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Delivering Quality Training for Your Company

Introductions…

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Learning Outcomes

- Maintaining an operations-focused perspective
  - **Profitability Potential, Asset Protection, Reducing Cost**
- Define measureable expectations for tasks & equipment
- Create defensible training curriculums
- Develop objective-based training plans
- Deliver effective, efficient training at any venue
  - **Classroom, Webinars, Onsite, One-on-One**
- Maximizing education and training opportunities
  - **Daily Pre-Task Plans, Crew Meetings, Observations, Coaching**
- Foreman/Supervisor role in employee education and training performance

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What is Training?

Maybe we should start by asking:

What has training become?

What training has become…

- Annual training
  - **Form of punishment for some**
- Toolbox talks
  - **Canned, check-the-box nonsense with no impact on daily operations**
- Video
  - **Press play, leave the room, come back and make sure no one escaped or fell asleep**
- "One-n-Done"
  - **Slam generic information and demand unrealistic expectations, never reinforced**
- Post incident
  - **Something went horribly wrong and now we *"have to"* train**
- Following a "bad" OSHA inspection
  - **We got caught now someone needs to do something**

Please Note: these forms of training can be effective when they are used as part of an overall training and education strategy.

Reduced to Bogus Sign-in Sheets

- Client obligation or legal requirement
- Train because, *"We have to."*
  - **Need to have Everyone's Signature!**
- Habitual documentation because, *"I said so."*
  - **Morning Check-the-Box Ritual…***sham disguised as something of value*
  - **"Frankenstein" Creation by someone Important**
- Zero impact on the production plan
  - **Separate, Unattached and Outside of Normal Operations**
  - **No Engagement**
  - **No Practical Application**

Common Problems

- Wrong time and place – *information is perishable*
  - **Training in the winter for operations that don't start for several months**
  - **No Follow-up, No Reinforcement when Operations are Running**
- Perception that Training is the Problem
  - **We trained on ____ but nothing changed, so why should I Train more?**
- Classroom instruction without hands-on learning
  - **Example:** *Defensive Driving, Equipment or Tools*
- Train once and *"We're Good"*……for eternity
  - **Since its already been done……why should we do it again?**
- The instructor's a joke

Training is More than only Safety

- Quality control
- Standard operating procedures
- Means and methods
- Equipment and machinery operation/use
- Industry/product knowledge
- Customer service
- Sales
- Inspection
- Maintenance
- Onboarding or New Employee Orientation
- Computer Use or New Programs

Most Common Form of Training

Safety

- **OSHA**
  - Aerial Lifts
  - Confined Space
  - Excavation
  - Fall Protection
  - Forklifts
  - Silica
- **DOT**
  - Pre/Post Trip Inspections
  - Load Securement
- **Environmental**
  - Storm Water & Erosion Control

Define Safety Training

- Necessary Precautions
  1. **Task**
  2. **Equipment**

  > **Exposure**

- Develop a Common Understanding
  - **What do you <u>want</u> crews to KNOW?**
    - *Knowledge*
  - **What do you <u>need</u> crews to DO?**
    - *Skill*

Is Your Strategy Effective?

No amount of "*Safety*" can make up for poor project planning and ineffective leadership.

Written policies stuffed into a dusty safety manual do nothing for employees who lack knowledge and skill **and** do not prevent leadership from directing employees to make wrong choices.

Common Sense Does Not Exist!

- There's No such Thing as Common Sense!
  - **No 2 People See, Hear, Think, Act, Respond, Know, Perceive, Interpret, Learn, Believe, Understand, Apply, Use, etc. Information Exactly the Same**
  - **There is Nothing Common about our Experiences and what We May or May Not have Learned along our Life's Journey or Work Experience**

- Common Sense assumes You:
  - **Think How I Think**
  - **See How I See**
  - **Believe What I Believe**
  - **Respond How I Will Respond**

One Method that Ineffective Foremen/Supervisors Use to Blame the Worker for their Lack of Leadership Ability, Knowledge and Skill

Assume a Level of Competency without Assessment

After an incident, has any one ever heard someone say:

"This never would have happened if he/she would have had some common sense"

One Example of Common Sense

Did You take a Few Moments to Create a Common Understanding?

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One of the best ways to waste time, money and employee potential is to use Common Sense as a method of measuring and managing employee knowledge and skill.

Poll locked. Responses not accepted.

True

False

Develop a *"Common Understanding"*

- Common Understanding = Consistency = Predictability
  - **All eyes seeing the same**
  - **All responses are comparable/equivalent**
  - **All actions are performed in a similar manner**
- Following Training, all Employees can Answer:
  - **What do you <u>want</u> me to KNOW?**
  - **What do you <u>need</u> me to DO?**
- Maintain a <u>Technical but Practical</u> Focus on:
  1. **TASK being performed –** *logical sequences…results*
  2. **EQUIPMENT being used –** *how to…what will happen*

Training helps to define expectations based on the _____.

Poll locked. Responses not accepted.

- Tasks performed
- Equipment being used
- Tasks performed and Equipment being used
- Quality of the training

Essential Element for Success

If you want employees to…

- *Work "Safe"*
- *Increase Production*
- *Improve Efficiencies*
- *Reduce Costs*
- *Advance Quality Control*

…then you must describe the change you want to see in actions that are observable and measurable.

- Outline the activities
- Articulate the steps
- Define the actions
- Identify the results

It's as simple as:

IF YOU CAN'T SEE IT, THEN IT'S NOT HAPPENING

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Difference between Education and Training

Training vs. Education

	Training	Education
Meaning	• Process of developing specific skills in a person	• Theoretical learning in a classroom or institution
What is it?	• Method of skill development	• Typical form of learning
Based on	• Practical application	• Theoretical orientation
Perspective	• Narrow	• Wide
Involves	• Practical application	• Developing knowledge
Objective	• To improve performance and productivity	• To develop a sense of reasoning and judgement
Teaches	• Specific task or equipment	• General concepts, theories and perceptions

Training focuses on developing specific skills while education teaches general concepts, theories, and perceptions.

