

GARY W. CHILES, Ph.D.

SUMMARY OF EXPERIENCE

Dr. Chiles is the founding member and president of Federal Environmental Consulting LLC, a small business specializing in environmental management consulting based in Houston, Texas. Dr. Chiles has seventeen years of experience as an environmental professional helping clients improve environmental performance through planning, training, and assessments. His areas of expertise include environmental management systems (EMS), training development, pollution prevention, environmental compliance, and sustainability. He has conducted environmental assessments at over 100 facilities and trained over 4,000 people in his career.

EDUCATION

Ph.D., Chemistry, Columbia University, 1991.

M.Phil., Chemistry, Columbia University, 1990.

M.A., Chemistry, Columbia University, 1987.

B.A., Chemistry and Biochemistry, Rice University, 1986.

EMPLOYMENT HISTORY

January 2005 to present: Federal Environmental Consulting LLC.

May 2002 to December 2004: MWH Americas, Inc.

September 1991 to May 2002: Science Applications International Corporation (SAIC).

PROJECT EXPERIENCE

Environmental Management Systems

Environmental Management System Reviews for U.S. EPA

Dr. Chiles has conducted eleven environmental management system reviews (EMRs) for the U.S. EPA. The U.S. EPA Federal Facilities Enforcement Office (FFEO) sponsored the EMRs as part of a compliance assistance program. Dr. Chiles conducted the EMRs in accordance with the Code of Environmental Management Principles and ISO 14001. He conducted reviews of the Food and Drug Administration's National Center of Toxicological Research, the U.S. Department of Agriculture's Southern Plains Area office, the U.S.D.A. Knippling-Bushland Research Laboratory, and the Treasury Department's Bureau of Engraving and Printing Western Currency Facility. He conducted a review of the Operations Division of the Fort Worth District of the U.S. Army Corps of Engineers. He conducted reviews of Federal land management agencies such as the National Park Service and the Forest Service, at the Lyndon B. Johnson National Historical Park, the San Antonio Missions National Historical Park, the Padre Island National Seashore, and the Carson National Forest. He conducted an EMR at Tinker Air Force Base in Oklahoma and for the Texas National Guard. For these reviews, Dr. Chiles negotiated the ground rules for the EMR and helped coordinate the planning activities to prepare for the EMR. He reviewed the background information provided by the host facility prior to the site visit. Dr. Chiles conducted site visits and interviewed personnel to document current management practices and identify gaps. He prepared a preliminary summary of findings and briefed senior management at the end of the site visit. Dr. Chiles reviewed documents collected during the site visit to develop an understanding of management practices and procedures at the facilities. He prepared a written report for the EMR, which included specific recommendations on how to improve environmental management programs.

Environmental Management Systems Implementation for McAlester Army Ammunition Plant

Dr. Chiles managed and conducted the technical effort for a project to support the implementation of an environmental management system at the U.S. Army's McAlester Army Ammunition Plant (MCAAP). The purpose of the project was to meet Army and DoD EMS requirements. Dr. Chiles conducted an ISO 14001

gap analysis and prepared an EMS implementation plan for the installation. He developed and conducted EMS awareness training and trained the EMS cross-functional team. He prepared and delivered several briefings for the MCAAP Commander and Civilian Deputy on EMS implementation progress. He prepared the environmental aspects register for the installation. He prepared the core documentation for the MCAAP EMS manual and EMS procedures. He conducted implementation training for MCAAP employees and developed and delivered internal audit training for a group of ISO 9001 internal auditors at the installation. He conducted an internal audit of the installation with the assistance of the ISO 9001 internal auditors and prepared an audit report that formed the basis for a management review.

ISO 14001 Gap Analysis for U.S. Coast Guard Support Center Elizabeth City

Dr. Chiles served as the technical lead on a project to prepare an ISO 14001 gap analysis for the U.S. Coast Guard Support Center in Elizabeth City, North Carolina. The purpose of the gap analysis was to provide the Support Center with a list of strengths and recommendations for their environmental management practices. The Support Center will use the gap analysis report as the basis for implementing an ISO 14001-based environmental management system as required by Executive Order 13148 and the Coast Guard Commandant's Environmental Stewardship Challenge. Dr. Chiles worked with the host facility to prepare an agenda and scope for the site visit and reviewed background documents prior to the visit. Dr. Chiles conducted an in-briefing for the commanding officer on the first day of the site visit and led a team in conducting interviews of key personnel throughout the Support Center and its tenant commands. Dr. Chiles provided a preliminary assessment of the analysis in an out-briefing for the commanding officer on the last day of the site visit. Dr. Chiles coordinated the development of the gap analysis report and conducted a technical review of the report.

