# BEHAVIOR BASED SAFETY

## Economics of BBS within DOE

**(http://tis.eh.doe.gov/bbs)**

# Process succeeds if everyone understands their role

**Employees drive the process**

**Management supports and removals obstacles**

**Behavior-Based Process**

# Employee Involvement

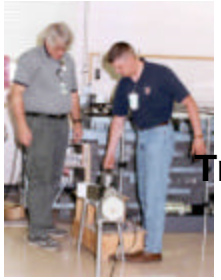
Investigations

S&H Goals and Personal Actions

Safety Meetings

Safety Shares

Job Safety Analysis

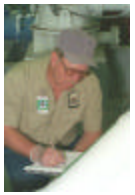


Training

W.A.S.P.
Worker Applied Safety Program

Employee Safety Teams

Union Summits



Post-job briefings

Inspections

Ergonomics

Pre-job Walkdowns

Community Outreach

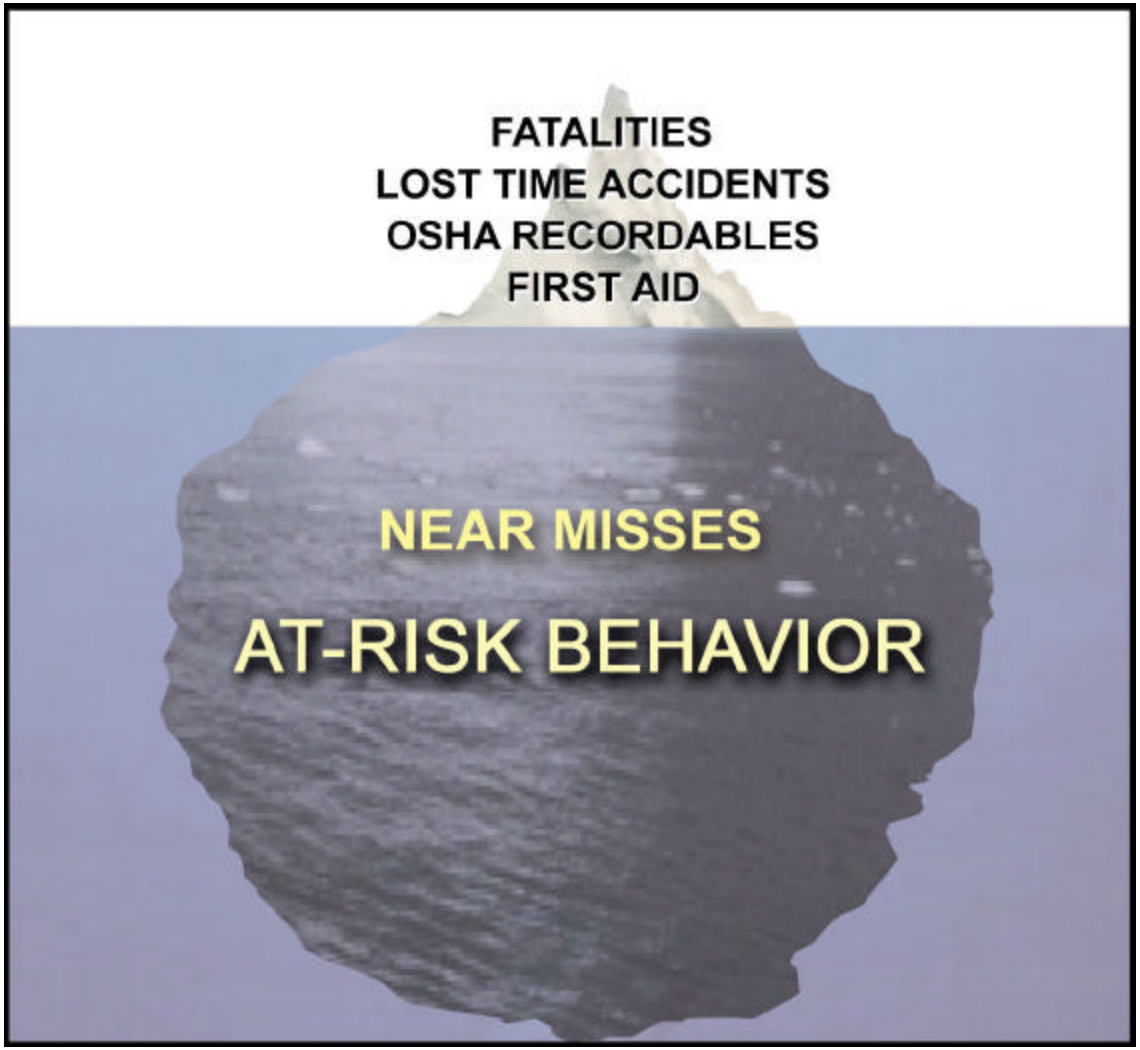
Stretch

02-GA50870-39

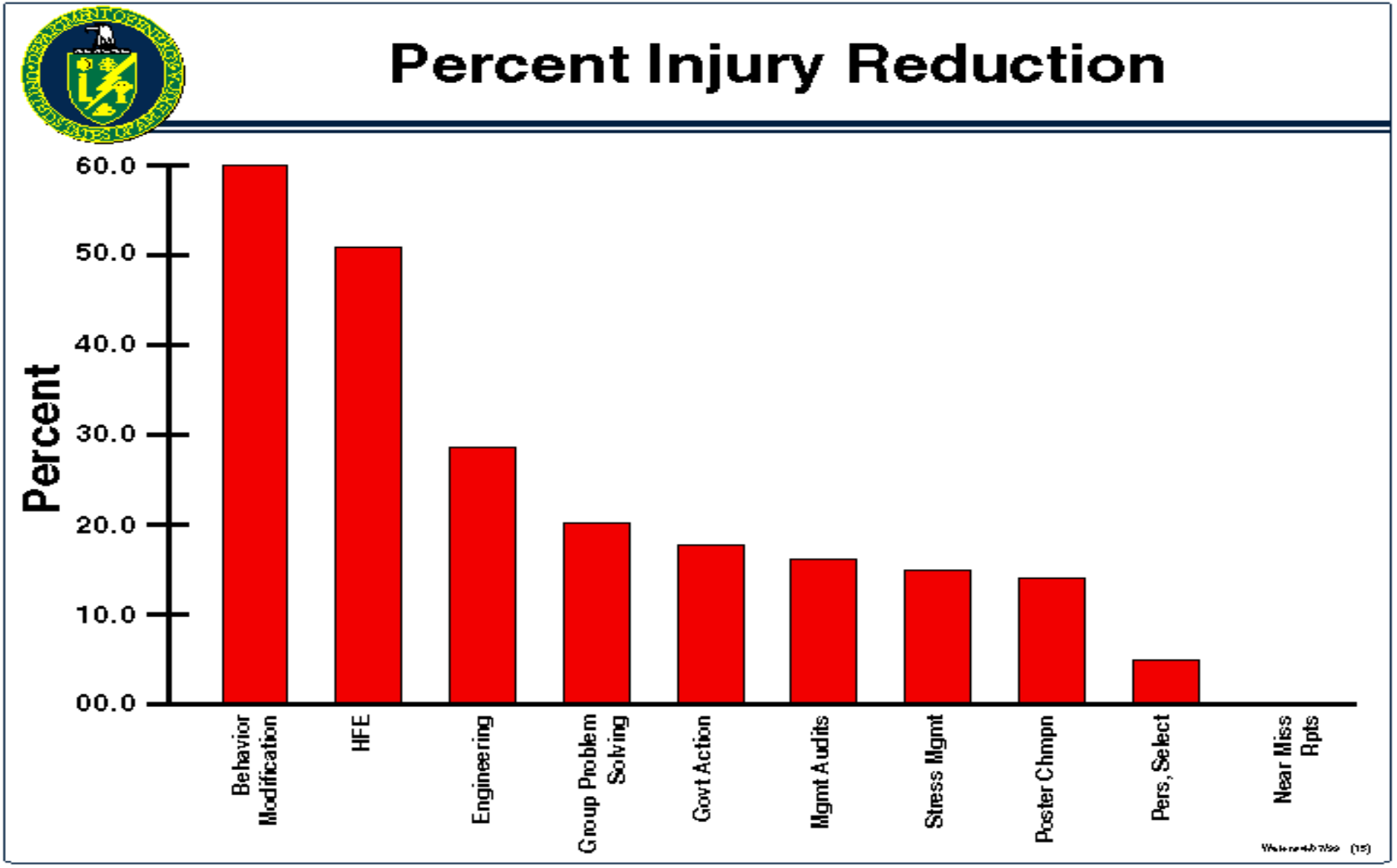
# SAFETY vs. COST

- **DUAL CONSIDERATIONS**
  - **SAFETY**: **Reduction in incidents, accidents and injuries**
  - **ECONOMICS :** How much should you have to pay for safety?
- **Can we achieve Both?**

