**Evaluation of S-101 Course
"Supervisors' Orientation to
Occupational Safety in DOE"
Taught at Rocky Flats, Colorado
April 23 - May 2, 1991**

R. W. Vinther

July 1991

**Prepared for the
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EVALUATION OF S-101 COURSE
"SUPERVISORS' ORIENTATION TO
OCCUPATIONAL SAFETY IN DOE"
TAUGHT AT ROCKY FLATS, COLORADO
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Richland, Washington 99352

SUMMARY

This report summarizes trainee evaluations for the DOE Safety Training Institute's course, "Supervisors' Orientation to Occupational Safety in DOE", which was conducted twice at the Rocky Flats facility between April 23, 1991 and May 2, 1991.

The first part of the report summarizes the quantitative course evaluations that trainees provided upon completion of the course and provides a transcript of the trainees' written comments in Appendices A and B. The second part summarizes results from the final examination designed to measure the knowledge gained from the course. The third part of the report summarizes course modifications and recommendations for improvement.

Numeric course ratings were generally positive and show that the course material and instruction was 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 appropriate knowledge from the course.

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1.0 SUMMARY OF TRAINEE COURSE EVALUATIONS

1.1 APRIL 23 COURSE ADMINISTRATION, ROCKY FLATS

This course was conducted at the Rocky Flats facility in Golden, Colorado. Two instructors presented the course to seventeen (17) employees.

1.1.1 Numeric Ratings

Seventeen (17) trainees completed a course evaluation form upon finishing the course. The first rating area of the form covered seven (7) items dealing with course content; the second rating area covered three (3) items dealing with testing materials; and the third rating area covered fifteen (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) and anchored to "strongly disagree" and 5 (high) anchored to "strongly agree". The ratings are as follows:

COURSE CONTENT RATINGS

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

Average Class Rating - 4.27

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

Average Class Rating - 4.27

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

Average Class Rating - 4.31

4. Learned fundamental principles, generalizations, and theories.

Average Class Rating - 3.94

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

Average Class Rating - 3.94

6. Would recommend this course to others.

Average Class Rating - 3.94

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

Average Class Rating - 4.25

The average class rating for the course content area was 4.13. This high rating reinforces the applicability of the course content to the trainees' interests and work environments.

TESTING MATERIALS

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

Average Class Rating - 4.20

2. The final test (and pre-test) thoroughly covered materials and instruction presented in the course.

Average Class Rating - 4.13

3. The final test (and pre-test) should become a permanent part of this course.

Average Class Rating - 4.20

The average class rating for the testing material was 4.18. Trainees felt that the testing material was applicable and a good measure of what was presented.

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:

TOPIC AREA RATINGS

	<u>Topic Area</u>	<u>Content</u>	<u>Instructor</u>
1.	Introduction to DOE Safety and Health Program	3.71	4.33
2.	Safety Responsibility	4.33	4.33
3.	Electrical Hazards	3.67	3.00
4.	Fire Hazards	4.17	4.00
5.	Materials Handling and Storage	4.33	4.50
6.	Physical Hazards	3.80	3.60
7.	Chemical Hazards	3.60	3.67
8.	Confined Space Hazards	3.83	3.83
9.	Hazard Communication	3.83	3.83
10.	Hand and Portable Power Tools	4.33	4.33
11.	Machine Safeguards	3.33	3.83
12.	Inspections and Investigations	4.00	3.86
13.	Job Safety Analysis	3.50	3.50
14.	Measurement and Testing	4.20	4.20
15.	Hazard Reduction and Elimination	4.75	3.60

The overall average class rating for specific topic content was 3.96. The overall average class rating for the instructors in general was 3.89.

1.1.2 Written Comments

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

Expectations

Some of the trainees indicated that they did not know what to expect from the course. Expectations on 29 CFR 1910 coverage varied from those who felt an overview of the CFR would have been adequate to those who felt that more detail should have been given to all sections of 1910.

