

# C<sup>3</sup>RS Executive Briefing



**Confidential**

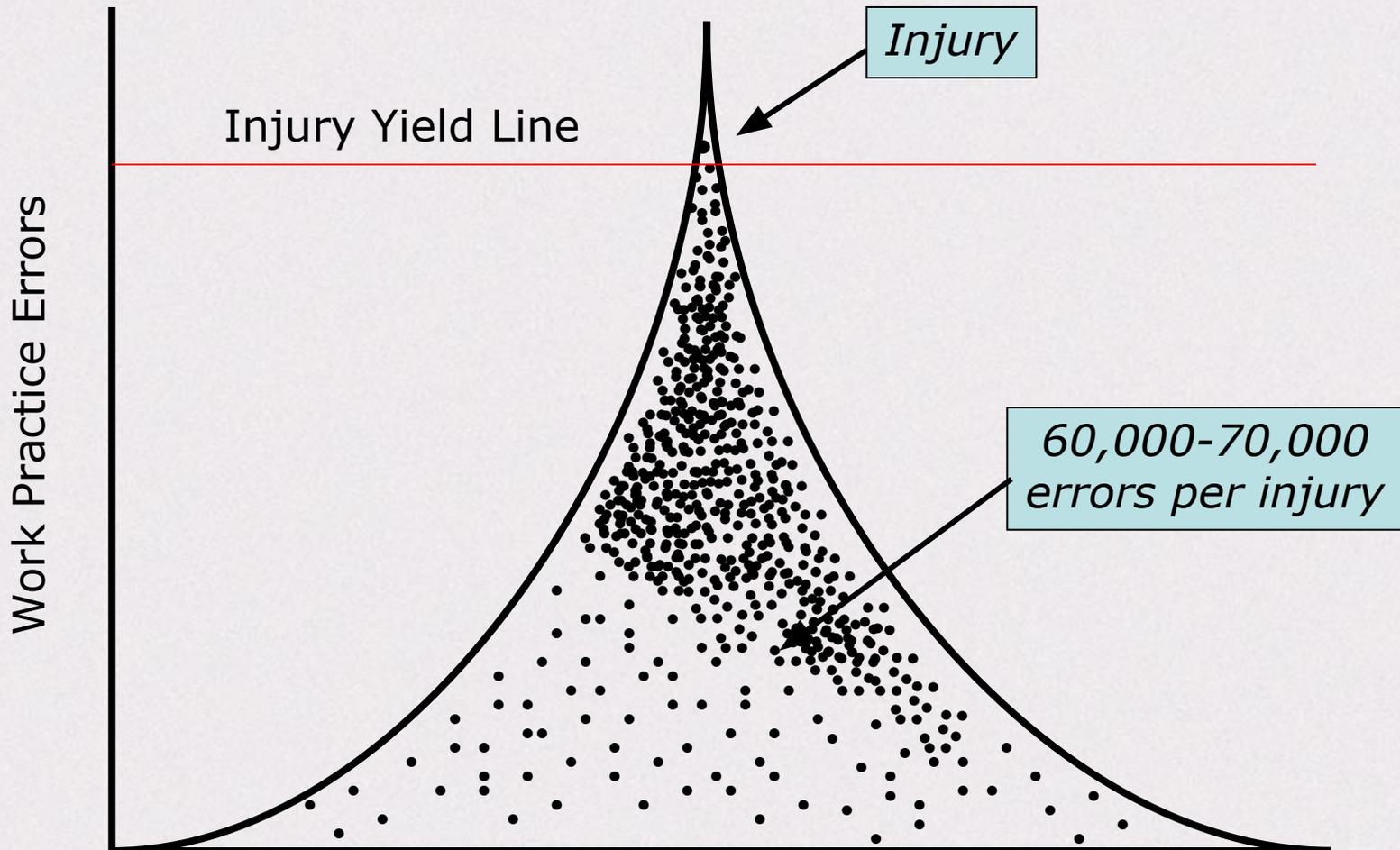
**close calls**

**Reporting System  
Demonstration Program**

# Purpose of Briefing

To gain high-level buy-in  
from key railroad stakeholders  
for a Close Call demonstration program

# Accident/Injury Risk Cycle



American Insurance Institute, 1992, ALASKA SAFETY STEWARDSHIP CONFERENCE, ANCHORAGE, ALASKA  
BILL SHEFFIELD ALASKA RAILROAD DEPOT, APRIL 6-7, 2004

# Close Call Definition

“An opportunity to improve safety practices based on a condition, or an incident with a potential for more serious consequences.”

