

Merck Research Laboratories - Boston

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A Breakthrough In Safety Performance

Putting people back in the picture

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Agenda

- Background
- Site Conditions
- Safety Culture
- Merck Safety Program
- Early Results
- Remediation Steps
- Sustained Results
- New Standard for Safety

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Background

- 615,000 GSF research and development facility
- Longwood Medical and Academic Area in Boston, MA
- Mid-rise building surrounded by
 - residential community
 - Hospitals
 - Developmentally impaired children's facility
 - elite private high school
 - Several prestigious universities,

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Site Conditions

- **Urban site**
 - 40,000 square foot footprint was constructed on a 1.1 acre site
 - limited logistics, flexibility and construction access to only one side.
- **12 story steel superstructure**
- **6 levels below grade**
- **Exterior envelope of glass curtainwall.**
- **Up – down construction method,**
 - the simultaneous execution of steel erection and the excavation and construction of below grade levels.

- **Total man hours - 2.15 MM man hours**
- **Peak manpower - 490**
- **Average - 309**

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Safety Culture

- **Boston Building Trades – 2001**
 - Safety success - meet the 1999 construction industry average
 - RIR - 8.4 ~ 90 Workers ~ 2 worker/month
 - LTIR – 4.1 ~ 44 Workers ~ 1 worker/month
 - Contractors viewed any additional effort to improve safety as either too costly or too time consuming
 - Merck – unknown to contractors and viewed as a single project opportunity.
- **Merck – 2001-2004**
 - Safety success - beat a reducing yearly target
 - RIR – 1.42 => 1.24 ~ 15 workers ~ 1 worker/quarter
 - LTIR – 0.35 => 0.29 ~ 3 workers ~ 1 worker / year

Expectations were not Aligned

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MRL - Boston Safety Program

- **Traditional Merck Program**
 - 100% PPE
 - 100% fall protection >6 Feet
 - Permits (hot work, line break, lock-out, etc)
 - Fire watch
 - Site specific safety training
 - Substance abuse screening
- **Project Safety Council (Merck & CM)**
- **Safety Management System**
- **Job Safety Analysis program**
- **100% Glove Policy**

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Early Results

	2001	2002
Lost Workday Rate - Actual	0	0.74
Lost Workday Target	0.35	0.33
Recordable Rate - Actual	0	10.75
Recordable Target	1.42	1.4
Hours worked	25K	652K

As project workforce began to ramp up - incidents shot up

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Remediation Steps

- **Early-mid 2002**

- Billy Robbins Presentation – motivation speaker
- Safety Incentive Plan Changes
- Executive Management Safety Council

- **End of 2002**

- Field Safety Observation Program
- Labor Lunches

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Executive Management Safety Council

- **Multi-functional team of senior principals**
 - from Merck
 - the construction manager
 - 25 subcontractors.
- **Mission: to support the BRC project commitment to an injury free workplace by taking an active role in the project's safety program.**
- **EMSC members provided an account to the council of what he or she did to actively participate in an injury free workplace.**

One principal addressed the entire workforce - regarding the importance of walking, talking and thinking safety all of the time after one of his employees was observed committing an unsafe act

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Additional Remediation Steps

- **Early 2003**
 - Incident and Injury Free Program (IIF)
 - IIF Team
- **2003-2004**
 - Continued IIF Program

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Incident and Injury Free Program

- **Two day IIF workshop to initiate cultural change**
 - Engaged the building trade representatives
 - the subcontractor foreman and safety representatives, A value based program
- **Shifted focus**
 - From the traditional objective based program (behavior and systems)
 - To a subjective based program (intentions and culture)
 - From you must work safe To I want to work safe
- **Safety is about the people**
- **Actively sought to encourage each worker**
 - to view safety as a value
 - to be responsible for his or her personal safety and their coworkers.

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IIF Leadership Team

- Collaboration of 80% trades and 20% management
- The team actively participated
 - revising site procedures
 - the discipline program
 - setting the goal of zero incidents
 - creating open channels of two-way communication
 - identifying future unsafe conditions and concerns
 - improving the safety program.

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Sustained Results

- **After this change in focus**
 - the team quickly noticed positive results;
 - improved morale,
 - a real, true concern for the safety and wellbeing of each and every worker
 - improved productivity.

Once the workers recognized that management cared more about them than the statistics, trust was formed, the work was performed safely, and the incidents decreased.