Executive Order 13148 Implementation for NASA

Dr. Chiles prepared an implementation white paper for NASA Headquarters to assist NASA with implementation of E.O. 13148. The implementation paper included a detailed analysis of actions and requirements specific to NASA. The paper addressed requirements for NASA Headquarters and for individual NASA installations. Dr. Chiles produced sample outlines and templates for a NASA implementation strategy, revised facility pollution prevention plans, and an overall NASA environmental management system plan.

Training Development and Delivery

Environmental Management Systems Training for U.S. EPA

Dr. Chiles has trained over 500 people in environmental management systems (EMS) awareness and implementation and on the requirements of Executive Order 13148. Dr. Chiles conducted EMS workshops for the U.S. EPA at Naval Station Newport, Rhode Island, at the EPA National Enforcement Training Institute in Lakewood, Colorado, in New Orleans, Louisiana, and at the U.S. EPA Region 7 office in Kansas City, Kansas. The purpose of the workshops was to teach Federal facility environmental managers how to implement an EMS as required by Executive Order 13148. Dr. Chiles assisted in the development of the curriculum for the workshop in Rhode Island and developed the curriculum for the workshops in Colorado, Louisiana, and Kansas. In each case, he prepared materials that were specific to the audience and that addressed the training objectives defined by EPA. Dr. Chiles taught attendees on the practical steps involved in developing an EMS consistent with ISO 14001, the international standard for environmental management systems.

Pollution Prevention Training for Federal Clients

Dr. Chiles has conducted over 130 pollution prevention workshops and environmental training courses for a variety of clients at Federal facilities throughout the world. He is responsible for every aspect of his training projects, from initial design to development of materials and training methodologies to delivery and

logistical coordination of the final product. Dr. Chiles delivers lectures on pollution prevention concepts, facilitates on-site assessments of maintenance shops and industrial operations, provides project management for training programs, and coordinates course preparation and logistics.

His areas of expertise for training include pollution prevention opportunity assessments, pollution prevention planning, Federal requirements under environmental Executive orders, total cost accounting, and implementation of pollution prevention projects. He has conducted workshops at Air Force bases, Army posts, Navy bases, Marine Corps bases, NASA installations, U.S. Postal Service facilities, EPA facilities, and various other sites. He has conducted workshops throughout the continental United States, in Alaska and Hawaii and in Germany, Italy, England, Belgium, Turkey, Japan, and Guam. He has trained approximately 4,000 Federal employees over the last twelve years. He has conducted pollution prevention opportunity assessment training for many organizations within the U.S. Air Force, including the U.S. Air Force Center for Environmental Excellence, U.S. Air Force Space Command, U.S. Air Force Reserve Command, Pacific Air Forces, and U.S. Air Forces Europe. He has conducted training for the U.S. Army Forces Command, U.S. Army Europe, U.S. E.P.A. Federal Facilities Enforcement Office, U.S. E.P.A. Regional Offices, and various state and local environmental authorities. He also teaches courses on preparing pollution prevention plans and implementation of pollution prevention at Federal facilities.

Quality Environmental Health & Safety Management System Internal Audit Training and Audit Support

Dr. Chiles conducted quality environmental health & safety management system (QEHSMS) internal audit training for a private contractor at a U.S. Army installation. Dr. Chiles designed and prepared training materials specific to the client, based on the client's existing QEHSMS. The client's QEHSMS is third party certified under ISO 9001:2000, ISO 14001:2004, and OHSAS 18001:1999. Dr. Chiles trained the client's personnel on internal audit techniques and provided lead auditor support for a subsequent internal audit conducted of the client's operations.

Environmental Management Systems Training for Senior Federal Managers

Dr. Chiles conducted a training course for 25 Federal executive service members and senior managers at the Federal Medical Center in Fort Worth, Texas in September 2003. The purpose of this training was to increase awareness of EMS and provide an introduction to the requirements of EO 13148 with the audience. Dr. Chiles conducted the training for U.S. EPA and developed the materials used in the course.

