

Managing Safety to Zero

A Definitive Application for Incident Reduction

dependability, expertise, and safety

Brad Dunker

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MS20 Program Outline

- u Leading Indicator History
- u What is MS20?
- u Program Components
- u Field and Software Mechanics
- u Sample Reports
- u Incident Reduction Model
- u Results

Leading Indicator History

- u 1995 – 1997 Start & Fizzle Era
- u 2002 Resurrection of Leading Indicators
- u Safety Fundamentals Flaw Recognized
- u Fundamentals and CII Best Practices Link
- u Idea how to measure what we now know
- u Managing Safety to Zero created

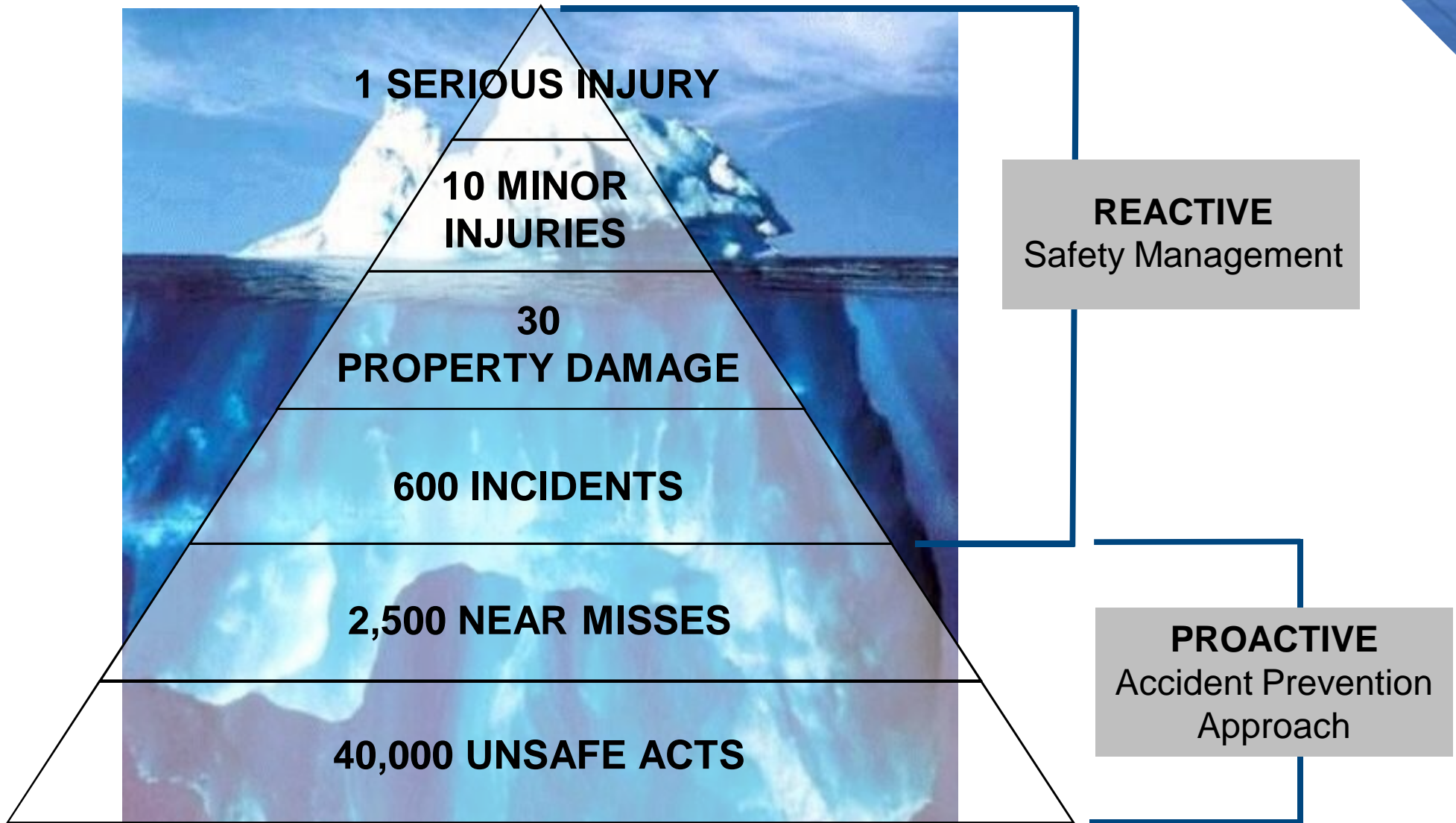
CIH Nine Industry Best Practices '01

- u Demonstrated Management Commitment
- u Staffing for safety
- u Safety Planning
- u Safety training and education
- u Worker participation and involvement
- u Recognition and rewards
- u Subcontractor management
- u Accident/incident reporting and investigations
- u Drug and alcohol testing

What is MS20?

- u Proactive HSE Management Program
 - Aligns with CII's Best Practices
- u Total site engagement tool
 - Management, Supervision & Craft
- u A quantifiable & measurable means of HSE performance
- u Tracks, Measures and Trends
 - Leading indicators
 - Conventional lagging indicators
 - Multiple Reports Capability
- u Web-based Application
 - Fluor Intranet application
 - Centralized secured database
 - Real time data
 - Global: Canada, Mexico, Europe, Middle East

Iceberg Approaches



MS20 Program Components

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Program Components

- u “SAPS” Audits (LI)
- u “SLIM” Metrics (LI)
- u “SPS” Surveys (LI)
- u Conventional Indicators (Lag)

I. SAPS Audits

“SAPS” - Safety Audit Performance System

- u Daily observation audit process
- u Focuses on unsafe acts, conditions and root causes of each.
- u Quantifiable & Measurable
 - Probability and severity of observations
 - More consistent focused approach
 - Hazard coding
 - Objectively driven – weighting predetermined
 - Target Goals