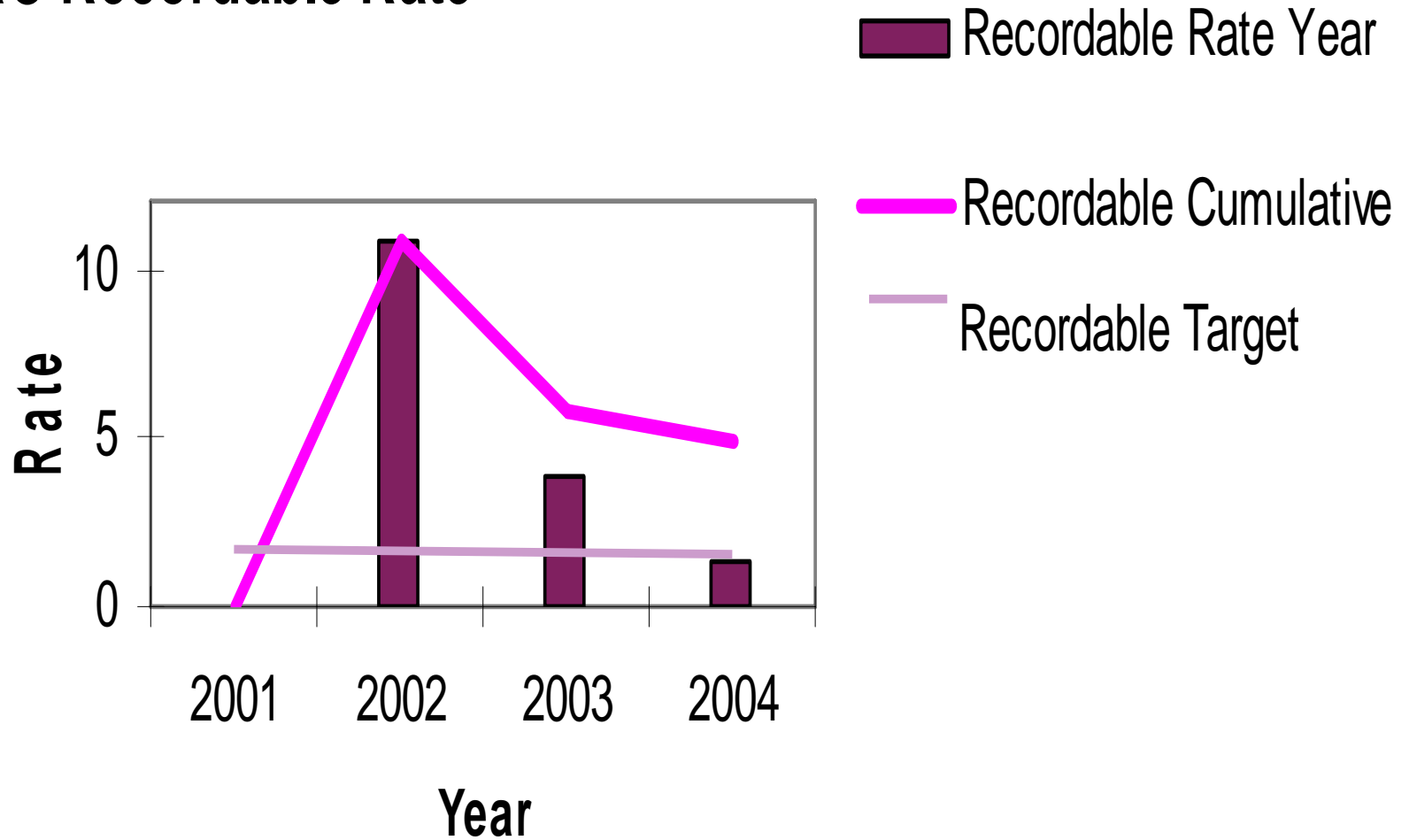
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Safety by the numbers

- Hours Worked 2,156,277
- Near Misses 29
- First Aid Cases 194 workers
- Recordable Cases 49 workers
 - Restricted or Transferred Cases 41
- Lost Workday Cases 3 workers
 - # of days away from work 194

