. Cal/OSHA Attempts to Promulgate an “Effective” Standard by Requiring “Effective” Activities.**

The California OSH Act was promulgated with the “purpose of assuring safe and healthful working conditions for all California working men and women by authorizing the enforcement of **effective standards**”.<sup>28</sup> In this vein, the proposed rule has several provisions that state the employer must perform, document, develop, and implement various “effective” activities. In fact, the term appears 60 times in the proposed regulation compared to just 4 times in the existing regulation with each of those 4 instances being associated with a “start” date (i.e., “effective” date), not activities. While the Board may consider the “effective” requirement to be consistent with a performance-based regulation, from a compliance assessment point of view, it is inherently unclear.

This could pose several legal obstacles for the Board. In addition to necessity, OAL reviews proposed regulations to ensure they possess adequate “clarity” so they are “easily understood by those persons directly affected by them.”<sup>29</sup> In addition, citations

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<sup>27</sup> See generally The National Academies of Science, Engineering and Medicine, Project Title: Performance-Based Safety Regulation (PIN: TRB-SASP-15-05) (“Prescriptive regulations are typically set at the floor rather than the ceiling, thereby setting minimum standards of performance, but missing the opportunity to encourage companies to exceed minimum requirements and reduce the risk of injury and environmental damage.”).

<sup>28</sup> Cal. Labor Code § 6300 (emphasis added).

<sup>29</sup> Cal. Gov. Code § 11349.

may be exposed to legal challenges from employers under due process grounds for unconstitutional vagueness. Due process “requires that a safety order be sufficiently clear to give fair notice to an employer and to enable it to prepare a defense.”<sup>30</sup>

## **VII. Cal/OSHA PSM and CalARP Regulations Should Not be Modified Simultaneously.**

With the Clean Air Act Amendments of 1990, Congress directed both OSHA and the EPA to address process safety. Rather than develop the PSM Standard and RMP Rule simultaneously, OSHA was allowed to take the lead. This provided EPA the opportunity to develop a harmonious RMP Rule. Cal/OSHA should follow Federal OSHA’s lead.

API and AFPM understand that both Cal/OSHA and the California Office of Emergency Services (CalOES) are responding to Executive direction much as OSHA and EPA are currently responding simultaneously to President Obama’s Executive Order 13650. Such an approach, however, will all but ensure the resulting regulations are inconsistent.<sup>31</sup> In fact, a careful study of the current proposals reveals there are provisions that are different and, as such, not responsive to the Governor’s direction.

These inconsistencies will put undue burdens on refineries because these sites will now have to operate under two different sets of rules. This will result in diluting process safety resources and create confusion for the workers who are tasked with implementing similar but different requirements. Should Cal/OSHA go forward with this new standard, API and AFPM suggest Cal/OSHA regulations mirror the federal regulations and Cal/OSHA request that CalOES stay its proposed changes until after Cal/OSHA has completed its rulemaking.

## **VIII. The Proposed Rule Will Not Be as Effective as Federal Standards.**

Cal/OSHA is proposing a more restrictive PSM Standard for refineries than currently exists under the Federal PSM Standard. The Agency assumes that a more restrictive safety standard will be more effective than the existing, more flexible standard. This is not the case for all standards, particularly when the standard in question is performance based.

To illustrate, consider how the Federal PSM Standard addresses Recognized and Generally Accepted Good Engineering Practices (RAGAGEP) as part of acceptable process safety information:

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<sup>30</sup> *Certified Grocers of California Ltd.*, Cal/OSHA App. 78-607, Decision After Reconsideration (Oct. 27, 1982); *Central Coast Pipeline Construction Co. Inc.*, Cal/OSHA App. 76-1342, 1343, Decision After Reconsideration (Jul. 16, 1980). See also *Novo-Rados Constructors*, Cal/OSHA App. 78-135, Decision After Reconsideration (Apr. 28, 1983) at p. 3; *Western Roofing Service*, Cal/OSHA App. 75-029, Decision After Reconsideration (Apr. 23, 1981).

<sup>31</sup> Inconsistent regulations are unlawful under Cal. Gov. Code § 11349.1.