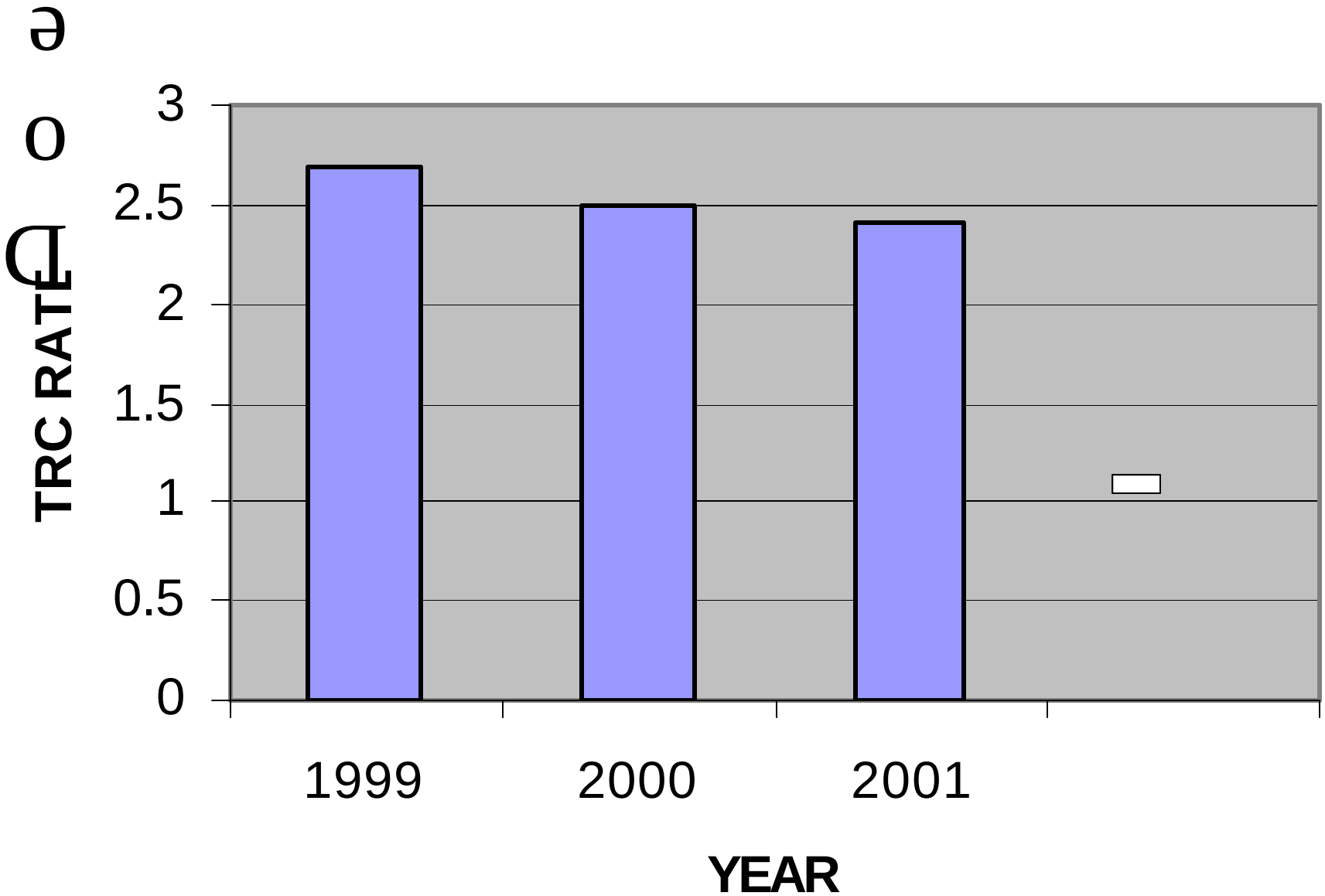
# The Iceberg


FATALITIES
LOST TIME ACCIDENTS
OSHA RECORDABLES
FIRST AID
NEAR MISSES
AT-RISK BEHAVIOR

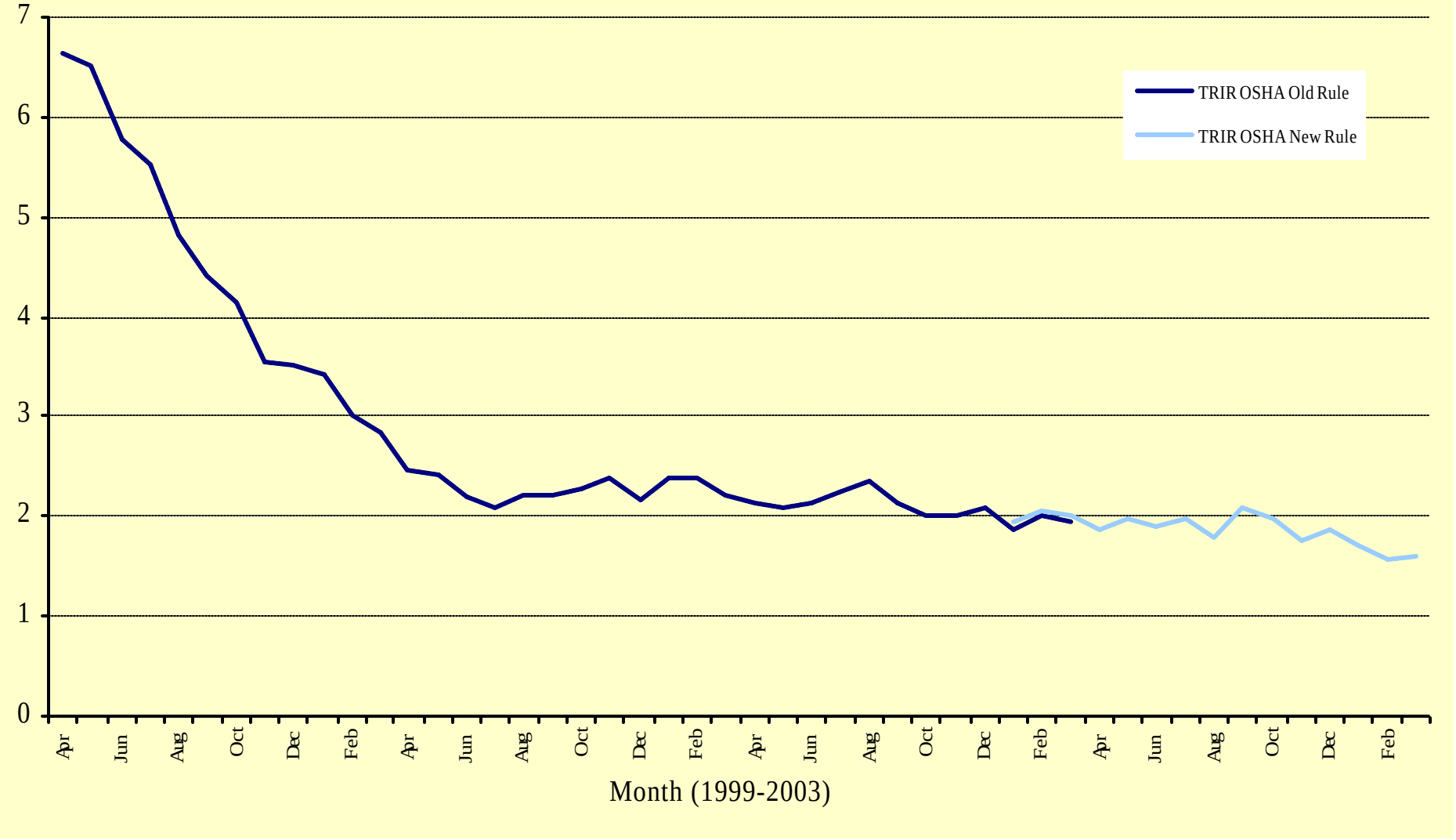
# Injury reduction due to different safety program interventions.



