“ISO 45001: Occupational Health and Safety Management System”

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Objectives

- ISO 45001 and its Strengths and Weaknesses
- Maturity Path Model: STAR
  - Safety Through Accountability and Recognition
- Metrics are the Key
ISO 45001 OHSMS

★ Strengths

★ Finally! Leadership and Worker Participation!
★ Risk Assessment
★ Management Review
★ Continual Improvement

★ Weaknesses

★ Management Accountability
★ Safety Critical Equipment Maintenance
★ Industrial Hygiene
★ Occupational Medicine
★ Intended Outcomes Unclear

Culture drives the rigor in the SMS
Leadership will establish, implement and maintain an organizational commitment to the prevention of work-related injury and illness, as well as the provision of safe and healthful workplace and activities by the proactive continual improvement of OH&S performance.
When planning for the OH&S management system, the organization considers the criteria referred to in the Framework, the requirements referred to in stakeholders and the scope of its OH&S management system to determine the risks and opportunities that need to be controlled or mitigated.

The emphasis for risk reduction is the implementation of substitution and engineering controls. Administrative and PPE controls are secondary in priority and backup to the other more effective controls and layers of controls.
ISO 45001

Includes providing resources, ensuring competence, communication and awareness of objectives, risks and controls, as well as document control.
This is the process to implement, control and maintain the hazard and risk reduction for all operations associated with the organization, both on and off site.

Includes preparation for, mitigation to and response to emergencies.
OHS performance includes monitoring, measuring, analysis and evaluation across each element of the OHS management system.
ISO 45001

Improvement is defined as those actions necessary by Management to establish, implement, maintain and achieve the intended outcomes of the OHS management system.
What are Management Systems?

★ Process
★ “A series of actions, changes, or functions that bring about an end or result. To put through the steps of a prescribed procedure.”

★ System
★ “A group of interacting, interrelated or interdependent elements forming or regarded as forming a collective entity.”

★ NOT A “PROGRAM”
Inspection Process

☆ What is the Goal of an Inspection Process?

1. Do the inspection
2. Identify Findings or non-conformances
3. Reduce the frequency of findings or non-conformances
4. Eliminate Accidents
Goal of an Inspection “Process”

1. Do Inspections
   No: A part of inspections - Yes, but not the end point

2. Identify Findings or non-conformances
   No: A part of inspections - Yes, but not the end point

3. Reduce the frequency of non-conformances
   Yes! Is that how you measure the success of this process?

4. Eliminate accidents
   Not a bad answer – and this may be the overall expectation, but not the goal of the part played by inspection process
What are SMSs
> Process Workshop: Inspections

ID Inspection Categories and Criteria

Train the Inspectors

Schedule the Inspections

DO THE INSPECTION

Track Inspection Findings

Measure Closure Rates

Do Trend Analysis

Develop Goals and Objectives
### Inspections: Inputs and Outputs

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regs Risk Ass.</td>
<td>Conformance</td>
</tr>
<tr>
<td>Training process</td>
<td>Competency</td>
</tr>
<tr>
<td>Regs, failures</td>
<td>Conformance</td>
</tr>
<tr>
<td>Quals, Competency</td>
<td>Conformance</td>
</tr>
<tr>
<td>Culture</td>
<td>Monitoring Data</td>
</tr>
<tr>
<td>Accountability</td>
<td>Accountability Scorecards</td>
</tr>
<tr>
<td>Finding Categories</td>
<td>Goals and Objectives</td>
</tr>
<tr>
<td>Trend Analysis</td>
<td>Continual Improvement</td>
</tr>
</tbody>
</table>

- **ID Inspection Categories and Criteria**
- **Train the Inspectors**
- **Schedule the Inspections**
- **DO THE INSPECTION**
- **Track Inspection Findings**
- **Measure Closure Rates**
- **Do Trend Analysis**
- **Develop Goals and Objectives**
Requirements include all SMS

**Management Commitment**
- Hearing Conservation: eliminate noise sources

**Planning**
- Policy: design out
- Engineering: no new noise sources
- Worker Participation in selection of control procedures
- Inventory of noise sources
- Add new controls

**Implementation**
- Resource
- Worker training
- Document training, audiometry, hearing loss
- Calibrate equipment
- Test noise sources
- Inspect for conformance
- Report to Management

