

# MEASURING SAFETY THE RIGHT WAY PROACTIVELY!

180° Turn From Traditional Safety

Proactive safety metrics that drive  
safety performance in any industry

Anne M. Bevington, Vail Resorts, Inc.

[abevington@vailresorts.com](mailto:abevington@vailresorts.com)

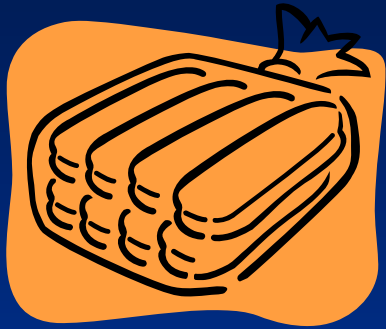
# Anne M. Bevington

## *Who am I and What do I know?*

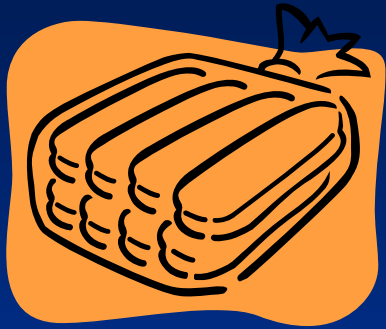
- Over 16 years in the EHS Field
- Last 13 years in integrated EHS positions
- 5 years as a regulator
- 6 years in heavy industry – glass, fiberglass, lead-acid batteries
- 7 years in Food and Beverage
- Just Starting a new chapter in my career

**SNOW SNOW SNOW SNOW SNOW**

What do all these things have in common?



What do all these things have in common?

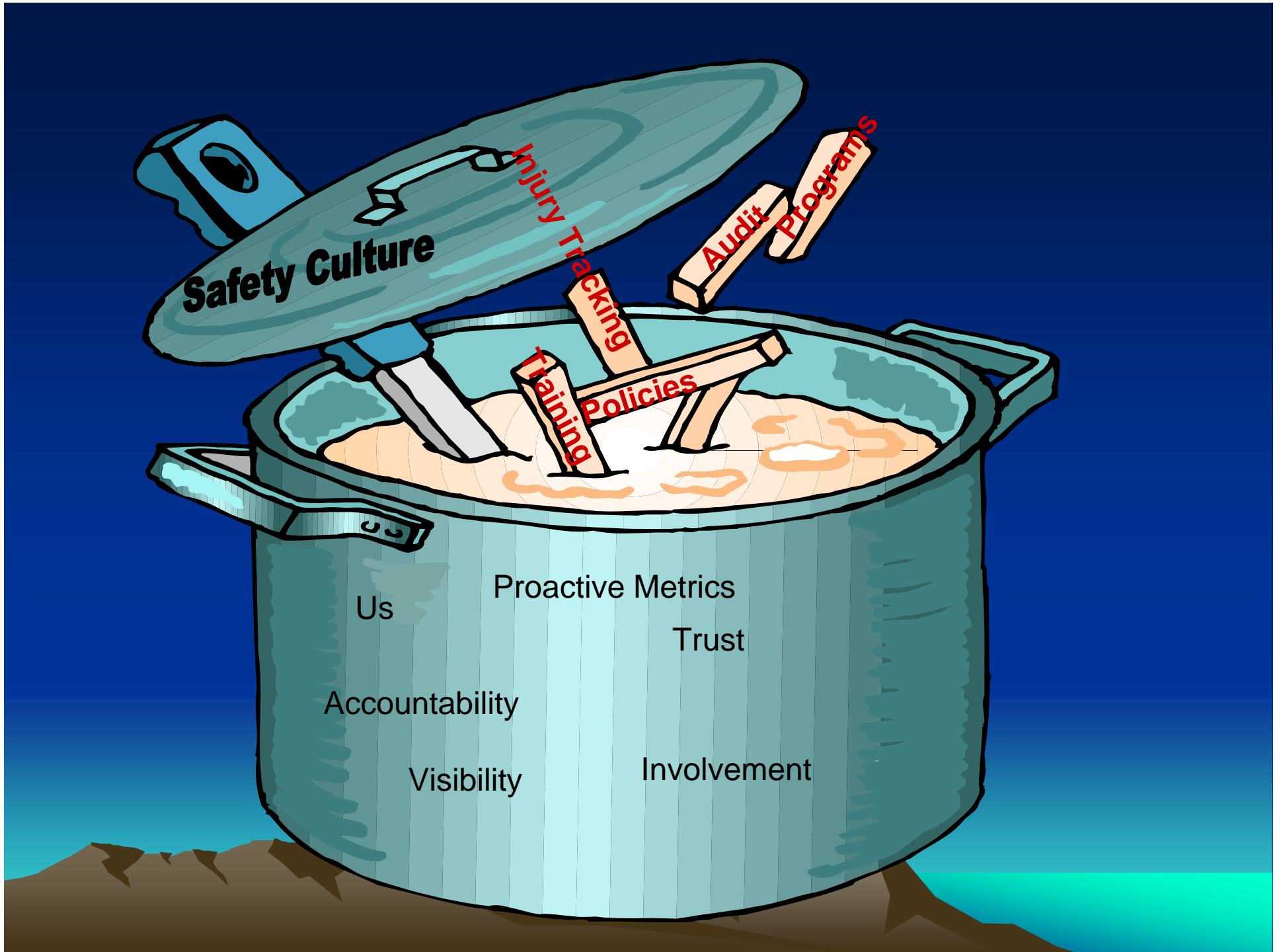


PEOPLE



# What is Safety Culture?





**Safety Culture**

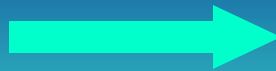
**Injury Tracking**  
**Audit Programs**  
**Training**  
**Policies**

Us  
Proactive Metrics  
Trust  
Accountability  
Visibility  
Involvement

# What are we really trying to do? Drive Culture Change – Where are We?

No Accountability	➔	Accountability
No Visibility	➔	Visibility
No Involvement	➔	Involvement
Mistrust	➔	Trust
We vs. They	➔	Us
About injury #s	➔	Proactive Metrics
Top Down	➔	All levels
Reactive	➔	PROACTIVE

