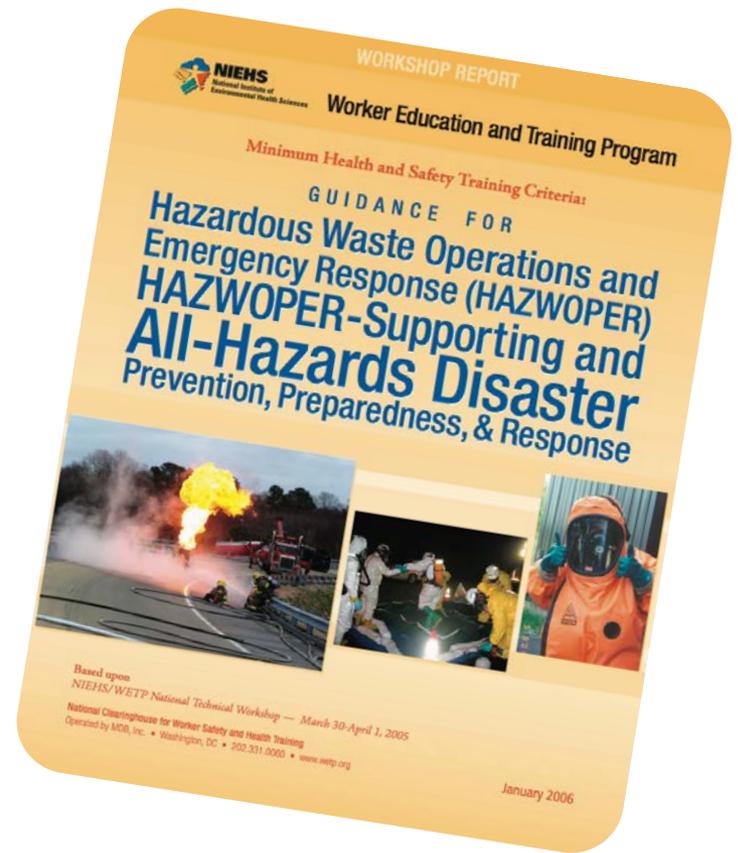


The History, Evolution, and Meaning of the WTP Minimum Criteria

**NIEHS Workshop,
Tuesday, October 17,
2017, RTP, NC**

**Bruce Lippy, Ph.D., CIH,
CSP, FAIHA**

**CPWR – The Center for
Construction Research and
Training**



Very special thanks to Dr. Craig Slatin, U. Mass Lowell



**Training for Action: The Political Economy of
the Superfund Worker Training Program (1999)**

At the end of this session, you will be able to

1. Describe events in the U.S. environmental movement that led to the Minimum Criteria (MC)
2. Describe the evolution of the MC
3. List the key elements of the MC
4. List the areas to be tackled at this workshop
5. Discuss the importance and impact of the MC

Objective 1

Describe events in the U.S. environmental movement that led to the Minimum Criteria

Hazardous waste management was not initially a national priority

- 1936, Manufacturing Chemists' Assoc. found **20%** of the 230 plants operated by 87 member companies treated their hazardous waste
- 1951, API cautioned against use of ponds for caustic wastes with little effect
- Manufacturers were **paying 5%** of the cost of treatment and disposal (EPA, 1970)

Colten and Skinner, 1996 (Slatin)

Bruin Lagoon,
Bruin, PA 1990



Cuyahoga River caught fire





The explosion of the *Chemical Control Corporation* Site in Elizabeth, NJ was pivotal for protecting responders

Earth Day, April 1980

How much irony can you pack into one industrial disaster?

