

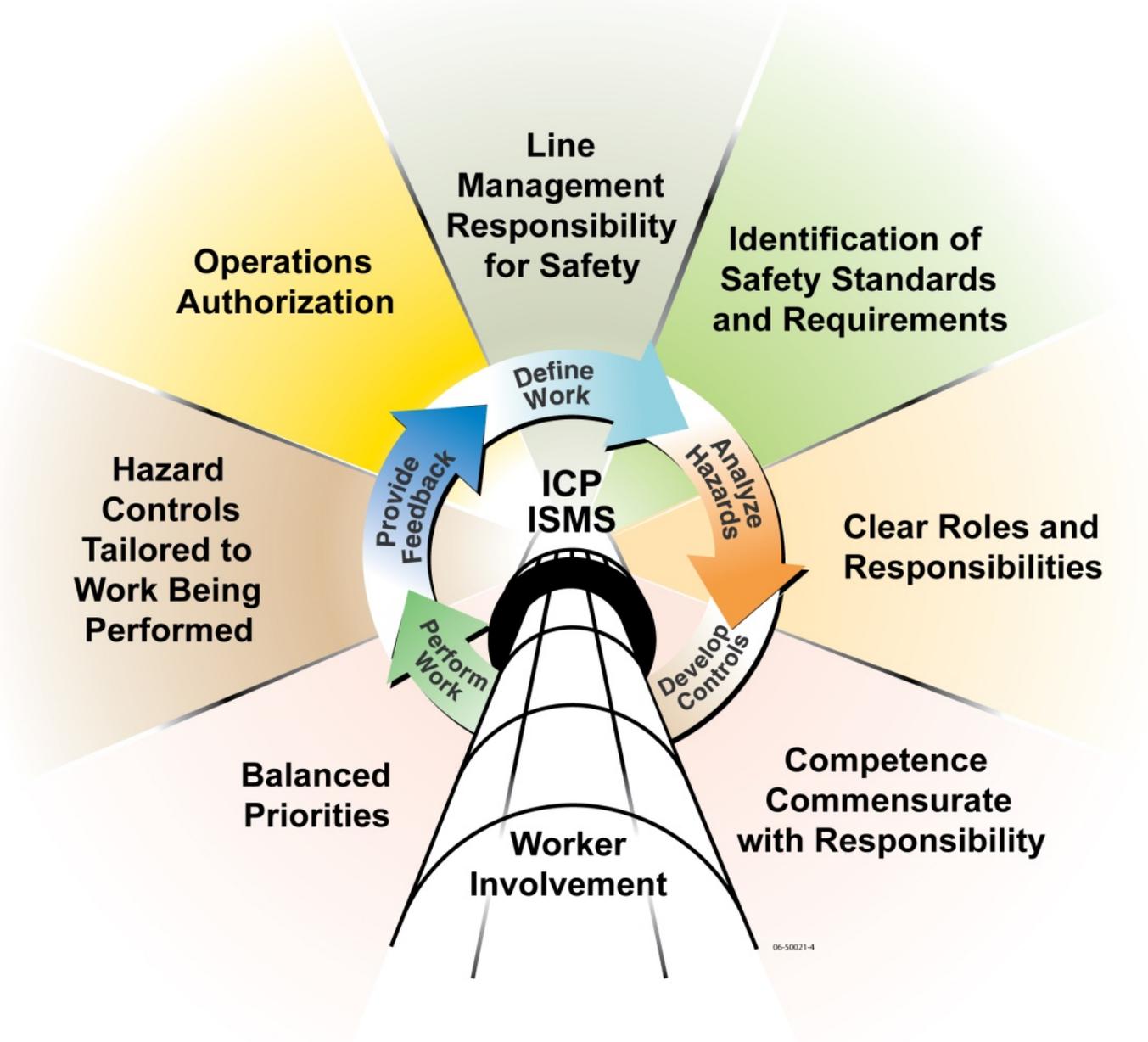
The background of the slide features a large, semi-transparent seal of the United States Defense Nuclear Facilities Safety Board. The seal is circular with a yellow outer ring containing the text "UNITED STATES DEFENSE NUCLEAR FACILITIES SAFETY BOARD" in blue. Inside the ring is a blue circle with a white eagle with spread wings in the center, flanked by green laurel branches. The eagle's chest is covered by a shield with a yellow and black geometric pattern.

