RMP Rule Request for Information
40 CFR 68

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Welcome

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AcuTech Consulting Group Background

- Based in Vienna, VA
- Founded 1994 (San Francisco, CA)
- Mission:

  To provide expert consulting, training and software products to government and industries with significant risks in order improve security, safety, environmental and operational performance.

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- In working to keep their employees safe, employers face an increasingly complex web of occupational safety and health regulations. All of Arent Fox's OSHA attorneys focus their practices entirely on resolving occupational health and safety matters at both the federal and state levels. Accordingly, we are uniquely qualified to provide effective and practical solutions for employers' safety and health challenges, no matter how complex.
- Here are the primary services our OSHA Team offers:
  - Catastrophe Management
  - Compliance Counseling and Auditing
  - OSHA Inspections
  - Contesting Citations and Litigation
  - PSM Compliance and Litigation
  - Rulemaking
- Blog: www.managing-osha.com

Overview of EPA's RFI

- Purpose: Gather data, facts, costs and benefits to modernize the RMP Rule to reduce and prevent incidents.
- Same format as OSHA's RFI: Discussion of concerns then questions.
- 19 potential modifications to the RMP Rule:
  - 7 potential modifications which overlap with OSHA's RFI
  - 12 new potential modifications
- Approximately 400 questions.
- Published in the Federal Register on July 31, 2014.
- Comments due on October 29, 2014.

Overview (cont'd)

- On August 1, 2013 the president signed Executive Order 13650 ordering the relevant agencies of the federal government to improve the safety and security of the chemical industry in the U.S. The EO was issued as a result of the catastrophic incident involving an ammonium nitrate explosion at a fertilizer distribution facility in West, Texas, in April 2013.
- The EO has served as a catalyst for EPA to suggest a number of issues that they have been evaluating for awhile for possible revision to the RMP Rule.
- This RFI follows OSHA's RFI for the PSM Standard published on December 9, 2013, and the EO Working Group Report submitted to the President in May 2014 recommending that EPA issue a RFI.

Items Addressed in RFI

Items in OSHA's RFI Relevant to EPA's RMP Regulation:

1. Update the List of Regulated Substances
   - **a. Adding Other Toxic or Flammable Substances**
   - **b. Adding High and/or Low Explosives**
   - **c. Adding Ammonium Nitrate**
   - **d. Adding Reactive Substances and Reactivity Hazards**
   - **e. Adding Other Categories of Substances**
   - **f. Removing Certain Substances From the List or Raising Their Threshold Quantity**
   - **g. Lowering the Threshold Quantity for Substances Currently on the List**
2. Additional Risk Management Program Elements
3. Define and Require Evaluation of Updates to Applicable Recognized and Generally Accepted Good Engineering Practices
4. Extend Mechanical Integrity Requirements To Cover Any Safety Critical Equipment
5. Require Owners and Operators To Manage Organizational Changes
6. Require Third-Party Compliance Audits
7. Effects of OSHA PSM Coverage on RMP Applicability

Items Addressed in RFI

Additional Items for Which EPA Requests Information:

1. Safer Technology and Alternatives Analysis
2. Emergency Drills To Test a Source's Emergency Response Program or Plan
3. Automated Detection and Monitoring for Releases of Regulated Substances
4. Additional Stationary Source Location Requirements
5. Compliance With Emergency Response Program Requirements in Coordination With Local Responders
6. Incident Investigation and Accident History Requirements
7. Worst Case Release Scenario Quantity Requirements for Processes Involving Numerous Small Vessels Stored Together
8. Public Disclosure of Information To Promote Regulatory Compliance and Improve Community Understanding of Chemical Risks
9. Threshold Quantities and Off-Site Consequence Analysis Endpoints for Regulated Substances Based on Acute Exposure Guideline Level Toxicity Values
10. Program 3 NAICS Codes Based on RMP Accident History Data
11. The "Safety Case" Regulatory Model
12. Streamlining RMP Requirements