Environmental Management Systems Briefing for Federal Executive Board

Dr. Chiles prepared and delivered a briefing for the Dallas – Fort Worth Federal Executive Board in Arlington, Texas in September 2003. Dr. Chiles prepared the materials for the twenty-minute briefing to give the audience of 20 senior Federal managers an introduction to EMS and the requirements of EO 13148. He conducted this work under contract to U.S. EPA and worked closely with the Executive Director of the Dallas – Fort Worth FEB to prepare for the briefing.

Environmental Management Systems Training for the U.S. Army

Dr. Chiles developed and delivered training on environmental management systems (EMS) and ISO 14001 for the U.S. Army Office of the Director of Environmental Programs (ODEP) at HQDA. He worked closely with ODEP staff and with representatives from the office of the Assistant Secretary of the Army (Installations & Environment) to ensure that the materials were consistent with the Army's approach to EMS and ISO 14001. Dr. Chiles conducted the training course at the Pentagon in October 2002.

Environmental Management Systems Training for Ramstein Air Base

Dr. Chiles developed and delivered training on environmental management systems (EMS) and ISO 14001 for personnel at Ramstein Air Base in Germany. He worked with the environmental staff at the 435 CES/CEV to identify training needs and the target audience. Dr. Chiles prepared training materials specific

to Ramstein, U.S. Air Force EMS requirements, and the German Final Governing Standards. Dr. Chiles delivered training for three different groups of personnel, including senior leaders, cross-functional team members, and other interested personnel. Dr. Chiles conducted the training course at Ramstein AB in March 2004.

Environmental Management Systems Training for HQ DRMS

Dr. Chiles developed and delivered training on environmental management systems (EMS) and ISO 14001 for thirty staff members at the Defense Reutilization and Marketing Service in Battle Creek, Michigan. He worked with HQ DRMS staff to develop materials appropriate to the mission and environmental practices of DRMS. The training included an executive leadership briefing on the morning of the first day for the commander of DRMS and his staff. Dr. Chiles conducted the training course at HQ DRMS in August 2003.

Environmental Management Systems Training and Implementation at Tinker Air Force Base

Dr. Chiles assisted Tinker AFB with the planning for implementation of an environmental management system (EMS). He worked closely with personnel in the Environmental Management Directorate at Tinker to establish a schedule for implementation and began implementation by designing EMS training specific to Tinker. He conducted training for over 80 personnel at Tinker AFB in the form of an EMS awareness course and an in-depth EMS team training course. Following completion of the initial training, Tinker AFB put the project on hold pending further guidance from HQ U.S. Air Force on EMS implementation for Air Force installations.

Pollution Prevention Training for Enforcement Officials

Dr. Chiles conducted training for Federal, state, and local regulators on pollution prevention to encourage the incorporation of pollution prevention concepts into compliance and enforcement activities. Dr. Chiles conducted this work for the EPA Office of Enforcement and Compliance Assurance and delivered the course to over 150 regulators at 5 locations throughout the United States. The training was co-sponsored by the EPA National Enforcement Training Institute.

Development of Hazardous Waste and Hazardous Materials Training Modules for the Texas National Guard

Dr. Chiles supported the Texas National Guard in the development of hazardous waste and hazardous materials training modules. The modules were used to prepare a computer-based training course for Texas National Guard personnel on hazardous waste and hazardous materials management. Dr. Chiles provided quality assurance and technical assistance for the project and coordinated his efforts with the prime contractor, Hicks & Company, and an audiovisual support subcontractor. The project team produced a series of fifteen 10-minute modules that combine video, audio, text, and graphics.

Environmental Leadership Training Development for the Texas National Guard

Dr. Chiles supported the Texas National Guard in the development of a web-based simulation to assess the environmental decision making of senior leadership in the Guard. Dr. Chiles served as project manager, reviewer, and subject matter expert for the project and coordinated the efforts of the simulation developer subcontractor. The project team produced a 20-minute interactive simulation that combined video, audio, text, and graphics to provide a realistic experience for senior leadership. The simulation captures decisions made by senior leaders and assesses their performance against a set of key indicators for mission, logistics, resources, and environment.

Executive Order 12856 Implementation Training for U.S. EPA

Dr. Chiles assisted the U.S. Environmental Protection Agency's Federal Facilities Enforcement Office in providing compliance assistance to Federal facilities. Dr. Chiles provided training and pilot project development services for the implementation of EO 12856. He prepared pilot facility pollution prevention

plans for Federal agencies with guidance on meeting the requirements of the EO. Dr. Chiles conducted nine training courses on implementation of environmental Executive Orders at Federal facilities around the United States. These training courses taught Federal facility environmental managers the requirements of the EOs and presented practical tools for meeting the requirements, including pollution prevention planning, opportunity assessments, and life cycle cost analysis.