Most helpful topics

Student exercises were found to be helpful as well as topics covering inspections, investigations, JSAs, and use of regulations.

Least helpful topics

Some comments were made implying that too much detail was given to the 29 CFR 1910 regulations and that a general overview would have sufficed.

Suggestions for improvement

Student handouts should be more consistent with the material presented by the instructors.

Other types of training courses

Nuclear Safety, confined spaces, inspections, and investigations were indicated as other desired safety courses that trainees would like to see made available.

Other comments

Some trainees indicated that the course needed to be better organized--having clearer objectives which students can follow.

1.1.3 Final Examination Results

Twenty (20) trainees took a twenty-five (25) question final examination. There were thirteen (13) multiple choice questions, five (5) true-false questions, and seven (7) questions that required the trainees to list the appropriate answers. In addition to the basic twenty-five (25) questions, three bonus questions asking for listings provided students the opportunity for extra credit. The scores ranged from 80% to 100% with the average score being 95.4%.

1.2 APRIL 29 COURSE ADMINISTRATION, ROCKY FLATS

This course was conducted at the Rocky Flats facility in Golden, Colorado. Two instructors presented the course to seventeen (17) employees.

1.2.1 Numeric Ratings

Seventeen (17) trainees completed a course evaluation form upon finishing the course. The first rating area of the form covered seven (7) items dealing with course content; the second rating area covered three (3) items dealing with testing materials; and the third rating area covered fifteen (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) and anchored to "strongly disagree" and 5 (high) anchored to "strongly agree". The ratings are as follows:

COURSE CONTENT RATINGS

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

Average Class Rating - 4.53

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

Average Class Rating - 4.53

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

Average Class Rating - 4.47

4. Learned fundamental principles, generalizations, and theories.

Average Class Rating - 4.24

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

Average Class Rating - 4.41

6. Would recommend this course to others.

Average Class Rating - 4.41

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

Average Class Rating - 4.41

The average class rating for the course content area was 4.42. This high rating reinforces the applicability of the course content to the trainees' interests and work environments.

TESTING MATERIALS

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

Average Class Rating - 4.38

2. The final test (and pre-test) thoroughly covered materials and instruction presented in the course.

Average Class Rating - 4.38

3. The final test (and pre-test) should become a permanent part of this course.

Average Class Rating - 4.38

The average class rating for the testing material was 4.38. Trainees felt that the testing material was applicable and a good measure of what was presented.

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:

TOPIC AREA RATINGS

	<u>Topic Area</u>	<u>Content</u>	<u>Instructor</u>
1.	Introduction to DOE Safety and Health Program	3.41	3.93
2.	Safety Responsibility	3.94	4.13
3.	Electrical Hazards	4.13	4.13
4.	Fire Hazards	4.06	4.13
5.	Materials Handling and Storage	3.71	3.81
6.	Physical Hazards	3.80	4.14
7.	Chemical Hazards	4.00	4.00
8.	Confined Space Hazards	3.82	4.00
9.	Hazard Communication	4.00	4.27
10.	Hand and Portable Power Tools	4.19	4.20
11.	Machine Safeguards	3.67	4.06
12.	Inspections and Investigations	3.82	4.19
13.	Job Safety Analysis	3.88	4.06
14.	Measurement and Testing	3.83	4.25
15.	Hazard Reduction and Elimination	4.00	4.31

The overall average class rating for specific topic content was 3.88. The overall average class rating for the instructors in general was 4.11.

1.2.2 Written Comments

After providing numeric course evaluations, participants provided written comments about the course. Written comments were transcribed and are presented in their entirety in Appendix B and are summarized below.

Expectations

Several trainees expressed that their expectations of the course were exceeded. Some expressed that the course was more detailed than they had expected.

Most helpful topics

Use of continually referring to the Code of Federal Regulations was often mentioned as a helpful.

Least helpful topics

Organization of the student notebook was noted by some (not all) trainees as poor.

