


AHMP 2013 National Conference

The Process Operator and EMS - Fred Should Know!

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**AGENDA**

- ISO 14001: **2015** – Overview
- Management System Introduction:
  - ISO 14001:2004
  - OHSAS 18001:2007
  - ISO 50001:2011
- Introducing Fred
- EEnHS MS – How to collect and use the data
- EEnHS MS – How to train
- EEnHS MS – How to Audit

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**ISO/TC 207/SC 1/WG 5  
Revision of ISO 14001**

- **Goal:**
  - Incorporate new approaches in the field of Environmental Management, and meet stakeholder expectations that have evolved since 1996, so that ISO 14001 remains relevant over the next 20 years.
- **Mandate:**
  - Base the revision on ISO Annex SL: - common management system structure, requirements, identical text, common terms, and core definitions
  - Maintain and improve the basic principles and existing requirements

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**Annex SL**

- Annex SL, formally known as the *JTCG High Level Structure and Draft Guide 83*, has been published in *ISO/IEC Directives, Part 1, Consolidated ISO Supplement-Procedures specific to ISO, third edition, 2012*, and can be found at: [www.iso.org/iso/iso\\_iec\\_directives\\_and\\_iso\\_supplement](http://www.iso.org/iso/iso_iec_directives_and_iso_supplement)
- Goal is to standardize MS standards to facilitate the integration of multiple MS standards into an organization's management system.
- Technical Committees can add discipline specific requirements, but cannot delete any of the generic requirements without justification

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5.2 Management commitment

Top management shall demonstrate its commitment by

- ensuring the **XXX** management system is compatible with the strategic direction of the organization
- integrating the **XXX** management system requirements into the organization's business processes;
- providing the resources to establish, implement, maintain and continually improve the **XXX** management system
- communicating the importance of effective **XXX** management and conforming to the **XXX** management system requirements;
- ensuring that the **XXX** management system achieves its intended outcomes,
- directing and supporting continual improvement


NOTE Reference to "business" in this International Standard should be interpreted broadly to mean those activities that are core to the purposes of the organization's existence.

5.3 Policy

Top management shall establish a **XXX** policy. The policy shall:

- be appropriate to the purpose of the organization,
- provide the framework for setting **XXX** objectives.

**ISO 14001:201X CD Clauses**



- 1. Scope**
- 2. Normative references**
- 3. Terms and definitions**
- 4. Context of the organization**
  - Understanding the organization and its context
  - Understanding needs and expectations of interested parties
  - Scope of the management system
  - Management System
- 5. Leadership**
  - Leadership & commitment
  - Policy
  - Organizational roles, responsibilities and authorities
- 6. Planning**
  - Actions to address risks & opportunities
  - General
  - Environmental aspects
  - Legal & Other requirements
  - Objectives and planning to achieve them
  - Environmental objectives
  - Environmental improvement programmes
- 7. Support**
  - Resources
  - Competence
  - Awareness
  - Communication
  - General
  - Internal Communication
  - External Communication
  - Documented information
  - General
  - Creating and updating
  - Control of documented information
- 8. Operation**
  - Operational planning and control
  - Value Chain planning and control
  - Emergency preparedness & response
- 9. Performance evaluation**
  - Monitoring, measurement, analysis & evaluation
  - General
  - Evaluation of compliance
  - Internal audit
  - Management review
- 10. Improvement**
  - Non conformity and corrective action
  - Continual improvement

Legend: Black - core MS requirement comparable to 14001:2004; Red - New MS requirements; Blue - ISO 14001, discipline-specific

## ISO 14001:2004 - 18 Elements

- 4.1 Scope
- 4.2 **Environmental** Policy
- 4.3.1 **Environmental** Aspects
- 4.3.2 Legal and Other Requirements
- 4.3.3 Objectives, Targets and Programs
- 4.4.1 Resources, Roles, Responsibility and Authority
- 4.4.2 Competence, Awareness and Training
- 4.4.3 Communication
- 4.4.4 Documentation
- 4.4.5 Control of Documents
- 4.4.6 Operational Control
- 4.4.7 Emergency Preparedness and Response
- 4.5.1 Monitoring and Measurement
- 4.5.2 Evaluation of Compliance
- 4.5.3 Nonconformity, Corrective Action and Preventive Action
- 4.5.4 Control of Records
- 4.5.5 Internal Audit
- 4.6 Management Review

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## OHSAS 18001:2007

OHSAS 18001 provides what has been determined to be the minimum requirements for an occupational health and safety (OH&S) management system that could enable an organization to effectively control its OH&S risks and improve its performance.

