Environmental and Health and Safety (EHS) Management System Audits

- Environmental and Safety Management Systems Oversight Program for the international division of a packaging products manufacturing company. The program involved interfacing with international facility EHS staff, assisting in corporate training programs, providing on-going technical and regulatory support to the five facilities, performing management system audits and pre-audit compliance assessments, and making regular status reports to corporate EHS management. (2009).
- Environmental and health and safety audits and Corrective Action Plans for three automotive products manufacturing facilities located in Indiana and California, and a rubber products manufacturing facility in New Hampshire as part of a corporate EHS management systems program. The scope of work encompassed air emissions, wastewater discharges, hazardous materials, hazardous waste, fire safety, and complete OSHA requirements to evaluate compliance with federal, state and local regulatory requirements and corporate standards for each facility. (2008).
- Environmental assessment of chemical facility in Mexico for an international adhesives manufacturer as part of a Toller Agreement. The scope of work involved a site visit to the facility and review of fire safety, hazardous materials and waste management, and environmental compliance. (2008).
- Environmental and health and safety audit at an industrial facility in Mexico involved in metal fabrication, including stamping, shearing, welding, powder and electrostatic coating, and assembly. The scope encompassed the full range of environmental media (air, water, hazardous waste), as well worker health and safety to evaluate compliance with corporate standards and federal and state regulatory requirements and development of a Corrective Action Plan. (2008).
- Environmental and health and safety compliance audit at an automotive parts manufacturing facility in Mexico as part of a corporate audit program. Worked as lead auditor under contract to the facility's US-based consulting firm to evaluate compliance with corporate standards and federal and state regulatory requirements, including air, water, hazardous waste, machine guarding, LOTO, fire safety, noise and chemical exposures, and employee training. (2007-2009).
- Safety, health and environmental compliance audit of a British-owned manufacturing facility involved in precision machining and finishing of stainless steel and cobalt-chrome engine-ready airfoils and blades, and implants for the medical orthopedic industry. The audit involved an evaluation of conditions and the status of regulatory compliance with current Mexican environmental and health and safety laws, regulations, and standards. The aspects to be audited include worker health and safety, air emissions, hazardous materials, solid and hazardous waste, contingency planning, and wastewater discharge. (2007).
- Environmental audit and Corrective Action Plan at a metal products manufacturing facility in Mexico as part of a corporate SHE management systems program. The scope encompassed air emissions, wastewater discharges, hazardous waste, as well as machine guarding, LOTO, fire safety, hazardous communications, PPE, employee training, and records review to evaluate compliance with corporate standards and federal and state regulatory requirements. (2007).

- Pre-audit preparation assistance for a Southern California national aerospace research laboratory. The two-week assignment involved performing health and safety pre-audit inspections of the facility against provided check lists and Cal/OSHA regulatory requirements to assist site OHS personnel in preparing for a NASA audit, and preparation of inspection reports. (2006).
- Environmental and health and safety audits of five manufacturing facilities in Mexico and Puerto Rico for an international packaging products company to assess compliance with regulatory and corporate standards. The project included updating the facilities' Environmental and Safety Management Systems following the audits. (2005, 2007).
- Environmental compliance audit at a defense-related manufacturing facility in California as part of a third party review for ISO 14000 certification. The scope included assessing the facility's compliance status with federal environmental laws and regulations, including SARA, Clean Water Act, Clean Air Act, RCRA, and corresponding state, and local rules, as well as preparing a Corrective Action Plan, and verifying its implementation. (2005).
- Comprehensive environmental and health and safety audits of two manufacturing facilities in Mexico for an international medical products company. This program included updating the corporate audit checklist for country regulatory compliance requirements. (2005).
- Environmental, Health and Safety Audit at a medical diagnostic instruments production and research & development facility in California. The project involved assessing environmental controls; handling, testing, and storage of biological and chemical materials; biological and chemical hazardous waste management and disposal, as well as a records review of Cal OSHA compliance programs, infection control procedures, and internal quality control. (2004).
- Environmental audits and development of Corrective Action Plans for three metal products manufacturing facilities located in Texas and in two states in Mexico. As part of a corporate EHS management systems program, the detailed audits encompassed air emissions, wastewater discharges, hazardous materials, hazardous waste, fire safety, employee training, and records review to evaluate compliance with corporate standards and federal, state and local regulatory requirements for each facility. Separate reports were prepared using a company developed report template, and follow up was conducted over a 90-day period to verify completion of audit findings. (2004).
- Comprehensive environmental and health and safety audit of an international paper products manufacturer in Mexico, as part of a corporate Environmental and Safety Management System. This program included translating a safety audit checklist and auditing the facility for regulatory compliance and corporate standards. (2004).
- Environmental and Health and Safety audit of an adhesives manufacturing facility in Los Angeles County. The project involved a visual inspection and records review to assess the compliance status of the facility with California's air, wastewater, storm water, hazardous waste, and hazardous materials regulations as part of a periodic compliance program review under contract to the facility's compliance consultant. (2004).
- Health and safety audit of a corrugated cardboard manufacturing facility in California, as part of a corporate Safety Management System. The audit applied a 32-chapter safety

audit checklist covering the full spectrum of OSHA regulatory compliance as well as corporate best management practices, including machine guarding, lock-out tag-out, hazard communication, hearing protection, confined spaces, fire safety, and others. (2004).