SAPS Performance Correlation

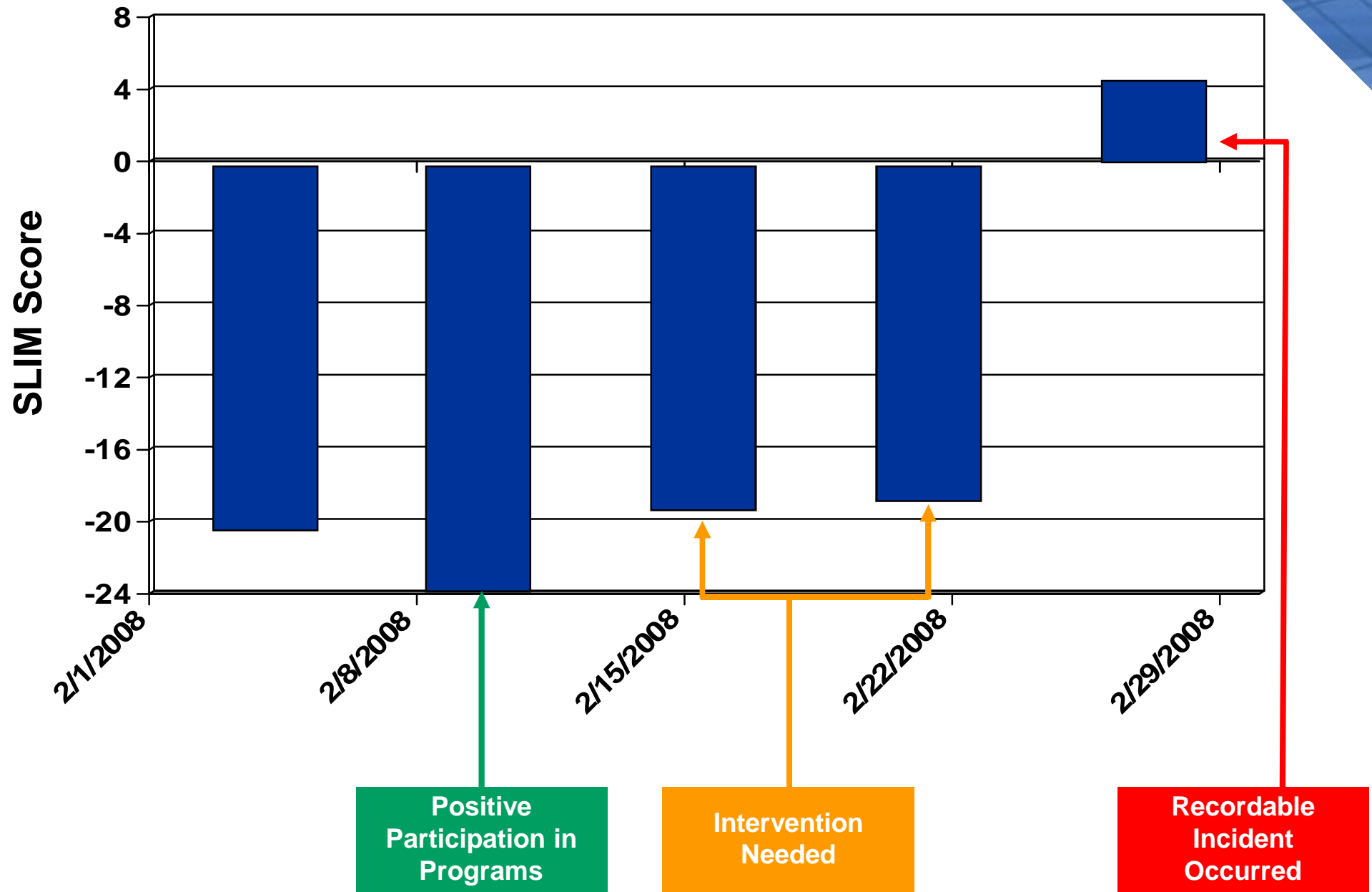
Projects utilizing Managing Safety to Zero in BLUE	Average Audit Score YTD
Projects without recordables	96.10
Projects with recordables meeting or achieving corporate TCIR goals	97.60
Intervention Target	95%
Projects not meeting corporate TCIR goals	92.60

II. SLIM Metrics

“SLIM” – Safety Leading Indicator Metrics

- u Quantifiable and measurable against established goals.
- u Shows the level of proactive activity put forth
- u Identifies intervention need
- u Seven key indicators
 - s Hazards Eliminated
 - s Safety Task Assignments
 - s Near Miss Incidents
 - s Adopt-a-Crew engagement
 - s Management Walk-Abouts
 - s Weekly Assessments
 - s Training

SLIM Scoring – “Below Zero is GOOD!”



III. SPS Surveys

“SPS” - Safety Perception Surveys

- u A 25-question safety perception survey with 7 Categories:
 - Training
 - Communication
 - Rules & Procedures
 - Work Environment
 - Safety Promotion
 - Management
 - Individual safety along with comment section
- u Survey objective – 10% of field typically
- u Results charted & analyzed
- u Conducted Quarterly

IV. Conventional Metrics

- u Key Performance Indicators – KPI
- u KPI is a multi-purpose component that includes a repository base for:
 - Incidents
 - Injury Statistics
 - New Employee Development Program



Program Mechanics

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Field Mechanics

u Training

- Orientation and site specific
- Mechanics, R&Rs, Accountabilities, Understanding reports

u Management in Action

- Formal program schedules developed
- Adopt a Crew / Pre job planning engagement daily
- Site Manager & HSE Manager audit walkabouts weekly

u Supervision Involvement

- Weekly assessments of first Line & crew by GF
- First line Safety Task Assignments completion and quality
- Simple tools provided