Over 40,000 drums burned and firefighters paid the price

- Firefighters were contaminated cleaning up equipment
- Dermatitis
- High prevalence of respiratory problems
- IAFF asked NIOSH to initiate a HHE



The scope of the problem was national and daunting

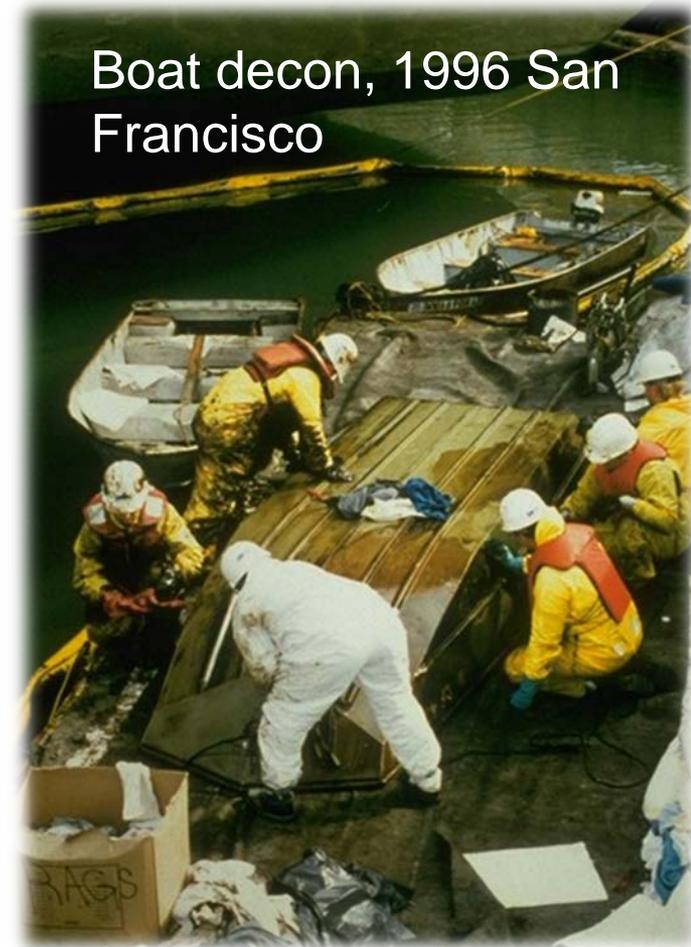
- 1979 EPA estimated 30,000 to 50,000 sites existed with 1,200 to 2,000 presenting serious risk to public health
- 1978 Love Canal: Hooker Chemical buried 21,000 tons of waste containing 400 different chemicals



The scope and size of the workforce needed was impressive

- “Widely diverse educational levels.”
- OSHA estimated HAZWOPER would cover 2 million workers (excluding TSD workers)
- NIEHS estimated additional 110,000 in RCRA-regulated generator operations and 92,000 transporting hazwaste

Hughes, Appl. Occup. Environ. Hyg. 1992



Objective 2

Describe the scope and evolution of the Minimum Criteria

What were early major themes in worker training?



paternalism and blame-the-worker

<https://www.youtube.com/watch?v=dtXI0MEXRi4&feature=youtu.be>

OSHA funding for worker training significantly expanded in 1978 under President Carter

- **Eula Bingham** created the **New Directions Program**
- Non-profit organizations including labor organizations, employer organizations and educational institutions
- Original target populations: high hazard industries and small employers
- Motivating factor: **only 6** industrial hygienists on staff of U.S. unions

New Directions laid the groundwork for the NIEHS program

1. Developed institutional competence
2. Built networks of trainers
3. Brought peer review to training applications
4. Focused on training evaluation
5. Focused on instructor competence
6. Supported the COSH Movement