Web-Based Shop Level Pollution Prevention Training Update

Dr. Chiles managed a project to update the existing web-based shop-level pollution prevention training course for the U.S. Air Force. Dr. Chiles worked with the Air Force to prepare revised course objectives, modules, and tests of objectives. The course includes a module on the Air Force Reduction in Total Ownership Cost (RTOC) methodology and incorporates the operational aspects of pollution prevention as applicable to shop level Air Force personnel. Dr. Chiles served as project manager, content developer, and subject matter expert and coordinated with Air Force web developers to prepare the web-based training course for the Air Education and Training Command Logistics Group Environmental Management Office (AETC/LG-EM). Dr. Chiles worked with the Air Force environmental education and training program manager at AFCEE to ensure consistency and conformance with Air Force policy.

Web-Based Pollution Prevention Training Development

Dr. Chiles managed the development of a web-based pollution prevention training course for the U.S. Air Force. Dr. Chiles worked with representatives from the Air Force Center for Environmental Excellence and Air Education and Training Command Logistics Group Environmental Management Office to design the course. After initial design meetings, Dr. Chiles conducted meetings with representatives from each Air Force Major Command and from Air Staff to develop training objectives and define the target audience. The course provides Air Force shop-level personnel with awareness training of environmental concepts and an introduction to implementation of pollution prevention projects in their shops. The course uses a “virtual campus” concept to present the subject matter and training support functions. Dr. Chiles coordinated the development of subject matter from existing materials and the preparation of the web-based applications that provide Internet delivery of the course. The course is currently available on an Air Force server.

Web-Based TRI Training Update

Dr. Chiles managed a project for AFCEE to prepare a revision to the existing web-based Air Force TRI training course. Dr. Chiles managed the technical efforts of EPCRA experts and a web developer. The training course incorporated changes to Air Force guidance on EPCRA reporting requirements and included information on new rules implemented by EPA.

Web-Based TRI Training Development

For AFCEE, Dr. Chiles served as project manager on a six-month project to develop a web-based distance learning tool to teach Air Force installation environmental personnel how to complete the EPA TRI Form R. Dr. Chiles managed a technical staff of computer programmers, graphic designers, and subject matter experts and contributed to the overall project design and content. The Air Force used the completed web-based training course to reduce training and compliance costs associated with EPCRA.

Pollution Prevention

Pollution Prevention Research and Development

Dr. Chiles managed a \$1-million dollar research and development project sponsored by the U.S. Air Force Research Laboratory’s Materials and Manufacturing Directorate at Wright-Patterson Air Force Base, Ohio. The purpose of the project was to develop new more durable, cleanable coatings for the F-15 and A-10 weapon systems to reduce the environmental impacts of aircraft maintenance in the Air Force. Dr. Chiles

coordinated the activities of four subcontractors, who conducted laboratory research on advanced coatings for fighter aircraft, and oversaw the technical efforts for this project.

Dr. Chiles managed a \$100,000 research project with the Air Force Research Laboratory to identify alternatives to cadmium coatings in electronic connectors on Air Force weapon systems. Dr. Chiles directed a group of six scientists and engineers and prepared a performance-based requirements document designed to provide guidance to connector researchers in the development of new technologies. The requirements document will be used by the Air Force to identify research projects that will meet all performance criteria.

Waste Minimization and Pollution Prevention Study for U.S. EPA

For an EPA OSW Quick Response Task, Dr. Chiles coordinated the preparation of an 18-page background document on waste minimization options associated with the use of solid acid catalysts (SACs). This included coordinating a review of relevant literature on the subject, reviewing the technical content of the engineering estimates prepared for the report, and writing the final version of the report. The report discussed the ways in which chemical manufacturers are currently using SACs, identifying which industries could benefit from their use, and preparing a rough estimate of the source reduction benefits from using SACs. This task was completed in ten days. The final report will be used to determine if SACs can provide further waste minimization opportunities to industry.

