

A COMPETENCY-BASED TRAINING SYSTEM THAT REALLY WORKS!



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OBJECTIVES

- Define the phrase “Trained”
- Union Sanitary District Overview
- What Was The Need
- Training System
 - Training Modules
 - Assessments
 - Train The Trainer (SME to Trainer/Learning Facilitator)
 - Results and Management Lessons Learned
- USD and the term “Trained”

BEFORE WE BEGIN

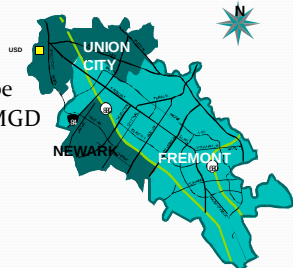
Complete the following statement:

“WHEN I SAY AN EMPLOYEE HAS BEEN TRAINED

I MEAN:

WHO ARE WE?

- Special District to provide Waste Water Treatment
- Founded 1918
- Service area
- About 325,00 people
- About 762 miles of pipe
- Average dry flow 27.5MGD
- About 130 employees

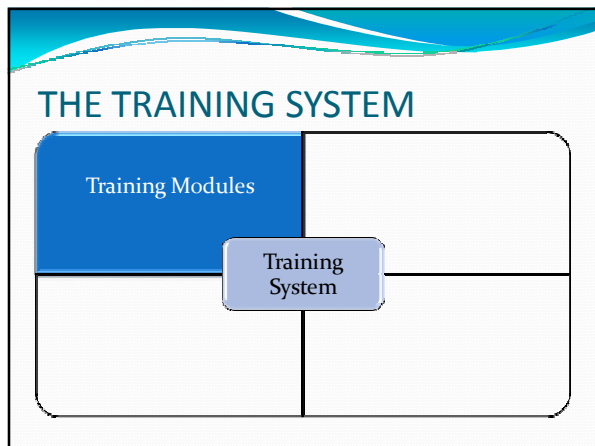


What Was The Need For A System

- **No Training System or Program Exists**
- OSHA/CAL-OSHA, Other Federal, State, Local regulations - Compliance
- Need for a skilled workforce
 - No degree to some college
 - Yet, some must be certified
 - Nobody is providing our system specific training
- 15% of workforce indicates they will retire within the next 5 years
- 25% of the workforce could retire today

Resources Applied

- Full Time Technical Training Coordinator
- Full Time Plant Operator Trainer
- Full time intern the past three years
- Support from over twelve operating group SMEs
- The Lab (right outside the door)

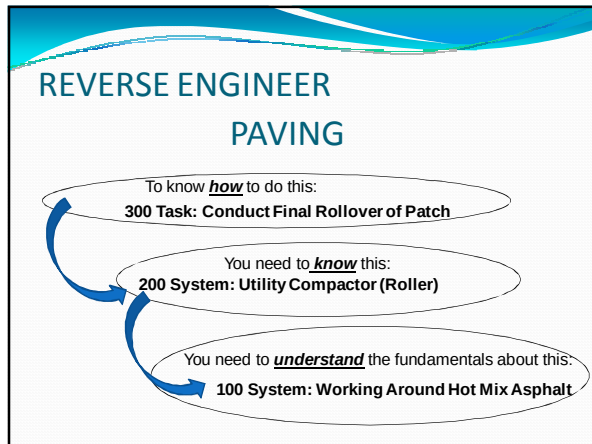


WHAT IS A TRAINING MODULE?

- A collection of documents that together, provide a system the District can use to train, qualify/certify, and assess employees in the proper performance of their job
 - Job Competency Requirement (JCR)
 - Competency Assessment (CA)
 - Standard Answer (SA)
 - Standard Operating Procedures (SOP)
 - Do not cover in this presentation

Job Competency Requirement

- The minimum knowledge and skills that an individual must demonstrate
- Three sections
 - 300 Section: Tasks (listed in a sequence of accomplishment)
 - 200 Section: Systems (mostly Knowledge / some Skills)
 - 100 Section: Fundamentals (Knowledge)



DEVELOPMENT

- Counter Intuitive
 - Develop the 300 Tasks first
 - As you refine the tasks section you then start developing the 200 Systems section
 - As you develop the 300 Tasks and the 200 Systems:
 - Knowledge that is fundamental to completion of the JCR needs to be captured
 - Develop the 100 Fundamentals (Subjective)

Do You *Really* Know? - **OR** - Do You *Really* Want To Know?