- Regulatory compliance assessment with environmental and health and safety regulations at an adhesives manufacturing facility in Mexico City as part of a periodic corporate compliance review. (2004).
- Environmental audits of two automotive manufacturing facilities located in Mexico as part of corporate EHS management systems program. The detailed audits included the areas of hazardous materials, hazardous waste, fire safety, air emissions, wastewater discharges, employee training, and records review to evaluate compliance with corporate standards and federal, state and local regulatory requirements. A company developed report template was used to report audit findings, and to develop a Corrective Action Plan. (2003).
- Environmental Management System development and compliance review for an international corrugated box manufacturing company with facilities in Mexico. Using a corporate EMS template, the project involved conducting site inspections at several facilities to develop site-specific compliance calendars, regulatory matrices and, process diagrams. Ongoing services include making periodic evaluation visits, developing training materials, and providing regulatory permitting assistance to facility EHS staff. (2001-2003).
- Comprehensive environmental and health and safety audit program for an international medical products manufacturer. This program included developing and updating an audit checklist for regulatory compliance based on corporate and government requirements, as well as conducting periodic audits at company facilities, and providing assistance and training with regulations and corporate standards. (1999-2002)
- Health and safety assessments at facilities of an international health care products manufacturing company. These periodic assessments were part of ongoing corporate safety and worker's compensation evaluations. Special attention was directed to machine safety and ergonomics issues. Follow-up assistance was provided on the use of leading indicators to drive safe behavior instead of relying on regulatory compliance. (1999-2002)
- Environmental compliance audit and constraints analysis for a Los Angeles, California based coatings manufacturing facility. As part of a project team led by an environmental consulting firm, was responsible for auditing hazardous materials, hazardous waste, fire protection, and accidental release prevention aspects of the facility and evaluating the impacts of a planned expansion on compliance status and permitting needs. (2001).
- Regulatory compliance assessment of two single-cycle gas turbine "peaker" power generating facilities in San Diego and Riverside Counties. The assessment was conducted at the start of plant operations to determine compliance with California Energy Commission permit conditions, including compliance with state and local hazardous materials, hazardous waste, fire protection, SWPPP, wastewater, Cal OSHA, and risk management plan regulations. A compliance matrix was developed and follow-up regulatory research and interpretation was provided to assist facility staff. (2001).

- Regulatory compliance assessment of two manufacturing facilities in Los Angeles County as part of an environmental compliance assessment for a property transfer operation. Worked under contract to seller's environmental consulting firm to evaluate compliance with federal, state and local environmental and health and safety requirements associated with hazardous materials management. (2000)
- Project Director of an environmental and occupational health and safety audit at a PEMEX refinery in Mexico. Managed a team in an audit of unit operations to identify areas of environmental and occupational risk in chemical handling practices, air emissions, wastewater discharges, hazardous waste generation and disposal, and emergency response. (1994).

Regulatory Compliance

- Regulatory Compliance Matrix review and update for United States and Canadian facilities of a global transportation and distribution company. As part of its corporate responsibility program, the matrix included local, state, federal and international environmental, health and safety, transportation, and radiation regulatory compliance requirements, and standards. (2009).
- Compliance Review of regulatory requirements for importing chemical products into Mexico for a scientific products manufacturer. The project involves researching and describing the applicable environmental, health and safety, transportation, and chemical import regulations. (2009).
- Implementation of Closure Plan for a metal finishing operation of a California electronics manufacturer holding an Industrial User Discharge Permit from the local wastewater agency, as well as a permit with the local air pollution control agency and subject to closure requirements for hazardous waste treatment facilities regulated by local Certified Unified Program Agency. The project also involved preparing a Biennial Hazardous Waste Generator report for the state Department of Toxics Substances Control. (2009).
- Source Reduction Evaluation and Pollution Prevention Plan, Performance Report, and Summary Progress Report updating and preparation for a California electronics manufacturing facility pursuant to the Hazardous Waste Source Reduction and Management Review Act of 1989, also known as SB 14. The project encompassed reviewing historical information, quantifying all major waste streams, identifying source reduction measures, and evaluating source reduction factors. (2008).
- Feasibility study to evaluate the requirements necessary to introduce cross border emissions credit trading between California and Baja California for a consulting team under contract to a California public agency. (2007-08).
- Compliance evaluation of manufactured products for California Proposition 65 applicability. The scope of work included regulatory research to determine if products manufactured for the California market required Prop 65 warnings, performing product evaluations of constituent materials and manufacturing practices, conducting exposure assessments for specific listed chemicals following OEHHA guidelines, and providing recommendations on labeling information on the product, if appropriate. Alliance developed a Proposition 65 Applicability Evaluation Protocol to guide the review process for new products. (2007).

