12/10-2-92 JSW

PNL-8315
UC-900

**Evaluation of S-101 Course
"Supervisors Orientation to
Occupational Safety Compliance
in DOE" Taught in Livermore,
California April 21 - 24, 1992**

T. S. Wright

September 1992

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

**Pacific Northwest Laboratory
Operated for the U.S. Department of Energy
by Battelle Memorial Institute**

PNL-8315

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor Battelle Memorial Institute, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or Battelle Memorial Institute. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

PACIFIC NORTHWEST LABORATORY
operated by
BATTELLE MEMORIAL INSTITUTE
for the
UNITED STATES DEPARTMENT OF ENERGY
under Contract DE-AC06-76RLO 1830

Printed in the United States of America

**Available to DOE and DOE contractors from the
Office of Scientific and Technical Information, P.O. Box 62, Oak Ridge, TN 37831;
prices available from (615) 576-8401. FTS 626-8401.**

**Available to the public from the National Technical Information Service,
U.S. Department of Commerce, 5285 Port Royal Rd., Springfield, VA 22161.**

PNL--8315

DE93 000418

EVALUATION OF S-101 COURSE
"SUPERVISORS ORIENTATION TO OCCUPATIONAL
SAFETY COMPLIANCE IN DOE" TAUGHT IN
LIVERMORE, CALIFORNIA
APRIL 21, 1992 - APRIL 24, 1992

T.S. Wright

September 1992

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

Pacific Northwest Laboratory
Richland, Washington 99352

MASTER

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

1.0 SUMMARY SANDIA COURSE

This section summarizes trainee evaluations for the Safety Training Section course, "Supervisors' Orientation to Occupational Safety in DOE", (S-101) which was conducted April 21-24 at Sandia National Laboratory, in Livermore, California.

Section 1.1 and 1.2 of this report summarize the quantitative course evaluations that trainees provided upon completion of the course. Appendix A provides a transcript of the trainees' written comments.

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.

Results from the final examination showed that students gained significant knowledge from the course.

CONTENTS

1.0	SUMMARY- SANDIA NATIONAL LABORATORY (APRIL 21 TO 24, 1992)	iii
1.1	SUMMARY OF TRAINEE COURSE EVALUATIONS AT LIVERMORE	1.1
1.2	NUMERIC RATINGS	1.1
1.3	WRITTEN COMMENTS	1.4
1.4	EXAMINATION RESULTS	1.4
	APPENDIX A - EVALUATION COMMENTS	A.1
	APPENDIX B - TRAINEE EVALUATION FORM	B.1

1.1 SUMMARY OF TRAINEE COURSE EVALUATION AT SANDIA

This course was conducted at Sandia National Laboratory, in Livermore, California, April 21-24, 1992. Tommye Wright, and Troy Corbin presented the course to twelve Sandia National Laboratory, Lawrence Livermore and Lawrence Berkeley personnel.

1.2 NUMERIC RATINGS

Twelve trainees completed a course evaluation form upon finishing the course. 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 fifteen 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) anchored to "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 - 3.92
2. Gained a greater understanding of safety liability, hazard recognition, hazard evaluation and hazard control.
Average Class Rating - 4.25
3. Gained factual knowledge about health and safety issues and procedures (terminology, classifications, regulations).
Average Class Rating - 4.25
4. Learned fundamental principles, generalizations, and theories.
Average Class Rating - 3.92
5. Can use the course materials to improve thinking, problem-solving, and decision-making of supervisory health and safety work.
Average Class Rating - 4.33

6. Would recommend this course to others.

Average Class Rating - 4.33

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

Average Class Rating - 4.42

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 4.18. This high rating reinforces the applicability of the course content to the trainees' interests and work environments.

Low class attendance was again a problem. In spite of twenty-five people enrolled in class, and invitation to Lawrence Berkeley Laboratory, Lawrence Livermore Laboratory, and Sandia Livermore National Laboratory, only twelve people attended the class.

