

SAFETY WORKS FOR EVERYONE

ESH Coordinators & Reps

Meeting

12/5/02

Otto White

Safety and Health Services

Recordable Cases, Lost Work Cases & Lost Workdays 9/01/01 – 10/31/02

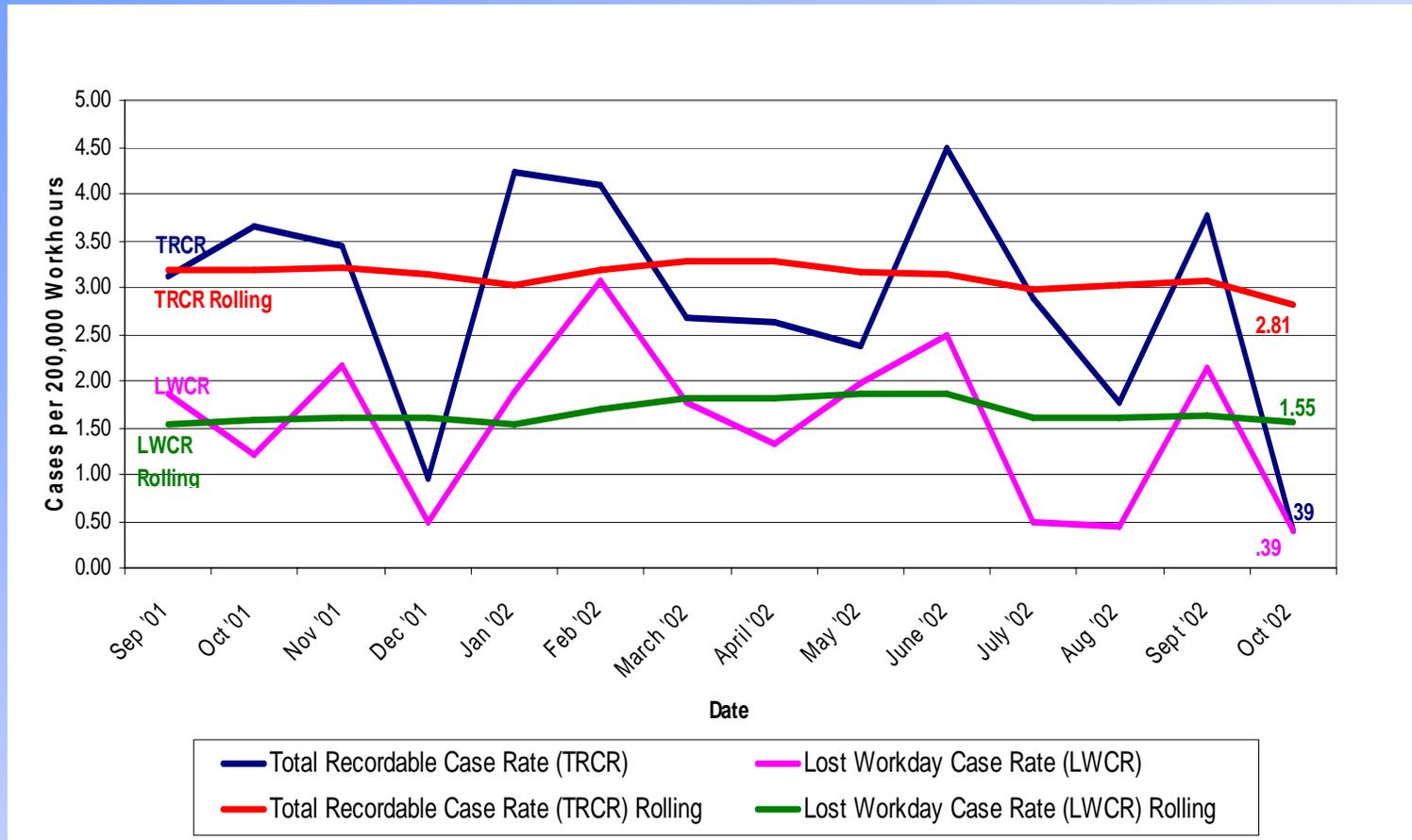
Month	Recordable Cases	Lost Work Cases	Lost Workdays	Workhours	TRCR	LWCR	LWDR	TRCR Rolling	LWCR Rolling
Sep '01	5	3	34	321,106	3.11	1.87	21.18	3.19	1.54
Oct '01	9	3	168	492,692	3.65	1.22	68.20	3.18	1.59
Nov '01	8	5	181	464,729	3.44	2.15	77.89	3.22	1.59
Dec '01	2	1	105	418,232	0.96	0.48	50.21	3.15	1.60
Jan '02	9	4	187	425,852	4.23	1.88	87.82	3.02	1.53
Feb '02	8	6	187	390,527	4.10	3.07	95.77	3.20	1.71
March '02	6	4	371	449,757	2.67	1.78	164.98	3.28	1.82
April '02	6	3	81	456,624	2.63	1.31	35.48	3.27	1.82
May '02	6	5	168	504,996	2.38	1.98	66.54	3.15	1.86
June '02	9	5	151	400,522	4.49	2.50	75.40	3.14	1.87
July '02	6	1	70	416,621	2.88	0.48	33.60	2.98	1.60
Aug '02	4	1	26	454,210	1.76	0.44	11.45	3.02	1.60
Sept '02	6	2	19	372,253	3.76	2.15	10.21	3.08	1.62
Oct '02	1	1	1	515,864	0.39	0.39	0.39	2.81	1.55