- Oversight of plant closure activities at an automotive parts manufacturing and plating facility in Tijuana, Baja California, Mexico. As part of the site abandonment process, the project involved assisting facility management in meeting regulatory compliance requirements for notification, site assessment, permit cancellations, dismantling, cleanup, and agency clearance approvals. (2006).
- Updating Environmental Management Systems for five manufacturing facilities of an international paper packaging products manufacturing company to maintain compliance with regulatory and corporate standards. (2006).
- Preparation of Permits to Construct/Operate, Modifications, and Change of Conditions for process equipment and pollution control devices before the Southern California Air Quality Management District as part of an expansion of Client's adhesives manufacturing facility in Riverside County. The project included technical assistance with regulatory agency review to obtain the permits. (2005-2007).
- Siting and permitting of a metal manufacturing facility in Monterrey, Mexico for a US client. The project included performing a Phase I Environmental Site Assessment at an industrial property, reviewing zoning and environmental requirements, and preparing an Environmental Impact Manifest for state environmental agency approval, and issuance of a Permit to Construct. (2005).
- Evaluation of wastewater treatment system at a metal tubing manufacturing facility in California to determine expansion options. The project involved reviewing the system design, capacity, component waste streams, discharge characteristics, analytical reports, and permitting status to identify system constraints, and proposed alternatives to optimize system operation. (2005).
- Regulatory compliance assistance to a medical diagnostic instrument facility in California before local environmental agencies. The project involved preparation and submittal of a Hazardous Materials Business Plan, and an Industrial Discharge Permit exemption application, as well as technical assistance in responding to regulatory agency requests. (2005).
- Regulatory compliance assistance to an electronics manufacturing company in responding to a Notice of Violations before county hazardous materials agency. The project involved preparation and submittal of Show Cause Letter, NOV Action Plan, and technical assistance in negotiations with regulatory agency to resolve the issue in terms satisfactory to client. (2005).
- Permitting for a new air emission source at a metal tubing manufacturing facility in San Diego County before the SD Air Pollution Control District. The project involved successful preparation of a Certificate of Exemption for the new process. (2005-06).
- Preparation of a Source Reduction and Pollution Prevention Plan, and Progress Summary Report for a California-based construction products manufacturing facility following SB-14. The project involved an in-depth analysis of the facility's waste generation process to identify opportunities for waste-reduction. A plan with specific reduction goals in a number of categories was prepared for facility review, and a report was submitted to the Department of Toxic Substances Control to meet regulatory requirements. (2004).
- Regulatory permitting of an automotive parts manufacturing facility in Tijuana, Baja California, Mexico. The project involved meeting with the regulatory agencies, preparing

and submitting environmental permit studies, including environmental impact manifests and risk assessment for various project phases, and assisting the US-based client in understanding and interpreting regulatory requirements and permit conditions. The applications were approved by the regulatory agencies in time to allow the project to proceed on schedule. (2003-2004).

- Regulatory compliance assistance to an adhesives and grout manufacturing facility in Riverside County in responding to a Notice of Violations before county hazardous materials agency. The project involved preparation and submittal of Show Cause Letter, NOV Action Plan, and technical assistance in negotiations with regulatory agency to resolve the issue in terms satisfactory to client. (2003).
- Compliance review of five California energy-generating facilities, as part of a Regulatory Matrix development project under contract to a San Diego consulting firm. The project involved review of facility permits, and identification federal, state, and county of requirements for each facility in the areas of hazardous materials, hazardous waste, Stormwater Pollution Prevention Plans, Spill Control and Countermeasures, wastewater discharge, and fire regulations. (2003).
- Technical advisor to the local Fire Marshall related to permitting of aqueous ammonia storage and dispensing system as part of a Selective Catalytic Reduction system at a Southern California power generating facility. Acting on behalf of the fire department, the project involved oversight of the facility's regulatory submittals including the risk management plan, participating in a hazard and operability study, monitoring compliance with California Fire Code regulations, and coordinating inspections of the ammonia system's mechanical elements and sensor/alarm systems. (2001-2003).
- Preparation of Storm Water Pollution Prevention Plans for power-generating facilities in San Diego and Riverside counties. The project included plan development, and training of facility employees to comply with requirements of general permit (2002).
- Project Manager for regulatory permitting project involving preparation and submittal of PM-10 and VOC control equipment permits and a Storm Water Pollution Prevention Plan for a grout and adhesives manufacturing company following a facility acquisition in Southern California. A strategic analysis was performed to assess the effects of projected production increases on compliance with the local air quality management district rules. (2001).
- Regulatory permitting and site assessment for a 500MW power generating facility in Baja California, Mexico. The scope of work involved developing a comprehensive regulatory permitting matrix of energy, environmental and zoning requirements. Alliance conducted Phase 1 and 2 Environmental Site Assessments, participated in preparation and review of the Environmental Impact Manifest and Risk Assessment, and assisted client in negotiations with federal, state, and local agencies. (2000)
- Permitting of an energy cogeneration facility at a chemical plant in Tamaulipas, Mexico. The project involved preparing and submitting all environmental permit applications, including environmental impacts, risk assessment, operating license, air emissions, wastewater and hazardous waste for a U.S. energy technology company contracted to provide electricity, steam and chilled water to a client chemical plant. (1999)

