


Collaborative Bachelor's Degree Program of Fire Protection and Safety  
Engineering Technology between Southwest Jiaotong University and  
Oklahoma State University, U.S.A.



---

## FPST 3013 Safety Management

Measuring Safety Success

1

---

---

---

---

---

---

---



### How do we measure Safety Performance?



---



2

---

---


---

---


---

---

---



Collaborative Bachelor's Degree Program of Fire Protection and Safety  
Engineering Technology between Southwest Jiaotong University and  
Oklahoma State University, U.S.A.



---

## Measuring accidents & OSHA Recordable Incident Rate

Is this the best way to measure safety?

3

---

---

---


---

---


---

---





Collaborative Bachelor's Degree Program of Fire Protection and Safety  
Engineering Technology between Southwest Jiaotong University and  
Oklahoma State University, U.S.A.



---

## Zero Accidents

Is this a reasonable goal?

4

---

---


---

---


---

---

---



### Lagging vs. Leading indicators



---

• Lagging	• Leading
• Reactive	• Proactive
• Failure	• Look at potential for failure
• After the fact	• Look at actions
• Factual	• Predictive (less certain)
• Historic	

5

---

---

---

---

---

---

---



### Organizational Approach



---

Values and Principles

Vision and Mission

Objectives and Goals

Strategies

Tactics

6

---

---

---

---

---

---

---



# Collaborative Bachelor's Degree Program of Fire Protection and Safety Engineering Technology between Southwest Jiaotong University and Oklahoma State University, U.S.A.



## Organizational Approach



- A mission is a broad idea of what you are striving for...what you want to be. Missions for organizations don't typically change once they have been established unless changes in other factors dictate such. "We want to continually improve our safety".
- Objectives are basically milestones. Once you reach a milestone, you set another one. "Reduce OSHA recordable rate by 15%". This is not something you just go and do. There are multiple ways to accomplish this.
- Strategies are plans to accomplish the objective "implement inspection program for facility". This is also something that you do not simply go and do. There are numerous pieces to implementing an inspection program. This is one strategy that can have a positive effect on you accomplishing your objective which pushes you towards fulfilling your mission.
- Tactics are action-based. "Develop written inspection process". "train selected employees in inspection process". "Conduct quarterly inspections"... These are things that you actually go and do.

7

Principles & Values	People are our most important resource. Our company's principal responsibility is the safety and health of our employees. Every Employee is entitled to a safe workplace. No job is so important it can't be done in a safe manner. If its not safe, we will not do it.		
Vision/Mission	We will operate our facilities in a responsible manner that is consistent with regulatory requirements and industry best practices. We will constantly strive to improve our operations and practices to protect our people, our property and the world around us.		
Objectives	Reduce Incidents by 15% each year – ultimately striving for zero injuries	Reduce our direct costs of accidents by 25%	
SMART Goals	Complete 100% of OSHA required training for all 360 employees by the end of the 2018	Conduct 52 weekly toolbox talks in individual production crews. Each crew member will be responsible for leading one safety discussion this year.	Conduct Daily Housekeeping inspections at the beginning and end of each shift and correct any hazards noted before continuing work.
Strategies (Mgmt Systems)	Training Policies Funding Training Matrix Learning Objectives	Policy Time and Scheduling Labor Relations	Policy and Procedure Production Planning Maintenance Systems
Tactics	✓ Develop Materials ✓ Train trainers ✓ Conduct Training ✓ Track in LMS	✓ Develop Topics ✓ Train Trainers ✓ Document forms ✓ Tracking	✓ Schedule Audits ✓ Train Auditors ✓ Develop Checklists ✓ Track Corrective Actions

8



## How do we measure individual safety performance?



- Top Managers
  - Personal Behavior
  - Safety Activities
  - Statistical results of their group (be careful here)
- Supervisors
  - Personal behavior
  - Safety activities within span of control
- Employees
  - Personal behavior
  - Participation in safety activities

9



## Is this a good example?



Performance Objective for a 1<sup>st</sup> line Supervisor

Safety and Environmental: Takes definitive action to support safety and environmental practices and programs to eliminate hazardous conditions and unsafe associate practices.

