

## Management & The Balanced Scorecard

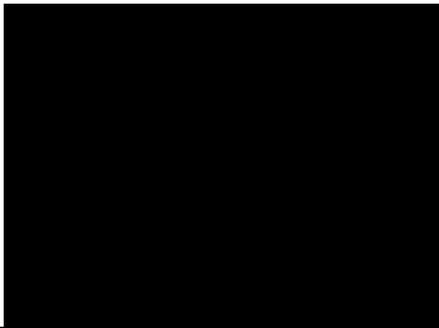
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## Purpose

- To equip attendees with some tools for effectively communicating safety & health metrics and managing safety & health programs utilizing leading indicator metrics.

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## The Importance of Good Communication



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## Effective Communication with Executive Management

- Don't waste their time.
- Talk in their language!
- Understand the basics of business management.
- Understand the impact of a proposed safety & health solution on the business.
- Ensure written communication is high quality.

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## Effective Communication with Executive Management

- Analyze the risks and know the cost/benefit before approaching executive management.
- Don't rely on only regulatory requirements to justify the solution.
- What is important to the company's image (example: world class, quality, good citizen in the community)? Appeal to that image.

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## Management Theory



[Max Weber](#) (1864-1920), known as the Father of Modern Sociology, analyzed **bureaucracy** as the most logical and rational structure for large organizations. Bureaucracies are founded on legal or **rational authority** which is based on law, procedures, rules, and so on. **Positional authority** of a superior over a subordinate stems from legal authority. **Charismatic authority** stems from the personal qualities of an individual. Efficiency in bureaucracies comes from: (1.) clearly defined and specialized functions; (2.) use of legal authority; (3.) hierarchical form; (4.) written rules and procedures; (5.) technically trained bureaucrats; (6.) appointment to positions based on technical expertise; (7.) promotions based on competence; (8.) clearly defined career paths

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## Scientific Management



In 1911, [Frederick Taylor](#), known as the Father of Scientific Management, published *Principles of Scientific Management* in which he proposed work methods designed to increase worker productivity. One of his famous experiments had to do with increasing the output of a worker loading pig iron to a rail car. Taylor broke the job down into its smallest constituent movements, timing each one with a stopwatch. The job was redesigned with a reduced number of motions as well as effort and the risk of error. Rest periods of specific interval and duration and a differential pay scale were used to improve the output. With scientific management, Taylor increased the worker's output from 12 to 47 tons per day! The [Taylor model](#) gave rise to dramatic productivity increases.

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## Time / Motion Studies



One of Frank Gilbreth's first studies concerned bricklaying. (He had worked as an apprentice bricklayer.) He designed and patented special scaffolding to reduce the bending and reaching which increased output over 100 per cent. However, unions resisted his improvements, and most workers persisted in using the old, fatiguing methods.

\* The Gilbreths believed that there was one best way to perform an operation. However, this "one best way" could be replaced when a better way was discovered. The Gilbreths defined **motion study** as dividing work into the most fundamental elements possible, studying those elements separately and in relation to one another; and from these studied elements, when timed, building methods of least waste.

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## Management Feedback Human Relations



[Mary Parker Follett](#)'s concepts included the universal goal, the universal principle, and the Law of the Situation. The **universal goal** of organizations is an integration of individual effort into a synergistic whole. The **universal principle** is a circular or reciprocal response emphasizing feedback to the sender (the concept of two-way communications). **Law of the Situation** emphasizes that there is no one best way to do anything, but that it all depends on the situation.

- Hawthorne Studies
- Integration of Management Theories
- TQM, Six Sigma

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## How Important is Communication?



Dr. W. Edwards Deming's principles support the global success of Toyota, Proctor & Gamble, Ritz Carlton, Harley-Davidson, and many other leading organizations. His teachings are essential for the effective application of Six Sigma, Lean Manufacturing, Loyalty/Net Promoter and other quality improvement, customer retention and business growth methods.