Safety 360

Enhancing Worker Situational Awareness

Peter S. Winokur, Ph.D.
ISM Champions Workshop
September 15, 2011

*Thanks to Rick Verhaagen, Jeremiah MacSleyne,
Doug Minnema, and Neysa Slater-Chandler*



06-50021-4

Thanks to CH2M•WG, Idaho. LLC

Safety Culture (and ISM), P. S. Winokur, ISM Champions Workshop, Brookhaven National Laboratory, November 28, 2007.

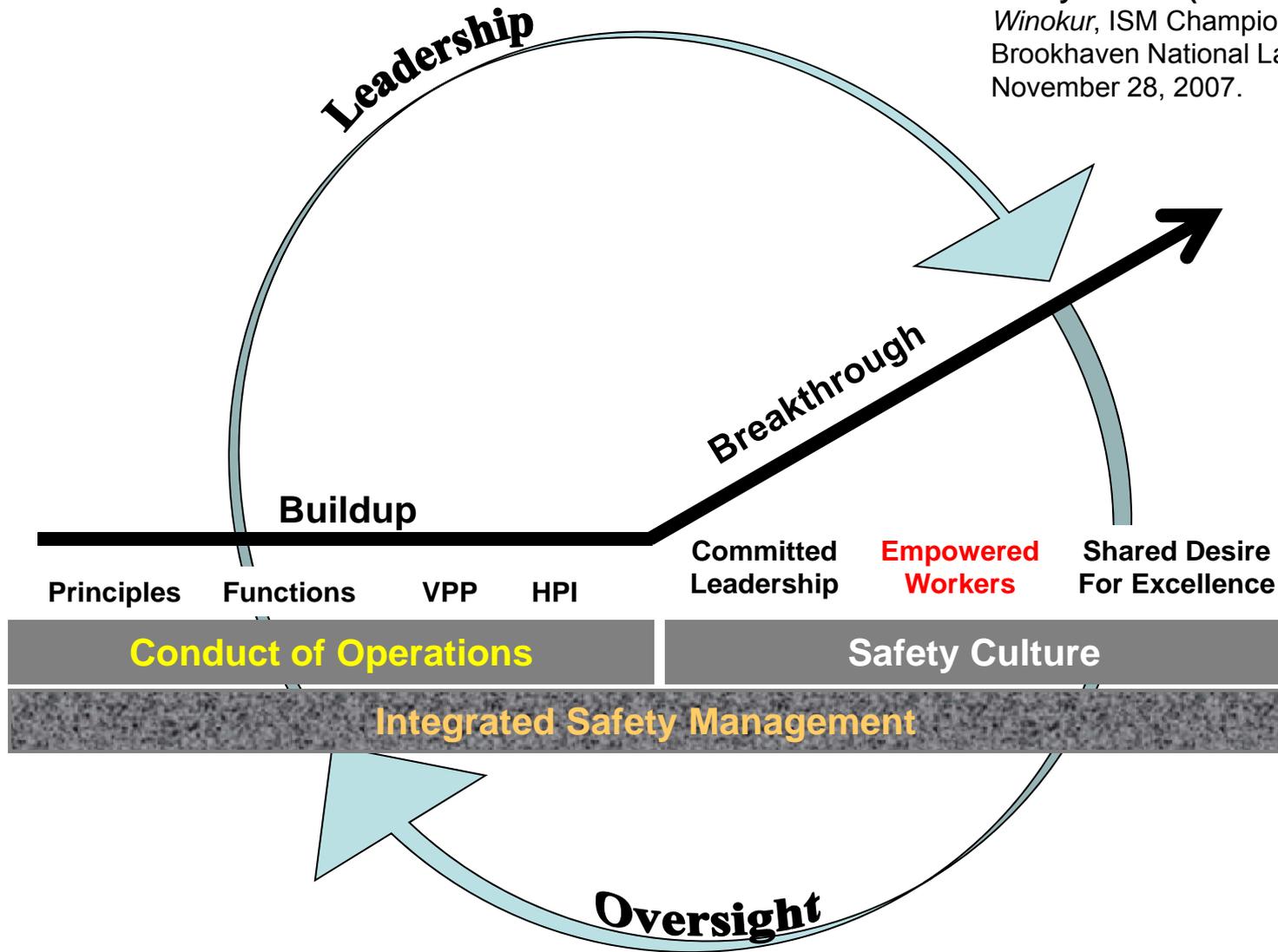


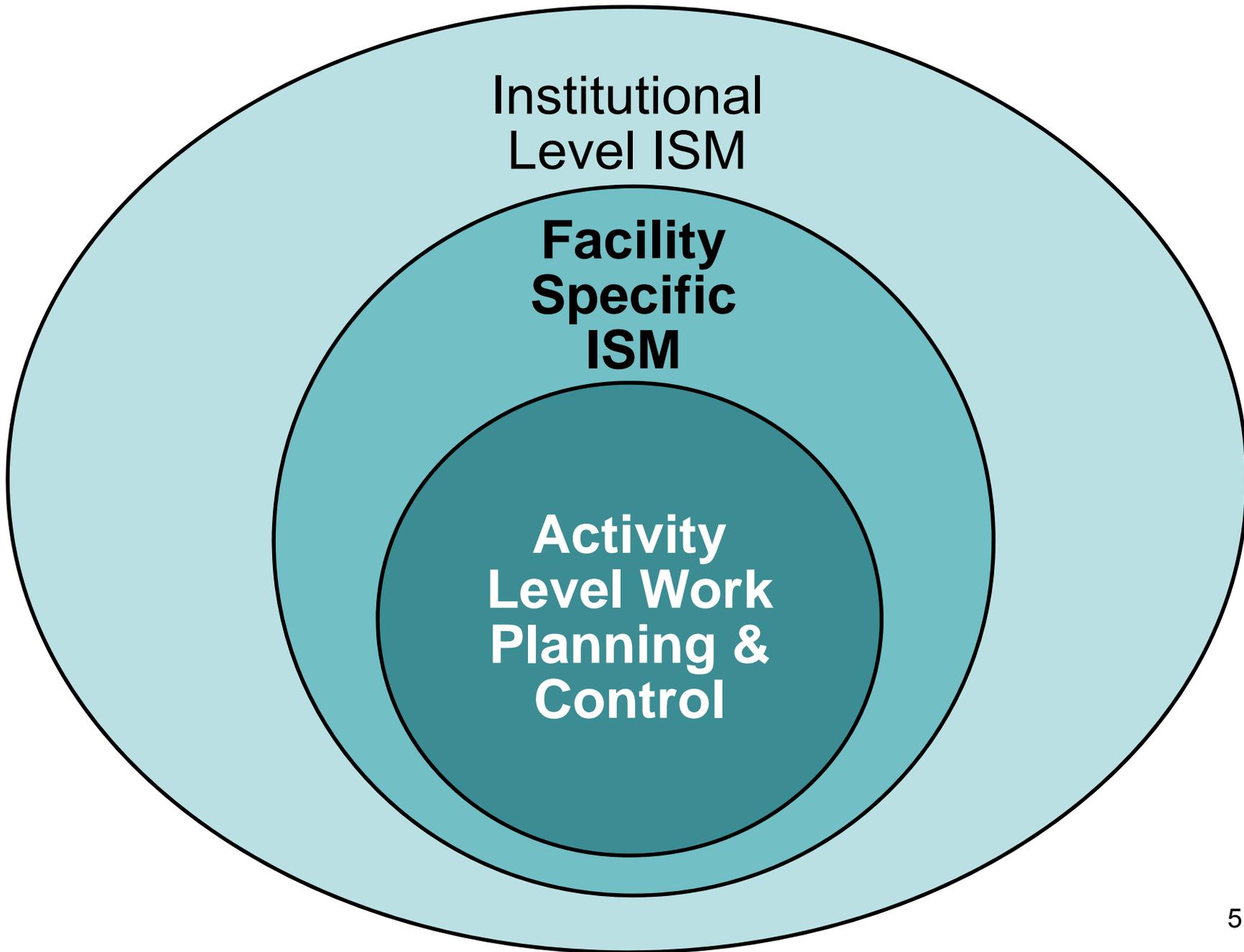
Figure adopted from: Jim Collins, Good to Great; HarperCollins Publishers, NY; 2001.

Empowered workers



How do you know when everything works right?

