

## USC EMS Project Descriptions 1996-Present

The following descriptions of EMS projects do not include one day or less EMS training or courses created through the EMS program. There were several projects which only included an EMS presentation/training for organizations, which lasted one day or less. The list of projects below were continual projects through the EMS program. For example, for many of the projects, students and faculty received assistantships and funding for long-term contracts to complete implementation phases, training, or audits.

Also, included with these project descriptions is a mention of various universities in Europe, Africa, and South America, that the director of the program aligned with to create EMS training and courses, which included USC students receiving funds for travel, assistantships, and scholarships from the EMS program projects and university partnerships.

**Philips Electronics**, St. Andrews plant, Columbia: EMS Implementation—USC School of the Environment (SOE) students assisted in EMS GAP Analysis, training, and implementation of ISO 14001:1996 EMS program. Student assistantship in writing environmental management procedures and ISO 14001 procedures and ranking of aspects and impacts.

**Harrell Industries**, Rock Hill, SC: Integration of ISO 9001 Quality Management System (QMS) and ISO 14001 EMS. Students assisted EMS director in development of GAP Analysis, Action Plan for integration, training of personnel and integration of EMS requirements with the QMS requirements, e.g., training, documentation. Student teams conducted audits of implementation progress of Harrell Industries management team.

**Draexlmaier Automotive of America**, Spartanburg, SC: Student EMS teams provided training on ISO 14001 EMS implementation. EMS assistantship provided to SOE graduate student. Assisted in writing EMS procedures, completing environmental aspects and impacts analysis, and completed a cost/benefit analysis for presentation to management.

**Wentworth Printing Corporation**, Columbia, SC: Provided GAP Analysis and action plan to assist in implementation of 4.2 Aspects and Impacts. Worked with SC DHEC Waste Minimization department to complete analysis of environmental impacts, which included solutions to reduce chemical solvents in reducing environmental impacts. Awarded SC Governors Pollution Prevention Award for reducing hazardous waste as co/partner with SC DHEC Student team provided cost/benefit analysis for management.

**BMW Corporation**, Spartanburg, SC: Served as observer on BMW EMS development through BMW's Pollution Prevention team. Students participated in EMS audits and EMS report writing for management as well as attended BMW environmental department training by the BMW environmental manager.

**Charleston Wastewater Treatment Plant**, Charleston, SC: Assisted in EMS training, implementation, and audit of the wastewater facility. Provided precertification audit. USC graduate student provided assistantship for projected analysis of EMS implementation.

**Carolina Filters, Sumter SC:** Analysis of integration of ISO 9001 QMS and ISO 14001 EMS as part of Department of the Navy requirements for quality and environmental standards implementation in contract assessments. Faculty and students assisted in document reviews and writing updates, audits and discussions on cost/benefits of management systems integration.

**Naval Hospital Beaufort, Beaufort, SC:** Faculty and students worked with the hospital department of Public Works to implement the ISO 14001 EMS standard according to Navy Chief of Naval Operations and Executive Order 13148 on the implementation of EMS in U.S. Federal facilities. Faculty and Students completed GAP Analysis, Action Plan, training for all hospital personnel and units at the Marine Corps Air Station Beaufort and Marine Training Paris Island. Students provided assistantship and graduate student served on the hospital's pollution prevention committee.

**Marine Corps Air Station, Beaufort, SC:** Faculty and students assisted the station's facilities department in creating an EMS implementation template, EMS audits, documentation development, and training of facilities' personnel. Student assistantships provided as part of EMS implementation contractual agreement.

**Owens Corning, Duncan, SC:** Assisted in ISO 14001 EMS certification audit and report writing of audit findings. Provided recommendations for completing implementation procedures and training.

**SC Army National Guard and Air National Guard, Columbia, SC:** Faculty and students provided EMS training, GAP Analysis and Action Plan for personnel. Assisted in providing EMS audits based on the ISO 14001 implementation requirement at various facilities, e.g., training, maintenance, administration.