Suggestions for improvement

Many trainees would have appreciated tabs/dividers in the manuals. The training room was considered too crowded by many trainees. Some actually called it a safety hazard. There needs to be emphasis on site coordinators providing good training facilities.

Other types of training courses

Upper management courses, implementation of Hazard Communications in the workplace, inspections were some of the training that trainees would like to see made available.

Other comments

Course objectives were not always followed and in some cases not covered at all. Instructors were viewed as knowledgeable and very good at presenting material. Overall comments varied widely. Some felt that there was too much emphasis on the OSHA regulations and not enough on the types of programs and activities needed to successfully implement safety in the workplace. Others felt that the strong emphasis on specific regulations was very beneficial.

1.2.3 Final Examination Results

Seventeen (17) trainees took the twenty-five (25) question final examination. There were thirteen (13) multiple choice questions, five (5) true-false questions, and seven (7) questions that required the trainees to list

the appropriate answers. In addition to the basic twenty-five (25) questions, three bonus questions asking for listings provided students the opportunity for extra credit. The scores ranged from 80% to 100% with the average score being 95.3%.

2.0 SUMMARY OF COURSES

2.1 NUMERIC RATINGS

Numeric course ratings provided by trainees were generally positive and show that the course material and instruction was very effective.

The first week's average class ratings for individual questions associated with the applicability of course content ranged from 3.94 to 4.31. The overall average class rating for the course content area was 4.13. The second week's average class ratings for individual questions associated with the applicability of course content ranged from 4.23 to 4.53. The overall average class rating for the course content area was 4.42. These high rating reinforce the applicability of the course content to the trainees' interests and work environments.

The first week's average class ratings for individual statements concerning the effectiveness of the testing materials ranged from 4.13 to 4.20 with an overall average of 4.18. The second week's average class ratings for individual statements concerning the effectiveness of the testing materials were all 4.38. In general, trainees felt that the examinations were applicable and an adequate measure of what was presented in the class.

Specific topic areas in the first week's course were rated as to the value of content as well as the value of instructor ability. Average class ratings for specific topic area content ranged from 3.33 (Machine Safeguards) to 4.75 (Hazard Reduction/Elimination). The overall average class rating for topic content was 3.96.

The average class ratings for instructor ability ranged from 3.00 (Electrical Hazards) to 4.50 (in the area of Material Handling). The overall average class rating for the instructors was 3.89.

In the second week's course, average class ratings for specific topic area content ranged from 3.41 (Intro to S&H program) to 4.19 (Hand & Portable Tools). The overall average class rating for topic content was 3.88.

The average class ratings for instructor ability ranged from 3.81 (Material Handling) to 4.31 (in the area of Hazard Reduction/Elimination). The overall average class rating for the instructors was 4.11.

2.2 WRITTEN COMMENTS

Training materials presented and knowledge gained by the trainees exceeded most of the students' expectations of the course. Trainees felt that the class was interesting, applicable to their needs and was well worth the time and effort. Most would recommend this course to others who needed an orientation to the basic hazards in the workplace. Written comments supported the positive numeric ratings.

2.3 FINAL EXAMINATION RESULTS

Examination results indicated that maintaining similar tests in the future would be a good measure of the effectiveness of the training course.

3.0 RECOMMENDATIONS/PROPOSED COURSE MODIFICATIONS

The courses were viewed as successful by trainees as well as by the instructors.

All numeric average class ratings for course content were 3.33 (Machine Safeguards) or higher. The average class ratings that were under 4.00 indicate that improvements could be made in those topic areas which are listed below:

April 23rd Course
Introduction to S&H Programs
Machine Safeguards
Electrical Hazards
JSA
Confined Spaces
Hazard Communication

April 29th Course
Introduction to S&H Programs
Safety Responsibility
Material Handling
Machine Safeguards
Physical Hazards
Confined Spaces
Inspections/Investigations
JSA
Measuring and Testing

Trainee evaluations and verbal feedback indicate that additional courses should be considered for development by the Safety Training Institute in the following areas:

Nuclear Safety
Confined spaces
Inspections/Investigations
Upper management courses
Implementation of Hazard Communications in the workplace

APPENDIX A

TRAINEE EVALUATION COMMENTS - APRIL 23, 1991

APPENDIX A

TRAINEE EVALUATION COMMENTS - APRIL 23, 1991

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

Question is tough to answer due to lack of background on class. I had no feeling of what the class included.