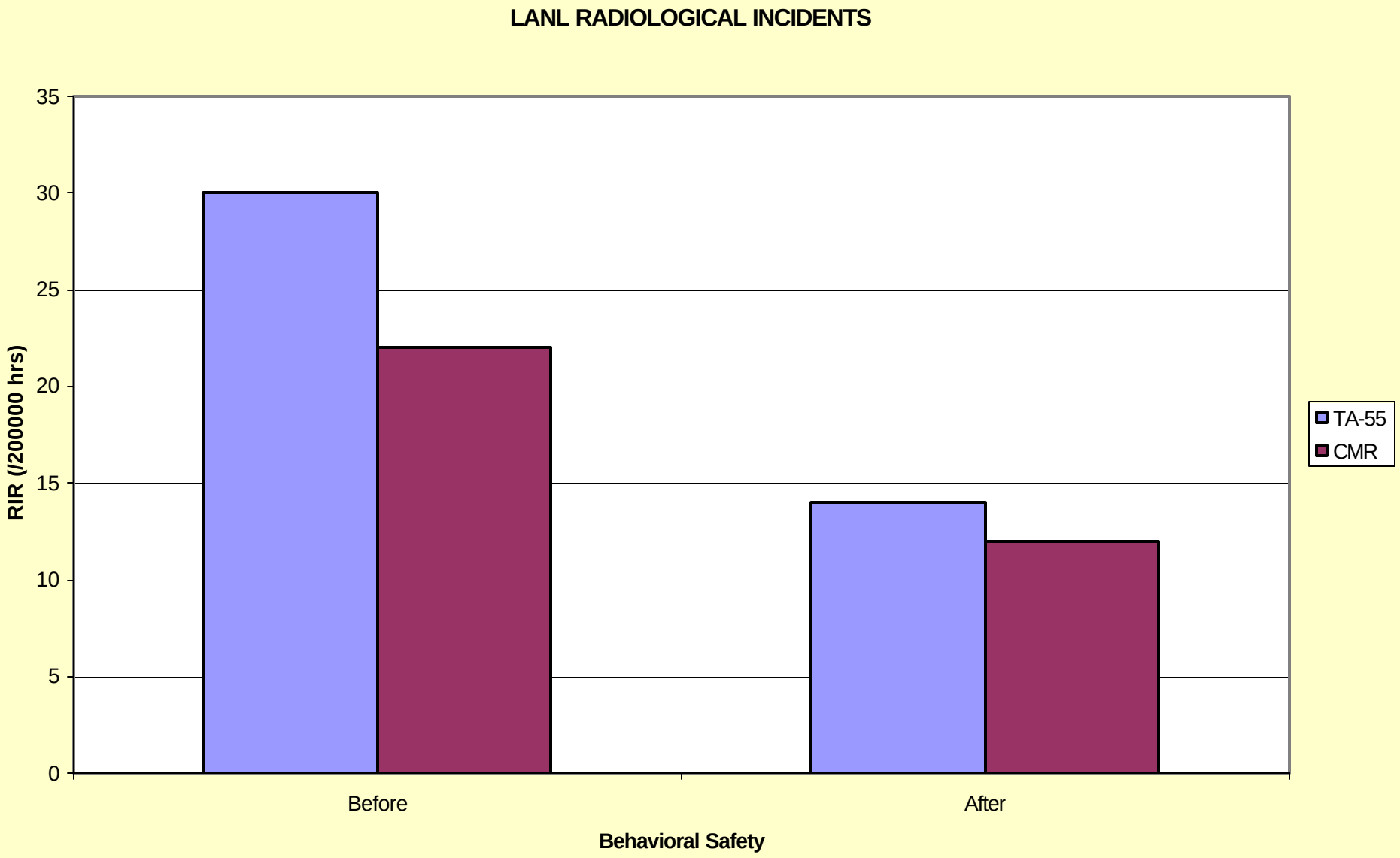
# DOE TRC Level



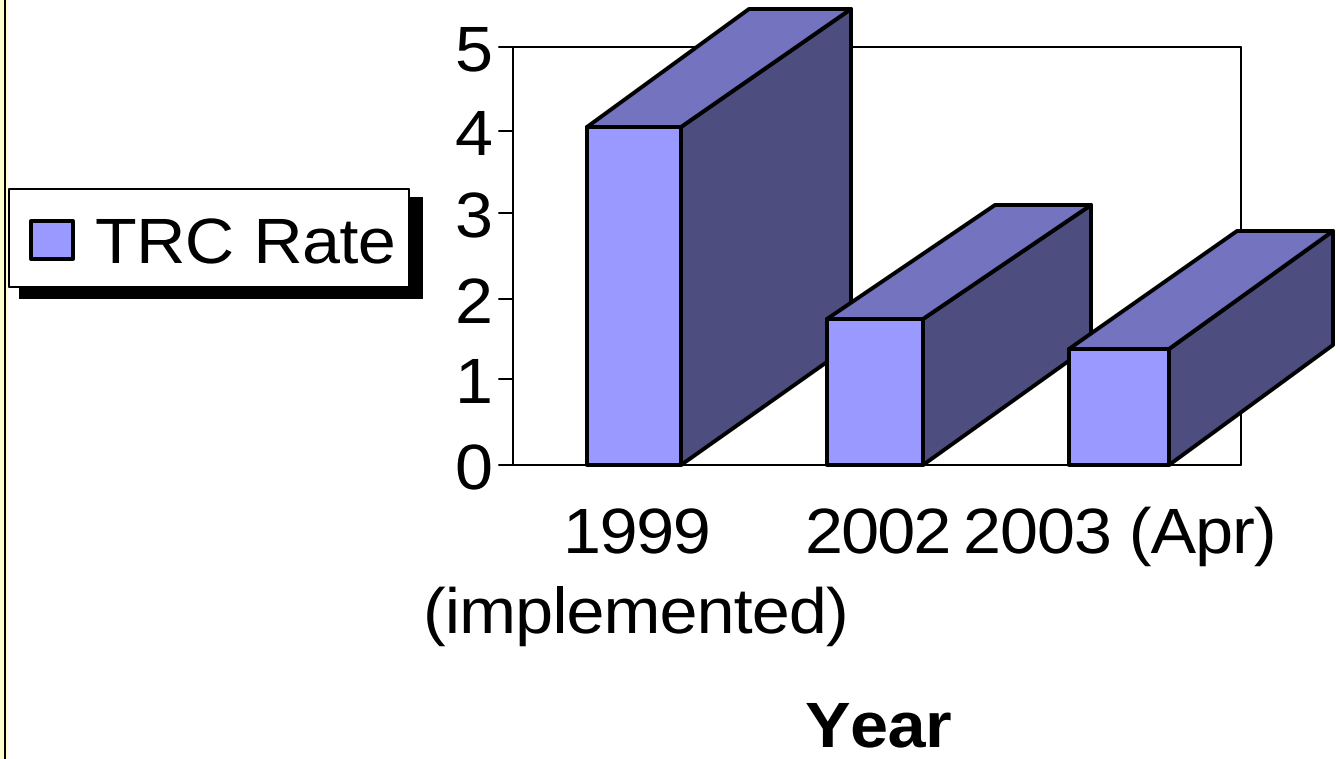
# BNFL,inc. –TRC


7
6
5
4
3
2
1
0
TRIR OSHA Old Rule
TRIR OSHA New Rule
Apr
Jun
Aug
Oct
Dec
Feb
Apr
Jun
Aug
Oct
Dec
Feb
Apr
Jun
Aug
Oct
Dec
Feb
Apr
Jun
Aug
Oct
Dec
Feb
Month (1999-2003)

