ORAL COMMENTS

Before the
Chemical Facility Safety and Security Working Group

January 14, 2014
Good morning. I am Peter Lodal, Technical Fellow with Eastman Chemical Company in Kingsport, TN and the chair of the Process Safety Committee for the American Chemistry Council.

At previous listening sessions, representatives of ACC have offered numerous recommendations to this Working Group to improve chemical facility safety and security, to address fundamental issues raised by the West, TX incident (as well as other notable incidents), to help the Agencies successfully meet the objectives of the Executive Order.

The Executive Order notes that measures can be taken by executive departments and agencies utilizing existing regulatory authority to further improve chemical facility safety and security in coordination with owners and operators. We at ACC agree that there are opportunities to enhance safety and security throughout industry. We are not in agreement that wholesale revision of any regulation or suite of regulations is necessarily the correct approach.

I would like to briefly address three issues which are currently being discussed. One has been a topic of a previous presentation to this group; two are new. The topics I would like to discuss are; 1), regulation of reactive chemicals, 2) the meaning and use of the term RAGAGEP, and 3) the focus on Inherently Safer Technology and Inherently Safer Alternatives.

**Reactives**

The recently published OSHA RFI asks for input on the regulation of reactive chemicals, both in general concept (item 4), and with specific reference to ammonium nitrate (AN, item 15), the specific chemical involved in the West, TX incident. OSHA has been down this path once before, beginning in late 1999, after several incidents (NAPP Technologies in 1995, Concept Sciences in 1999) brought these issues up. The Chemical Safety Board conducted a survey of reactive incidents in 2002, which is available on their website.

One of their conclusions was that simply using lists of chemicals is not an effective approach to regulating reactive hazards. (CSB report, Executive Summary, Conclusion #5). However, in spite of this observation, CSB continues to push both
OSHA and EPA to modify the PSM and RMP regulations to cover reactive hazards. In our opinion, this was not the correct approach when OSHA considered it in 2003, and it is not the correct approach now.

There is a hierarchy of reactive chemicals that could help provide clarity:

1. Self reactives (peroxides, unstable compounds)
2. Chemicals that react with ubiquitous substances (air and water)
3. All others

The first two categories may be handled by a list rule if the data shows that sufficient hazards exist to warrant inclusion.

In fact, OSHA has already included a number of chemicals in the Appendix A chemicals list, including X and Y as examples of the first and second categories.

The third category has far too much extrinsic (i.e., situation-dependent) information that is needed to address adequately and therefore cannot, in my opinion, be handled effectively by prescriptive regulation. I said this same thing at the start of the PSM conference in Arizona in 2003. Recognizing this fact, both industry and government addressed the issue in complimentary ways:

In 2003, the Center for Chemical Process Safety (CCPS) published the Guideline book “Essential Practices for Managing Chemical Reactivity Hazards\(^1\)”, describes effective techniques for identifying and managing reactivity hazards. This book was made available free of charge for three years resulting in more than 11,000 downloads and is available for download:

NOAA has also contributed significantly to the management of reactivity hazards through its publication of the Chemical Reactivity Worksheet\(^2\), now at version 3.0, and soon to be upgraded again.

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\(^1\) [https://www.aiche.org/ccps/publications/books/essential-practices-managing-chemical-reactivity-hazards](https://www.aiche.org/ccps/publications/books/essential-practices-managing-chemical-reactivity-hazards)

\(^2\) [http://response.restoration.noaa.gov/reactivityworksheet](http://response.restoration.noaa.gov/reactivityworksheet)
This tool, is the centerpiece of the CCPS Reactive Evaluation Screening Tool (REST)³.

Together, these tools provide a much more effective means for reactivity hazard management than can be accomplished through a list-based rule.

**RAGAGEP**

Another current topic of discussion, especially in light of OSHA’s BP-Husky Toledo refinery decision, is the definition of, and appropriate application of recognized and generally accepted good engineering practice, which leads to the acronym RAGAGEP. I would like to emphasize that “practice” here is not singular—it refers to multiple methodologies and first-principles approaches to ensure that risk is mitigated to an appropriate level.

Good engineering practice extends far beyond the application of consensus industry guidance. While organizations like the National Fire Protection Association (NFPA), the American Petroleum Institute (API), the Compressed Gas Association (CGA), the Chlorine Institute, and many other quality organizations have contributed greatly to both the understanding and application of engineering principles to common safety issues, no organization can replace the thoughtful engineering analysis performed for a specific company, either by its own employees, or qualified contractors. The concept of RAGAGEP must be extended to recognize that there is almost always more than one way to successfully address safety and security issues, and that this necessarily involves analysis and evaluation far beyond the rote application of consensus standards to effectively address individual situations and circumstances.