# Tools in Safety Management Program

- Mandatory reporting of accidents and incidents
- Inspection and enforcement activities
- Safety Assurance and Compliance Program
- **Close Call Reporting System**

# What Is a Close Call System

- Voluntary and confidential safety reporting system
- Proactive program to prevent accidents and save lives
- Accidents preceded by close calls. Early warnings of safety problems. Uncovers hidden at-risk conditions not previously exposed from analysis of reportable accidents and incidents
- Method for identifying and managing risk: Proactive analysis to identify trends or patterns before safety is compromised
- More information collected and shared
- Data collected by third party



# A New Approach

## How It Is Now . . .

You are highly trained

*and*

If you did as trained, you  
would not make mistakes

so

You weren't careful enough

so

You should be PUNISHED!

## How It Should Be . . .

You are human

*and*

Humans make mistakes

so

Let's *also* explore why the system  
allowed, or failed to accommodate,  
your mistake

*and*

Let's IMPROVE THE SYSTEM!

# The Business Case for Change

According to nuclear power agencies, incident reporting systems benefit their organizations more than they cost.

Corcoran WR. The Phoenix Handbook: The Ultimate Event Evaluation Manual for Finding profit Improvement in Adverse Events. Windsor, CT: Nuclear Safety Review Concepts, 1998.

[These systems are] cost effective in the nuclear power and petrochemical fields

Langley et. al., The improvement Guide, 1996

# Everyone Wins

- Provide non-attributable safety information to individuals and organisations, including regulatory agencies that **otherwise would not be reported**
- Everyone focuses on safety
- Better public image: Transportation becomes safer and less costly so ridership increases
- Wider awareness of human factors
- Enhances partnerships, trust and communications within and across organizations

# Benefits for Labor

- “Instead of being the brunt of blame and punishment, labor becomes a valuable source of information about potential problems and proposed solutions to accomplish what everyone wants – improved safety and reduced costs.”
- Independence from management and regulators ensures reporter’s anonymity
- More teamwork
- Work less stressful
- The reporter can be advised of the outcome

# Benefits for Industry

- Improved safety: Supports a safety culture with more public accountability
- Permit errors/deficiencies/discrepancies to be reported without attachment of blame Cost savings (insurance, accident, injury claims, litigation, loss of time, property, damage)
- Improved effectiveness of remedies and greater cost effectiveness implementing the remedies.
- Better employee morale and productivity
- Stay competitive with other modes and industries (nuclear power, security, health care, chemical)

# Benefits for FRA

- Less need for regulations
- Fewer enforcement activities
- Easier to understand what is not working and why
- Therefore remedies are more effective and credible
- Better relations with management and labor

# Close Call Planning Committee

## History

- First planning meeting held in May 2002
- White Paper: Improving Safety through Understanding Close Calls
- Designed and oversaw FRA Human Factors Workshop: Improving Railroad Safety Through Understanding Close Calls, April 2003 in Baltimore, MD

# Workshop Design

- Create a dialogue among senior industry leaders using small mixed group discussions
- Common definition of close call
- Understanding close calls through history
- Lessons learned from systems in other modes
- Lessons learned from other rail systems
- Planning Committee decided participants would determine workshop outcomes and recommendations

# Workshop Key Speakers

- History of railroad safety, John Goglia, NTSB
- Keynote Speaker, Christopher Hart, Assistant Administrator for System Safety, FAA (GAIN)
- Management and labor perspectives
  - Captain Hank Krakowski, VP Safety & Security, United Airlines
  - Don McClure, Air Safety Coordinator, Airline Pilots Association
- Railroad industry perspectives
  - Aidan Nelson, UK, Executive Director, Railway Safety & Standards Board (CIRAS)
  - Helen Muir, UK, Professor of Aerospace Psychology, Cranfield University (CIRAS)
  - John Grundmann, BNSF, AVP Systems Safety