Circle the number that best describes the level of associate performance:

1	2	3	4	5
Well below average	Below average	Average	Above average	Well above average

10

---

---

---

---

---

---

---

---



## Better Description



- Identifies hazards in the department and takes steps to eliminate the hazards.
- Completes thorough **monthly** inspections of the department to identify hazards.
- Notes hazards** relative to the daily operations of the department in **monthly** report to management.
- Develops feasible control strategies and implements or ensures their implementation to reduce noted hazards.
- Follows up on and **communicates findings to the associates and management via shift meetings, written postings in lunch room, and operations reports.**

1	2	3	4	5
Well below average	Below average	Average	Above average	Well above average

11

---

---

---

---

---

---

---

---



## Measurement Tools



- Two categories of measurement tools
  - Activity
    - # of inspections
    - # of Investigation
    - # of persons trained
    - # Observations
    - Quality of Activity
  - Results
    - Inspection Results/score
    - Sampling Results
    - Cost reductions or avoidance

12

---

---

---

---

---

---

---

---



## Quantify Levels of Success



Does Not Meet Standards	Meets Standards	Exceeds Standards
1	2	3
<ul style="list-style-type: none"><li>Does not complete or does not turn in without prompting or by the last Friday of the month, monthly departmental inspections.</li><li>Does not complete accident investigations within the same shift.</li></ul>	<ul style="list-style-type: none"><li>Completes and turns in, without prompting, monthly departmental inspections by the last Friday of the month.</li><li>Completes accident investigations within the same shift of the accident report.</li></ul>	<ul style="list-style-type: none"><li>Completes additional inspections, turns them in early, or provides suggestions for improving inspection scores within his/her own department.</li><li>Completes investigations, provides feedback to other shifts on what happened, and follows up on recommendations.</li></ul>

13

---

---

---

---

---

---

---



## How do you measure Quality?



0	No effort at implementation
1	Implementation efforts started but incomplete
2	Implementation efforts underway but major improvement is needed
3	Implementation nearing completion, improvements needed
4	Implementation completed, minor improvements needed
5	Fully Implemented, fully effective, no improvements needed

14

---

---

---

---

---

---

---



## Organizational Approach



Values and Principles	
Vision and Mission	
Objectives and Goals	
Strategies	
Tactics	

15

---

---

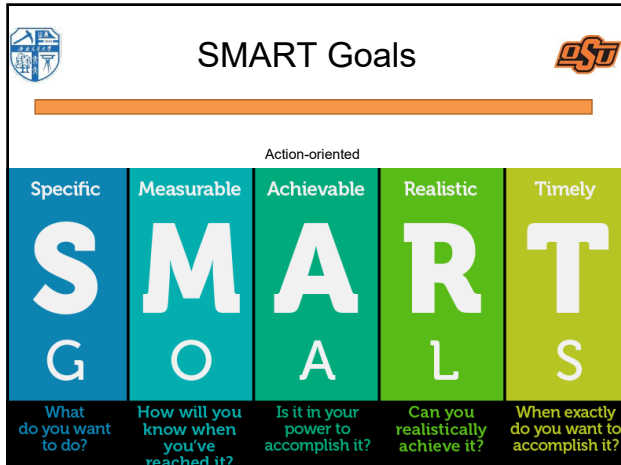
---

---

---

---

---



16

---

---

---

---

---

---

---

---

The slide is titled 'Writing SMART Goals' with a small Southwest Jiaotong University logo on the left and an Oklahoma State University logo on the right. Below the title is a horizontal orange bar. Underneath the bar is a bulleted list of instructions for writing SMART goals:

- Start with an Action Word (Verb)
- Specify a **single** key result that is to be accomplished
- Specify a target date
- Specify what and when
  - Avoid why and how

17

---

---

---

---

---

---

---

---

The slide is titled 'SMART or NOT SMART?' with a small Southwest Jiaotong University logo on the left and an Oklahoma State University logo on the right. Below the title is a horizontal orange bar. Underneath the bar is a bulleted list of examples:

- Develop and implement a program to train and license fork truck drivers
- Improve safety performance next month
- Conduct weekly inspections and ensure hazards are corrected within 24 hours
- Our Goal is ZERO recordable accidents
- Reduce Recordable accidents by 5%
- Complete weekly tool-box talks with 100% attendance.
- Investigate all incidents

18

---

---

---

---


---

---


---


---





Communicate





---

---

---


---

---


---


---

19



Communicate





---

---

---

---

---

---

---

20



Communicate





---

---

---

---

---

---

---

21



Collaborative Bachelor's Degree Program of Fire Protection and Safety  
Engineering Technology between Southwest Jiaotong University and  
Oklahoma State University, U.S.A.



## How do we measure Safety Performance?

Leading Indicators  
Under the employees' control  
With SMART Goals

---

---

---

---

---

---

---