Updating the List of RMP Covered Chemicals

- The original RMP list of toxic and reactive chemicals was derived from EPCRA and other sources, plus the 16 chemicals mandated by Congress in the CAA of 1990.
- In the RFI, EPA is soliciting comments on what other chemicals should be added to 68.130, e.g.:
  - **Adding other toxic or flammable substances**
  - **Adding high and/or low explosives**
  - **Adding ammonium nitrate**
  - **Adding reactive substances and reactivity hazards**
  - **Adding other categories of substances**
  - **Removing certain substances from the list or raising their TQ**
  - **Lowering the TQ for substances currently on the list**

Updating the List of RMP Covered Chemicals

- Removal of certain chemicals currently covered: There are six RMP chemicals (four toxic, two flammable) for which EPA has never received a RMP and are not currently used in the U.S. (based on searches of several EPA chemical data bases :
  - **Arsenous trichloride (toxic)**
  - **Cyanogen chloride (toxic)**
  - **Sulfur tetrafluoride (toxic)**
  - **Tetramethyl lead (toxic)**
  - **Chlorine monoxide (flammable)**
  - **Ethyl nitrite (flammable)**

Updating the List of RMP Covered Chemicals

- One of the 16substances mandated by Congress for the initial RMP listing of regulated substances was toluene diisocyanate (TDI).
- The vapor pressure for TDI is relatively low at ambient temperature (< 0.5 mm Hg) and does not meet the vapor pressure listing criteria of 10 mm Hg for a regulated toxic substance.
- EPA believed that the language of CAA section 112(r)(3) precluded the Agency from omitting TDI from the initial list of RMP substances.
- However, the statute itself does not prohibit later deletions of substances that were mandated for inclusion on the initial list. The final enacted CAA section 112(r)(3) authorizes both additions and deletions from the list.
- 53 accidents involving TDI have been reported in RMP accident history reports since 1995, but none of these resulted in fatalities or off-site injuries.
- EPA is considering deleting TDI or whether the TQ for TDI should be higher because its much lower vapor pressure would result in a lower volatilization rate and less potential for an air release.

Updating the List of RMP Covered Chemicals

- 1,3-pentadiene was included in the final list of RMP flammables due to a typographical error in it's properties in the reference used. Therefore, 1,3-pentadiene does not meet the flammability and volatility criteria for RMP-listed flammable substances.
- EPA is also seeking information on whether the TQ for any substances currently on the list should be reduced. Are the current TQs protective of human health and the environment, or are there certain substances for which the TQ is too high? If so, which substances? For such substances, what TQ should EPA establish and what would it be based on?

Reactivity Hazards

- The CSB has recommended to OSHA & EPA several times that the applicability of the PSM Standard be expanded to include additional reactive chemicals.
- One difficulty is that it is not feasible for national listing decisions to take into account process- and site-specific factors, which can vary widely. Hence, this was dropped from the RMP List Rule at the time.
- In 2004, New Jersey's Toxic Catastrophe Prevention Act (TCPA) regulations were amended to include a wide list of such chemicals and associated functional groups based on their properties (e.g., heat of reaction) and other factors, including the use of mixture groups of various reactive materials. The RFI specifically refers to New Jersey's TCPA experience in this area.
- In 2010, the NFPA published the first edition of its Hazardous Materials Code (NFPA 400). NFPA 400 was subsequently updated in 2012.
- NFPA 400 specifies storage, use, and handling requirements for various categories of hazardous materials, including unstable (reactive) solids and liquids, water reactive solids and liquids, and others. EPA could adopt similar requirements as the basis for reactive hazards regulations.
- The number of PSM covered facilities would expand.

Additional Management System Elements

- Like OSHA, EPA is considering adding management system elements that would 'modernize' the scope of PSM.
- EPA references the CCPS *Risk Based Process Safety* book (2007) which includes elements such as:
  - **Process Safety Culture (conduct of culture surveys).**
  - **Process Safety Competency**
  - **Conduct of Operations**
  - **PSM Metrics**
  - **Management Review**
- If adopted this possible change to the RMP Rule would expand the number of RMP elements and the number and type of facility activities that would be formally included in a RMP program.
- This would make the RMP Rule more in agreement with a current industry consensus RMP/PSM model, and would also align RMP programs with the general Plan-Do-Check-Act model of management systems.