- Project Director for siting and permitting a major manufacturing facility in Mexico for a US client. Performed Phase I and Phase II Environmental Site Assessments, prepared an Environmental Impact Manifest and permits applications for air emissions, wastewater discharge, and hazardous waste management, as well as an Operating License application for federal and state agency approval. (1997)

Industrial Hygiene & Safety

- Expert witness in civil litigation between a general contractor and developer of a high-rise residential building involving construction worker exposure to hazardous materials at the site. Provided litigation support and expert witness deposition testimony. (2009).
- Development of a Methanol Safe Handling Manual for the Methanol Institute, the global trade association representing the methanol industry. Following product stewardship principles, the manual provides producers, distributors, and customers in the global supply chain with clear and detailed guidance on how to safely handle methanol. Topics include hazard identification, fire safety, safe handling practices, transportation, distribution, environmental protection, toxicity, physical and chemical properties, and international regulations. MI is in the process of translating the manual into Spanish, Arabic, Chinese and Japanese, among other languages. (2008).
- Air monitoring of workers in a variety of operations at a San Diego shipyard. The project involved monitoring welders for exposure to Chromium VI aerosols in MIG and TIG welding and plasma cutting, air monitoring for fiberglass in a wet-jet machining operation of fiberglass-reinforced plastics, and for volatile organic compounds and organic peroxides during the installation of composite flooring panels. The reports compared results against Cal/OSHA's General Industry and Shipbuilding Safety Orders, and included recommendations on local exhaust ventilation, personal protection, and safe work practices. (2008-9).
- Personal air sampling for welding fumes in automated and manual MIG welding in various metal fabrication operations on carbon steel base metal. The scope of work involved collection of full-shift Time-Weighted Average samples of welding fume scan inside the welding helmets, and comparison with Cal/OSHA standards for general industry. (2008).
- Exposure evaluation of workers to metal working fluids mists in a metal fabrication operation. In addition to air monitoring, the project involved review of engineering control options and evaluation of the effectiveness of engineering controls implemented after the initial assessment. Recommendations on product substitution, and interim respiratory protection resulted in reducing exposure until engineering controls were installed. (2008).
- Exposure assessment of lead exposure in a soldering operation at a San Diego electronics manufacturing facility. The scope included surface wipe sampling for determination of lead according to NIOSH method 9105, as well as personal air monitoring for lead aerosols. Recommendations for improvements in housekeeping, and personal protection were made to reduce exposure potential. (2008).
- Noise exposure assessment of metal fabrication cutting area employees including personal dosimetry and general area noise survey using a Precision Sound Level Meter

with octave band analyzer to identify noise frequency profiles of the exposure sources. (2008).

- Personal noise exposure assessment of meat cutters in a supermarket meat department as part of Worker's Compensation litigation in California. The assessment also included a general area noise survey to identify potential noise exposures above the Permissible Exposure Limit. (2008).
- Area sound level survey using to confirm the effectiveness of engineering controls for noise at a California electronics manufacturing facility. (2008).
- Industrial hygiene evaluation of potential exposures to Sodium Hydroxide in etch tank employees at a metal finishing operation in a California electronics manufacturing facility. (2008).
- Asbestos air monitoring and regulatory compliance assistance for the California operations of an international billboard advertising company. The scope involved air monitoring of workers during drilling of transite-backed billboards using wet and dry techniques for verification of compliance with applicable Cal OSHA standards. (2008).
- Personal noise dosimetry and area sound level survey at a semiconductor manufacturing company in California, as part of a periodic health and safety assessment on behalf of the Workers Compensation Insurance carrier. (2008).
- Air monitoring and assessment of potential employee exposures to a number of chemicals including volatile organic compounds (VOCs), inorganic acids, sensitizers, hydrocarbons, and metals at a California manufacturer of bar and game room mirrors. The operation includes a stencil design, mirror etching, paint line and a silk screen process. The results were used to determine if a respiratory protection program is required at the facility. (2008).
- Preparation of Site Health and Safety Plan and Hazardous Materials Plan for a contractor in charge of building a pedestrian bridge in San Diego's East Village. Plans developed included air monitoring for petroleum hydrocarbons, polynuclear aromatics, heavy metals, and particulates in compliance with Cal OSHA standards, as well as field monitoring with direct reading instrumentation, and conducting training in hazard communication and field monitoring methods for site workers. (2008).
- Process Safety Management revision and update for three California energy-generating facilities. Acting as project manager under contract to a San Diego consulting firm, the project involved review of facility process safety information, process hazard analysis, training and record-keeping practices for each facility to ensure compliance with Cal/OSHA. (2007).
- Flavoring Compounds Review of Toxicology, Exposure, Production and Regulatory Status. The research project for a U.S. insurance industry client involved a review of the scientific and regulatory literature of selected flavoring substances to investigate whether these ingredients present the same level of concern in food production as the bulk butter flavoring used in the primary food and flavorings manufacturing operations. This report presented information on the toxicology, health effects, exposure potential, control strategies, and regulatory status of selected flavoring compounds used in flavoring and food manufacturing operations. (2007).