The third rating area asked the respondents to rate the value of each of the fifteen 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	INSTRUCT	CONTENT
Tommye Wright	Introduction to DOE Safety and Health Program	4.00	3.83
Tommye Wright	Safety Responsibility	4.00	3.83
Troy Corbin	Electrical Hazards	4.08	4.08
Troy Corbin	Fire Hazards	4.08	3.92
Tommye Wright	Material Handling and Storage	4.08	3.83
Tommye Wright	Physical Hazards	3.92	3.67
Troy Corbin	Chemical Hazards	4.00	3.75
Troy Corbin	Confined Space Hazards	4.33	4.00
Tommye Wright	Hazard Communication	3.92	3.75
Troy Corbin	Hand and Portable Power Tools	4.00	4.00
Tommye Wright	Machine Safeguards	4.00	4.00
Troy Corbin	Inspections and Investigations	4.08	3.92
Tommye Wright	Job Safety Analysis	3.92	3.92
Troy Corbin	Measurement and Testing	4.08	3.75
Troy Corbin	Hazard Reduction and Elimination	4.25	3.83

The overall average class rating for specific topic content was 3.87. The overall average class rating for the instructors in general was 4.05. The average instructor rating for Tommye Wright was 3.98 and the average instructor rating for Troy Corbin was 4.11.

1.3 WRITTEN COMMENTS

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

1.4 EXAMINATION RESULTS

On the last day of the course, a final examination was administered to twelve attendees. There were 25 questions including 16 multiple choice questions and 9 questions that required the trainees to list the appropriate answers. The scores ranged from 64% to 96% with the average score being 82.33%. Eleven persons successfully completed the class.

APPENDIX A

EVALUATION COMMENTS

"SUPERVISORS' ORIENTATION TO OCCUPATIONAL SAFETY IN DOE"

APRIL 21, 1992 - APRIL 24, 1992

LIVERMORE, CA (SANDIA NATIONAL LABORATORY)

APPENDIX A

TRAINEE EVALUATION RESPONSES

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

APRIL 21-24, 1992--LIVERMORE, CA

SANDIA NATIONAL LABORATORY

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

They were met.

Learned how to find items in the regulations.

Proposed new OSHA standards (i.e., confined space).

I am new to this world of OSHA and compliance and needed a good overview. This was an excellent course for me to take.

Okay, but what about CA-OSHA?

Were never asked our expectations of this course.

Improved my thinking of safer work places.

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

How to use the OSHA codes.

Confined space.

Chemical.

The most valuable thing is learning to find codes in the book.

Overview of legal relationship between DOE and OSHA.

All were beneficial. Looking up the codes of deficiencies was a useful exercise.

Reading regs. Confined space. Regulations on health problems.

The least helpful things discussed or done were:

Fire safety.

When in California talk about CA-OSHA. This is a classic DOE problem - who is our regulator? Many federal laws just don't apply in California, but courses teach us federal laws.

None.

Measurement and testing.

More emphasis should be given to:

Following course material, less problems for the students.

Good emphasis on all levels.

Hazardous materials. We are R&D labs, we have lots of chemical hazards.

Positive observations, inspection techniques, hazard control.

Less emphasis should be given to:

Topics not encountered at a specific facility.

None.

What specific suggestions do you have for improving future sessions?

Longer class.

I found it helpful when the slides were referred to during the talks. There were times when I lost touch with where we were in relationship to the printed material. Troy was better at this than Tommy. I like to put my notes near the slides.

Get the book and slides coordinated. Many slides were shown that weren't in the book.

More examples by pictures or slides.

Handout inspection checklist. Share more actual experiences. Ask class if any more questions during your presentation.

Other materials to supplement or substitute for the provided handouts?

CA-OSHA books could be used.

More references listing.

Daily schedule/timing of activities, worktime?

Excellent

OK.

We put the class together very quickly but instructors were very understanding to previous commitments.

Needs to be off-site.

Facilities/training room arrangements?

Good.

Very good.

Fine.

OK.

Very good.

What other types of safety training courses would you like to see available?
Inspection conduct of operations.

Any further comments?

Instructors were great.

Both instructors were knowledgeable and had good illustrations. They quickly acquired rapport with the class.

Thanks.

Keep up the good work, I enjoyed you both.

APPENDIX B

TRAINEE EVALUATION FORM

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

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

DISTRIBUTION

PNL-8315
UC-900

No. of
Copies

No. of
Copies

OFFSITE

ONSITE

12 DOE/Office of Scientific and
Technical Information

DOE Richland Field Office

P. W. Kruger

R. E. Gibbs
Office of Safety and Quality
Programs
U.S. Department of Energy
19901 Germantown Rd.
Germantown, MD 20874

13 Pacific Northwest Laboratory

H. N. Bowers
T. S. Wright
M. A. Leckband (5)
Publishing Coordination
Technical Report Files (5)

G. R. Florczak
U.S. Department of Energy
EH-31.2
19901 Germantown Rd.
Germantown, MD 20874

T.D. Corbin
Marine and Environmental
Testing
P.O. Box 5693
Portland, OR 97228-5693

END

DATE
FILMED

10 / 23 / 92

1

1