- Given a task:
 - Who determines when an employee successfully demonstrates the task?
 - What do you base success upon? What was your standard?
- In other words, WGLL or What Good Looks Like (Pronounced *Wiggle*)

STANDARD ANSWERS (SA)

- USD uses Standard Answers to define WGLL
- Steps in Development of Standard Answers:
 - Developed by the Subject Matter Expert (SME)
 - Reviewed by the SME and Coach
 - Approved by the topic area Manager

COMPONENTS OF A SKILL STANDARD ANSWER FOR PAVING

300 Task: Conduct Final Roll Over the Patch

- A. What are the steps of this procedure?
- B. What are the reasons for each step?
- C. What control/coordination is required?
- D. What means of communications are used?
- E. What safety precautions must be observed?
- F. Satisfactorily perform this task.

COMPONENTS OF A SYSTEM STANDARD ANSWER FOR PAVING

200 System: Utility Compactor

- What models/types are available?
- Where is it located?
- How does it operate?
- What maintenance is done to ensure proper operation?
- What is its capacity?
- What are the probable indications if this component fails?
- Normal operating parameter status
(ON/OFF/Flow/Amp/Level etc.)

SKILL COMPETENCY DEVELOPMENT

- Think of a position where you work that you are familiar with the tasks

JOB/TITLE: _____

TASK 1 Competency (300): _____

Task 1 System Knowledge (200): _____

TASK 2 Competency (300): _____

Task 2 System Knowledge (200): _____

KNOWLEDGE COMPETENCY DEVELOPMENT

JOB/TITLE: _____

TASK 1 Competency (300): _____

Task 1 System Knowledge (200): _____

TASK 2 Competency (300): _____

Task 2 System Knowledge (200): _____

PAVING JCR TASKS

2000 TOPIC KNOWLEDGE CHALLENGE

ISSUES

For this challenge, select the correct answer:

- What are the three types of knowledge?
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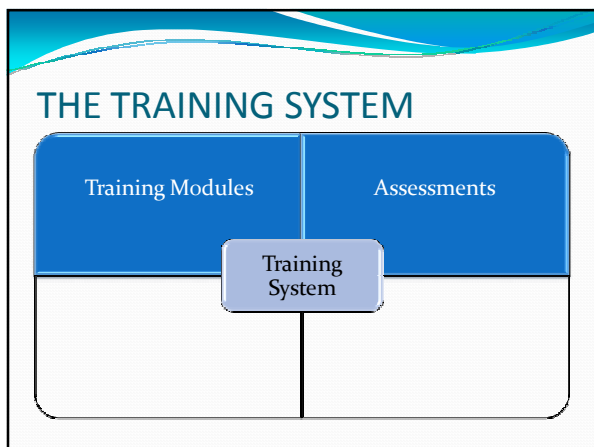
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Paving Standard Answer

200-8

Tamping Rammer

a. Mikasa MTX-80 User Manual, MultiComp, Revision 3, 1/4/08.
 a. Mikasa MTX-80, #126, #337, #382.
 b. On construction trucks.
 c. The Mikasa MTX-80/MTX-90 tamping rammer is a powerful compacting tool capable of applying a tremendous force in consecutive impacts to a soil surface. Its applications include compacting for roads and embankments as well as backfilling excavations. The impact force of the MTX-80/MTX-90 levels and uniformly compacts voids between soil particles to increase dry density. Circular motion is converted to perpendicular motion, which creates impact force. The MTX-80/MTX-90 tamping rammer develops a powerful compacting force at the foot of the rammer. To maintain optimum performance, proper operation and service are essential. The Mikasa MTX-80/MTX-90 is equipped with an air cooled, four-cycle gasoline engine. Transmission of the power takes place by increasing the engine speed to engage the centrifugal clutch.
 The Mikasa MTX-80/MTX-90 uses an oil bath lubrication system. Always check the hydraulic oil level through the oil level sight glass at the rear of the tamper foot.
 Report any equipment damage or malfunction to the ship. Write a work order and/or tag-out if directed by the ship.
 d. CS works check:
 - Engine oil
 - Check fuel level
 - Hydraulic oil level



