

US EPA ARCHIVE DOCUMENT

*South Carolina Department of Health and Environmental Control
Incorporating EMS in Permitting Decisions
Grant # PI-83230301-0
Quarterly Report
January 1, 2006- March 31, 2006*

Overall Progress and Milestones Accomplished:

The Project Advisory Team did not meet during this quarter. Team members attended the trainings and participated in the site visits.

Training Activity

Two trainings were conducted during January 11&12, 2006

EMS 101: ½ day morning session is an overview of EMS and its role in regulatory programs and permitting. Dayco Products Environmental Manager participated as industry speaker and case study.

EMS in Permitting: Day and ½ is an in-depth review of the ISO 14001:2004 requirements in relation to requirements with RCRA, Air and NPDES permits. Three organizations (Charleston Air Force Base, Holcim and Dayco Products) environmental managers participated and joined the participants to give examples of how EMS works within their organization. Team exercises provided the group with in-knowledge of the EMS.

Training Evaluation:

Measuring the effectiveness of the two trainings was demonstrated through using a pre and post evaluation. Pre and post evaluations were comprised of the same questions (20) on the EMS 101 (25) on the EMS in Permitting training. All pre and post evaluations were numbered to match individual responses. The ability to review individual responses allowed the evaluators to analyze each question in order to determine if the question was clear and understood. Pre and post evaluations also included each DHEC Bureau listed at the top of the evaluation that participants marked in order to provide results based on the overall Bureau response. Pre-evaluations were handed to each participant, along with the training package, as they entered the classroom. Post evaluations were included in the back of the training packet for participants to fill out at the conclusion of the training. Directions were provided on the pre and post evaluations. Participants were provided three selections to choose in answering the questions, and were requested to answer the right answer to the questions, or to circle “Don’t Know” if they did not know the answer to the evaluation question. The pre-evaluations were handed in before the training started.

Post evaluations were completed at the conclusion of the training, and after questions were answered by the instructor. Each post evaluation was handed in by the participants before they left the classroom. For those taking the course at remote sites, the evaluations were given to a supervisor and the supervisor mailed the completed pre and post evaluations to Christine Steagall, project manager, at the DHEC Environmental Quality Control (EQC).

EMS Training Results:

EMS 101: 205 DHEC personnel registered for the training; 50 (Bureau of Air Quality), 47 (Bureau of Land and Waste Management) 40 (Bureau of Water) 10 (EQC Administration) 55 (Bureau of Environmental Services) and 3 (other) 201 attended the training and turned in pre and post evaluations.

Post evaluation results are based on 201 responses which showed an overall increase in correct responses of 14.7% with the highest increase in the Air Bureau with an 18% increase. All Bureaus, with the exception of EQC, increased correct responses by over 10%.

The percent change in “Don’t Know” (DK) answers demonstrates that the information provided during the training increased the knowledge of participants through an overall decrease in the DK category of 14.6% with the Air Bureau decreasing “DK” answers by 19.1%, followed by Environmental Services (17.6%).

According to the pre and post evaluation results, the questions were clear and understood by the participants. After analysis of the participant’s responses, it was found that two questions could have been confusing due to the question structure. Only 0.17% of the participants changed a pre-evaluation correct answer to a post-evaluation incorrect answer.

199 participants responded to the question, “How would you rate the EMS 101 training in assisting you in better understanding environmental management systems.” Results were: Excellent =**13.1%**, Good=60.9 %, Fair=25.1%, Poor=02.5%. Comments varied. In ratings of fair and poor several comments did not relate to the question on EMS understanding, but to the temperature of the room, seating, breaks. These responses are mentioned to emphasize the changes in incorrect to correct and the decrease of “Don’t Know” responses in the post test. An analysis of the pre and post test responses demonstrate that the participants did gain useful information that increased EMS awareness and provided knowledge that assisted in better understanding EMS and its role in Permitting.

EMS in Permitting Training: 29 participants attended the EMS in Permitting Training. 27 participants turned in a pre and post evaluation. 7 (Bureau of Air) 4 (Bureau of Environmental Services) 5 (EQC) 7 (Bureau of Land and Waste Mgt) 4 (Bureau of Water)

Post evaluations showed a 11.3% increase overall in the number of correct answers with the Water Bureau demonstrating the highest increase by 23%.

20 participants rated the training with Excellent (40%) Good (55%) Fair (1%). The EMS in Permitting training demonstrated that participants increased knowledge of EMS and the relationship to permitting. The organizations represented provided excellent examples of how the EMS criteria assisted in managing permit obligations.

Facilities Site Visits & Permit Reviews:

Site visits were scheduled with four organizations. Two of the four were chosen based on their membership in the South Carolina Environmental Excellence Program, and implementation of an EMS.

EMS types evaluated were built upon the structure of the ISO 14001:2004 EMS. However, each organization had modified the ISO 14001 EMS to fit the requirements of each headquarters/corporate office. Overall assessment results demonstrated that although each organization was compliance oriented and had a regulatory management system in place, the implementation of an EMS further assisted in tightening the compliance system function and enhancing documentation, communication channels, work instructions and compliance reviews. The site visit results also demonstrated that the EMS increased the roles and responsibilities of employees, contractors and suppliers. Comparison charts of the ISO 14001:2004 EMS Standard and permits, including RCRA, Air and NPDES permits were used as evaluation tools of each site visit. Comparisons of the permit requirements with the requirements of ISO 14001 showed similar management topics within the permits. (Attached) However, based on compliance requirements, areas such as corrective action were discussed in more detail within the regulation. The RCRA permit addressed more of the ISO 14001 elements than the water or air permits. Comparison of ISO 14001:2004 EMS and each permit will be discussed in more depth in the project final report. Further analysis of each organization will also be included in the final report.

The following organizations took part in the EMS in Permitting evaluation:

Charleston Air Force Base: EMS based on Air Force EMS criteria. Basic structure taken from the ISO 14001 EMS was modified to meet Air Force requirements.

Dayco Walterboro Plant: EMS based on ISO 14001:2004 Criteria. Dayco certified as an individual plant and created its own EMS based on location and plant product development.

Milliken Dewy Chemical Plant: EMS is based on RC14001, which an EMS is based on the Chemical Industry's Responsible Care Program integrated with the ISO 14001 EMS criteria.

Holcim Concrete Plant: EMS is corporate EMS based on ISO 14001. The Corporate Headquarters developed the EMS and provided guidelines, aspects ranking, etc. to each plant.

Project Outreach

Abstracts have been selected for presentations at the National Environmental Partnership Summit in May 2006, in Atlanta, GA., and at the annual MSWG Conference in Park City, UT., in June 2006.

Christine Steagall wrote an article on the project for the *Winter 2006 ECOStates Newsletter*.

Regular presentations and updates are provided to the DHEC Permitting Directors at their bi-monthly meetings.

Next Steps:

Identify and evaluate facilities EMS with their environmental performance measures.

Start identifying recommendations on the integration of EMS into permitting decisions.

Christine Steagall will be attending the Environmental Summit in May 2006 and presenting on this project.

Christine Steagall and Claire Prince will be attending the annual Multi-State Working Group Meeting in June 2006 and present on this project.

Next Quarterly Report: Reporting Period April 1, 2006 through June 30, 2006.

Submitted by:

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April 28, 2006