Additional Management System Elements

- EPA is considering adding these elements to the RMP Rule from BSEE's offshore Safety and Environmental Management System (SEMS) regulation:
  - **Stop Work Authority**
  - **Ultimate Work Authority**
- Strengthening of the contractor safety element – no specifics but EPA recognizes the increasing reliance on contractors..
- PHA/Hazard Review:
  - Clarifying what is meant be "revalidation" (Program 3) and "update" (Program 2).
  - Describe the types of failure scenarios or damage mechanisms that must be considered during PHAs and hazard reviews.
- PSSR: The current RMP rule does not clearly state what "modification" means with respect to a change in PSI.

Definition for RAGAGEP

- The term RAGAGEP is used in both the PSI and MI elements of PSM and RMP.
- These usages invoke broad requirements that RAGAGEPs be followed and their use documented in:
  - the design and construction of PSM facilities
  - the testing and inspection of PSM covered process and equipment.
- Neither the RMP Rule (nor the PSM Standard) includes a definition of this crucially important term.
- Unlike OSHA, EPA does not reference the definition of RAGAGEP offered in the CCPS book *Guidelines on Mechanical Integrity Systems* (2006), nor does it explicitly suggest including CCPS guidelines or internal procedures as RAGAGEPs.

Definition for RAGAGEP (cont'd)

- The current general meaning of the term RAGAGEP is limited to the Codes, Standards, and other documents published and maintained by Standards Developing Organizations, e.g., ASME, ANSI, API, NFPA, etc.
- EPA does request information and comment about how RARGAGEPs are updated.
- If EPA and OSHA adopts a broader definition of the term RAGAGEP or the organizations that typically issue them, the scope and application of the PSI and MI elements of PSM programs could be expanded significantly.

Definition for RAGAGEP (cont'd)

- "What does your facility use as a definition for RAGAGEP?"
- "What specific definition for RAGAGEP should EPA add to the RMP rule?"
- "Does your facility evaluate updates to its selected RAGAGEP? If so, how does your facility monitor any updates, and how often do you evaluate them?"
- "Should owners or operators covered by the applicable provisions of the RMP regulation be required to evaluate updates to applicable RAGAGEP?"
- "Would a requirement to evaluate updates to applicable RAGAGEP be more appropriate in another paragraph of the RMP rule?"

Expanding the Scope of MI Element to Cover Any Safety-Critical Equipment

- The MI element in Program 3 currently requires that six types of equipment be included in the mechanical integrity program.
- This list of equipment does not explicitly include several types of equipment that are critical to process safety and EPA has observed that facilities have failed to apply mechanical integrity program, including:
  - fire protection equipment
  - testing equipment (e.g., calibrators, digital voltmeters, test pressure gages, etc.)
  - structural components that support the weight or movement of fixed or rotating equipment (e.g., pipe supports, foundations, structural supports, etc.)
  - ***critical utilities*** whose failure could contribute to or are safeguards against a release of PSM-covered materials (e.g., electrical power, cooling water, air, etc.)
  - other equipment that is important to process safety.
- The RFI did not offer any specific examples, or a definition of "critical."
- Currently, the Program 2 Maintenance requirements include "all process equipment" as opposed to the more limited Program 3/PSM list of 6 types of equipment – Program 2 is more expansive but is supposed to be a more streamlined MI program.

Safety-Critical Equipment (cont'd)

- "EPA is also interested in whether additional requirements should be added to this section, or whether any existing requirements need to be clarified. For example, emergency shutdown systems are one type of process equipment covered under the rule's mechanical integrity provisions. *However, the regulation does not explicitly require that all covered sources install emergency shutdown systems."*
- " … *Should the Agency require that certain types of covered facilities install emergency shutdown systems, such as redundant power supplies, emergency flares, vents, or scrubbers, etc., in order to prevent accidental releases resulting from uncontrolled emergency shutdowns?" (This issue was not raised in OSHA's RFI.)*
- If adopted by OSHA and EPA this possible change would expand the scope of MI programs to formally include a broader list of equipment than current MI programs typically include.

Inclusion of Management of Organizational Change

- A number of companies and facilities in the PSM/RMP community have taken the initiative on their own to expand their MOC program to include management of organizational change (MOOC).
- The original intent of the MOC element in the PSM Standard or RMP Rule did not include or contemplate organizational changes.
- OSHA's current interpretation of the PSM Standard MOC provisions is that if changes to personnel, budgets, etc., can affect process safety then they should be covered by MOC. EPA is interested in the same interpretation but didn't state it explicitly in their RFI.
- Accordingly, OSHA and EPA are soliciting comments on whether the MOC element of the PSM Standard should be revised to include MOOC.