TRCR – Total Recordable Case Rate
LWDR – Lost Workday Rate

LWCR – Lost Workday Case Rate
Rolling – 12 Month Rolling Average

Source: BNL OSMIS

Monthly TRC and LWC Rate (Brookhaven National Laboratory) *



* Data as of October 31, 2002. All data from BNL OSMIS.

12 Months Org. Units Scorecard (10/31/02)

Organization	Occupational		LWC	WDL	WDLR	WC Cases	Open Investigation	Date of Last LWC*
	All Cases	TRC						
Collider Accelerator	26	8	4	46	155	14	0	6/14/02
Magnet Division	7	3	1	41	84	5	0	5/1/02
Information Technology Division	3	2	0	0	0	3	0	7/19/01
Business Systems Division	0	0	0	0	0	0	0	A
Biology Department	4	1	1	8	32	1	0	2/11/02
BNL Directorate – All Units	4	3	0	0	0	3	0	A
Budget Office	0	0	0	0	0	0	0	A
Chemistry Department	5	2	2	26	0	3	0	1/2/02
Diversity Office	0	0	0	0	0	0	0	A
Department of Environmental Sciences	2	0	0	0	0	0	0	A
Emergency Services Division	3	0	0	0	0	1	0	9/19/00
Plant Engineering	58	24	15	518	174	30	0	8/6/02
Environmental Restoration Division	4	2	1	1	0	3	0	3/21/02
Environmental Services Division	1	1	1	105	0	1	0	12/3/01
Fiscal Services Division	1	1	1	1	0	1	0	4/16/02
Safety & Health Services Division	1	1	1	1	0	1	0	2/12/02
Internal Audit Office	0	0	0	0	0	0	0	A
Information Services Division	0	0	0	0	0	0	0	A
Instrumentation Division	1	0	0	0	0	0	0	A
Legal Office	0	0	0	0	0	0	0	A
National Synchrotron Light Source	4	2	2	1	7	4	0	2/13/02
Dept. Material Sciences	0	0	0	0	0	0	0	A

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	All Cases	TRC						
Medical Department	3	0	0	0	0	2	0	A
Energy Science and Technology Department	3	0	0	0	0	2	0	A
Nonproliferation and National Security Department	0	0	0	0	0	0	0	A
Occupational Medicine Clinic	1	1	1	65	0	1	0	11/27/01
Office of Independent Oversight	0	0	0	0	0	0	0	A
Community Education, Government and Public Affairs	2	1	1	1	0	1	0	10/22/02
Human Resources Division	2	1	0	0	0	2	0	6/9/00
Physics Department	7	3	1	9	14	4	0	6/21/02
Procurement and Property Management	3	3	2	31	92	3	0	6/26/02
Quality Programs and Services Office	0	0	0	0	0	0	0	A
High Flux Beam Reactor	0	0	0	0	0	0	0	7/19/00
Radiological Controls Division	6	1	0	0	0	1	0	8/24/01
Standard Based Management System Office	1	0	0	0	0	0	0	A
Central Shops Division	13	8	3	99	15	10	0	9/5/02
Safeguards and Security Division	9	3	3	9	12	5	0	9/20/02
Staff Services Division	11	3	2	4	0	6	0	6/13/02
Office of Intellectual Property & Industrial Partnerships	0	0	0	0	0	0	0	A
Training Office	0	0	0	0	0	1	0	A
Waste Management Division	6	1	0	0	0	3	0	11/6/00
Non-Employee	0	23	N/A	N/A	N/A	N/A	N/A	N/A
Total	238	86	43	937	682	97	0	

FY03 Contract Performance Measure Occupational Safety & Health Statistics

For FY03, BNL's LWCR will improve its performance to within 20% of the DOE Research Contractors Average for CY2002 (Ex. If DOE_Research Contractors LWCR Average for CY2002 is 1.0, BNL must improve its LWCR performance to 1.2).

