2002

An Integrated Approach to Behavioral Based Safety

Jim Spigener

BST

Follow this and additional works at: http://digitalcommons.unl.edu/usdot

Part of the Civil and Environmental Engineering Commons

http://digitalcommons.unl.edu/usdot/25
3 Types of At risk

- **Enabled** = within persons control - conditions and systems support
- **Difficult** = can be done but takes extra effort
- **Non-enabled** = not within persons control
Behavioral Science Technology, Inc.

The behavior-based performance improvement engine

Production quality
Error reduction
Customer service
Spill prevention
Safety

Behavior-based Performance Improvement
Primary Concepts

- Process not Program
- Adaptation vs adoption
- Employee Involvement
- Don’t blame employees
- Parallels with quality
- Develop internal resources for implementation
- Objective: Continuous Improvement
- Management & workforce must understand and buy-in
Barriers To Continuous Safety Improvement

- Hazard recognition and response
- Business systems
- Rewards/recognition
- Facility and equipment
- Disagreement on safe practices
- Personal factors
- Culture
- Personal choice
Fewer Accidents

- Safety Training
- Policies
- Slogans
- Reprimands
- Regulations
- Safety Meeting
- Contests & Awards
- Committees & Councils
Safety Activities

Fewer At-Risk Behaviors

Fewer Accidents
Behavior

An Observable Act
ABC Analysis

Antecedents
Anything which precedes and sets the stage for Behavior

Behavior
An observable act

Consequences
Anything which directly follows from the Behavior
Understanding System Influences

ABC Analysis

Antecedents
  Goggles don’t fit
  Goggles are in poor condition

Behavior
  Worker fails to wear goggles when grinding

Consequences
  Comfort    Better Vision    Exposure to Injury
Consequences

Safe Behavior

At-risk behavior

Consequences

Antecedents

?
The CBI® Tools

- List of behaviors that have caused accidents
- Extracted from accident data
- Steering committee adds others based on their knowledge of workplace behavior
Part One — CBI® Data Sheet

Critical Elements

- No names / no discipline
- Behaviors grouped into categories
- Selected variables used for sorting data
- Comment section
Part Two — CBI® Definitions

- Establishes in observable terms a consistent measurement of workplace behavior
- Ensures consistency between observers and observations
- Definitions are not a rewrite of rules and regulations
Example Definition

4.1 Line of Fire:
Is the person positioning self to avoid getting contacted, sprayed, overexposed, struck or hit by something if it lets go, gives way, releases or falls?

For Example –

1. Is person avoiding standing under suspended load?
2. Is person standing out of path of flying debris?
3. When breaking flange does the person break nuts farthest away first?
4. Does person avoid looking into pipe being rodded out?
Observers

TO START: Train a Core Group of Hourly Workforce

GOAL: 100% of Site Population Trained

Typical Frequency of Observation

TO START: 2 per week Per Observer

DURATION: 5 – 30 Minutes
Analyze Data / Select Focus / Develop Action Plan
As Safe Behavior Increases, Recordable Rates Decrease

Graph showing the relationship between recordable rate and percent safe over different periods.
Hand Protection

Increased from 80% Safe to 98% Safe
Industrial Hygiene Behaviors
Increases in Percent Safe over Time

Percent Safe

Period 1  Period 2  Period 3  Period 4  Period 5

Hearing Protection  Eye/Face Protection  Hand Protection

Problem Solving
Feedback
Lumber Mill
High Percent Safe Scores are Associated with Low Recordable Rates

<table>
<thead>
<tr>
<th>Percent Safe</th>
<th>Recordable Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>91% to 92%</td>
<td>11.89</td>
</tr>
<tr>
<td>93% to 94%</td>
<td>9.40</td>
</tr>
<tr>
<td>95% to 96%</td>
<td>3.95</td>
</tr>
</tbody>
</table>
Sustainability of Implementations

Percentage Still Using Their Processes

Years | Percentage
--- | ---
13 | 100%
12 | 88%
11 | 92%
10 | 73%
9 | 80%
8 | 69%
7 | 98%
6 | 79%
5 | 93%
4 | 100%
3 | 99%
2 | 98%
1 | 98%
This Year | 100%