

Workers + Work Planning & Control = Multiplicative Success

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- JLab Overview & Operations
- History
- Challenges
- Leveraging Workers
- Results

Scientific Purpose

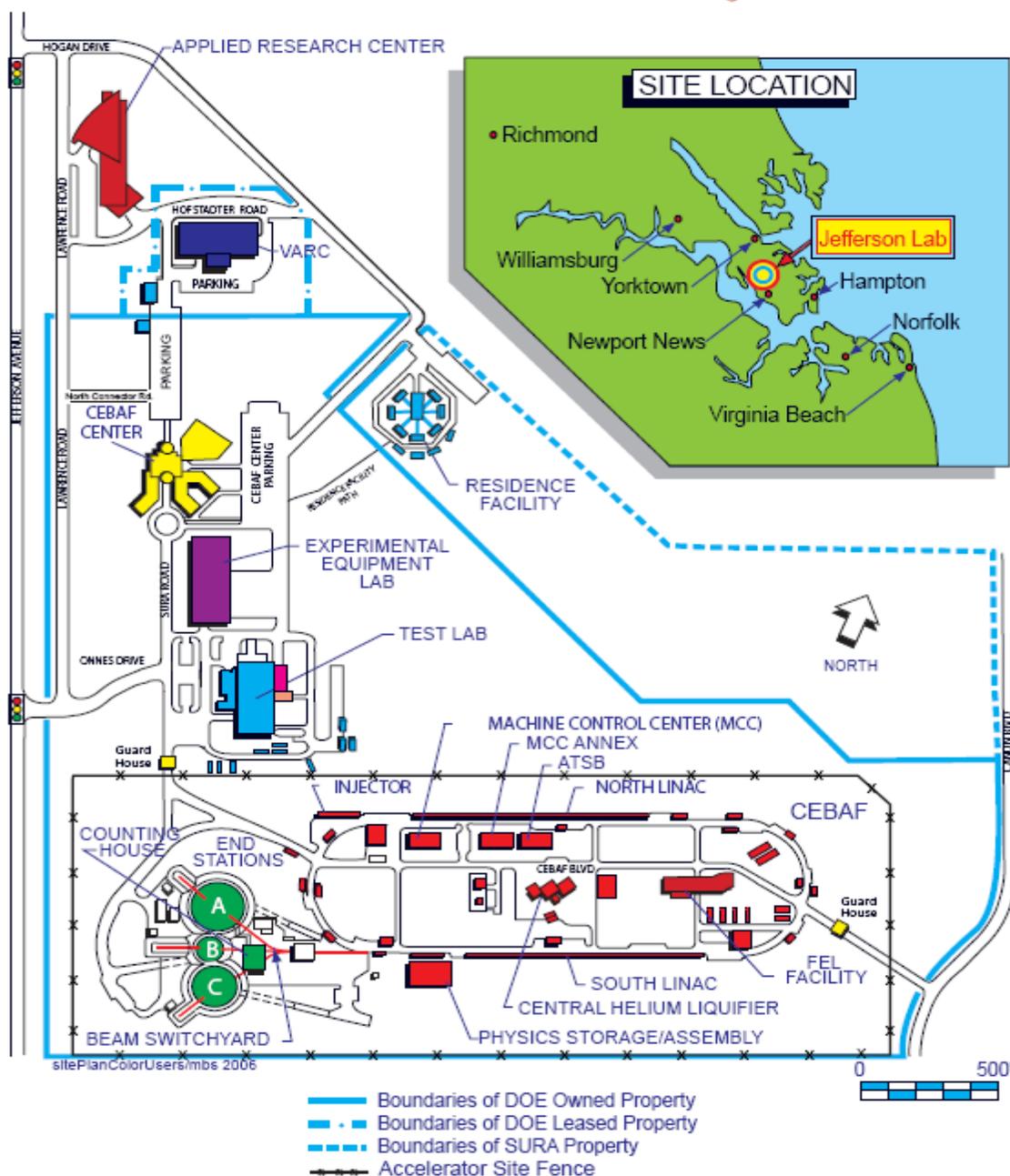
- JLab acts as a microscope to allow us to look into the inner structure of the nucleus
- The heart of JLab is its ~6 GeV (billion electron volt) electron accelerator

JLab Overview (cont)

- \$80M operating budget
- 650 Staff
- 1150 users
- 200 subcontractors
- ~25% of U.S. PhDs in nuclear science over last decade