**Performance**
- Set targets for reduction

**Notice:** to effectively meet any requirement, you will need EACH aspect of the MS!
2016 Version

Integrate where ISO 45001 has weakness

Stronger Management Commitment and Worker Participation

Weakness: Risk Assessment

### Core Elements of the Safety and Health Program Management Guidelines

| Management Leadership | - Top management demonstrates its commitment to continuous improvement in safety and health, communicates that commitment to workers, and sets program expectations and responsibilities.  
- Managers at all levels make safety and health a core organizational value, establish safety and health goals and objectives, provide adequate resources and support for the program, and set a good example.  
   |
| Worker Participation | - Workers and their representatives are involved in all aspects of the program—including setting goals, identifying and reporting hazards, investigating incidents, and tracking progress.  
- All workers, including contractors and temporary workers, understand their roles and responsibilities under the program and what they need to do to effectively carry them out.  
- Workers are encouraged and have means to communicate openly with management and to report safety and health concerns without fear of retaliation.  
- Any potential barriers or obstacles to worker participation in the program (for example, language, lack of information, or incentives) are removed or addressed.  
   |
| Hazard Identification and Assessment | - Procedures are put in place to continually identify workplace hazards and evaluate risks.  
- An initial assessment of existing hazards and control measures is followed by periodic inspections and reassessments to identify new hazards.  
   |
| Hazard Prevention and Control | - Employers and workers cooperate to identify and select options for eliminating, preventing, or controlling workplace hazards.  
- A plan is developed that ensures controls are implemented, interim protection is provided, progress is tracked, and the effectiveness of controls is verified.  
   |
| Education and Training | - All workers are trained to understand how the program works and how to carry out the responsibilities assigned to them under the program.  
- All workers are trained to recognize workplace hazards and to understand the control measures that have been implemented.  
   |
| Program Evaluation and Improvement | - Control measures are periodically evaluated for effectiveness.  
- Processes are established to monitor program performance, verify program implementation, identify program deficiencies and opportunities for improvement, and take actions necessary to improve the program and overall safety and health performance.  
   |
| Coordination and Communication on Multiemployer Worksites | - The host employer and all contract employers coordinate on work planning and scheduling to identify and resolve any conflicts that could impact safety or health.  
- Workers from both the host and contract employer are informed about the hazards present at the worksite and the hazards that work of the contract employer may create on site.  
   |
Maturity Model

Plan for Implementation
Maturity Evaluation

Similar to the OSHA PEP and Form 33

MANAGEMENT LEADERSHIP and EMPLOYEE PARTICIPATION
Employee Participation
Employee participation provides the means through which workers identify hazards, recommend and monitor abatement, and otherwise participate in their own protection. [Guidelines, (b)(1) and (c)(1)]

1 - Worker participation in workplace safety and health concerns is not encouraged. Incentive programs are present which have the effect of discouraging reporting of incidents, injuries, potential hazards or symptoms. Employees/employee representatives are not involved in the safety and health program.
Maturity Evaluation

Similar to the OSHA PEP and Form 33

MANAGEMENT LEADERSHIP and EMPLOYEE PARTICIPATION

Employee Participation

2 - Workers and their representatives can participate freely in safety and health activities at the worksite without fear of reprisal. Procedures are in place for communication between employer and workers on safety and health matters. Worker rights under the Occupational Safety and Health Act to refuse or stop work that they reasonably believe involves imminent danger are understood by workers and honored by management. Workers are paid while performing safety activities.
Employee Participation – (PEP)

3 - Workers and their representatives are involved in the safety and health program, involved in inspection of work area, and are permitted to observe monitoring and receive results. Workers' and representatives' right of access to information is understood by workers and recognized by management. A documented procedure is in place for raising complaints of hazards or discrimination and receiving timely employer responses.
MANAGEMENT LEADERSHIP and EMPLOYEE PARTICIPATION

Employee Participation – (PEP)

- 4- Workers and their representatives participate in workplace analysis, inspections and investigations, and development of control strategies throughout facility, and have necessary training and education to participate in such activities. Workers and their representatives have access to all pertinent health and safety information, including safety reports and audits. Workers are informed of their right to refuse job assignments that pose serious hazards to themselves pending management response.
MANAGEMENT LEADERSHIP and EMPLOYEE PARTICIPATION
Employee Participation – (PEP)

5- Workers and their representatives participate fully in development of the safety and health program and conduct of training and education. Workers participate in audits, program reviews conducted by management or third parties, and collection of samples for monitoring purposes, and have necessary training and education to participate in such activities. Employer encourages and authorizes employees to stop activities that present potentially serious safety and health
Metrics

Measure the Right People on the Right Things
Management Accountability

Hold managers, supervisors, and employees accountable for meeting their responsibilities, so that essential tasks will be performed.