1910.119(d)(3)(i)

Information pertaining to the equipment in the process shall include:

- (A) Materials of construction;
- (B) Piping and instrument diagrams (P&ID's);
- (C) Electrical classification;
- (D) Relief system design and design basis;
- (E) Ventilation system design;
- (F) Design **codes** and **standards** employed;
- (G) Material and energy balances for processes built after May 26, 1992; and,
- (H) Safety systems (e.g. interlocks, detection or suppression systems).

1910.119(d)(3)(ii)

The employer shall document that equipment complies with recognized and generally accepted good engineering **practices**.

1910.119(d)(3)(iii)

For existing equipment designed and constructed in accordance with **codes, standards, or practices** that are no longer in general use, the employer shall determine and document that the equipment is designed, maintained, inspected, tested, and operating in a safe manner.

Process safety information is a function of, among others, (1) codes, (2) standards, and (3) practices. That each of these items is unique is a fact emphasized by 1910.119(d)(3)(iii), which enumerates all three. Cal/OSHA's proposal to redefine recognized and generally accepted good engineering practices in a manner that does not specifically include employer-developed practices ensures at least one leg of a three legged safety stool will be missing. The proposed rule does allow for "other equally or more protective internal standards" but this fails to grasp how external standards are developed.

API Recommended Practices have their origin with internal standards of our member refineries and it is the collaborative sharing of these internal standards that allows for the development of the published API RAGAGEP.

Engineers, at individual refineries, develop safe work practices for the units in which they are working. If the engineering practice proves itself, it is shared with other facilities within the company. After continuous usage proves safe and effective at minimizing hazards, the engineering practice may become the internal RAGAGEP of a company. This fact underlies why in the Preamble to the Final Rule to the Federal PSM Standard states, "appropriate internal standards of a facility" were to be accepted as RAGAGEP.<sup>32</sup> In short, RAGAGEP begins in the refinery, and Cal/OSHA will harm the

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<sup>32</sup> Process Safety Management of Highly Hazardous Chemicals; Explosives and Blasting Agents, Section: III. Summary and Explanation of the Final Rule, 57 Fed. Reg. 6356, (Feb. 24, 1992) ("The phrase suggested by

future development of new and improved RAGAGEP if it adopts prescriptive standards that fail to provide significant flexibility in this area.

This is but one example of how Cal/OSHA, by creating a more restrictive safety standard, is unintentionally creating a standard that will not be as effective as its Federal counterpart.

## **IX. Assessment of Inherent Safety Measures Should Occur at the Appropriate Time.**

API and AFPM are troubled by the requirement to conduct inherent safety measure assessments during a hierarchy of hazard controls analysis. We suggest that the proper time to assess inherent safety measures is during the design phase of the capital project, within the management of change element of PSM, and as part of the facility's ongoing risk assessment analysis, not during a hierarchy of hazard control analysis.

Consideration of inherent safety measures first occurs during the design phase, which is why CCPS states the analysis is more correctly understood as inherently safer design analysis.<sup>33</sup> It is during this phase employers decide which conversion process will be implemented, which chemicals will be utilized to facilitate the conversion, which equipment will be installed, and what the materials of construction should be. New technology is not necessarily better technology; adopting new technology too soon may introduce new hazards unforeseen at the time of adoption.

These decisions are extremely complex and unique to site-specific processes and systems. The potential for creating unintended consequences is high. Inherently safer approaches to manufacturing processes have been and will continue to be considered by facilities as a matter of course but to regulate the analysis as part of a post Process Hazards Analysis (PHA) hierarchy of hazard controls analysis would be improper and largely ineffective. As currently written, Cal/OSHA is essentially calling for a team, every five years, to second guess all aspects of the refinery design.

## **X. “To the Greatest Extent Feasible” is Untenable.**

The proposed rule states that in order to address a process safety hazard identified in 5189.1(l)(4), employers are required to develop recommendations that will eliminate or reduce hazards “to the greatest extent feasible.”<sup>34</sup> From a due process standpoint, the “greatest extent feasible” standard is vague as written and fails to provide employers with any sense as to what compliance would entail. The proposal defines the term

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rulemaking participants: ‘recognized and generally accepted good engineering practices’ is consistent with OSHA’s intent. The Agency also believes that this recommended phrase would include appropriate internal standards of a facility, as well as codes and standards published by NFPA, ASTM, ANSI, NFPA, etc.”).