# Workshop Results: Planning Committee Observations

- Surprised by positive reaction of participants -- less resistance than expected
- All stakeholder groups had concerns, but also expressed interest in moving forward
- Improve safety culture: regulatory barriers were recognized by all stakeholder groups, e.g., CFR Part 240
- Define and implement a demonstration program

# Relief of Mandatory Discipline

- Application of immunity for violations under CFR 240 and 217
- BTS statute 49 U.S.C.111(k)
- Confidential Information Protection and Statistical Efficiency Act (CIPSEA)

# Example of Results

## *ASRS METRICS*

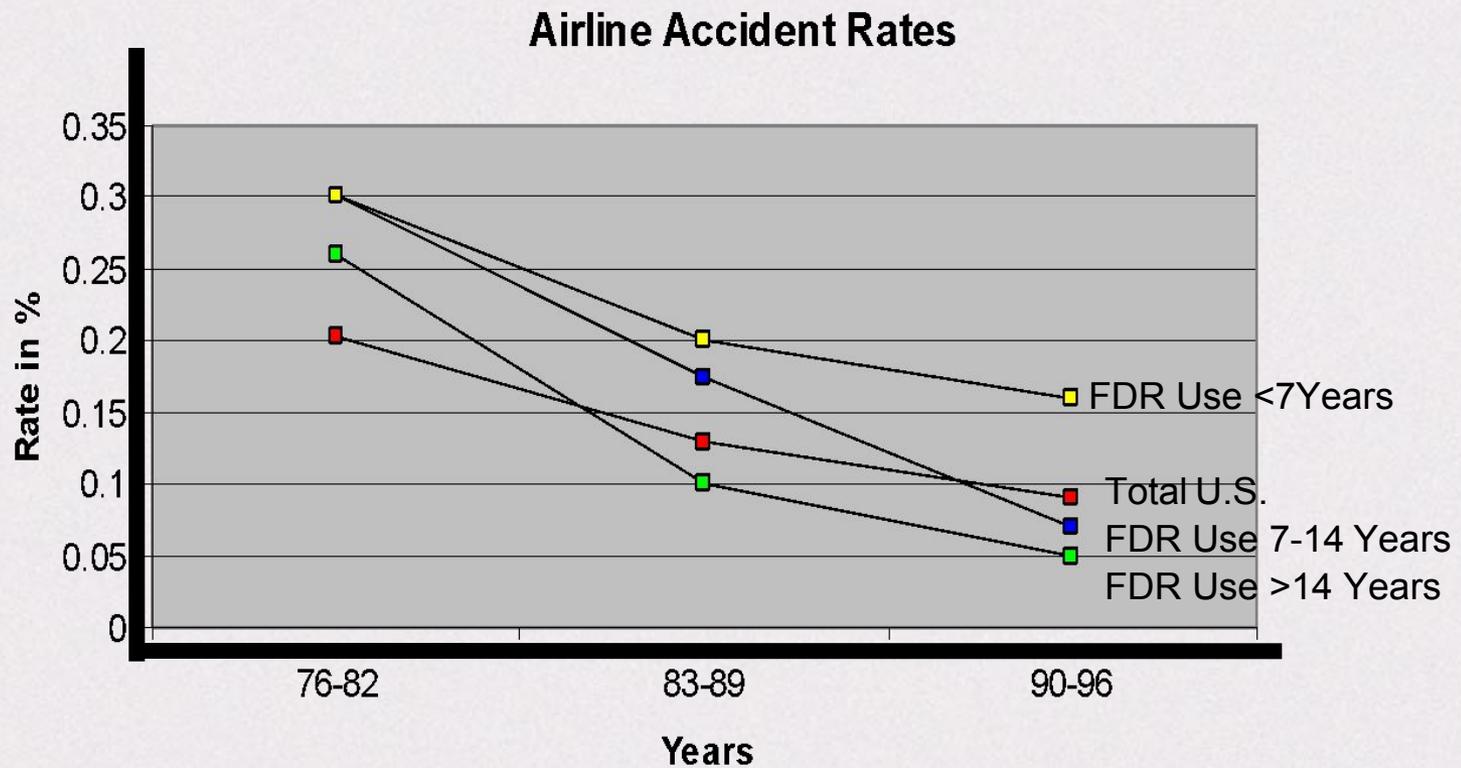
*1 April 1976 – 31 December 2001*



<b>Significant Item</b>	<b>Quantity</b>
Incident Reports Received	535,235
Safety Alert Messages Issued	3,085
Search Requests/Quick Responses	6,511
CALLBACK Safety Bulletins	268
DIRECTLINE Issues	10
Major Research Studies	59

