

*Subcommittee hearing on*  
**"Lessons Learned from Chemical Safety Board (CSB)  
Investigations, Including Texas City, Texas"**

Testimony of

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Before the  
Senate Committee on Environment and Public Works  
Subcommittee on Transportation Safety, Infrastructure Security, and Water Quality  
July 10, 2007

Chairman Lautenberg, Senator Vitter and Members of the Subcommittee:

I am Steve Arendt, Vice President of Organizational Performance Assurance for ABS Consulting. It is my privilege to present this testimony regarding lessons from CSB investigations, including the Texas City accident.

Our parent company is the American Bureau of Shipping, which, since 1862, has worked to ensure the safety of marine transportation around the world. ABS Consulting, a subsidiary, is a leading process safety and risk management firm having helped hundreds of companies, organizations, and communities deal with the risks posed by hazardous substances and energy.

I personally have been involved in process safety since the late 70's, having experience in many industries, including oil and gas, chemical, pharmaceutical, pulp and paper, electronics, nuclear power, and defense.

**Where We Are At**

Process safety practices and formal safety management systems have been in place for many years. Commonly known as PSM, it is widely credited for reductions in

*Subcommittee hearing on*  
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major accident risk and in improved industry performance. Nevertheless, many organizations continue to be challenged by inadequate PSM performance, resource pressures, and stagnant process safety results.

The safety record within the chemical and petroleum process industries is impressive. However, whatever the historical record shows, it pales in the aftermath of each tragic accident whose occurrence spotlights the human impacts and reinforces the need to forever improve, driving toward a goal of zero accidents.

**CSB Has Been a Positive Influence on Process Safety**

The Chemical Safety Board has been a positive influence on process safety under the leadership of Dr. Carolyn Merritt, having performed many investigations and motivating many stakeholders to adopt its recommendations. CSB's greatest achievement is that it has done so with the power of the pen, the keyboard and the internet – and not the stick.

During CSB BP Texas City investigation, it recommended that BP establish an Independent Safety Review Panel to look at the effectiveness of process safety activities, oversight and culture within BP's U.S. refineries. Our company conducted the technical reviews for the Baker Panel.

In addition to the considerable process safety learnings, a notable outcome is that it has awakened companies at the Board and executive level to process safety issues. Over the past 6 months since the release of the Baker Panel report, I have given over 50 lessons learned presentations to CEOs, executive leadership teams, and plants managers from oil and gas, chemical, and related companies – both domestic and international. All I have met are embracing the learnings from Texas City, and

*Subcommittee hearing on*  
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Investigations, Including Texas City, Texas"**

many are diligently applying the lessons to discover their own blind spots before they turn into accidents.

**The Need for a Truly Risk Based Approach**

To get to the next level in process safety will require a more effective risk-based approach. All hazards and risks are not equal; consequently, we should focus our resources on more significant hazards and higher risks. To promote PSM excellence and continuous improvement throughout the process industries, the Center for Chemical Process Safety (CCPS) created risk-based process safety (RBPS) as the framework for the next generation of process safety management.

This new approach was built upon 15 years of lessons learned, a thorough review of global environmental, safety and health management systems and regulatory frameworks, and benchmarking of effective practices within the U.S. process industries.

**The Need for Constant Vigilance and Improvement**

But, we all need to get better - industry and government alike. Industry should adopt improved PSM practices such as those espoused in CCPS's RBPS Guideline, focusing attention on continuous improvement with the goal of zero accidents.

Much of this cannot be effectively mandated via regulation. But it can be supported by a basic foundation of better process safety regulation. And organizations can continue to be motivated via lessons found by the CSB.

*Subcommittee hearing on*  
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Investigations, Including Texas City, Texas"**

Some may advocate revising the existing PSM regulations, based on 15 years of implementation, to remove things that do not add value or have not worked, and to appropriately set new performance-based or risk-based expectations for compliance.

Any such improvement should be done in a spirit of partnership and participation by OSHA/EPA involving industry and labor BEFORE revised new regulations or compliance directives are just handed out – not just in a typical last minute review and comment process during rulemaking. This approach was effectively used by OSHA during the original PSM rulemaking in 1990.

OSHA and EPA should focus on improving the effectiveness of its existing enforcement activities to discover low-performing companies, rather than blasting out time consuming emphasis programs that divert energies away from process safety improvement, and unavoidably focus industry energy on avoiding penalties rather than improving process safety. Any effort to improve enforcement results must start with improving the technical competence of inspectors and the targeting tools they have to focus on companies that do not take process safety seriously.

CSB should consider exercising its existing regulatory authority to help bring to fruition consistent process safety accident reporting. Creative application of this authority could extend to the establishment and use of a consistent set of process safety metrics, focusing on agreed upon measurement objectives, rather than prescribing actual leading indicators themselves, which are most appropriately determined by industry or company-specific needs. This could be the “implementing motivation” for several industry and labor efforts presently underway to harmonize process safety metrics activities following Texas City.

*Subcommittee hearing on*  
**"Lessons Learned from Chemical Safety Board (CSB)  
Investigations, Including Texas City, Texas"**

Labor and industry groups should take the new CSB recommendations seriously and work together to forge new standards on worker fatigue, process safety metrics, near-miss identification and reporting, and human factors issues.

### **Conclusions**

We would not be where we are today in process safety without the OSHA PSM and EPA RMP rules, nor the improved effectiveness of CSB accident investigations and promotion and adoption of its recommendations by all affected stakeholders.

Societal pressure to improve performance will continue to increase. We can fix technical issues. We can fix management systems issues. But to generate better, sustainable performance, we must formally address ways to evaluate and improve individual and organizational process safety culture. Companies will understand that doing all three will lead directly to safer and more productive operations.

As we strive for zero incidents, we will continue to extract and apply the lessons that we derive from those that regrettably do occur. Standing still, congratulating ourselves on the successes of the past 20 years, and celebrating accidents that did not occur because of all of the hard work, will not prevent the next accident. Let's all learn from everyone's mistakes with a long-term goal of zero accidents and short-term goal of continuous improvement.

Thank you for the privilege to testify before the Subcommittee on these critically important matters.