Field Mechanics

- u Craft Participation
 - Hazard Elimination (H.EL.P. Cards)
 - Committee driven
 - Incentivized
 - Near Miss reporting
- u Safety Department SAPS Audits
 - Daily temperature of current performance
 - Litmus test of MS20 elements
- u Field Survey
 - What's working or not working
 - Management to make effective change
- u Training
 - Where we fall short

Software Mechanics

- u Field data collected
 - Centralized collection points for field drop off
 - All data organized
- u Data input by Input Agent (s)
 - Quantity input
 - Weekly basis
- u Reports and trends generated
- u Multiple Level Reviews
 - Local (site team and client)
 - Regional
 - Corporate
- u Actions taken
- u Cycle back to field mechanics

Sample Reports

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Reports - SAPS



Weekly SAPS Summary

06/14/2008 to 06/20/2008

Project Number: 000001
Project Name: Testing

Project Statistics

Employees on Site:	338
Employees Observed:	467
MTD Hours:	49,976
YTD Hours:	207,714
PTD Hours:	207,714

Daily observations
for week

Leading Indicators

Unsafe Conditions Reported:	18
Unsafe Acts Reported:	3
Total Unsafe Conditions / Unsafe Acts Reported:	21

Acts & conditions

Items not corrected

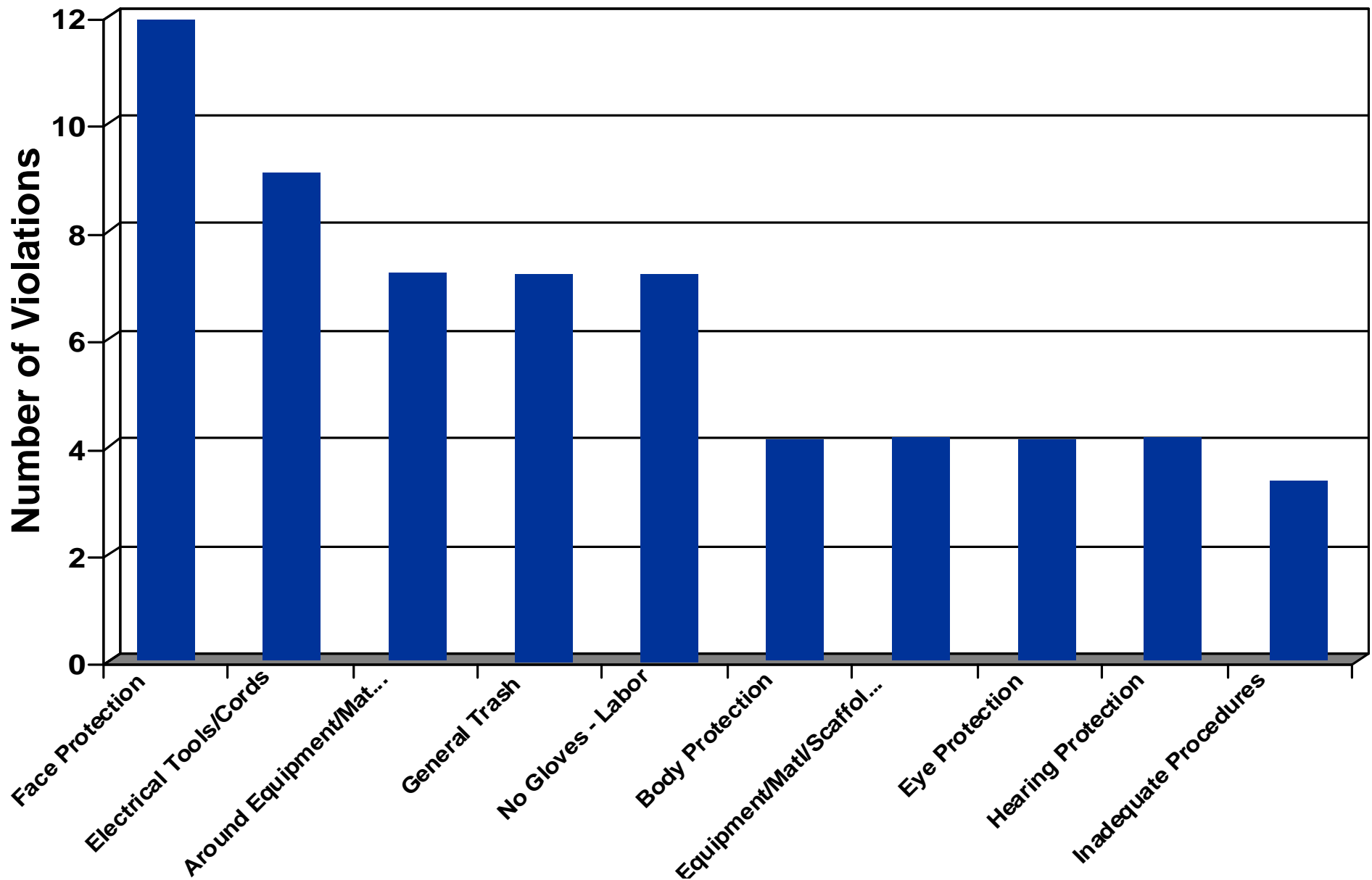
Total Points:	14.8
Outstanding Action Items for this week:	0

Scoring

Compliance Frequency Index:	Goal: 95+	Actual: 95.5	Compliancy: 95.5%
Compliance Severity Index:	Goal: 1.0	Actual: 0.7	

