



The Solutions Network

Rochester, New York

O&M Training: Beyond Checking the Box

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Greg Sullivan
Pacific Northwest National Laboratory



Topics

- ❖ Need for Training
- ❖ Types of Training
- ❖ The "Training Plan"
- ❖ FEMP O&M Training
 - Classroom Training
 - Web-based opportunities



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Need for Training

- ❖ Systems and sophistication
- ❖ Staff turnover and corporate knowledge
- ❖ Contract/Contractor monitoring
- ❖ Safety

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CAUTION

IF YOU THINK OSHA IS
A SMALL TOWN IN
WISCONSIN:

YOU'RE IN TROUBLE!

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Types of O&M Training

- ❖ On-the-Job (OTJ) Training
 - Mentor-based
 - Hands-on
 - 1-3 trained per session
- ❖ Classroom style
 - Instructor based
 - Workbook style
 - 10-50 trained per session



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Types of O&M Training

- ❖ Self-study
 - Structured self-study (workbook/textbook)
 - Video
 - Computer-based (Web/CD)
 - Gaining popularity
 - Benefits:
 - Access/Availability
 - Self-paced
 - Continuing resource

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The Training Plan

- ❖ Each position within an O&M program needs to have a **training plan**
- ❖ Existing methods of maintenance training planning...
 - Hey boss, look what came in the mail today ... can I go?
 - Hey boss, this training includes breakfast **and** lunch ...can I go?
 - Hey boss, this training is in San Diego ...**can we go?**

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Training Plan Development

- ❖ Position/facility priorities identified
- ❖ Existing staff capabilities defined
 - Deficiencies identified
- ❖ Training options documented
- ❖ Action plan created
 - Action plan revised and updated

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Training Plan Development

Step #1: Define position/facility priorities, for example:

- Safety
- Reliability
- Energy use
- Equipment longevity

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Training Plan Development

Step #2: Define the knowledge base necessary to meet priority

- Typically done by operator job task analysis
- Can be done as equipment-specific task analysis

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Training Plan Development

Example: **Boilers/Boiler Operator Safety**

- ❖ Principles of combustion
- ❖ Properties of steam
- ❖ Equipment operation
 - Relief valves
 - Pressure vessels
 - Lock out/tag out
 - Low water implications

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Training Plan Development

Reliability

- ❖ Stand-by procedures
- ❖ Back-up procedures
- ❖ Multiple boiler operation
 - Scheduling
 - Sequencing

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Training Plan Development

Energy Use

- ❖ Combustion efficiency
- ❖ Thermal efficiency
- ❖ System component efficiency
- ❖ System distribution efficiency
- ❖ Control

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Training Plan Development

Longevity

- ❖ Performance of system
 - Performance trended
- ❖ Maintenance of system
 - Maintenance logged

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Training Plan

Development

Step #3: Action plan created and training identified

- ❖ By position to identify necessary capabilities
- ❖ By position to identify code and regulatory compliance
- ❖ By position to identify organizational priorities

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Training Plan Development

Step #4: Plan Implementation

- ❖ Review and update annually



Recommended annual training budget:

\$1,000 - \$2,000/staff

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FEMP O&M Training

- ❖ Mixed-Media Approach
 - Classroom/workbook
 - Select video topics
 - Group exercises
 - Hands-on (**New Addition**)

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FEMP O&M Training

- ❖ Networking Opportunities
 - Learn from each other
 - Share the lesson, what works/what doesn't
 - Future contacts and solutions
 - Federal-sector challenges

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FEMP O&M Training

- ❖ Goals of FEMP O&M Training
 - Access to resources
 - Access to equipment
 - Leave with an action

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FEMP Web-Based Training Pilot

- ❖ eLearning Pilot conducted by Apogee Interactive (Atlanta, GA)
- ❖ Using existing eLearning curriculum assess demand and usability issues in Federal sector
- ❖ Objectives:
 - Ease of use
 - Assess limitations
 - Identify early adopters
 - Recommend next steps

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FEMP Web-Based Training Pilot

❖ Preliminary Results

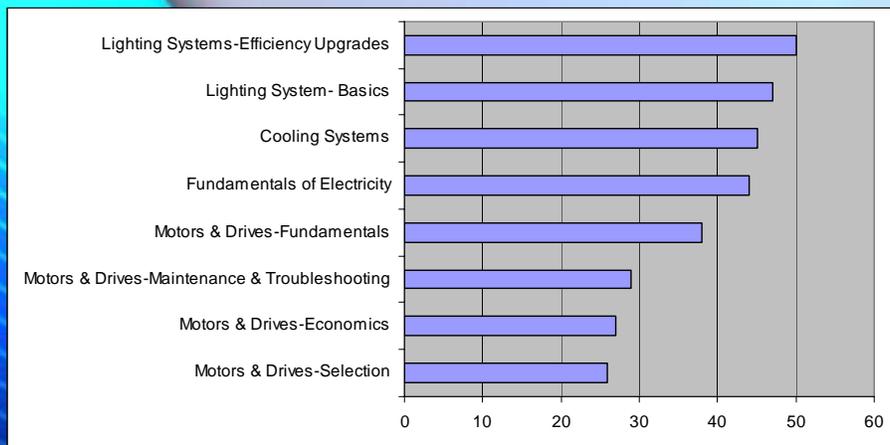
- 87 Federal staff enrolled
- 16 different courses taken
- 84% "satisfied" or "very-satisfied" with course
- 95% rated system "easy" or "very easy" to use

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FEMP Web-Based Training Pilot



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FEMP Web-Based Training Pilot

❖ Next steps:

- Complete evaluation
 - Phone interviews with participants
 - Final report due August 23, 2004
- Consider O&M-Specific content development
- Potential future opportunities: check FEMP O&M website

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Contact Information

Ab Ream, FEMP O&M Program Manager
ab.ream@ee.doe.gov

Dave Hunt, PNNL O&M Program Manager
dave.hunt@pnl.gov

Greg Sullivan, PNNL
gp.sullivan@pnl.gov

FEMP O&M Website
http://www.eere.energy.gov/femp/operations_maintenance/

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Questions?



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