1st – A Universal Law

- Law of Close Encounters – The probability of meeting someone you know increases dramatically when you are with someone you don't want them to see.

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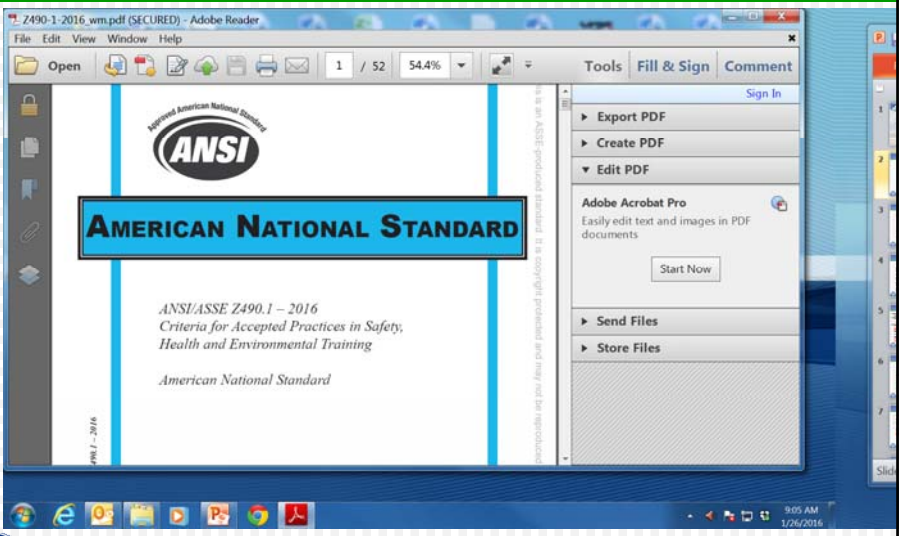

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Mostly Minor Stuff

- **ANSI®**
- **ANSI/ASSE Z490.1 – ~~2009~~201X**
- **American National Standard**
- **Criteria for Accepted Practices in**
- **Safety, Health, and Environmental Training**

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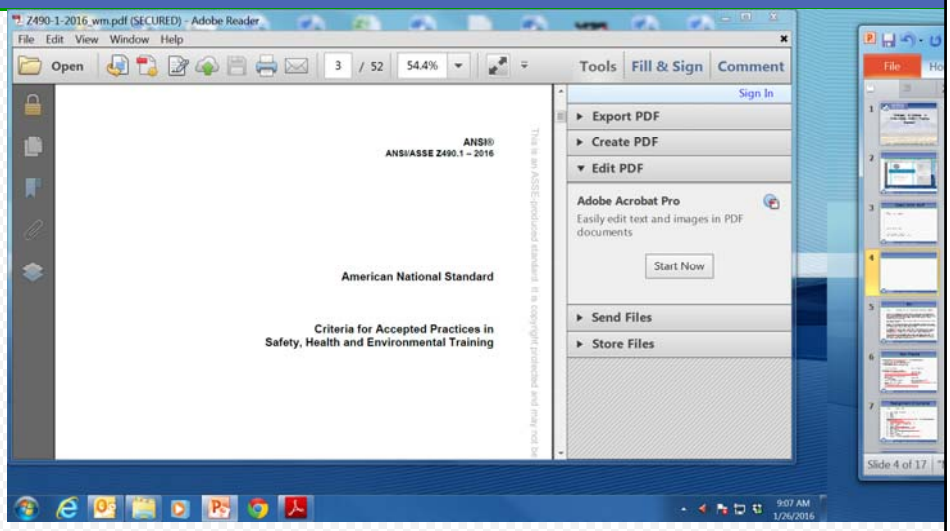

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Etc.

- **Foreword** (This Foreword is not a part of American National Standard Z490.1 – ~~2009~~201X.)
-
-
- The charter of the American National Standards Committee Z490 on Criteria for Accepted Practices in Safety, Health and Environmental Training was accredited by the American National Standards Institute on April 1, 1998. This ~~Standard~~standard grew out of the recognized need for improvement in safety, health~~,~~ and environmental training. Quality training is required to ensure that workers and safety, health~~,~~ and environmental professionals have the knowledge, skills~~,~~ and abilities necessary to protect themselves and others in the workplace.
-
- Safety, health~~,~~ and environmental training is an important element of an effective overall safety, health~~,~~ and environmental program.
-
- Historically, safety, health~~,~~ and environmental training has been specifically addressed by only a few regulations with limited scope, such as asbestos, hazard communication~~,~~ and storm water management. The regulations usually specify the technical topics to be covered in a training course, but do not stipulate how to adequately design, develop, deliver~~,~~ and evaluate training.
-
- This ~~Standard~~standard covers all facets of training, including training development, delivery, evaluation~~,~~ and management of training and training programs. Thus, the criteria were developed by combining accepted practices in the training industry with those in the safety, health~~,~~ and environmental industries. The ~~Standard~~standard is intended to apply to a broad range of training and training programs.
-
- Industry employers may use this ~~Standard~~standard to assess the services of external training providers or to audit or improve their own corporate training programs. Training providers may use the ~~Standard~~standard to assess and improve their training services. This ~~Standard~~standard may also be used as a basis for development and management of training and training programs, with the annexes and references providing additional information and detail.