Site Plan

- 169.5 acres
- 801,704 sq. ft. buildings and facilities
 - Combination of owned and leased space
- Daily site population of ~1,000 with 300 users on site each month



JLab Site



Experimental Halls

Hall A



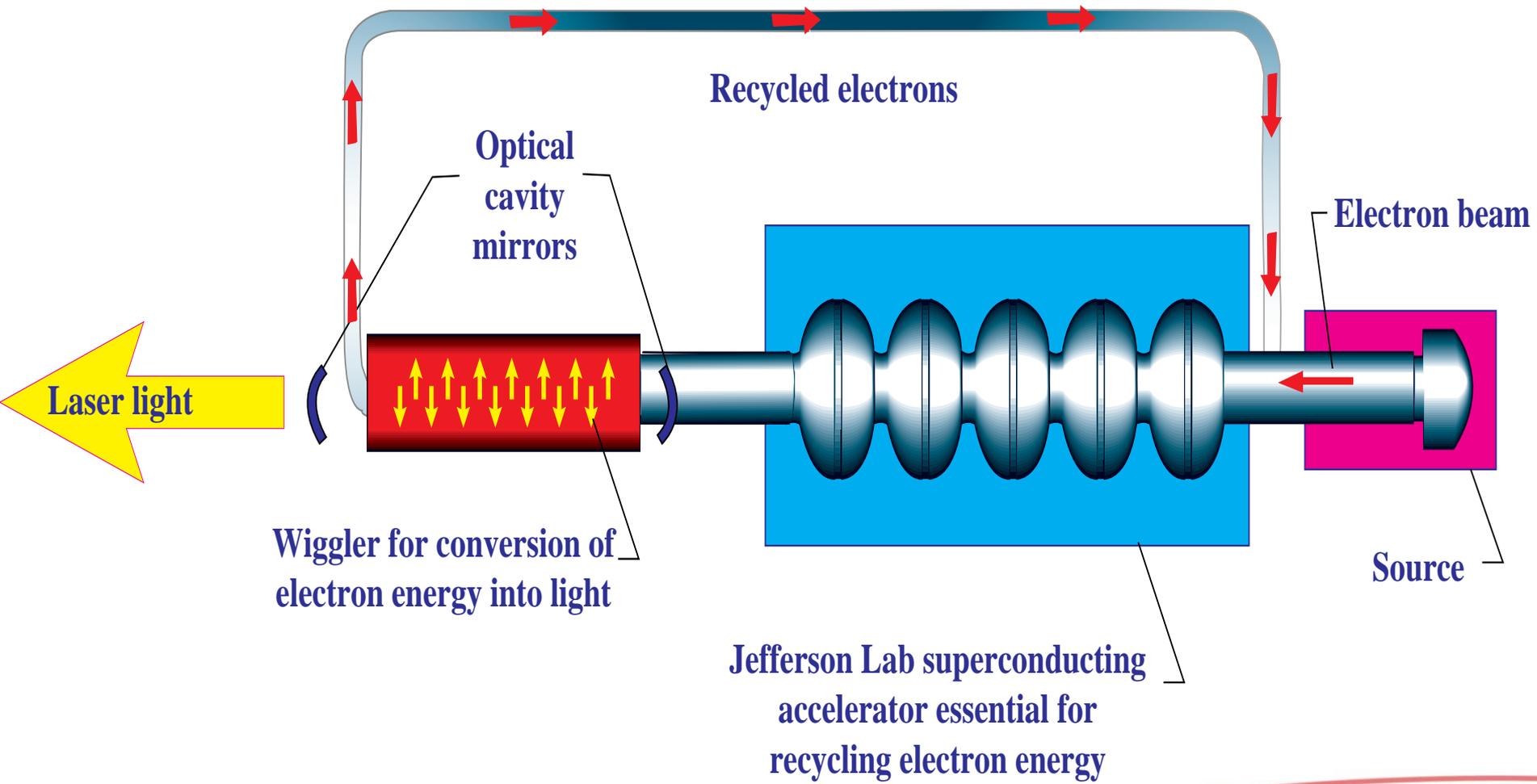
Hall B



Hall C



Free Electron Laser



JLab History

- Southeast Universities Research Associates (SURA) designed, built and operated JLab (1983-2006)
- Jefferson Science Associates (JSA) - Joint venture of SURA and Computer Science Corporation (CSC), assumed control in June, 2006