Fairly open as to what should be covered, tough to make an opinion.

My expectations were much different. Information presented was much too specific in many areas, rather than being general with specific examples.

Material applied to what the course title eluded to.

I expected an overview of the CFR and instruction on how to use it, where to go for help who to contact, tiger team findings, probable weak areas etc.

Basic understanding of how to apply safety to the work place.

Sections of 1910 were covered while others were never mentioned should cover all subparts of 1910.

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

Exercise looking for standards covering list of violations was great.

Power tool and other machinery safety standards

Safety responsibility, use of the CFR regs

Chemical Hazards, inspections and investigations and JSA's

The least helpful things discussed or done were:

Talk on Ladder Safety too long. Please remember I took the class the first week.

Too much emphasis on regular #'s in the CFR

Too much emphasis on details of electrical hazards and machine safeguards. Although this is good information, it did not apply to me for my work responsibilities.

Going through 29 CFR 1910 section by section, an overview would have sufficed.

Introduction to DOE

Instructor did not have updates answers to question sheet handed out as homework.

Given that I expected an overview of the CFR, too much time was spent on specific sections.

What I had hoped would be covered but wasn't mentioned was:

More on Hazardous Materials; Chemical Procedures

More specifics to Rocky Flats procedures would be nice, but may not fit your course objectives. Frequent, repeat findings, in other DOE facilities

1910.120

What specific suggestions do you have for improving future sessions?

Number pages, index, student guide in same sequence as instruction.

Better organization, better materials for students

Student handouts/workbooks which cover the information that is only outlined in the samples of overheads (many of which were neither presented or discussed

Divider for binder

Get rid of material that is not important to a supervisor's understanding of occupational safety. Put tabs and labels on sections and page numbers.

Put tabs on notebook divisions - need page numbers, more site specific, more handouts on work with the CFR

Class control needs improvement. Several times I was distracted from instructor by unrelated student discussions

What the participants might do?

Contribute more

More participating work sessions involving working with CFRs

Study harder and get more involved in classroom discussions

Other materials to supplement or substitute for the provided handouts?

Training materials were good - The standards and regs will be great aid to all participants.

The workbooks were worthless

Accident reports, descriptions of incidents and accidents at other facilities

Book was not designed well, should have objectives & references, copies of overheads which are not shown are of little value

Reference Sup. Safety Manual more for administrative things. Copies of DOE orders

Daily schedule/timing of activities, worktime?

Shorter presentations, more breaks, lectures, presentations more interspersed with

5 day classes

Facilities/training room arrangements?

Could have been better

OK, could possibly have more room, but adequate

Need an area with more electrical outlets and arranged better for more visibility

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

You could check on the OSHA confined space. I feel too little is done in this area.

Course in the Nuclear Safety Area

More indepth inspection and investigation. H&S Training RFP Policies

Any further comments?

Knowledgeable instructors, just need to get

Course needs to be organized much better and have clear objectives which students can follow. From the aspects of training, the course had poor objectives, organization, and frequent errors, although course content was generally adequate.

I think the class would be for all employees

Aim toward supervisory areas. Not all supervisors need 4 days worth since they do not work in this area.

Establishing course objectives upfront is very important. It will help maintain the focus of the course and guide the effort of students study. I don't think that the instruction was related to the objectives most of the time.

A large amount of this material should be added to the existing 400SHA course (i.e.,) Introduction to CFR.

Your high tech is nice for your overheads, but hard copies would have allowed you more freedom to chose.

INSTRUCTORS: Well versed in subject matter, difficulty using student guide material and overheads.