Aviation Safety Reporting System (ASRS) Program Overview, Aviation Safety Reporting System Web Site

# Example of Savings in Other Modes -- FAA

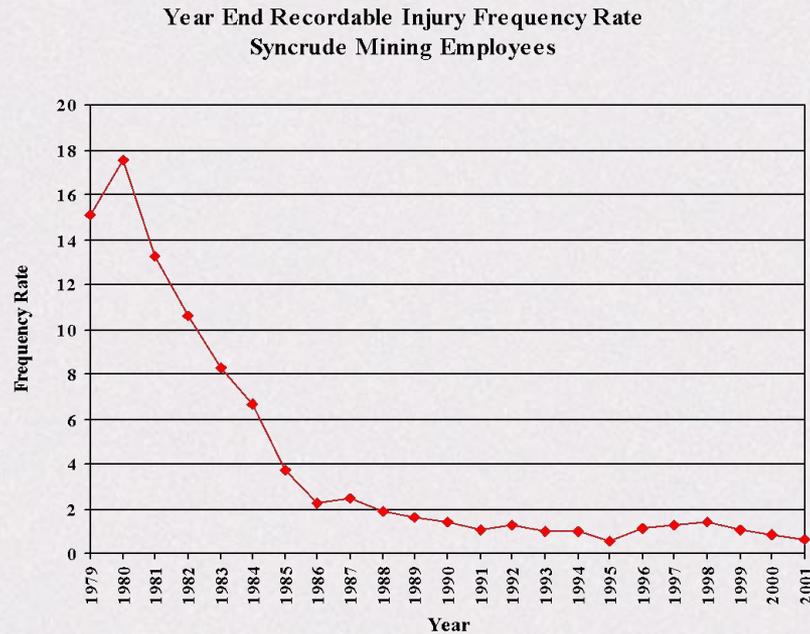


Benefits of Routine Flight Data Recorder Use, Chris Hart, FAA, April 2003

# Example of Savings in Other Modes -- Chemical

## Syncrude: Actual Figures

1/10<sup>th</sup> the injuries  
of previous years



33% One year reduction in lost time frequency, with a 35% increase in exposure hours in mines

\$1,000,000 Annual cost savings in insurance costs (workers comp. and property damage)

# Example of Cost Savings in Other Modes – IMISS<sup>1</sup>

## Potential Annual Percentage Cost Savings

10-15% in comprehensive premiums

6-10% in P&I premiums

25-35% in loss of man-hours

15-25% reduction in hospital hours

35-45% reduction in sick leave

30-40% reduction in environmental costs

50-90% reduction in damage to cargo

Could be \$100's of millions industry-wide



This and next two slides were developed using data and analysis criteria from internal U.S. Coast Guard cost figures for the EXXON VALDEZ marine casualty and oil spill, USCG "Prevention Through People" studies, and from a 1998 BIMCO review article written by Mr. P. Cremers, Executive Chairman, Anglo-Eastern Ship Management Ltd, Hong Kong.

# Example of Potential Losses in Other Modes -- IMISS

Potential Annual Losses: Poor quality in operation results in a minimum of \$1.1 billion losses within the maritime community per year

\$418,000,000 Property Damage

\$377,000,000 Fatalities

\$148,000,000 Injuries

\$130,000,000 Oil Spills

# Example of Cost Benefit Analysis in Other Modes -- IMISS

## Estimated Minimum Yearly Savings

Property Damage Savings (50-90%):

\$209,000,000 - \$376,000,000

Fatalities and Injury Savings (15-45%):

\$79,000,000 - \$236,000,000

Oil Spill Savings (30-40%):

\$39,000,000 - \$52,000,000

# Example of Savings in Other Modes -- USCG

Response costs decline 30% - 40%

- Potential USCG savings \$12 - \$16 Million
- Potential Industry savings \$39 - \$52 Million

Insurance premiums negotiated at a lower rate

- Potential Comprehensive premiums savings 10%-15%
- Potential P&I Premiums savings 6% - 10% savings