Metric: BNL LWCR for FY03 will be rated "Outstanding", if the Laboratory LWCR is equal or better than 120% of the DOE Research Contractors Average for CY2002. If BNL equal or exceed this goal, BSA will receive 100% of the management fee attached to this measure. If BNL fail to reach the 120% goal but is within 140%, BSA will receive 50% of the management fee attached to this measure. If BNL fail to reach the 140%, BSA will receive 0% of the management fee attached to this measure.

How Did We Get Here?

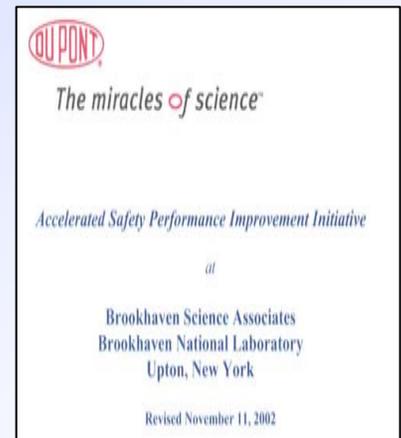
A Comparison FY00 Vs FY02

	FY00	FY02	Org. Units with Key Changes
All Cases	282	238	CS (-16), PPM (-10), SS (-10)
Rec. Cases	63	86	PE (+16), ESD (+3)
LWC	35	43	PE (+8)
LWD	769	937	PE (+450), ESD (+105), ESD (-202), SS (-72)
LWDR	317	682	PE (+262), AM (+72), PPM (+64), SS (-88)
WC Cases	115	97	