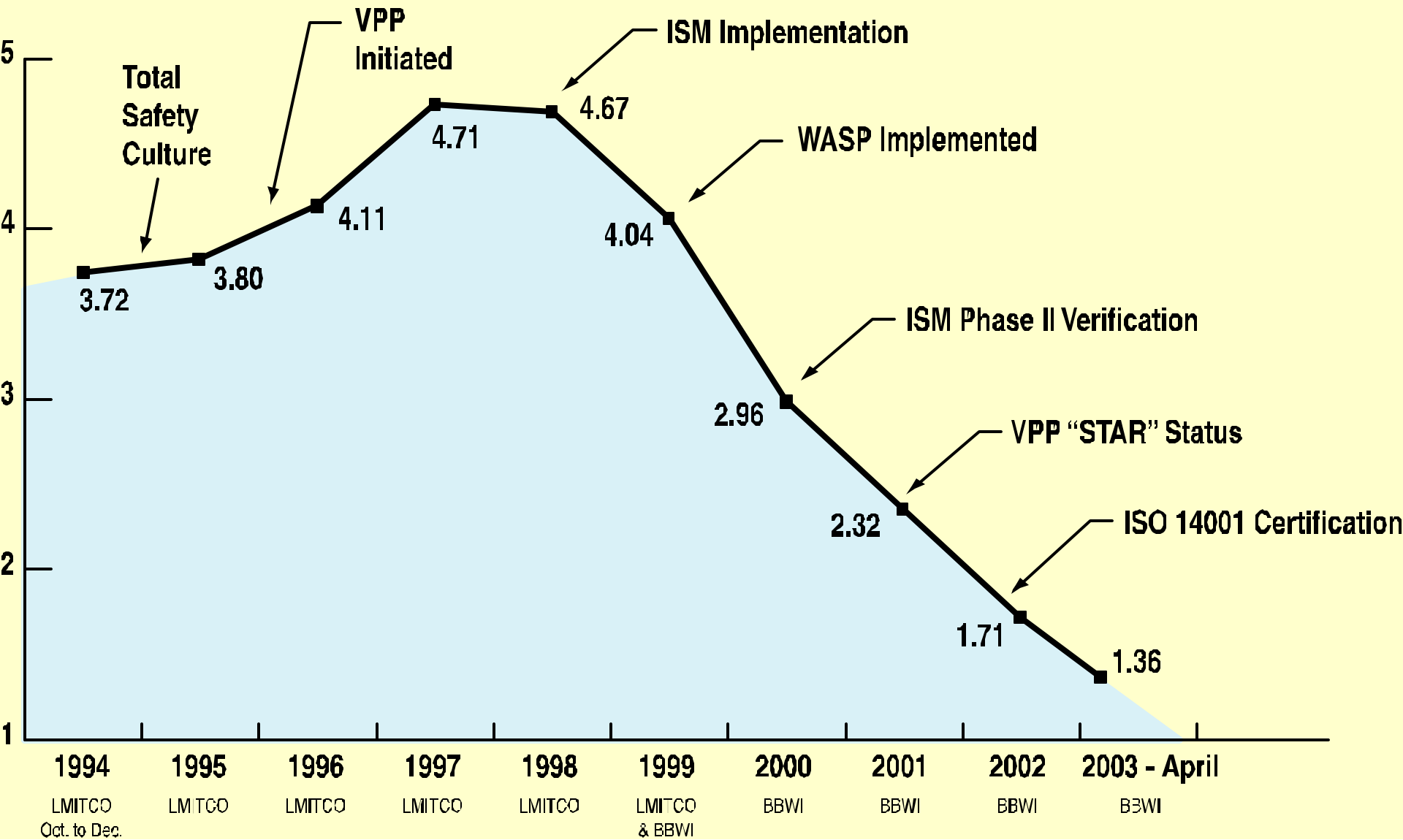
# Los Alamos Radiation Data



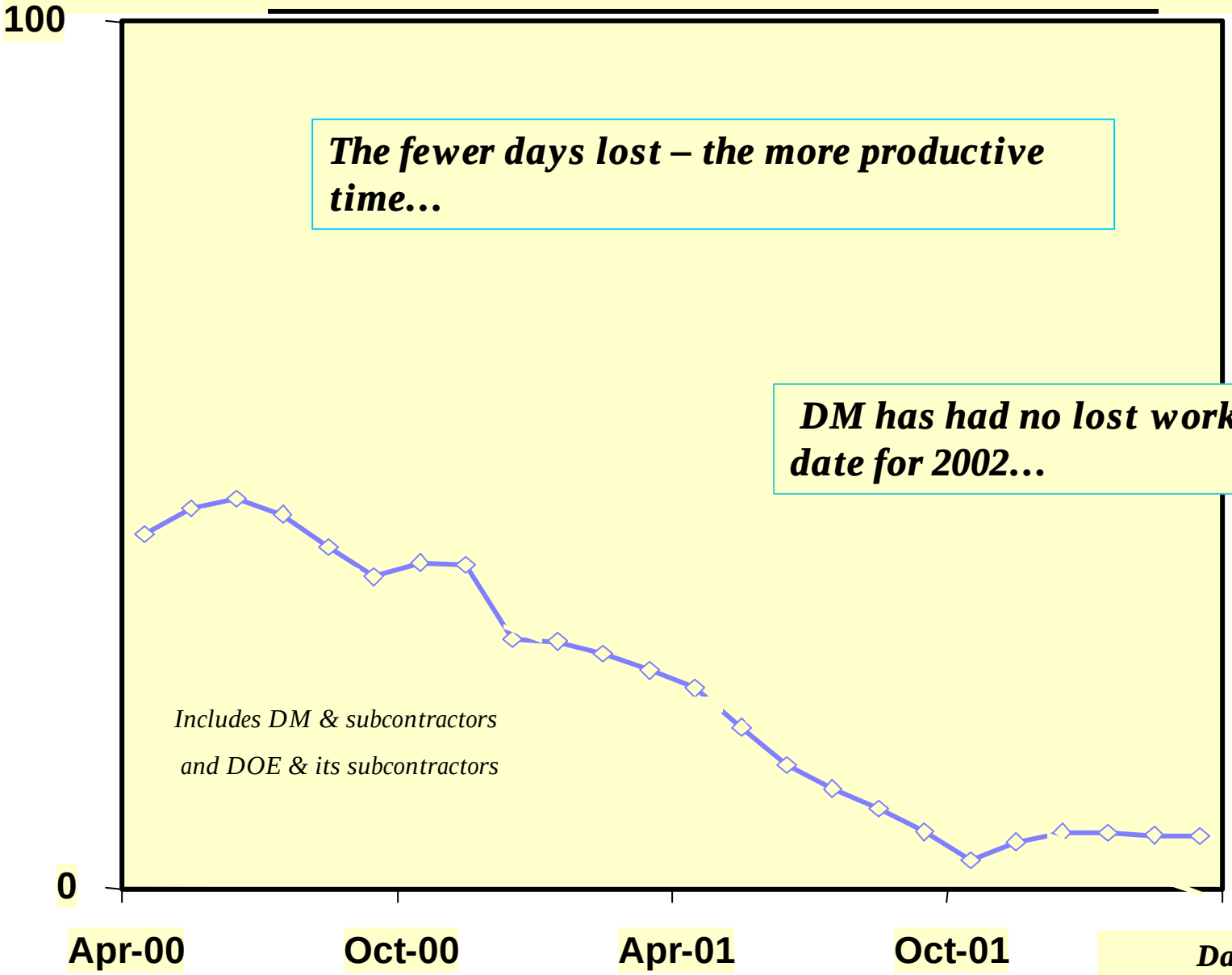
# INEEL
# Total Recordable Case Rate
## since BBSP implemented.