Handled difficult "stories" in positive, uplifting manner

Need a course description and table of contents for workbook, also need an agenda so participants can predict what content will be covered and what he/she will miss if needed.

As a manager, this will serve as a great tool. It's the first time I've really been exposed to OSHA code book; handouts will be invaluable, for a person never having handouts.

APPENDIX B

TRAINEE EVALUATION COMMENTS - APRIL 29, 1991

APPENDIX B

TRAINEE EVALUATION COMMENTS - APRIL 29, 1991

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

All my expectations of this course were met and surpassed.

I had no concrete expectations concerning the course. I have taken so much training recently that I did not investigate the content for this course.

I didn't know what to expect initially, but I'm glad I was able to attend this class.

This course has enhanced my knowledge of safety in the work place.

I had no expectations: the class is mandatory. First session of class should focus on DOE (Watkins) emphasis on safety culture, why it is important, and what supervisors' responsibilities are toward achieving culture attitude changes. Also, we need to bring in senior lead GOCO management to reinforce importance at some point of training.

It would be helpful to have tabs in notebook.

I had no idea what materials would be covered in the course so expectations were not considered.

I wanted it to be helpful for work area applications and it was!

I wasn't expecting so much on regs.

Just came to see -- had no expectations.

This was exactly the course I had been looking for to facilitate resolution of reported safety concerns under my jurisdiction.

This course is far more detailed than I expected.

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

Responsibilities.

All areas were helpful.

Confined space -- HAZCOM.

Time spent in books.

Aberdeen tape interesting. "Charts on the wall" were good training methods. The 40 Hazard Violations we looked up in regs were good.

Introduction to use of code of federal regulations.

How to use the CFR. Worksheet.

Regulation reviews in book.

The simple tool of highlighting regs to speed up deciphering was an obvious tip (overlooked by myself) that will save hours in the future.

Use of CFR and worksheets. Video and slides good. Hazard evaluation worksheet helpful. Donuts.

Regs.

The regs. How to highlight. Practical exercises.

Proper use of CFR manuals.

Using the CFR book and learning how to mark it.

The least helpful things discussed or done were:

N/A

Some areas in the CFR were covered with too much detail. This time could have been used more effectively/efficiently on more applicable topics.

Ladders, movie Ernie.

Confined spaces.

The manual is poorly written and organized. "Slides" are incomplete and may lead to misinterpretation. Most slides are not used in discussion. I suggest trashing the book. Slides, hard copies used in text.

Safety films.

Put tabs on sections and page numbers.

Workbook does not have pages numbered and there are no tabs.

For me -- constant work with 1910.

Record keeping guidelines. Recommend presenting how OSHA reporting is to be assimilated by DOE occurrence reporting requirements or vice versa. (DOE order 5000.3A of ORPS).

Too many overopinionated persons within this class.

What I had hoped would be covered but wasn't mentioned was:

N/A.

Would have liked to see more examples of contradictions in the CFR and also discuss training requirements.

N/A.

More attention needs to be placed on supervisory responsibilities. Also, add stuff on DOE emphasis, and plant safety program and organization. Show supervisors how to affect change.

How to change workers and management's attitude towards safety.

Chemical safety handling.

Nothing.

Came in blank to see what was offered.

None.

Good course, nothing I can think of.

What specific suggestions do you have for improving future sessions?

Not letting the pupils give specific events of this facility overrun the objectives of the class.

Provide plant specific examples, i.e., how given OSHA regulations are satisfied through compliance with local Health and Safety Practices and Procedures, and where they (OSHA regs) are not. Given the local HSP Manual -cross reference plant specific policies and procedures with OSHA regulations. This could be done as a group exercise for approximately one hour. This exercise could foster an appreciation for plant procedures as well as generate feedback to better align plant procedures to OSHA. Over time the NSA Manual could be in OSHA compliance.

Number or place tabs on workbook.

Spend less time in the CFR on Mechanical Equipment and Guards.
Instructors should use parallel standards. For example, Carl wanted specifics in CFR and Tommy was much more lax.