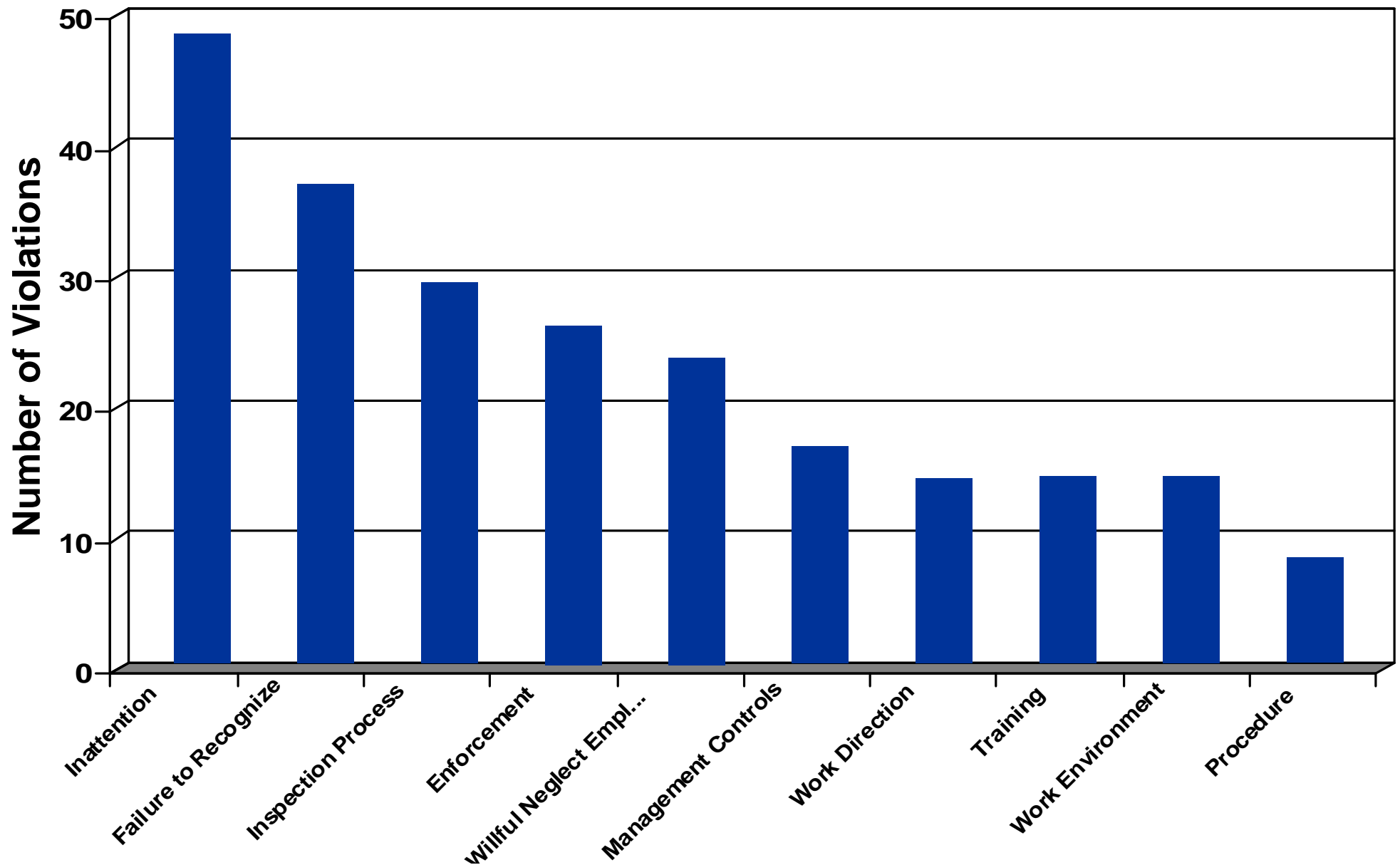
Reports - SAPS

Top 10 Recurring Violations



Reports - SAPS

Top 10 Root Causes of Violations



Reports - SLIM



Weekly SLIM Summary















08/15/2009 to 08/21/2009

Project Number: 000000001
Project Name: Company C

Project Statistics

Fluor Employees:	71	Weekly Hours:	18,283	Recordable Incident Rate:	0.00
Subcontractors:	267	MTD Hours:	49,976		

SLIM Assessment

			Compliance	Points
Hazard Elimination:	Goal: 338	Actual: 33		
Near Miss:	Goal: 1	Actual: 0		
Management Walkabouts:	Goal: 2	Actual: 2		
Self Assessments:	Goal: 5	Actual: 21		
STA:	Goal: 169	Actual: 179		
Adopt-A-Crew	Goal: 10	Actual: 71		
Training:	Goal: 54 hrs			
Weekly Score:	Points Goal: 30	Actual Points: 21		