CULTURE



SAFETY CULTURE



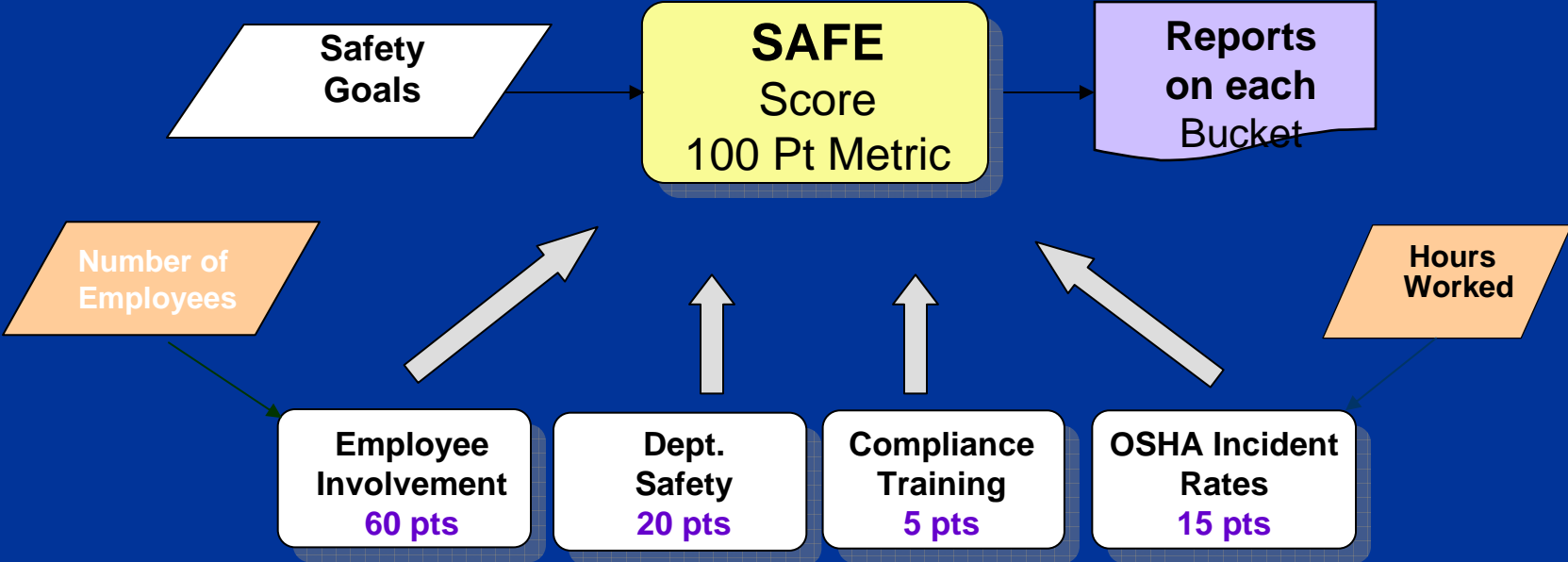
# What Is My Formula For Success In Safety and How to Impact Culture?

- VISIBILITY
- ENERGY

HOW DO YOU CREATE THIS AND KEEP  
IT?

