

Environment, Safety and Health at BNL

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BROOKHAVEN
NATIONAL LABORATORY

a passion for discovery



U.S. DEPARTMENT OF
ENERGY

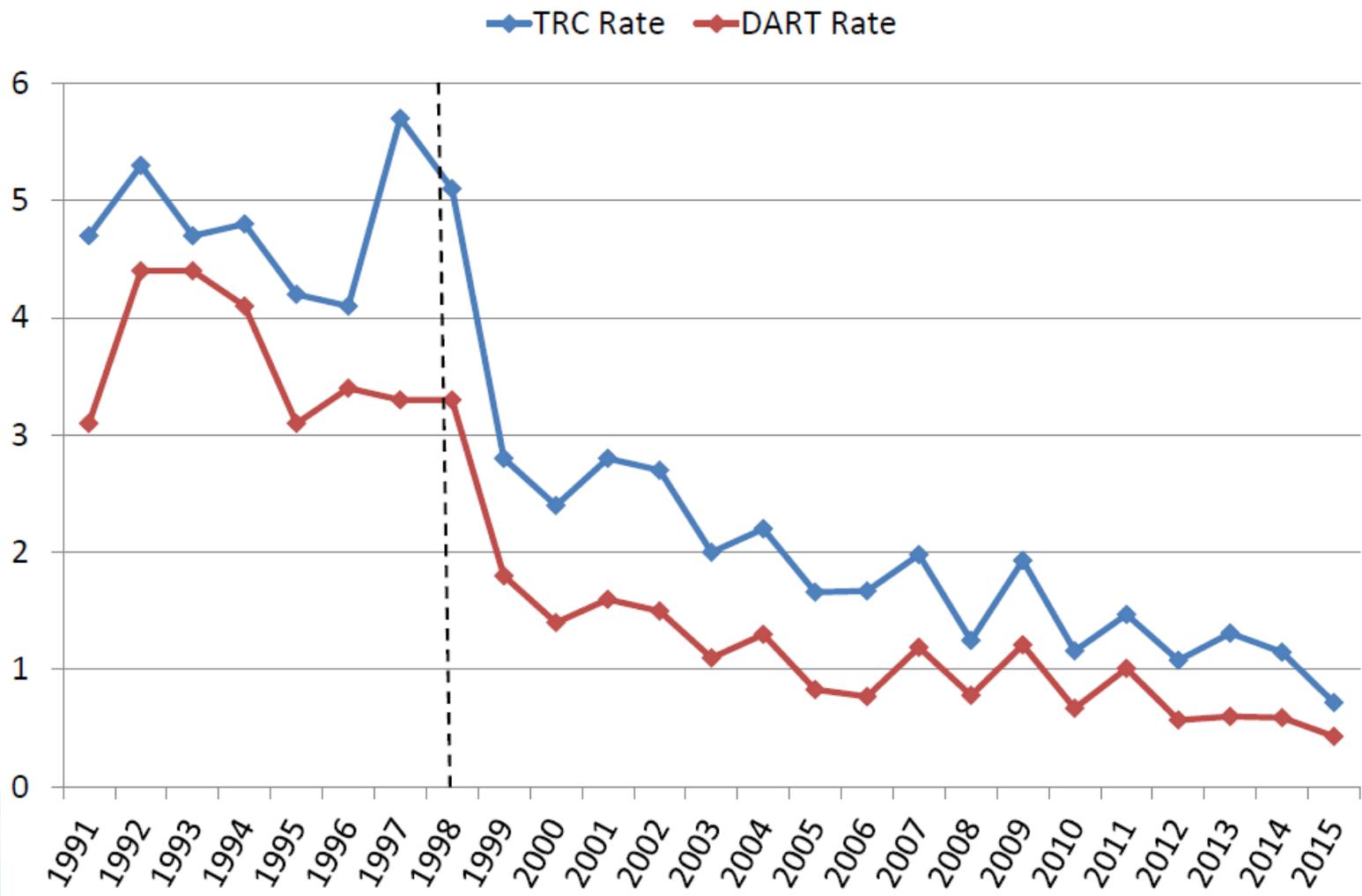
Office of
Science

Agenda

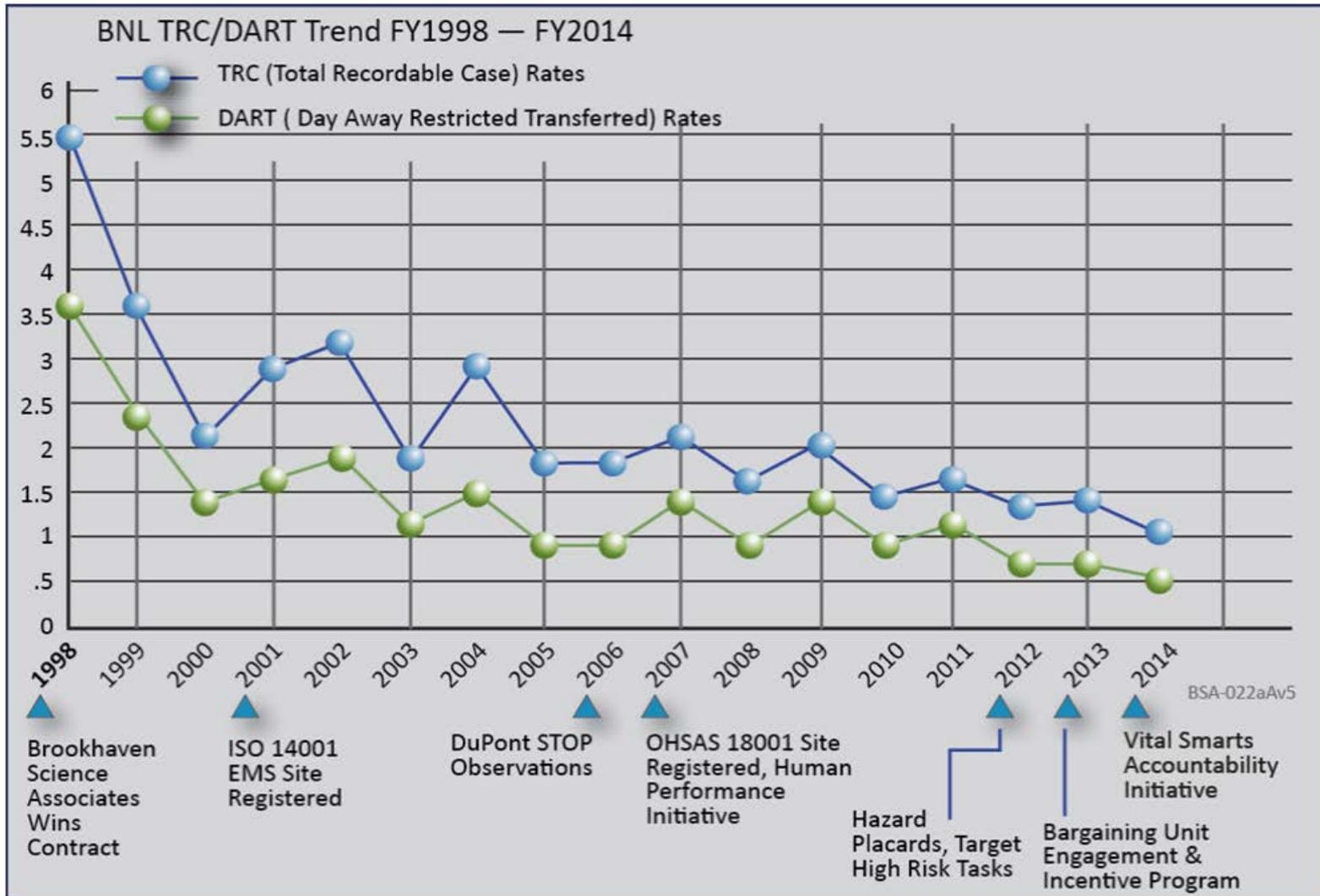
- Safety Efforts Since 1998; Historical and Current Statistics
- Where Do We Want To Be and FY15 ES&H Goals
- What Do We Have To Do To Get There?
- Accountability Initiative
- Top 3 Injury Types at BNL
- Safety Conscious Work Environment Training
- Build On Past Safety Initiatives
- How Do We Know We Are Making Progress?