RIR Goal: Max 0.75

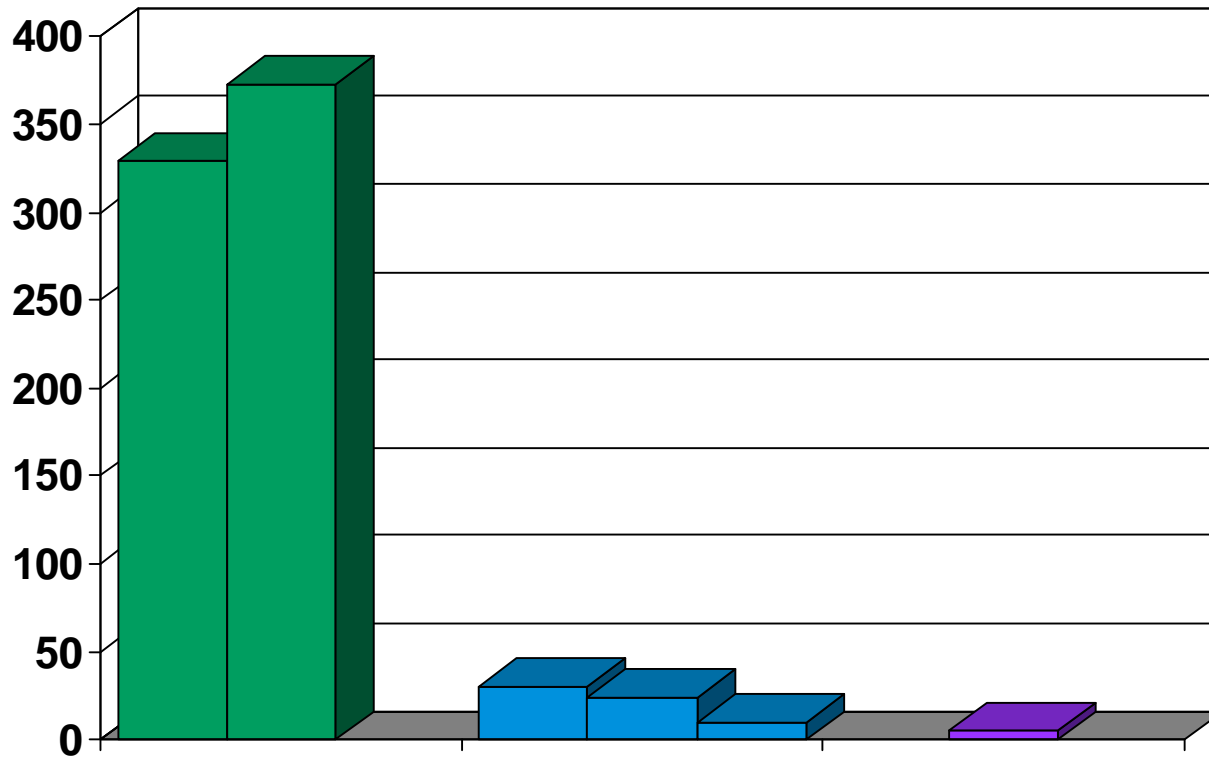
RIR Actual: 0

RIR Debit: 0

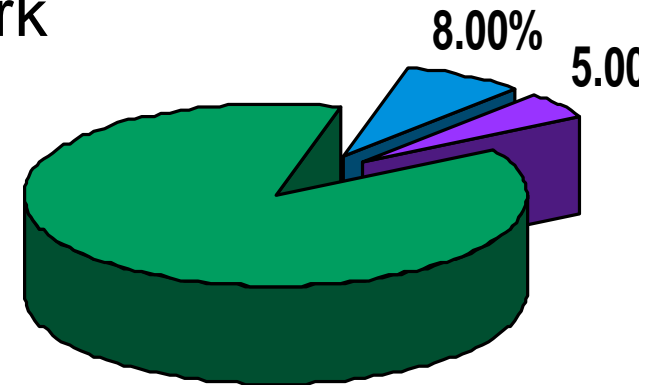
SLIM Score:-21

Reports - Survey

- The safety orientation given to new construction employees provides adequate information to start work



Strongly Agree	Agree	Neither	Disagree	Strongly Disagree	N/A	Replies
329	373	30	24	10	5	771



91.05%

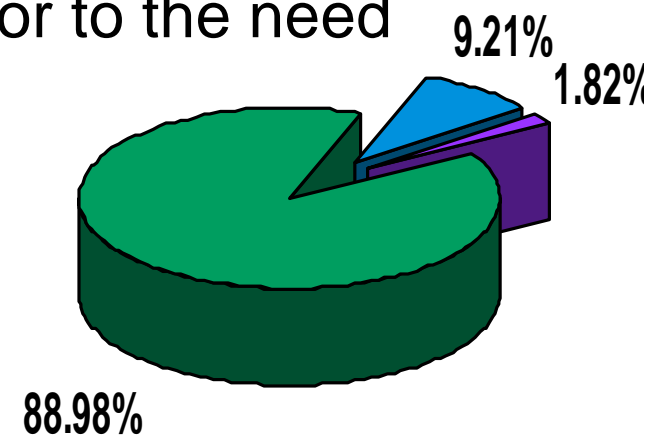
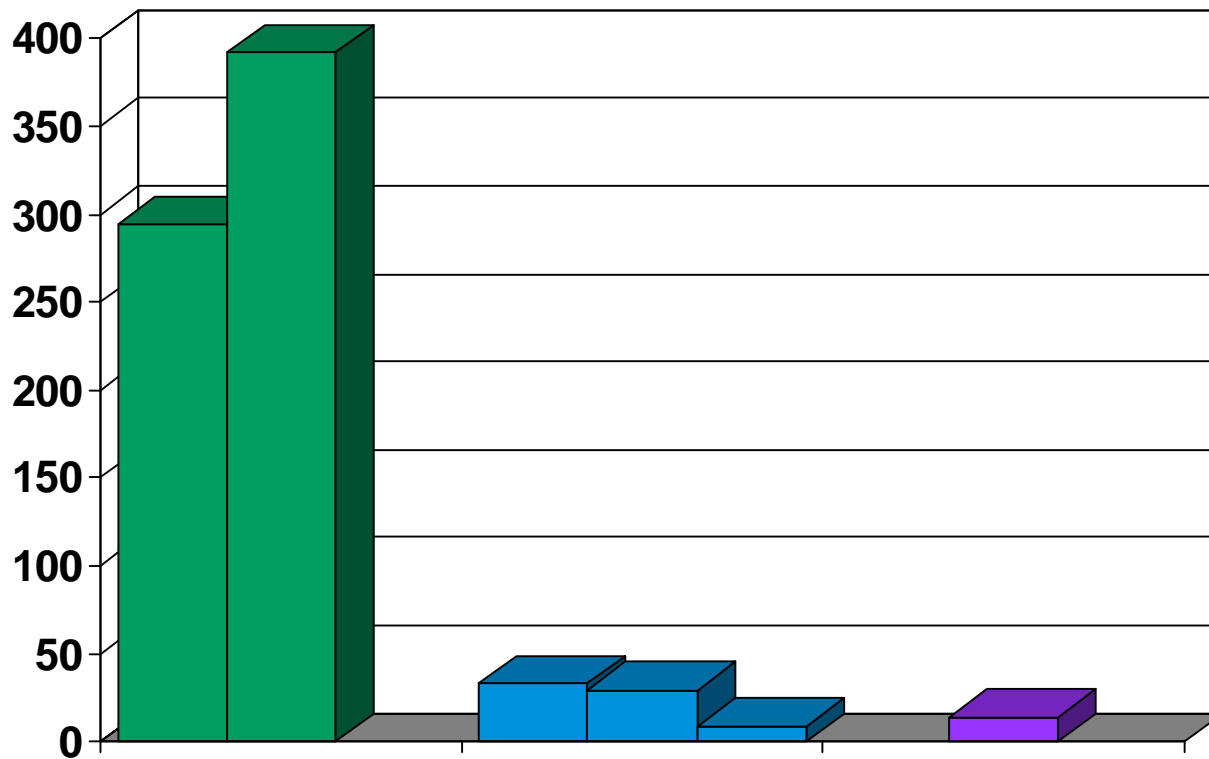
Positive Responses	% Positive
702	91.05%