Pollution Prevention Planning Methodology Development for Tinker Air Force Base

Dr. Chiles managed a project to develop a pollution prevention mapping methodology for the Environmental Management directorate at the Oklahoma City Air Logistics Center. The purpose of the project was to develop a repeatable methodology for OC-ALC/EM to help direct the pollution prevention program in the future and identify high priority processes for conducting pollution prevention opportunity assessments. Dr. Chiles conducted a series of workshops with Tinker AFB personnel to identify local objectives that served as indicators in the pollution prevention methodology. Dr. Chiles collected information from existing EM data sources on environmental impacts and objectives and used that information as input into the planning process. Dr. Chiles prepared a summary report of the local objectives, a pollution prevention management action plan methodology, and applied the methodology to create a ranked list of processes for conducting PSOs. Dr. Chiles conducted PSOs on two of the processes identified using the methodology, following AFMC guidance on conducting process-specific opportunity assessments and compliance through pollution prevention.

Pollution Prevention Plan Update and Process Mapping for McChord Air Force Base

Dr. Chiles served as the technical lead and project manager for a project with McChord Air Force Base to prepare an update to their pollution prevention plan. Dr. Chiles prepared the plan in accordance with requirements from the State of Washington. Dr. Chiles led a data collection effort that involved visiting over 60 shops on base and capturing information on processes, materials, and wastes. Dr. Chiles used this data to prepare process maps for more than 90 processes in those shops. The process maps included information on material usage and waste generation and served as the basis for the required submittal to the state Department of Ecology.

Pollution Prevention Planning for the Air National Guard

Dr. Chiles assisted in a program to prepare pollution prevention plans for over 70 Air National Guard installations. Dr. Chiles conducted quality assurance reviews of plans produced under this \$1-million project and visited several Air Guard installations to collect information and conduct opportunity assessments. He assisted in the preparation of final pollution prevention plans and prepared standard quality assurance procedures for deliverables.

Pollution Prevention Plan Development for Federal Clients

Dr. Chiles has prepared pollution prevention plans for twelve Federal facilities around the world. He prepared pollution prevention plans for Kadena Air Base, Naval Air Station North Island, Naval Amphibious Base Coronado, F.E. Warren Air Force Base, Fort Lee, Fort Stewart, the U.S. Coast Guard Academy, and the U.S. Coast Guard Training Center Cape May. He prepared pollution prevention plans for U.S. Coast Guard Station Montauk and for U.S. Coast Guard Group Moriches on Long Island, New York. He assisted in the preparation of a pollution prevention program plan for NASA Langley Research Center and managed the preparation of a pollution prevention program plan for the U.S. Army Transportation Center Fort Eustis.

Pollution Prevention Opportunity Assessments at Federal Facilities

Dr. Chiles has conducted over 100 environmental management and pollution prevention opportunity assessments at Federal facilities around the world. He conducted these assessments to support planning activities and training, or as separate assessments. He has assessed a wide variety of processes including aircraft maintenance, vehicle maintenance, missile maintenance, painting, electronic component repair, metal plating and finishing, photoprocessing, printing, non-destructive inspection, and deicing operations. He has conducted assessments of chemical manufacturing, precision cleaning, metal degreasing, jet engine repair, depot level maintenance for aircraft and vehicles, metal fabrication, welding, corrosion control, depainting, commissaries, dining halls, food preparation, and general office activities.

Pollution Prevention Opportunity Assessment of a Chemical Manufacturer for U.S. EPA

Dr. Chiles participated in a comprehensive two-day assessment of a small specialty chemical manufacturer in the Northeastern United States. Dr. Chiles used the information collected from this visit to identify pollution prevention opportunities for the company and to encourage pollution prevention in private industry. He assisted in the writing of a report based on the information collected during the site visit. The report focused on identifying those pollution prevention opportunities that will reduce environmental costs and liability and improve operations and environmental compliance.

Pollution Prevention Strategy Development for U.S. EPA Region 3

Dr. Chiles assisted EPA Region 3 with the preparation of a report that provided a brief overview of potential environmental impacts from Federal facilities on Long Island on the Peconic estuary. Dr. Chiles managed the information collection project and reviewed the final report submitted to EPA. The report supported the development of an integrated environmental management strategy for the Peconic estuary.

Pollution Prevention Strategy Development for NASA

Dr. Chiles managed the preparation of a pollution prevention strategy for NASA headquarters. This strategy was written in order to fulfill the requirements of Executive Order 12856 and included a survey of pollution prevention needs at NASA installations and a summary of actions that can be taken to implement pollution prevention at NASA at the agency level.

Pollution Prevention Strategy Development for U.S. Army

Dr. Chiles provided technical support to HQ TRADOC in its role as a member of the U.S. Army's Pollution Prevention Pillar Technology Team. The Army tasked the Pillar Technology Team with preparing a strategy for the successful implementation of innovative pollution prevention technologies in the Army community. Dr. Chiles attended meetings of the PTT and recommended appropriate contributions that TRADOC may make to enhance the effectiveness of the Pillar Technology Team.