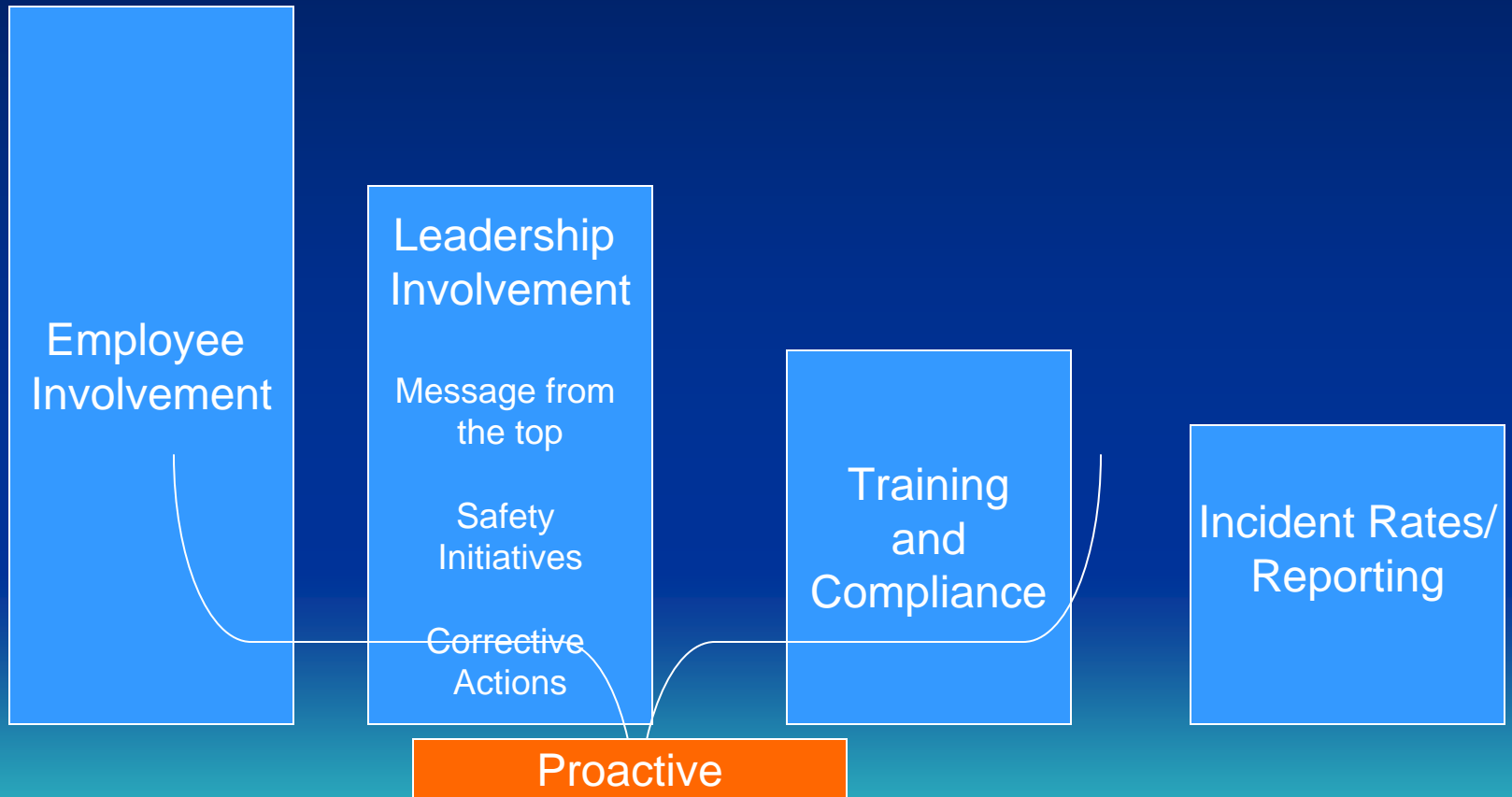


# Safety Accountability For Employees (SAFE) Flowchart



# Creating a Safety Culture

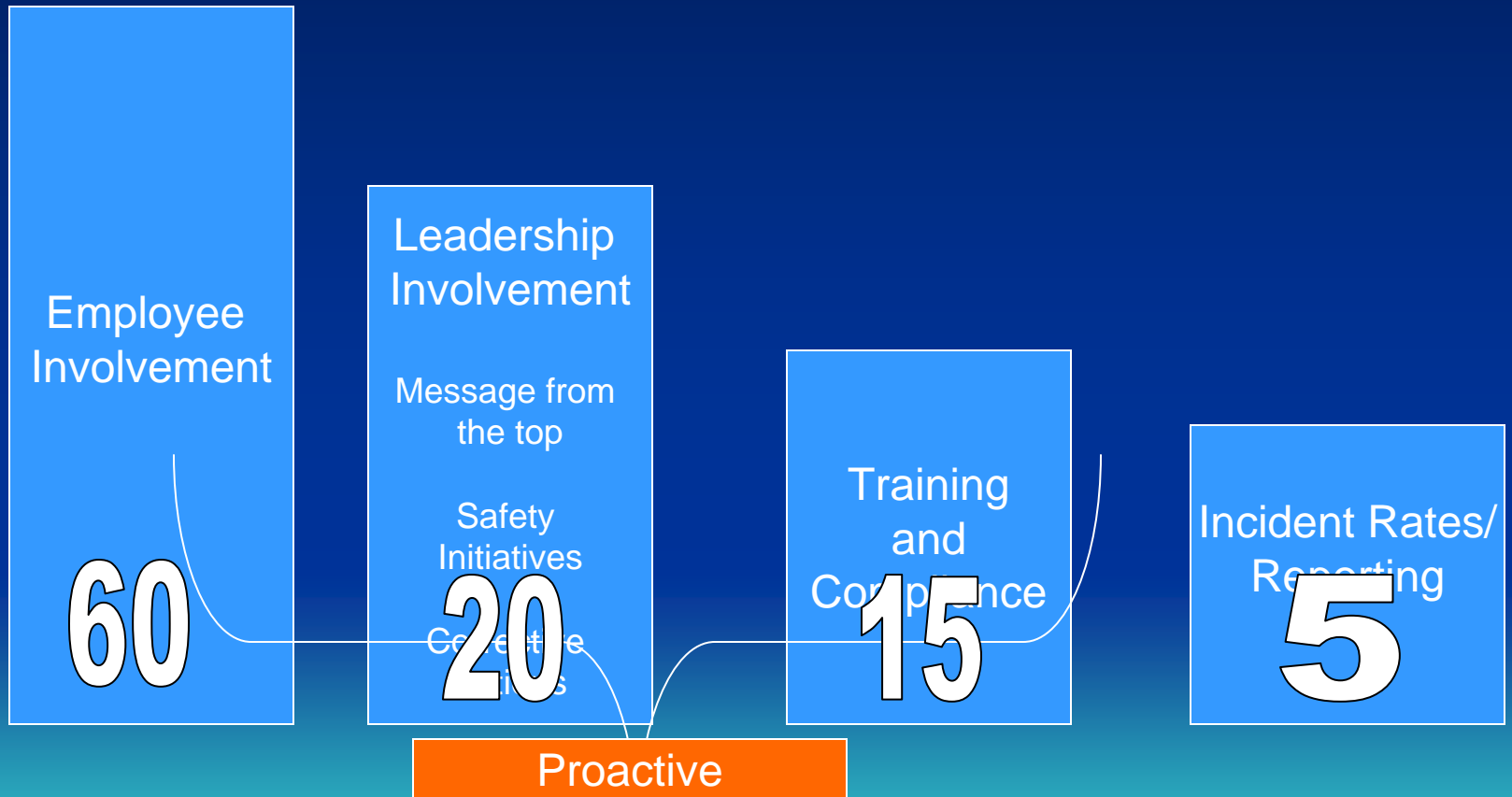
VISIBILITY AND ENERGY



Safety Policies, Procedures, Programs, Systems, etc..

# Creating a Safety Culture

VISIBILITY AND ENERGY



Safety Policies, Procedures, Programs, Systems, etc..

# SAFE – WHAT is it?

- Safety Management Process that focuses on safety **proactively** vs. reactively
- Safety Management Process that does not focus on injury rates, OSHA numbers or work comp dollars. It is focusing on what employees can control.
- Safety Management Process that creates **Visibility** at all levels of an organization
- 100 Point Scoring Metric - KISS
- Combination of 4 Primary Safety Metrics
  - Individual Participation
  - Team/Department/Functional Area Initiatives
  - Safety Training
  - Incident Rates



# SAFE – Why Does it Work?

- There is always FOCUS on Safety even when there is NOT an injury (**Visibility**)
- Changes the number and type of safety conversations across an organization
- Creates a common SAFETY Language
- Peer Pressure
- Emphasis is on behaviors
- Practical tool that people understand – Employees know how to Win

# SAFE - Why Does it Work?

- The rules of the game are known. Employees know what to do and how they can contribute.
- **ACCOUNTABILITY!!** Creates Individual, Team and Leadership Accountability for Safety
- It gives you the ability to course correct before something bad happens – Leading Indicator




# SMP – How Does it Work?

- Simple Computer Database that tracks four categories and combines them for an overall SMP Score.
- We manage what we measure.
- Power is in the data. Individual, team, department and Resort level.
- Constant feedback to all levels of the organization creates **visibility** and **energy**.



# SAFE – WHO Does it?

- EVERYBODY!!!
  - Each employee must participate at defined levels for “credit” (2-5 Activities/month)
  - Teams (Areas, Departments) must complete a Safety Initiative every month
  - Compliance Training or Activities must be complete by each Department, Team, etc. (Confined Space Training, Area Audit, Incident Review, Corrective Actions, etc.)
  - Reports are generated for review by all levels of the organization.
  - Individuals and Teams manage their safety not management
- 

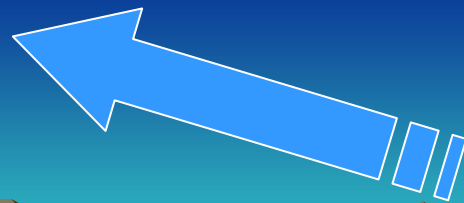
# Elements of Proactive Safety

What do we do in Each Category

- Employee Involvement
- Leadership/Team Involvement
- Training and Compliance
- Case Injury Rates

**Proactive**

**Reactive**



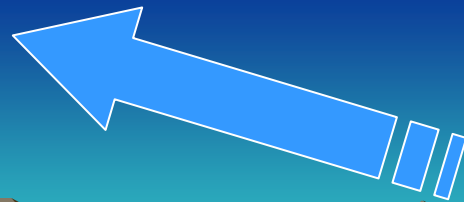
# Elements of SAFE

## Four Key Components

- Individual Participation
- Team Participation (Initiatives)
- Compliance Training
- Case Injury Rates

