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EVALUATION OF S-101 COURSE
"SUPERVISORS' ORIENTATION TO OCCUPATIONAL
SAFETY IN DOE" TAUGHT IN
LAS VEGAS, NEVADA
October 26-29, 1992

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March 1993

Prepared for
the U.S. Department of Energy
under Contract DE-AC06-76RLO 1830

Pacific Northwest Laboratory
Richland, Washington 99352

MASTER

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EXECUTIVE SUMMARY

This report summarizes trainee evaluations for the Safety Training Section course, "Supervisors' Orientation to Occupational Safety in DOE", (S-101) which was conducted October 26-29, 1992 at EG&G Measurement, in Las Vegas, Nevada.

Sections 1.1 and 1.2 of this report summarize the quantitative course evaluations that trainees provided upon completion of the course. Sections 2.0 and 3.0 provide examination results, and recommendations for improvement. Appendix A provides a transcript of the trainees' written comments and Appendix B presents a copy of the course evaluation form that students were asked to complete.

Numeric course ratings were generally positive and show that the course material and instruction were very effective. Written comments supported the positive numeric ratings. The course content and knowledge gained by the trainees exceeded most of the students' expectations of the course.

Attendance was insufficient to conduct two classes and one of the requested classes had to be cancelled. This was partially due to a change in personnel at the site. Broadening the distribution of our flyers and ensuring that each contractor is contacted by the site sponsor may help resolve the problem.

Results from the final examination showed that students gained appropriate knowledge from the course. The majority of the scores were 80% or above. A few were lower, but distribution seemed normal.

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1.0 SUMMARY OF TRAINEE COURSE EVALUATIONS

This course was conducted at EG&G Measurement, Las Vegas, Nevada, October 26-29. Tommye Wright, Carl Heise and Troy Corbin presented the course to 39 EG&G, REECO, Department of Energy, Lawrence Livermore National Laboratory, and Battelle Pacific Northwest Laboratories employees.

1.1 NUMERIC RATINGS

Thirty-five trainees completed a course evaluation form upon finishing the courses. The first rating area of the form covered seven items dealing with course content; the second rating area covered one item dealing with testing materials; and the third rating area covered 15 items specifically associated with course topic areas.

For the first and second rating areas, respondents were instructed to rate the degree to which they agreed or disagreed with each statement using a five-point scale with 1 (low) anchored to "strongly disagree" and 5 (high) indicating "strongly agree". The ratings are as follows:

COURSE CONTENT AND TESTING MATERIALS RATINGS

1. Developed specific skills and competencies in health and safety that I can use as a supervisor on the job.

Average Class Rating - 4.03

2. Gained a greater understanding of safety liability, hazard recognition, hazard evaluation and hazard control.

Average Class Rating - 4.17

3. Gained factual knowledge about health and safety issues and procedures (terminology, classifications, regulations).

Average Class Rating - 4.17

4. Learned fundamental principles, generalizations, and theories.

Average Class Rating - 4.06

5. Can use the course materials to improve thinking, problem-solving, and decision-making of supervisory health and safety work.

Average Class Rating - 4.14

6. Would recommend this course to others.

Average Class Rating - 4.11

7. This course will help supervisors to make their work environments safer.

Average Class Rating - 4.39

8. The final test was a good measure of the knowledge gained in the course.

Average Class Rating - 4.00

The average class rating for the course content area and testing materials area was 4.13. This high rating reinforces the applicability of the course content to the trainees' interests and work environments. The two DOE attendees further reinforced the importance of OSHA to the work environment. Their endorsement was appreciated.

The third rating area asked the respondents to rate the value of each of the 15 topic areas using a five-point scale with 1 (Unsatisfactory), 2 (Satisfactory), 3 (Good), 4 (Very Good), or 5 (Excellent). The following are the average class ratings that dealt with topic content as well as with the value of the instructor:

INSTRUCTOR	TOPICAL AREAS PRESENTED	CONTENT	INSTRUCT
Tommye Wright	Requirements and Consequences	3.69	4.13
Tommye Wright	OSHA Compliance and DOE Orders	3.75	4.10
Tommye Wright	Fire Hazards	4.13	4.27
Troy Corbin	Physical Hazards	4.06	4.23
Troy Corbin	Confined Space Hazards	3.97	4.27
Carl Heise	Machine Safeguards	4.16	4.42
Carl Heise	Hand and Portable Power Tools	3.97	4.29
Troy Corbin	Material Handling and Storage	3.88	4.29
Carl Heise	Electrical Hazards	3.75	4.00
Troy Corbin	Chemical Hazards	4.06	4.19
Troy Corbin	Measurement and Testing	3.53	4.10
Troy Corbin	Hazard Communication	4.03	4.19
Carl Heise	Inspections and Investigations	3.84	4.17
Troy Crobin	Job Safety Analysis	3.78	4.20
Troy Corbin	Hazard Reduction and Elimination	4.06	4.29

The overall average class rating for specific topic content was 3.91. The overall average class rating for Tommye Wright was 4.17, overall rating for Carl Heise was 4.22, and the overall rating for Troy Corbin was 4.22.

