

Compliance Through Transportation Mentoring at Hanford

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INTRODUCTION

A Transportation and Packaging Safety Mentor effort, comprising personnel from the U.S. Department of Energy (DOE), Office of Environment, Safety and Health (EH), for the DOE Richland Operations Office (RL) Waste Management Division represents an innovative approach in which EH Mentors participate with line management from both DOE and management and operating (M&O) contractors to develop solutions to problems and provide assistance in implementing those solutions. Rather than identifying new or repetitive problems, EH Mentors provide one-on-one assistance to their customers (DOE line management and the M&O contractor). This approach allows the EH Mentor Team to use its collective experience to attain performance improvements. Mentoring activities are designed to minimize the impact on normal, daily facility activities.

BACKGROUND

Transportation and packaging safety includes ensuring safe movement of materials from their location of origin to their final destination. Packaging safety activities involve, but are not limited to, the following:

- classifying and describing the materials;
- using containers specified by the U.S. Department of Transportation (DOT), the Nuclear Regulatory Commission (NRC), or DOE;
- packaging the material in accordance with Federal and State regulations and approved procedures; and
- marking and labeling the packages.

Activities associated with the safety aspects of transportation include, but are not limited to:

- shipping practices,

- document preparation,
- the loading process,
- placards for transport vehicles,
- inspection of transport vehicles, and
- related training.

Transportation may be via highway, rail, water, air, pipeline, or a combination of modes.

Hazardous materials transported on- and off-site at Hanford include chlorine, acids, compressed gases, fuels, radioactive materials, and various other materials and hazardous wastes. In an average year, the Hanford Site handles 1,810 off-site shipments and 8,000 on-site shipments of hazardous materials, radioactive materials, and hazardous waste.

Maintenance of the transportation and packaging safety envelope as established by the authorization basis and the process that recognizes conditions that might compromise the safety envelope requires an effective process that monitors ongoing hazardous materials packaging and transportation activities at the facility.

SCOPED AND PLANNED ACTIVITIES

EH Mentors, working together with Solid Waste and Transportation Branch management personnel, developed and implemented a Transportation and Packaging (T&P) Safety Surveillance Guide (including a facility-specific surveillance module) to ensure that transportation and packaging activities are conducted safely and in accordance with Federal, State, and local regulations. Mentors provided one-on-one training to RL Facility Representatives in both discovering conditions that might compromise safety and taking appropriate actions to mitigate such conditions. The RL Assistant Manager for Waste Management recommended that the mentoring process begin at the K-Basin facility as a pilot program.

The scope of work in the initial contract was based on requirements emanating from staff and management concerns as specified in the Statement of Work. This report follows extensive data collection and an informal presentation of interview results. The purpose of this report is 1) to document data collection results and project findings; and 2) to recommend strategies and a plan of action based on those findings.

STATEMENT OF WORK

The RL Traffic Manager and the Mentor Assistance Team have identified the following four phases to develop and institute the facility specific transportation and packaging safety surveillance program at K-Basin.

Task 1-Initial Evaluation

The first phase of the assistance clearly identified the boundaries of the current Facility Representative Program, associated processes and responsibilities and authorities of the Facility Representatives. Activities included the following:

- o Interview facility and site personnel responsible for transportation and packaging,
- o Review the facility's transportation and packaging activities related to hazardous materials,
- o Identify and review facility's existing transportation and packaging safety programs and procedures,
- o Review current state of Facility Representative transportation and packaging surveillance program, and
- o Determine scope of facility's need to monitor transportation and packaging activities related to hazardous materials.

Task 2-Development of Facility Specific T&P Safety Surveillance Program

The second phase of the assistance establishes the foundation for transportation and packaging module of the Facility Representative Program. During this phase elements of the transportation and packaging module were established. Activities included the following:

- o Identify facility-specific hazardous materials transportation and packaging activities that can be applied to surveillance (taking a graded approach);
- o Develop lines of inquiries for selected transportation and packaging topics;
- o Develop surveillance plan, requirements, and schedule;
- o Establish transportation and packaging qualification criteria for inclusion in the Facility Representative qualification program; and
- o Develop transportation and packaging training and study material for the Facility Representatives.