(OSHA PMG)

Leading Metrics

- Closure Rates
- Conformance Rates
- # of New Controls
- Trend Reductions: inspections+root cause
- Worker Participation
- Risk Reduction

Lagging Metrics

- TRIR
- LWCR (DART)
- SIF

For a list of metrics, review my article in June 2018 Professional Safety: “The New Measure of Safety Performance”
Balanced Scorecard for Safety

**Financial**
- Budget
- Personnel
- WC

**Customer**
- Incidence Rates
- SIF
- Worker Participation
- Worker Recognition

**Process**
- STAR Scores
- STAR Action Plans
- Risk Reductions
- # New Controls

**Learning and Growth**
- Training Retention
- Training Attendance
- Closure Rates
- Conformance Rates
- Trend Reductions
Trend Analysis

Inspection and Observation non-conformances

- The YTD-Summary Sheet is an aggregate of all the information collected in the Monthly sheets.

<table>
<thead>
<tr>
<th>All Depts., Safety items and scores</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SCORE</th>
<th>550 maint</th>
<th>988 HR</th>
<th>550 probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOUSING HOUSEKEEPING GOOD MANAGEMENT PRACTICES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floors &amp; work areas are clean &amp; dry</td>
<td>21</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Aisle lines clearly marked</td>
<td>23</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Aisle clean &amp; free of tripping hazard</td>
<td>20</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Work areas are clean</td>
<td>21</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Workbenches/desk clean</td>
<td>23</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sufficient lighting</td>
<td>23</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Firstlight available and working</td>
<td>23</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stairs clear and clean</td>
<td>22</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Material racks &amp; storage in place</td>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Overall % for Dept

If non-conformance is CTS = label and count

% for Dept/Section

YTD-Summary
Incident Data Collection and Analysis

<table>
<thead>
<tr>
<th>Incident</th>
<th>Injury</th>
<th>Causal Factor</th>
<th>Hazard</th>
<th>Energy</th>
<th>Root Cause</th>
<th>Severity Potential</th>
<th>Highest Control Failure</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Hazard Failures
- Struck by
- Overexertion - chronic
- configuration design

Catastrophic Controls
- Engineering
- PPE
- Administrative
## Supervisor’s Scorecard

<table>
<thead>
<tr>
<th>1 Risk Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose the Department from drop-down menu.</td>
</tr>
<tr>
<td>Record the Task*, Date of Assessment, Changes Identified, type of control, the Owner* of the change, and the Date Closed (when applicable).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2 Monthly Incident Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose the Department from drop-down menu.</td>
</tr>
<tr>
<td>Place an &quot;X&quot; under the Incident* or Near Miss* column.</td>
</tr>
<tr>
<td>Describe the Event.</td>
</tr>
<tr>
<td>Record the Date of Assessment, and Number of Changes Identified.</td>
</tr>
<tr>
<td>Choose the Control-Type* from drop-down menu.</td>
</tr>
<tr>
<td>Record the Owner* of the change, and the Date Closed (when applicable).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3 Monthly Inspections/Discrepancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose the Department from drop-down menu.</td>
</tr>
<tr>
<td>Record the Task*, Date of Assessment, Number of Changes Identified, and the Owner* of the change.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4 Monthly Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose the Department from drop-down menu.</td>
</tr>
<tr>
<td>Record the Task*, Date of Assessment, Number of Changes Identified, and the Owner* of the change.</td>
</tr>
</tbody>
</table>
5. Supervisor Communication (Toolbox/Suggestions)
Choose the Department from drop-down menu.
Record the Task*, Initiation Date, Changes Identified, type of change, the Owner* of the change, and the Date Closed (when applicable).

6. EHS Action Plan Status
Choose the Department from drop-down menu.
Record the Initiation Date and the Responsible Party*.
Describe the Action Item*.
Choose the applicable EHS Report Topic* from the drop-down menu.
Record the Percentage to Completion. Update as needed.
Record the Completed/Closed Date (when applicable).
Describe the Actual Results/Record any applicable Comments.

7. EHS Rewards & Recognitions
Choose the Department from drop-down menu.
Record the number of EHS rewards and recognitions given for each Department.
## Supervisor’s Scorecard

- Part of Supervisor’s Performance Appraisal
- Part of Team based recognitions for workers.