*ANSI/AIHA Z10-2012 Occupational Health and Safety Management Systems*

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## Occupational Health and Safety OHSAS 18001 Elements

- 4.1 Scope
- **4.2 OHS** Policy
- **4.3.1 Hazard identification, risk assessment and determining controls**
- 4.3.2 Legal and Other Requirements
- 4.3.3 Objectives **and Programs**
- 4.4.1 Resources, Roles, Responsibility **Accountability and Authority**
- 4.4.2 Competence, Awareness and Training
- 4.4.3 Communication, **participation and consultation**
- 4.4.4 Documentation
- 4.4.5 Control of Documents
- 4.4.6 Operational Control
- 4.4.7 Emergency Preparedness and Response
- 4.5.1 **Performance measurement and monitoring**
- 4.5.2 Evaluation of Compliance
- 4.5.3 **Incident investigation, nonconformity, corrective action and preventive action**
- 4.5.4 Control of Records
- 4.5.5 Internal Audit
- 4.6 Management Review

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## ISO 50001:2011

- Can be used as basis for auditing energy management systems
- Specifies requirements for establishing, implementing, maintaining and improving an energy management system, whose purpose is to enable an organization to follow a systematic approach in achieving continual improvement of energy performance, including energy efficiency, energy use and consumption
- Designed to be used independently, but it can be aligned or integrated with other management systems

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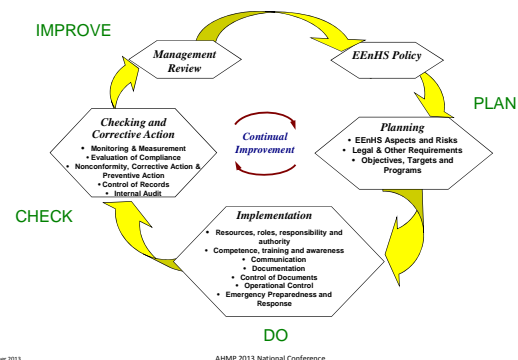
## ISO 50001 Elements

- 4.1 General requirements
- **4.2 Management responsibility**
- **4.2.1 Top management**
- 4.2.2 Management representative
- 4.3 **Energy policy**
- 4.4 **Energy planning**
- 4.4.1 General
- 4.4.2 Legal requirements and other requirements
- 4.4.3 **Energy review**
- **4.4.4 Energy baseline**
- **4.4.5 Energy performance indicators**
- **4.4.6 Energy objectives, energy targets and energy management action plans**
- 4.5 Implementation and operation
- 4.5.1 General
- 4.5.2 Competence, training and awareness
- 4.5.3 Communication
- 4.5.4 Documentation
- 4.5.5 Operational control
- **4.5.6 Design**
- **4.5.7 Procurement of energy services, products, equipment and energy**
- 4.6 Checking
- 4.6.1 Monitoring, measurement **and analysis**
- 4.6.2 Evaluation of compliance with legal requirements and other requirements
- 4.6.3 Internal audit **of the EnMS**
- 4.6.4 Nonconformities, **correction, corrective action and preventive action**
- 4.6.5 Control of records
- 4.7 Management review
- **4.7.1 General**
- **4.7.2 Input to management review**
- **4.7.3 Output from management review**

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## MANAGEMENT SYSTEMS



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## Introducing Fred!