MOOC (cont'd)

- "What do you consider to be an organizational change within the context of process safety management practices? For example, would you consider the following, or similar, changes to be organizational changes:
  - reducing the number of operators in a shift
  - changing from 5-day to 7-day operations
  - changing from 8-hour to 12-hour operator shifts
  - replacing a unit manager; reducing the facility operations or maintenance budget
  - relocating a technical group to a remote corporate location
  - changing a supervisory or compensation structure
  - hiring contractors to do work formerly performed by employees of the regulated facility

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Third-Party Compliance Audits

- The PSM Standard and RMP Rule require triennial audits of PSM and RMP prevention programs.
- There are no stipulations regarding who should perform the audits, their qualifications, or their independence from the facility or PSM/RMP program being audited.
- OSHA and EPA note that the CSB identified flawed internal PSM audits as a contributor to the BP Texas City incident.
- OSHA and EPA also note that the SEMS regulation has been amended by BSEE to require third-party audits of SEMS programs by COS-accredited auditors.
- EPA also notes that the CCPS RBPS Guidelines state that third parties can provide the most objectivity.
- EPA is inquiring about: third parties, certification/credentials, time frame to address findings, near misses/audits, and auditing all processes at multi-process sites (OSHA did not include all of these in their RFI).
- Note: In the RMP Rule the audit is only of the prevention program. An audit of the complete RMP program is not required by the stationary source – this is the responsibility of the implementing agency.

Effects of OSHA PSM Coverage on RMP Applicability

Retail Exemption

- In the PSM Standard OSHA exempted retail facilities, but did not define “retail.”
- OSHA’s intent was to exempt facilities that sell small containers of PSM-covered materials to the public.
- OSHA has also clarified the Standard stating that a facility that is primarily engaged in selling anhydrous ammonia product to farmers (a wholesale operation under the NAICS definition) could qualify for the retail exemption because the farmers were the "end users" of the product.
- For EPA this has meant the approx 4,000 facilities that have large quantities of anhydrous ammonia and would be PSM covered and hence RMP program 3 have claimed exemption from PSM via the retail exemption and have registered Program 2 RMPs.

Effects of OSHA PSM Coverage on RMP Applicability

Retail Exemption (cont'd):

- Applying the retail facility exemption in this way is inconsistent with the normal meaning of "retail" and the preamble's explanation of the purpose of the exemption.
- As stated in the PSM preamble, OSHA chose to exclude retail facilities from PSM coverage because the *limited container, package, or allotment sizes of the chemicals typically found at these facilities do not present the same safety hazards as those encountered at establishments working with large, bulk quantities of materials.*
- As a result of increased workplace hazards associated with large, bulk quantities of highly hazardous chemicals, OSHA believes that only retail trade facilities listed in *NAICS sectors 44 and 45* (e.g., department stores) that sell highly hazardous chemicals in small containers, packages, or allotments to the general public qualify for the exemption.
- A number of facilities that currently distribute anhydrous ammonia to farmers would lose their PSM exemption if this possible change to the PSM Standard is adopted. These facilities would all then become RMP Program 3 facilities.

Effects of OSHA PSM Coverage on RMP Applicability

Municipally Owned Water Treatment Facilities & OSHA State Plans

- Some water treatment facilities that use chlorine are not covered by OSHA PSM because they are municipal (i.e., govt) employees and OSHA only regulates private employers. Hence if these facilities are in states with non-delegated OSHA programs (i.e., not state-plan states), they cannot be RMP program 3 facilities.
- It is a peculiarity of the RMP regulation that two identical RMP-covered water or wastewater treatment plants - one located in a state with a state OSHA program and the other in a state without a state-delegated OSHA program - are subject to different levels of accident prevention requirements under the RMP Rule.
- EPA is inquiring on whether RMP-covered municipal water and wastewater plants that are not eligible for Program 1 should also be subject to RMP Program 3, regardless of whether or not they are located in a state with a federally-delegated OSHA program.