*"Now more than ever, we need to remember the teachings of Dr. Deming: simply put, quality first and follow through with the honest practice of developing quality products and quality people."*



Shoichiro Toyoda  
Chairman and Former President, Toyota

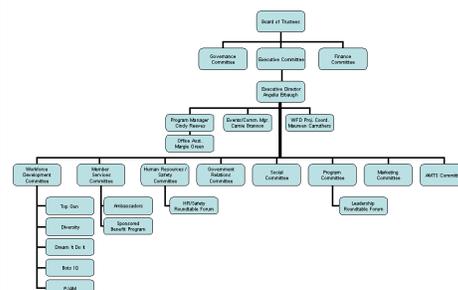
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## Placement of Safety & Health in a Business Management System

What is your reporting structure?

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## Organizational Structure



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## Safety & Health Metrics

"What is measured gets done."

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## How do you Measure Safety Performance?

- Injury Rates
  - OSHA Rate, Hours Worked, etc
- Emod
- Loss Ratios



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## Leading Indicators VS Trailing Indicators

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## Suggested Leading Indicators

- ❖ New employee orientation activities and safety training
- ❖ Consistency of ongoing employee safety training efforts
- ❖ Participation of line supervisors in key safety activities
- ❖ Safety Inspection or audit results
- ❖ Turnaround time on safety related work orders
- ❖ Completion of key safety certifications by workers and supervisors
- ❖ Risk Assessments/ JSA's Completed
- ❖ Safety Observations
- ❖ Safety Suggestions



Attitudes – Program Elements-Physical Conditions-Behavior

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## Trailing Indicators

- OSHA recordable injury rate
- Workers compensation claims costs & frequency
- Equipment damage cost reports
- Workers Compensation Experience Modifier (E-mod)

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## The Problem with Trailing Indicators:

- Look only at the past.
- Focus on failures rather than successes.
- Not always a good measure of the success of the safety & health program.

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## The Z-10 Standard: A Good Model

American National Standard for



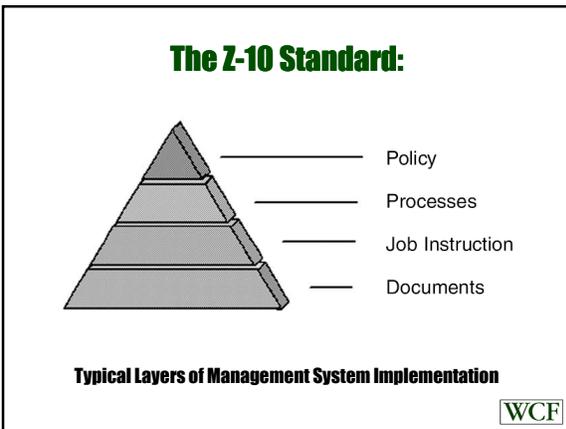
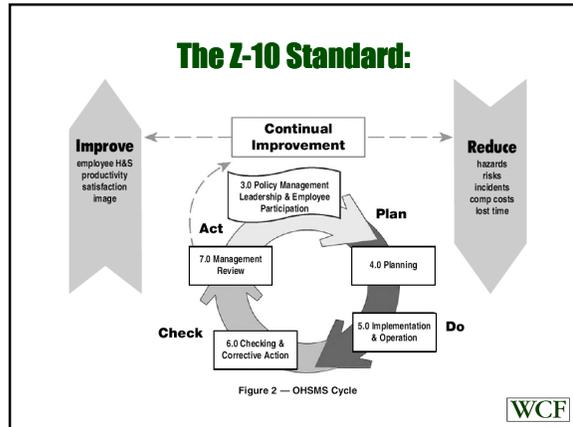
ANSI  
Z10.1-2012