[video clip link removed from this slide]



Institutional
Level ISM

**Facility
Specific
ISM**

**Activity
Level Work
Planning &
Control**

Activity-Level Work Planning and Control



Planning teams work together to:

- Identify scope of the work and steps necessary to complete it
- Identify and analyze the hazards associated with work site and each work step (this is not an academic exercise)
- Develop and implement controls to ensure work can be accomplished safely
- Perform work using the prescribed controls
- Identify and communicate future improvements for activity-level work



Activity-Level Work Planning and Control



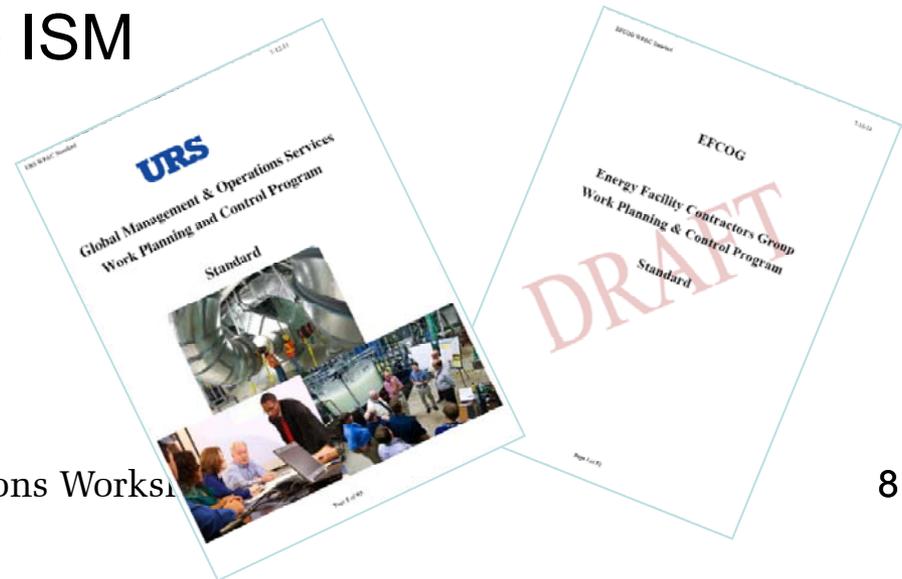
- Where the integrated safety management rubber meets the road.
- Applicable to all types of work activities including operations, maintenance, **R&D**, D&D, construction, etc.
- Board reviews have identified inconsistencies and recurring weaknesses in implementation across the complex.
 - Hazards not identified or inappropriately addressed
 - Instructions not bounding or without sufficient detail
 - Work instructions cannot be performed as written
 - Oversight and self assessments are not always successful at identifying and correcting weaknesses and learning lessons