**Proactive**

**Reactive**



# Individual Participation

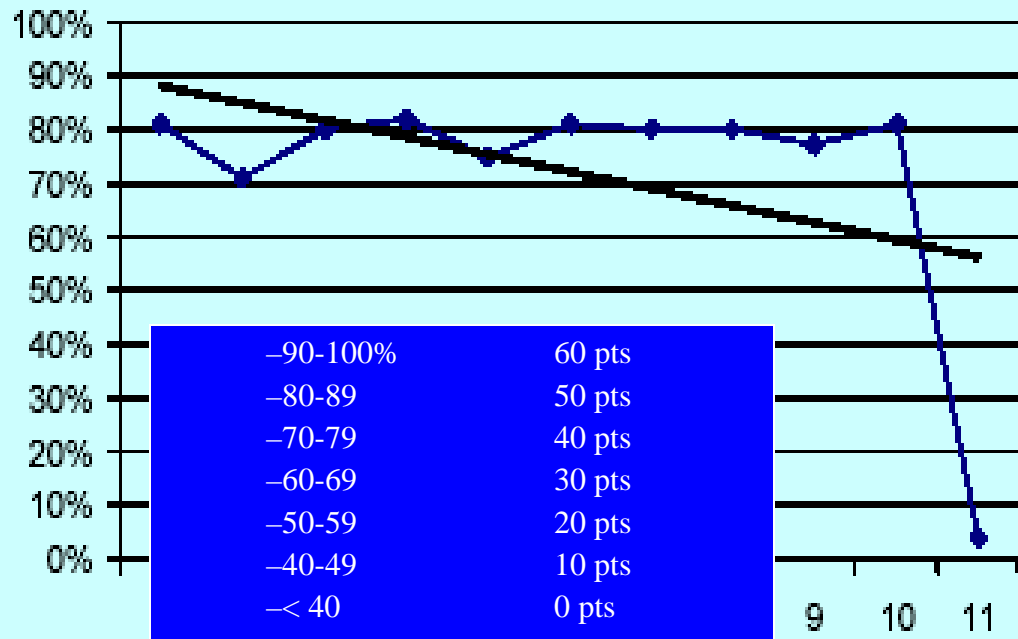
60 pts

Coors Safety Management Process

Year: 2004

## GBBU Participation

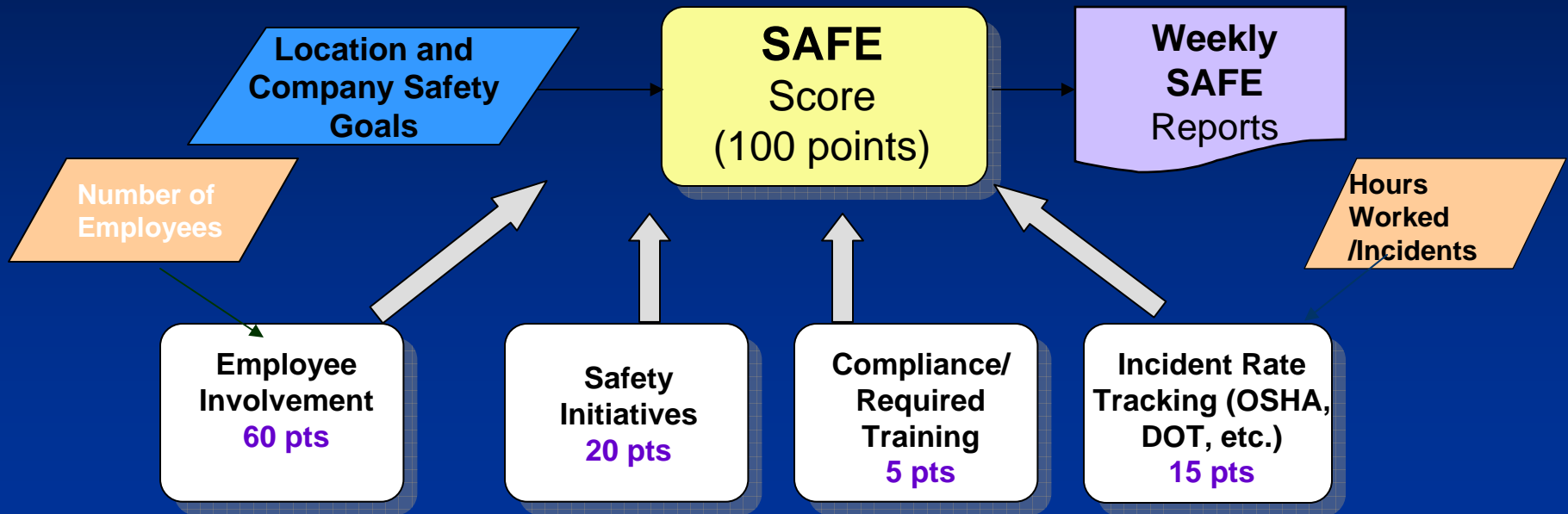
% of employees participating in SMP, by period



-90-100%	60 pts
-80-89	50 pts
-70-79	40 pts
-60-69	30 pts
-50-59	20 pts
-40-49	10 pts
< 40	0 pts

- Observation Cards – STOP, BST, GMP,
- Job Safety Analyses
- JSA Training
- JSA Auditing
- Safety Meetings
- Safety Audits
- Maintenance Walkthroughs
- Pre-Shift Stretching
- IH Sampling Requests
- IH Sampling Results Team
- Ergonomic Assessment Requests
- Ergonomic Assessment Actions
- Project Walkthroughs
- Safety Workorders
- Incident Reviews
- Safety Visual Aids
- Hazard Alerts
- Individual Safety Initiative
- Housekeeping Audit
- PPE Fair
- Safety Fair
- Brown Bags

# *Proposed* Safety Accountability For Employees (SAFE) Flowchart *Vail Resorts, Inc.*



- Safety Observations – Need to generate Data – What’s going on out there?

- Safety Audits – Formal and Informal

- Daily Activities – “Pre-Flight Check”, Stretching, Equipment inspections, Observations, etc.

- Scratch Cards – Something Fun/Easy

- Area Initiatives (Risk based, area/function specific requirements/needs)

- Safety Audits – Signs, Markers, Borders

- Safety Committee or Equiv. Participation at each site

- Discuss Safety at Leadership Meetings

- Safety Observation Summary Review - Monthly

- Lift Operators

- Equipment Operators

- Lift Maintenance

# Creating a Safety Culture

VISIBILITY AND ENERGY

Employee  
Involvement

Ski school test

Leadership  
Involvement

Sub Committee  
Initiatives

Corrective  
Actions

Training  
And  
Compliance

Incident Rates/  
Reporting

Proactive

Safety Policies, Procedures, Programs, Systems, etc..

## SAFETY OBSERVATION CARD

### PPE

- Hair and Beard Cover
- Safety Glasses
- Safety Shoes
- Gloves
- Proper for Task
- Hearing Protection
- Goggles if Applicable
- Face Shield
- NFPA 70E
- Other

- Meeting Requirements
- Conversation W/Emp.

### Slip/Trip/Fall

- Wet Floor
- Hoses on Floor
- Obstacles on Floor
- Ice
- Uneven Surfaces
- Ladder Use
- Stairways
- Elevated Work
- Portable Stair
- Other

- Meeting Requirements
- Conversation W/Emp.

### Mobile Equipment

- Pre-Inspection
- Driving Safety
- Speed
- Seat Belt Use
- Equipment Cleanliness
- Pallet Jack
- Manlift
- Material Handling Proc.
- Chocks
- Dock Locks

- Meeting Requirements
- Conversation W/Emp.

### Electrical

- Proper PPE (NFPA)
- Open Panels
- Proper LOTOTO
- Temporary Wiring
- Lighting
- Exposed Wires

- Meeting Requirements
- Conversation W/Emp.

### Food Safety

- Open Door
- Ingredient Storage
- Allergen
- Cleanliness
- Other

- Meeting Requirements
- Conversation W/Emp.

### Housekeeping/GMP

- Fire Station Blocked
- Walkways Blocked
- Safety Equip. Blocked
- Electrical Equip. Blocked
- Evac. Routes Blocked
- Area Condition
- Improper Storage
- Bump Hazard
- Jewelry
- Other

- Meeting Requirements
- Conversation W/Emp.

### LOTOTO

- Equipment De-energized
- Locks applied/employee
- E-Stop Used
- Employee in danger zone
- Tags used

- Meeting Requirements
- Conversation W/Emp.

### Ergonomics

- Proper Lifting
- Two Person Lift
- Upper extremity issues
- Repetitive motion
- Above Shoulder Work
- Pre-work stretching

- Meeting Requirements
- Conversation W/Emp.

### Other

- Communication
- Training
- Work Instructions
- Pedestrian Traffic
- Tools/Equipment
- Labeling
- Other
- Walkways

- Safe Condition
- Unsafe Condition
- Safe Behavior
- Unsafe Behavior

- Recognition
- Coaching/Discussion

**Name:** \_\_\_\_\_

**Dept:** \_\_\_\_\_

**Date:** \_\_\_\_\_

<p><i>Describe Work Activity Observed</i></p>	<p><i>Describe Conversation with Employee(s)</i></p>

**SAFETY OBSERVATION CARD**

Name:

Date:  
Team:

Activity/Condition/Behavior

OBSERVED: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action YOU  
took: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

