Effective Refresher Training

Presented to

2016 NAPTA Conference
New Orleans, LA
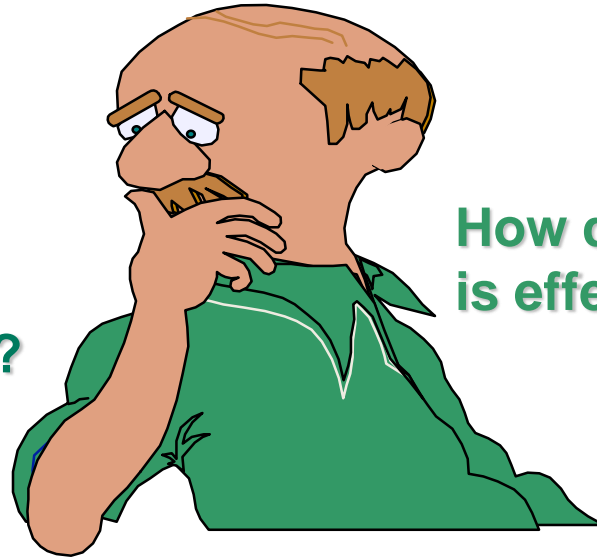## September 20 – 22, 2016

V. Earl Brown, Jr., MS, CEO

Industrial Psychologists, Inc

Why do we need to conduct refresher training?

How do we develop effective training?

What training do we need?

How do we know our training is effective and complete?

How much will the training program cost?

How should our employees be trained? (CBT, classroom, video, OJT)?

Workshop Goals

Provide a basic understanding of:

- **Why we need to provide refresher training**

- **When would we conduct refresher training**

- **One method of identifying refresher training needs**

- **One proven method of providing PSM refresher training**

Qualified operators must be able to:

- Perform their assigned tasks with little or no supervision

- Recognize problems within the work area

- Have a heightened awareness and good working knowledge of the overall operation of the work area

- Have the skills to troubleshoot and correct operational problems

- Be able to recognize problems with the mechanical equipment in the work area

- Have the verbal skills to communicate changes, problems, or emergency information to supervision, console and other operators in the work area

Qualified operators must be able to:

- Have at least a basic understanding of up and downstream operations

- Assist or take charge of activating or deactivating equipment using the site Energy Control/Lock-Out - Tag-out procedures

- Report any unsafe working conditions to the Plant Foreman or Operations Coordinator

- Constantly check to ensure safe conditions

- Perform routine work area cleanup duties to maintain high housekeeping standards for safe unit operation

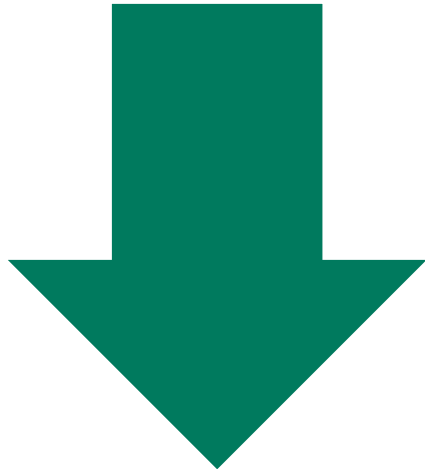- Perform work area rounds as scheduled to verify normal process and equipment operation

What is your facility's training approach?

Once trained – Always trained
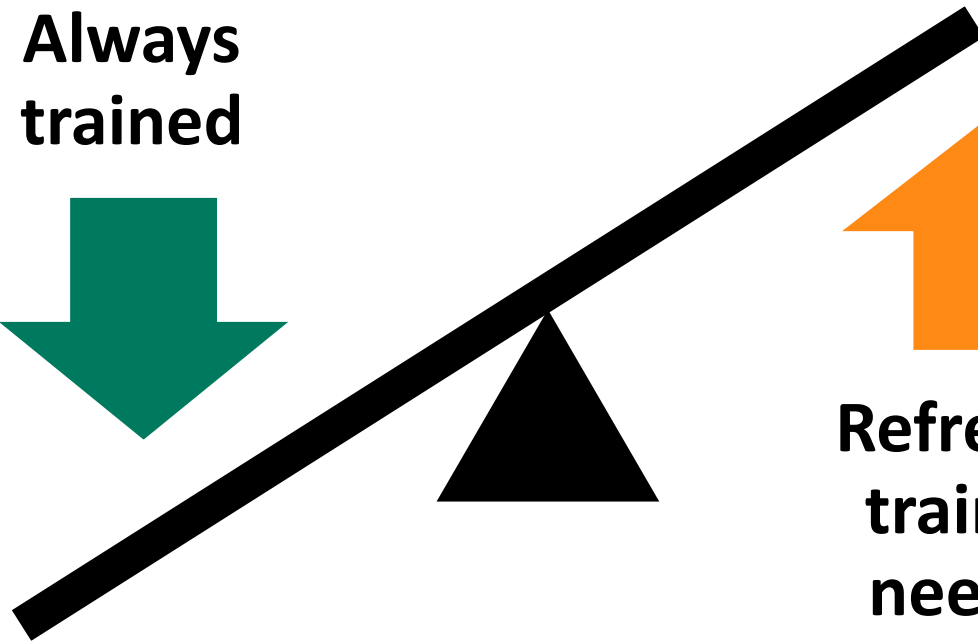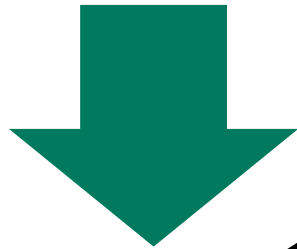
Refresher training needed

Once trained–always trained is correct when . . .