Historical Injury Rate Data

FY 1991 Through FY 2015 TRC and DART Rates



Results of Safety Efforts Since 1998



Results of Safety Efforts Since 1998

Since BSA took over the BNL contract, there has been a significant improvement in safety awareness as documented by the continuous improvement in rates. These improvements are a result of a series of successful initiatives:

2001 - ISO 14001 EMS Site Certification

2006 - DuPont STOP Observations

2007 - OHSAS 18001 Site Certification

2007 - Human Performance Initiative

2012 - Posting of Hazard Placards

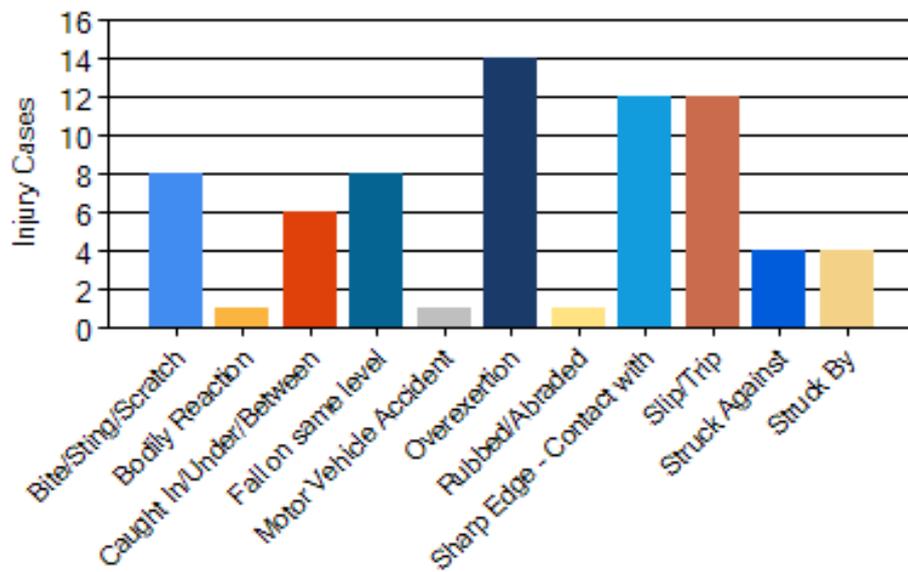
2012 - Safety Targets High Risk Tasks

2013 - Introduction of the IBEW Engagement & Incentive Program

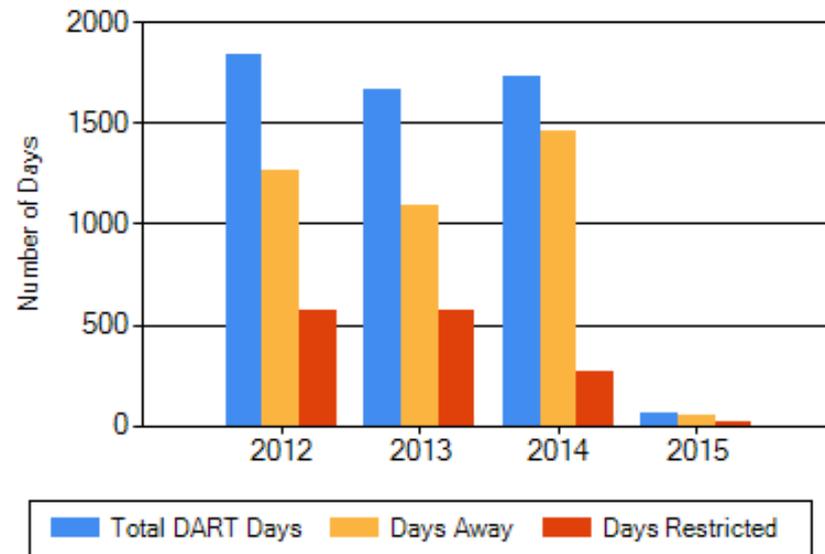
2014 - Commencement of the Vital Smarts Accountability Initiative

Safety Statistics

FY2014 Injuries by Injury Cause



Injury Impact on Productivity



Fiscal Year	2012	2013	2014	2015
Total DART Days	1845	1665	1732	66
Days Away	1268	1092	1459	51
Days Restricted	577	573	273	15

Current State

- Top injuries – still seeing injuries in material handling, slip/trip/falls and lacerations
- Some Attitudes – “Safety is the responsibility of ES&H”; “Safety encumbers research and innovation with unnecessary requirements”
- Solutions-oriented service – ES&H staff need to focus more on finding reasonable solutions vs. ‘policing’
- Reprioritize funds to make many areas safer – a number of projects that would provide for safer working environments are – ladders, manholes, deteriorating buildings, and lab re-designs
- Environmental compliance – fairly good condition

Where do we want to be?