# INEEL: TRC Case RATE



# Dyn-Mcdermott: Strategic Petroleum Reserve

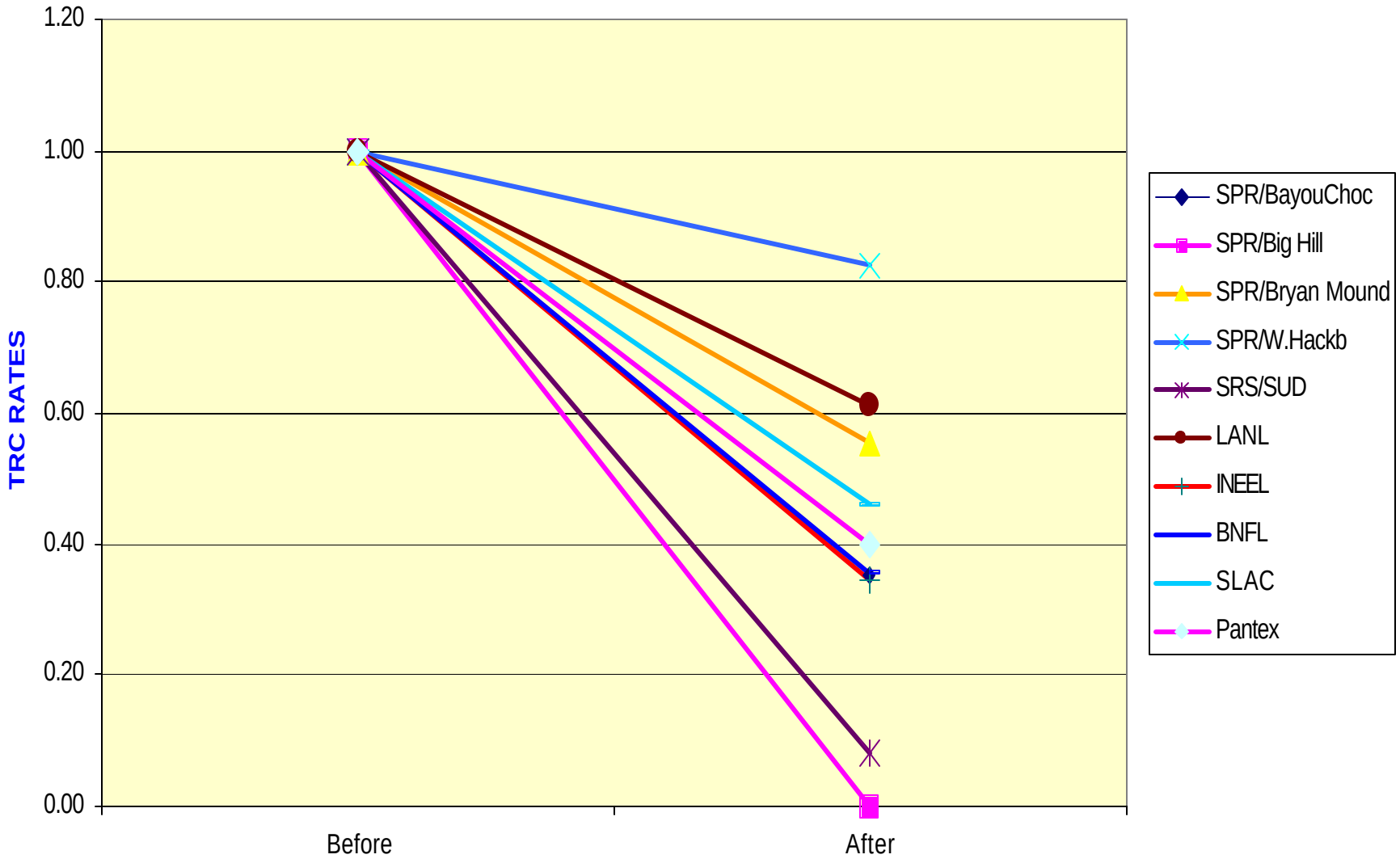



***The fewer days lost – the more productive time…***

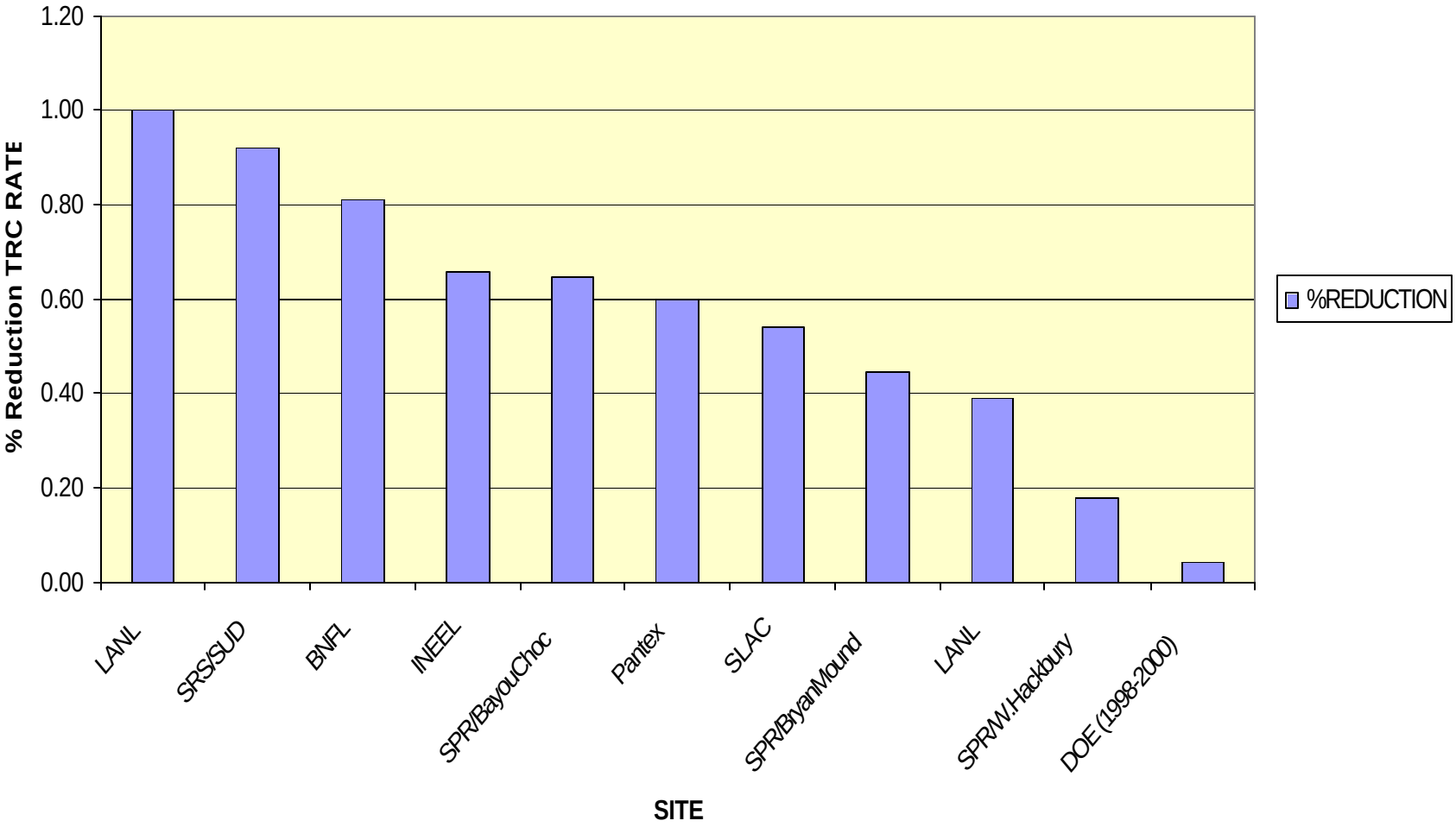
***DM has had no lost workday injuries to date for 2002…***