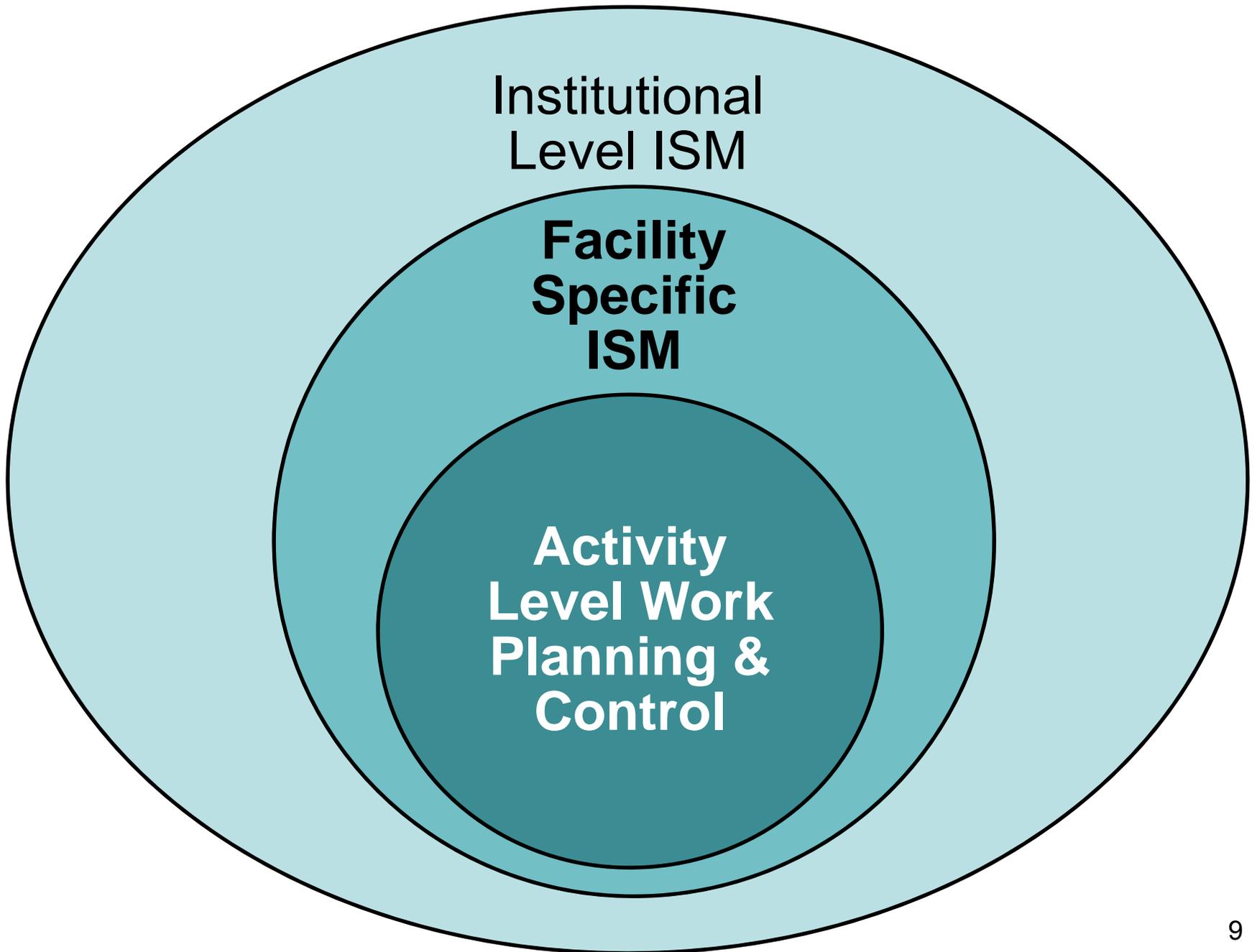


Improving Activity-Level Work Planning and Control



- URS is implementing its own recently developed work planning standard.
- EFCOG is working to develop a complex wide standard.
- A “Gold Standard” for how to develop a world-class work planning and control program would greatly benefit the complex. Don’t simply document what already exists.
- Ensure integration with the ISM and Oversight Guides and the work planning standard.





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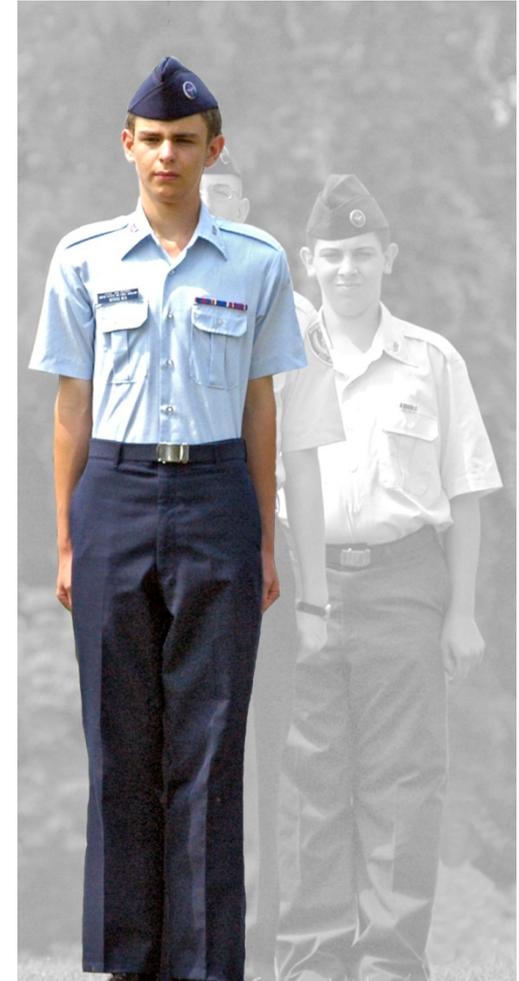
YOU

The Center Circle



- YOU are the center of your safety circle
- YOU are the main contributor to your own safety
- YOU are an important safety influence on those you work with
- YOU help ensure safety at your facility
- YOU are a leader in your workplace

Lead by Example!



Esprit de Corps



- Nobody should work in complete isolation
- You should be aware of what your coworkers are doing
- You should be sure they know what you are doing
- Share with them your concerns and observations
- Listen to their concerns and observations
- Keep an eye out for them, they will do the same for you

You all share your workplace, make it a safe one!