Environmental Compliance and Regulatory Development

Due Diligence Assessment of Electronics Recycling Operation

Dr. Chiles conducted a due diligence assessment of an electronics recycling operation in Minnesota for a major electronics manufacturer. Dr. Chiles conducted the assessment to help the manufacturer meet the new mandatory recycling requirements for electronics manufacturers that sell electronic equipment in the state of Minnesota. Dr. Chiles reviewed the applicable state regulations and visited the electronics recycling operation to assess the operation's ability to recycle electronic equipment. Dr. Chiles prepared a detailed report that the client used to help evaluate the operation's capacity and capabilities to serve as the local recycler for the client.

Preparation of Hazardous Waste Plans for Los Angeles AFB

Dr. Chiles managed a project to prepare updates to three hazardous waste plans at Los Angeles AFB: a Hazardous Waste Management Plan, a Hazardous Waste Emergency Response Plan, and a Hazardous Waste Analysis Plan. These plans help the base meet Air Force, Federal, and California regulatory requirements for hazardous waste. These requirements derive from AFI 32-7042, 32-7080, and 32-7086, 40 CFR, and Titles 17, 22, 26, and 27 of the California Code of Regulations. Dr. Chiles conducted a site visit to the installation and reviewed hazardous waste data and existing plans to prepare the updates.

Development of a Qualified Recycling Program Guide for the U.S. Air Force

Dr. Chiles developed a Qualified Recycling Program Guide for the U.S. Air Force for HQ AFCEE. The purpose of the guide is to provide assistance to installation solid waste program managers with the establishment and operation of Qualified Recycling Programs. Air Force installations that choose to operate QRPs are allowed to retain the proceeds from recycling to support certain projects on-base, and the guide provides information on how to meet DoD and Federal requirements for QRPs. Dr. Chiles developed the guide in conjunction with the Air Force integrated solid waste program manager and the guide will be reviewed by MAJCOM and Air Staff representatives before it is available for distribution to installations.

Integrated Solid Waste Management Plans

Dr. Chiles has managed projects at six U.S. Air Force installations to develop Integrated Solid Waste Management Plans (ISWMPs). The purpose of an ISWMP is to provide an installation with a plan for improving environmental performance and reducing the amount of solid waste generated. He has prepared ISWMPs for Buckley AFB, Los Angeles AFB, Tinker AFB, Kadena Air Base, Dobbins ARB, and Charleston AFB. Dr. Chiles worked with the Air Force ISW program manager at AFCEE to ensure consistency and conformance to Air Force policy.

Ozone-Depleting Substance Management Action Plan for Los Angeles AFB

Dr. Chiles managed the development of an ozone-depleting substance management action plan (ODS MAP) for Los Angeles AFB. The purpose of the plan was to define current uses of ozone-depleting substances and recommend alternatives and best management practices for the base. Dr. Chiles led an effort to conduct an on-site inventory of ozone-depleting substances. The plan included an assessment of the requirements from the South Coast Air Quality Management District and the California Air Resources Board for facilities that handle ozone-depleting substances. The final plan included recommendations for training and record keeping that would help ensure compliance with state and Federal regulations.

Hazardous Materials and Hazardous Waste Management Plan for 415th BSB Kaiserslautern

Dr. Chiles managed the development of a hazardous materials and hazardous waste management plan for the 415th Base Support Battalion in Kaiserslautern, Germany. The purpose of the plan was to provide a management guide for the environmental office at the 415th BSB and to identify opportunities for improvement with respect to hazardous materials and hazardous waste management. The plan included

requirements from the German Final Governing Standards and Army regulations. This effort encompassed the activities at all areas supported by the 415th BSB environmental office, which included ten geographically separate areas spread throughout southwestern Germany. Dr. Chiles conducted site visits and collected information to identify compliance requirements, current practices, opportunities, and best management practices.

Hazardous Waste Listing Support for U.S. EPA

Dr. Chiles provided technical support to OSW's Listing Section in making listing determinations on waste streams generated in the production of dyes and pigments. His responsibilities in this area included planning and conducting site visits to dye and pigment production facilities, sampling waste streams from these facilities, preparing site visit reports for the facility inspections, and preparing and evaluating RCRA 3007 questionnaires of dye and pigment producers.