- Industrial hygiene exposure assessment of workers at a California flavor manufacturing facility blending butter and other flavoring materials. At the request of the facility's insurance carrier in response to a Workers Compensation claim of bronchiolitis obliterans (pop corn workers disease), the assignment involved personal and area air monitoring of workers in the blending operation for Diacetyl, Acetoin, Acetaldehyde, and particulates, as well as review of safety program at the facility, and making recommendations for engineering controls and personal protective equipment. (2006).

- Industrial Hygiene assessment of an ultraviolet film coating process for a California film manufacturing facility. As part of the review of a new process involving nanomaterials, and complaints of acrid odors, the investigation included a review of MSDS and process chemistry, inspection of HVAC drawings, and pollution control equipment, as well as personal and area monitoring for a number of VOCs including acrylates, and photoinitiators. Recommendations on engineering controls and personal protective equipment were made. (2006).

- Litigation support on medical waste handling and potential worker exposures for plaintiff's law firm in Texas. (2006).

- Industrial hygiene monitoring for asphalt fumes in road paving work crews in Imperial County, California. Personal air monitoring for benzene-soluble fraction and total particulates of asphalt fumes, as well as reviewing the employer's respiratory protection program. (2006).

- Exposure assessment at a semiconductor manufacturing company in California, as part of its annual health and safety assessment on behalf of the Workers Compensation Insurance carrier. The scope involved monitoring for volatile organic compounds, particulates, acids, personal noise dosimetry, and surface sampling for metals, and comparing results with Cal-OSHA standards and other occupational exposure limits. (2006).

- Developing an exposure assessment, and implementing an air monitoring protocol to protect site workers from exposure during site excavation activities to remove hydrocarbon-affected soil to 35' below grade at a large construction site in downtown San Diego. This involved revising the site specific written health and safety plan, conducting air monitoring with direct and discrete sampling instrumentation for aromatic hydrocarbons (BTEX), and Diesel Particulates. (2005).

- Regulatory Compliance Assistance at a medical diagnostic instrument R&D and production facility in California to ensure compliance with Cal-OSHA standards. The project involved a comprehensive revision of the corporate safety manual, including updating the Hazard Communication, Bloodborne Pathogen, Spill Control, and Personal Protection Equipment procedures, as well as the Emergency Action Plan, and Fire Protection Plan, and developing the Injury and Illness Prevention Program. A training component including an evacuation drill was also implemented. (2005).

- Hazard Assessment and Regulatory Compliance Evaluation of a new acid etching process for a micro-tubing manufacturing facility in California. The project involved assessing the hazards to personnel from the handling, storing, and disposing of acid solutions; preparing a Job Hazard Assessment (JHA) of the cleaning operation; reviewing regulatory requirements, and developing specifications for local exhaust ventilation. A

Code of Safe Practices was developed for this operation, and the Emergency Response Plan was adapted to include the new process. (2005).

- Personal employee monitoring for exposure to lead at an indoor shooting range, as part of a California Department of Health Services request following reports of elevated blood lead levels in an employee. The scope included a combination of personal exposure, area monitoring, and surface wipe sampling techniques to evaluate inhalation and direct skin exposures. (2005).

- Fall Protection Safety Assessment of billboard placement operations in Mexico for an international advertising services company. The project included site visits to several regional offices in Mexico, review of written safety programs, work procedures, incident statistics, preventative maintenance records for equipment and machinery, personal protection equipment, and safety training programs. (2005).
- Exposure monitoring for Nitric and Sulfuric Acid mists, and Nickel and Chromium VI metals at a wheel plating facility in Baja California, and comparing results with applicable Mexican STPS Permissible Exposure Limits, CalOSHA PELs, and ACGIH Threshold Limit Values as part of a hazard assessment. (2005).