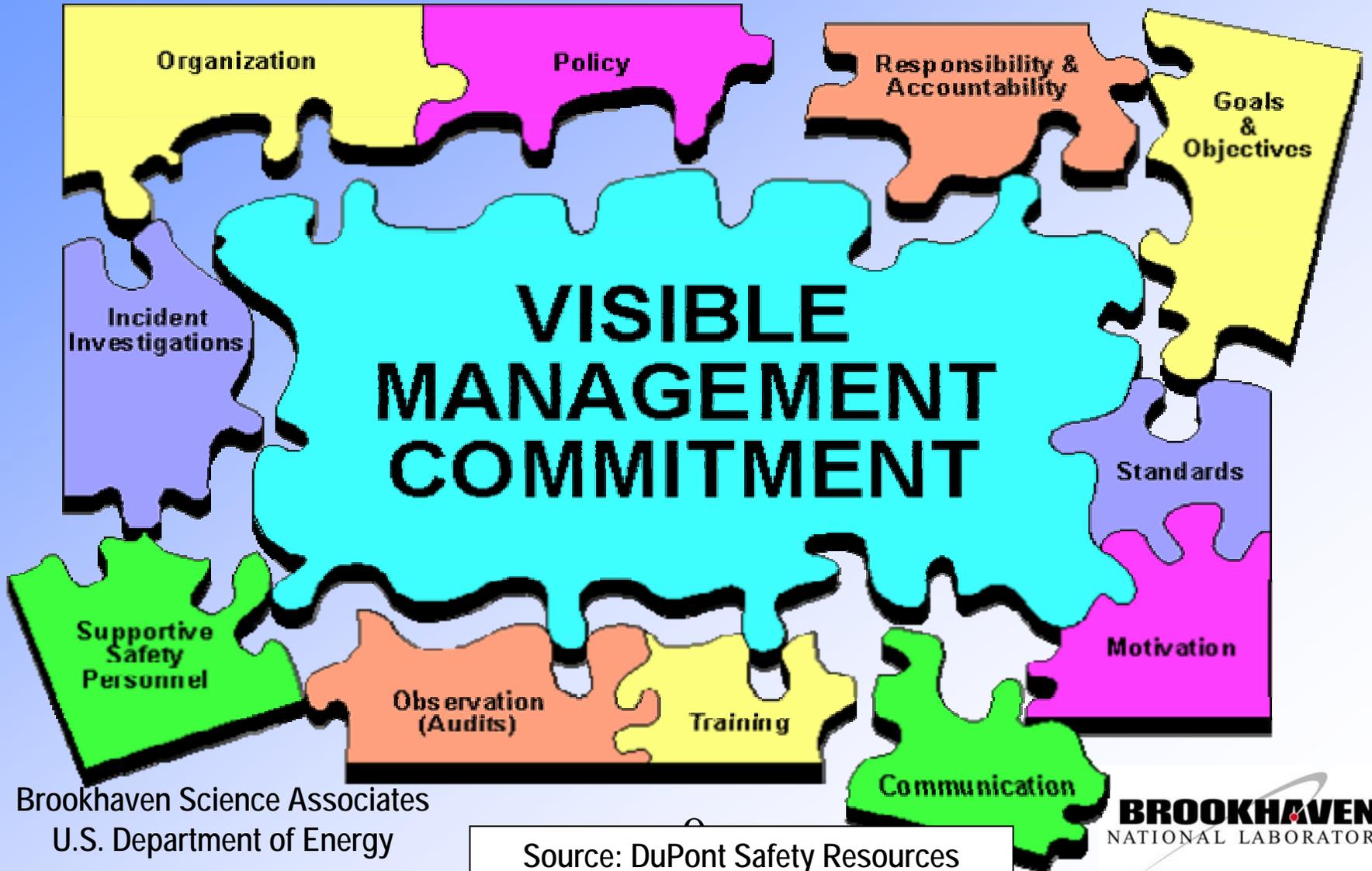
DuPont Safety Resources (DSR) Proposal

DSR Support has been solicited to provide immediate and sustainable improvement in BNL Occupational Injury Experience.

- DSR visited BNL 3 times
- DSR Prepared a Phased Proposal
 - 1st Phase: Benchmarking, On Site Analysis, Interviews, etc.
 - 2nd Phase: Develop Plans & Conduct Leadership Workshop
 - Cost for Phases 1 and 2: \$56K
- Decision on DSR Proposal under Review
- DSR Received Very Favorable Comments from other SC Labs
- Key Deliverables: Summary Report of BNL Gap Analysis
 - Prioritized List of “Early Win” Targets
 - Detailed Program Plan & Specific Action Plan