Negative Responses	% Negative
64	8.00%

N/A Responses	% N/A
5	1%

Reports - Survey

- Additional safety training for specific tasks (confined space, man lift, and scaffold etc.) is completed prior to the need



Positive Responses	% Positive
686	88.98%

Negative Responses	% Negative
71	9.21%

N/A Responses	% N/A
14	1.82%

Reports - KPI



Weekly KPI Summary

08/15/2009 to 08/21/2009

Project Number: 000000001
Project Name: Company C

Project Statistics

Fluor Employees: 307
 Subcontractors: 1,724
 Weekly Hours: 155,027
 MTD Hours: 304,803

New Employee Development Program

New Hires this Week: 22
 Mentors Assigned this Week: 2
 NEDP Evaluations Submitted: 19

Recordable Incident Statistics

Medical Treatment Cases: 0
 Restricted Workday Cases: 0
 Lost Workday Cases: 0

Additional Trailing Statistics

First Aid Cases: 3
 Vehicle/Equipment Cases: 0

Training	
Subcontractor Employee Training	
Aerial Lift (Scissor Lift)	10
Back Safety	14
Client Orientation	9
Confined Space/Enclosed Space	90
Crane Safety Awareness	3
Defensive Driving	37
Electrical/Live Voltage Safety	14
Emergency Evacuation	590
Equipment Flag Person/Spotter	16
Eye Protection Training	27
Fall Protection	9
Fire Watch	57
TOTAL	188

Incident Types	
First Aid Cases	
Eye(s)	Inflammation
Multiple Body Parts	Other
Thigh	Abrasion

Systematic Approach “Incident Reduction Model”

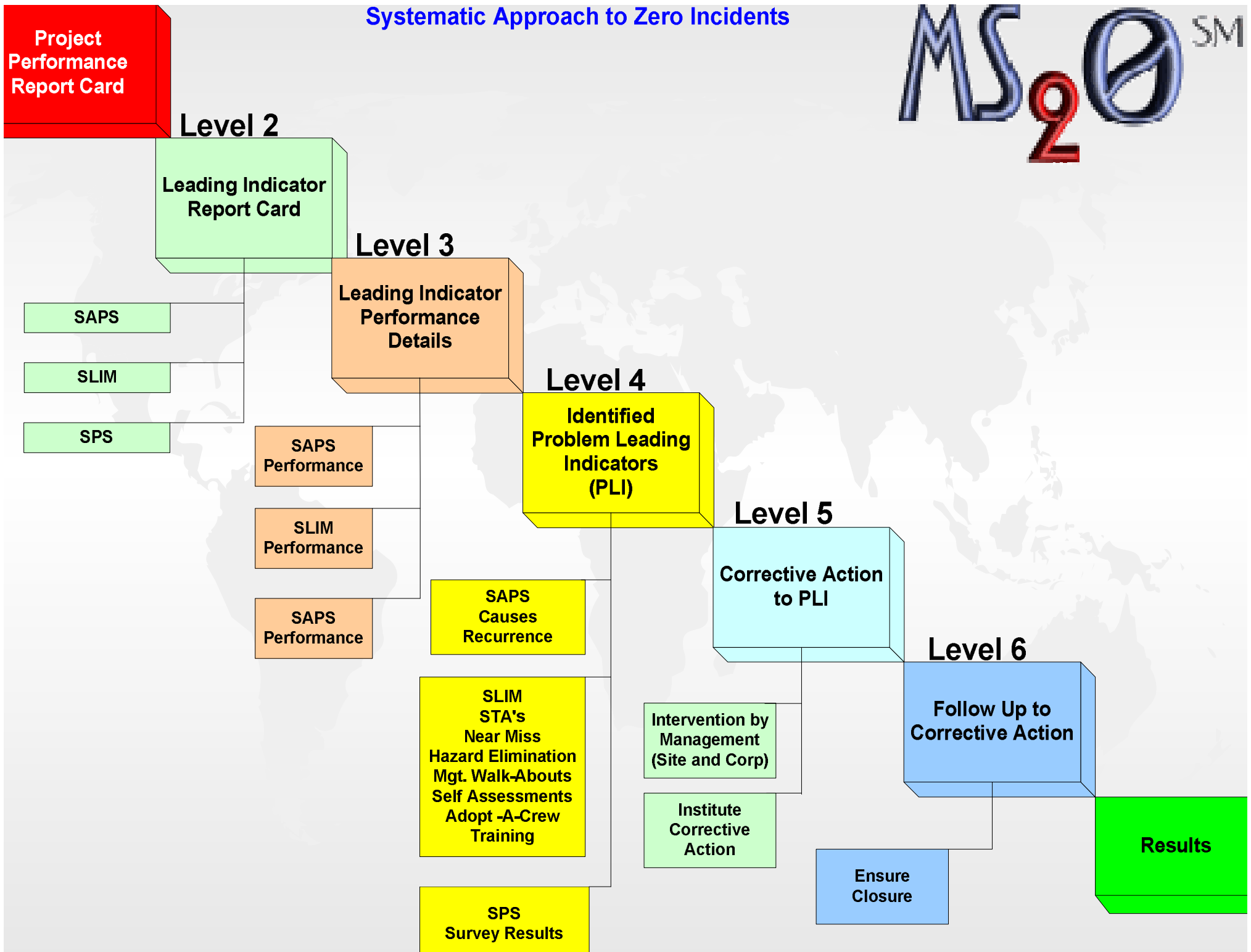
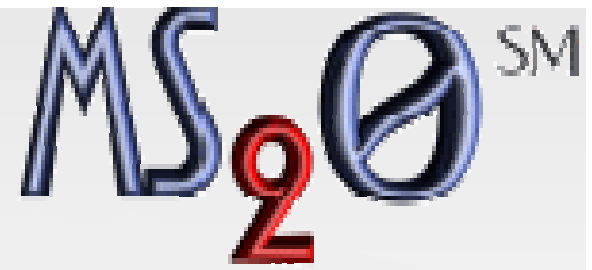
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Systematic Approach to Zero Incidents