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New Players

- ~~Steven F. Kane,~~John W. Mroszczyk, Ph.D., P.E., CSP, ~~CET, CIT, Chairperson~~Chair
- Frank Perry, P.E., CSP, Vice ~~Chairperson~~Chair
- Timothy R. Fisher, CSP, CHMM, ARM, CPEA, Secretary
- ~~Dewey Whitmire~~Dan McNeill, Assistant Secretary
- Jennie Dalesandro, Administrative Technical Support

Organization Represented	**Name of Representative**
~~Academy~~AHMP – Association of ~~Certified~~ Hazardous Materials ~~Managers~~ Professionals	Janet Kerley, CHMM Reggie Suga, CHMM
Alexander & Schmidt	Scott Patterson James Schmidt
American Association of Occupational Health Nurses, Inc.	Wendie Robbins
	Susan Randolph
American Industrial Hygiene Association	Susan Marie Viet, Ph.D., CIH, CET Karin Wetzel, MSPH, CIH
American Society of Safety Engineers ~~CET, CIT~~	~~Steven F. Kane,~~John Mroszczyk, Ph.D., P.E., CSP~~,~~ Frank Perry, P.E., CSP
Arizona State University	Jonathan Klane Fredi Doerstling

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New Annex

- Annexes:
-
- Preface to Use of Annexes ~~29~~30
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Layout

AMERICAN NATIONAL STANDARD Z490.1
CRITERIA FOR ACCEPTED PRACTICES IN SAFETY, HEALTH, AND ENVIRONMENTAL TRAINING

STANDARD REQUIREMENTS	EXPLANATORY INFORMATION (Not part of American National Standard Z490.1)
1. SCOPE, PURPOSE, AND APPLICATION	
1.1- Scope. This standard establishes criteria for safety, health, and environmental training programs, including program management, development, delivery, evaluation and program management documentation.	
1.2 Purpose. The purpose of this standard is to provide criteria for accepted practices for safety, health, and environmental environ-mental training programs including assessment of needs, development, delivery, evaluation and program management.	

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Layout

3. MANAGEMENT OF A COMPREHENSIVE TRAINING PROGRAM ~~ADMINISTRATION AND MANAGEMENT~~

This section provides ~~criteria intended to provide~~ the necessary elements ~~for administration and management~~ of a managed comprehensive training program.

Training ~~shall be integrated into an overall~~programs are most effective and efficient when included in a comprehensive safety, health~~,~~ and environmental manage-ment system/program~~, including~~. As a minimum, the program should include:

- responsibility and~~/or~~ accountability for the training program;
- resources available to the trainer and trainees;
- ~~training, design, and develop-ment by appropriate compe-tent training professionals, using appropriate techniques;~~
- delivery strategy(ies) appro-priate and effective for the learning objectives;
- appropriate evaluation stra-tegy(ies) included in all training; and
- a system to evaluate the overall quality of the program managed to ensure consist-ency and continuous improve-ment.

E3 Training programs are most effective and efficient when ~~managed under~~included in a ~~well-defined~~comprehensive safety, health and ~~organized administrative~~environ-mental management system/ program. It should be noted that the ANSI/~~AIHA~~ASSE Z10 ~~Standard~~standard provides one example of a structure for an effective management system. Such a system is designed to ensure that training is in an integrated program~~,~~ rather than a series of non-related training events. Integrating the training into the overall management system also ensures that the training is properly supported by the organization.

It is important to remember that training alone cannot ensure a safe, healthy~~,~~ and environmentally sound work environment, nor can it ensure regulatory compliance. Examples of effective management systems are provided under the ISO 14001 and 14004 management programs. See Annex A for references on training development programs.

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New References - 5

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Annex B.3 - new

- ~~B.3~~B.3 Structuring a Training Course

- Gagne's Nine Events of Instruction provides an accepted best practice for structuring a training course:
- 1. Gain attention: present a good problem, a new situation, ask questions.
- 2. Describe the goal: state what students will be able to accomplish and how they will be able to use the knowledge, give a demonstration if appropriate.
- 3. Stimulate recall of prior knowledge: remind the student of prior knowledge relevant to the current lesson (facts, rules, procedures or skills). Show how knowledge is connected, provide the student with a framework that helps learning and remembering.
- 4. Present the material to be learned: Chunk information (avoid memory overload, recall information).
- 5. Provide guidance for learning: advise students of strategies to aid them in learning content and of available resources. This could also include things like case studies.