Poll locked. Responses not accepted.

True

False

Common Misunderstanding about the Results Training is Supposed to Achieve

Training is often provided on generic topics with unrealistic expectations that everyone will be able to infinitely apply their knowledge to all unique scenarios and circumstances.

Once is Enough!

Methods to Communicate Unique Tasks

Estimate or **Bidding Phase** *Scope of Work Precautions?* + **Pre-Project Planning** *Resource/Equipment Allocations* + **Mobilization** *Assess Workforce & Observe Site Conditions* + **Daily or Weekly Communications** *Influence Means & Methods*

- Pre-job Planning and Initial Strategy Development
- Critical Path Scheduling
- Weekly Meetings
- Quality Control: *hold points, critical tasks*
- Daily Planning: *task/equipment/material assignments*
- Pre-Task Planning

Are We Talking about the Tasks and Exposures?

How much of Production is Assumed?

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Excuses for Not Training

Excuses for Not Training

- Losing production
- Too much time
- Doesn't do anything
- Employees don't do what we ask
- We train "*enough*"
- They should already know this
- No return on investment
- Not sure if he/she is going to work out
- Why should I train my competition's next employee?
  - *Train Someone and Watch them Leave* ***or***
  - *Don't Train Someone and Hope They Stay*

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Foreman/Supervisor's Role

Foreman/Supervisor has the daily touch

One of the most underutilized assets for employee education and training.

Educators on Daily Basis

- What they say
- How they respond
- What is recognized
- What is ignored
- What is tolerated
- Who and what is supported
- Who and what is protected

Are We Teaching our Foremen/Supervisors How to Train Employees?

Whether You Admit it or Not, Your Foremen/Supervisors are Training Your Employees each Day!

Interactions and Dialogue

<u>Routine</u> investments will determine if expectations can be achieved

- Target Expectations: *Division/Crew/Individual*
  - **Tasks and Equipment**
- Assessing Crew/Individual Knowledge and Skill
- Communicating Expectations
- Reinforcing Expectations
  - **Coaching and Mentoring**
- Accountability for Achieving Expectations

One of the most underutilized assets for employee education and training is _____.

Poll locked. Responses not accepted.

- Manager
- Foreman/Supervisor
- Human Resource Professional
- Fellow Employee

Why Do We Stop Training Foremen and Supervisors?

Training and education commonly end once he/she *"Arrives"* at a leadership position

- **How often do Foreman/Supervisors exclude themselves from training and choose to stop improving their KSA's?**
  - *"This information isn't for me."*
  - *"I have more important things to do."*

Knowledge and skill development must continue in order to maintain or improve the competencies that brought them to a point where he/she could lead.

Continuing Education

- Professional development
  - **Supervisory training programs**
  - **Professional Associations**
- Project management
  - **Estimating, scheduling, cost controls, managing risk**
- Business writing or technical writing
  - **Examples - Change orders, RFI's, RFP's, Client Messages**
- Effective communication
  - **Public Speaking**
  - **Toastmasters**
  - **Dale Carnegie**

Habitual Language of “Safety”

- No
- Wrong
- Don’t
- Stop
- Can’t
- Shouldn’t
- Bad

Are You Defining the Expectations You want to Achieve?

How are You Reinforcing the Expectations on a Daily Basis?

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Developing a Defensible Strategy

4 Essential Elements

1. Employer has a work rule
   - **Written policy or program must meet/exceed all compliance reg's**
2. Policy is communicated to all affected employees *(i.e. training)*
   - **Training must be recorded**
   - **Proof of training must apply directly to the specific affected job, task, equipment, employee(s), etc…**
3. Employer takes steps to ensure compliance to all work rules
   - **Performs documented site evaluations/inspections AND corrections applying directly to the specific job, task, equipment, person, etc.…**
4. Accountability and discipline are **documented** for employee performance issues – *Critical Element!!*
   - **Consistent and progressive discipline proves accountability actually exists as a routine part of normal operations, which influences, reduce, and/or eliminates employee misconduct.**

Defensible training strategy includes:

Poll locked. Responses not accepted.

- Policy
- Training
- Inspection and Correction
- Discipline and Accountability
- All of the above

Developing a Training Curriculum

Where to Begin…

1. Compliance Requirements
   - **OSHA - MSHA - DOT - EPA - Pipeline - Railroad - Others?**
2. Scope of Work Evaluation
   - **Division – Crew – Task – Equipment**
3. Workforce Assessment
   - **Measuring Strengths and Weaknesses of Your Operations**
4. Client Requests
   - **Prequalification Webportals**
   - **Wacky Written Programs**
   - **Employee Training**

The first step in developing your training curriculum i to identify all of the compliance requirements specifically affecting your operations.

Poll locked. Responses not accepted.

True

False

Scope of Work Evaluation

- Break apart each area or division within your company
- Categorize major work types and activities
  - **Specific Tasks Performed and Equipment Used**
    - Aerial Lift, Excavating, Confined Space Entry, Crane, Cut-off Saws, Demolition, DOT/Fleet, Forklifts, Grinders, Heavy Equipment, Portable Power, Rigging, Working from Heights, etc…
  - **Common and Foreseeable Hazards**
    - Chemical Use, Confined Space, Excavations, Inspections, Overhead Lines, Pedestrians, PPE, Silica, Underground Utilities, Use of Fall Protection, Work Zone Protection, etc…
- Develop a knowledge and skill inventory for your crews based on job title or position
  - **Breakdown Job/Task and Equipment Use**
    - What Do You Want Your Crews/Employee to **KNOW**?
    - What Do You Need Your Crews/Employee to **DO**?
  - **Compliance Requirements, Client Requests, Necessary Precautions**