Hazards

- Low hazard, non-nuclear facility
- Oxygen deficiency
- Electrical
- Radiation (ionizing and non-ionizing)
- Elevated
- Hazardous chemicals (including Hydrofluoric Acid)

Safety Program Initiatives

- In late 2004, the JLab Director decided to improve both the safety infrastructure and culture at JLab
- JLab and TJSO worked together to establish new processes and procedures under the umbrella of Integrated Safety Management (ISM)

Safety Program – Worker Focused

- 11 standing committees either controlled or with representation of floor workers
 - Director’s Safety Council
 - Worker Safety Committee
 - Electrical Safety Committee
 - Lessons Learned Committee
 - Environmental Management System Committee
- Safety Wardens instituted (75+ trained workers)

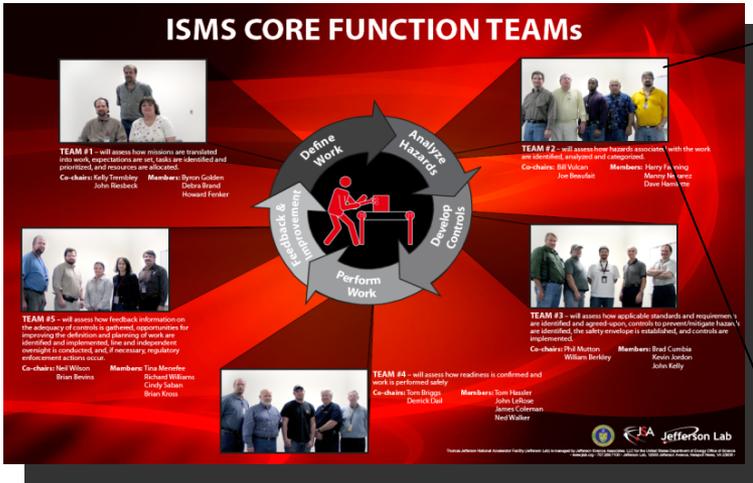
Resulting Challenges

- Misalignment of implementation and attitudes – senior management, middle management, first line supervisor, staff
- Poor communications, which lead to perceptions:
 - “Adds paper, not safety”
 - “We do this to satisfy Safety staff and auditors”

Worker Based Assessments

- 12 month preparation effort prior to HSS inspection
- Worker led self-assessments, corrective action design & implementation
- Use of standing committees, Safety Wardens and focused work teams

Program Self Assessment Worker Involvement



TEAM #2 – will assess how hazards associated with the work are identified, analyzed and categorized.

Co-chairs: Bill Vulcan **Members:** Harry Fanning
Joe Beaufait Manny Nevarez
Dave Hamlette

Assessment Results

- Core Function Teams identified significant issues with JLab work planning & control systems from the worker perspective:
 - Workers unsure when formal work packages were required
 - Workers unsure when formal task hazard analysis needed to be completed
 - Workers unsure when to involve ES&H staff in task planning
 - Task hazard analysis efforts were inconsistent