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B.3 continued

- 6. Elicit performance practice: let the learner do something with the newly acquired behavior, practice skills or apply knowledge. Should include opportunities to practice it using real-world scenarios.
- 7. Provide informative feedback: show correctness of the trainee's response, analyze learner's behavior, maybe present a good (step-by-step) solution of the problem.
- 8. Assess performance: test if the lesson has been learned. Also give sometimes general progress information.
- 9. Enhance retention and transfer: inform the learner about similar problem situations, provide additional practice. Help them internalize the new knowledge.

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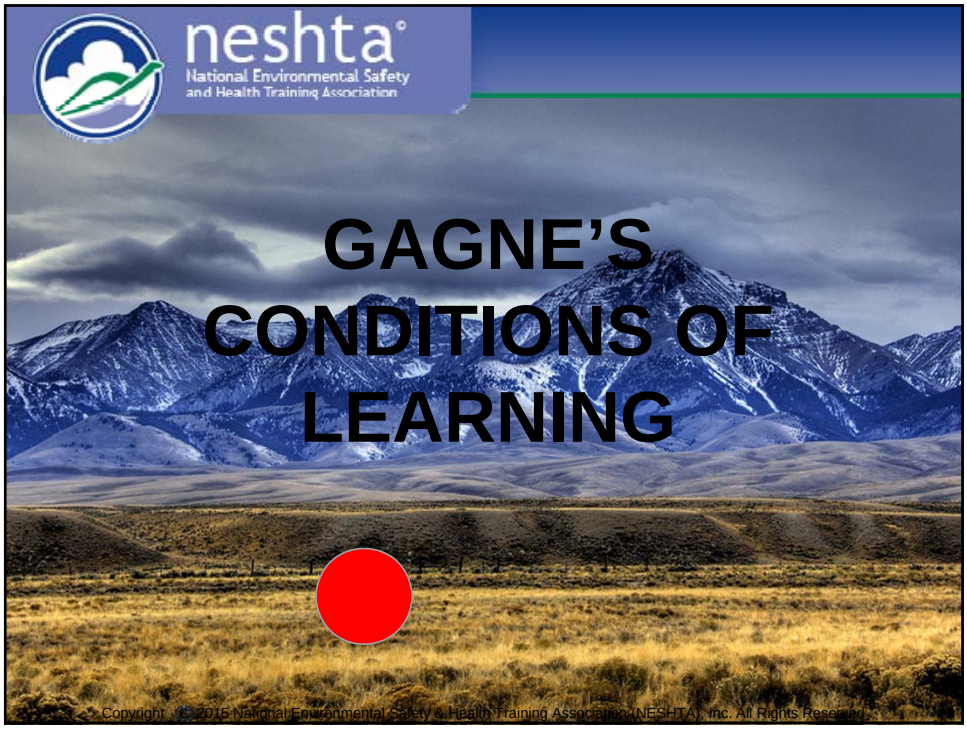
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GAGNE'S CONDITIONS OF LEARNING
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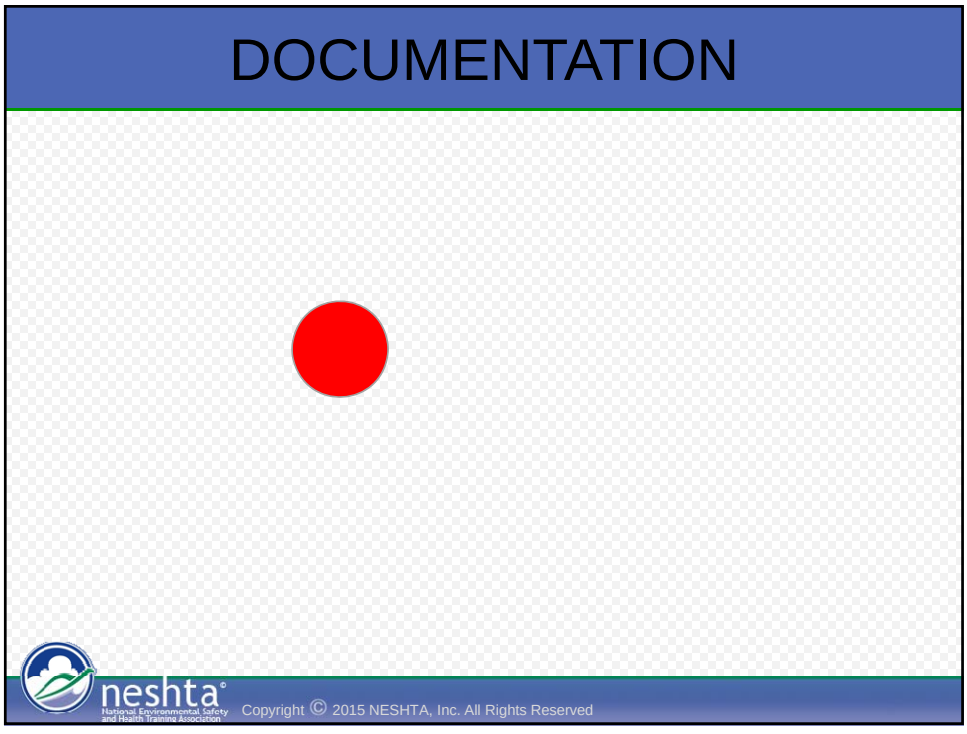
DOCUMENTATION
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Annex D - new

