



March 31, 2014

OSHA Docket Office  
Attention: Docket No. OSHA-2013-0020  
(Regulation Identifier Number 1218-AC82)  
U.S. Department of Labor

**Re: Comments on Request For Information on Potential Revisions to OSHA's  
Process Safety Management Standard, Docket No. OSHA-2013-0020**

Link to RFI: <https://www.federalregister.gov/articles/2013/12/09/2013-29197/process-safety-management-and-prevention-of-major-chemical-accidents>

Dear Sir or Madam:

The Vinyl Institute (VI) appreciates the opportunity to provide input to OSHA to assist the agency in assessing the effectiveness of its chemical safety standards – particularly its Process Safety Management (PSM) Standard -- and determining what steps (e.g., rulemaking, enforcement, outreach) the agency might take to improve chemical safety in the workplace. VI is a U.S. trade association representing the leading manufacturers of vinyl, vinyl chloride monomer, vinyl additives and modifiers, and vinyl packaging materials. The VI's mission is to gather and communicate technical information to support the responsible manufacture, use and disposal of vinyl products, to build recognition among a wide range of stakeholders on the benefits and value of vinyl, and to maintain a level playing field with other materials.

On December 9, 2013, OSHA issued a Request For Information (RFI), which announced that it was considering potential revisions to its Process Safety Management (PSM) Standard and requested public comment. In the RFI, the Agency asked for information and data on specific rulemaking and policy options that would expand either the scope of the chemicals covered by the rule or the requirements applicable to processes covered by the rule. There is merit in evaluating the effectiveness of a major OSHA standard that addresses potential catastrophic chemical hazards and has not been the subject of a formal public review since it was adopted in 1992. However, we are concerned that the review initiated by the RFI does not appear to be



pursuing a balanced evaluation of the effectiveness of the OSHA PSM Standard and whether revisions are reasonably necessary and appropriate.

This initiative was triggered by Executive Order 13650, entitled Improving Chemical Facility Safety and Security. Section 6(e) order directs OSHA to:

- (i) identify any changes that need to be made in the retail and commercial grade exemptions in the PSM Standard; and
- (ii) issue a Request for Information designed to identify issues related to modernization of the PSM Standard and related standards necessary to meet the goal of preventing major chemical accidents.

That order was triggered by the catastrophic April 17, 2013, ammonium nitrate explosion at a fertilizer storage and distribution facility in West, Texas, which, according to OSHA, resulted in 15 fatalities —the majority of whom were firefighters responding to a fire at the facility—and injured over 160 others.

In the RFI, OSHA states:

While the PSM standard has been effective in improving process safety in the United States and protecting workers from many of the hazards associated with uncontrolled releases of highly hazardous chemicals, major incidents have continued to occur.

VI recognizes that the consequences of an uncontrolled release of highly hazardous chemicals can lead to catastrophic consequences. However, the fact that a consequence of a chemical release can be catastrophic does not, by itself, mean that employees are exposed to a significant risk for purposes of Section 6 of the Occupational Safety and Health Act (OSH Act). Furthermore, even if there was a significant risk, for purposes of Section 6 of the OSH Act, with respect to a particular chemical not currently covered by the PSM Standard, that does not mean there is a significant residual risk for all other chemicals covered by the PSM Standard. Finally, as we believe OSHA recognizes, every significant risk that may be posed by chemicals does not pose the type of catastrophic risk that would justify coverage under the PSM Standard.

What appears to be missing from the RFI discussion is an analysis of the overall effectiveness of the current chemical safety regulatory regime, why major incidents continue to occur, and what is the best mechanism for minimizing their frequency and severity in the most cost-effective manner consistent with OSHA's statutory authority. Unfortunately, it appears that



OSHA is relying on the executive order to create a presumption that there is a need for a material expansion in the scope and requirements of the PSM Standard.

Any expansion of the OSHA chemical regulatory scheme must be based on findings that (1) there are material gaps or deficiencies in the scope or requirements of the existing rules, (2) that those gaps pose a significant risk of material harm to employees and cannot otherwise be effectively addressed through, for example, outreach or prudent use of the General Duty Clause rather than an overly-encompassing rule, and (3) that any changes in those rules are reasonably necessary or appropriate to remedy those gaps.