- Exposure assessment, and environmental and personal air monitoring during excavation and removal of hydrocarbon-contaminated soil work at a former filling station. In response to residents' complaints of odors, conducted perimeter monitoring, and personal air sampling for aromatic hydrocarbons (BTEX), and diesel particulates following EPA and OSHA methodology, and deployed a weather station at the Site's perimeter on behalf of worked geotechnical contractor to document hydrocarbon levels during work activities in response to the County Environmental Health Department, allowing the project to proceed on schedule. (2005).
- Exposure monitoring for total and thoracic fraction metal working fluids and bacterial endotoxins at a metal machining operation in California, as part of a health and safety assessment on behalf of the Workers Compensation Insurance carrier. (2005).
- Monitoring for potential employee exposures to acrylamide polymer, formaldehyde, microbiological aerosols, and noise as part of an internal health and safety compliance program at a wastewater treatment plant in California. (2005).
- Personal and area exposure monitoring for isopropyl alcohol, and acrylate resins in a California optical products manufacturing facility as part of its health and safety compliance program. (2005).
- Exposure monitoring for vapors, particulates, acids, and noise for two semiconductor manufacturing facilities in California, as part of a health and safety assessment on behalf of the Workers Compensation Insurance carrier. (2004-5).
- Preparation of a Construction Safety and Health Manual and Audit Checklist for a California energy projects firm. The project involved developing a comprehensive manual to serve as guidance to the client's general contractor and subcontractors, and to provide oversight to the client to ensure meeting Cal OSHA's rules during the construction of energy generating plants. (2004).
- Machine guarding and lock-out tag-out evaluation of machinery and equipment for a California-based optical products manufacturing facility. The project involved a detailed

review of the manufacturing process and operation of state-of-the-art machinery, and developing machine-specific guarding and lock-out tag-out improvements to ensure employee safety and compliance with Cal OSHA regulations. (2004).

- Exposure monitoring for volatile organic compounds at two commercial printing facilities in California, as part of a health and safety assessment on behalf of the Workers Compensation Insurance carrier. (2004).
- Review and adaptation of comprehensive Safety Management System to comply with corporate standards and Mexican H&S regulatory compliance for an international paper products manufacturing corporation. The project involved review and translation of the corporate program, and training of facility H&S, and Human Resources managers and supervisors in Mexico (2003).
- Preparation and review of Hazardous Waste Site Health and Safety Plans for remediation projects at various US Navy SouthWestDiv installations under contract to a remediation contractor. The work involved identifying chemical of concern, establishing action levels, assigning proper personal and respiratory protection, and developing monitoring plans. (2003)
- Preparation of an Injury and Illness Prevention Program for a non-profit educational and religious corporation involving a number of departments, including publishing, video production, warehousing, television studio, administration, and aircraft operation and maintenance (2003).
- Personal employee monitoring for exposure to formaldehyde and waste anesthetic gases at a San Diego-based veterinary hospital, as part of a worker's compensation insurance claim. The investigation included a combination of short-term personal exposure, and area monitoring techniques at very low levels of detection. (2003).
- Exposure monitoring for respirable silica, particulates, VOCs, and noise level at a grout and adhesives manufacturing facility in Riverside County to comply with a Cal OSHA inspection notice. The project involved full-shift monitoring and noise dosimetry of representative employees in various operating areas. (2003).
- Personal monitoring for exposure to ammonia, hydrogen sulfide and particulates at a Northern California wastewater treatment facility. The project included a review of employee work practices, respiratory protection equipment, and making recommendations for permanent monitoring of process to anticipate potential exposures. (2003).
- Preparation and review of Site Health and Safety Plans for contractors involved in construction-related projects for Caltrans and U.S. Army Corps of Engineers. Plans were developed for contractors to comply with Lead in Construction, Hazardous Waste Operations, and Construction standards, among others. (2000-2008).
- Preparation of Site Health and Safety Plan and Soil Sampling Plan for contractor involved in a tarmac and apron rehabilitation project for the San Diego Airport. Plans developed included air monitoring for petroleum hydrocarbons, polynuclear aromatics, and particulates in compliance with Cal OSHA standards, as well as sampling and analysis of soil and stockpiled materials for determination of site disposal options. (2002).