ASSESSMENT DEVELOPMENT

- What do we assess?
 - The knowledge and skills required to do the job
- Where are the assessment competencies?
 - In the training module we developed (300 Series)
- We base our assessment the competencies the employee are trained in
- Expanding into critical thinking / scenario driven training (If, Then, Else process)

ASSESSMENT

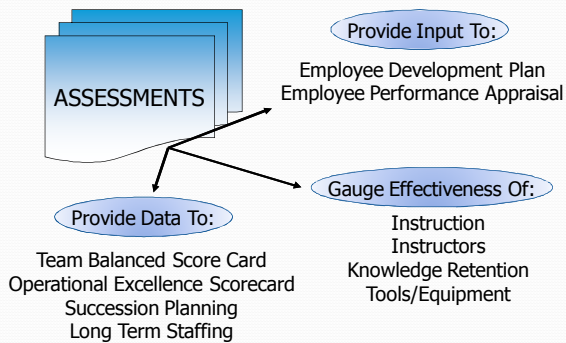
- Assess whether the employee has the knowledge and skill to complete the task in accordance with the Standard Answer
 - T - Information was not successfully transferred from Trainer to Employee. (Classroom, On-The-Job (OJT), Computer Based, etc.)
 - M - Was the equipment and/or tools inoperative or defective thus affecting the employees ability to accomplish the task. Was the equipment not to specification? Too old? A new piece of equipment? Was the documentation inadequate or wrong?
 - E - Did the training environment affect the employee accomplishment of the task. Environmental factors include: Time constraints and Temperature/Weather.
 - KSA - Did the employee not have the requisite KSA to accomplish the task.

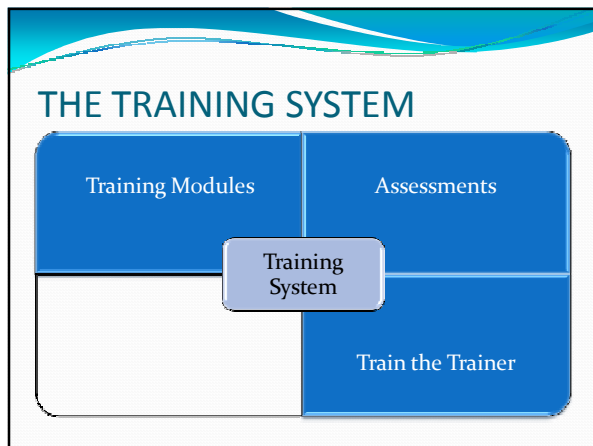
ASSESSMENT

- Assess whether the employee has the knowledge and skill to complete the task in accordance with the Standard Answer (T, M, E or, KSA)

NAME: [Redacted]	DATE: [Redacted]	REMARKS: [Redacted]
Signature: _____ Joe Somebody (Qualification)		
NAME: [Redacted]	DATE: [Redacted]	REMARKS: [Redacted]
Signature: _____ (Qualification)		

USING ASSESSMENT DATA





ARE YOU MONET?



- A Subject Matter Expert once said about module development:

.....this is an art. You cannot just do this. You cannot be assigned to do it out of the blue. It is no different from painting. If you never learned to paint, the outcome probably won't look good.

What Makes An Subject Matter Expert, An Expert Trainer?