EXAMPLE: Knowledge & Skill Inventory Based on Division & Job Title

FOREMAN

Qualification Training

1st Aid/CPR	2-year
4-gas Monitor Qualification	3-year
ACM/PACM Coating Removal	1-year
HDD & Boring Standards	3-year
Excavation & Trenching	3-year
Rigging & Signal Person	3-year
Traffic Control Standards	3-year

Compliance Training

Bloodborne Pathogens	1-year
Compliance Inspection	3-year
DOT Standards	1-year
Electrical Safety	3-year
Emergency Action Plan	3-year
Hand & Power Tools	3-year
HAZCOM / GHS	1-year
HAZMAT Release Response	1-year
Hearing Conservation	1-year
Heat Stress & Cold Stress	1-year
Hydrogen Sulfide Awareness	1-year
Ladder Safety	3-year
PPE	1-year

Curriculum is developed using agreed-upon and predictable intervals

FOREMAN

Qualification Training

1st Aid/CPR	2-year
4-gas Monitor Qualification	3-year
HDD & Boring Standards	3-year
Excavation & Trenching	3-year
Respiratory Protection	1-year
Rigging	3-year
Signal Person	3-year
Spotter - Vehicle & Equipment	1-year
Traffic Control & Work Zone	3-year

Compliance Training

Benzene Awareness	1-year
Bloodborne Pathogens	1-year
Compliance Inspection	3-year
Damage Prevention	3-year
DOT Standards	1-year
DVIRs	3-year
Electrical Safety	3-year
Emergency Action Plan	3-year
Fire Extinguishers	3-year
Fit for Duty	3-year
Hand & Power Tools	3-year
HAZCOM / GHS	1-year
HAZMAT Release Response	1-year
Heat Stress & Cold Stress	1-year
Hydrogen Sulfide Awareness	1-year
Initial New Hire Orientation	Initial
Introduction to Safety	Initial
Job Hazard Analysis	3-year
Ladder Safety	3-year
Load Securement Standards	1-year
Manual Material Handling	3-year
Materials of Trade Rules	3-year
PPE	1-year
Prev. Violence / Harassment	3-year
Reporting Incidents	3-year
Silica Compliance	3-year

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Qualification Training

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Load Securement Standards	1-year
Manual Material Handling	3-year
Materials of Trade Rules	3-year
PPE	1-year
Prev. Violence / Harassment	3-year
Reporting Incidents	3-year
Silica Compliance	3-year

A scope of work evaluation is a practical and efficien method for breaking down major work types and activities and begin developing a training curriculum based on the necessary knowledge and skills to perfo specific tasks and/or use specialized equipment.

Poll locked. Responses not accepted.

True

False

Objective-based Training Plans

Success is dependent on the author's subject matter expertise and his/her ability to articulate the following:

- **Knowledge and skill requirements**
- **Roles and responsibilities**
- **Means and methods**
- **Necessary precautions** *(i.e. Safety)*
- **Equipment, tools, materials**
- **Vocabulary, trade terms, logic**
- **Desired outcomes, results**

Define Objective-based Training Plan

- Clearly defines the training and education on a particular topic
  - **Compliance Req'ts, Client-specific, Work/Task, Equipment, etc.**
- Outlines the expected knowledge, skills and core competencies
  - **What Do You Want Crews/Individual to KNOW?**
  - **What Do You Need Crews/Individual to DO?**
- Lists any knowledge evaluations and/or skill assessments
- Describes how and where the training will be delivered
- Any other specific requirements to be met in accordance with the particular training

Example Objective-based Training Plans

Respirable Crystalline Silica

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Construction Silica Compliance & Table 1

Instructor Name *Signature* *Date*

Overview

The objectives in this training plan are designed to develop a common understanding of the necessary precautions to prevent overexposure to Respirable Crystalline Silica (RCS). Training is equipment and/or task-specific and includes how to comply with a site-specific Written Exposure Control Plan (WECP) and all required controls to reduce silica exposure and minimize visible dust.

Training Objectives

- Summary of OSHA rule, review HAZCOM Standard 29 CFR 1910.1200, health hazards associated with exposure.
- Identifying and understanding the hazards of RCS containing products, access to labels and SDS's.
- Identifying job/tasks or equipment in the workplace that could result in exposure to RCS.
- WECP elements and how to reduce silica exposure by implementing the specific controls in a WECP.
- Necessary knowledge and skill to perform tasks and operate equipment using the control specified in a Written Exposure Control Plan (WECP) such as engineering controls, work practices, respirator use, etc.
- Role and purpose of the Silica Competent Person – *make frequent and regular inspections of job sites, materials, and equipment to implement the written exposure control plan.*
- Respiratory protection requirements and RCS medical surveillance program for affected employees.
- The necessary precautions, means and methods for RCS exposure equipment and tasks:
  - Operating and maintaining tools and equipment in accordance with manufacturer's instructions to minimize dust emissions.
  - Inspection/maintenance of a dust collector to provide the air flow recommended by the tool manufacturer or greater.
  - Apply water and/or dust suppressants as necessary to minimize dust emissions.
- Selection, inspection, setup, use and maintenance of equipment or tools supplied with:
  - Integrated water delivery system to ensure water continuously feeds to the blade at flow rates sufficient to minimize release of visible dust.
  - Commercially available shroud and dust collection system, which must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.
  - Water delivery system that supplies a continuous stream or spray of water at the point of impact at flow rates sufficient to minimize release of visible dust.
- Appling water and/or dust suppressants as necessary to minimize dust emissions.
- Housekeeping restrictions and necessary precautions to minimize dust.
  - No dry sweeping and no compressed air for area clean-up or cleaning tools and equipment.
  - Using a HEPA filter-type vacuum system when cleaning holes and other gaps, cracks or crevices.
- Restricted areas for minimizing potential RCS exposure.