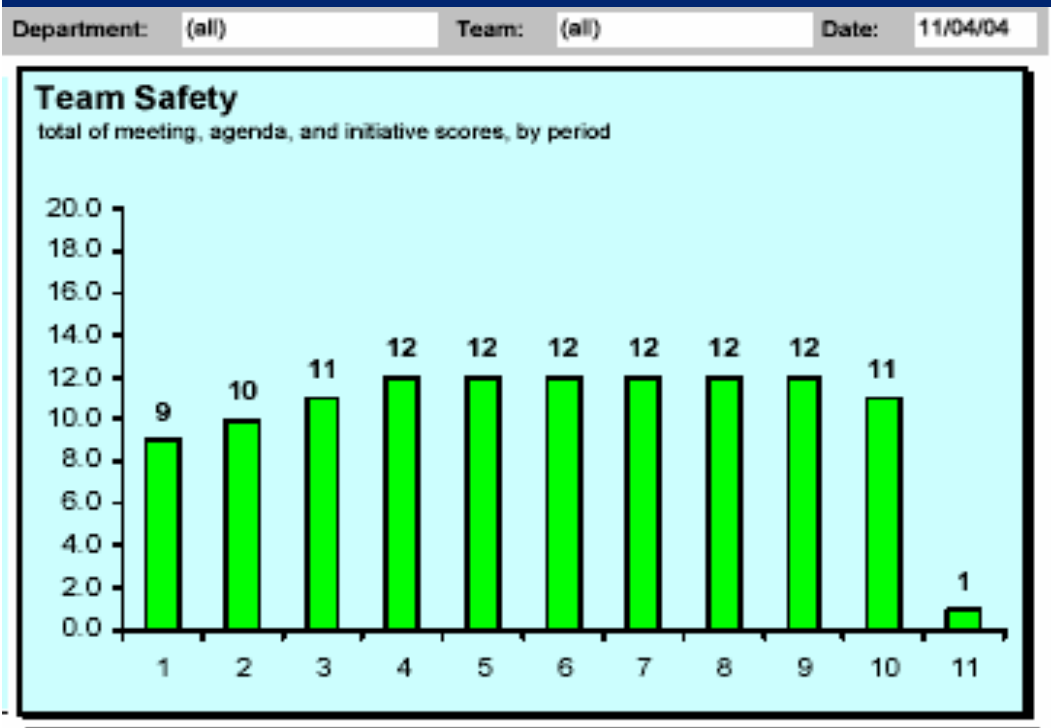
Work Order # (if needed) \_\_\_\_\_.



# Team Safety

20 pts

- Team Meetings/Safety 1<sup>st</sup> on Agenda (5)\*
- Observation Summary Review (5)
- Team Initiatives (10)
  - Assigned or selected by team
  - Work on something they want to work on



# Safety Observation Summary



## BOS Audit Report - Summary

01/01/2005 to 12/31/2005

Card Type	Count
<b>Customer Service</b>	
Customer Service (all)	
PPE	
Unsafe Condition	3
Card Total	3
<b>Manufacturing</b>	
Rivet 1st shift	
Housekeeping Sanitation	
Unsafe Condition	1
Card Total	1
Slip Trip Fall	
Unsafe Condition	2
Card Total	2
<b>Shipping</b>	
Packaging	
Housekeeping Sanitation	
Safe Action	1
Card Total	1
Slip Trip Fall	
Safe Condition	1
Unsafe Condition	5
Card Total	6
<b>Receiving</b>	
Housekeeping Sanitation	
Unsafe Condition	1
Card Total	1
PPE	
Safe Condition	1
Card Total	1
Slip Trip Fall	
Safe Action	1
Unsafe Condition	3
Card Total	4



## BOS Audit Report - Detail

05/01/2006 to 05/05/2006

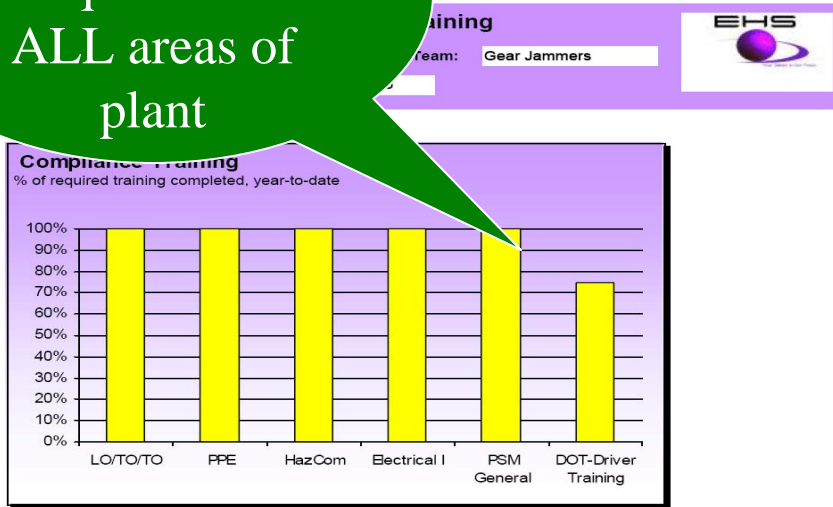


Name	BOS Type	Date	Card Type	Comment	Corrective Action
<b>Housekeeping Sanitation</b>					
<b>Packaging 1</b>					
<b>Grave 3 Packaging</b>					
King, Richard	Area Condition	5/2/2006	UC	drain cover missing	placed over over drain
Larinton, Randolph K	Area Condition	5/4/2006	UC	phone cord stretched across room	moved phone back to correct spot.
<b>Mobile Equipment</b>					
<b>Packaging 1</b>					
<b>Grave 3 Packaging</b>					
Moreno, Alonzo N	Manlift	5/5/2006	UA	wrong way on manlift	explained
<b>Other</b>					
<b>Packaging 1</b>					
<b>Grave 3 Packaging</b>					
Larinton, Randolph K	Tools - Equipment	5/4/2006	UC	sharp edge on #2 box erector	filed down
<b>PPE</b>					
<b>Packaging 1</b>					
<b>Grave 3 Packaging</b>					
Arnold, Ola	Face Shields	5/3/2006	UA	observed a co-worker foaming without a face shield	reminded them that they need a shield
Root, Don M	Glove	5/2/2006	UA	handling glass without gloves	got them some
Romero, Joann K	PPE for Task	5/5/2006	UA	no ppe	asked them to put on
Whitehill, Marilyn M	Safety Glasses	5/3/2006	SC	someone had their glasses on hat	told them to put them on

# Compliance Training

5 pts

Courses that are required for ALL areas of plant



- Points granted once 100% of team completes all training courses
- Once you earn points you get them the rest of year
- All training is tracked in system