***Data through March 20***

# TRC RATE CHANGES WITH BBS



# *Percent Reduction TRC with BBS*



# Effective for Safety but..

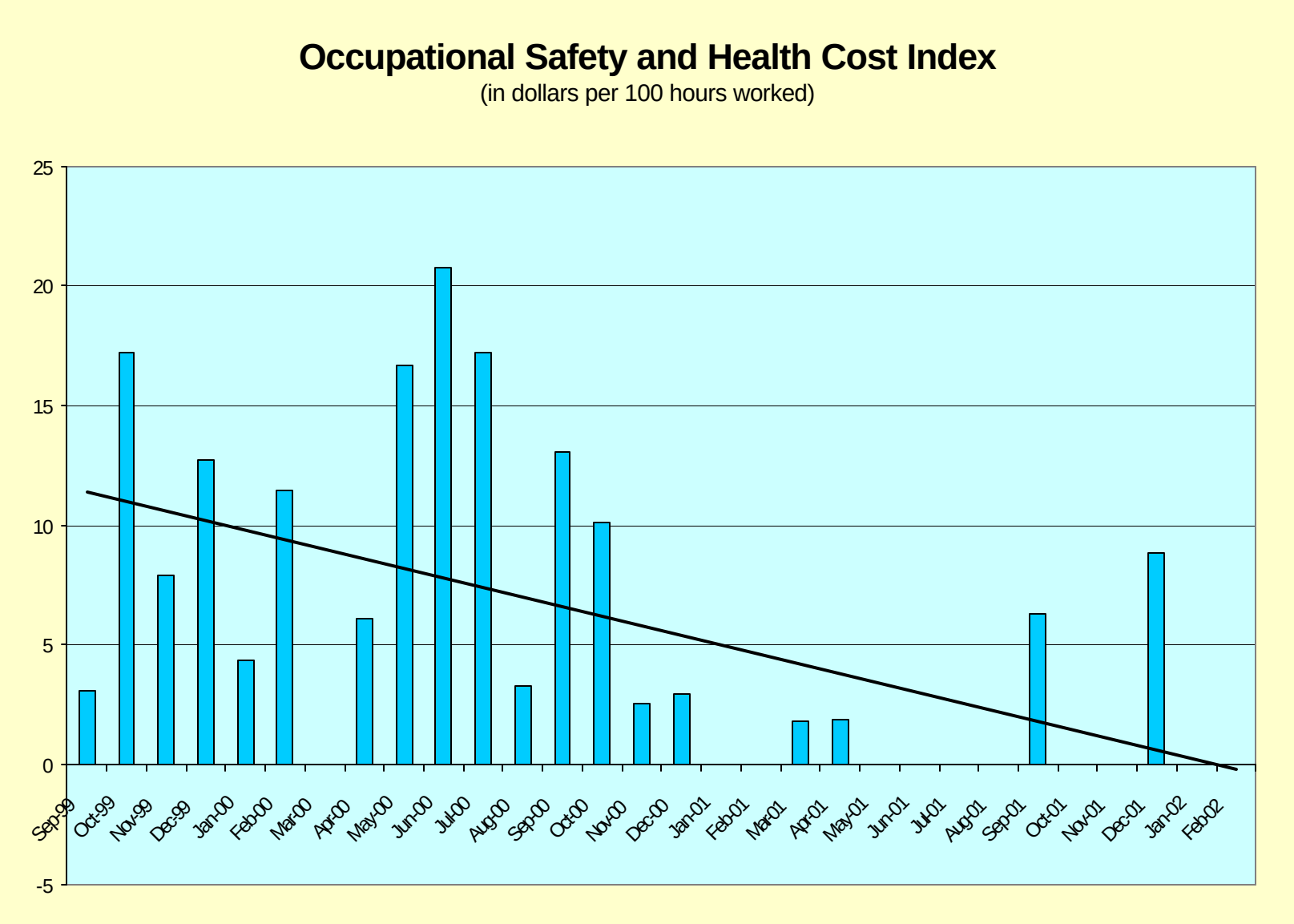
- Considerable expense is required to set up a BBS Process
- A significant commitment from workers and management is needed in time and dedication.