Effects of OSHA PSM Coverage on RMP Applicability

Elimination of Program 2 Classification

- If OSHA were to restrict eligibility for its retail exemption to facilities selling small containers, packages, or allotments to the general public, and EPA were to require all RMP-covered water and wastewater treatment plants not eligible for Program 1 to comply with Program 3, *EPA believes that there would be approximately 200 RMP-covered processes nationwide that would remain eligible for Program 2*.
- In light of these facts, EPA invites comment on whether it should modify Program 2 eligibility criteria, or alternatively, eliminate Program 2 and require all formerly Program 2 processes to comply with Program 3 or Program 1 requirements.

Safer Technology and Alternatives Analysis

- The Federal Action Plan recommends the promotion of Safer Technology and Alternatives.
- Even though it does not use the same wording, these provisions add an inherently safer technologies (IST) provision to the Federal Action Plan.
- Clean Air Act's general duty clause, section 112(r)(1), 42 U.S.C. 7412(r)(1), states that, *"The owners and operators should try to substitute less hazardous substances for extremely hazardous substances or minimize inventories when possible."*
- Definition of IST from CCPS definition provided to DHS in July 2010:

  IST is a design concept with the goal of permanently eliminating or reducing hazards to avoid or reduce the consequences of incidents. IST considers options such as: eliminating a hazard, reducing a hazard, substituting a less hazardous material, using less hazardous process conditions, and designing a process to reduce the potential for, or consequences of, human error, equipment failure, or intentional harm.

Safer Technology and Alternatives Analysis

- Specific recommendations:
  - Issue an alert on safer technology and alternatives and work with industries to publicize examples of best practices.
  - Develop *voluntary* guidance to make chemical operators aware of safer technology, processes and alternative solutions to reduce the overall risk of their facilities.
- EPA would consider proposing an amendment to the RMP regulations that requires:
  - An analysis and documentation of safer technologies and alternatives.
  - Integration of the safer technologies and alternatives analysis into the PHA.
  - Implementation of safer technologies and alternatives where feasible.
- *EPA would not make any determination regarding the specific analysis, technology, design, or process selection by chemical facility owners or operators.*

Emergency Drills

- Under Subpart E, RMP-covered facilities are required to coordinate emergency response actions with local emergency planning and response agencies, particularly for those facilities that will not respond on their own.
- Exercising response plans is critical to ensure that response personnel understand their roles, local emergency responders are familiar with the hazards at the facility, and that the emergency response plan is appropriate and up to date.
- Other federal and state PSM, environmental, nuclear, and security regulations mandate drills and exercises, e.g., OPA, MTSA, CFATS, NRC, etc.
- CCPS RBPS recommends emergency drills and exercises.
- This is common practice but is not mandated in the RMP rule.

Automated Detection and Monitoring

- Adding new requirements for *automated detection and monitoring systems*, or adding performance measures for facilities already using these systems that would supplement the existing process hazard analysis (PHA) and/or emergency response requirements.
  - **PHAs required to address engineering and administrative controls applicable to the hazards and their interrelationships, such as appropriate application of detection methodologies to provide early warning of releases. Examples of acceptable detection methods identified in this requirement include process monitoring and control instrumentation with alarms, and detection hardware.**
  - **RMP-regulated facilities must have procedures or mechanisms in place for informing the public and local emergency response agencies about accidental releases.**
- The active use of such systems may enhance both the prevention of and the response to accidental releases.
- Automated detection and monitoring technologies may not be available for particular chemical hazards, or industry standards may not address their proper use. They may also be costly.

Additional Stationary Source Siting Requirements

- EPA is considering whether to amend RMP to provide more specific requirements to address stationary source siting.
- The PSM Standard and RMP Rule both require that facility siting be addressed as one element of a PHA.
- *Should EPA amend the RMP rule to include more specific siting requirements as part of the PHA by, for example, establishing* ***buffer or setback zone requirements for new covered stationary sources****, or by establishing safety criteria for siting of occupancies inside the facility?*
- Would such requirements provide significant incremental protection over current industry practice, e.g. API RP 752, API RP 753, CCPS, *Guidelines for Facility Siting and Layou*t , and CCPS, *Guidelines for Evaluating Process Plant Buildings for External Explosions and Fires, and Toxic Releases, 2nd Edition*.
- Effects on property values, eminent domain questions?
- Occupancies inside facilities is OSHA's domain.