- What is the process at your site when assigned to train a co-worker?
- The Train The Trainer course
 - Four Modules
 1. Adult Learning Theory
 2. Training Module Development
 3. Training Strategies and Techniques
 4. Competency Assessment

Know what an assessment is and why we use them

Develop an assessment from a Training Module

Assess an employees performance

Develop Standard Operating Procedures (SOP)

[illegible]

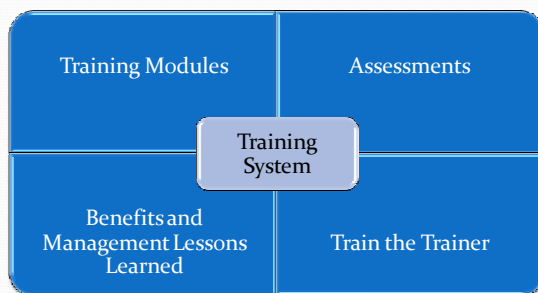
Syllabus Streamline	Topic	12th Basic Syllabus	Topic	Bridging		Additional Academic Activity
				AP/IB/CP/IB Topic/Unit	IB/AP/IB/CP Topic/Unit	
		2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017	Mid-pointing theorem, Cosine rule, Area of triangle, Collinearity, Tangent/Normal properties, Geometry of the circle, Pythagorean theorem, Area of a circle, Circle, Tangent, Secant, Chord, Angle subtended by a chord, Angle in a semi-circle, Angle at the center, Angle at the circumference, Tangent perpendicular to the radius, Tangent properties	Quadrant charts Coordinate Geometry Area of a Circle Area of a Triangle	IB/AP/IB/CP Area of a Circle Area of a Triangle	
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The diagram illustrates the components of a training system. It features a central box labeled "Training System" surrounded by four other boxes: "Training Modules" (top-left), "Assessments" (top-right), "Benefits and Management Lessons Learned" (bottom-left), and "Train the Trainer" (bottom-right). The entire diagram is set against a blue background with a white wavy line at the top.

THE TRAINING SYSTEM

Training Modules	Assessments
Benefits and Management Lessons Learned	Train the Trainer

Training System



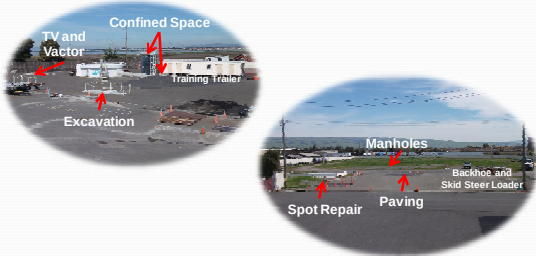
Results

- Over thirty modules developed to date
 - Tractor Loader Backhoe (Collections)
 - SCADA (Plant Operator)
 - Pump Station Mechanic (Maintenance)
- Extensive process review
- Retain Expert Knowledge
- Instruction and assessments completed in seven modules
- Employee feedback 4.8 on a 5.0 scale
- Researching uses in:
 - Professional development plans
 - Beginning discussion with executive team and union

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Results

- Construction and use of a dedicated training center



Results

- Workforce Development Tied To Strategic Plan
- Use of Balanced Scorecard
 - Progress (Modules Developed, Employees Assessed)
 - Performance (Safety, ROI (Cost Vs Benefit))
 - Beginning to use Kirkpatrick Level 4 evaluations
 - Employee use of K&S and Coach Observation of Performance
- Awarded Training Magazine Top 125 Global Training Organizations for 2011



Management Lessons Learned

- It's going to take you longer than you want
- Resources taken away from work
- Details, details = Frustration
- It's not an event, it's a process

Management Lessons Learned

- Leadership drives the bus
 - Or it dies
- Not everyone can
 - Develop a module
 - Train fellow employees
 - Assess fellow employees



USD AND THE TERM “TRAINED”

- When we say an employee has been trained:

Training occurs when instruction is given either:

- on the job (OJT)
- in the classroom
- or both

accomplished in concert with/or followed by *successful demonstration of the acquired knowledge or skill*

THANK YOU

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