#### **Item 1. The PSM exemption for atmospheric storage tanks of Flammable Liquids**

OSHA asserts that the *Meer* decision is inconsistent with OSHA's intent in adopting the exemption from coverage for storage tanks containing flammable liquids at atmospheric pressure without the benefit of cooling, and that OSHA did not intend to have the exemption apply to storage tanks connected to a process. We are disappointed that OSHA has not taken the time to more clearly present this issue. To the extent there is a problem, it is due to the manner in which OSHA worded the exemption. Unfortunately, the RFI does not include proposed regulatory text or explain in any meaningful way what tanks would qualify for the exemption or OSHA's rationale for this materially different approach to the issue. In other words, OSHA's current description of the issue does not clarify the situation. OSHA says its intent was that the exemption would not apply to storage vessels "connected to a process." However, the term "process" is defined to include any activity involving a highly hazardous chemical, including "storage" and "handling." OSHA could not have intended to limit the scope of the exemption to a storage vessel that is not connected to anything. Otherwise, the chemical would never get into the tank.

Possibly, OSHA contemplated limiting the scope of the exemption to a chemical in or being transferred between one or more storage vessels that are not connected, directly or indirectly (through another tank), to anything other than one or more other storage vessels, where a shipping container (e.g., a hold in a ship or a railroad tanker) would be considered a storage tank. Those situations would seem to be so limited as to largely eliminate the exemption, especially if it would not allow for the physical blending or mixing that may be necessary to deliver a particular grade or concentration of a chemical.

In addition to whatever may have been OSHA's intent in adopting the exemption, there is also a need for the agency to establish that the failure to include atmospheric storage tanks within the scope of the PSM Standard poses a significant risk of a catastrophic release. We believe this



determination should be based on incident data for periods before and after the adoption of the PSM Standard and avoid reliance on theoretical analyses.

#### **Item 4. Expanding PSM Coverage and Requirements for Reactivity Hazards**

The PSM Standard currently applies to any process that involves a chemical at or above the specified threshold quantities listed in Appendix A and to any process which involves one or more Category 1 flammable gases or a flammable liquid with a flashpoint below 100 degrees F on site in one location, in a quantity of 10,000 pounds.

OSHA goes on to state that, while Appendix A contains 137 highly hazardous chemicals, “it does not cover all highly reactive chemicals.” In adopting the OSH Act, Congress recognized that the regulation of workplace safety and health, as with all other aspects of life, must be addressed in the context of acceptable risk. In that context, we do not believe it is appropriate to assert that the current PSM Standard does not address “all highly reactive chemicals,” with the implication that the rule is, therefore, deficient. That is particularly true in this situation where there is no clear understanding as to what is meant by the term “highly reactive chemical.”

The first question is to determine whether it is possible to develop a definition of “highly reactive chemical” that would be appropriate for use by OSHA in identifying, on a chemical by chemical basis and not on a generic basis, covered chemicals for purposes of an OSHA chemical safety standard designed to prevent catastrophic events. That definition should be based primarily on incident data rather than a theoretical analysis of how a chemical might react under varying conditions, or reliance on the chemical classifications in NFPA 400 or some other hazardous chemicals standard.

The second question should be whether the OSHA PSM Standard, either in its current form or as it might be revised, is the appropriate type of standard to apply to those reactive chemicals. Aside from highly toxic materials and flammable liquids and gases in excess of 10,000 pounds, the current PSM Standard is a list-based standard, which includes chemicals that are strongly self-reactive, or react violently with air and or water. Any attempt to significantly improve reactive chemical hazard management would require that both regulators and industry address the hazards from combinations of chemicals and process-specific conditions rather than focus exclusively on the inherent properties of individual chemicals. This would appear to require a fundamentally different approach from that of the current PSM Standard. It would require the use of a threshold analysis to determine whether coverage was appropriate, and a management of change provision limited in scope to ensuring that there is no change in the



process that would change the threshold determination and trigger coverage. It would not be a simple matter of adding chemicals to a list.

#### **Item 5. Updating the list of highly hazardous chemicals in Appendix A of the PSM Standard**

Similar to Item 4 of the RFI, the proposal to update the list of chemicals in Appendix A of the PSM Standard appears to infer that an episode or situation has occurred that would require expansion of the rule. Other than the discussion of ammonium nitrate, we do not see evidence of this in the RFI and are not familiar with actual situations where this would be important. Rather than a one-size fits all approach to ensure adequate protection of workers, it may be more useful to identify and educate industry on chemicals, processes, and design that may create a suspect work environment and allow the potential industry sector the opportunity to mitigate or obviate potential risk through performance-driven principles.