Training Sequence

- **Interactive Instructor-led Classroom-style Presentation, Training and Knowledge Assessment**
  - PowerPoint presentation
  - Review of Table-1 equipment and tasks
  - Question and answer throughout presentation
- **Hands-On, Interactive Skill Assessments**

  Each employee will demonstrate how to correctly:
  - ✓ Operate and maintain tool in accordance with manufacturer's instructions
  - ✓ Inspect and maintain a dust collector to provide air flow recommended by the tool manufacturer or greater.
  - ✓ Use saw equipped with commercially available dust collection system.
  - ✓ Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact at flow rates sufficient to minimize release of visible dust.
  - ✓ Use drill equipped with commercially available shroud or cowling with dust collection system.
  - ✓ Use a HEPA-filtered vacuum when cleaning holes.
  - ✓ Apply water and/or dust suppressants as necessary to minimize dust emissions.

Respirable Crystalline Silica

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Silica Competent Person for Construction

Instructor Name *Signature* *Date*

Overview

The objectives in this training plan are designed to develop a common understanding of the role and responsibilities for a Silica Competent Person. Training focuses on the necessary knowledge and skill to make frequent and regular inspections of job sites, materials and equipment to implement a written exposure control plan.

Training Objectives

Upon completion of training, employees can demonstrate knowledge and understanding of:

- The authority, role, responsibilities and procedures performed by of the Silica Competent Person.
- Conducting frequent and regular inspections of the job site to ensure that the written exposure control plan is being fully implemented, and where necessary how to take prompt corrective action to minimize exposure to respirable crystalline silica, including but not limited to equipment maintenance, removing employees from the work environment, wearing the required respiratory protection, etc.
- OSHA's construction silica standard, occupational exposure limits, silica hazards and exposures.
- Health hazards associated with exposure to respirable crystalline silica including routes of exposure, sign/symptoms of exposure and diseases associated with silica.
- What silica is and location/materials/tasks/etc. where silica is known or suspected, how to determine if silica is present through bulk sample analyses, safety data sheets, material checklists, observations, historical data, etc.
- Exposure ranges for common construction tasks and equipment in the absence of controls, ability to anticipate potential silica exposure for equipment used and tasks performed on site and conditions that can result in higher exposures.
- Identifying situations that could result in high exposures such as equipment failure, improper technique, enclosed areas, etc. and may require employees be removed from the affected work area(s) until the silica hazard is fully assessed.
- Table 1 equipment/tasks, controls and respiratory protection requirements.
- Engineering controls for each task and/or equipment *(e.g. local exhaust ventilation, wet methods),* work practices *(e.g. HEPA vacuuming dust accumulations)* and administrative controls that must be implemented to limit employee exposure to respirable crystalline silica.
- When and where respiratory protection is required and the type of respirator needed.
  - Ensure designated respiratory protection is used, properly worn and maintained when not in use *(i.e. proper cleaning, store in protective bag/container, do not expose to excessive heat/cold, etc.)*
- Establish and enforce procedures to restrict access to work areas where silica-generating tasks are performed.
  - Cordon off area(s) with RED danger tape, minimize the number of employees directly exposed by the employer's own work, or silica-generating work being performed by other contractors at a multi-employer worksite.
  - e.g. "regulated areas," scheduling silica-generating tasks off-shift to minimize worker exposure, etc.
- Appropriate housekeeping measures to limit employee exposure to respirable crystalline silica.
  - e.g. periodically wetting down road surfaces, HEPA-vacuuming dust deposits and debris, prohibiting dry sweeping and the use of compressed air for cleaning unless allowed per the data supporting the written exposure control plan, etc.
- Employer's medical surveillance program and any limitations placed on employees that require implementation at the work site.
- Multi-employer site communication, coordination and management.

Training Sequence

- **Interactive Instructor-led Classroom-style Presentation with Written Knowledge Assessment**
  - PowerPoint presentation
  - Review of Table-1 equipment and tasks
  - Written knowledge assessment

Developing _____ training plans is one of the mos effective ways to ensure that the all of the necessary knowledge and skills are provided during training.

Poll locked. Responses not accepted.

- Objective-based
- Situational-based
- Task-based
- All of the above

Knowledge & Skill Assessments

Knowledge & Skill Assessments

Determine an Individual Level of:

- **Comprehension**
  - **Capacity and Proficiency of Understanding**
    - Increase or Advancement of Knowledge and Understanding
    - Can you Articulate the Subject Matter?
- **Competency**
  - **Ability to Do something** *(Perform a Task or Operate Equipment)* **Successfully and Efficiently**
    - Demonstrate or Perform
    - Can You Actually Do it Correctly?

Are Knowledge & Skill Assessments Required?

- Depends on compliance requirements, client requests, industry-specific required training
  - **Task –** ***Process Safety Management, Operator Qualifications (OQ)***
  - **Equipment –** ***Forklift, Crane Operator, Fusing Equipment***
- Assessments provide credible, defensible records
  - **Demonstrate Competencies**
  - **Resolve Compliance Disputes**
  - **Leverage Legal Defense during Litigation**
- As a trainer, you must be *(or become)* a subject matter expert and be proficient in the core competencies
  - **How can You Deliver Effective Assessments w/o Expertise?**

Defensible training programs include a knowledge an skill assessment to determine comprehension and competency and provide the necessary documentatio for compliance disputes.

Poll locked. Responses not accepted.

True

False

Practical Examples

- Written evaluation or knowledge test
  - **12 to 15 Questions on Expectations and Core Competencies**
    - Annual Training, Video, Webinar, e-Learning, Post Incident, etc.
- Skill assessment
  - **Employee Physically Demonstrates how to Correctly Perform the Task or Operate the Equipment**
    - OSHA – Forklift, Crane, First/CPR/AED
    - DOT – CDL's, Pipeline Operator Qualifications (OQ)
- Performance observations
  - **Evaluator Observes Employee in the Actual Work Environment and Compares against Trained Expectations**

Knowledge and skill assessments can include written evaluations, demonstrations and observations of performance.