<sup>33</sup> Scott Berger, CCPS Executive Director, Comments to EPA Listening Session, Newark, NJ (February 27, 2014) (“the topic of Inherently Safer Design (ISD), which we believe is a more technically accurate term . . .”).

<sup>34</sup> Section 5189.1(l)(4)(e)(1,2).

“feasible”<sup>35</sup> but fails to define the modifiers “greatest extent.” Applying accepted statutory canons of construction to the proposed regulatory text would indicate that the phrase “greatest extent feasible” is more restrictive than the phrase “feasible.”

API and AFPM ask whether employers are to interpret that some factors are not applicable to a “greatest extent” analysis. We also are uncertain whether our members may continue to make decisions based upon an acceptable risk determination. The Board should either define the phrase “greatest extent feasible” or remove the modifiers “greatest extent” from the proposed text.

## **XI. No Evidence has been Presented to Demonstrate a Stand-Alone Human Factors Program is Necessary.**

The proposed standard seeks to require refiners to create a written analysis of Human Factors for a variety of PSM elements beyond the PHA element. API and AFPM acknowledge that human error is frequently a contributing cause to catastrophic releases of highly hazardous materials. We fail to see, however, how detailed human factors analysis of staffing levels, the complexity of tasks, the length of time needed to complete tasks, the level of training, *et al.* will be effective in preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals.

For example, the proposal would require an assessment of Human Factors in existing operating and maintenance procedures. Though unstated, this already occurs as part of the procedure development process. Written procedures cannot be developed without first considering factors such as the complexity of tasks, the length of time needed to complete the tasks, the level of training, experience, and expertise of employees performing the tasks, the human-machine and human-system interface, and the physical challenges of the work environment in which the task is performed. It is unclear why a stand-alone human factors program beyond what already occurs with the § 5189(f)(3) procedure review and the § 5189(l) MOC process is necessary.

## **XII. Cal/OSHA Misunderstands Industry’s Approach to Recommendations**

API and AFPM are extremely concerned with the new requirement to document the basis for rejecting recommendations per the proposed regulation. At a basic level, a recommendation is a suggestion not a requirement. Furthermore, recommendations are not always created because a deficiency exists. In fact, the opposite is true. In most instances, PHA and Incident Investigation teams make recommendations as part of an effort to continuously improve process safety performance. Cal/OSHA’s current proposal will all but ensure these types of proactive suggestions disappear. Should Cal/OSHA wish to encourage proactive efforts to improve process safety, subsection (x) should be deleted in its entirety.

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<sup>35</sup> Section 5189.1(c). Feasible, Capable of being accomplished in a successful manner within a reasonable period of time, taking into account health, safety, economic, environmental, legal, social and technological factors.

### **XIII. Conclusion**

For at least the foregoing reasons, API and AFPM cannot support Cal/OSHA's New Section 5189.1 of the General Industry Safety Orders, Process Safety Management for Petroleum Refineries. In addition, Cal/OSHA should not interpret our silence on a particular issue or question as our agreement with Cal/OSHA's proposed changes.

API and AFPM share a common goal with Cal/OSHA in creating and maintaining safe workplaces for California's refinery employees and our surrounding communities, but we contend that this proposal will not only hamper efforts at improving safety, it will have the unintended consequence of driving the refining industry out of the State.

Should you have any questions about the API and AFPM comments, please contact Ron Chittim at 202/682-8176 ([Chittim@api.org](mailto:Chittim@api.org)) or Susan Yashinskie at 202/552-8478 ([SYashinskie@afpm.org](mailto:SYashinskie@afpm.org)). Thank you for the opportunity to provide input on these important topics.

Sincerely,



**Ron Chittim**  
Senior Policy Advisor  
American Petroleum Institute  
1220 L Street, Northwest  
Washington, D.C. 20005



**Susan Yashinskie**  
VP, Member Services & Programs  
American  
Fuel & Petrochemical Manufacturers  
1667 K Street NW, Suite 700  
Washington, D.C. 20005