DuPont Best Practices in Safety

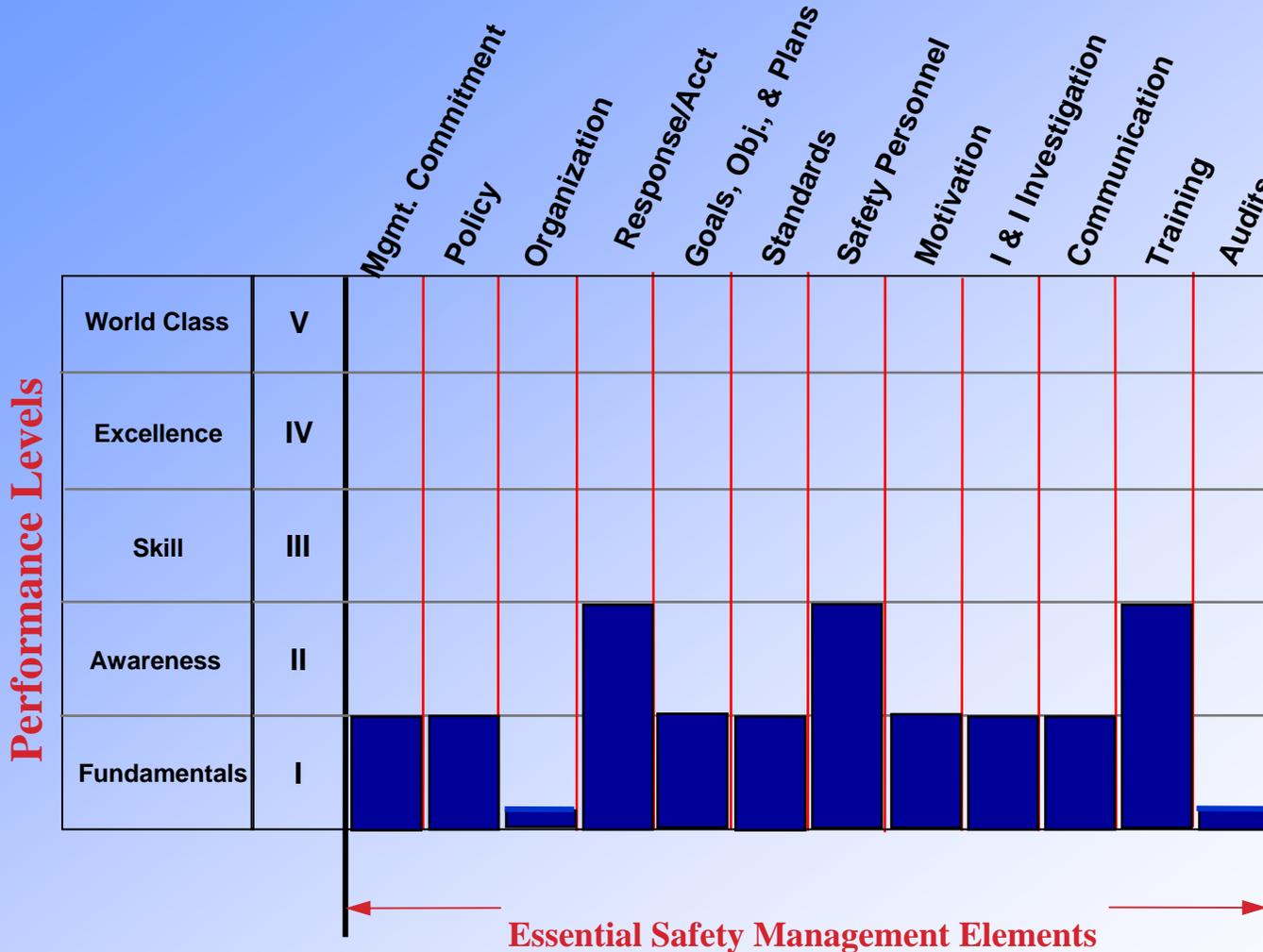


Brookhaven Science Associates
U.S. Department of Energy

Source: DuPont Safety Resources

BROOKHAVEN
NATIONAL LABORATORY

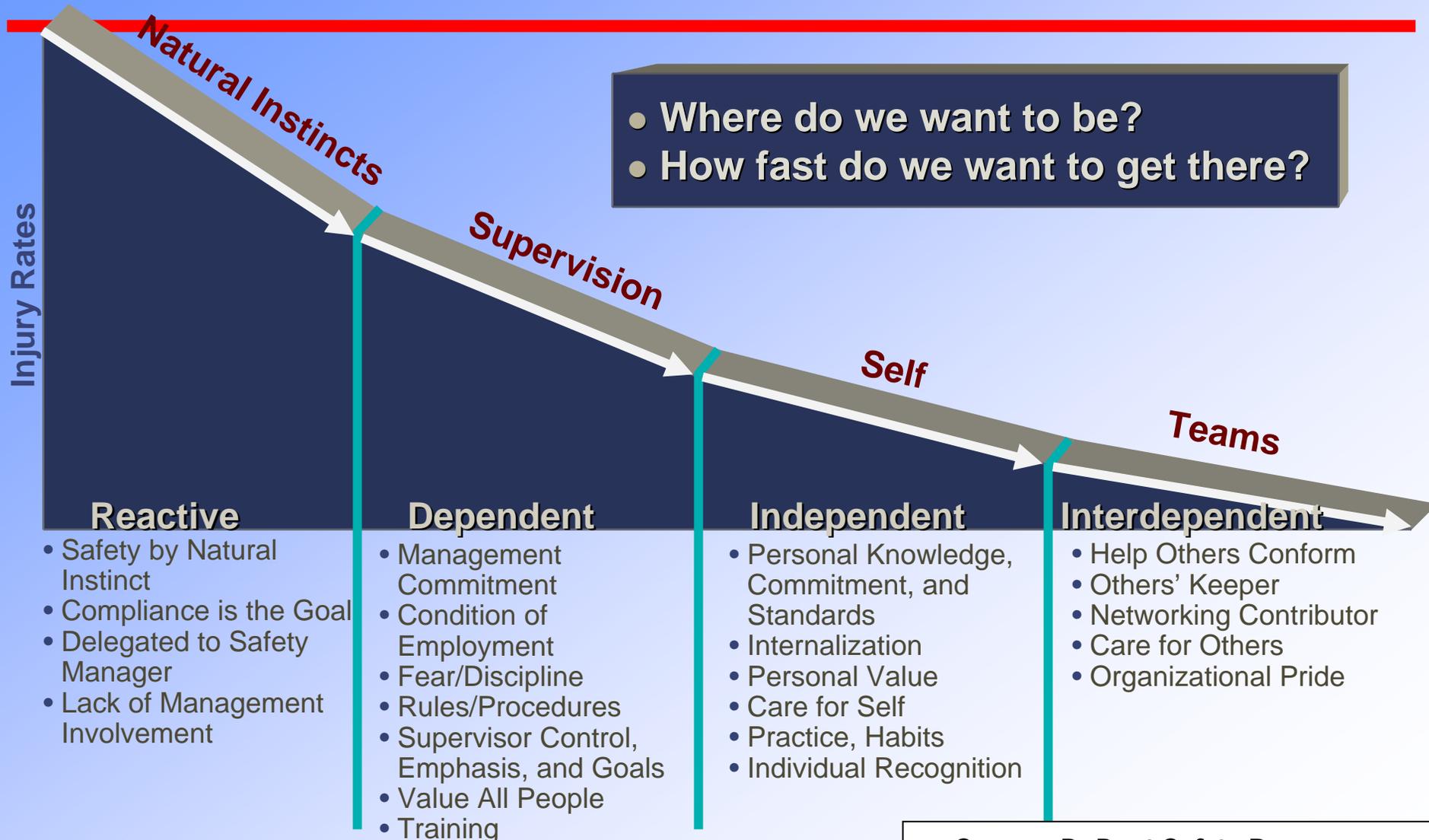
Assessment Framework



All BNL org. units will be reviewed.

Focused Review of 2 units with largest OI contributions.

WHERE IS BNL ON THIS CURVE?



OSHA Transition Costs for “Full Compliance”

Process:

Identify “Full Compliance” Gaps with Sample OSHA Type Inspections

Capture Fire Protection Costs

Capture Un-funded Legacy Facilities Costs

Capture Programmatic Costs

Capture Compliance Maintenance Costs

OSHA Type Inspections

Process:

Train Inspection Teams on OSHA 25 Most Cited

Select 2 Teams (2IH's and 2 SE's Plus LM Specialist)

ID Types of BNL Facilities for Sample Set

Select Sample Facilities

Conduct Inspections

Estimate Cost for Sampled Facilities

Extrapolate Cost for Entire Site

OSHA Type Inspections

Results:

Only 15 of BNL 400 facilities inspected

Types of Facilities: Labs, Shops, Hi-Bays, Big Mac's, Ind. Ops., S&T Shops

Types of non-compliance to OSHA Standards:

Programmatic = 372, Facility Modifications = 152

General Comments from Team: BNL's vulnerabilities will be in the area of program implementation at the work level.

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Estimated OSHA Cost: \$9.6 million – \$9.9 million

External Regulation Transition Costs

PPPL	\$1.7M
ANL-E	\$6M-\$8M
ORNL	\$15-\$20M
SLAC	\$4M-\$8.5M
LBNL	\$2M