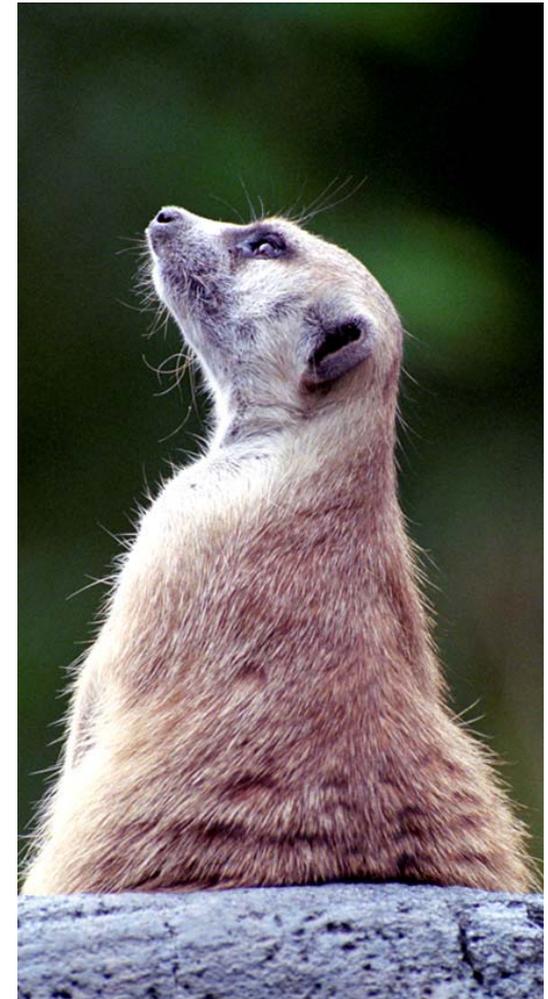


Mindfulness



- Remain actively aware of others in the workplace around you
- Watch for unexpected situations
- Be preoccupied with updating knowledge
- Anticipate the unexpected
- Avoid the arrogance of success
- Recognize near-misses as potential dangers; not successful avoidances

Anticipate the worst!
Be pleasantly surprised if
it does not happen!



Knowledge



- You can never understand your workplace too well
- You should never stop learning how to do things better
- You should always try to learn from others
- You should always encourage others to learn

Change is inevitable, learn from it!



Experience



- You should always value experience and practice
- If a skill is important to your safety, practice it
- Do not assume “skill of the craft” means “easy to do”
- Use the most experienced workers as mentors
- Use gatherings to share experiences



**Broaden your horizons,
experience something new!**

Communication



- Maintain regular contact with your coworkers and others
- When your plans change, tell them about it
- Know who to call when unexpected things happen
- Formality of conversation should match gravity of situation
- Be careful not to let idle talk distract from safe operations

“Seek first to understand, then to be understood”

Discipline



- All work requires a degree of discipline, some more than others
- Procedures, training, and supervisors should convey the level rigor needed
- Determine level of discipline needed before doing the job, not during it
- Don't let a need for discipline become a distraction to safety
- Don't let conflicting priorities distract from disciplined operations

Discipline is about doing the right thing consistently!