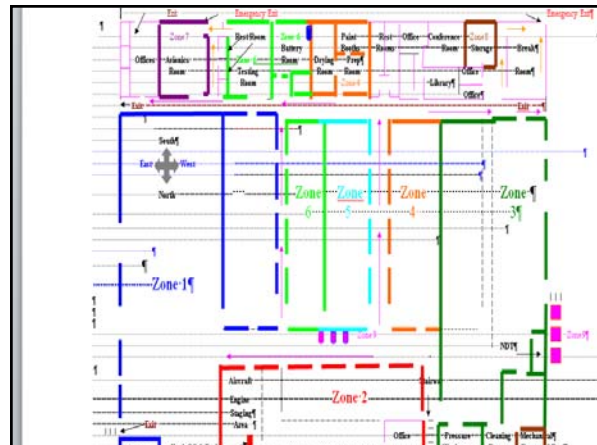
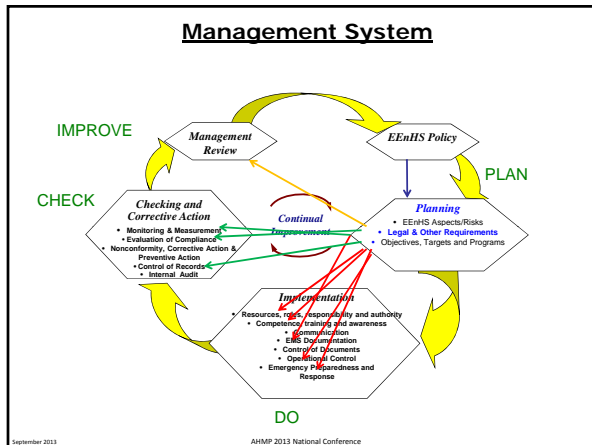
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## Data Collection

- Environmental Aspects
- H&S Hazards and Risks
- Energy Use
- Legal and Other Requirements
- Objectives and Targets – Programs

- Who does this?
- How is this documented?
- How does the data get communicated?

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## Aspect Ranking

Rank	Aspect	Score
1	Potential spills – Petroleum	77691
2	Energy usage – Electricity	65533
3	Potential spills – Chem. or HW	57630
4	HM use-chemicals	43868
5	HM use- Petroleum /oils/lubricants	42385
6	Waste generation – Petroleum /oils	39923
7	Waste generation – Oily waste	32418
8	Compressed/Flammable gas	29203
9	Waste water – Sanitary	26261
10	Stormwater – Non-point	22824

