



Integrated Safety Management (ISM) Safety in Support of Our Mission

"For the want of a nail, the shoe was lost; for the want of a shoe the horse was lost; and for the want of a horse the rider was lost, being overtaken and slain by the enemy, all for the want of care about a horseshoe nail." - **Benjamin Franklin**

**Pre-meeting Safety Brief
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ISM - Safety in Support of Our Mission

- ◆ Continuously working safe and being perceived as safe is critical to the success of our project.
- ◆ PPPL's **safety objective is simple “ nobody gets hurt “**. Fulfilling this objective takes vigilance, discipline, work, and attention to large and small details. Lets not lose the mission “ for the want and care of a nail “.
- ◆ **ISM... - The core functions.**
- ◆ How do we (PPPL) compare to industry.
- ◆ When it comes to safety we must be our brothers keeper. We must look out for the other guy.
- ◆ As a project and lab we need to be absolutely sure about safety. “Pretty sure“ is not good enough. 99 % sure is not good enough. Would you get on an airplane if it only had a 99 % chance of safely reaching its destination ? We must be absolutely sure of our actions when it comes to safety, our work, our project, our laboratory.

The perception of something being unsafe can be lethal to the mission, independent of investment or facts



SNPS GE BWR

Construction Completed 1984

Final cost = ~ \$ 6 B (1980 dollars) Equivalent to ~ \$ 16 B in 2007 dollars.

Did not operate commercially. Could not get an approved safe evacuation plan.

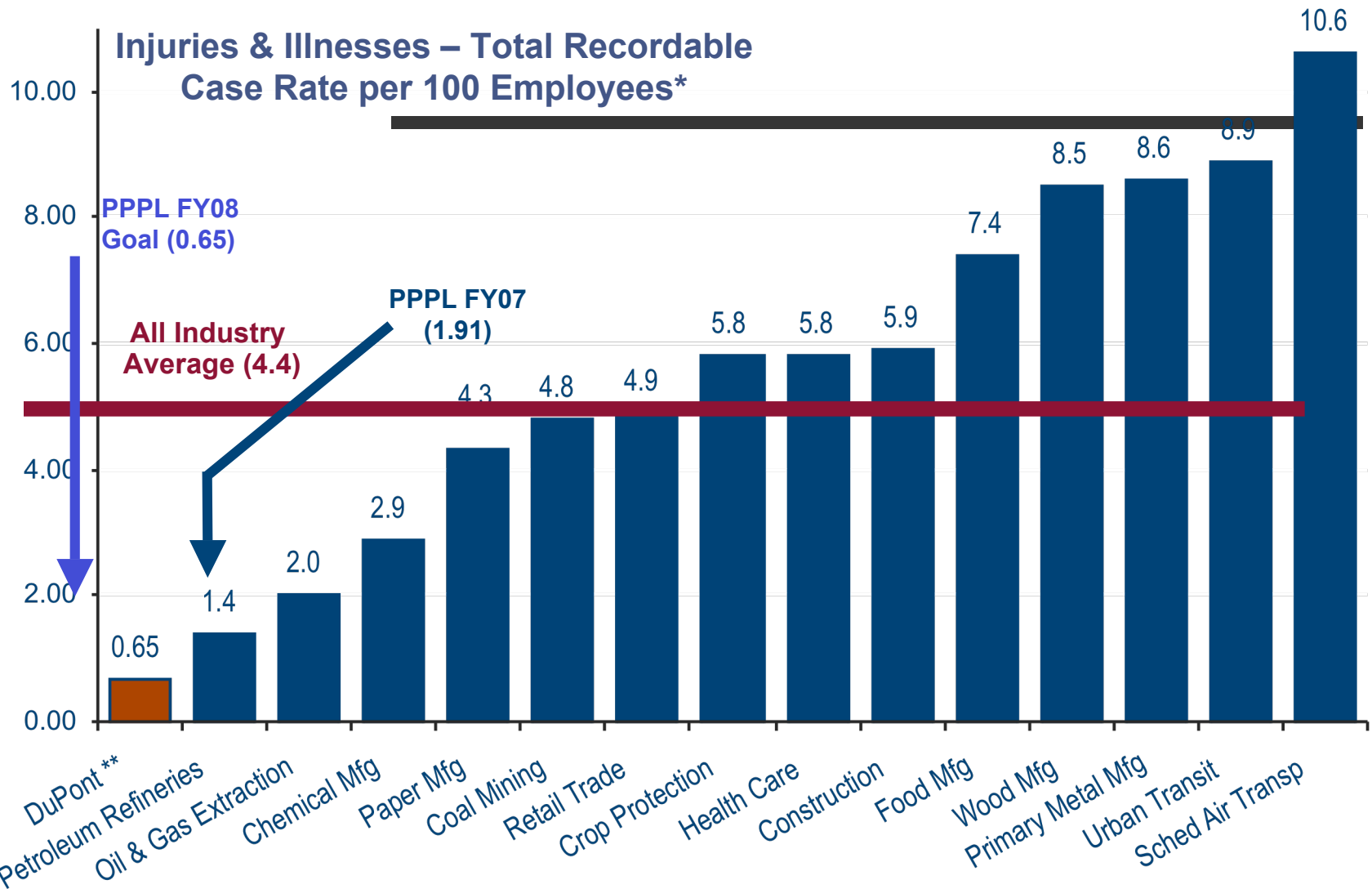
One of the safest commercial nuclear plants ever constructed.

Observation: The year SNPS was cancelled > 10,000 people died in coal mining accidents (mostly in China).

ISM core functions We (PPPL) have effective implementing tools

- ◆ (1) Define the scope of work - Translate the mission into work. PPPL work planning form(s) / WAF's, procedures / design reviews (peer reviews, CDR, PDR, FDR).
- ◆ (2) Analyze Hazard - JHA, IH Review, FMEA's.
- ◆ (3) Develop and Implement Hazard Controls - Establish a safe working envelope. safety permits & controls (confined space, LO/TO, RWP, PPE, D-Site Work Permit, Fire Watch, etc...).
- ◆ (4) Perform Work within Controls - Compliance with documentation, controls, analysis, permits.
- ◆ (5) Provide feedback and continuous improvement - Post job briefs/ what went right/ what went wrong / safety reviews / management safety walk-through, review of near-misses, review of mishaps.

How Does PPPL Compare to Industry



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Conclusions

ISM - Safety in Support of Our Mission

- ◆ ISM employing PPPL implementing tools provides a stable platform to get NCSX right.
- ◆ Lack of safety, or perceived lack of safety threatens our mission.
- ◆ A good deal of physical work still ahead of us. Need to remain vigilant. Vigorously use the established systems to maintain safety.
- ◆ If you see something not quite right help to fix it. Be part of the solution.
- ◆ Make it easy for the worker to do the right thing, to work safely.
- ◆ We need to be vigilant that “luck” does not creep into our safe work practices. The safe outcome for our work activities must be the expectation not a stochastic event.