BNL	\$11.2M -\$11.5M, D&D \$500K-\$25.9M
TJNAL	\$1.1M-\$1.5M
FNAL	\$2M - \$2.4M
PNNL	\$1M - \$2M

As Reported at 2002 ES&H Managers Forum at PPPL on 11/08/02

Key Comments from Liberty Mutual

Bob Garrone, Lost Prevention Engineer

- **Housekeeping** needs to be addressed. There does not seem to be a housekeeping standard universally employed or enforced.
- **Working and Walking Surfaces:** It would appear that running electrical conduit and gas and air piping across walkways is/has been an acceptable practice. Unfortunately, this is in conflict with outside regulations.
- **Overheads.** It is generally accepted that minimum clearance from walking surface to overhead be 7 feet. A consistent condition I observed was the use of trays suspended from ceilings. The trays support various conduits, hoses, communication cable, etc. In many cases these trays are not seven feet vertical distance from the walking surface below.

Key Comments from Liberty Mutual

Bob Garrone, Lost Prevention Engineer

- **Life Safety.** General improvement needs to be made in use of directional exit signage as the location to an exit is not always apparent (Light Source in particular).
- I would be remiss if I did not mention my concern with building security. Some buildings are left wide open after hours. These same buildings contain materials requiring special precaution due to radioactivity, toxicity, corrosiveness, flammability, etc. Acts of vandalism or terrorism in these buildings could cause serious and expensive consequences.