- Want everyone to understand that safety and compliance is their responsibility
- Would like all BNL staff to view safety as mission-enabling
- Safety and compliance should be an integral part of operational excellence
- ES&H staff are considered essential components of high functioning science and support organizations

FY15 Directorate Goals

Provide an Efficient and Effective Worker Health and Safety Program

- Continue efforts on safe work practices and case management, which have been instrumental in improving injury rates.
- Expand utilization of the existing tools (for example the hazard validation tool, ES&H surveillance cards, etc.) to enhance the identification and management of hazards.
- Continue to drive campaigns that address the top three injury types: Slip/Trip/Falls, Overexertion, and Lacerations.
- Continue to reduce the radiological effective dose through upfront input on design & modifications, more consistent posting and labeling and Radiological Awareness Reports.

What do we have to do to get there?

- **Ensure that safety and compliance are incorporated in other Lab-wide efforts like the Accountability Initiative, as appropriate**
- **Focus on the top three types of injuries**
- **Follow-up with training on the communication tools introduced in the Safety Conscious Work Environment (SCWE) course**
- Incorporate safety into employee's performance expectations
- Continue to encourage examples of solutions-oriented service
- Seek out ideas for continuous improvement and provide the support and resources to implement the changes
- **Build on past safety initiatives and continue with those efforts that have proven to be successful, like HPI, Safety Day and the “How I Improved Safety at BNL” campaign**

A Culture of Accountability

Our Goal: Sustained Improvement in Operational Excellence

- A workplace where everyone strives to:
 - Produce and support science of the highest possible impact and that address the most critical challenges and needs
 - Create the greatest value for our customers, collaborators and partners
 - Establish an outstanding reputation for the laboratory and our staff

A shared sense of purpose where teamwork, problem-solving, accountability and leadership result in ongoing improvement within our organization.

Accountability is...

- Owning and delivering the work at all levels
- Expecting others to own and deliver the work throughout the organization
- Doing what we say we will do



Specifically with regards to safety, this means being accountable for:

- One's own safety, i.e. honestly evaluating risks, following procedures, and using the appropriate protective equipment
- As well as, looking out for the safety of your co-workers and speaking up if you see something that is hazardous

A Culture of Accountability

This requires:

- Understanding when individuals are highly accountable and where obstacles to accountability exist
- Leaders who:
 - Serve as role models for operational excellence and create an atmosphere of trust and respect
 - Are engaged with strong ownership of systems, tools and performance
 - Hold those reporting to them accountable for performance and compliance
- Employees who hold themselves and others accountable and are willing to freely and respectfully speak up – especially regarding safety

Addressing the Top 3 Injury Types

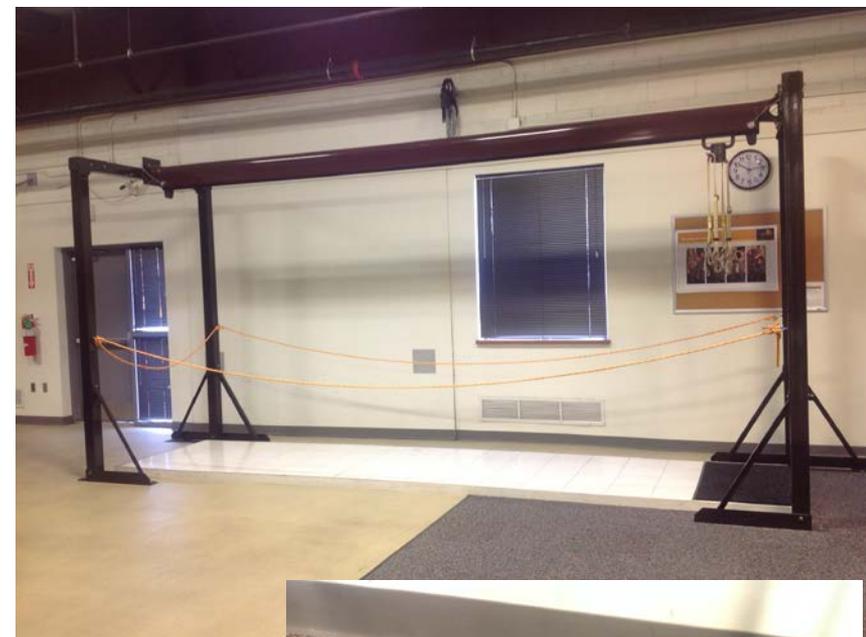
- Slip/Trip/Falls accounted for 32% of the injuries in FY14 at BNL
 - So far, slip/trip/falls account for 26% in FY15
- Lacerations accounted for 22% of the injuries in FY14
 - So far, lacerations account for 11% in FY15
- Ergonomics/Material Handling injuries accounted for 17% of the injuries in FY14
 - So far, ergo/material handling account for 21% in FY15