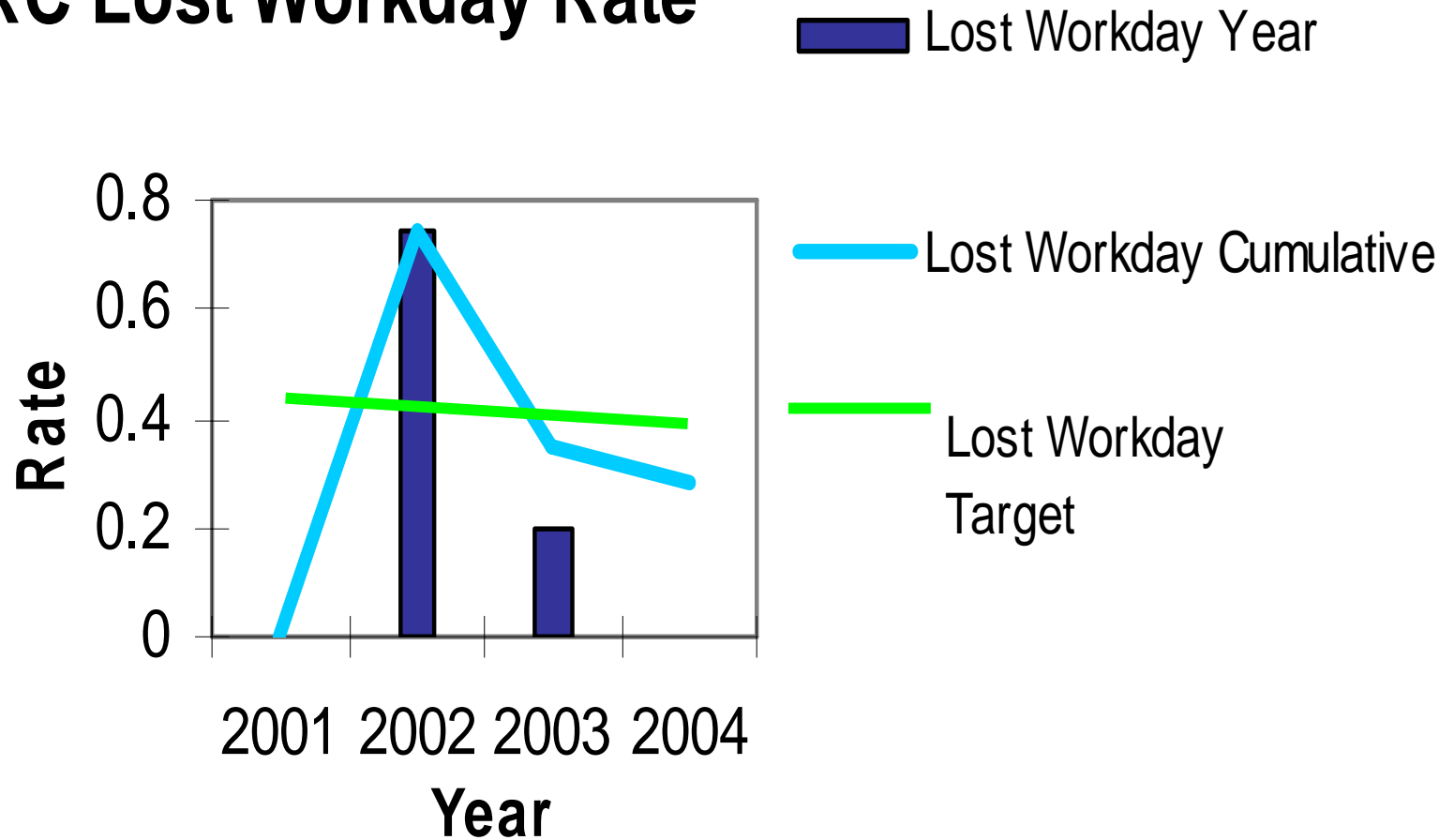
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BRC Recordable Rate



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BRC Lost Workday Rate



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New Standard for Safety

- **Quote From Joe Nigro, General Agent of Boston Building Trades**
 - “I would like to take this opportunity to congratulate Bovis Lend Lease and Merck & CO. Inc., for setting **new standards for safety in Boston**. You have expended over 2,000,000 man-hours with an outstanding safety record and have **established a new precedent for solid relationships with the Boston Building trade workforce through your incident & injury free program.**”

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Appendix

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JSA Summary Information

- Total Anticipated 1200
- Total Submitted 715
- Total Released JSAs 695
- JSA for every task performed

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FSO Program

- **Responsibilities**

- Review and modify JSAs (as required) for specific work activities being observing;
- Develop and maintain “open” and positive communication with trades;
- Document safety observations;
- Attend subcontractor toolbox talks;
- Participate in the safety violation process as required;
- Provide safety suggestions to the safety council;
- Provide input to safety council for monthly awards;
- Reward “safe” workers with safety tokens;
- Participate in incident investigation as required;

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Safety Incentive Program

- Employee Startup Kit
- Trade Specific Awards
- Monthly Subcontractor Award
- Awards for most complete safety documentation
- Award for PHA/JSA completion
- “On the Spot Awards”
- Safety Slogan Contest
- Children’s Poster Contest
- Subcontractor Incentive
- Monthly \$1,000 Raffle

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Projected Workers Impacted(Maintaining 2002 Rate)

	Rate	2002	2003	2004	Injured Workers
LT	0.74	2	4	2	8
RI	10.75	27	55	24	106
			Projected Workers Injured		114
Actuals					
LT		2	1	0	3
RI		27	19	3	49
			Actual Workers Injured		52
			Workers not Injured		62
Projected Insurance Savings					
	Injurys	Claims	Cost /Claim	Total Cost	
Actuals	52	220	\$ 11,591	\$ 2,550,000	
Projected	114	482	\$ 11,591	\$ 5,590,428	
			INSURANCE SAVINGS		\$ 3,040,428

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