**Occupational Health and Safety Management Systems**

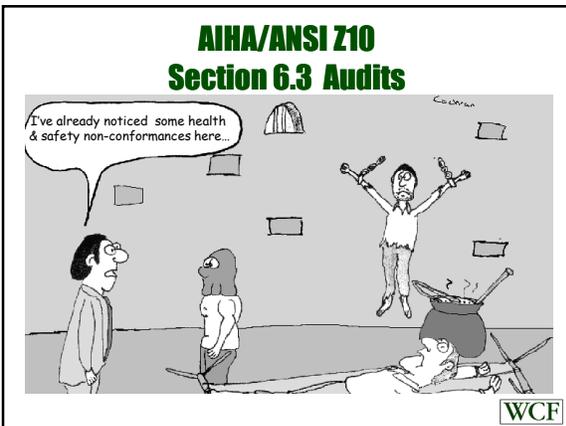


A Publication by  
American Industrial Hygiene Association





- ## The Z-10 Standard Brief Overview:
- 1. Scope, Purpose, & Application**
  - 2. Definitions**
  - 3. Management Leadership & Employee Participation**
  - 4. Planning**
  - 5. Implementation & Operation**
  - 6. Evaluation & Corrective Action**
  - 7. Management Review**
- 



- ## AIHA/ANSI Z10 Section 6.3 Audits
- **Periodic audits**
  - **“System” oriented rather than “compliance” oriented**
  - **Purpose is to determine whether the organization has appropriately applied and effectively implemented OHSMS elements**
  - **Any situation identified by the audit that may cause fatality or serious injury or illness must be immediately communicated and corrected.**
- 

## AIHA/ANSI Z10 Section 6.3 Audits

- **Document & communicate audit results to:**
  - Those responsible for corrective & preventive action.
  - Area supervision.
  - Other affected individuals
    - Employees
    - Employee representatives
    - Contractors



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## The Z-10 Audit

- Z-10 Standard Sections
- Objective Evidence
- Documents
- Records
- Interviews
- Observations



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## The Z-10 Audit

Objective Evidence				
OHSMS Section	Documents	Records	Interviewee	Observations
Management Leadership — OHSMS	• N/A	• E-mails or memos from Exec. Team regarding OHSMS	• Exec. Team, selected personnel designated with tasks to implement/maintain OHSMS • Hourly employees	• Management tour of facility
OHSMS Policy	• Policy	• N/A	• Selected managers/supervisors • Hourly Employees	• Policy postings
Responsibility and Authority	• Safe Operating Procedure (SOP) • OHSMS Manual	• Organization chart, budgets, and job descriptions • Qualifications for OHS leader and OHS team members • OHS Team meeting minutes	• Selected managers/supervisors • Hourly employees	• Team meetings

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## The Z-10 Audit

Objective Evidence				
OHSMS Section	Documents	Records	Interviewee	Observations
Employee Participation	• OHSMS procedures • Human Resource policies • Hourly reporting procedure	• OHSMS Team roster and meeting minutes • Employee suggestions	• Selected managers/supervisors • Hourly employees	• Team meetings, department meetings, job briefings, safety committee meetings
Initial and Ongoing Reviews	• Safe Operating Procedure (SOP) • OHSMS issues	• Total and significant list of OHSMS issues • Job hazard analyses • Notice of release of relevant regulations and standards • Exposure data • Organization chart, budgets, and job descriptions • Audit reports • Incident investigation reports • Monitoring data • Safety inspection reports	• Selected managers/supervisors • Hourly employees	• Tour facility, compare to OHSMS issues list
Assessment and Prioritization	• Safe Operating Procedure (SOP) • OHSMS issues	• Total and significant list of OHSMS issues	• Selected managers/supervisors/engineers • Hourly employees	• Tour facility, compare to OHSMS issues list

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## Communication of Audit results The Scorecard Approach See Appendix J, p. 51 & Example Audit Report

OHSMS Audit Overall Scorecard

Program Element	Selected		Rating (See Color Scale)
	Yes	No	
Management Leadership	X		MODERATE
OHSMS Policy	X		STRONG
Responsibility and Authority	X		MODERATE
Initial and Ongoing Reviews	X		STRONG
Assessment and Prioritization	X		MODERATE
Objectives and Implementation	X		MODERATE
Use of Hierarchy of Controls	X		STRONG
Management of Change	X		MODERATE

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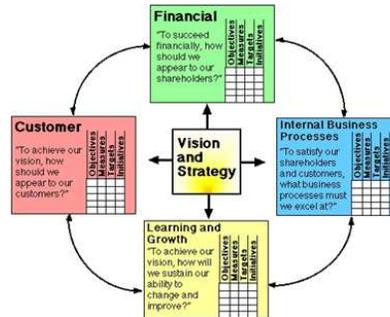
## The Balanced Scorecard