#### **Item 6. Revising the PSM Standard to Require Additional Management-System Elements**

The OSHA PSM Standard is the most comprehensive performance-based standard ever adopted by OSHA. It encompasses all of the essential management elements of a comprehensive safety program as described in OSHA's 1989 Voluntary Safety and Health Program Management Guidelines. 54 FR 3904-3916 (Jan. 26, 1989).<sup>1</sup> The fact that a number of organizations have developed a more extensive list of program elements does not alter the basic principles or justify a change in the OSHA PSM Standard.

We are not aware of any scientific studies that show a statistically significant difference in the level of safety at organizations that adopt separate elements for 'Measurement and Metrics,' 'Management Review and Continuous Improvement,' and/or 'Process Safety Competency' over those that have not. The underlying concepts are already adequately addressed in the PSM Standard in a way that supports their objectives without creating a situation in which OSHA compliance personnel would be empowered to issue citations that: (1) are based on unknowable subjective criteria; (2) create a situation in which OSHA is micro-managing employers; or (3) require employers to achieve zero risk and perfection. For example, the required consideration of human factors in the PHA, training, audits, and employee participation elements will adequately address complacency without creating a separate management element that would be subject to separate enforceable measures required to avoid complacency.

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<sup>1</sup>[https://www.osha.gov/pls/oshaweb/owadis.show\\_document?p\\_table=FEDERAL\\_REGISTER&p\\_id=12909](https://www.osha.gov/pls/oshaweb/owadis.show_document?p_table=FEDERAL_REGISTER&p_id=12909)



In many cases, we believe the identification of new management system elements reflects the free market incentives to write and sell more books, and market more consulting services, rather than a recognition of a deficiency in existing programs. Even if new management system elements adopted on a voluntary basis appear to achieve some meaningful gains in safety at a particular site, we believe the gains are more likely the product of the safety culture at the site that led to the adoption of those elements than to the elements themselves.

OSHA should avoid any inclination to impose more layers of protection where: (1) the existing layers are adequate when properly implemented; (2) catastrophic results are rare; (3) there would be a huge regulatory burden imposed on all PSM-covered facilities, the overwhelming number of which are already in substantial compliance, in requiring compliance with these additional mandates in an effort to prevent the rare case where compliance breakdowns led to severe adverse consequences; (4) there is no basis for concluding the additional measures would have been implemented more effectively; and (5) the problem was one that already had been identified under the requirements of the existing standard.

#### **Items 7 and 8.**

#### **Should OSHA Clarify the PSM Standard by Adding a Definition for RAGAGEP?**

We believe this term is well understood. It was developed after industry groups objected to what appeared to be an effort by OSHA to incorporate by reference all potentially relevant consensus standards into the PSM Standard. It would be inappropriate to adopt any definition of RAGAGEP that might be interpreted as incorporating by reference any requirement from a national consensus standard or any other document that has not been the subject of an OSHA rulemaking, or to incorporate any type of automatic updating provision.

#### **Should OSHA Amend Paragraph (d) of the PSM Standard to Require Evaluation of Updates to Applicable recognized and generally accepted good engineering practices (RAGAGEP)?**

There are three concerns raised by this question. First, it would be inappropriate to assume that every update to, for example, established codes, standards, published technical reports, recommended practices or similar documents should be viewed as an update to RAGAGEP.

Second, again, it would be inappropriate to adopt any amendment to the PSM Standard that might be interpreted as incorporating by reference a national consensus standard or any other



requirement that has not been the subject of rulemaking, or to incorporate any type of automatic updating provision.

Third, there must be a way of grandfathering facilities or processes that were designed in accordance with RAGAGEP except in the extraordinary situation where the residual risk is clearly so material that continuation of the status quo is far outside the range of acceptable risks.