Task 3-Program Training

The third step of the plan marked the start of the training of personnel responsible for transportation and packaging surveillance at the facility. The EH Mentors provided one-on-one training and assisted RL personnel in conducting surveillance using pre-developed line of inquiries.

Task 4-Maintenance and Followup

The final phase of the assistance consisted of fine-tuning the transportation and packaging module. Customer-provided suggestions and lessons learned during

the implementation process were incorporated into the final module.

CUSTOMIZED APPROACH

The customized project design was based on an integrated approach containing five key elements:

Focus on Outcomes

In addition to exploring existing perceptions regarding organizational issues concerning transportation and packaging, the project focused on identifying wanted outcomes.

"What do Facility Representatives desire to have when they have successfully implemented strategies resulting from this project? What will they be doing differently? What will they know and experience?"

Emphasis on Individual Responsibility for Team Outcomes

Establishing agreements helped articulate what was important to everyone, and what was required from everyone to achieve identified outcomes. Creating and keeping clear agreements was an integral part of the mentoring project.

Partnership Teams

The success of the project, during this contract period and beyond, is highly related to the level of participation, cooperation, and commitment of each player. The design included individual interviews to provide each employee with the opportunity to participate in the process and the creation of the final products.

Atmosphere of Trust and Empowerment

Because of the nature of the issues being addressed by this project, it was and is important to ensure everyone's safety, empowerment, and knowledge of ongoing activities. The design called for individual interviews to help encourage the open expression of feelings and thoughts concerning transportation and packaging at the K-Basins. Project updates from the Mentor Team were included in the design to keep communication channels open and assure that each employee was given the same information at the same time.

Ongoing Commitment

This contract period is complete with the deliverables for RL transportation and packaging delivered. To facilitate sustained commitment, the RL Facility Representatives will need to continue transportation and packaging refresher training at least every 2 years.

PROJECT DESIGN

The following major tasks were completed during the contract period.

1. Meetings with the Facility Representatives to determine outcomes and agreements.
2. Meetings with the Facility Representatives regarding:
 - agreements
 - outcomes
 - roles and communication strategy
 - interview logistics
 - training needed
3. Interviews with transportation and packaging personnel that work at K-Basins
4. Analysis and synthesis of results
5. Presentation of results
 - orally
 - formal written report

SUMMARY OF DATA COLLECTION RESULTS

The results of data collection are summarized below. Results are synthesized from interviews with transportation and packaging employees and Facility Representatives.

Results of Interviews

Current Reality

1. High quality services
2. Professional, highly qualified staff
3. Well-respected/outstanding/accomplishing mission
4. Many satisfied working relationships
5. Comfortable workplace/pleasant environment
6. Good communication with management
7. Fairness and respect from management
8. Opportunities for training
9. Compliance with management
10. Confident
11. Mature/experienced/understanding
12. Support from above and below

Needs Identified

1. Analysis of transportation and packaging programs
2. Analysis of barriers preventing radioactive waste shipments from the K-Basins
3. Analysis of Facility Representatives training needs
4. Transportation and packaging surveillance module

Context for Considering Findings

Understanding the context of a situation is paramount in understanding the situation. That is:

- retain what already works, as well as find and replace what is no longer working;
- recognize that the shift in transportation and packaging importance strongly correlates to the shift occurring around the DOE complex, and indeed around the country;
- focus on systems, creating flexible transportation and packaging structures and process; and
- achieve a balanced approach in assessing transportation and packaging operations.

Deliverables

Deliverables for RL mentoring plan were as follows:

- Facility-specific document describing T&P surveillance module. This was provided through the "Transportation and Packaging Safety Surveillance Guide." (EH-95-PAT-1, 1995)
- Facility personnel responsible for oversight of T&P activities will be trained in the T&P surveillance. It was determined that several courses at Hanford could be used for training. A list of courses that were available at Hanford was given to the K-Basins Facility Representatives.