1.2 WRITTEN COMMENTS

After providing numeric course evaluations, participants provided written comments about the course. Written comments were transcribed and are presented in Appendix A.

2.0 EXAMINATION RESULTS

On the last day of the course, a final examination was administered to 37 attendees. There were 25 multiple-choice questions. The scores ranged from 68% to 100%, with the average score being 92%. Thirty-six persons successfully completed the class.

3.0 RECOMMENDATIONS FOR COURSE IMPROVEMENT

Again, attendance was a problem. It is apparent that the site coordinator did not contact appropriate site personnel to announce the class. A request for another class has already come from one of the other contractors at the site. It is also apparent that the various contractors do not communicate class schedules with each other. PNL will work more closely with the site coordinators to ensure that they make a greater effort to inform all interested site personnel of the training schedule.

Another comment on the use of acronyms was made by an attendee. In the next review cycle, care will be taken to spell out each one.

APPENDIX A

EVALUATION COMMENTS

"SUPERVISORS' ORIENTATION TO OCCUPATIONAL SAFETY IN DOE"

OCTOBER 26-29, 1992

LAS VEGAS, NEVADA (EG&G MEASUREMENT)

APPENDIX A

TRAINEE EVALUATION RESPONSES

S101, "SUPERVISORS' ORIENTATION TO OCCUPATIONAL SAFETY IN DOE"

OCTOBER 26-20, 1992--LAS VEGAS, NV

EG&G MEASUREMENT

Please briefly describe how your expectations of this course were or were not met.

Met one-hundred percent.

Lived up to what was advertised.

Expectations were met.

Were well met.

Learned a lot.

As expected.

Met. Good general information on a variety of safety issues.

Needs OSHA construction requirements.

Not knowing what to expect, I must say the course exceeded my expectations.

I came in with no real expectations and did get some knowledge. My expectations were more than met.

Helped understand OSHA.

First time review on CFR in 12 years.

Less painful than expected.

This class did not have a thing to do with my job beside safety.

Expectations were met by exercises.

I am able to do my plant walk-throughs more effectively by knowing what hazards to look for.

They were met by pointing out various safety hazards.

Exceeded expectations because I learned principles behind my occupational safety requirements.

The most helpful topics covered or activities presented in this course were:

Fire hazards.

Chemical hazards, electrical hazards.

Looking up specific regulations for state situation.

Hands-on inspection exercise.

Hazardous material.

I. H. activities.

Physical hazards.

Electrical, machine safeguards.

Hazards.

Hazard communication.

All were informative.

Hazcom.

Job safety analysis.

Hazard communication and OSHA compliance and DOE orders.

All around safety.

Confined space discussion.

Some of video display.

OSHA regulations and how to use them.

Confined space hazards and chemical hazards.

Machine guarding.

Chemical hazards.

Covering areas of the manual (29 CFR 1910).

Fire extinguishers. Learned to find and use the manual 29 CFR Part 1910.

Chemical hazards, hazcom.

All were, but to single a few of the more interesting ones; fire hazards, confined spaces, electrical.

The least helpful things discussed or done were:
Chemical hazards.

Safeguarding.

Machine safeguards. Hand and portable tools.

Inspections.

Inspections and investigations.

Hazard communication.

Test questions prior to understanding.

Discussion of DOE requirements and Federal employee programs.

Chemical hazards.

Electrical safety.

Job safety analysis, hazard control (too general to be helpful).

More emphasis should be given to:
Electrical.

ANSI standards we use in DOE as per 5480.4. These have a lot more required than 1910.

Confined space hazards.

Thought it was a pretty good balance.

Implementation of DOE requirements and Federal employee programs.

Each person's needs.

Electrical hazards.

Actual inspection.

On walk-through be sure an instructor can be with each group.

Electrical safety.

Less emphasis should be given to:
Toxic and hazardous materials.

Looking at viewgraphs from the course book.

OSHA Act.

Inspections and investigations.