Emergency Response - Coordination With Local Responders

- Subpart E can be read as offering owners or operators the choice of whether to be a responding or non-responding facility.
- RMP-regulated facilities indicate within their risk management plan whether or not they are a "responding" facility.
- EPA has found that the majority of RMP facilities claim to be "non-responding" facilities.
- During facility inspections, EPA has often found that facilities are either not included in the community emergency plan or have not properly coordinated response actions with local authorities. This problem occurs with both responding and non-responding facilities.
- EPA requests comment on whether this problem could be addressed through better enforcement of existing requirements …or"
- Revising Subpart E to state more explicitly that owners and operators of RMP facilities must comply with the ER program requirements of 68.95 *unless local public responders both have the means and agree to respond to releases of regulated substances at the facility, and to describe what facility owners or operators must do to coordinate with local authorities on the development of community ER plans.*

Incident Investigation and Accident History

- Through incident investigation a facility would determine not only the initiating event that led to the release, but more importantly its root cause(s).
- Accident history reporting provides an avenue to disseminate that information.
- RMP accident history is compiled for actual incidents during previous 5 years but near-miss accidents or accidents are not required to be included, and the accident history requirement applies only to covered processes.
- RMP has been amended the RMP accident history requirements to require that facilities who have had an accident meeting the criteria for the five-year accident history to update their RMP accident history to include the new accident history information within six months of the date of the accident (from CSB recommendation).
- EPA is considering more explicit guidance to include near misses in accident history reporting and to investigate the root causes of process safety incidents and near misses, and of establishing specific time frames for incident investigations to be completed.

Worst Case Scenario - Numerous Small Vessels Stored Together

- The RMP rule requires the determination of a worst-case release quantity.
- The regulation currently defines the WCS release quantity as the greater of: (1) The greatest amount held in a single vessel; or (2) the greatest amount in a pipe, taking into account administrative controls that limit the maximum quantity."
- For certain categories of facilities, like chemical warehouses or industrial gas facilities, where each storage container may only contain a small amount of a regulated substance, but there are numerous such containers stored in close proximity to one another.
- EPA is considering revising RMP to better account for processes involving numerous small vessels stored together, such as on pallets, cylinder racks, and in groups.
- EPA is considering including the entire quantity in one location or one process, instead of just the single largest vessel or pipe.
- EPA is considering including cascading effects of separate facilities that are interconnected in the WCS (e.g., a manufacturer that provides product to an adjacent source through an interconnecting pipeline).

Public Disclosure of Information

- In response to Executive Order 13650, EPA seeks to find ways to enhance information sharing and collaborative planning between chemical facility owners tribal and local emergency planning committees and first responders.
- RMP rule was published in 1996 before many of the current information-sharing technologies were conceived e.g., social media.
- *EPA is interested in identifying ways to make RMP-regulated facility information (e.g., compliance audit, PHAs, or incident investigation reports) more readily available to local responders, LEPCs, and local communities* ***without creating additional security concerns****.*
- Effect of CSISFRRA (1999)?

Acute Exposure Guideline Level Toxicity Values

- EPA is considering the use of Acute Exposure Guideline Levels (AEGLs) developed by the National Advisory Committee for high-priority acutely toxic chemicals as toxic endpoints for offsite consequence analyses.
- Current toxic LOCs are a combination of ERPG-2 and IDLH values.
- AEGLs have been developed for 471 high priority acute chemicals (all but 5 RMP chemicals).
- AEGLs are developed for five exposure periods (10 and 30 minutes, 1 hour, 4 hours, and 8 hours).
- Three levels of AEGLs:
  - AEGL–1: Not disabling and are transient and reversible upon cessation of exposure.
  - AEGL–2 is the airborne concentration above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.
  - AEGL–3 is the airborne concentration above which it is predicted that the general population could experience life-threatening health effects or death.
- With few exceptions, AEGL–2 values are significantly lower than LOC values for a given substance, and generally somewhat lower than the corresponding ERPG–2 value. *TQs would decrease for many RMP chemicals.*