Eula Bingham, DOL Photo

New Directions also spurred innovations in training

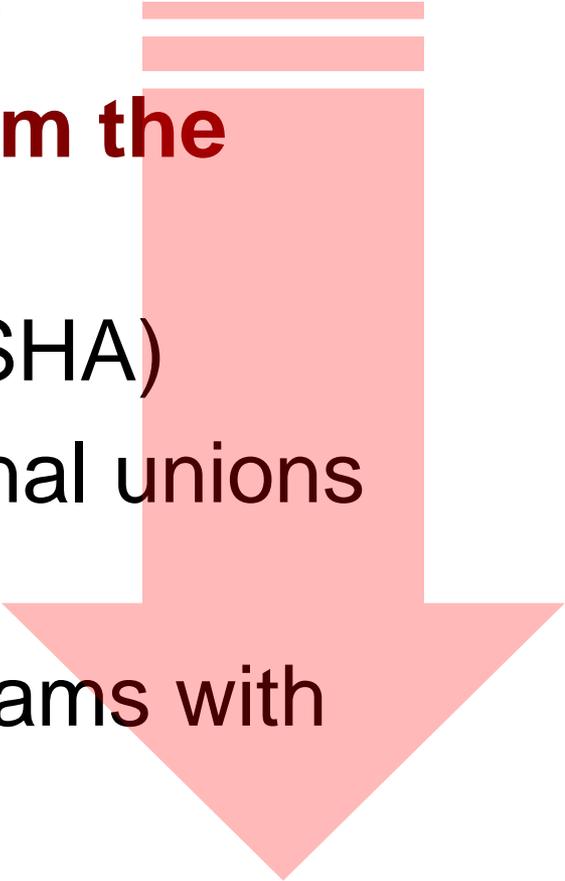
Avoiding didactic presentations

Encouraging:

- Worker participation
- Problem solving
- Hands-on practices
- Small group activities



New Directions had a major impact on H&S training

- **How many here benefited from the program?**
 - 570,000 individuals trained (OSHA)
 - 100 full-time H&S staff in national unions by 1981
 - 19 university-based H&S programs with 125 professionals
 - President Reagan and **Thorne Auchter** reduced funding by two-thirds (FY 82)
- 

December 1984, a Union Carbide facility in Bhopal, India leaked methyl isocyanate killing 2,500 and injuring 200,000

9 months later during a House subcommittee meeting in **Institute, WV**, Carbide reps were testifying when an **alarm went off** from a leak of Aldicarb. 150 needed medical attention.



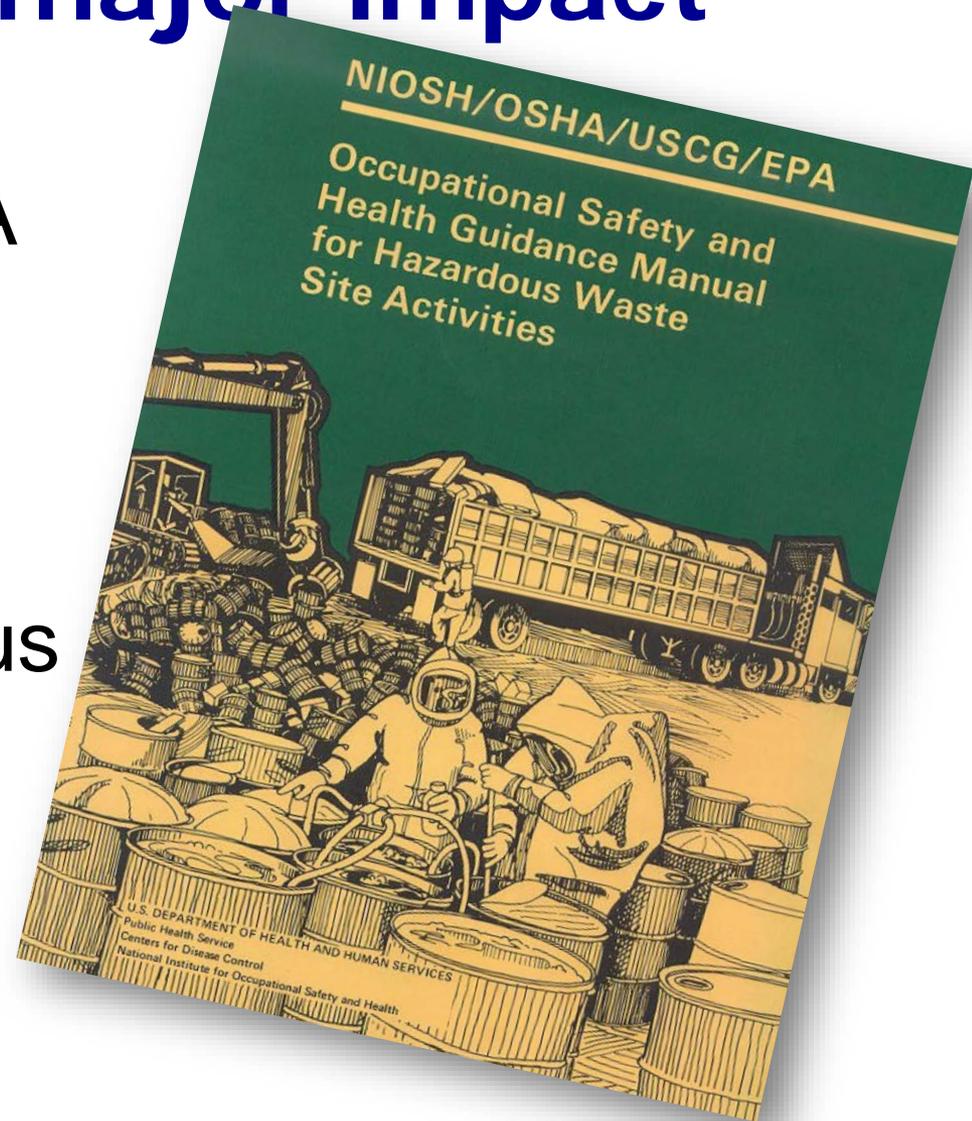
Minimum criteria for protection and training were obviously needed