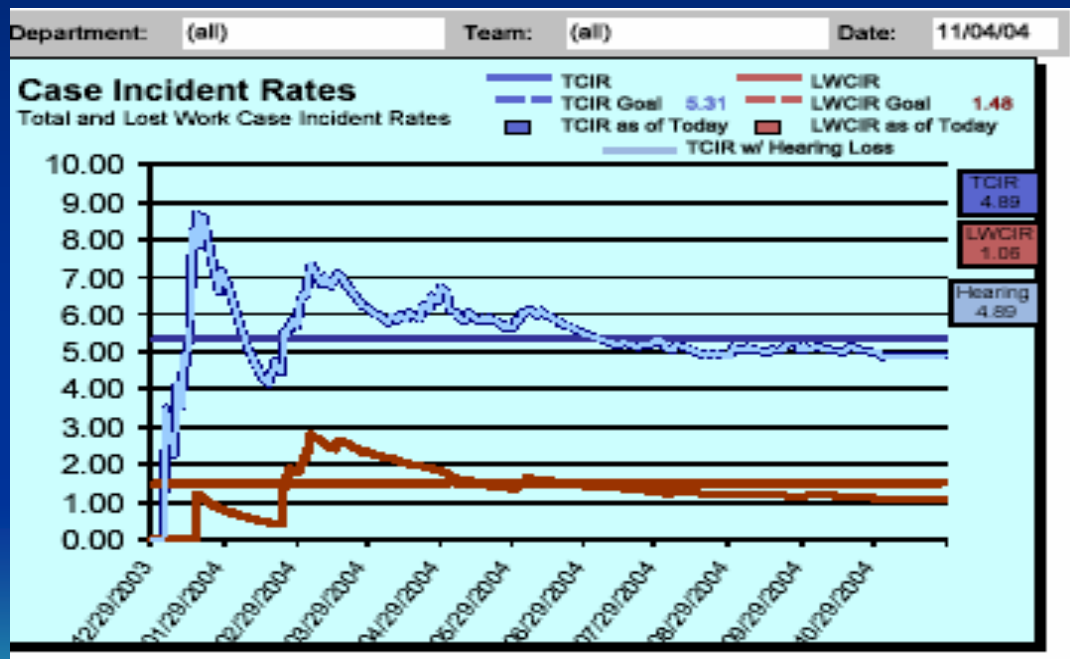
## REQUIRED TRAINING COMPLETE

Name	DOT-Driver T	Electrical I	HazCom	LO/TO/TO	PPE	PSM Ge
Arndt,Gailan D	2/6/2005	1/26/2005	1/20/2005	1/20/2005	1/20/2005	1/20/2005
Bachman,William J	2/6/2005	1/26/2005	1/20/2005	1/20/2005	1/20/2005	1/20/2005
Menzies,Robert J		1/26/2005	1/20/2005	1/20/2005	1/20/2005	1/20/2005
Naas,Phillip G	2/6/2005	1/26/2005	1/20/2005	1/20/2005	1/20/2005	1/20/2005
Ray,Alan	2/6/2005	1/26/2005	1/20/2005	1/20/2005	1/20/2005	1/20/2005
Reynolds,Roger		1/26/2005	1/20/2005	1/20/2005	1/20/2005	1/20/2005
Sewald,Robert K	2/6/2005	1/20/2005	1/20/2005	1/20/2005	1/20/2005	1/20/2005
Stewart,Donald W	2/6/2005	1/26/2005	1/20/2005	1/20/2005	1/20/2005	1/20/2005

# Safety Incident Rates

## Team Safety Results

### 15 Pts



- Plant/Company Total Case Rate (2.5)
- Plant/Company Lost Work Case Rate (2.5)
- Team (Department/Line) No OSHA Recordable Injuries for period (10)

# SAFE Report

## SAFE Score by Month

Department:  Team:  Year:



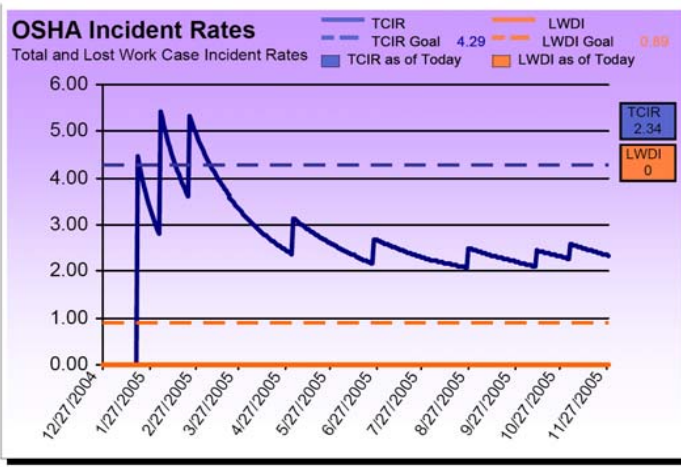
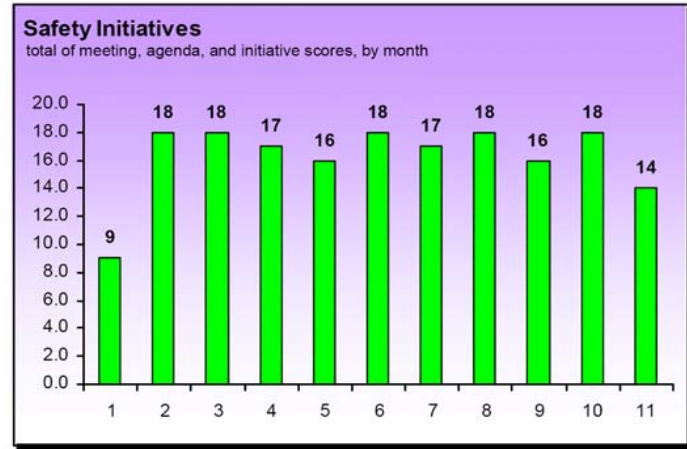
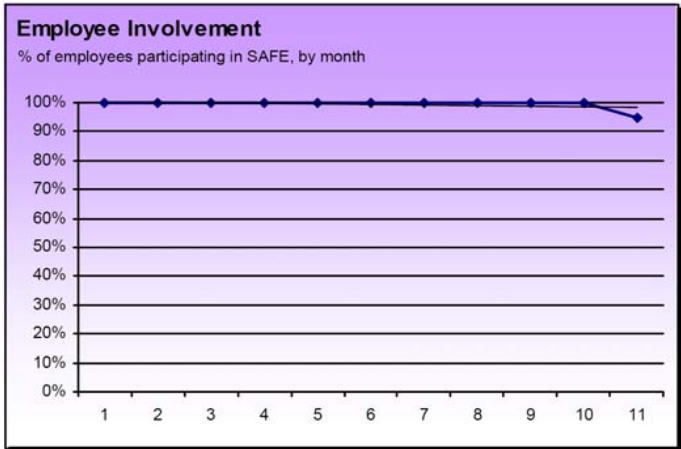
# SAFE Report – Page 2



## SAFE Combination Chart



Department: **LOGISTICS** Team: **all** Year: **2005** Date: **12/05/05**



# SAFE– Other Reports

- **OSHA LOG**
- **Root Cause Injury Reports**
- **TEAM Initiative Report**
- **TRAINING BY Person**
- **Participation by Person, Team, Department**
- **Corrective Action Reports**
- **Injury Trending, Observation Trending, Etc.**





# Safety Accountability For Employees

## Edit Incident for Bob Mallory

Date: 03/01/2005

Type of Incident: Medical(M)

Recordable Reason: Physical Therapy

Time (Mmm): 12:00:00 PM

Location: Office

Work Schedule: M-F

Length of Shift: 8 HRS

Hours at Work: 3

Time Employee Started Work: 9:00

Consecutive Days Worked: 2

Estimated Damage: \$0

Body Part: Wrist

Body Part Other:

Left/Right/NA: Right

Nature of Injury: Tendinitis

Nature of Injury Other:

Witness 1:

Witness 2:

Object or substance that harmed employee:



Incident Classification:

Engineering  System  Behavior

Regulatory  Ergonomics  Training

Other

CaseSelection

Days Away From Work  days

Job Transfer or Restriction 21 days

Other  N/A

Death

Date of Death:

OSHA Summary:

Employee's desk was not ergonomically set up correctly causing a repetitive motion injury.