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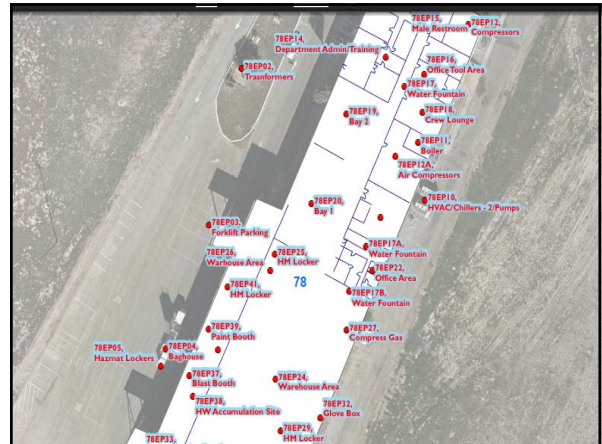
	A	B	C	D	E
	Location	Driver	Regulatory Citation	Task Assignment Statement	Task Instructions Description (Describe what needs to occur)
1	Site	State	30 TAC § 101.10 (b)	Emission inventory reporting responsibilities. Any facility that emits or has the potential to emit 100 tons or more of any air pollutant or any pollutant which emits has the potential to emit 10 tons or more of any single or 25 tons of aggregate hazardous air pollutants as defined in FCAA, 312(a)(1) must submit an emissions inventory report.	• Submit an air emissions report. • Electronic inventory that contain emissions data from calendar year. • Due annually to the TCEQ on March 31. • Client required permit procedure as a minor source.
2	Cooling Tower	Air Permit (Permit Number 7598)	30 TAC § 16.16	The cooling water tower shall be sampled once a day for total dissolved solids (TDS).	• Insert conductivity probe into representative cooling and measure in microns using EPA Method 801. Record measurement. Take corrective action greater than 800 microns (PM <sub>10</sub> ).
3	Scrubber Unit RTO	Air Permit (Permit Number 7598)	30 TAC § 16.16	The permit holder shall perform stack sampling and other testing as required to establish the actual permit and quantity of all contaminants being emitted into the atmosphere from EP/ES to demonstrate compliance with Special Condition No. 7 of the pe	• Contact TCEQ Regional Office L Amador (806) 353-3325 testing is scheduled, but not less than 45 days prior to sampling measurement. Coordinate effort with stack subcontractor.
4	Fluidized Bed Boiler and Package Boiler	Air Permit (Permit Number 7598)	30 TAC § 16.16	The continuous emission monitoring system (CEMS) shall be zeroed and spanned daily.	At the beginning of Shift L, zero and span the CEMS and record.
5	Fluidized Bed Boiler and Package Boiler	Air Permit (Permit Number 7598)	30 TAC § 16.16	Each CEMS Monitor shall be quality assured at least Quarterly Using Cylinder Gas Audit (CGA).	• Utilize the CGA in accordance with 40 CFR Part 60, Appendix Procedure 1.5.1.2. An equivalent TCEQ approved quality method may also be used.
6	Fluidized Bed Boiler	Air Permit (Permit Number 7598)	30 TAC § 16.16	Sample the Fluidized Bed Boiler for total chlorine content.	• Sample the Fluidized Bed Boiler using a method approved TCEQ Office of Compliance and Enforcement. If the chloride is found to be 10% greater than the total sample, the Boiler must be re-stack sampled for HCL in acid.
7	Fluidized Bed Boiler	Air Permit (Permit Number 7598)	30 TAC § 16.16	The baghouses shall be inspected for visible emissions each day.	• Inspect the baghouses for visible emissions according to § 16.04.03.02.01.
8	Piping, Valves Connectors, Pumps and Compressor in volatile organic compounds (VOC) Sense	Air Permit (Permit Number 7598)	30 TAC § 16.16	Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly.	• Inspect accessible valves for fugitive VOCs using an approved analyzer conforming to the requirement listed in 40 CFR § 16.04.03.02.01.01. Record and report results. Leaking valves, connectors, seals and pumps shall be repaired to prevent VOC in excess of next process shutdown. Record inspection!
9	Piping, Valves Connectors, Pumps and Compressor in	Air Permit (Permit Number 7598)	30 TAC § 16.16	Pumps and compressor seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOCs from the seal.	• Inspect pumps and compressor seals with EPA approved quarterly and record results. Leaking valves, connectors, seals and pumps shall be repaired to prevent VOC in excess

KAIZEN PDCA PLANNING WORKSHEET

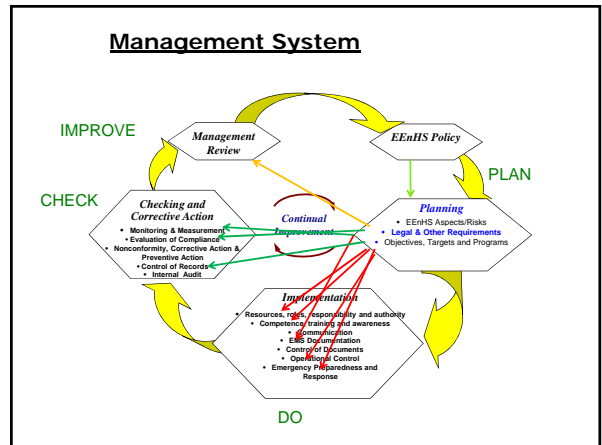
Practical Problem Solving Sheet Number: \_\_\_\_\_ Date Last Modified: 2/23/2011 Identified Lessons to Address: \_\_\_\_\_