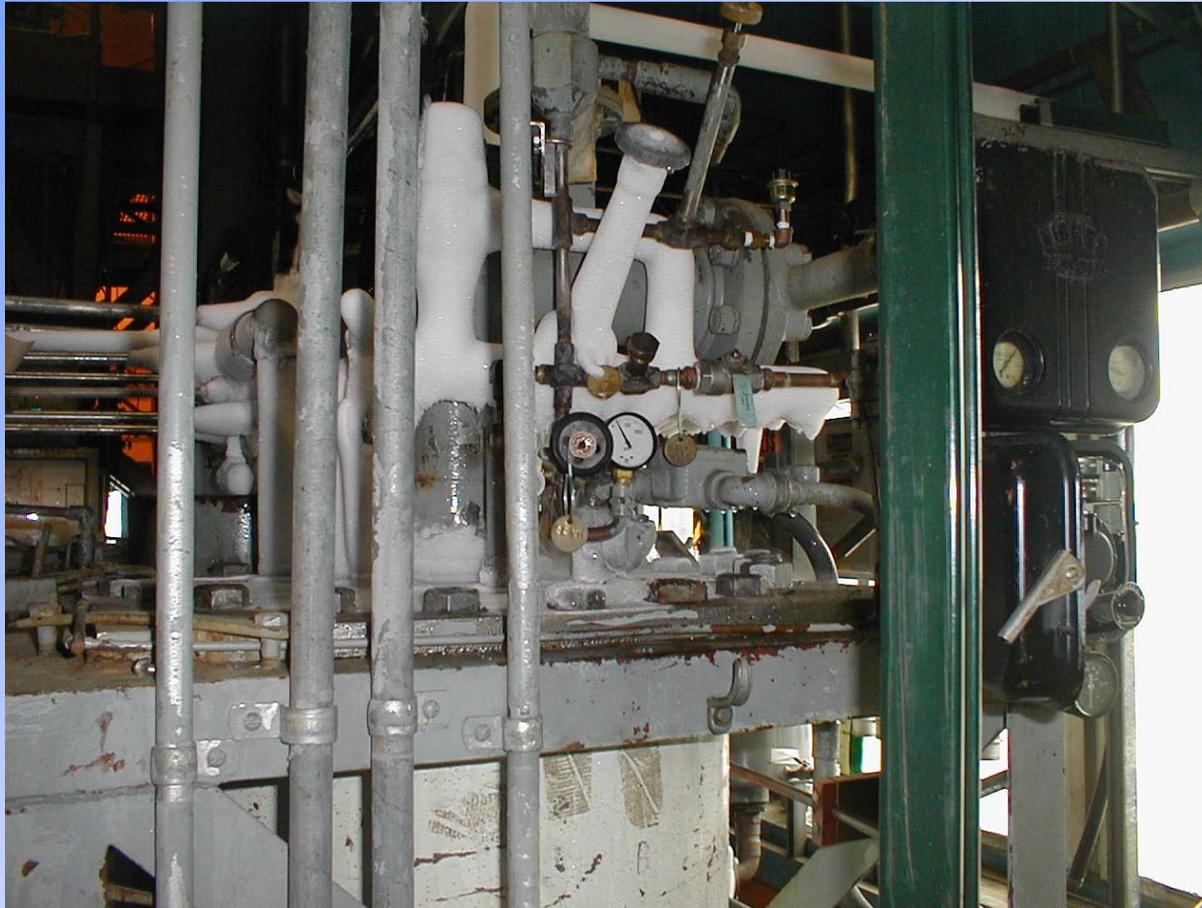
Key Comments from Liberty Mutual

Charles Boone, Certified Industrial Hygienist Review of BNL Facilities as a Member of OSHA Type inspection Team

Based on my three days at the site, working with their people, I feel they have a very qualified Safety and Industrial Hygiene Staff at Brookhaven. I do think that the biggest problem they have is driving the implementation of the various programs down to the individual facility level. From an industrial hygiene standpoint, this would include respiratory protection, Hazard Communication, Lab Safety, Hearing Conservation, and Confined Space.

The team I worked with identified several instances where their programs were not well understood at the facility level. In a few instances, I was under the impression that individuals at a few facilities were not even aware of the requirements of some of the programs, or how they were being implemented, or what the facility responsibility was with regards to the various programs. This may cause more of an issue if there is a OSHA inspection than actual physical hazards.

OSHA Inspections: Photos



No posting of freeze hazard

OSHA Inspections: Photos



Leaking container unlabelled without secondary containment
29CFR1910.1200

OSHA Inspections: Photos



Food on desk with chemicals

29CFR1910.22

OSHA Inspections: Photos



PPE in poor condition, improper maintenance & storage

29CFR1910.132

OSHA Inspections: Photos



Roof leak into electrical cable and then onto floor

29CFR1910.305

OSHA Inspections: Photos



No static inventory and no caps on cylinders
29CFR1910.101

OSHA Inspections: Photos



55 Gallon Biological waste container vented near A/C intake
General Duty Clause 5A(1)

OSHA Inspections: Photos



Over-riding safety interlock to area of Flammable Gas/Magnetic Field/Radiation area