Spend more time in regulations. Use the OSHA Training Institute books for this training.

Concise, shorter direction, more intense. Expand hazard communication section to describe plants.

Could shorten a bit. Try an actual inspection.

Upper level management participation.

Number student handbook, tabs.

Spend less time going into details on the regulations -- too much reading of multiple regs.

Keep the handout on looking up and sighting the regulations. Very helpful.

What the participants might do?

N/A.

Great class participation.

More participation in class discussion.

I believe the class cannot be fully effective without participation of plant safety program instructors. They will take discussions on improvement from theoretical to practical.

Show up on time.

Have a more positive attitude to safety training.

Give feelings at beginning of class and at end of course then see the change in attitude.

Only give pertinent information to the course.

Other materials to supplement or substitute for the provided handouts?

More recent material.

Need tabs or page numbers.

Provide small post-it notes to mark pages in books. Punch holes in handouts or use notebooks with pockets. Use tabs for sections in student book.

Add tabs to sections for ease of reference. More up-to-date handouts need to be added to books.

Use the CFR. Trash the manual.

A list of "common" problems/violations and where they can be found in the CFR. This would be helpful for future reference.

Please put tabs in workbooks. Notebooks were well organized. Handouts were excellent.

Daily schedule/timing of activities, worktime?

Time was well budgeted.

OK.

Good schedule. Unsafe classroom.

Excellent.

Good.

My time is very short. Let's pack the training into efficient work days (7:30 - 3:45), with a half hour lunch. Not 8:00 - 3:30 with a one hour lunch. Also, reduce to a three-day course.

OK.

Very good.

Acceptable.

This training was very accommodating.

Good.

Facilities/training room arrangements?

Too crowded.

None.

Egress unsafe - only door at front of room. Most ignition sources in this area.

Fair.

OK.

Room was a safety violation (Poor aisle space, all electrical was at the only exit). As ALWAYS in 060 the hall phones are set to ring too loud.

Small and cramped.

Good.

Adequate.

Room needs to be evaluated for safety hazards, fire hazards, occupancy load, P.A. availability.

Building 060 needs more "public" telephones for use by non-residents of Building 060.

Building 060 always has bad classrooms. Not your fault.

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

Maybe one for the workers and higher managers.

Upper management courses.

Training courses for director, mid-level managers, and AGM level managers.

How to implement the Haz Communications in the workplace.

Need to have class walk through a building and do a short inspection.

JSA-AI maybe 1/2 day to day sessions. Maybe 5484X - SSDC 7 etc.

Unknown.

Any further comments?

Need tabs on different sections of workbook.

Put tabs in the trainee notebook. Not enough time spent working with Regulations. This should take a higher priority over OSHA - 40 hour Hazardous Waste Training requirements. It should be required. Commitment at the senior management level is strongly recommended. It might be helpful to set up an hour tour of an actual facility and allow group or groups to conduct an OSHA inspection. This could be helpful to

the class and the participatory facility supervisors as well. This would require adding field exercise to the curriculum.

Material/building - good objectives not covered in class - Chem Haz also done quickly. Would show examples of nip points, et al., maybe discuss safeguarding methods e.g., for robots - use of electronics if some of the objectives listed on slides, e.g., mat handling were expounded upon I think the useful info would be much more pertinent than continually flipping through 1910. Carl did a nice job on how to use the manual the first day - the rest was overkill. It's good for supervisor to have knowledge of 1910 but hopefully this won't lead them to make calls H&S should make. A repeated comment I get from General Employee Training is that about 25% of the GET Indus Safety is industrial and not for administration type jobs. The contractor could provide some statistical injury/cost data which could be worked in the discussions, e.g., why a maintenance machinist has more injuries than production machinists, causes of various categories within each class of injuries - be plant specific were possible. Most people aren't hands on.

I feel that the time spent in the books was the most beneficial time in the class. The instructors were outstanding and very helpful. All ALMs and CM and their direct reports should attend this class.