Slip Simulator

- 5,000 employees trained at Los Alamos showing significant improvement
- UPS - train all new drivers with the goal of reducing their slip/trip/fall rate by 20%. They achieved a 70% reduction.

Four Basic Slip/Trip/Fall Prevention Principles:

- Keep your head over your shoulders when you walk
- Keep your shoulders aligned vertically with your hips when you walk (walk straight)
- Walk flat footed
- Take short strides



Slip Simulator

- Our slip simulator was installed in early December and training was administered to Level I Managers on Friday, December 19th.



Reduce Lacerations

Issue: Cuts to hands and upper extremities are one of the leading causes of injuries at BNL. A program was initiated in FY14 to raise awareness of safer tools, personal protective equipment, and preventive techniques.



Path Forward

- Hold demonstrations of laceration prevention equipment (e.g., safe knives and cut-resistant gloves).
- Conduct a campaign for sharps awareness in R&D.
 - Safety Day, PPE Exposition Day, Weekly PPE Demo Room, ESH Coordinators' meeting, Small Science lecture and demo, Joint Safety Operations Council meeting
 - Product trials of cut-resistant gloves conducted with Storeroom staff and F&O Electricians
- Develop electronic surveillance checklist and train staff in use.
 - Line organizations conduct surveillances and safer cutting device evaluations.
 - Completed and rolled out to line organizations

Reduce Material Handling Injuries

Issue: Material Handling is one of the highest causes of injuries. The Material Handling initiative provides evaluations of high-risk workers and task-specific training, and assesses alternative procedures and equipment to reduce potential for injury.

Path Forward:

- Continue to observe high-risk tasks and reinforce proper handling techniques with supervisors and workers.
- Conduct periodic reviews of injury statistics to identify high-risk groups that need re-training.
- Conduct formal evaluations of routine manual lifting tasks to assess use of mechanical lifting devices and other procedural changes.
- Provide feedback to supervisors & workers
- Completed: Motor Pool, HEMO, Rigging, Grounds & Sanitation Group, Custodians, Carpenters, Mail Room, Fabrication Shop, Steam Fitters, Electricians, SHSD
- Remaining: Water Treatment, Steam Facility
- Feedback: Extremely positive by workers, supervisors, and observers (OMC, F&O, and ESH staff)



Safety Conscious Work Environment Training



Department of Energy
National Training Center

“The purpose of this course is to provide Safety Conscious Work Environment (SCWE) training for Department of Energy (DOE) Federal and contractor senior leaders on the importance of establishing and maintaining an open and collaborative work environment within the department. This course will provide knowledge that will help senior leaders create an environment where employees feel free to raise concerns without fear or retribution. This course will provide senior managers with a clear understanding of their roles, responsibilities, accountability, and authority in developing and sustaining an open and collaborative work environment.”

Safety Conscious Work Environment Training



Department of Energy
National Training Center

- 8 hour DOE instructor-led course provided to 76 BNL and BHSO senior management over the course of three days: September 30 - October 2, 2014 and included IBEW representatives
- Learned about several tools that can be used to improve communications and effective problem solving
- Used role playing to work through difficult worker-management interaction scenarios with safety issues
- Will be conducting additional onsite training focused on the use of these tools with employees at all levels
- Also incorporating some critical aspects into Supervisory Training