Level 1 – Project Performance Rpt Card



Project Performance Report Card

WHY?

		Company 1	Company 2	Company 3	Company 4
August	8/7/2009	B	C	C	B
	8/14/2009	B	C	D	C
	8/21/2009	A	B	D	B
	8/28/2009	B	A	C	B

Weekly Average
B
C
B
C

Monthly Average	B	B	C	B
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B

September	9/4/2009	A	B	D	B
	9/11/2009				
	9/18/2009				
	9/25/2009				

B

Monthly Average				
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Level 2 - LI Performance Card



Leading Indicator Performance Card

Week Ending 8/21/09

	Company 1	Company 2	Company 3	Company 4
SAPS - Compliance Frequency Index (CFI)	B	B	D	B
SAPS - Compliance Severity Index (CSI)	A	B	F	A
SLIM - Safety Leading Indicator Metrics	A	B	C	B
SPS - Safety Perception Survey	A	B	C	B

Performance by Component

B
B
C
B

Performance by Company	A	B	D	B
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WHY?

Overall

B

Level 3 - Performance Details



Weekly SAPS Summary

08/15/2009 to 08/21/2009

Project Number: 000000001
Project Name: Company C

Project Statistics

Employees on Site: 178
Employees Observed: 217
MTD Hours: 27,018
YTD Hours: 145,354
PTD Hours: 257,758

WHY?

Leading Indicators

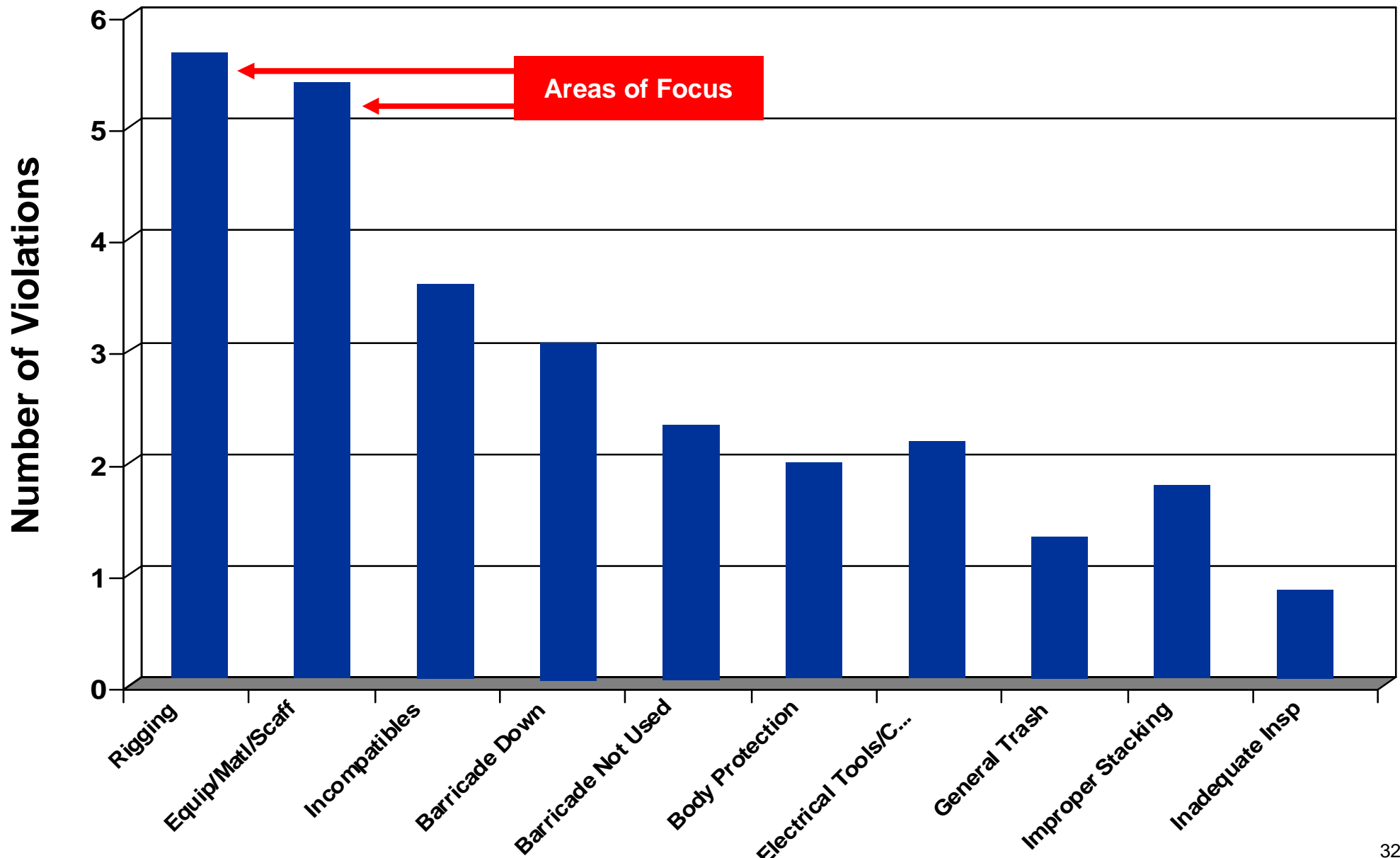
Unsafe Conditions Reported:	14	Total Points:	13.6
Unsafe Acts Reported:	6	Outstanding Action Items for this week:	0
Total Unsafe Conditions / Unsafe Acts Reported:	20		