What Went Right:

Incident # 1

Personal Information:

Social Security Number: 999-88-7777 Sex: Male

Street: 1st street

City: Nashville

State: TN ZIP: 88776

DOB: 03/03/1959 Hire Date: 12/14/2001

Job Title: Assistant

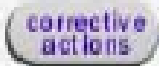
Medical Information:

Name of Physician: Smith

ER  Hospital  Other [facility info](#) ★

Sequence of Events:

Root Causes:



# Root Cause Report

REPORT OF INVESTIGATION AND ROOT CAUSE ANALYSIS					
FRA #	Date of Incident	Time of Incident	Department	Type of Incident	Estimated Damage
63	9/15/2005	12:00	PROCESS MAINTENANCE	M Medical	\$
Location of Incident		Team	Witness 1.		Witness 2.
PROCESS MAINTENANCE		Junkyard Dogs - A Days			
Body Part Injured	Body Part - Other	Nature of Injury		Injury Nature - Other	
Finger		Fracture			
Hours at work before incident	Work Schedule	Consecutive Days Worked		Length of Shift (hr)	
0	5x2	0		8	
Incident Classification:		Training			
		Behavior			
<b>DESCRIPTION OF EVENTS</b>			Describe the physical situation plus pertinent events before, during, and after the incident. Report only Facts.		
Clayton was on restricted duty for 7 days 9/15 to 9/22, but is now doing his regular job			hittam: Clayton was on restricted duty for 7 days 9/15 to 9/22, but is now doing his regular job		
<b>PROCEDURES FOLLOWED</b>			Describe the procedures which were followed, proper work practices and PPE used, etc.		
<b>ROOT CAUSES</b>			List the underlying, basic causes. These typically involve plant systems.		
Employee reached up to grab the drive belt to stop the rotation. His hand was caught between the belt and the shiv.			Employee reached up to grab the drive belt to stop the rotation. His hand was caught between the belt and the shiv.		
<b>RECOMMENDED CORRECTIVE ACTIONS</b>			List actions that will prevent recurrence of a similar incident by fully and successfully addressing causes.		
What individual will do.	Date to be Completed	Actual Date Completed			
Clayton D	9/30/2005	Clayton to discuss incident with all teams to educate all crafts on dangers of fan belts/shivs. Also to help design a tool to use to stop fan momentum when working on them.			
_____ Process Manager / Date					

Track corrective actions and assure completion.

Generate and provide consistent communication across company.

# OSHA Log

OSHA's Form 300 (Rev 01/2004)

## Log of Work-Related Injuries and Illnesses

**Attention:** This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.



Year 2005

U.S. Department of Labor  
Occupational Safety and Health Administration

Form approved OMB no. 1216-0170

You must record information about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an injury and illness incident report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name Cooks Brewing Company

City Golden State CO

Identify the person			Describe the case			Classify the case				Enter the number of days the injured or ill worker was:		"Check the 'injury' column or choose one type of					
(A) Case no.	(B) Employee's name	(C) Job title (e.g. Welder)	(D) Date of injury or onset of illness	(E) Where the injury occurred	(F) Describe the injury or illness, parts of body affected, and object/substance that directly	CHECK ONLY ONE box for each case based on the most serious outcome for that case				Enter the number of days the injured or ill worker was:		"Check the 'injury' column or choose one type of					
						Remained at Work				Away from work	On job transfer or restriction	(H)					
						Days away from work	Job transfer or restriction	Other recordable cases	Death	Days away from work	On job transfer or restriction	Injury	Skin Disorder	Respiratory Condition	Poisoning	Hearing Loss	All other illnesses
						(G)	(H)	(I)	(J)	(K)	(L)	(1)	(2)	(3)	(4)	(5)	(6)
1	Keener, Kenneth M	LOGISTICS - WH Specialist	01/19	WH	Kegs fell over in trailer and Ken got off lift to upright kegs. Keg was upside down. Ken dropped keg on side, keg spun pinching Ken's right foot against trailer wall. 1/24/05 Changed to medical.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____ days	_____ days	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Blankenship, Danny	Logistics Rail/Truck spec	02/03	Logistics CTO	Chemical exposure (diesel fuel) eyes, hands, face	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____ 0 days	_____ 0 days	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Page totals > 0 0 0 1 0 0 1 0 0 0 0 0 1

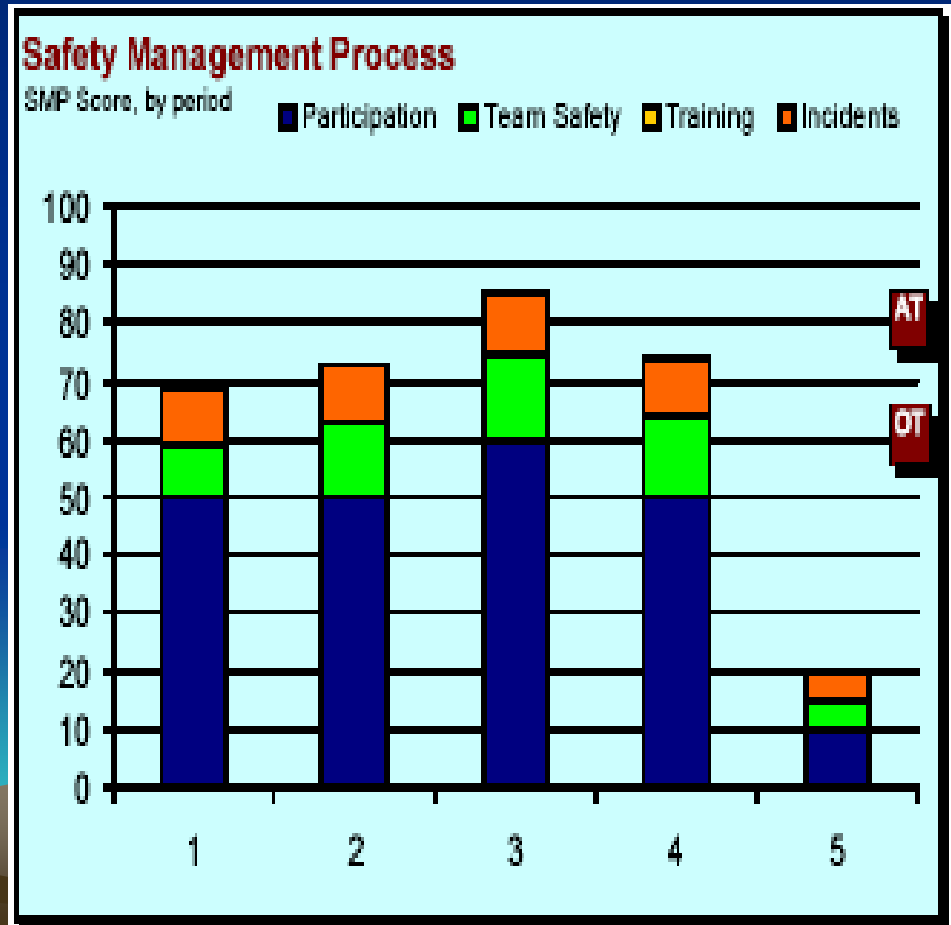
Be sure to transfer these totals to the Summary page (Form 300A) before you post

Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspect of this data collection, contact: Washington Headquarters Office, OSHA, Office of Statistics, Room 3039, 330 Coastline Ave, SW, Washington, DC 20343