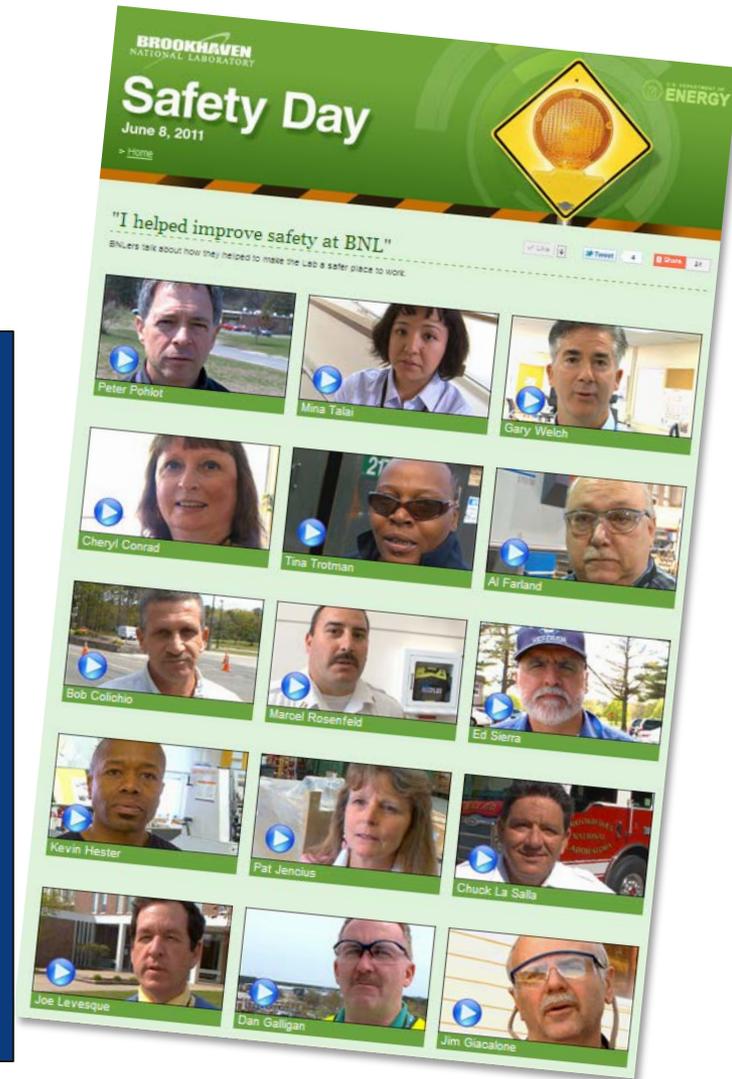
Safety Communications

- Continue to highlight safety “success” stories
- Stay on top upcoming issues; engagement/accountability/role modeling; material handling/ergonomics; work planning; and safety culture.
- “How I Helped Improve Safety at BNL”
- Site-wide BNL Safety Day– now in its 6th year
 - Continues to enjoy a high level of participation and positive feedback.
 - Focus areas include proper work planning techniques, emergency preparation, driving safety, and ergonomic awareness.

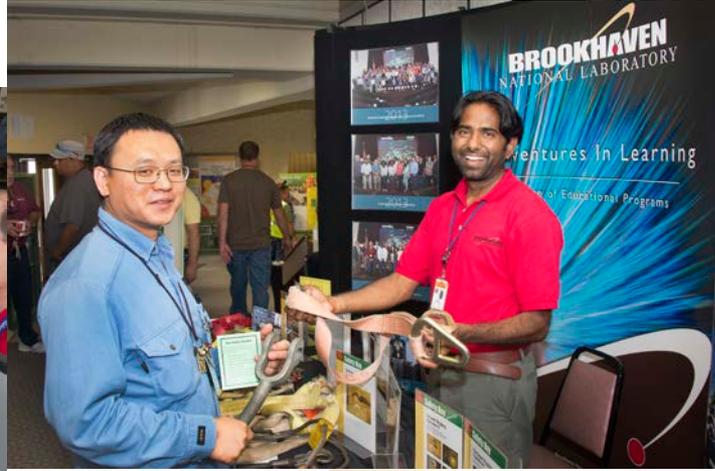
All efforts are undertaken with the goal of evolving the “safety culture” at BNL. Integral change requires all employees embrace “safety” as a basic and universal value and underlying approach to their work.

Safety Culture

“I Helped Improve Safety at BNL”



Safety Day – To Increase Safety Awareness



How do we know we are making progress?

- The leadership openly and consistently embrace the same messages regarding safety and performance expectations
- All BNL employees will have safety goals against which their performance will be evaluated annually
- Science and support staff openly notify supervisors about safety issues and incidents so that they can be quickly and appropriately addressed to prevent future injuries and shared as lessons learned
- All BNL employees view themselves as part of the safety team and provide suggestions for improvement
- Everyone is accountable for their safe performance as well as that of their co-worker
- DART and TRC rates will continue to improve