- Certification of installation of a soil vapor barrier liner at a commercial/residential development site to control potential soil vapor emissions of chlorinated hydrocarbons. The project involved review of the Soil Vapor Installation Workplan, and Vapor Risk Assessment Report, field oversight of site preparation, liner installation, seam testing, clearance, and issuance of certification to the County Department of Environmental Health as required prior to start of construction activities at the site. (2002).
- Personal employee monitoring for exposure to solvents and isocyanates at a San Diego-based helmet manufacturing facility, as part of a worker's compensation carrier assessment program. (2002).
- Personal monitoring for exposure to chlorine, acid mists at a San Diego county water treatment facility. The project involved an assessment of the facilities ventilation system and recommendations for improving air quality in administrative and production areas. (2002).
- Ergonomic assessment at an office workstation for a government agency's service center in response to an employee complaint. The evaluation included interviewing employees, observing work tasks, assessing ergonomic risk factors, measuring lighting levels, and exploring changes in the workstation and work tasks to achieve postural improvements. (2001).
- Site Health and Safety Plan for underwater cleanup operations at a mercury and copper contaminated site at a San Diego boatyard, as part of a Regional Water Quality Control Board cleanup order. The project involved conducting an exposure assessment of diving operations to remove heavy metal "hot spots" from sediment, and preparing a site-specific HASP to direct operations in compliance with Cal OSHA regulations. (2001).
- Noise exposure assessment and industrial hygiene monitoring at an electronics manufacturing facility. The project involved conducting air monitoring for isocyanates and VOCs, and performing an octave band analysis of vibration chamber noise source. (2000)
- Preparation of Site Health and Safety Plan for contractor involved in a landfill leachate liner retrofit project for the County of Sonoma's Department of Transportation and Public Works. Plan developed included air monitoring for methane, toxic chemicals and particulates in compliance with Cal OSHA's Hazardous Waste Operations, Lead, and Construction standards. (2000)
- Monitoring for exposure to asbestos, heavy metals, radon gas, biological agents and toxic chemicals in industrial, commercial, health care facilities and residential buildings. (Archive)
- Comprehensive revision of corporate health and safety manual to ensure compliance with Cal-OSHA, including the Injury and Illness Prevention Program, Confined Space Entry Program, Lock-out Tag-out Program, as well as updates to the Hazard Communication Standard, Medical Surveillance, Heat Stress, Noise, Back Safety and Contingency Plan. (Archive)
- Preparation and review of Hazardous Waste Site Health and Safety Plans at remediation sites. The work involved identifying chemical and physical hazards, establishing action levels, assigning proper personal and respiratory protection, developing monitoring plans, and conducting employee training as appropriate. (Archive)

Indoor Environmental Quality

- Baseline indoor environmental quality assessment of a private residence after undergoing remodeling to remove or replace materials associated with volatile organic compound (VOC) emissions. The project involved conducting air monitoring for VOCs as well as carbon dioxide, carbon monoxide, and ultrafine particulates. (2009).
- Mold clearance following mold abatement at childcare centers, medical offices, and patient care areas at San Diego military installations. (2007-09).
- Baseline Indoor Air Quality assessment at initial occupancy of a new manufacturing building in San Diego County pursuing US Green Building Council's LEED certification. Although not performed for LEED credit, the baseline evaluation was conducted to verify that the building met the LEED air quality criteria for New Construction Version 2.2, EQ Credit 3.2. (2008).
- Odor investigation in the executive offices of a two-story office building following complaints of a nuisance odor. The scope involved a walk-through inspection of the affected areas of the building, reviewing the building mechanical and HVAC system drawings, conducting airflow and odor challenge tests, and taking measurements with direct reading instrumentation to identify the source or preferential air pathways of the odor and recommend measures to control or abate it. (2008).
- Building Commissioning review and indoor air quality assessment at new and renovated research and development office buildings in San Diego County following occupant complaints. The project involved occupants interviews, as well as conducting a visual inspection of the affected buildings, and performing air monitoring for ultrafine particulates, VOCs, formaldehyde, mold spores, carbon dioxide and comfort parameters. A new and renovated building commissioning protocol was prepared with measures to ensure acceptable air quality during initial occupancy. (2007).
- Indoor air quality assessment at new condominium unit in response to occupant complaints. In addition to the standard IAQ investigation, the project involved diagnosing the ventilation system through ultrafine particulate testing to identify sources of potential particulate irritants and guide repair activities to improve occupant comfort. (2007).
- Mold evaluation of medical center's HVAC systems. Surface sampling for mold was performed in air handlers, supply and return ducts to determine mold abatement needs. (2007).
- Baseline indoor air quality assessment at a San Diego County professional office suite in response to an employee complaint. The assessment included employee interviews, a visual inspection of the office and HVAC systems, air monitoring for ultrafine particulates, VOCs, ozone, carbon dioxide and comfort parameters. (2007).
- Air monitoring for mold in a large California medical center undergoing mold remediation in HVAC systems as part of interim control measures. The scope involved periodic air monitoring of key patient care areas during the remediation phase and development of a marker mold species tracking system to assist infection control and patient medical surveillance efforts, health care personnel exposure assessment, and to determine effectiveness of remediation isolation and containment measures (2006-07).