<table>
<thead>
<tr>
<th>Monthly Safety Data</th>
<th># of Events</th>
<th># of Changes Identified/Needed</th>
<th>Closure Rate (From Date Closed)</th>
<th>Effectiveness (Control Type) (% eng, sub, elim)</th>
<th>Conformance Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHS Report Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Assessment Changes to Controls</td>
<td>25</td>
<td>10</td>
<td>69</td>
<td>10</td>
<td>16%</td>
</tr>
<tr>
<td>Monthly Incident Review</td>
<td>8</td>
<td>10</td>
<td>35</td>
<td>10</td>
<td>25%</td>
</tr>
<tr>
<td>Monthly Inspections/Discrepancies</td>
<td>20</td>
<td>10</td>
<td>100</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>Monthly Observations (Optional)</td>
<td>20</td>
<td>10</td>
<td>33</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>Communication to Supervisors (EHS Tool)</td>
<td>21</td>
<td>10</td>
<td>189</td>
<td>10</td>
<td>29%</td>
</tr>
<tr>
<td>EHS Action Plan Status</td>
<td>5</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>60%</td>
</tr>
<tr>
<td>EHS Rewards &amp; Recognition</td>
<td>40</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidence Rate (Incident Frequency)</td>
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</tr>
<tr>
<td>Incidence Rate (Lost Work Day Rate)</td>
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</tr>
</tbody>
</table>
Measuring the right things and the right people

Who should be measured on the closure rates of inspection findings?

- Safety only
- Maintenance only
- Operations only
- The supervisor and manager of the work area (unsafe condition) or person (unsafe behavior)
Measuring the right things and people

Who should be measured on the closure rate of inspection findings?

1. Safety only
   ☒ No

2. Maintenance only
   ☒ No

3. Operations only
   ☒ No

4. The supervisor and manager of the area (unsafe condition) or person (unsafe behavior)
   Yes
Employee Participation

★ Engagement is a superior level of participation
★ Place the following in the correct column
  ★ Attend Safety committee
  ★ Chair safety committee
  ★ Perform a safety inspection
  ★ Revise the inspection checklist or schedule
  ★ Perform an accident investigation
  ★ Suggest corrective actions based on another department’s lessons learned.

<table>
<thead>
<tr>
<th>Participation</th>
<th>Engagement</th>
</tr>
</thead>
<tbody>
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</table>
Employee Participation

Engagement is a superior level of participation

<table>
<thead>
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<tbody>
<tr>
<td>Attend Safety committee</td>
<td>Chair safety committee</td>
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<tr>
<td>Perform a safety inspection</td>
<td>Revise the inspection checklist or schedule</td>
</tr>
<tr>
<td>Perform an accident investigation</td>
<td>Suggest corrective actions based on another department’s lessons learned</td>
</tr>
</tbody>
</table>
Ex: Employee Involvement Options

- Study a video and modify the checklist
- Train other inspectors
- Change the schedule (more or different)
- Do inspections
- Prioritize high risk findings
- Determine high risk closure deadlines
- Do the trend analysis
- Recommend G&Os

ID Inspection Categories and Criteria

Train the Inspectors

Schedule the Inspections

DO THE INSPECTION

Track Inspection Findings

Measure Closure Rates

Do Trend Analysis

Develop Goals and Objectives
Recognition

**Individual**
- Ex: Passport
  - Multiple activities, each gets approved
  - Accumulates points.
  - Into as part of new employee orientation

**Team**
- Conformance Rate
- Critical to Safety (CTS conformance Rate)
- Training Retention
- Etc.

Participate on an inspection
Attend a safety committee
Turn in a suggestion
Turn in a near miss
Do a behavior observation
Etc.

Awards can be monthly or quarterly
Food, points, etc.

Notice: nothing about incidence rates!
Getting Started

Phase 1
- Management Accountability
- Risk Assessment
- OH&S Objectives
- Inspections
- Root Cause
- Corrective Action Tracking and Closure

Phase 2
- OH&S Committees
- Competencies
- Hierarchy of Control
- Management Review

Phase 3
- Positive Worker Recognition

Phase 4
- Continual Improvement

Phase Timetables Are Based on Resources and Leadership Directives

If possible, start with Management Accountability, then employee engagement, before recognition!
Objectives

✓ ISO 45001 Strengths and Weaknesses

✓ Maturity Path Model: STAR
  ✓ Safety Through Accountability and Recognition

✓ Metrics are the Key
  ✓ If the right people are measured on the right things.
ISO 45001

Safety Through Accountability and Recognition

Measuring the right people on the right things