Poll locked. Responses not accepted.

True

False

How are You Reinforcing Expectations and Influencing Outcomes on a Daily Basis?

Daily Pre-Task Planning

One of the most effective and efficient methods for crews to develop a common understanding about the production plan expectations and all necessary precautions.

If you asked each member of the crew what the plan was for the day, would their answers be consistent?

Check-the-Box Nonsense

No Value Added to the Production Plan!

PPE Required	Yes	No	N/A
Hardhat (Class E)			
Safety Glasses/Goggles			
Hearing Protection			
Di-electric Gloves (Tested)			
Di-electric Overshoes			
Arc-rated Face Shield			
Fire Retardant (FR) Clothing			
Protective Sleeves			
Class 2 Reflective Vests			
Air Test (Rubber Gloves)			
Leather Gloves			
Steel-toed shoes/boots			
Metatarsal Guards			
Respirators			
Electrical			
Daily Inspection Tools/Eqpt			
GFCI/Assured Grounding			
Survey of Daily Conditions			
Line Voltage _____			
Minimum Safe Distances			
Energized/Deenergized			
Adequate Cover-up			
Clearance Issued			
Aerial Lifts			
Qualified Operator			
Daily Inspection			
Grounded & Barricaded			
Warning Labels			
Controls Labeled			
Fall Protection			

Excavations	Yes	No	N/A
Competent Person			
Utilities Located			
Soil Classified			
Ladder(s)/Ramp in place			
Trench Box in Use			
Tabulated Data			
Sloping Adequate			
Spoil Pile Placed Correctly			
Confined Space			
Atmosphere Monitored			
Hole Watch			
Manhole Ventilated			
Competent Person			
Job Task Safety Analysis			
Form Completed?			
Addresses the hazards?			
Signed by project employees?			
DOT			
Are driver logs and vehicle inspection forms completed?			
Ladders			
Daily Inspection			
Warn../Usage Labels Affixed			
3 Feet Above Landing			
Ladder Secured			
EME and RF Transmissions			
Personnel briefed and trained on EME/RF hazards			
RF monitors avail. and in use			
EME/RF warning signs posted			

Lockout/Tagout (LOTO)	Yes	No	N/A
Competent Person			
LOTO Procedure			
Voltage Meter			
Electrical Tester (s)			
HDD			
Utilities Located			
Utilities Verified			
Bore Route Marked			
Di-electric Overshoes			
Di-electric Gloves (Tested)			
Rig Barricaded			
Warning Signs Posted			
Bore Rig Grounded			
Radio Communications			
Traffic Control			
Warning Signs in Place			
Barricades/Cones			
Lane Closure			
Flagman Used			
Stop/Slow Paddles			
Fall Protection			
Competent Person			
Guardrails			
Safety Nets			
Full Body Harness/Lanyard			
Positioning Device			
Warning Line			
Safety Monitor			
Barricaded/Control Zone			
Falling Object Protection			
Daily Inspections			

HAZARD IDENTIFICATION & CONTROL CHECKLIST

SLIPS/TRIPS/ FALLS	YES	NO
WALK PATHS CLEAR	☐	☐
EXCAVATIONS PROTECTED *(SEE EXC. CHECKLIST p2)*	☐	☐
FALL PROTECTION /EQUIP/ PLAN ***NOT*** NEEDED	☐	☐

PINCH POINTS	YES	NO
IDENTIFIED PINCH POINTS WITH CREW	☐	☐

HEAT STRESS	YES	NO
LIQUIDS AVAILABLE	☐	☐
COOL DOWN BREAKS DISCUSSED	☐	☐
SALT PILLS AVAILABLE	☐	☐
HEAT STRESS SYMPTOMS DISCUSSED	☐	☐
HEAT STRESS MONITORING PLAN DISCUSSED	☐	☐

TRAFFIC HAZARDS	YES	NO
TRAFFIC PLAN DISCUSSED ON SITE	☐	☐
RESPOSIBILITY AND RESOURCES DISCUSSED	☐	☐
PEDESTRIAN TRAFFIC PLAN IN PLACE	☐	☐
BARRICADES TO PROTECT WORKERS	☐	☐
EXCAVATIONS AND EQUIPMENT MARKED/ PROTECTED	☐	☐

FIRE HAZARDS	YES	NO
EXTINGUISHER LOCATIONS KNOWN	☐	☐
EXTINGUISHERS INSPECTED	☐	☐
FIRE WATCH PLAN DISCUSSED	☐	☐

EQUIPMENT / VEHICLES	YES	NO
SPOTTERS IDENTIFIED FOR:	☐	☐
BACKING	☐	☐
LOADING/ UNLOADING	☐	☐
OVERHEAD UTILITIES	☐	☐
UNDERGROUND UTILITIES	☐	☐
EYE CONTACT BETWEEN OPERATOR AND CREW	☐	☐
"CIRCLE OF SAFETY" DISCUSSED	☐	☐

NOISE	YES	NO
HEARING PROTECTION **NOT** REQUIRED (<85DB)	☐	☐
PLUGS ○ MUFFS ○ BOTH ○ OTHER ○		

MANUAL LIFTING	YES	NO
LIFTING PLAN DISCUSSED	☐	☐
OVER 50# USE 2 PEOPLE OR MECHANICAL LIFTS	☐	☐

LADDERS	YES	NO
PROPER LADDER FOR TASK	☐	☐
PROPER LADDER ANGLE (4:1)	☐	☐
LADDERS SECURE FROM MOVEMENT	☐	☐
LADDERS INSPECTED	☐	☐