Potential Less seamen injuries and claims category savings range between  
15% - 45%

Potential % savings industry-wide scale = \$100's millions

From LCDR Scott J. Ferguson, USCG INTERNATIONAL MARITIME INFORMATION SAFETY SYSTEM (IMISS), April 13, 1999

# Estimated Yearly Savings in Railroad Industry<sup>1</sup>

Repairs Savings (50-90%): \$112,906,394 - \$203,231,510<sup>2</sup>

Fatalities and Injury Reductions (15-45%): 34 – 102<sup>3</sup>

Employee Fatalities and Injury Reductions (15-45%): 109 – 328<sup>4</sup>

Reduction in Damage to Cargo (50-90%): \$51,500,000 - \$92,700,000<sup>5</sup>

Sick Leave/Lost Workdays Savings (35-45%): \$21,808,155 - \$28,039,057<sup>6</sup>

1. Extrapolated from findings with IMISS and USCG on previous pages.

2. Based on 2004 figure of \$225,812,789 for Equipment Damage Costs Incurred in all FRA-reportable Train Accidents, all U.S. Railroads: AAR Analysis of FRA Train Accident Database.

3. Based on 2003 figure of 4 deaths and 223 non-fatal conditions, excluding trespassers and highway-rail accidents (FRA Office of Safety Analysis website -- Railroad Safety Statistics INTERIM REPORT 2003, JULY, 2004 TABLE 1-3: SUMMARY BY TYPE INCIDENT AND TYPE PERSON )

4. Based on 2003 figure of 19 employee deaths and 709 serious injuries, excluding trespasser and highway-rail accidents (FRA Office of Safety Analysis website query: FRA Office of Safety Analysis website -- Railroad Safety Statistics INTERIM REPORT 2003, JULY, 2004 TABLE 1-1: ACCIDENT/INCIDENT HISTORICAL SUMMARY, Part I)

5. Based on U.S. Class I freight railroads 2003 Freight Loss and Damage Claims of \$103,000,000: Source: AAR, Railroad Facts, p. 62.

6. Based on 2004 figure of 247,258 lost workdays (Days absent from work due to employee injuries and occupational illnesses, All U.S. Railroads: FRA, Railroad Safety Statistics Annual Report, Table 4-2, AAR Analysis of FRA Casualty Database for employees on duty) @ average 2004 freight railroad wage of \$65,550 (\$252 per day).