El Cajon Pass, California, train derailment,
Photo courtesy: Wikimedia and NOAA

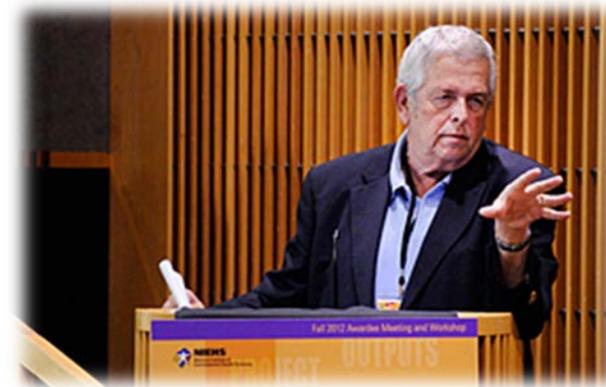
The 1985 “Four Agency Manual” had a major impact

- NIOSH, OSHA, EPA and USCG
- Served as the gold standard for protecting hazardous waste workers for years



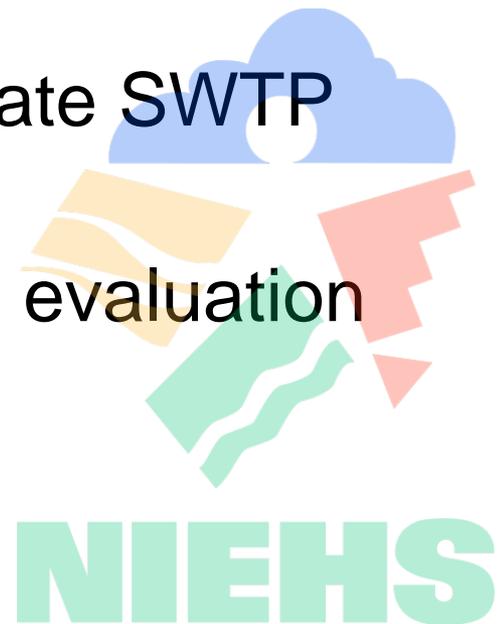
1986 SARA legislation provided the unions the opportunity to create the NIEHS training program

- Peg Seminario, Ben Hill, **Donald Elisburg**, David Mallino, Sheldon Samuels and Rich Duffy (and others) drafted the language
- **The last night** of the conference committee, Mallino took NIOSH out and inserted **NIEHS** into Section 126 of SARA for \$10 million worker training grant program.
- OSHA, as required under Section 126, developed HAZWOPER standard (first hearings 10/1987)



The Superfund Worker Training Program thrived under NIEHS

- Dr. David Rall of NIEHS chose Dr. John Dement to run the program
- Built upon New Directions effort, but would create **more lasting constituencies** through regular meetings and longer grants
- **Denny Dobbin** was hired to coordinate SWTP with Dr. Dement
- Participatory education and program evaluation were integral from the beginning
- Final rule published 10-22-1990