Program 3 NAICS Codes

- Program 3 eligibility is based in part on the NAICS associated with the covered process. The specific codes identified for Program 3 were based on an analysis of reported accident histories within industry areas, selecting those that evidenced a higher risk potential.
- EPA selected the industry sectors that showed a high frequency of the most serious accidents across a significant percentage of all sources within the sector to avoid mischaracterizing an industry based on isolated, problematic sources.
- The RMP national database now contains nearly two decades of accident history reports from covered sources, and facilities with the following NAICS codes dominate that accident history:
  - **32411 (petroleum refineries)**
  - **325199 (all other basic organic chemical manufacturing)**
  - **325188 (all other basic inorganic chemical manufacturing)**
  - **22131 (water supply and irrigation systems)**
  - **42491 (farm supplies merchant wholesalers)**
  - **22132 (sewage treatment facilities)**
  - **325181 (alkalies and chlorine manufacturing)**
  - **311615 (poultry processing)**
  - **49312 (refrigerated warehousing and storage)**
  - **32211 (pulp mills).**

The "Safety Case" Regulatory Model

- The "safety case" regulatory model is a framework for regulating high-risk industries where owners or operators of industrial facilities are required to demonstrate to the regulator that they have reduced risks to a level that is "as low as reasonably practicable", or ALARP.
- In the safety case model, operators must present to regulators a structured argument, supported by a body of evidence that provides a compelling, comprehensible and valid case that a system is safe for a given application in a given operating environment. Note that this argument is usually quantitative in nature.
- The safety case approach is used in the chemical and refining industries in the United Kingdom, Australia, Norway, and others, and is similar in practice to the regulatory regime for U.S. nuclear reactor facilities regulated by the NRC.
- CSB advocates the safety case approach as a safety management framework for U.S. refineries. The CSB specifically recommends that the California legislature adopt the safety case approach for refineries in California, and that OSHA, as part of that Agency's response to Executive Order 13650 "develop questions and evaluate issues raised from the findings and conclusions in this report concerning the safety case regime."

The "Safety Case" Regulatory Model

- The RFI states that completely replacing the current RMP regulation (and PSM standard) with a safety case approach would require significant changes to the existing regulatory regime for chemical process safety in the United States.
- EPA also requests comments on partially adopting the safety case approach, e.g.:
  - Submittal and approval of PHAs by OSHA and EPA.
  - Application of the safety case to certain high risk PSM and RMP facilities, e.g., refineries.

Streamlining RMP Requirements

Other EPA questions regarding RMP modernization:

- Are there steps that EPA could take to simplify the process of determining whether the RMP rule applies to particular facilities? Are there other potential revisions to the rule that would make it easier for regulated entities to comply with its provisions?
- Are there steps that EPA could take to simplify the RMP submission process? For example, are there advances in electronic reporting or information technology that EPA could use in order to make RMP submissions easier?
- Should EPA require that RMP submissions be certified by a senior corporate official, such as the CEO, CFO, COO, or the equivalent to ensure corporate-wide awareness and accountability in the RMP submission?
- Is the three-tiered program level structure of the RMP regulation appropriate, or should EPA consider simplifying the rule to make only two program tiers, or only a single prevention program applicable to all facilities (e.g., the NJ TCPA regulation has eliminated Program 2)?
- Are the accident prevention program elements clearly defined? Should EPA further clarify any of the existing elements?
- Are the regulatory terms and definitions sufficiently clear? Are there additional terms that EPA should define in this section?

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Conclusions

- It is not likely that all of the areas will be included in any proposed updated rule.
- The number of issues being discussed and the significance of the issues makes this development one of the most important for industry to consider since the Rule was enacted in 1996.
- Some of the more likely proposals would in themselves be very wide-ranging in their impacts and likely expand the RMP community.
- Industry should follow the developments closely and consider the specific impact of relevant changes to their own operations to understand the potential organizational and administrative burden and benefits.
- Comments should be provided to EPA to give appropriate feedback during this most important data gathering step. The RFI contains the administrative process for submitting comments online, via mail, or hand delivery on the docket (EPA–HQ–OEM–2014–0328).
- Link to RFI: https://federalregister.gov/a/2014-18037

EPA's Time Line

• Publish RFI in Fed. Reg.	July 31, 2014
• Comments to RFI due on	October 29, 2014
• Draft Rule	Summer 2015
• Final Rule	Summer 2016

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