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## Balanced Scorecards – A History

- ❖ Introduced in 1992 by Drs. Robert Kaplan and D.P. Norton (HBR Jan1992)
- ❖ Effective management = effective measurement of key business processes and goals
- ❖ Creates a platform for alignment within the organization
- ❖ Consists of outcome metrics as well as predictive, process and progress metrics

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## Worldwide Business Acceptance

Caterpillar Inc.  
Daimler-Chrysler  
Ford Motor Company  
DuPont  
ExxonMobile Corp.  
IBM  
Pfizer Inc.

Source: BalancedScorecard.org

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## General Elements

- The grouping of performance measures in general categories (perspectives) is seen to aid in the gathering and selection of the appropriate performance measures for the enterprise. Four general perspectives have been proposed by the Balanced Scorecard:
- Financial perspective;
- Customer perspective;
- Internal process perspective;
- Learning and growth perspective.

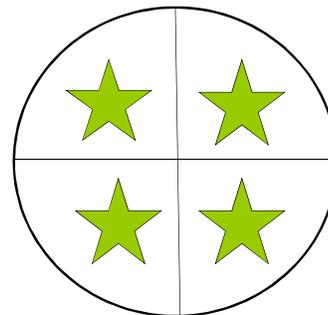
Source: Wikipedia

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Vinfin's FY 2006 Corporate Balanced Scorecard Dashboard

Area	Sponsor	Objectives	Measurement	Target
<b>Financial Perspective</b>				
F1. Increase operating cost efficiency	Finance	Reduce operating costs	Actual costs (excluding fuel and maintenance) / Budgeted costs (excluding fuel and maintenance)	10% cost savings (excluding fuel and maintenance)
F4. Achieve financial sustainability	Finance	Meet budgeted growth targets	1. Revenue growth / Budgeted revenue 2. Budget targets for growth	10% revenue growth
<b>Learning &amp; Growth Perspective</b>				
L1. Develop and retain a highly skilled workforce	HR	Reduce time spent on HR	1. Employee Turnover Rate 2. Time to fill vacant positions	1. 10% reduction in turnover rate 2. 10% reduction in time to fill
L2. Increase organizational learning and innovation	HR	Increase organizational learning	1. Training Rate 2. Number of patents filed and trademarks registered (Excludes VPI and Corp. Assets)	1. 10% increase in training rate 2. 10% increase in patents filed
<b>Internal Perspective</b>				
I1. Improve business practices and efficiency	Finance	Reduce the number of errors in the supply chain	1. Number of errors in the supply chain 2. Number of errors in the supply chain (Excludes VPI and Corp. Assets)	10% reduction in errors
I2. Manage increased client and business risk	Finance	Reduce the number of errors in the supply chain	1. Number of errors in the supply chain 2. Number of errors in the supply chain (Excludes VPI and Corp. Assets)	10% reduction in errors
<b>Customer Perspective</b>				
C1. Deliver services excellent in service and value	Marketing	Increase customer satisfaction	1. Customer Satisfaction Score (CSAT) 2. Net Promoter Score (NPS)	1. 10% increase in CSAT 2. 10% increase in NPS
C2. Increase public awareness and visibility	Marketing	Increase public awareness	1. Public media placements (Excludes VPI and Corp. Assets)	10% increase in public awareness

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## Adaptation to S&H

- ❖ Identifying leading AND trailing indicators of successful S&H performance
- ❖ Gaining broad organizational agreement on practices that lead to S&H excellence
- ❖ Creating a matrix that is easily understandable at all company levels
- ❖ Broad distribution within the organization
- ❖ Use as a barometer of management effectiveness and a performance evaluation tool

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## WCF – Safety Success Scorecard