Scoring

Compliance Frequency Index:	Goal: 95+	Actual: 74.2	Compliance:	74.2%
Compliance Severity Index:	Goal: 1.0	Actual: 1.5		

Level 4 – Problem LIs (PLIs)

Top 10 Recurring Violations



Level 5 - Corrective Actions for PLIs

- u Developed Recovery Plan
- u Communication
 - Staff Meeting/Safety Committee mtgs
 - Posting Results in Break Areas
 - Mass Safety Meeting
 - Toolbox Topic/Pre Task reviews
- u Training
- u Focused Audits on Identified Problems
 - Example: Rigging connections, inspections, risk behaviors
 - Example: Scaffold inspections, material quality, construction quality

Level 6 - Follow up

- u Ensure Follow up & Closure through:
 - Field Observations
 - s SAP Audits
 - s Management Audits
 - Monitoring MS20 results
 - s Consistent trending review
 - Action Item Log

MS20 Benefits and Results

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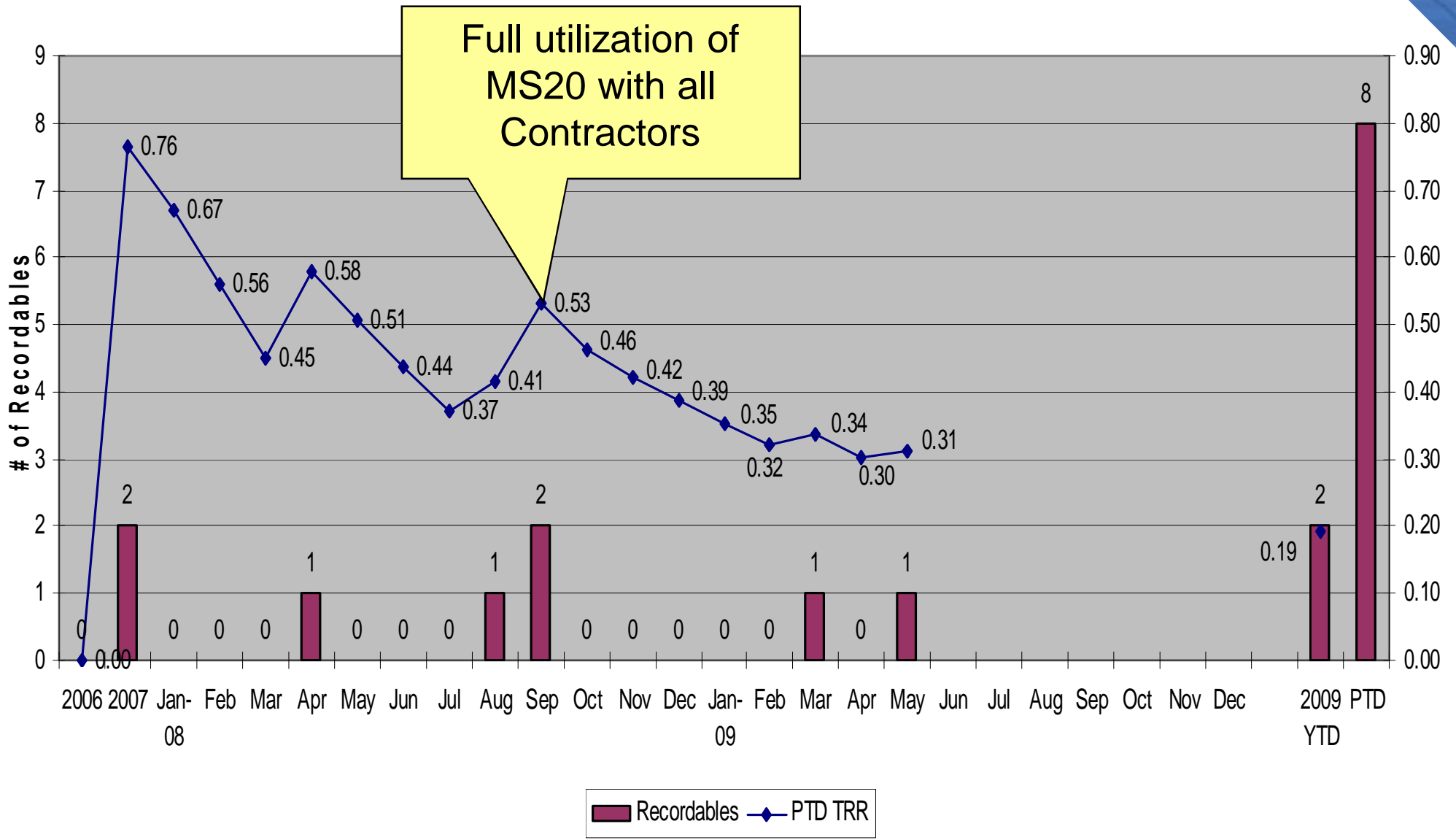
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Benefits of Using MS20

- u Initiates Proactive management vs reactive management and correlates with CII research.
- u Engages Management, Supervision & Craft
- u Provides immediate results at the local level.
- u Allows more timely safety intervention and enhancement.
- u More consistency on trending issues.
- u Supported and analyzed from regional & corporate levels.
- u Measures the Fundamentals of Safety
- u Systematic Approach to Zero Incidents

Best Benefit – Injury Reduction!



Questions & Answers