In light of the fact that PSM and RMP are both performance-based standards, application of RAGAGEP must not be done in a manner where the performance component is subordinated to a pseudo-prescriptive approach. As with reactives, extrinsic (situation and location-specific) factors play an enormous role in

determining what, among multiple approaches (not all of which are published in consensus documents) will best address the issue at hand.

**IST**

We at ACC remained concerned that the misplaced overemphasis on proposals related to “safer alternatives” will ultimately distract from work on many aspects of the Executive Order which have the potential for significantly addressing the objectives of the EO. Such focus also has the strong potential to lead to unnecessary and duplicative regulatory obligations.

Specifically, there are numerous existing regulatory programs that already focus the attention of owners and operators to operate a safe and secure facility, including the OSHA PSM Standard and the EPA RMP Rule, the DOT HazMat regulations under the Pipeline and Hazardous Materials Safety Administration (PHMSA), and the DHS Chemical Facility Anti-Terrorism Standards (CFATS). All of these programs, as they currently exist today, require operators to take a hard look at their operations and do what it takes to make them safe and secure. Explicit “safer alternative” mandates are not needed; the goal of creating and maintaining a safe and secure facility is implicit in, for example, a process hazard analysis or developing a risk management plan. EPA acknowledged as much when it promulgated the regulations for the RMP program.

Furthermore, operators need to take a holistic approach when addressing risk at the facility; these various programs and requirements need to be addressed in concert, so the overall safety and security profile – for employees, environment, and community – can be maintained at the highest level possible while allowing the facility to function. No one agency has the legal authority or technical capacity to perform this task.

There are numerous challenges and pitfalls to a regulatory mandate to evaluate “safer” alternatives. For one, what does “safer” mean? IST solutions are usually “inherently safer” with regards to a single hazard or consequence. What factors go into the decision process for determining “safety”, or “inherently safer?” Each has its place, and again, extrinsic, site and situation-specific issues are dominant
in such an analysis. If EPA wanted to require an analysis for “safer alternatives” under RMP, the focus would need to be on safety relative to accidental releases into the ambient air, being the extent of EPA’s authority under the Clean Air Act. In that context, how would “safer” be addressed for employees and contractors, or for processes that don’t involve releases but pose other hazards, or for chemicals that could be stolen or diverted for illicit purposes? Mandating the evaluation of “safer” alternatives is complicated, and nearly impossible to quickly import into a regulatory context. It is not, as often inferred, simply low-hanging fruit for enhancing safety and security that some would have you believe. This fruit has already been harvested through industry initiatives and existing regulatory programs.

The New Jersey experience highlights the complexities of such a program. Under New Jersey’s Toxic Catastrophe Prevention Act (TCPA), regulated facilities are required to perform an “Inherently Safer Technology Review.” New Jersey uses a non-traditional definition of inherently safer technology (IST) that focuses on general safety strategies that are already considered via best management practices, OSHA’s PSM standard, and EPA’s RMP rule. As such, many of the measures reported under the NJ program are not bona fide IST measures but rather run the gambit of safety enhancements that facilities routinely consider on an ongoing basis and are already identified or implemented under other federal and state regulatory programs and voluntary initiatives.

Furthermore, the TCPA program goals did not specifically require reporting of the risks before and after the implementation of IST. There is no specific accounting for risk shifted upstream, off-site, or anywhere along the supply chain. There is no specific way to quantify “risk” and what a “lesser” risk is. There is no way to qualitatively determine if the program truly has resulted in any real risk reduction across the board. In light of existing federal and industry programs, it is difficult to envision the benefit of adopting this program on the federal level or how doing so would meet the objectives of this Executive Order or even Executive Order 13563 concerning Improving Regulation and Regulatory Review.
Government clearly has a role in addressing security and safety. But, as the Executive Order states, the role of government needs to be coordinated with industry, who has both the primary responsibility, and the significant technical expertise to ensure the safety and security of its employees and neighbors. It is possible to reach these safety goals through companies’ continual attention to the management and control of hazards via adherence to existing regulations, industry best management practices, and safety programs such as the ACC Responsible Care® Process Safety Code. Adopting a “safer” process does not represent the only way to attain the desired level of safety.

I would like to thank the working group for the opportunity to present today, and want to encourage them to focus on improving communication and coordination among all regulators and first responders at all levels of government. We encourage the Working Group to focus on facilities that may have previously been “off the radar” that truly need help with security and safety measures. This is the goal of the Executive Order – not to develop new regulatory programs that will create additional complexity and do not provide any quantifiable benefit.

We want to continue to work with you to address the issues that the Executive Order has targeted, in a technically responsible, effective manner. Thank you.