We're talking about:

- Unit logistics
  - ✓ Where's the control room
  - ✓ Who do I call if I can't make it to work

- Simple work tasks
  - ✓ Empty office trash can
  - ✓ Pick up trash in outside work areas
  - ✓ Logging onto the computer system

Refresher training is correct when . . .

- Individual refresher training anytime an employee is having difficulty performing assigned tasks
- There are critical safety aspects to the task
- Tasks are not frequently performed
- Regulation requires refresher training

Why we need refresher Training

Why do we need to provide refresher training?

- Regulatory compliance (OSHA, EPA, DOT, State/Local . . . regulations)

- Industry/voluntary guidelines (OSHA VPP "Star" program, API, Chlorine Institute, ISO quality series . . .)

- Company policies and engineering standard requirements

- To allow employees to retain their effectiveness

- It's the right thing to do
  - ✓ Provides remedial instructions for task performance
  - ✓ Facilitates consistent job performance

When would we conduct refresher training?

- Many regulations have specific refresher training requirements

- Many industry/voluntary guidelines have specific training requirements

- Check your company policies and engineering for refresher training requirements

- If it's been an extended time since an employee has performed a task, common sense would indicate they should be trained before performing the task

Signs refresher training is needed

- **Employees constantly fail to complete assigned tasks on time**

- **Training fails to improve performance**

- **Productivity level goes down**

- **Accident/near miss level increases**

Identifying refresher training needs

# API RP 1200 is one of the best places to start. For specific topics, it provides:

- Regulation number & title

- Who needs to be trained

- An outline of the training required

- Required training frequency

Regulation	Who needs training?	Training Overview	Training Frequency
Occupational Noise Exposure 29 CFR 1910.95(k)	All employees who are exposed to a noise level at or above 85 decibels	• Effects of noise on hearing • Purpose, selection, and proper use of hearing protection • Purpose of audiometric testing and explanation of test procedures • OSHA standard and supplementary materials	Initially and annually thereafter

Regulation	Who needs training?	Training Overview	Training Frequency
Hazard Communication 29 CFR 1910.1200(h)	All employees that may be exposed to hazardous chemicals	• Requirements of HazCom standard • Where chemicals are present • Location and details of the written hazard communication program • Methods used to detect presence of hazardous chemicals • Physical and health hazards of the chemicals in the work area • Measures to protect themselves	• Upon initial assignment • Whenever a new hazard is introduced into the employee's work area

TRAINING RESOURCES

- **Standard Operating Procedures (SOPs)**
- **Troubleshooting Guides**
- **Emergency Operating Procedures (EOPs)**
- **Emergency Response Plan/Emergency Action Plan**
- **Process & Instrumentation Diagrams (P&IDs)**
- **Process Flow Drawings (PFDs)**
- **Unit Operating Manuals**
- **Safety Data Sheets (SDSs)**

NOTICE
MATERIAL SAFETY DATA SHEETS ARE AVAILABLE UPON REQUEST
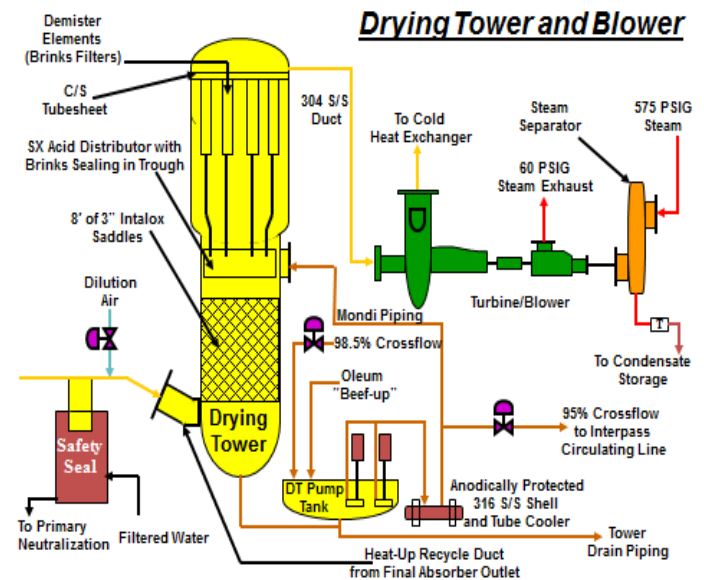
PSM Operator Refresher Training

OSHA's Process Safety Management of Highly Hazardous Chemicals (PSM) – Regulation enacted in 1992

PSM requires refresher training be provided:

- at least every three years, or more often if necessary,

- to each employee involved in operating a process to ensure that the employee understands and adheres to the current operating procedures of the process

- The employer, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training.

