

Battelle

Pacific Northwest National Laboratory

Training and Qualification

Self-Assessment Program Report

T&Q-00-6.2.4

**Hazard Communication Specialty Courses Training
Level III Evaluation**

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Executive Summary

The Management System owner for the Training and Qualification (T&Q) Management System conducted self-assessment T&Q-00-6.2.4, Hazard Communication Specialty Courses Training Evaluation, at the Pacific Northwest National Laboratory (Pacific Northwest). This self-assessment evaluated the effectiveness of *Hazard Communication: Solvents, Corrosives and Metals* training courses at Pacific Northwest.

Strengths

- Hazard Communication Program documentation is being maintained as defined in the training program.
- Feedback Surveys accompanying classroom indicate staff's satisfaction with Pacific Northwest's *Hazard Communication: Solvents, Corrosives and Metals* classroom training.
- Interviews with previously trained staff had a 97.3% satisfactory response to questions asked about the training program.

Recommendations

- No actions are required as a result of this evaluation.
- It is recommended that the Hazard Communication specialty course assessments be continued in a 3-year self-assessment cycle. This first year of the cycle assessed 3 Hazard Communication courses: Solvents, Corrosives, and Metals. The second year will assess three more Hazard Communication courses: Cleaning Agents, Solders and Paste Fluxes, and Cutting and Cooling Oils. The third year will assess three Hazard Communication courses: Paints, Pesticides and Fertilizers, and Bloodborne Pathogens, and then the 3-year assessment cycle will start over.

Conclusion

The results of this self-assessment activity provide a good baseline of training effectiveness, and results indicate that the training provided by the PNNL *Hazard Communication: Solvents, Corrosives, and Metals* training courses is being adequately retained and utilized at Pacific Northwest.

The assessment cycle will be continued, with year-two assessing three Hazard Communication specialty courses, and year-three assessing three Hazard Communication specialty courses, and then the three-year cycle will start over.

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1.0 Introduction

1.1 Purpose and Scope

This report presents a product of the Management System owner for Training and Qualification (T&Q) Self-Assessment Program. This self-assessment evaluates the effectiveness of *Hazard Communication: Solvents, Corrosives, and Metals* training at the Pacific Northwest National Laboratory (Pacific Northwest).

1.2 Evaluation Process

The self-assessment was conducted as follows:

- Phase 1 Review any Hazard Communication violations regarding solvents, corrosives or hazardous metals at Pacific Northwest during the past year.
- Phase 2 Review Kirkpatrick level 1 evaluations (feedback surveys) to determine customer acceptance. Conduct Kirkpatrick level 3 training evaluations of 30% or more of the currently trained Hazard Communication: Solvents, Corrosives, and Metals trained staff to determine their knowledge of Pacific Northwest's Hazard Communication Program in those areas.

2.0 Review Summaries

2.1 Phase 1 Outcomes

2.1.1 A review of Off-Normal Events and of Assessment Tracking System (ATS) items at Pacific Northwest during the past year (this phase was conducted in August 2000) did not find any Hazard Communication violations in the areas of solvents, corrosives or hazardous metals:

- The Off-Normal Events Coordinator is Roger Pollari and his search did not turn up any findings/violations in the 1999 – 2000 time period up through August 2000.
- The ATS Administrator for T&Q is Barb Allen and her search did not turn up any findings/violations in the 1999 – 2000 time period up through August 2000.

2.1.2 Classroom Feedback Surveys are obtained on a voluntary, anonymous basis from Pacific Northwest staff upon completion of the Hazard Communication specialty courses classrooms, to obtain recommendations for improving the courses. These feedback surveys indicate overwhelming acceptance of the courses' content and delivery.

2.2 Phase 2 Outcomes

To support this activity a survey form was prepared to provide a consistent questioning tool. The contents of the form were based on known knowledge objectives from the *Hazard Communication: Solvents, Corrosives, and Metals* training courses, Exhibit 2. The survey form consisted of two sections, **background information** and **questions**. A total of 24 Hazard Communication specialty courses-trained staff were surveyed, which represents approximately 30% of Pacific Northwest's Hazard Communication specialty course-trained staff (83 total).

2.2.1 The results of the **background information** section are as follows:

- 41 of the 83 total received Solvents training; 24 of the 83 total received Corrosives training and 18 of the 83 total received Metals training.
- Of the 24 questioned, there were 3 facility engineers (Marine Sciences Laboratory), 3 truck drivers (teamsters), and 18 crafts.
- The frequency with which solvents, corrosives, or hazardous metals are dealt with in the course of work of the 24 questioned staff are: **Solvents:** Daily - 3, Weekly - 2, Monthly - 5, Quarterly - 1, Infrequently - 1. **Corrosives:** Never (they train to be ready) - 1, Weekly - 1, Quarterly - 1, Infrequently - 4. **Metals:** Monthly - 2, Quarterly - 2, Infrequently - 1.

2.2.2 The **questions** section contained 3 questions per training course (three questions for Solvents, three questions for Corrosives, three questions for Metals) with the answers

graded as Satisfactory or Unsatisfactory. Of the 72 questions asked, 1 unsat response was received which represents a 97.3% satisfactory response performance. Although no response performance goal was set, 97.3% certainly represents an acceptable level. A breakdown of the individual question outcomes follows:

SOLVENTS:

- Question 1 – What is one thing a person can do for safety to protect skin or eyes when working with solvents? (Everyone answered this question correct, a 100% positive response performance.)
- Question 2 – TRUE OR FALSE. Solvents are so good at cleaning things, it is okay to use them regularly to clean your hands. (Everyone answered this question correct, a 100% positive response performance.)
- Question 3 – Contact dermatitis is caused by solvent exposures. Is it an example of acute or chronic exposure to solvents? (1 unsat response was received, a 97.2% positive response performance.)