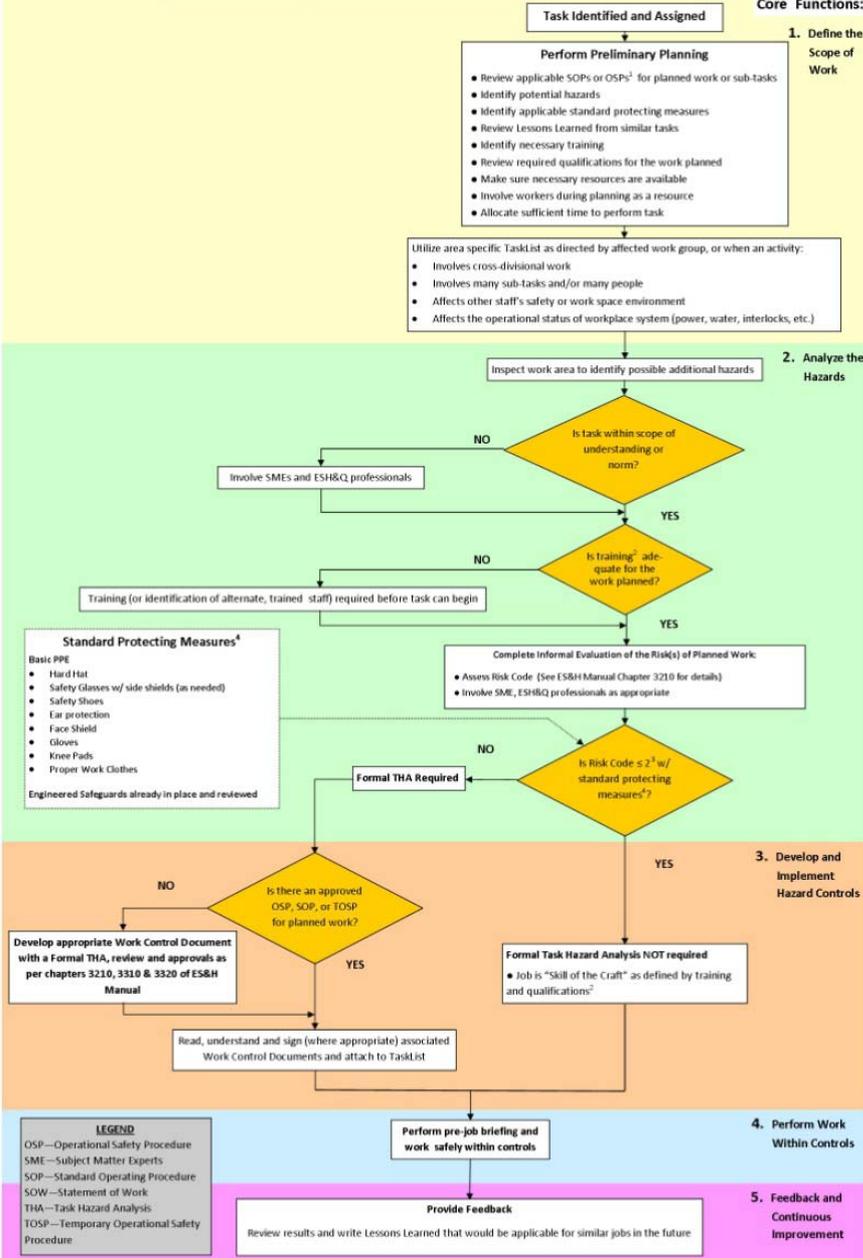
Worker-Led Gap Closure

- Workers removed from their jobs and assigned full time to addressing the problem
- Solutions included:
 - Revised training materials re THA
 - Revised training materials re ISM
 - New procedure and tool clarifying the issues regarding task planning and execution

Worker Designed Innovation

WORK PLANNING, CONTROL AND AUTHORIZATION FLOW DIAGRAM

Core Functions:



1- OSPs and SOPs must be approved and current to be considered valid
 2- Training: Equipment Specific, Area Specific or Functional or Technical Competencies
 3- When RC =2, worker and supervisor will meet to discuss associated hazards before task can begin
 4- As per Chapter 3210 of ESH Manual

06/13/09

← Clarifies when formal work packages were required

← Clarifies when formal task hazard analysis needed to be completed

← Clarifies when to involve ES&H staff in task planning



Other Worker-Led Gap Closure Activities

FOCUS AREA	ACTIVITIES
Work Planning & Control	<ul style="list-style-type: none">✓ Improved workers' understanding of the Lab's graded approach to task hazard analysis and work package development✓ Created central access point to all electronic work planning tools✓ Implemented an improved employee job task hazard analysis process
Feedback & Continuous Improvement	<ul style="list-style-type: none">✓ New JSA Corporate Operating Experience, Feedback & Lessons Learned Procedure✓ Expanded Lessons Learned Coordinator program throughout the Lab✓ Improved electronic work planning tools to better collect and utilize lessons learned
Document Management	<ul style="list-style-type: none">✓ Developed a Lab wide approach to the production and control of documents✓ Improved accessibility to all controlled documents across JSA organizations