CONFINED SPACE	YES	N/A	NO
CONFINED SPACE NONAPPLICABLE	☐	☐	☐
SAFETY REP NOTIFIED W/PLAN	☐	☐	☐

CHEMICALS/ MATERIALS	YES	NO
CREW HAS ACCESS TO SDS	☐	☐
ALL CONTAINERS LABELED	☐	☐

NEW HIRES	YES	N/A	NO
OJT MONITORING IN PLACE	☐	☐	☐

PIPELINE WRAP	YES	N/A	NO
WRAP VERIFIED NON-AESBESTOS	☐	☐	☐

TRAINING/ QUALIFICATION	YES	NO
All WORKERS QUAIFIED FOR TASKS	☐	☐

OTHER HAZARDS:

EYE & FACE
- ☐ Safety glasses with sides shields
- ☐ Goggles
- ☐ Full faceshield (worn over 1, 2, or 3 only)
- ☐ Welding Hood
- ☐ Other

HAND/(GLOVES)
- ☐ Nitrile
- ☐ Cloth
- ☐ Leather
- ☐ Welding
- ☐ Metal mesh
- ☐ Elect. Insulated
- ☐ Rubber
- ☐ Neoprene
- ☐ Latex
- ☐ Vinyl
- ☐ Butyl
- ☐ Other

FOOT
- ☐ Fire protection
- ☐ Hard toe shoes/boots
- ☐ Dielectric
- ☐ Rubber
- ☐ Other

HEAD
- ☐ Class A (Limited voltage) hard hat
- ☐ Class B (Hi-voltage) hard hat
- ☐ Chin strap accessory
- ☐ Communications (radio, cell phone, etc.)
- ☐ Other

RESPIRATORY PROTECTION
- ☐ Natural &/or Mechanical Ventilation
- ☐ Fume/mist mask
- ☐ Dust mask
- ☐ Half face filter
- ☐ Full face filter
- ☐ Full face airline
- ☐ Fixed barricades
- ☐ Other

PROTECTIVE CLOTHING
- ☐ Tyvek suits
- ☐ Rainsuit
- ☐ Other

HEARING PROTECTION
- ☐ Ear plugs
- ☐ Ear muffs
- ☐ Other

ELECTRICAL
- ☐ Electrical Permit
- ☐ Lock/Tag Out
- ☐ Other

EXCAVATION
- ☐ Excavation Training
- ☐ Sloping/Benching/Shoring
- ☐ Supervision/Competent Person
- ☐ Entry Permit
- ☐ Other

SCAFFOLDING
- ☐ Scaffold Training
- ☐ Supervision/Competent Person
- ☐ Scaffold Tag
- ☐ Other

HOISTING EQUIPMENT
- ☐ Hoisting Permit
- ☐ Hoisting equipment training
- ☐ Critical Lift Plan
- ☐ Other

WELDING OPERATIONS
- ☐ Fire protection
- ☐ Stand-by attendant
- ☐ Fire blanket
- ☐ Shields
- ☐ Other

EMERGENCY EQUIPMENT
- ☐ Fire protection
- ☐ Eye Wash
- ☐ Retrieval equipment
- ☐ Eye Wash
- ☐ Communications (radio, cell phone, etc.)
- ☐ Other

STAND-BY ATTENDANT
- ☐ Fire Watch
- ☐ Confined Space
- ☐ Traffic Area
- ☐ Sand Blasting
- ☐ Other

BARRICADES/COVERS
- ☐ Warning barricade/tape
- ☐ Warning signs
- ☐ Cover(s)
- ☐ Railing(s)
- ☐ Other

CHEMICAL/ENVIRONMENTAL
- ☐ MSDS required
- ☐ Airborne Contaminates
- ☐ Hazardous chemical(s)
- ☐ Hazardous product(s)
- ☐ Other

More than Just "Safety"

Does Everyone Know the Plan for Today?

Daily Huddle – Crew Production Pre-Plan

Today's Date: _____ Crew size: _____

Production goals for today

1.

2.

3.

4.

5.

Did you meet your goals from yesterday ? ☐ Yes ☐ No

If no – Explain reasons why: _____

_____

_____

_____

Is activity on schedule as planned? ☐ Yes ☐ No

Identify if work activity will include:

- ☐ Confined Space
- ☐ Working at heights above 6 ft.
- ☐ Heavy equipment
- ☐ Excavation greater than 5 ft. in depth
- ☐ Crane activity
- ☐ Working within 50 ft. of powerlines

Tools Needed

Equipment Needed

Materials Needed

Safety Controls

QA/QC Checks/Controls

Is the work activity today – rework/repair/replace? ☐ Yes ☐ No

_____ is one of the most effective and efficie methods for crews to develop a common understandi about the production plan expectations and all necessary precautions.

Poll locked. Responses not accepted.

- Awareness training
- Toolbox talk
- Daily pre-task planning
- Annual training

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Effective Trainers

Identifying a Good Trainer

Not everyone can train but unfortunately most people think they can

- Speak coherently & comfortable in front of an audience
- Ability to deliver a specific message
- Capable of putting together a logical presentation
  - **Is the Presenter Educating or Confusing the Audience?**
- Subject matter expert
  - **Credentials Do Not equal Quality**
  - **Clearly Breakdown and Articulate a Topic in Practical Terms**
  - **Capable of Answering Engaging Questions**

Essential Element for Success:

You have to Like Training!