CORROSIVES:

- Question 1 – Give one example of a chemical or product that might be labeled “CORROSIVE – Can cause severe burns”. (Everyone answered this question correct, a 100% positive response performance.)
- Question 2 – If some corrosive chemical gets splashed onto someone’s skin, what should be done immediately? (Everyone answered this question correct, a 100% positive response performance.)
- Question 3 – Name one safety measure a person can follow to protect themselves from contact with corrosives. (Everyone answered this question correct, a 100% positive response performance.)

METALS:

- Question 1 – There are several hazardous metals in the workplace; can you name one that was used or one that is still being used? (Everyone answered this question correct, a 100% positive response performance.)
- Question 2 - TRUE OR FALSE: A person who is handling lead bricks or handling lead solder could be exposed to lead just by eating food in that workplace. (Everyone answered this question correct, a 100% positive response performance.)
- Question 3 – Chronic Beryllium Disease can show up in a person years after that person was exposed. Would that be an example of an “acute” effect or a “chronic” effect? (Everyone answered this question correct, a 100% positive response performance.)

3.0 Conclusions

3.1 Strengths

- The Phase 1 review indicated that there were no training-related solvents or corrosives or hazardous metals violations or findings during the targeted review period
- Feedback surveys indicate Pacific Northwest staff satisfaction with the Hazard Communication: Solvents, Corrosives, and Metals training.
- Interviews with 24 (30%) of the Pacific Northwest Solvents, Corrosives, and Metals - trained staff revealed a high level of knowledge retention from the classroom. Three *Hazard Communication: Solvents, Corrosives, and Metals* training course objective-based questions were asked of each survey participant for a total of 72 questions asked, and a 97.3% satisfactory response performance was obtained.
- Of the 24 survey participants, 3 attended classroom 1 year ago (1999), 3 attended classroom 2 years ago (1998), 2 attended classroom 3 years ago (1997) and 16 attended 4 or more years ago.

3.2 Recommendations

- No actions are required as a result of this evaluation.

3.3 Assessment Cost (man-hours)

Manager, T&Q Department, Paul Weeks	1 hour
Lead Evaluator, Susan Nelson	25 hours

3.4 Future Self-Assessment Use

This self-assessment activity, Level III Evaluation of Hazard Communication: Solvents, Corrosives, and Metals Training, was conducted to provide the T&Q Department information relative to adequacy of Pacific Northwest's *Hazard Communication specialty courses* training program. The results indicate that the training provided is being adequately retained and utilized at Pacific Northwest. These self-assessment outcomes will be utilized for comparison during any subsequent similar self-assessment activities. It is recommended that this self-assessment activity be continued in a three-year cycle.

Exhibit 1 - Personnel Interviewed

Facility Engineers (Marine Sciences Lab)

Dave Erickson – Solvents only
Jim Coley – Solvents only
Martin Murray – Solvents only

Teamster/Truck Drivers

Ray Cox – Solvents only
Craig Nelson – Solvents only
Jeff Bumgarner – Solvents only

Crafts

Jim Sullivan – Corrosives only
Kurk Watts – Metals only
Scott Flannery – Solvents and Corrosives
Pat Coffey – Solvents and Corrosives
Don Hunter – Solvents, Corrosives, Metals
Greg Brodaczynski – Solvents, Corrosives, Metals
Heinz Schulz – Solvents, Corrosives, Metals
Jim Clark – Solvents, Corrosives, Metals

Exhibit 2 – HazCom: Solvents, Corrosives, Metals Training Survey Questionnaire

Assessment Number: T&Q-00-6.2.4

Name: _____ Date: _____

Organization: _____ Title: _____

Background Information

1. Which specific hazard did you receive training on:
Solvents _____ Corrosives _____ Metals _____
2. How often does your work involve these specific hazards (solvents, corrosives, metals)? _____
(Never, Infrequently, Once a year, Quarterly, Monthly, Weekly, Daily, other)

Questions

SOLVENTS		SAT	UNSAT	COMMENT(S)
1.	What is one thing a person can do for safety to protect skin or eyes when working with solvents?			
2.	TRUE or FALSE: Solvents are so good at cleaning things, it is okay to use them regularly to clean your hands.			
3.	Contact dermatitis is caused by solvent exposures. Is it an example of acute or chronic exposure to solvents?			

CORROSIVES		SAT	UNSAT	COMMENT(S)
1.	Give one example of a chemical or product that might be labeled "CORROSIVE – Can cause severe burns".			
2.	If some corrosive chemical gets splashed onto someone's skin, what should be done immediately?			
3.	Name one safety measure a person can follow to protect themselves from contact with corrosives.			

METALS		SAT	UNSAT	COMMENT(S)
1.	There are several hazardous metals in the workplace; can you name one that was used or one that is still being used?			
2.	TRUE or FALSE: A person who is handling lead bricks or handling lead solder could be exposed to lead just by eating food in that workplace.			
3.	Chronic Beryllium Disease can show up in a person years after that person was exposed. Would that be an example of an "acute" effect or a "chronic" effect?			

Evaluator: _____ Signature: _____