- **Virtual Learning**
- Virtual learning is increasing as a method of delivering training. Benefits of virtual training & instruction include:
  - Cost savings
  - Time savings
  - Location
  - Outreach
-
- However, virtual training brings a new set of considerations for trainers:
  - Are participants centrally located or dispersed? Virtual training would be more appropriate if participants are dispersed.
  - Do participants have required technology available to them?
  - Do you have qualified producers to facilitate training?
  - Who will administer logistical details?
  - Do participants speak same language?

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- Virtual training must engage participants in frequent, meaningful activities in order to maintain their attention. This can be done by one or more of following:
  - Chat line enables communication between instructor & participants.
  - A virtual whiteboard is similar to classroom chart paper. It can be typed on, written, or drawn on.
  - Status indicator allows participants to raise their hand. It can be used by trainer to get a quick response from participants.
  - Polling can be used to get a realtime survey of participants.
- Considerations for slide design include:
-
  - Make bullets graphical.
  - Use light background with dark words. It reduces headaches & eye strain.
  - Select colors carefully.
  - Put complex content in a handout, not in a slide.
  - Create slides that will engage participants.

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QUESTIONS?

- Discussion - Thoughts

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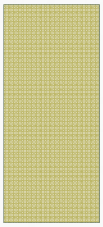
TRAINING DOCUMENTATION

WHAT IS PROPER SAFETY TRAINING DOCUMENTATION



OPINION

- Sign-in Sheets?
- Tests?

OPINION

- What is the need?

NEED

- Probably based on view of asking party
- Possibly based on a standard specifying training
- May be as result of injury investigation

EXAMPLE

- 29CFR1910.132 – PPE
  - Training must cover:
    - When PPE is necessary
    - What PPE is necessary
    - How to don & doff
    - Proper care & maintenance
    - Demonstrate understanding

EXAMPLE

- 29CFR1910.120 – HAZWOPER
  - Training must cover:
    - Names of site safety people
    - Safety hazards present
    - Use of PPE
    - Proper work practices
    - Engineering controls to be used
    - Medical surveillance requirements
    - Contents of standard

ANSI Z490, SECTION 7

- Documentation & Recordkeeping
  - Recordkeeping system shall not be under control of those receiving training.
  - Development records shall identify:
    Stated objectives;
    Sources of information used;
    All training materials developed;
    Plans for evaluation & improvement.
  - Delivery records shall identify:
    Date, location & duration of course;
    Name & description of course;
    Names & qualifications of trainers;

SECTION 7 (CONTINUED)

- Delivery materials used;
- List of trainees attending;
- List of trainees successfully completing.
- Evaluation records shall be retained for:
  Training evaluation;
  Periodic reevaluation of course.

CERTIFICATES

- When certificates are issued, they must contain:
  - Trainee's name;
  - Course title;
  - Date & hours of instruction;
  - Statement of successful completion;
  - Name & address of training provider;
  - Expiration date;
  - Unique trainee identification number;
  - Level of training;
  - Regulation for training;
  - Signature of trainer.

WHAT DOCUMENTATION?

- Ultimately, proper documentation is decided by requesting party, the more formal the request or need, the more formal the level of documentation.
- Documentation of attendance at the weekly toolbox talk should be different than fall protection training meant to satisfy OSHA Subpart M, 1926.500.

DOCUMENTATION

- Level of documentation varies with objectives of training. More involved objectives require higher levels of documentation.
- These objectives direct course development, delivery method, & ultimately, success of course.
- So, objectives actually dictate level of documentation needed.

OBJECTIVES

- Objectives are based on *the* NEEDS ANALYSIS to determine level of training.
- Level of documentation is therefore dependent on the NEEDS ANALYSIS
- NEEDS ANALYSIS gets us back to the requestor of documentation, or why we did the training