He visited nine dye and pigment manufacturing facilities and acted as the lead representative for one of these trips. He arranged the sampling trips to six of the facilities, and conducted the sampling of aqueous and solid wastes from these facilities. As a part of these visits, he prepared CBI site visit reports that contain detailed process information and process chemistry as well as a description of the waste management practices at these facilities.

Analytical Methods Technical Support for U.S. EPA

Dr. Chiles supported EPA/OSW's Methods Section in maintaining and updating SW-846, *Test Methods for Evaluating Solid Waste*. His responsibilities included answering technical questions through the Methods Information Communication Exchange (MICE line) and assisting with the promulgation of new methods. Dr. Chiles provided technical support for EPA/OSW's Methods Section on the Methods Information Communication Exchange (MICE line). On the MICE line, Dr. Chiles has answered questions regarding the status of SW-846, sample handling and preservation techniques, and questions about the replacement of chlorofluorocarbons in SW-846 methods. Dr. Chiles has served as the acting MICE line coordinator for short periods. He prepared draft responses to public comments received from the January 23, 1989 and February 8, 1990 *Federal Register* notices, which proposed the promulgation of the *Third Edition of SW-846* and its First Update. He addressed comments on organic, inorganic, and miscellaneous methods, and performed quality assurance reviews of responses.

Information Exchange Support for U.S. EPA

Dr. Chiles worked with EPA's ORD/OEETD and UNEP's Industry and Environment Programme Activity Centre (IE/PAC) in developing the OzonAction Information Clearinghouse (OAIC). The OAIC is an international clearinghouse of information relating to the phase-out of the use and production of chlorofluorocarbons (CFCs) and halons as mandated by the *1987 Montreal Protocol on Substances That Deplete the Ozone Layer*. Dr. Chiles coordinated a staff of five in collecting information for the halons sector of the OAIC. He organized an international information gathering effort, and reviewed all information received from this effort. He prepared and submitted four progress reports for the halons sector to EPA/ORD/OEETD and UNEP IE/PAC. He led weekly meetings to discuss progress on the halons sector and the OAIC. He attended the 1991 International CFC/Halons Alternatives conference in Baltimore and a meeting of the Ad Hoc Committee on Solvents in Arlington to identify potential halons experts and to provide public outreach for the clearinghouse.

Sustainability

Sustainability Technical Assistance to U.S. Army Forces Command

Dr. Chiles provided technical assistance to a \$1-million, 18-month effort to prepare and implement long-range environmental sustainability master plans for U.S. Army Forces Command installations. He attended

a series of planning meetings to help shape the direction of this innovative project. Dr. Chiles provided technical direction to the planning effort and directed communication from installation to installation and from installation to the MACOM. The installations are using the Installation Sustainability Plans to provide the underlying basis for long-range planning intended to support the mission of the installations, reduce operating costs, and improve environmental performance.

Sustainability Training for U.S. Army Forces Command

Dr. Chiles assisted with the delivery of a workshop on sustainability for U.S. Army personnel at Fort Polk, Louisiana. The purpose of the workshop was to raise the awareness of Army installation personnel on concepts of sustainability. Dr. Chiles led discussions on data collection, opportunity assessments, and cost benefit analysis and helped lead the group through a series of directed exercises on sustainability.

PUBLICATIONS AND PRESENTATIONS

Gary W. Chiles. "Environmental Management Systems Internal Audit Training." *EPA 16th Annual Quality Assurance Conference*, Dallas, Texas, October 19-20, 2006.

Gary W. Chiles. "EMS Overview – ISO 9000 vs. 14001." *EPA 15th Annual Quality Assurance Conference*, Dallas, Texas, October 20, 2005.

Sernanda Anderson and Gary W. Chiles. "Using ISO 9001:2000 to Build an EMS at McAlester AAP." *10th Annual Joint Services Environmental Management Conference & Exhibition*, Tampa, Florida, April 11, 2005.

Gary W. Chiles and Terry McLendon. "Sustainable Range Management System." *Federal Facilities Environmental Journal*, Vol. 15, No. 3, Autumn 2004, p. 41-50.

Gary W. Chiles, Will Garvey, and Ed Pinero. "EMS Implementation Workshop." *9th Annual Joint Services Environmental Management Conference & Exhibition*, San Antonio, Texas, August 16-17, 2004.

