Industrial Hygiene
Performance Metric Manual

Prepared for:
AIHCE
Thursday, May 25

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IH Program Value?

Is it:

Or:
How do you Measure IH Performance?

If you want it done - measure it!
Historical Performance Measures

Historically, management has used performance measures such as profitability, sales, etc., to measure corporate performance.
Measure Progress or Activity

EX: 12 Committee Meetings

The Committee implemented 10 corrective actions.

“VS”
Why Measure IH Program Performance?

- Educate management to the Elements of an IH Program
- Educate management about the importance of IH in general.
- Demonstrate value of IH Program.
- Provide management motivation towards continuous improvement of the program.
What is a Performance Measure?

PMs are a uniform system for:

- analysis
- trending
- comparing achievements to goals.
What do you measure?
Many OSH Performance Measures Were Presented at PCIH’95 in San Diego

- ARCO
- Goodyear Tire and Rubber Co.
- Kodak
- Responsible Care
- Others
However, many of the Performance Measures used in industry today are actually OSH vs. IH specific.
100 Performance Measures*

- Total worker’s compensation costs
- Average cost per claim
- Cost per man-hour
- OSHA 200 logs
- Industry ranking
- Behavior observation data
- Benchmarking other companies
- Employee perception surveys
- Frequency of all injuries/illnesses
- Severity of all injuries/illnesses
- Lost-time accidents
- Investigations completed on time
- Investigation identifies causes
- Investigation identifies action plan
- Action plan implemented
- Safety meetings held as scheduled
- Agenda promoted in advance
- Safety records updated and posted
- Inspections conducted as scheduled
- Inspection findings brought to closure

* www.safetyonline.net
100 Performance Measures*

- Management safety communications
- Management safety participation
- Near miss/near hit reports
- Discipline/violations reports
- Self-audits for regulatory compliance
- Contractor recordable injuries/illnesses
- Total manufacturing process incidents
- Total transportation incidents
- Rate of employee suggestion/complaints
- Resolution of suggestion/complaints
- Vehicle accidents per mile driven
- Safety committee initiatives
- Management initiatives
- Respiratory protection audit
- Hearing conservation audit
- Spill control audit
- Emergency response audit
- Toxic exposure monitoring audit
- Ventilation audit
- Lab safety audit

* www.safetyonline.net
100 Performance Measures*

- Health/medical services audit
- **Hazard communication audit**
- Ergonomics audit
- **Bloodborne pathogen audit**
- Housekeeping audit
- Job safety analyses
- Lockout/tagout audit
- Confined spaces audit
- Machine guarding audit
- Electrical safety audit
- Security audits
- Vehicle safety audit
- Fire protection audit
- Employee participation rates
- Employee housekeeping
- Employee safety awareness
- Employee at-risk behavior
- Supervisor/manager participation
- Supervisor/manager communication
- Supervisor/manager enforcement
- Supervisor/manager safety emphasis
- System safety analyses

*www.safetyonline.net*
100 Performance Measures*

- Supervisor/manager safety awareness
- Injury/illness cases reported on time
- Statistical reports issued on time
- **Ratio of safety & health staff to workforce**
- Safety & health spending per employee
- Titles in safety & health library
- Technical assistance bulletins issued
- Policies & procedures updated on time
- Wellness program participation rates
- Emergency drills conducted as planned
- Percent employees trained in CPR/First Aid
- Absenteeism rates
- Productivity per employee rates
- Production error rates
- Incidence of workplace violence
- Incidence of accidental releases
- Employee exit interviews
- Employee focus groups
- Community outreach initiatives

* [www.safetyonline.net](http://www.safetyonline.net)
100 Performance Measures*

- Off-the-job safety initiatives
- Insurance/consultant reports
- Reports of peer support for safety
- Certifications of safety & health personnel
- Percent safety goals achieved
- Training conducted as scheduled
- Safety training test scores
- Statistical tracking for programs
- Statistical process control

- Contractor safety activities
- Positive reinforcement activities
- OSHA audit-no citations OSHA audit-citations, no fines
- Willful violations
- Serious or repeat violations
- Other-than-serious violations
- Total dollar amount of penalties
- Average time to abate reported hazard
- Average time to respond to complaint

* www.safetyonline.net
**DOE**

**Leading**
- Illness/event index
- Medical treatment report
- Occupational Health Inspection findings

**Lagging**
- Hazardous material overexposure
- Worker’s Comp loss experience
- Illness rate

**Behavior**
- Program implementation
- Training
Responsible Care

Outcome (efficiency) vs. Process (efficiency)

- Injury/illness rate: #’s + distribution (root cause)
- Worker’s Compensation dollars (EMR) + Claims
- Near Misses/Preventable Accident Index
- Regulatory Visits, Citations, and Costs (% serious/willful)

Some of these can be IH specific.
Responsible Care (cont.)