ENVIRONMENTAL OBJECTIVES AND TARGETS 2011

Plan	Do	Check	Act
1. Cool air cooling of water on lower tray design steps			
2. Lighting Schedule			
3. Heat Loss			
4. Garage Redesign			
5. Lighting Fixtures			
6. Vandal Mirror			
7. Break down lighting circuit to separate utility controls			
8. Vandal Mirrors/Storage work on existing workbenches			
9. Energy Rating Redesign on all workbenches			



- ### What information do I have?
- Compliance:**
- SWPPP
  - SPCC
  - Emergency Action Plans
  - H&S Programs
  - Other Plans
- Permit(s)**
- Site Map/Plan**
- Audit reports**
- Other relevant information**
- EEnHS MS:**
- Aspect & Risks assessments
  - Legal and other
  - Objectives and targets
  - Monitoring and measuring
  - Management Procedures
    - 4.3.1
    - 4.5.2
    - 4.5.5



- ### Communicating Requirements
- **Communicate** the requirements and expectations
  - **And** methods for complying with them
  - **And** tasks that need completing
  - **To Fred**
  - Also to contractors, suppliers and other stakeholders
  - Know your stakeholders and what information they would like to hear (4.4.3 (14&18)/4.5.3 (50))

- ### What information does Fred have?
- Policy
  - Checklists
  - Plans / SOPs
  - Emergency Plans
  - Knowledge:
    - Operational / Engineering controls
    - Emergency Plans (and equipment)
  - Training information / certificates



### HW Satellite Accumulation Area

**APPROVED DRUMS:**

- Oil, Grease (Container)
- Drained Used Oil & Gasoline Filters
- Rags/Debris w/Oil, Solvent, Paint
- Antifreeze

**CHECK TO ENSURE:**

- Drum lids are secure
- HW labels are facing outward
- Secondary Containment is clean
- No waste stored on drum
- Clearance around SAA should be 36"

**HW Container Legally Required Label**

MUST identify type of waste

**HAZARDOUS WASTE**

**UNIVERSAL WASTE**

MUST have a start date if waste is stored in drum

MUST identify HAZARD Class

MUST have a start date if waste is stored in drum

MUST identify PHYSICAL STATE

MUST call for replacing drum or new drums

Please call Environmental with any HW containment issues: 562-626-7776

For replacement drums call HW Technician: 562-477-6749

If an uncontrolled spill occurs, or unknown liquid or solid is found, please call Security Dispatch at 562-626-7222

### System Expectations?

1. Policy
2. Aspects / Risks
3. Objectives and Targets
4. Legal and Other
5. Roles and Responsibility
6. Competence, Awareness, Training
7. Documentation
8. Doc. Control
9. Operational Control
10. Emergency Response

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### Training Expectations?

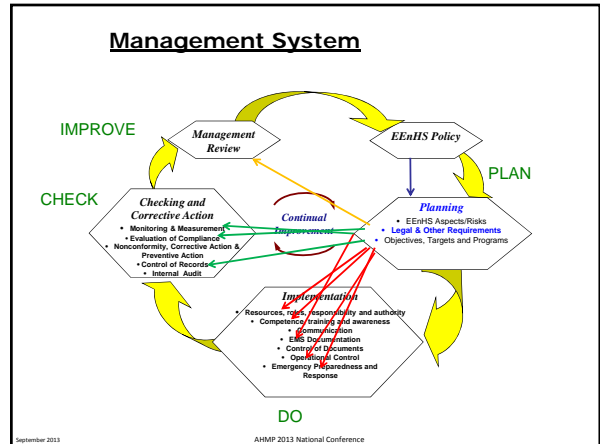
1. Policy
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10. Emergency Response

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### Compliance Audits Definition

- Evaluation of Compliance = An evaluation to assess that the organization is following the applicable regulations, policies or procedures.