Gary W. Chiles. "Sustaining Readiness Through Prevention of Pollution Using an EMS." *9th Annual Joint Services Environmental Management Conference & Exhibition*, San Antonio, Texas, August 18, 2004.

Gary W. Chiles and Darrell Elliott. "Using ISO 9001:2000 to Build an EMS at McAlester AAP." *9th Annual Joint Services Environmental Management Conference & Exhibition*, San Antonio, Texas, August 16, 2004.

Gary W. Chiles and Valerie I. Stein. "Texas National Guard Interactive Leadership Training Simulation." *9th Annual Joint Services Environmental Management Conference & Exhibition*, San Antonio, Texas, August 16, 2004.

Gary W. Chiles and Patricia Shreve. "Integrating an EMS Framework into the Pollution Prevention Program at Tinker AFB." *30th Annual Environmental & Energy Symposium and Exhibition*, San Diego, California, April 2004.

Gary W. Chiles, Terry McLendon, and Jack K. Norris. "Using ISO 14001 and EDYS as a Framework for Creating a Sustainable Range Management System." *30th Annual Environmental & Energy Symposium and Exhibition*, San Diego, California, April 2004.

Gary W. Chiles, Terry McLendon, and Jack K. Norris. "Sustainable Range Management System." *Sustainable Range Management Conference*, New Orleans, Louisiana, January 2004.

Gary W. Chiles. "Mission-Integrated Environmental Management Systems." *8th Annual Joint Services Pollution Prevention and Hazardous Waste Management Conference and Exhibition*, San Antonio, Texas, August 2003.

Gary W. Chiles, John Coho, Will Garvey, and Ed Pinero. "EMS Implementation Workshop." *8th Annual Joint Services Pollution Prevention and Hazardous Waste Management Conference and Exhibition*, San Antonio, Texas, August 2003.

Gary W. Chiles, John Coho, Will Garvey, and Ed Pinero. "Environmental Management Systems Implementation Workshop." *29th Annual Environmental & Energy Symposium and Exhibition*, Richmond, Virginia, April 2003.

Gary W. Chiles, Will Garvey, and Carole Bell. "Environmental Management System Implementation Workshop." *Seventh Annual Joint Services Pollution Prevention and Hazardous Waste Management Conference and Exhibition*, San Antonio, Texas, August 2002.

Gary W. Chiles, Joyce Stubblefield, Michele Wright, Joy Campbell, and Carole Bell. "Environmental Management Review Workshop." *Seventh Annual Joint Services Pollution Prevention and Hazardous Waste Management Conference and Exhibition*, San Antonio, Texas, August 2002.

Gary W. Chiles, "Natural Capitalism." *Sixth Annual Joint Services Pollution Prevention and Hazardous Waste Management Conference and Exhibition*, San Antonio, Texas, August 2001

Gary W. Chiles, "Environmental Executive Orders and Your Installation's ISWM Plan." *Sixth Annual Joint Services Pollution Prevention and Hazardous Waste Management Conference and Exhibition*, San Antonio, Texas, August 2001

Gary W. Chiles, "Web-Based EPCRA Training." *Sixth Annual Joint Services Pollution Prevention and Hazardous Waste Management Conference and Exhibition*, San Antonio, Texas, August 2001

Stephen L. Szaruga, Gary W. Chiles and Barbara A. Metz. "Results of Performance Testing of Durable, Cleanable Aircraft Coatings." *32nd Annual SAMPE Technical Conference*, Boston, Massachusetts, November 2000.

Gary W. Chiles and Manette Messenger. "Compliance through Pollution Prevention Activities at FORSCOM Installations: Integrated Environmental Master Plans 2000 – 2025." *Fifth Annual Joint Services Pollution Prevention Conference*, San Antonio, Texas, August 2000.

Gary W. Chiles. "Pollution Prevention Opportunity Assessment Training at FORSCOM Installations." *Fifth Annual Joint Services Pollution Prevention Conference*, San Antonio, Texas, August 2000.

Gary W. Chiles, Richard Freeman, Tamee Tennison. "Internet-Based Shop-Level Pollution Prevention Training." *Fifth Annual Joint Services Pollution Prevention Conference*, San Antonio, Texas, August 2000.

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HONORS AND PROFESSIONAL SOCIETIES

Member, Sigma Xi, Scientific Research Society.

Member, Phi Lambda Upsilon, Chemistry Honor Society.

Member, American Society for Quality

Fellow, National Institute of General Medical Sciences, Cellular and Molecular Basis of Disease Program, Columbia University, 1989-90.

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