To adopt a standard under the OSH Act, OSHA must demonstrate, among other things, that compliance is technically and economically feasible. It would not be consistent with the framework of the OSHA Act to have OSHA satisfy those statutory criteria and then later interpret the standard to require a materially different path to compliance that was not contemplated by the initial technical and economic feasibility analyses. There is a need to establish an appropriate balance in employing performance-based standards so that they allow employers to employ the most cost-effective approach to compliance in light of evolving technology, but do not automatically convert every perceived improvement in technology or update to a consensus standard into an OSHA mandate. That is a dangerous recipe that encourages unnecessary and excessive updates to consensus standards, creates economic disincentives for affected employers to support the activities of the standards developers, and creates economic incentives for those who would financially benefit from numerous updates and/or a movement toward zero risk to seek control over standards development activities.

#### **Item 9. Expanding the Scope of Paragraph (j) of the PSM Standard to Cover the Mechanical Integrity of Any Safety-Critical Equipment**

Before we are in a position to provide comment, we believe OSHA should first provide a definition of what it means by "safety critical equipment," explain why it is not covered by the categories of the existing PSM Standard, and identify the types of safety-critical equipment not covered by the existing standard that have been addressed under the General Duty Clause. We assume safety critical equipment in the context of the PSM Standard would be equipment that is essential to prevent or limit (in a material way) the severity of a catastrophic release. Any discussion would need to include some practical limits so that the equipment is not viewed, in 20-20 hindsight or through speculation, as critical where it would only be called upon to perform that function as, for example, a third layer of defense and was never intended to serve as a third layer of defense.

We are also concerned that the question posed by OSHA was misleading. The issue was identified by OSHA as follows:



Revising paragraph (j) to explicitly apply the mechanical-integrity requirements of the PSM standard to all equipment the **employer identifies as critical** to process safety-critical equipment, in addition to the equipment currently listed in the standard, would provide industry with proper notice regarding coverage of such equipment [emphasis added].

We question whether OSHA would adopt a rule in which the determination as to what was classified as safety-critical equipment was placed entirely in the hands of the employer. Furthermore, we believe any definition needs to be based on what is reasonably foreseeable so that an employer's determination is not subjected to an unfair enforcement action based on 20-20 hindsight should an incident occur.

**Item 10. Paragraph (l) of the PSM Standard Should Not be Modified to Add a Requirement that Employers Manage Organizational Changes under the MOC Provisions of the PSM Standard**

The existing MOC element of the PSM Standard -- with its linkage to changes in process chemicals, technology, equipment, procedures, and facilities -- adequately addresses the impact of organizational changes on the safety of the PSM process. The addition of a new, explicit regulatory requirement that employers manage and address organizational changes under the MOC provisions of the PSM Standard is not warranted and would not be appropriate.

As OSHA stated in its March 31, 2009 interpretation memorandum:

[I]f organizational changes necessitate changes to process chemicals, technology, equipment, procedures, or facilities, an MOC procedure would be required to ensure that resulting changes are managed and implemented in a manner that assures continued safe operations. However, management changes that do not impact PSM covered processes are not affected by the MOC provisions of the PSM standard.

In issuing this interpretation, OSHA had good reason for clearly limiting the coverage of the MOC provisions of the PSM Standard.

Organizational change can present complex fact-intensive scenarios that cannot easily be addressed through an expanded or prescriptive regulatory requirement. Any proposed explicit requirements beyond the current PSM MOC performance-based criteria are likely to create conflicts with the employer's Human Resources (HR) policies, labor management agreements,



business-level staffing decisions and organizational redesign initiatives. Expanding the defined boundaries of existing PSM regulatory coverage is likely to result in confusion and unintended labor consequences.

Personnel changes, including changes in staffing levels or staff experience, can also be a complex and a highly variable subject from site to site within a single company, much less across different companies and industry segments. Indeed, personnel changes are based on a multitude of factors, including, but not limited to, local organizational structures, leveraged offsite technical support from the parent company and/or a corporate function such as engineering, the use of a supplemental work force such as contractor services, and service level agreements between companies with an industrial park layout. Staffing levels and expertise needs within the line organization can also fluctuate based on production schedules and maintenance schedules involving both PSM-covered processes and non-PSM-covered processes.

It is the responsibility of the employer to define specific personnel needs and their levels of experience and competency in order to meet all operating objectives and commitments, including regulatory compliance. The adoption of any qualitative or prescriptive requirements for staffing and experience as part of the MOC element would infringe upon the role and obligations of the operating entity in this arena.