Worker Responsibility



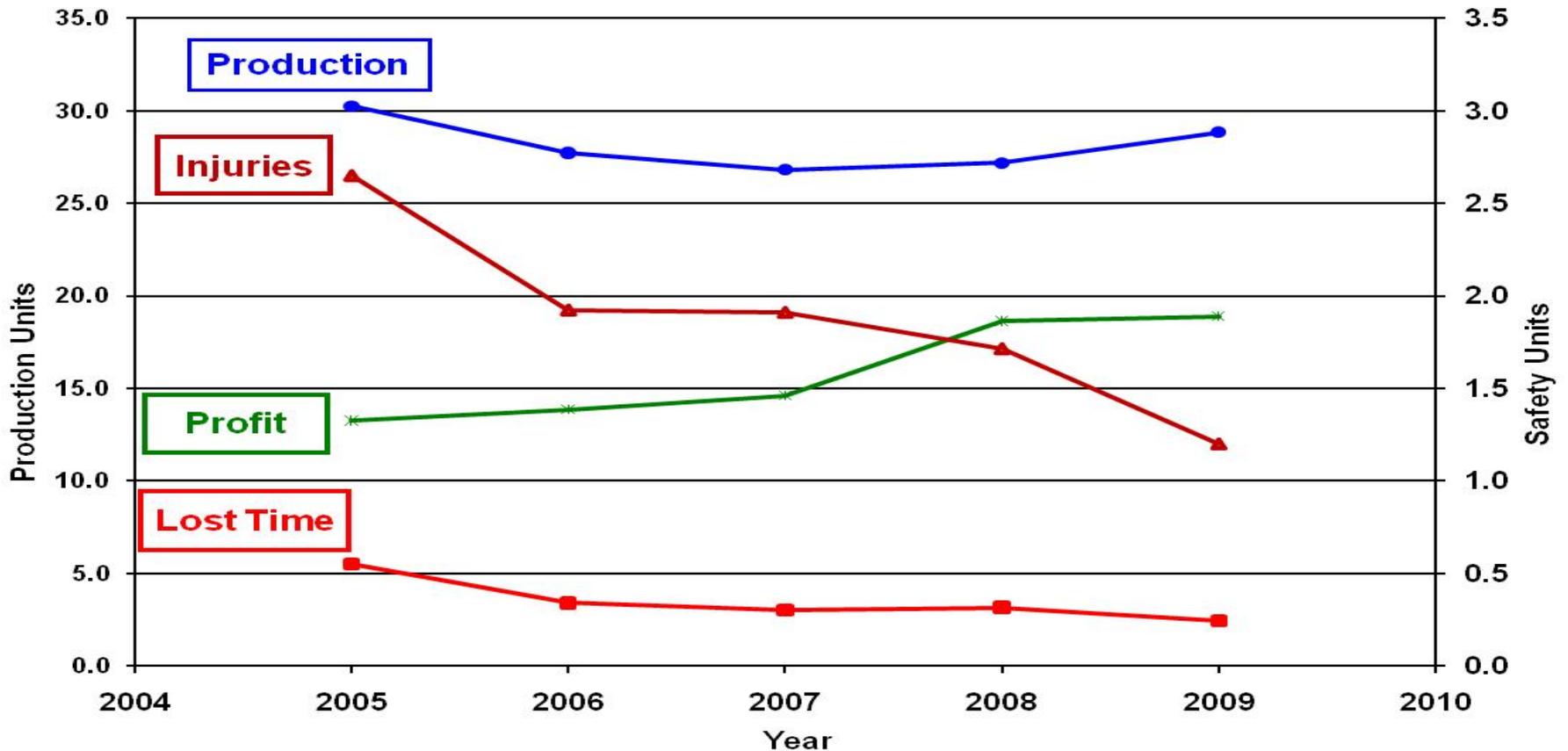
- Every day, we all have a distance to go before we rest
- To arrive safely, recall that you are the central safety circle
 - **Esprit de Corps**
 - **Mindfulness**
 - **Knowledge**
 - **Experience**
 - **Communication**
 - **Discipline**

Pop Quiz



Whose Performance Metrics are these?