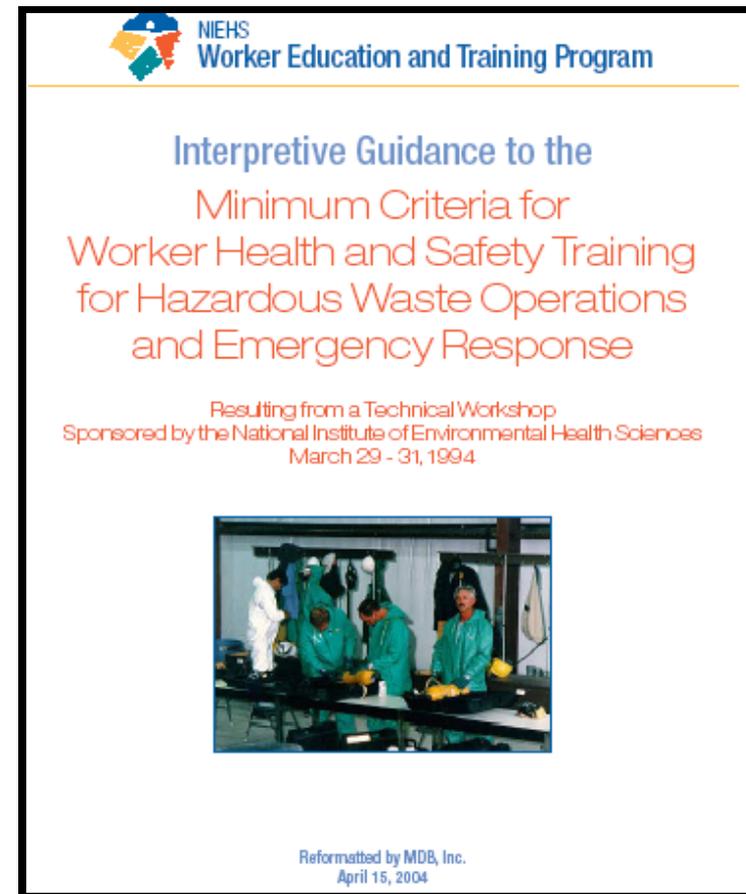
The MC started as support for OSHA's training accreditation, **1910.121**

- OSHA's NPRM January 28, 1990
- Dobbin and John Moran organized a **technical workshop with a strawman document**
- External experts from other federal agencies were invited to present and participate to build support
- Workshop in D.C. March 22-24, **1990**
- **MC published in 1991**



The workshop produced results

1. Consensus that emergency responder training needed to be covered under 1910.121
2. **Second workshop** to create **interpretive guidance** for the MC (**1994**)
3. OSHA **never** promulgated 1910.121, but used the interpretive guidance to produce Appendix E to 1910.120 (non-mandatory)





NIEHS Worker Education and Training Program Awardee Meeting

Welcome to L.A.
and the NIEHS WETP
Awardee Meeting
March 30, 2005



Wonderful setting for a workshop



Esther Ramirios,
UCLA-LOSH



Like all NIEHS Technical Workshops, lots happened *before* arriving in LA

- TAC formed in 2004
- Don Elisburg and John Moran wrote a **strawman** document that was reviewed by TAC before being distributed to attendees
- How many here attended that workshop?



Richard Nickle, ER Coordinator for ATSDR presented on the importance of HAZWOPER for Hazmat responses

“Each individual walking onto the site
needs to understand their role and how to
protect themselves.”