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## Management System Audits Definition

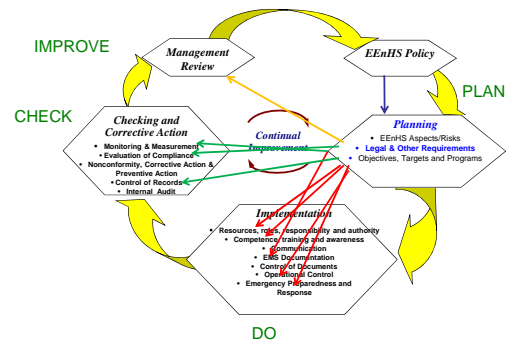
A systematic, documented verification process of objectively obtaining and evaluating audit evidence to determine whether specified environmental activities, conditions, management systems, or information about these matters conform with audit criteria, and communicating the results of this process to the client.

ISO 19011: Environmental Auditing Guidelines - Definition

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## Management System



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## Developing a Process/Fred Checklist

### 1. EEnHS Policy

#### Process and FRED specific:

2. EEnHS aspects and risks
3. Legal and other
4. Objectives and targets
5. Roles and responsibilities
6. Required competence, awareness training
7. EEnHS Documentation
8. Where to find the documentation
9. EEnHS operational controls
10. Emergencies at process

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## Know the answers... Ask the Questions...

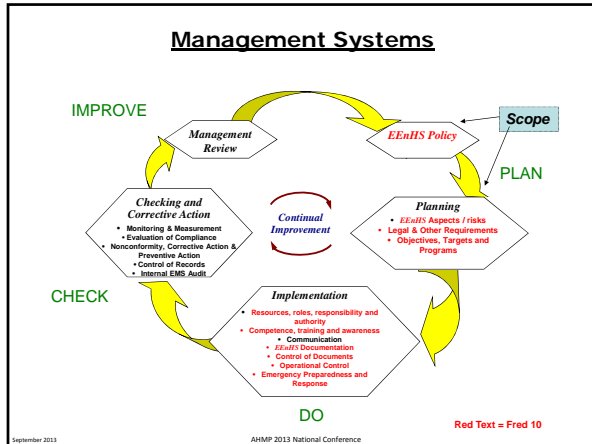
### 1. EEnHS Policy

#### Process and FRED specific:

2. EEnHS issues
3. Legal and other
4. Objectives and targets
5. Roles and responsibilities
6. Required competence, awareness, training
7. EEnHS Documentation
8. Where to find the documentation
9. EEnHS controls
10. Emergencies at process

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1	Are you aware of the EHS Policy?
2	What does the Policy mean to you?
3	Are you aware of the policy intent? Explain the logic.
4	In what way does performing your job affect the environment and safety?
5	What are the two biggest EHS issues at this location?
6	What are the two biggest EHS issues plantwide?
7	Are there any legal (regulatory, permit) and other EHS requirements associated with this process?
8	Describe the legal/regulatory, permit) and other environmental requirements associated with this process?
9	Are there any EHS objectives & targets associated with your job or this process?
10	Describe the EHS objectives & targets.
11	What are your specific EHS roles and responsibilities at this location?
12	What kind of EHS training do you need for your job?
13	How has the training helped you better perform your job?
14	Please provide the job tasks that the EHS training
15	Is there any EHS documentation (Instruction, SOPs, spill plans, forms, checklists) associated with your job/process?
16	What is the EHS documentation?
17	Where is the EHS documentation? - Please show me.
18	Are there any process/operational controls associated with your job/process? (Spill kits, containment, light switches, trash cans, recycle bins, etc.)
19	Describe the process/operational controls.
20	Show me the process/operational controls.
21	What would you do in the case of an EHS emergency such as a fire or large chemical spill?
22	Have there been any chemical, HSE, HW, or petroleum spills? When and where?
23	What can the EHS Department do to help you better perform your job?
<b>Regulatory Compliance</b>	
24	For ALL observed issues - Ask why the issue occurred.
<b>Results of Issue Investigation</b>	
25	Have issues identified during the last inspection been corrected and prevented?
26	Is there proof of BOTH corrective actions and preventive actions?

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COMMENTS, THOUGHTS  
QUESTIONS?

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THANK YOU!

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