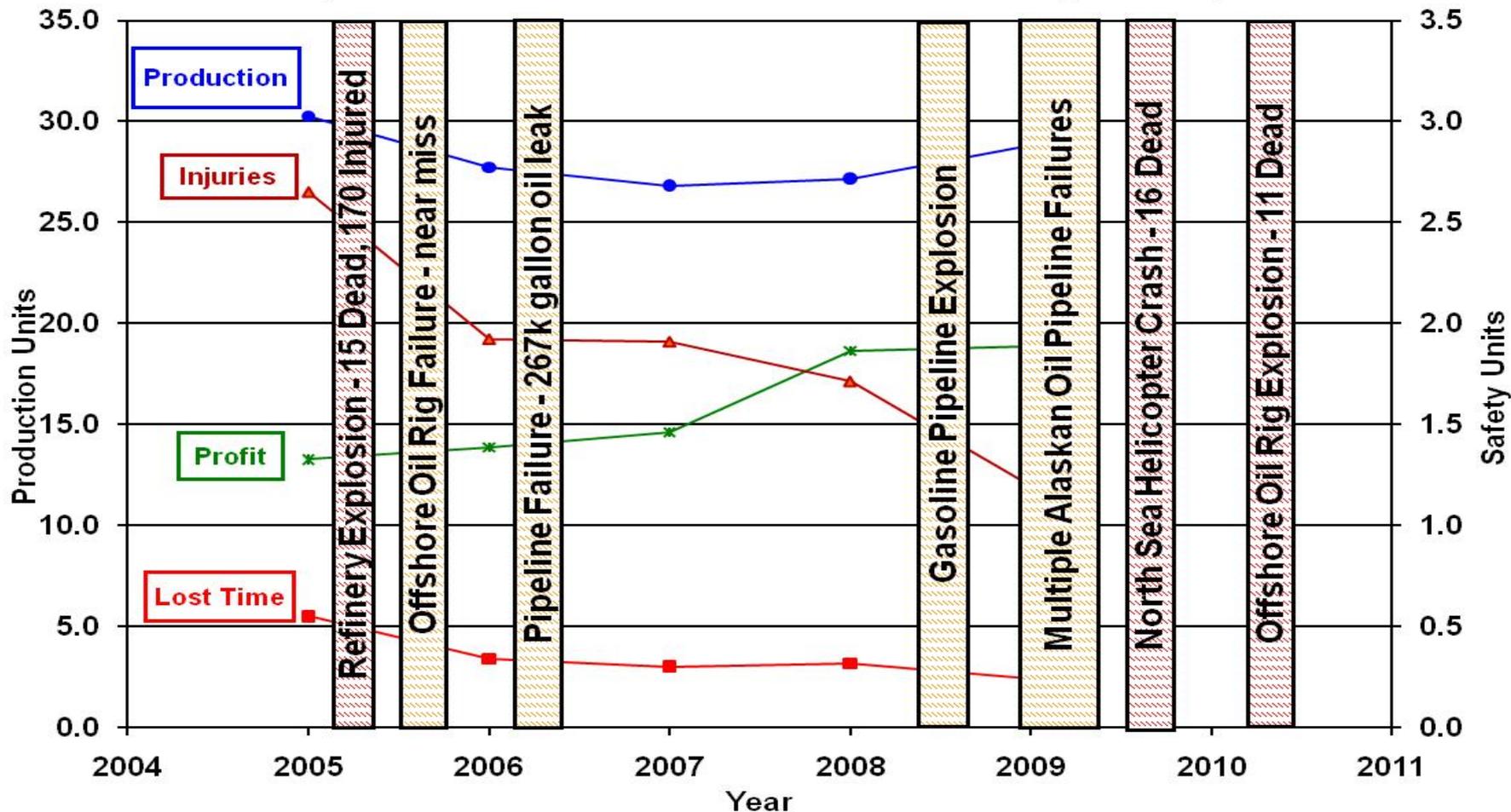
(All Values Normalized to Hours Worked per Year)



A Second Clue



(All Values Normalized to Hours Worked per Year)



Answer: British Petroleum



“BP focused on safety efforts dealing with slips, trips, falls, and vehicle accidents, even as catastrophic process risks were overlooked or not controlled.”

Testimony of the Carolyn W. Merritt, Chairman, Chemical Safety Board, House Committee on Energy and Commerce, Subcommittee on Investigations and Oversight, May 16, 2007

“The immediate causes of the Macondo well blowout can be traced to a series of identifiable mistakes made by BP, Halliburton, and Transocean that reveal such systematic failures in risk management that they place in doubt the safety culture of the entire industry.”

Report to the President; National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling; January 2011

(Note: Production and safety data extracted from British Petroleum 2010 Sustainability Report)



U. S. CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD

INVESTIGATION REPORT

REFINERY EXPLOSION AND FIRE

(15 Killed, 180 Injured)



KEY ISSUES:

SAFETY CULTURE

REGULATORY OVERSIGHT

PROCESS SAFETY METRICS

HUMAN FACTORS

BP

TEXAS CITY, TEXAS

MARCH 23, 2005

REPORT No. 2005-04-I-TX

MARCH 2007

We Need Better Use of Metrics



“The prizes congratulate corporations for reducing incidents such as slips and falls, which promote complacency ... [but] fail to implement process safety management to eliminate workplace catastrophes that kill.”

Safety Awards That Endanger Workers’ Lives, Leo W. Gerard,
USW International President, May 28, 2010.

It’s time to reduce reliance on DART/TRC as a primary metric for demonstrating the effectiveness of DOE’s safety programs.

Conclusions



- Implementation of Integrated Safety Management at the Institutional, Facility, and Activity Level are critical to the safe performance of mission; use them to your safety advantage
- YOU are the center of your safety circle, YOU call the balls and strikes
- YOUR involvement determines the quality of safety in your workplace
- DOE and its contractors have made good progress in Activity-Level Work Planning, but more is needed; the Board encourages the development of improved standards and guidance
- The Board is concerned that an overreliance on DART/TRC can lead to complacency and distract from preventing low-probability, high-consequence accidents