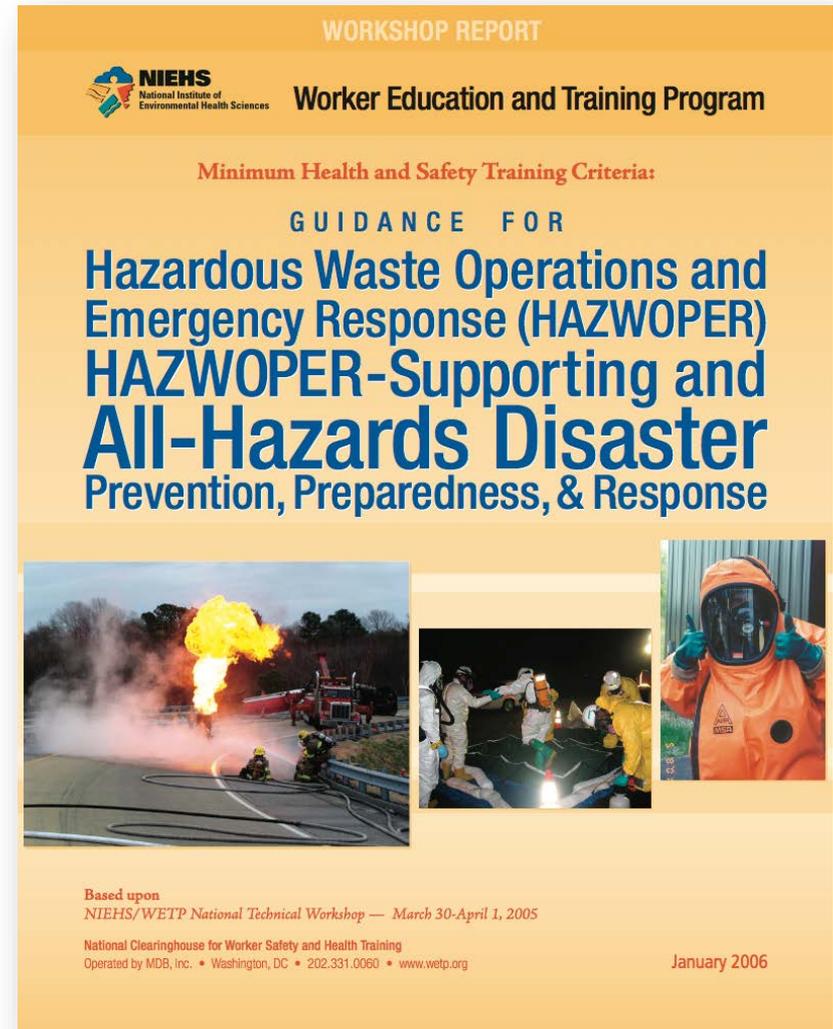
Kingston, NC

Objective 3

**List the key
elements of the
Minimum Criteria**

The National Technical Workshop in LA in April 2005 updated the MC

- Advanced training technologies
- Responses after 9/11
- Natural disasters
- Accreditation issues



The resulting MC contained 10 guiding principles

1. 29 CFR 1910.120 provides the framework for protecting hazardous waste workers and emergency responders
2. Intended for organizations that provide training under NIEHS, but may prove valuable to any organization
3. Draws upon other guidance materials such as FEMA Hazmat/WMD response training guidelines and NFPA 472
4. Whenever there is doubt about the appropriate category of training, the more comprehensive and protective should be applied

5. Peer-to-peer training with hands-on activities is the most effective model for worker training



This hands-on training should cover **at least one-third** of the training program hours



6. Computer-based training can augment effectiveness and reduce cost, but should not be the sole form of training when workers' health and safety are at risk

7. Proven adult-learning techniques should be the core of all worker training



Last guiding principles

8. Worker safety and health training must be *preceded by a needs analysis* and *followed by a proper evaluation*
9. **Post-disaster training** must be **tailored** to the specific hazards presented and **revised** as often as significant new hazard information becomes available or the **stage of the disaster** changes.
10. The 1991 MC was the basis of the OSHA Appendix E. This update maintains most of the original recommendations.