Outcome (efficiency) vs. Process (efficiency)

- % of training completed
- Compliance Issues: Completed on schedule
- Exposure assessment strategies
  - % of all potential assessed
  - Air monitoring schedule vs. completed
- Number of Hazard Assessments completed
- Exposures above OEL

Some of these can be IH specific.
Conclusion . . .

Do these indicators really measure IH Program performance?

In part. . .yes. . .but . . .

How do you measure your process?
IH Performance Process

Is it:

❖ Management Systems,

❖ Compliance, or a

❖ Program Evaluation
Program vs. Regulatory Compliance

IH Program  “OR”  Compliance

Does compliance guarantee a good IH Program?
OSHA’s Voluntary Protection Program

A Model Process Assessment

Star or Merit Status Is Based On:

- Annual Evaluation of Program Management Guidelines
- Incident Rate of Recordable Injuries
- Incident Rate of Lost Workday Cases
- Meeting Goals and Objectives (e.g., continuous improvement plan).

Management System & OSH Program Evaluation
Define an IH Program

Industrial Hygiene is . . .

Awareness
Recognition
Compliance
Control
Add Management Commitment...

Awareness
Management Commitment
Recognition
Control
Compliance

... and you have an IH Program!!!
IH Program Evaluation Criteria

- Start with the AIHA Industrial Hygiene Audit Manual.
- Sort through and eliminate all titles or references to non-IH (e.g., environmental, fire, safety).
- Organize by Functional Areas
  - Management - Awareness - Recognition - Control
- Match up evaluation criteria (protocol questions) to the Functional Areas.
- Add Compliance Specific Criteria.
- Test and Validate the Model.
IH Program Elements

IH Program Evaluation (IHProfile™)

AWARENESS
- Hazard Inventory
  - Hazardous Materials
  - Hazardous Exposures
  - Ergonomic Stressors
- Corporate
  - IH Management
  - Corporate Awareness
- Hazard Review
  - New/Modified Material
  - New/Modified Process
  - Existing Materials/Processes

EVALUATION
- Assessments
  - Exposure Assessment
  - Risk Management
- Monitoring
  - Sampling
  - Instrument Calibration
  - QA/QC

CONTROL
- Engineering
  - Methods
  - Ventilation
  - Preventive Maintenance
- Administrative
  - General
  - Work Practice
  - Emergency Planning
  - Training

MANAGEMENT
- Documentation
  - Injury & Illness Reports
  - Accident Investigations
  - Employee Notifications
  - MSDSs
  - Sampling Records
- Staffing
  - Organization
  - Qualifications
  - Job Descriptions
  - Personnel Selection
  - IH Training

COMPLIANCE
- Programs
  - Respiratory
  - Hearing
  - Hazard Communication
  - Laboratory
  - PPE
- Toxic & Haz. Substances
  - State & Local
  - Program Evaluation
  - Annual Review
  - Inspections
  - Corrective Action Plans
  - Reports
  - Performance Measures
- Company Policy

IH Program Evaluation (IHProfile™)

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Evaluation Criteria (Example):

Management: Staffing

IH Management
- Job descriptions outline industrial hygiene management responsibilities.
- There is an Industrial hygiene operating plan.
- Business and industrial goals are in writing.
- Resource plan covers both industrial hygiene staffing and equipment needs.
- Sufficient resources are allocated for the Facility’s IH Program to achieve and maintain compliance.

Controls: Administrative

Work Practices
- Where controls have not been put in place, control plans are being developed.
- There are procedures to ensure that proper work practice and administrative controls are followed.
- Work practice controls are incorporated into Standard Operating Procedures.
### Response Language/Weights and Priority

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### Priority

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Each protocol criteria receives a response

Each finding or recommendation is prioritized
Baseline Your IH Program

Score each element, . . . then, further analyze areas of weakness...

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<th>Description</th>
<th>Baseline # of Priority 1’s</th>
<th>Baseline Section &amp; Division Scores</th>
<th>Re-Survey # of Priority 1’s</th>
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"Very often, audits and surveys produce findings and data, but seldom are the data analyzed."

- Audit Results:
  - Qualitative and Quantitative
  - Categorize and Trend Findings
  - Trend of Priority 1 Problem Areas
  - Corrective Action $$$ and Program Elements Areas.
The Value of IH Programs!!!

- Good IH prevents over-exposures
- IH Controls WC $$$
- IH Data provides protection from fraudulent WC claims
- Hazard assessments prevent costly retrofits

Prove it by measuring it!!!
IH Specific Metrics

- Generate and collect data
- Perform program/process evaluations
- Refer to the references listed for other IH Performance Measures.

AIHA Management Committee is looking to publish an

*IH Performance Measure Manual.*

Your suggestions are welcome!