JSA. Let the local teach the program.

What specific suggestions do you have for improving future sessions?
Give the "pre-test" after you cover the material.

Extended to five days.

More ANSI when needed.

Integrate with DOE requirements.

The course is done in a very professional manner.

Break it up in three each, two day classes.

Donuts.

Four days to three days.

More clearly printed OSHA standards book.

Other materials to supplement or substitute for the provided handouts?
Some of the overhead slide material should be included in book.

Books with readable type.

None, very good.

Slides used by some instructors were better than these in the book.

Better quality 29 CFR.

Daily schedule/timing of activities, worktime?
Good.

Excellent.

Very good.

Fifty minute session/10 minute break.

Start too early, end too late.

They were about right.

Facilities/training room arrangements?

Excellent.

Good.

Very good (a little crowded).

Less AC.

Adequate.

Pretty good, but we might have been able to use a little more room.

Good.

What other types of safety training courses would you like to see available?

Something that has to do with my job.

Federal employee program supervisor training program contract laws, specifically: contracting officer technical reservations, safety committee training.

There are so many types of training available, that there is something to do my job.

Construction requirements.

Specific on machine guarding.

Electrical safety, handling material safety.

Forty hour OSHA compliance course.

Hazard emergency responders, disaster preparedness.

Any further comments?

Thank you very much.

Course overall was very good. Providing me with more awareness of safety issues and their consequences.

Liked the variety of trainers and training material; timing and frequency of breaks; involvement of attendees in discussion; use of anecdotes and humor (not excessive); opportunity to do inspections. Can you provide sample forms to document findings (CYA action) and talk about hazard rating of findings (e.g., one through four in decreasing hazard).

Database on PC to look up OSHA standards, we probably missed a few.

The humor factor was a "10".

This was my first safety class of this type. Several safety professionals were present and knew what all the initials and acronyms meant. I didn't and had some trouble following some of it.

Very good program, all instructors very nice and personable.

APPENDIX B

TRAINEE EVALUATION FORM

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EVALUATION FORM

S-101—Supervisors Orientation to Occupational Safety in DOE

Date _____
 Name (optional) _____
 Title _____
 Location _____

Please evaluate various features of the course you have just completed. The information you provide here will be combined with that from other trainees and summarized for the sponsor, the U.S. Department of Energy. Results from this evaluation will be used to improve this course.

Course Content

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Overall, as a result of this course I believe that I:					
developed specific skills and competencies in health and safety that I can use on the job.5	4	3	2	1	
gained a greater understanding of safety liability, hazard recognition, hazard evaluation and hazard control.5	4	3	2	1	
gained factual knowledge about health and safety issues and procedures (terminology, classifications, regulations)...5	4	3	2	1	
learned fundamental principles, generalizations, and theories.5	4	3	2	1	
can use the course materials to improve thinking, problem-solving, and decision-making of supervisory health and safety work.5	4	3	2	1	
would recommend this course to others.5	4	3	2	1	
this course will help supervisors to make their work environments safer.5	4	3	2	1	

Testing Materials

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
The final test was a good measure of the knowledge gained in the course.5	4	3	2	1	

Topic Areas

Please evaluate each topic area using the 5-point scale below.

5 Excellent 4 Very Good 3 Good 2 Satisfactory 1 Unsatisfactory

	5	4	3	2	1	Content	5	4	3	2	1	Instructor	5	4	3	2	1
Introduction to DOE safety and health program	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Safety responsibility	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Electrical hazards	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Fire hazards	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Material handling and storage	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Physical hazards	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Chemical hazards	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Confined space hazards	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Hazard communication	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Hand and portable power tools	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Machine safeguards	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Inspections and investigations	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Job safety analysis	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Measurement and testing	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
Hazard reduction and elimination	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1

Comments

1. Please briefly describe how your expectations of this course were or were not met. _____

2. The **most** helpful topics covered or activities presented in this course were: _____

3. The **least** helpful topics or activities in this course were: _____

4. More emphasis should be given to: _____

5. Less emphasis should be given to: _____

6. What specific suggestions do you have for improving future sessions?

7. Other materials to supplement or substitute for the provided handouts? _____

8. Daily schedule/timing of activities, worktime? _____

9. Facilities/training room arrangements? _____

10. What other types of safety training courses would you like to see available? _____

11. Any further comments? _____

12. **Overall rating:** Based on your comments above, please rate the course on a 5-point scale by circling the number of your choice.

5 Excellent 4 Very Good 3 Good 2 Satisfactory 1 Unsatisfactory

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