The 2006 version included some definitional contortions

- **1910.120-supporting Training:** designed to cover asbestos, lead, confined space, BBP and PSM at a HAZWOPER site
- **All Hazards:** hazardous incidents covered under a declaration of a **nationally significant event** under the NRP (natural disasters and CBRNE) OSHA to decide applicability of HAZWOPER



The MC requires *embracing* the characteristics of excellence and principles of adult education

Excellent programs are:

- 1. Accurate**
- 2. Credible**
- 3. Comprehensive**
- 4. Clear**
- 5. Practical**



The MC calls out adult education principles such as:

- Adults learn best by doing
- **New skills** should be based upon current skills
- **Small group activities** are important to adult learners
- Adult learners respond better when they have the opportunity to **learn from their peers**

Adult education is empowering



The Core Criteria (9.3) requires a written training plan covering

- Training director
 - Minimum 2 yrs experience
- Training facilities
- Instructional staff
 - Deemed competent by and annually recertified by director
- Training course materials and content
 - Peer-reviewed by external experts
- Trainees
- Instructor-trainee ratios
- Proficiency assessment
- Course certification
- Recordkeeping
- Program QC (entire section 10)

Avian influenza
class photo
courtesy PETE



Generic minimum training curriculum guidelines (11.0) specify initial (on and off site) and refresher for all populations

- General site worker and occasional workers 1910.120(e)
- RCRA/TSD 1910.120(p)
- Emergency responders
 - Full-time (q)(6)
 - Part-time (collateral duty)
 - Skilled support (q)(4) –heavy equipment operators
 - Specialists (q)(5)

MC Annexes are in section 13

A: 29 CFR 1910.120-supporting training

B: Technical workshop agenda and participants

C: USFA/FEMA “Guidelines for Haz Mat/WMD Response, Planning, and Prevention Training.” April 2003 Ed.

D: The Principles of Adult Education: Checklist for Planners and Evaluators



Objective 4

List the areas to be tackled at this workshop

The comments from the work groups indicates changes are needed (and folks are thinking)

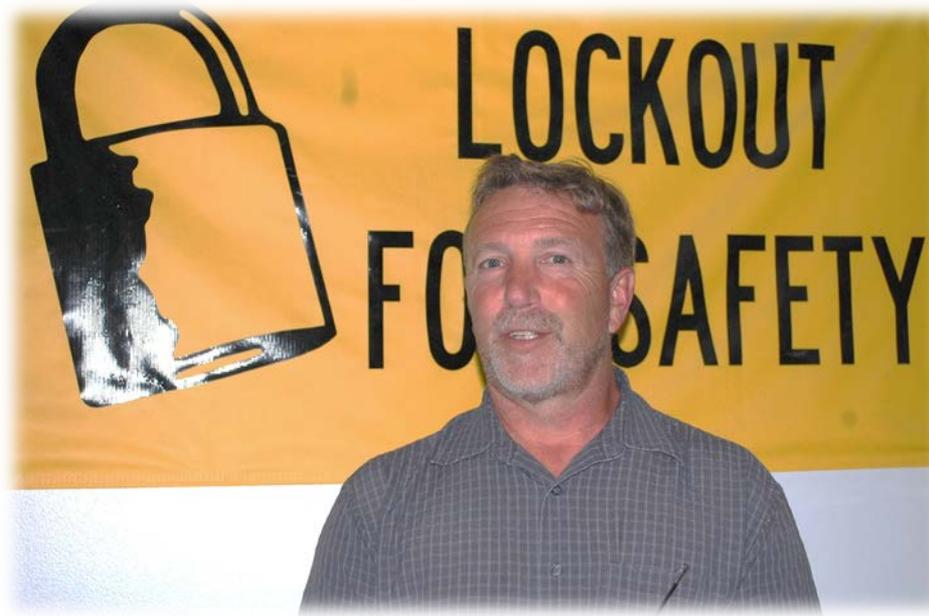
1. E-learning
2. Collateral duty
3. Assessing competencies
4. Instructor development
5. Evaluation
6. Disaster response
7. Infectious diseases
8. Evergreen materials

Objective 5

**Discuss the
importance and
impact of the MC**

For me the most impressive element is the power of peer trainers

James
Hardy,
Nuclear
Chemical
Operator,
Hanford



“Lots of safety culture comes from the immediate workforce, not upper management.”

Emphasis on hands-on training is another key to the MC success



**Toots Barger, 7 time
National Duckpin Bowling Champ**



**Patrick Bell,
Hazmat Master instructor
Zero duckpin championships**

What are your thoughts on the impact of the Minimum Criteria?

Thanks!

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