AGMs and supervisors should take a class like this - or similar - I think it should be mandatory. I prefer more discussion of overheads and less time on Regs. Actually increasing to a four full day class might accomplish this and that would be my first choice.

Off-color and sexist jokes have no place in a formal classroom.

Upper management needs training. We might find a violation, but management goes by plant trends and policies, not the CFR. The coordination between the instructors and EG&G could have been better in terms of having enough copies made, working the VCR, and general help. The EG&G contact (who was from PBT) did not follow plant policies very well: Instructions for completing rosters, stress, wearing badges, what there is to do for lunch, etc. I guess it was assumed that all of us work in the training building. The pictures of the different violations were great. Good job by instructors!

Better notification of class should be given, certification to OSHA for attending this course should be considered.

Spending sufficient time in regs.

Section I viewgraphs are incorrect as written. If workers/supervisors take to workplace, they will improperly interpret. Expand wordage to clarify. See #15, 19, 20. Should be "stand alone." Need book tabs. Ernie film is terrible. Not worth the time spent watching. Attitude of two instructors towards verbatim citation of regs is inconsistent. Instructor Wright occasionally accepts/determines incorrect or imprecise

responses to quizzes. Need to greatly expand Hazard communication portion to include description of RIP specific program. Description of RIP safety program and organization is needed. Course title is incorrect. What we learned is OSHA regs, what we did not learn is how DOE safety orders, plant safety programs, etc., relate to the OSHA regs. We know, for example, that in spite of the hype, many plant activities/equipment are in violation of OSHA. If we are in violation, then the violation infers unsafe working conditions. At the same time we (DOE) says we won't operate in unsafe conditions. So, apparently, HQ has concluded that phased implementation of OSHA is ok! Therefore, the course needs to convey HQ philosophy and description of integration with DOE Orders and plant safety programs. If not, course should be renamed, "Supervisor Introduction to OSHA."

Manual needs tabs. Useful to have exercises using the regulations. Excellent staff, especially T. Wright.

Instructors are very knowledgeable.

As a Radiological Protection Technologist in the United Steelworker Union, I recommend that all RPTs in the industry be required to take this course. The information I received from this will be very helpful to myself and others in the field. Very interesting class and the knowledge acquired is tremendous! RPT responsibilities are magnificent, a course such as this could make their job much more safe and understandable to complete the mission. Accountability would certainly increase in the workplace, on plant site, even in everyday normal life.

Great class! I liked the classroom exercise -- doing a checklist for your area. Just right amount of time in regs. But open to questions and interpretation. Please put tabs in book. Also, perhaps page number or section locations. Like the newspaper articles to demonstrate real life situations. Punch handouts to insert in notebook. Practice experience sure adds to the classroom experience. Job Safety Analysis - Practical exercise was fun and a good learning tool. I like the way you have the critique form broken down by subjects. The hazard violation search workshop was an excellent exercise. Sure enjoyed your class, made it fun, relaxing, and informative.

Tabs for the notebook sections would be helpful.

I enjoyed Tommye and Carl. They know their stuff! The class was informative. Hope to see more of these classes offered here. "Fill in the blank" tests are great!

APPENDIX C

TRAINEE EVALUATION FORM

TRAINEE EVALUATION FORM

Supervisors' Orientation to Occupational Safety in DOE

Date _____

Name _____

Title _____

Please list your major job duties. _____

What do you expect to gain from this course? _____

Briefly describe your safety training within the last three years. _____

Please evaluate various features of the course you have just completed. Your comments will be kept confidential. 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 as a supervisor 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
The final test (and pre-test) thoroughly covered materials and instruction presented in the course.	5	4	3	2	1
The final test (and pre-test) should become a permanent part of this 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	

Trainee Comments

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

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

The least helpful things discussed or done were: _____

What I had hoped would be covered but wasn't mentioned was: _____

What the participants might do? _____

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

Daily schedule/timing of activities, worktime? _____

Facilities/training room arrangements? _____

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

Any further comments?

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