29CFR1910.303

OSHA Inspections: Photos



Lab sharps container; improper use of sharps container
29CFR1910.1450

OSHA Inspections: Photos



Lab, unsecured compressed gas cylinder
29CFR1910.101

OSHA Inspections: Photos



BSL2 hood labeled no flammables, has propane piped in and used
29CFR1910.1450

OSHA Inspections: Photos



Lab storage shelf has respirator; improper maintenance, storage & use

29CFR1910.134

OSHA Inspections: Photos



Lab under hood storage; improper storage of chemicals

29CFR1910.1450

Price-Anderson Extension and DOE Regulation of Industrial Health and Safety

- National Defense Authorization Act of Fiscal Year 2003 (Department of Defense (DOD authorization bill), H.R. No. 4546

Civil Penalty Regime

- DOD authorization bill passed by Congress simply extends the current PAAA indemnification regime through 2004

Industrial Health and Safety

- The DOD authorization bill also contains a new provision directing the Secretary of Energy to promulgate “industrial and construction health and safety regulations at [DOE] facilities covered by agreements for indemnification under [the Price-Anderson Act].”
- The legislation also permits the assessment of civil penalties of not more than **\$70,000** for each violation or “an appropriate reduction in fees or amounts paid to the contractor under the contract” for violations of the industrial and construction health and safety regulations. DOE must promulgate regulations within one year, and the regulations must become effective one year after promulgation.
- The statute sets the same maximum monetary penalty (**\$70,000**) for safety and health violations as the Occupational Safety and Health Act.

AT BNL SAFETY WORKS FOR EVERYONE



WORKERS

"Safety Works for Everyone! That was the slogan used to promote worker safety at Brookhaven National Laboratory's Safety Awareness Day, held in July 2007." Clockwise: the employee "Safety Rights and Obligations" document; a medical researcher using personal protective equipment; and a keynote speaker from DuPont who gave a presentation to employees as part of the day's activities.



Satellite View of Brookhaven National Laboratory

NEIGHBORS

Clockwise: Brookhaven offers Boy Scouts the opportunity to earn their atomic energy badge; radiation safety experts teach students about the effects of radiation; and Brookhaven's own fire department, with its special equipment and hazardous materials expertise, assists local community fire departments in emergencies.



SCIENCE

World-class science that benefits humankind is performed at world-class facilities at Brookhaven under superior safety conditions. Clockwise: the key-lock system used to protect workers and safely operate the world's largest accelerator for nuclear physics; the Relativistic Heavy Ion Collider; image of human brains showing the long term effects of cocaine; scientists use Positron Emission Tomography to study addiction; and scientists at Brookhaven's National Synchrotron Light Source determined the three-dimensional structure of a key protein on the bacterium that causes Lyme disease.



NATION & WORLD

Clockwise: the U.S. Department of Energy's Radiation Assistance Program Region I, located at Brookhaven, responded to the September 11th terrorist attack on the World Trade Center; Brookhaven hosts firefighters from across the U.S. at the annual Wildfire Training Academy; Brookhaven is assisting the Russians in the safe removal of radioactive waste in Murmansk.



BAO/BNL FY03 ESH&Q ASSESSMENT SCHEDULE

DOE-BAO FY03 ES&H ASSESSMENT PLAN (Revised 11/12/02)			
ASSESSMENT AREA	ASSESSOR(S)	SCHEDULE - FY QUARTER	STATUS
BAO INDEPENDENT ASSESSMENTS			
DOE Order 5400.5, Radiation Protection of the Public and the Environment	P. Jones	2nd	
Emergency Planning Training and Drills	P. Jones	3rd	
Transportation and Packaging Operations	J. Bond	3rd	
Radiological Posting	P. Jones	4th	
BAO/BNL COLLABORATIVE ASSESSMENTS			
Radiological Area Monitoring and Control	P. Jones	2nd	
Storage and Transfer of Hazardous Materials	G. Granzen	2nd	
Spill Response	G. Granzen	2nd	
Radiological Work Controls	P. Jones	4th	
Environmental - TBD	C. Polanish/G. Granzen	4th	
BNL SELF-ASSESSMENTS WITH BAO OBSERVATION			
Radiological Records	P. Jones	1st	
Interlock Protection Program	P. Kelley	2nd	
Storage and Transfer of Hazardous Materials	C. Polanish	2nd	
Beryllium	G. Granzen	2nd	
Ergonomics Program	P. Kelley	3rd	
EMS	G. Granzen	3rd	