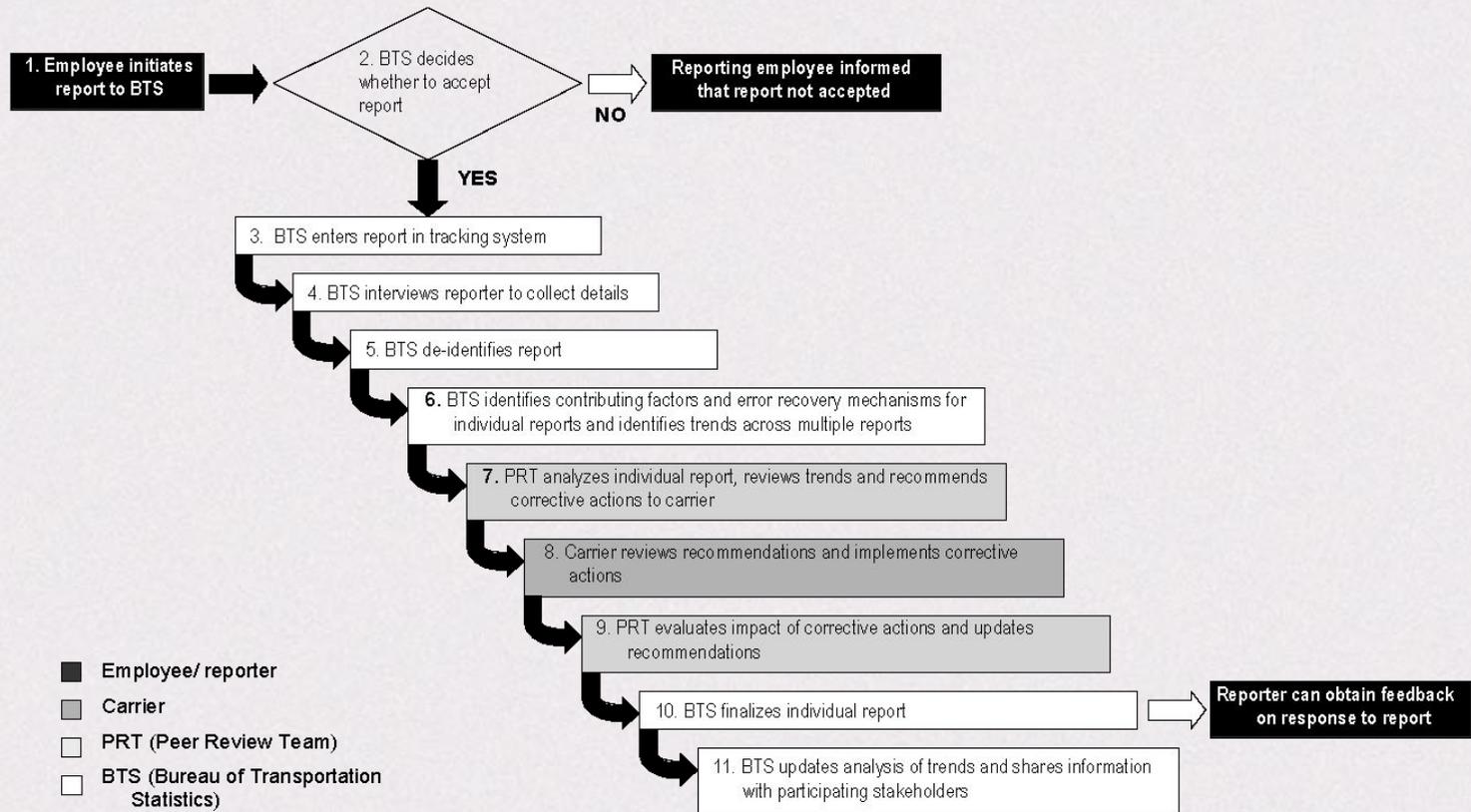
# Lessons Learned from Other Close Call Systems

- Encourage full disclosure
- Build and maintain trust
- Focus on learning not punishment: Assure confidentiality and (limited) protection from liability and enforcement
- Include all stakeholders and engage front-line staff in system design
- Structure system for easy organization and analysis
- 3rd party data collection and analysis
- Provide timely feedback to person who reported close call
- Provide continuous feedback to all key stakeholders, including reporter of close call

# Close Call Reporting System Key Elements

- Focused on impediments to safety
- Voluntary
- Confidential
- Provides the employee with protection from discipline and decertification

# Close Call Reporting System Model



# Success Criteria for Optimal Pilot Site

- Site is representative of industry in that learnings can be generalized
- Site wants to participate at both managerial and local levels
- Organizational culture supports project
- There is an existing cooperative relationship between management and labor
- Carrier needs to offer protection to employees who report
- Carrier has corrective action process in place, will take some corrective action and will provide feedback on corrective action taken
- Carrier needs resources to support project
- Site should be in a contained region with local autonomy

# Carrier Needs Resources to Support Project

- Training
- Mentoring
- Nurture change process
- Develop and implement communication plan
- Peer Review Team (PRT) meetings
- Join C3RS steering committee