WCF Safety Success Balanced Scorecard - Data Page

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year-to-Date	Last Year
Total OSHA Recordable Incidents	250	260	260	270	300	290	290	260	190	200	200	210	2,540	2,500
Days Away From Work	1	1	1	1	1	1	1	1	1	1	1	1	7	14
Lost Workday Incident Rate	2	2	2	2	2	2	2	2	2	2	2	2	62	48
New Employees	1	1	1	1	1	1	1	1	1	1	1	1	10	10
% of New Employees Trained on Time	1	1	1	1	1	1	1	1	1	1	1	1	7	7
Planned Safety Committee Meetings	2	2	2	2	2	2	2	2	2	2	2	2	24	18
% of Planned Safety Committee Meetings Completed	1	1	1	1	1	1	1	1	1	1	1	1	25	8
Planned Safety Training	10	10	10	10	10	10	10	10	10	10	10	10	104	100
% of Planned Safety Training Completed	7	10	8	8	8	7	7	7	7	7	7	7	84	75
Planned Hazard Inspections	8	8	8	8	8	8	8	8	8	8	8	8	72	100
% of Planned Hazard Inspections Completed	4	4	3	3	3	3	3	3	3	4	4	4	51	75
Safety Work Orders	10	10	10	10	10	10	10	10	10	10	10	10	88	100
% of Safety Work Orders Completed w/10 Days	10	4	4	3	4	4	4	4	4	4	4	4	63	100

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## WCF – Safety Success Scorecard

WCF Safety Success Balanced Scorecard

	Current Year	Last Year	Trend
OSHA Recordable Incident Rate	0.3%	0.4%	↑
Lost Workday Incident Rate	2.3%	1.6%	↑
% of New Employees Receiving Safety Training within 30 Days of Hire	70.0%	70.0%	↔
% of Safety Committee Mtg's Held on Schedule (w/Documentation)	65.0%	80.0%	↓
% of Scheduled Safety Training Held as Planned (w/Documentation)	66.4%	75.0%	↓
% of Planned Hazard Inspections Completed	70.0%	75.0%	↓
% of Safety Work Orders Completed w/10 Days	71.6%	80.0%	↓

↑ Improving  
↔ Unchanged  
↓ Declining

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## Tools for Evaluating & Communicating Safety & Health Metrics to Executive Management

- AIHA/ANSI Z10 Safety Management Systems Audit.
- Safety Program Evaluation.
- Balanced Scorecard.
- Risk Assessment Tools.
- Tools for reporting trailing indicators.
- Safety Culture Assessment Tool.
- Annual Safety Summary Report.

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## Determining Leading Indicators

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## The Safety & Health Program Evaluation

- "Quick & Dirty" evaluation of a company's safety program.
- Each element of the program is compared to known best practices.
- Total objectivity is necessary.

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**Safety Program Evaluation**

Policy Name: \_\_\_\_\_ Contact: \_\_\_\_\_

Safety Program Elements	P	F	G	E	Corrective Action:	Date:
1- Management Support						
2- Assignment of Responsibilities						
3- Safety Committee						
4- Hazard I.D. & Control						
5- Employee & Supervisor Training						
6- Incident Reporting & Emergency Planning						
7- Return to Work						

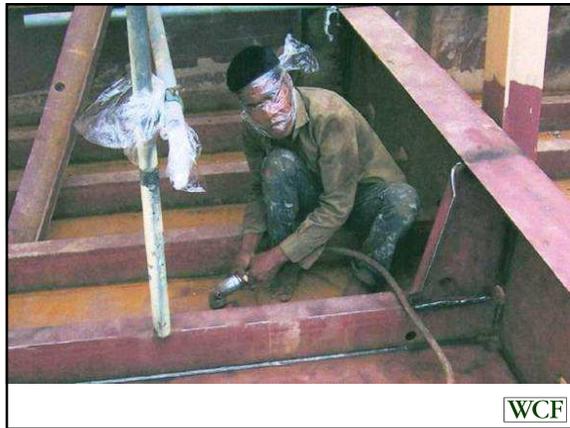
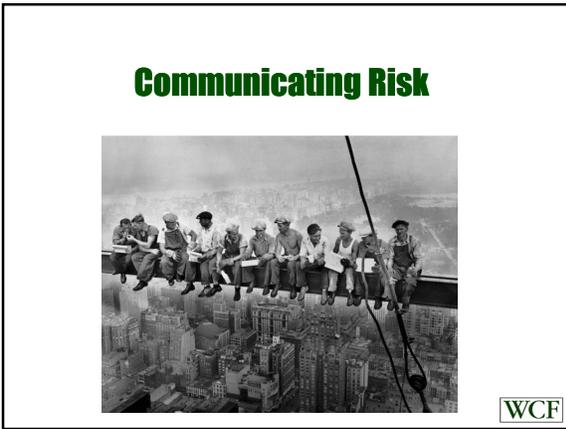
P= Poor F= Fair G= Good E= Excellent