Letter of the Law vs Intent of the Law

- **Understands and follows operating procedures**

- **Is prepared to respond to any operating condition**

Performance standard interpretation leads to different approaches to refresher training:

- **Operating procedure training**

- **Any combination of operator training**

Common sources for refresher training topics

- **Procedures**
- **Manage of Change (MOC) Review**
- **Incidents and Near Misses**
- **Process troubleshooting**
- **Accident Reports**
- **P&ID Revisions**
- **PHA Action Items**

Why are we as trainers concerned with MOC?

- **Has there been a change that was not effectively communicated to the employees?**

- **Has documentation (e.g., procedures, training materials, drawings, etc.) been updated to reflect the change?**

MOC Review

- **Subject to quality and quantity of MOC program**

- **Emphasizes importance of MOC program**

- **May be difficult to separate teachable items from mass of equipment MOCs**

- **Must be searched for appropriate MOCs**

- **Make sure your MOC form requires:**
  - **an evaluation of whether documentation needs revised**
  - **An evaluation of whether training is needed**

Incidents and near misses

- **Subject to quality of existing program**

- **Some dislike teaching "negative"**

- **However, never forget, you learn a lot from these items**

Sample analysis
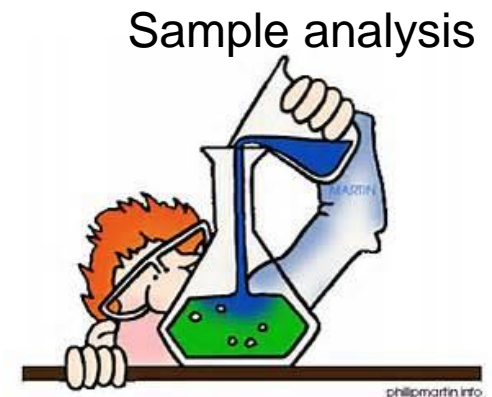
Troubleshooting

- **Constantly review your troubleshooting guides to ensure they remain correct and up to date**

- **Identify where troubleshooting worked**

- **Identify where troubleshooting went wrong**

- **Promote troubleshooting skills**

- **Skill level of audience effects both teacher and student**

P&ID revisions

- **Operators must be able to read P&IDs**

- **They must be validated by walkdowns**

- **They must be updated after the walkdowns**

- **Verify the current revision level are available**

PHA action items

- **While it can be difficult to find teachable moments in the PHA reports, look for them because they're in there**

- **For sure, find the corrective action items that relate to operator tasks and responsibilities**

Exercise

Exercise Discussion/Review

NAPTA – 1
API 1200

Based on the process description provided for your review, refresher training recommended on:

- **Chemicals:**
  - Benzene
  - Chlorine
  - Ammonia
  - Naphtha
- Asbestos may be in facility insulation
- Flammable liquids
- Noise exposure
- Fire extinguisher types and use
- Forklift
- Overhead cranes

NAPTA – 2
Short Process Description

Based on the process description provided for your review, refresher training recommended on:

- Hazards
- Importance of Quality Control
- EPA concerns related to wastewater processing and outfall stream
- DOT requirements related to receipt of raw materials and shipping of final products

NAPTA – 3
PHA Report

Based on the PHA Report provided for your review, refresher training recommended on:

- Heater gas supply change
- Several P&ID changes
- Several additional gauges were recommended – need to follow-up to see if they were added
- Report referred us to another PHA – so we need to go to that PHA to see any applicable changes that need to be addressed
- Several SOP changes recommended – need to follow-up to see if changes were made

NAPTA – 4
Procedure List

Based on the Procedure List provided for your review, refresher training recommended on:

- All Emergency Response Procedures
- Selected critical procedures:
  - Cooling Water System Operation
  - Catalyst Filling Operation
  - Scrubber Operation
  - Flue Gas Scrubbing System Operation
  - Wastewater System Operation
  - Flare Operation
- 1/3 remainder of the procedures

NAPTA – 5

Operating Limits / Troubleshooting Guide

Based on the Operating Limits/Troubleshooting Guide provided for your review, refresher training recommended on:

- **Loss of cooling system**

- **Overfilling Reflux Drum**

- **Increased Reboiler temperature**

- **Loss of Reflux flow**

- **Overheating/over pressuring overhead system**

- **Low feed flow to NDS unit**

One proven effective method of PSM Refresher Training

- **YEARLY- emergency response and safety critical operating procedures**

- **ONGOING - (three year cycle)- all operating procedures**

- **SPECIAL - Any task that has not been performed in a long time , especially large tasks such as unit startup or shutdown coming up – BP Cherry Point *"Atta Boy"***

One proven effective method of PSM Refresher Training

YEARLY – One day classroom training

- **All emergency response and safety critical procedures**

- **1/3 standard operating procedures (rotating over three year schedule)**

- **Recent MOCs relevant to process or unit equipment**

- **Incident and near miss review**

- **PHA action item review (items related to operator tasks)**

- **Recent and most likely process problems**

- **Troubleshooting scenarios**

- **Knowledge test to provide means to verify understanding**

Questions & discussion