Training is a Skill that Can be Developed

- OSHA 500 and 501 Trainers Course
- CSP, ASP, CHST, OHST, CET and other Professional Certifications
- Train-the-Trainer Courses
- Professional Development Workshops
- Public Speaking Courses
- Dale Carnegie
- Toastmasters
- “Baptism by Fire”

Key Elements to Effective Training

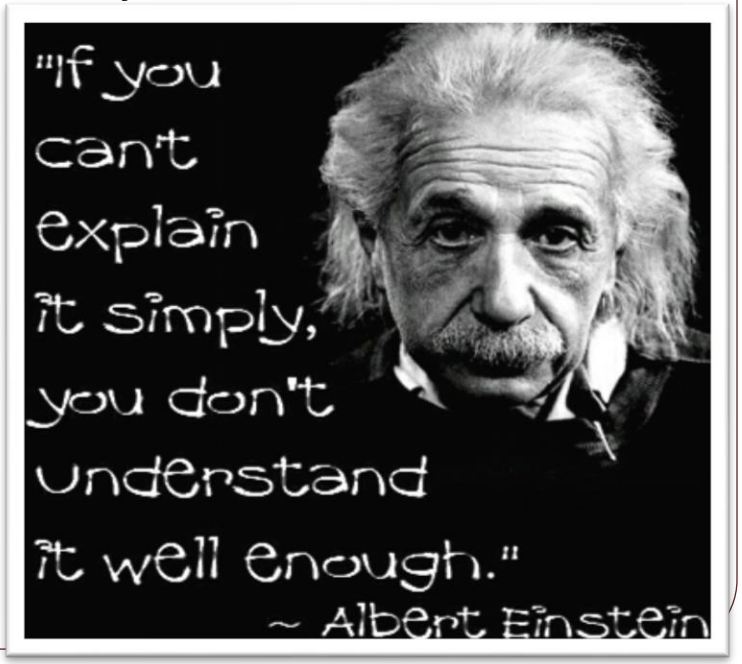
- Have a purpose for your presentation.
- Establish a rapport (connect) with your audience.
- Understand your audience and come at the material from an angle they will understand and be able to relate to.
- Establish yourself as an expert with knowledge and experience
  - **Sometimes this is simply an introduction of yourself and what you do but in a classroom where the students are more knowledgeable you will need to go deeper into your background and accomplishments.**
- Know the material you are presenting and lay it out in an orderly and logical fashion.
  - **Practice your examples and demonstrations.**

Key Elements……continued

- Prepare for “Murphy’s Law” to crush your dreams.
  - **Inevitably things will go wrong in a presentation and you will have to be able to cope with the issues and work through them with many people watching your every action.**
- Keep topics on track with little deviation from the intended scope
  - **Audience questions will create some wandering off topic but you must be able to steer the material back to the original content.**
- Be honest with the group.
  - **If you don't know the answer to a question, admit it.**
  - **Respond with: "I'm not sure but I will check into it“ and always follow-up!**
- Quality presentations have a variety of examples and analogies
  - **Illustrate complex concepts by drawing comparisons to a selection of easily recognizable elements.**

Key Elements……continued

- Express concepts in terms the audience can relate.
  - **Often this will require restating information using a more elementary perspective.**
  - **You may even need to express a thought 3 or 4 times.**
  - **A great deal of patience will assist in handling this diversity.**
- A strong finish is needed for any delivery to be successful.
  - **Summarize, restate and clarify the entire lesson in a concise manner to ensure that they have captured the material and will be able to apply the concepts learned.**



Do You Understand Your Audience?

- **Specific Audience**
  - **Unskilled, Experienced or a Mix of Both**
- **Specific Purpose**
  - **What are You Trying to Achieve?**
- **Specific Point in Time**
  - **Why is the Training Occurring?**
    - Compliance
    - Client or Project-specific
    - Task or Equipment
    - Knowledge and/or Skill Development
    - Post Incident or Post Compliance Citation

Know Your Audience

- Learning Style
  - Visual, Auditory, Verbal, Physical, Social, Solitary, Logical
- Age Group / Peer Group
  - Baby Boomers, Gen-X, Millennials, etc.
- Background and Experience
  - Unskilled, Intermediate, Experienced, Mix of All
- Motivation and Purpose
  - Have to vs. Want to
- Use of Technology
  - Unskilled, Intermediate, Experienced, Mix of All

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Enhancing Existing Training Programs

What can I do with our existing investments and training strategies to make them more defensible, impactful and improve results?

How can I positively impact operations when time is limited and resources are scarce?

Common Concern

Wavering management commitment only allows for certain activities to happen:

- **Annual Training**
- **Pre-job Meeting –** *single touch before a project begins*
- **Weekly “Toolbox Talks”**
- **Daily JHA/Pre-task Discussion of some kind**
- **New Safety Regulations –** *Confined Space, Silica*
- **Post-Incident or Post-OSHA Inspection “Training”**

Practical Solutions

- Perform a Scope of Work Evaluation
  - **Break apart each Area or Division within your Company**
  - **Categorize Major Work Types and Activities**
  - **Develop a Knowledge/Skill Inventory for Crews based on Job Title/Position**
- Create objective-based training plans for all training provided
  - **Identify the Core Competencies & Necessary Precautions for Operations**
- Provide written knowledge evaluations, when it's practical
  - **Following Video Training**
  - **During Annual Training Sessions**
- Capitalize on weekly meetings with impactful information
  - **No more Canned Toolbox Talks……Create Your Own!**
  - **Reinforce Specific Expectations, Highlight Success or Needed Improvements**
  - **Fulfill Compliance Requirements –** *HAZCOM, Heat Stress, PPE, GFCI's, BBP, EAP*

Standardize Common Tasks

- Identify tasks with predictable processes
  - **If your Tasks are Predictable, then the Results are Repeatable**
- Define the essential elements for success
  - **Knowledge and Skill**
  - **Equipment**
  - **Necessary Precautions**

  - **Annual Training**
  - **Pre-job Meeting**
  - **Weekly "Toolbox Talks"**
  - **Daily Pre-task Meeting**
- Create practical reference materials
  - **Written Procedure –** *keep it simple*
  - **Equipment Selection, Inspection, Set-up, Use**

Simply Complex Tasks

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Excavation & Trenching by the Numbers