**Dorn Veterans Hospital, Columbia, SC:** Participated as member of the Dorn environmental committee in developing the structure of the EMS as integrated with the VA environmental management program. Students and faculty assisted facilities management in EMS implementation, waste collection data analysis, lab hazardous materials and hazardous waste audits. Assistantship provided for students in participating on audit teams and audit report reviews.

**Naval Shipyard, Washington, DC:** Provided 40 hour EMS lead auditor training for Naval Facilities Engineering Command (NAVFAC).

**University of South Carolina, Environmental, Health and Safety Department, Columbia, SC:** Faculty and Students participated in the EMS development committee for the EHS department. Assisted in writing documentation including EMS procedures and work instructions, completed EMS audits, training of personnel. Students participated in EMS audits and audit report development.

**Fort Jackson Army Base, Environmental Division, Columbia, SC:** Completed GAP Analysis and report to management on the implementation of EMS, provided EMS training based on ISO 14001 and EO 13148. Assisted in EMS audits with student teams. Created academic class with Environmental Division that was approved by the USC as an elective course which included an internship for students to learn about environmental management at military facilities.

**South Carolina Electric & Gas, Cope Plant, Columbia, SC:** Faculty and students participated in completing a GAP Analysis of the SCE&G Cope Plant and provided report to management to assist in ISO 14001 EMS implementation.

**Arvin Meritor Inc., Manning, SC:** Completed review of EMS documentation. EMS presentation and implementation of procedures. GAP Analysis and report to assist in EMS implementation.

**Zeuna Staerker USA, Spartanburg, SC:** Provided presentation of ISO 14001 EMS. Student teams participated in EMS audit and report writing. Input recommendations and assistance in management meetings on EMS development in the supply chain.

**Medical University of South Carolina, Health and Safety Department, Charleston, SC:** Completed GAP Analysis and Action Plan. Participated in Risk Management Committee meetings. Assisted in creation of Aspects and Impacts ranking assessment tool. Provided EMS auditor training for management and selected audit team members. Completed EMS audit and audit reports.

**Veteran's Hospital Administration Green Environmental Management Systems (VA GEMS), various locations.** Assisted in meetings and review of ISO 14001 EMS and the EO 13148 and VA environmental management programs. Provided training and audits of each hospital, which included reporting and recommendations. Faculty and students created the EMS integration plan for the VA GEMS program.

**Siemens Corporation, Columbia, SC:** Participated in EMS audit. Prepared audit plan and schedule with faculty and student participation as audit observers. Assisted in EMS analysis and reports including implementation recommendation.

**National Naval Hospital, Bethesda, MD:** Faculty served as EMS audit team leader with audit team members from NAVFAC. Completed EMS audit as required by the Bureau of Medicine and furnished reports to management.

**Fort Gordon, GA:** Worked through the Army Environmental Center to set up EMS training and implementation assistance. Provided 40 hour course on EMS implementation and auditing for Fort Gordon environmental division, including environmental contractors.

**Pillar Management Associates, Lexington, SC:** The Vice President of Pillar Management Associates partnered with the USC EMS program to develop an elective course on EMS implementation and auditing using the ISO 14001 EMS certification course. Pillar Management Associates provided course content, slides, and certificates in conjunction with the EMS program to assist students in learning more about the value of environmental management and the structure of an environmental management standard such as ISO 14001. Pillar Management Associates also assisted students in learning about the U.S. membership on the International Organization for Standardization (ISO) environmental management committee as well as the American National Standards Institute (ANSI).

**University Partnerships:** The USC EMS program faculty and students also served as partners in providing EMS courses and audit services to Universities in Denmark, Germany, Sweden, Netherlands, Spain, Ecuador, Morocco, Greece, and France.

**The EMS Summer School:** In 2002 a professor from the University of Siegen, Germany attended a presentation by the EMS Program director. The presentation formed the beginning of a partnership with an official Letter of Agreement to develop and provide an EMS course to USC and Siegen students. Additional universities joined the partnership, which included funding from all EMS partners to assist students in travel and lodging during EMS summer school courses.

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