

Raising The Bar: Process Safety Management in Petroleum Refineries

United Steel Workers Local 12-591
UW DEOHS Continuing Education Programs

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Background

- The Tesoro Refinery and Shell Puget Sound Refinery in Anacortes, WA were home to the two worst industrial accidents in Washington State's history
- California recently passed updated Process Safety Management (PSM) standards to improve process safety in oil refineries.
- United Steelworkers, the Blue Green Alliance, and other grassroots efforts are pushing for similar standards, with improved language, to be passed in Washington State.



Problem

For full video please visit:
<https://youtu.be/pr0kqcE0k7U>



Purpose

- Gather information and collect narratives to support the passage of the new standard
- Engage full union membership campaign
- Determine how to best help local in campaign through give-back products



Methodology

- Key Informant Interviews
 - Washington State Labor & Industries
 - Expert Consultants
 - Chemical Safety Board
 - Blue Green Alliance
 - Cal/OSHA
- Union Partnership
 - Union Leadership
 - Unit Chairs
 - PSM/TOP Representatives
- Worker Interviews & Focus Groups
- Site Visits



Methods: What workers had to say...



"The level of complexity in these plants can have significant consequences"

"The average worker does not know a lot about process safety."

"Workers have been kept in the dark and kept out of the process safety management process"

"Collaboration means a partnership and the new standard will allow us to better partner with the industry to keep our people safe"

"At the end of the day, process safety is no more funerals"

"No onboarding now for contractors...gone to computer-based training...more hands off...can't get site specific quality details that are needed"

Methods: Survey

- Forty-five workers filled out our short survey:
 - Site
 - Concept of PSM
 - Years of Experience
 - Union Participation
 - Greatest safety concerns
 - Potential Solutions



Findings: Major Themes from Interviews

- Employee Collaboration
- Check the Box Mentality
- Mechanical Integrity
- Staffing
- Training
- Contractor's Role in PSM



Successes

- Gaining workers confidence
 - USW 12-591 members were supportive and willing to share their stories with us
- Engaging workers in Process Safety Management dialogues
- Identifications of key themes refineries are still facing despite significant changes to process safety in past years.
- Learning a systems approach to health and safety
- Creating educational materials (video and fact sheet)

Challenges & Lessons Learned

- Scheduling workers
 - Turnaround
 - Incident Investigations
 - 12 hour shifts and overtime
 - Summer Hours
- Large scope of topic
 - Many elements
 - High barrier to understanding technical nature of PSM
 - Not a typical OHIP project!
- Challenges of working with two distinct work sites
 - Differences in culture and policies at plants
- Highly Controlled Industry Side
 - Challenges of understanding industry decisions
 - Lack of accessibility



Recommendations

- The union should continue to engage and educate their membership about PSM using timeline and video as tools
- The union should use these tools to educate and engage the community and environmental groups about the need for a strong PSM standard
- The union should play an active role in designing and delivering PSM training for workers at all levels
- Washington State Labor and Industries should pass the draft standard and emphasize collaboration with employees (no watering down)

Give Back



PROCESS SAFETY MANAGEMENT: RAISING THE SAFETY BAR

What is it?

Process Safety Management (PSM) is a set of rules and procedures developed by the Occupational Health and Safety Administration (OSHA) with the intent to reduce the frequency and severity of incidents resulting from releases of highly hazardous chemicals in process industries including oil refineries.

What workers are saying:

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"The average worker does not know a lot about process safety."

"Workers have been kept in the dark and kept out of the process safety management process"



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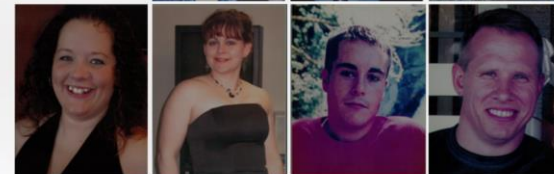


Victims of 2010 Explosion and Fire

Operators Matthew C. Bowen, 31; Darrin J. Hoines, 43; and Daniel J. Aldridge, 50, were killed in the initial blast. Operators Kathryn Powell, 29, and Donna Van Dreumel, 36, later died of their burns at the hospital. Operator Matt Gumbel, 34, along with Lew Janz, 41, a supervisor and former long-time union member, died a few weeks later.



"May the memory of our beloved brothers and sisters spur us never to give up the fight for a safer workplace."



Reflections



Acknowledgements

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