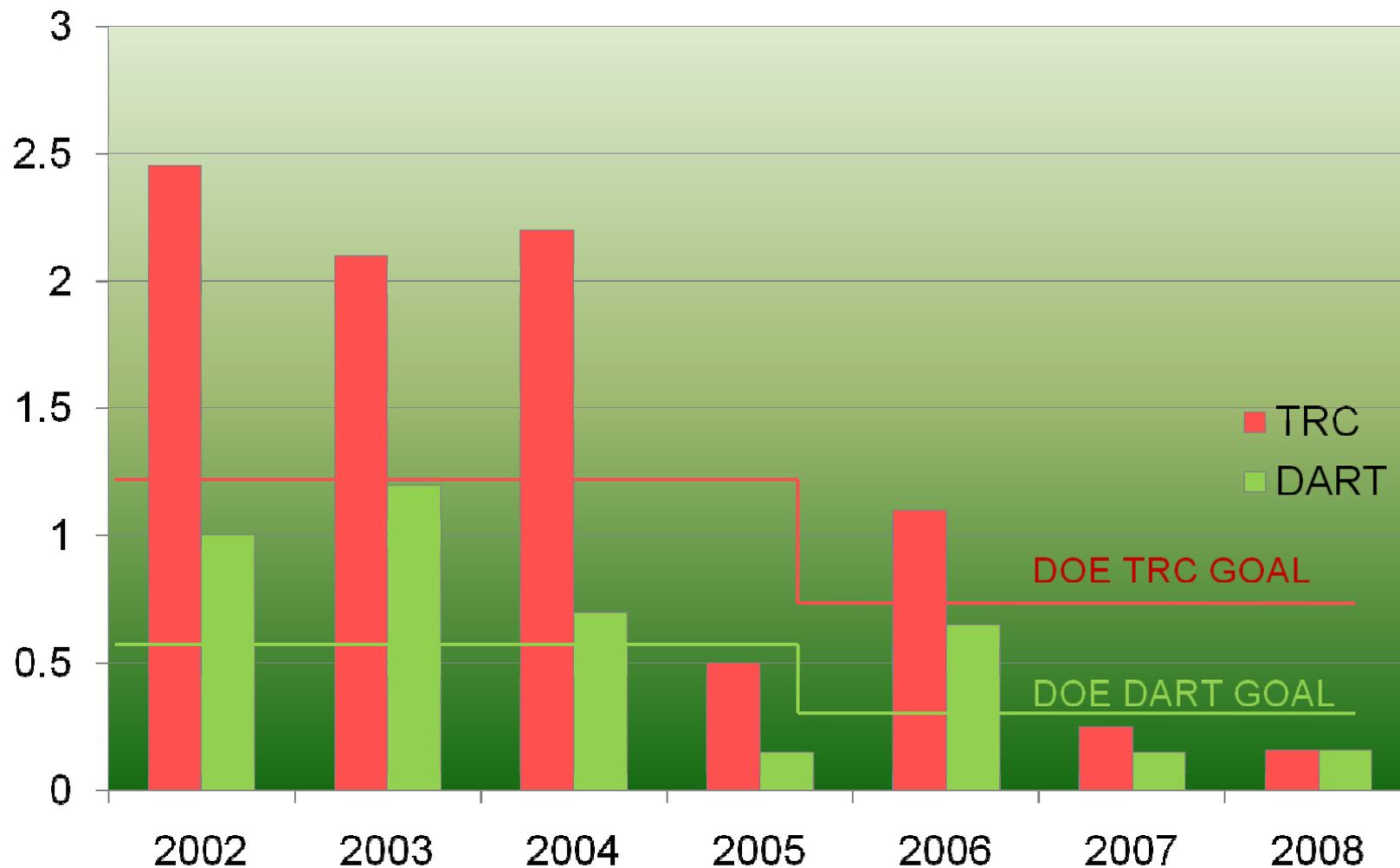
Worker-Based Program Management & Improvement



Benefits & Results

- 100+ floor level and first line supervisors gained in-depth understanding of ISM principles, practices and benefits and inspection preparation efforts:
 - Served as “ISM Ambassadors” to co-workers and supervisors
 - Provided worker level insight and calibration to program improvement initiatives
 - Force multiplier during constrained budget period
 - Took ownership and pride in inspection results
 - Reduced worker level anxiety regarding interaction with inspectors

JLab Injury History



Benefits & Results

- HSS Inspectors interfaced with trained, motivated, and self-assured workers
 - Understood the ISM jargon
 - Anticipated the types of questions they might receive
 - Anticipated the programmatic documentation necessary to satisfy the inspectors
 - Took ownership of their workspaces

Benefits & Results

- HSS reports that 11 of 13 areas inspected demonstrated “Effective Performance”
- No Significant Weaknesses

Summary

- Employee driven – management & ES&H supported ISM program
- Simple & unified worker-friendly tools that allow employee to work safely

Questions?