Date: \_\_\_\_\_ Safety Consultant: \_\_\_\_\_

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Program Element	Poor	Fair	Good	Excellent
1- Management Support	No management direction. The management does not participate in safety & health activities or actively review status of the safety program.	Top management recognizes safety & health as important but is infrequently involved. No formal safety organization or manager and employee regarding safety responsibilities.	Top management recognizes safety & health as good business practice. A designated safety manager is in place at a management level with overall organizational decision authority. Top management remains visibly involved.	Top management values safety & health and is frequently involved in safety activities. In addition to "good" safety & health management, management actively seeks safety performance measurement and incentives to improve.
2- Assignment of Responsibility	No person is assigned responsibility for safety as a responsibility.	A person is assigned to safety formally but has other assignments with higher priority. Minimal training with reactive enforcement mentality.	Safety responsibility formally assigned to specific person or persons with some formal training or coaching provided. Top management formally holds in regard to safety. Some authority to spend resources is given.	A well trained & safety director with a clear job description is in place. Supported in the organization by clear management goals. Safety & health responsibility with all key executives involved.
3- Safety Committee	No safety committee in place.	Safety Committee may have been organized but meetings are unorganized and irregular. Members have no authority and no supervision by top management.	Safety committee meets regularly with agendas and minutes recorded. The committee reviews loss trends, accident investigations and other reports during their meetings. A member of management chair or attends the meetings periodically.	In addition to "good" the committee is actively involved in safety action plans, safety goal setting, hazard identification and other safety promotional activities. Top management is frequently involved.
4- Hazard Identification & Control	No program to identify hazards. No hazard control or housekeeping practices.	Minimal hazard I.D. & control. Control implemented on an as needed basis in reaction to accidents.	Employees are encouraged to report hazards & rewarded by the management system. Regular safety meetings are conducted by management and documented.	In addition to "good" formal hazard identification & control tools are used in work operations such as job safety analysis, HAZOP, etc. results are reviewed by Top Management.
5- Employee & Supervisor Training	No formal training. On the job training. No formal safety training.	Basic safety orientation when hired. No job specific training. Occasional safety meetings.	Specific employee orientation, including job specific. Safety training on an annual basis. Job safety meetings.	Very specific new employee training. Employees must demonstrate proficiency prior to work assignment. Regular safety meetings. "Train the trainer" program for all employees.
6- Incident Reporting & Emergency Response	No formal requirement for incident reporting. No emergency plans. No accident investigations.	Employees instructed to report incident with a basic company policy to "report to supervisor". Limited emergency information posted. Some accident investigation performed.	Company policy to report accidents & incidents ASAP. Emphasis during new employee orientation. Emergency procedure well documented. Formal accident investigation procedure with a requirement to investigate significant incidents.	Formal incident reporting system includes "near miss" reporting. Strong company policy requiring ASAP reporting. Advanced claims management software. Formal emergency response procedure including lost object identification, reporting, formal investigations with "root cause analysis". "Zero tolerance" investigation procedure and close communication with insurance.
7- Return to Work	No PPO use. No other readily available work to work. No formal contact with injured worker.	Use PPO outside. Developed relationship with employer. Some, with formal program. Limited contact with injured worker.	PPO use. Developed relationship with medical provider. Close with PPO policy. Modified duty positions selected. Supervised after physician visit. RTM program formalized with a return review.	PPO use. Developed relationship with medical provider. Modified medical day positions. Customized RTM program with medical job description. RTM agreement detailed in a RTM contract with injured worker. Customized RTM practices are documented in claim review.

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**Thank you!**

**Questions?**

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