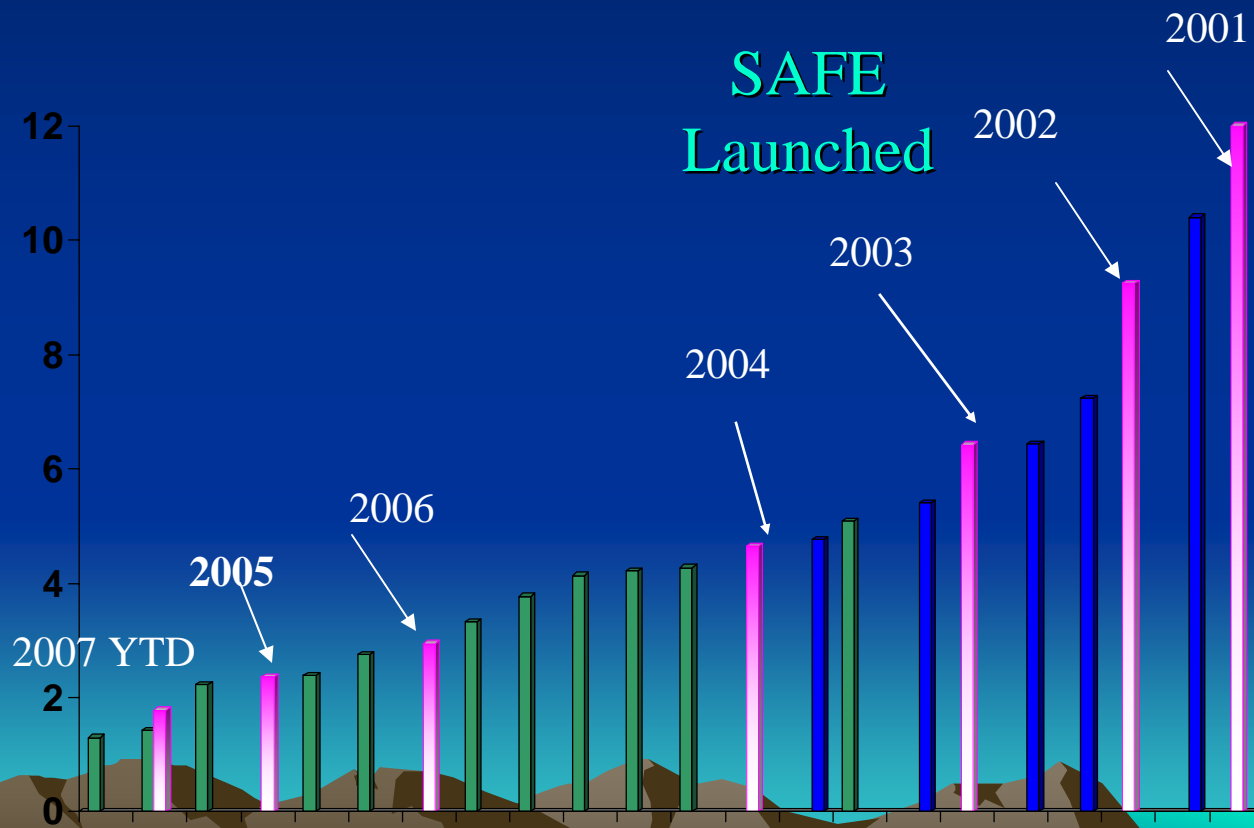
# The SAFE Approach

## It really does work!

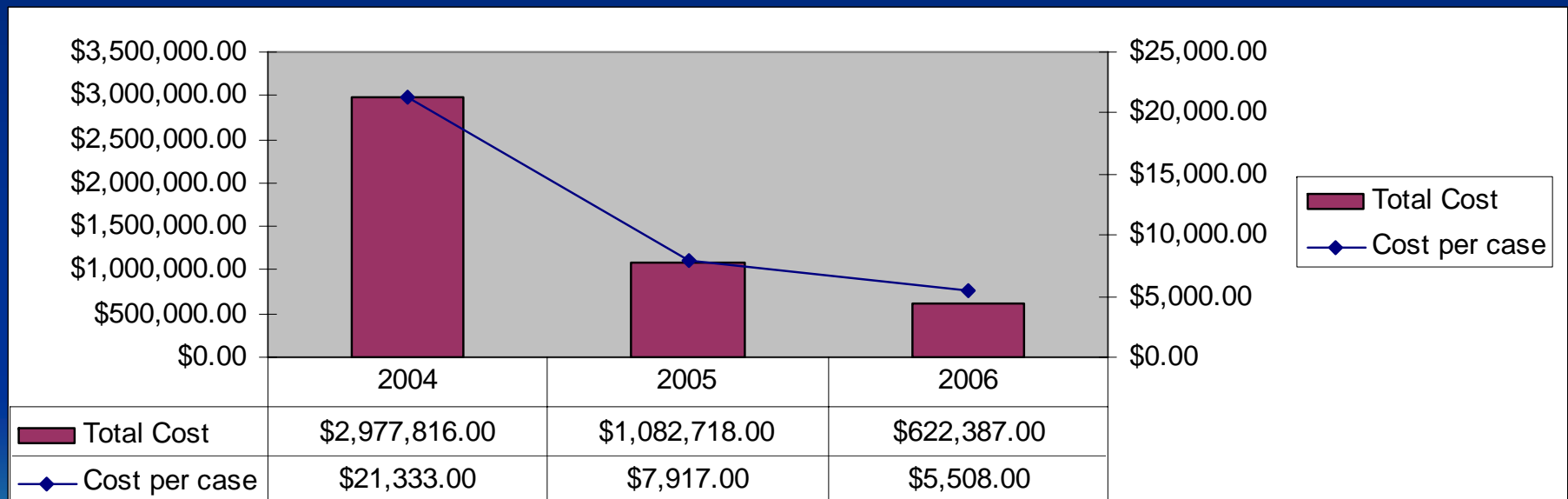
- 1 Million Hours w/o Lost Time 2003, 2005 and 2007
- 24% Reduction in FY2008
- LWCIR <0.5
- Total Case < 1.5



# Coors Vs. Industry Total Case Injury Rate



# Worker's Compensation Costs



# SAFE – Key Points

- With SAFE process you don't chase safety incident numbers; we control what we can control.
- **SAFE allows you to respond to your performance, NOT panic from your results.**
- Drives safety into organization at all levels
- Gives everyone something to talk about and something to review specific to their involvement in safety
- Gives tool to communicate back on what has been accomplished around safety – Corrective Actions, completed work orders, etc.



# Who else is using or trying to use pro-active safety metrics?

Companies that I have helped implement proactive safety metrics and/or conducted benchmarking with me.



# Proactive Safety Metrics – Driving Culture Change

No Accountability	➔	Accountability
No Visibility	➔	Visibility
No Involvement	➔	Involvement
Mistrust	➔	Trust
We vs. Them	➔	Teamwork
About incidents	➔	SMP/SAFE Numbers
Top Down	➔	All levels
Reactive	➔	PROACTIVE

**POSITIVE ENERGY!!!**

CULTURE



SAFETY CULTURE



# SMP/SAFE Software Solution

- MS Access, Server, Web-Based
- Company Hierarchy Uploaded for each facility
- Report generation is automated
- Accomplishes other Regulatory Requirements
  - OSHA 300
  - OSHA 301
  - Incident Investigation Reports and Corrective Action Tracking
  - Compliance Training Tracking



# ENVIRONMENTAL MANAGEMENT PROCESS EMP

Monthly Reports

EMP Scores by Sub-Department  
graph weekly  
Activities Report, text to team level  
Baghouse Report  
Deviation Report

Department EMP

Sub-Department EMP  
(Malting, Brewing, etc)

Regulatory  
Requirements

Team Assignment

Team  
Commitments

**Environmental  
Activities  
60**

**Environmental  
Incidents  
10**

**Environmental  
Training  
5**

**Department/  
Team Initiatives  
15**

**All Activities  
Complete  
10**

- Roof Inspection
- Stormwater Inspection
- Roof Cleaning
- Baghouse Monitoring
- Enviroweb Submittal
- Chemical Inventory
- Sump monitoring and follow-up
- Waste accumulation Inspections
- Environmental Reporting (DMRs)
- Area environmental audit
- VOC Duct Inspection
- Spill/Incident Investigation
- Spill kit inspections
- Opacity Observations

- Can defill inspections
- Can dump inspections
- Cullet trailer inspection
- Bottle defill inspections
- Glue/ink usage reports

- No spills
- No permit deviations
- No ammonia releases
- No upsets to WWTP
- No missed Sampling

- Environmental Compliance
- Spill Response
- Wastewater Awareness
- PSM Training
- Dept or Team initiatives



# Q & A