1	• Number of excavation Competent Persons onsite
2	• Minimum distance in feet the spoil pile must be set back from cut edge • Maximum distance in feet top hydraulic vertical shore cylinder can be below grade • Maximum distance in feet allowed to excavate below support system
3	• Minimum distance in feet a ladder must be above the trench box or grade • Minimum points of contact for climbing up or down a ladder
4	• Depth in feet when a ladder becomes mandatory • Depth in feet when the atmosphere must be tested if a hazardous atmosphere exists or could reasonably be expected to exist • Maximum vertical distance in feet btw. hydraulic vertical shore cylinder in C soil • Maximum bench height in feet allowed in type-B soil
5	• Number of feet when a protective system becomes mandatory
6	• Number of feet in height when fall protection is required
8	• Number of feet the first bench is set back when doing multiple benches in B soil using 4-foot bench steps
10	• Minimum vertical distance in feet required from 50,000 voltage power lines
12	• Number of Specific Excavation Requirements from 29CFR1926.651
18	• Minimum required distance in inches from grade level to top of trench box when sloping a portion of the depth
19.5	• Level at which oxygen concentration percentage equal to and below is classified as an *oxygen deficient atmosphere*
20	• Maximum depth in feet that OSHA allows protective systems to be used without site specific engineering
23.5	• Level at which oxygen concentration percentage equal to and above is classified as an *oxygen enriched atmosphere*
25	• Maximum distance in feet a worker may travel to reach a means of egress
30	• Maximum distance in inches allowable to step across a trench before a walkway or bridge is mandatory

Type C Soil – Minimum Top Width

Bottom Width \ Depth of Cut	6	8	10	12	14	16	18	20
2	20	26	32	38	44	50	56	62
3	21	27	33	39	45	51	57	63
4	22	28	34	40	46	52	58	64
5	23	29	35	41	47	53	59	65
6	24	30	36	42	48	54	60	66
7	25	31	37	43	49	55	61	67
8	26	32	38	44	50	56	62	68
9	27	33	39	45	51	57	63	69
10	28	34	40	46	52	58	64	70
11	29	35	41	47	53	59	65	71
12	30	36	42	48	54	60	66	72
13	31	37	43	49	55	61	67	73
14	32	38	44	50	56	62	68	74
15	33	39	45	51	57	63	69	75
16	34	40	46	52	58	64	70	76
17	35	41	47	53	59	65	71	77
18	36	42	48	54	60	66	72	78
19	37	43	49	55	61	67	73	79
20	38	44	50	56	62	68	74	80
21	39	45	51	57	63	69	75	81
22	40	46	52	58	64	70	76	82
23	41	47	53	59	65	71	77	83
24	42	48	54	60	66	72	78	84
25	43	49	55	61	67	73	79	85

Small Investments with Big Impact

- Most impactful training occurs in the field
  - **Reinforcing Expectations on a Daily Basis**
  - **Crew Meetings, Coaching, Planning Tasks, Observation & Correction**
- Daily Pre-Task Planning – *Essential Element for Success*
  - **Develop a Common Understanding about Daily Production Plan**
  - **Tasks, Equipment, Materials, Exposures, Necessary Precautions, etc.**
- *"Buddy Systems"*
  - **Match Employee with a More Experienced Professional**
- Mentoring Programs
  - **New Employee Orientation**
  - **Developing Specific Knowledge and Skills**
    - Example: *Welders or Equipment Operators*

“Daily Touch” is Continuous Education

- Leverage the Foreman/Supervisor Influence
  - Most Underutilized Resource for Education and Training
- Follow-up on all New Expectations
  - You Make the First Move and Ask the First Questions
- Routinely Evaluate Task & Equipment Expectations
  - Quality Control, Evaluations, Inspections, etc.
- Deliver Prompt Responses to Questions
  - Make Yourself Available
- Provide Positive Reinforcement for Success

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Return on Investment

What are You Trying to Achieve?

- **Consistency –** *methods and tempo*
- **Executing expectations**
- **Behavior change**
- **Impacting risk tolerance**
- **Performance improvement**
- **Improving means and methods**
- **Reducing costs**
- **Increasing efficiencies**
- **Reducing vehicle accidents, equipment damages**
- **Decreasing the number of injuries requiring medical treatment**
- **Reducing at-fault utility damages**

Define the Measurements of Success

Simple Question:

Did Training Produce the Desired Outcome(s)?

- How were the expectations routinely reinforced?
- What corrections were made to influence individual choice?
- Resources readily available?
- Prompt responses to employee concerns?
- Were the efforts *"Torpedoed"* or simply ignored?
- Accountability and Discipline for Misconduct?

It's not Uncommon to Blame the Training when the Leadership's Lack of Visible Participation and Active Involvement Do Not Contribute to or Produce the Desired Outcomes – *especially Safety-related.*

Measuring Success

What Does Success Look Like?

- Accurate and honest reporting of all events is critical
  - **No Funny Math or "Shell Games" that Hide the Real Numbers**
- Hinges on the self-defeating perceptions of management
  - **Example:** *Safety is a Cost rather than an Investment*
- Baseline comparison against current results
  - **Where are you at now with _____ ?** *(Baseline)*
  - **Compare results monthly, quarterly, annually**
- Observations, evaluations, inspections, assessments or audits
  - **Expectations vs. Execution –** *is it really happening?*
- Counting Tick Marks: *incidents, injuries, damages, rework, claims, etc…*
- Scorecards
  - **Percent Safe or Point Systems**

Seeing expectations performed and the observing th desired changes in behavior are not considered a retu on investment.

Poll locked. Responses not accepted.

True

False

In Closing…

Begin Developing Your Defensible Strategy

- Perform a scope of work evaluation
- Define expectations based on tasks and equipment
- Develop objective-based training plans
- Maximizing education and training opportunities
  - **Daily task plans, crew meetings, observations, coaching**
- Leveraging the Foreman/Supervisor role in employee education and training performance
- Maintain an operations-focused perspective

Thank You!

Chad Stuart

Safety & Risk Specialist

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