During the mentoring effort, a request was made by the K-Basin Facility Representatives for additional deliverables. The following is a list of the radiological protection surveillance modules provided to the K-Basins Facility Representatives:

- Twenty-five radiological protection surveillance modules:
 1. Dosimetry - Dosimetry Counting Equipment
 2. Dosimetry - External Dosimetry
 3. Dosimetry - Internal Dosimetry
 4. Dosimetry - Nuclear Accident Dosimetry
 5. Instrumentation and Alarms - Area Radiation Monitoring Systems
 6. Instrumentation and Alarms - Contamination and Dose Rate Survey Instruments
 7. Instrumentation and Alarms - Effluent Monitoring and Sampling Systems
 8. Instrumentation and Alarms - Nuclear Accident Monitoring Systems
 9. Instrumentation and Alarms - Personnel and Property Surveys
 10. Instrumentation and Alarms - Room Air Monitoring and Sampling Systems
 11. Radioactive Contamination Control - Containment, Confinement, and Respirator Protection
 12. Radioactive Contamination Control - Protective Clothing and Laundry
 13. Radioactive Contamination Control - Routine Control Program
 14. Radiation Exposure Control - ALARA Concepts and Dose Limits

15. Radiation Exposure Control - Posting and Entry Control
 16. Radioactive Materials Control - Contaminated Equipment
 17. Radioactive Materials Control - Sealed Sources
 18. Radiation Work Control - Emergency Plans and Procedures
 19. Radiation Work Control - Planning, Scheduling, Briefing and Debriefing
 20. Radiation Work Control - Radiation Work Procedures and Practice
 21. Training - Emergency Response Training
 22. Training - HP Qualification Program
 23. Training - Radiation Worker Training
 24. Training - Respiratory Protection
 25. X-Ray and Source Radiography
- A list of all of the radioactive waste packages and packagings stored outside of the K-Basins, the quantities and descriptions, and the individual responsible for or a barrier to movement offsite. This was provided through the "Radwaste Inventory and Container Guide." (EH-95-PAT-2, 1995)

Cost

The cost for the T&P mentoring effort was covered by DOE, EH.

Customer Satisfaction Criteria

Successful completion of the activity requires long-term program performance and satisfaction of the customer: RL-WMD. Success can be measured objectively by the following criteria:

- o Approved RL facility-specific T&P module implemented and incorporated in the Facility Representative program.
- o Adequate resources are dedicated to the execution of T&P module.

Follow-up Activities

Since this prototype program started, four other facilities have been included in the T&P mentoring program at Hanford: B-Plant, T-Plant, 222S-Laboratory, and the Central Waste Complex. All of the programs at these facilities have been successfully completed. (EH-95-PAT-4, 1995)(EH-95-PAT-5, 1995)(EH-95-PAT-6, 1995)(EH-95-PAT-7, 1995)

CONCLUSION

The success of the prototype mentoring program at the K-Basins was demonstrated by the request for expanding the program to four additional facilities. After the completion of work at these four facilities, RL management requested additional

support from the T&P mentoring program for Hanford. Compliance with the applicable DOT, NRC, and DOE requirements was just one of the many benefits that was realized by this mentoring effort. Other benefits include a greater understanding of the operational problems experienced by RL and the M&O contractor, a stronger communication link between the DOE headquarters and field personnel, and improved utilization of packagings at the site. (EH-95-PAT-3, 1995) This type of mentoring program could be utilized by other government agencies for improvements in the public administration of transportation and packaging programs.

REFERENCES

Radwaste and Container Guide for 222S-Laboratory, EH-95-PAT-6, U.S. Department of Energy, EH-32, Washington, DC, August 23, 1995.

Radwaste and Container Guide for B-Plant, EH-95-PAT-5, U.S. Department of Energy, EH-32, Washington, DC, August 24, 1995.

Radwaste and Container Guide for Central Waste Complex, EH-95-PAT-7, U.S. Department of Energy, EH-32, Washington, DC, September 20, 1995.

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