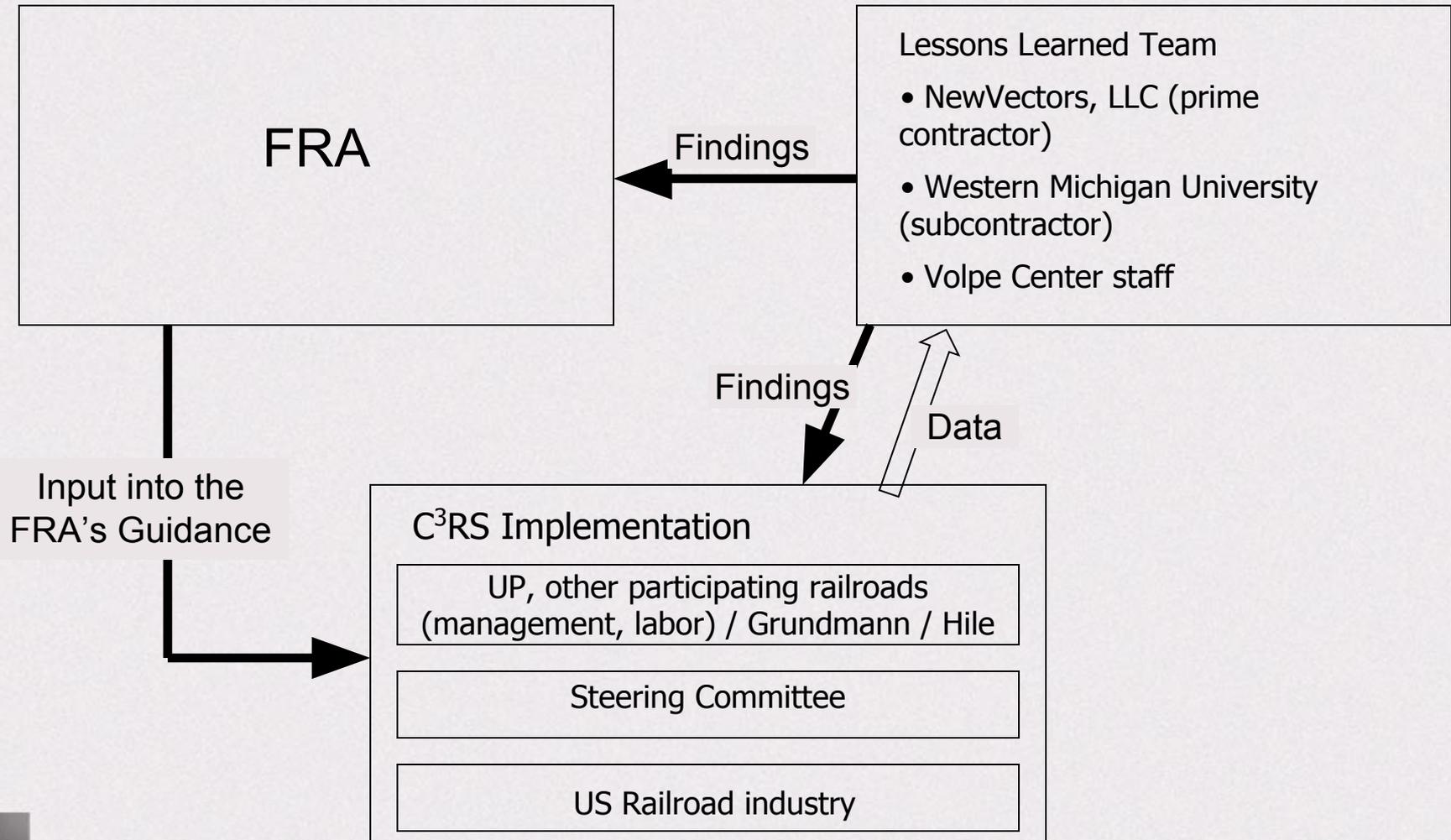
# Role of Lessons Learned Team

- Help carriers implement C<sup>3</sup>RS effectively
- Help Steering Committee Guide C<sup>3</sup>RS implementation
- Act as neutral third party
- Provide credible results
- Assure that lessons learned are documented and used
- Meet information needs of various stakeholders
  - FRA
  - PRT
  - Steering Committee
  - participating railroads labor & management
  - U.S. railroad industry labor & management

# Information Provided by the Lessons Learned Effort

- Ways to improve C<sup>3</sup>RS design and implementation
- Program impacts
  - Safety culture
  - Safety
  - Operations
  - Unanticipated consequences
- Conditions for C<sup>3</sup>RS to continue over time

# Lessons Learned Roles



# Next Steps

- Continue Planning Committee
- Conduct demonstration program
  - Potential locations identified
  - Best practices for protecting company liability
  - Study existing models for analyzing, organizing and reporting information
  - Will start with a simulation

# Model Memorandum of Understanding (MOU)

- Signed March 30, 2005
- Describes the provisions of the project
- Explains the rights, roles, and responsibilities of the participants, so that all parties understand what is expected of them
- The purpose is to gain full agreement from all parties
- Implementing MOUs will still be needed for each carrier pilot site

# For Us to Move Forward

**We need you  
to give us  
the go-ahead**