- **Can BBS pay for itself?**

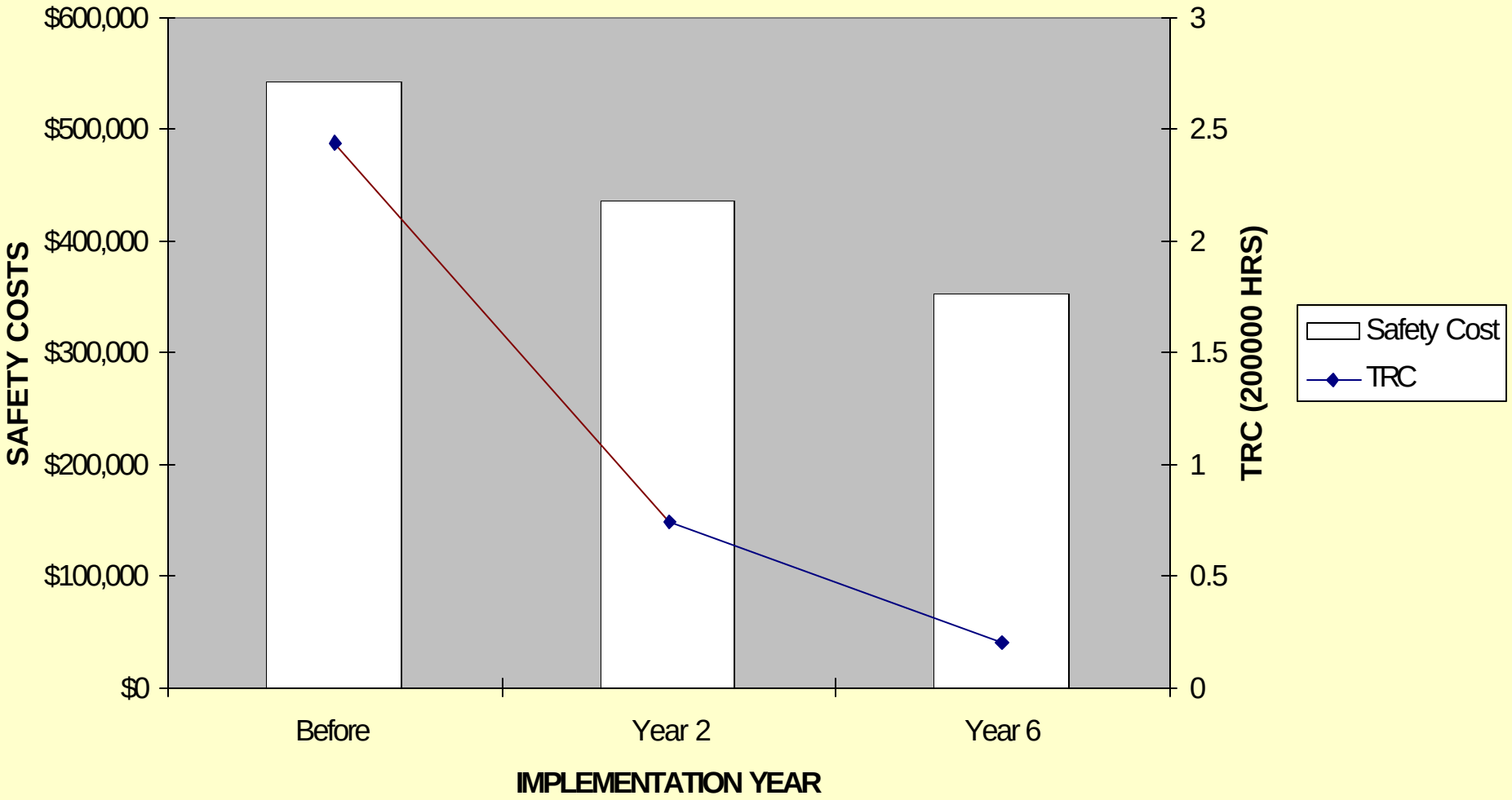
# Return on S&H Investment

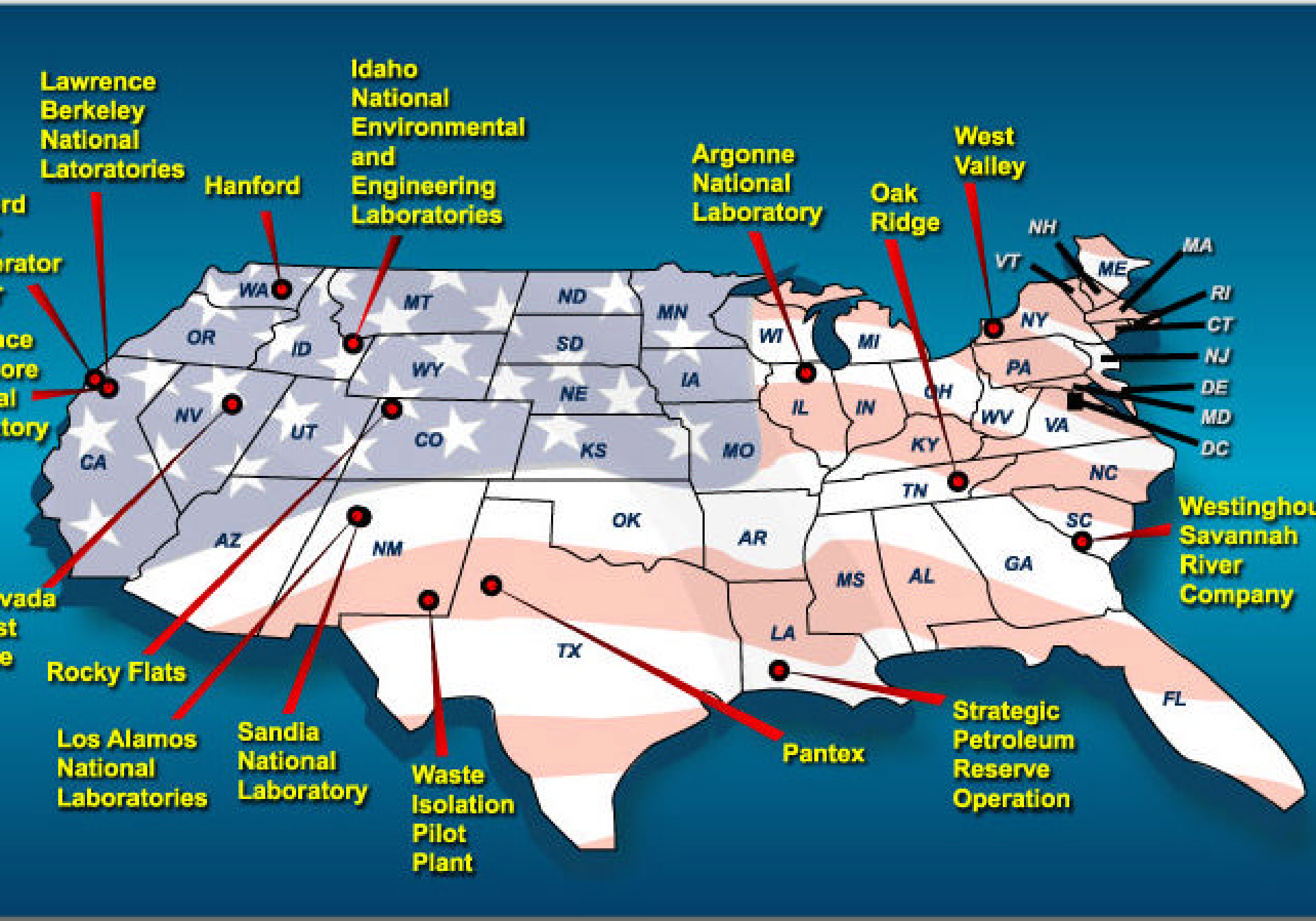
| Metric | .Result | Comments |
|---|---|---|
| Payback Period | .6 years | Recovered $230K in BBS program costs within 7.2 mo. |
| Net Present Value (NPV) | $648K | Generated $648,000 in loss prevention savings from BBSP implementation (50% from Worker's Compensation Program) |
| Return on Investment (ROI) | | Created an investment return from BBSP that nearly triples the program outlay of $230,000. |

# DOE Cost Index-SPR



# SRS/SUD COSTS & TRC




Lawrence Berkeley National Latoratories
Hanford
Idaho National Environmental and Engineering Laboratories
Argonne National Laboratory
Oak Ridge
West Valley
Rocky Flats
Los Alamos National Laboratories
Sandia National Laboratory
Waste Isolation Pilot Plant
Pantex
Strategic Petroleum Reserve Operation
Westinghou Savannah River Company
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# SUMMARY

- BBSP HAS SHOWN TO BE AN EFFECTIVE PROCESS FOR REDUCING INJURY
  - And Your safety STATISTICS
- BETTER DATA IS NEEDED BUT
  - THERE IS EVIDENCE THAT BBSP CAN LOWER YOUR SAFETY COSTS