Similarly, “budget cutting,” the act of adjusting organizational operating plans and associated expenditures based on strategic financial (business) objectives, should not be considered a policy or organizational change within the scope of the PSM Standard. Instead, budget cuts are part of the overall business or financial strategic planning processes. Throughout time periods in which budget cuts are enacted, companies have the explicit responsibility to ensure ongoing compliance with all existing regulatory obligations. Companies undergoing budget cuts should not be subject to an expanded or more prescriptive set of PSM requirements.

In summary, VI believes OSHA currently has adequate tools and authority to regulate the impact of organizational changes as they relate to process safety management systems under the existing MOC element of the PSM standard. Further expansion of the MOC language with respect to organizational change would be inappropriate.



**Item 12. Should paragraph (o) of the PSM Standard be revised to require third-party compliance audits, more frequent audits or specific time frames for follow up action?**

For a number of reasons, VI opposes any requirement for third-party audits under the PSM Standard. First and foremost, PSM auditing requires an expertise in the process which is not often present with third-party auditors. While proficient at management system auditing, third-party auditors are often not as well qualified when it comes to identifying specific equipment and operational risks. Company employees are typically more familiar with the complex processes used at their facilities and can therefore conduct a more thorough audit.

OSHA quotes CCPS as stating: "Third party auditors (typically, consulting companies who can provide experienced auditors) potentially provide the highest degree of objectivity." First, CCPS uses the word "potentially," not even "likely," much less "more likely than not." Second, there is no representation that third party auditors are likely to provide equivalent expertise to in-house personnel or as timely a response.

OSHA notes that BSEE's Safety and Environmental Management Systems (SEMS) standard requires that audits may be required by either a third party or "by designated and qualified personnel," which is consistent with the OSHA PSM Standard. According to OSHA, the new phase of that rule would require that the lead individual for compliance audits be independent and represent an accredited audit service provider. We seriously question whether an audit team composed of an outside lead individual and in-house personnel supervised by the outside lead will perform an effective audit.

Second, the pool of available and well-qualified third-party auditors needed for all the U.S. PSM processes (and many are unique) would not be available; nor would it be justifiable to develop such a pool.

Third, moving to an exclusive use of third-party auditors is likely to change the nature of the audit process, and add significant additional cost and time to the audit process (without justifiable benefit). Owing to fear of potential liability for errors and omissions, third parties will add unnecessary complexity to the auditing process, potentially loading audits with trivial findings and causing unnecessary delays in developing audit findings and recommendations and their ultimate implementation. Third party auditors typically have high billing rates and would often be charging the client for the time spent becoming familiar with the process, the process hazard analysis and previous audits, all of which would already be known to in-house personnel.



Given the reality that resources are finite, ineffective use of resources in conducting audits means less resources are available to address the results of the audits and other workplace safety and health issues within the facility.

Finally, third-party audits cannot facilitate the most critical aspect of the auditing process, which is implementation of the recommendations. This is the responsibility of the site.

In its RFI, OSHA seems to suggest that third-party audits would have prevented several recent significant incidents. However, the real shortcoming was not that problems were not identified, but that they were not addressed in a timely manner (if at all), whether identified by internal or external auditors

The current required audit frequency of "at least every three years" is appropriate. If experience indicates that frequency is inadequate for a particular site, the standard would then require an increased frequency of inspections. It is not appropriate to increase the frequency of required audits for all covered facilities in an effort to ensure a higher level of compliance out of a small number of sites with unique and often temporary conditions or out of what the agency may view as the lowest common denominator.

The current OSHA language states the site needs to generate a "report of findings" and "promptly determine and document an appropriate response...." That language is appropriate. It is neither practical nor appropriate to mandate specific time frames for responses to audit recommendations. First, in light of finite resources and competing demands for investment in workplace safety and health, the scheduling of the response to audit findings must be prioritized based on both a risk assessment and feasibility considerations. For example, it may take time to identify an apparently appropriate remedial action, and then it may take time to fabricate new equipment, establish a reliable supply of a new raw material, develop and/or update chemical process information, run a pilot test of the modified process, have a customer verify the acceptability of the product, and shut down a process so it can be cleaned out and modified.



The Vinyl Institute appreciates the opportunity to submit these comments. Please contact me at if you have any questions.

Sincerely,

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