- Baseline indoor air quality assessment at a San Diego County health care facility's maternity ward undergoing renovation. In response to employee complaints, the assessment included employee interviews, a visual inspection of the patient room's HVAC systems, air monitoring for VOCs, carbon dioxide and comfort parameters, as well as a review of mechanical drawings of the central air handling system. A number of recommendations for improving air delivery to the units were made and implemented. (2006).
- Indoor air quality assessment of an electronics manufacturing facility in San Diego County after a large water damage incident. The project involved industrial hygiene consultation with facility staff during the water restoration phase, as well as conducting a post-restoration visual inspection of the affected building, and performing air monitoring for mold spores and total particulates for clearance purposes. (2006).
- Indoor air quality assessment at a defense contractor's manufacturing facility in a San Diego Naval base. The assessment was in response to employee complaints of odors in sections of the building, and involved a visual inspection of the facility and HVAC system, and monitoring for mold spores, volatile organic compounds, carbon dioxide, and comfort parameters. Recommendations were made for addressing the odor problem. (2006).
- Mold investigation at a California public agency administrative building following a Cal-OSHA complaint-driven inspection resulting from a water-damage incident. The scope involved a survey of the affected area, preparation of a mold remediation plan, and assisting the client in resolving the Cal OSHA citation. (2006).
- Indoor air quality investigation at an outpatient medical office building following a fire incident. Following reports of employee complaints of odors after renovation activities, the project involved monitoring and testing for volatile organic compounds, particulate aerosols, and making recommendations for remediation to return the space to normal occupancy. (2005).
- Mold investigation at a large California medical complex to investigate the causes of mold growth in the HVAC system, assess the potential health hazard posed to patients and employees, develop strategies for abatement, and prepare general remediation specifications. The multi-year project involved extensive air monitoring and surface testing for mold, and assisting infection control and facilities personnel to assess potential risk before, during and after the remediation period. (2005).
- Indoor Environmental Quality Assessment at a medical diagnostic instrument R& D and production facility in California. The project involved a visual inspection of the heating, ventilation and air conditioning (HVAC) system, the water treatment and distribution system, as well as air monitoring and water sampling and analysis for microbiological agents. (2004).
- Indoor air quality investigation and mold assessment at an outpatient medical office building following a water-damage incident. The project involved monitoring and testing for chemical, and biological aerosols, and assisting client in evaluating restoration activities while keeping the facility operational. (2004).
- Indoor air quality investigation and litigation support for a professional services firm located in a commercial office building under renovation. The work involved conducting

a preliminary risk assessment to evaluate occupant risk of exposure to potentially infectious agents, and performing an indoor air quality investigation, as well as assisting legal counsel in negotiations with the landlord. (2004).

- Mold assessments at a Southern California hospital following refurbishing activities, which revealed water damage. Clearance viable and non-viable mold spore testing and analysis was conducted, and recommendations were made for proceeding with remodeling activities. (2003-2004).
- Indoor air quality investigation of a California county agency building at the request of the Worker's Compensation insurance carrier, following a number of occupant complaints. The scope involved conducting a walk-through investigation of the building, application of employee questionnaires and interviews, measuring air quality parameters, monitoring for CO_2, and VOCs, sampling for viable and non-viable mold spores, and reviewing the building's HVAC drawings, and follow-up with the treating physicians. The findings resulted in a number of recommendations to improve air quality and sanitation in the building. (2003).
- Indoor air quality investigation at an electronics manufacturing facility in San Diego County following a fire incident. The investigation involved monitoring for carbon dioxide, temperature and humidity, as well as total VOCs in various locations affected by the fire. Industrial hygiene monitoring for aldehydes, BTEX, and non-viable mold spore testing were also conducted to establish baseline air quality levels after the facility returned to operation. (2003).
- Indoor air quality assessment at an office suite for an energy development company. The IAQ was conducted in response to occupants' concerns over a number of employee illnesses. The scope of work involved employee questionnaires and interviews, measuring air quality parameters, monitoring for CO_2, and VOCs, sampling for viable and non-viable mold spores, and reviewing the building's HVAC drawings. Recommendations were made to improve air quality in the building. (2003).
- Mold investigation following a fire at a San Diego-based museum, which resulted in major flooding and water damage from fire suppression efforts. The project involved conducting moisture testing, as well as viable and non-viable mold sampling and analysis, and making recommendations for remediation of affected areas. (2003).
- Indoor air quality investigation at a Southern California county administration building with prior history of IAQ related problems. In response to an employee allergy complaint, the scope involved conducting a walk-through investigation of the building, interviewing employees, measuring air quality parameters, sampling for viable and non-viable mold species, and reviewing the building's HVAC drawings. The results indicated inadequate ventilation in the building. Recommendations were made to improve air quality in the building. (2001).
- Indoor environment investigation at a medical center's Emergency Department in response to employees' complaints of objectionable odors. The scope involved conducting a field investigation of the ED and adjacent areas, inspecting the HVAC system, performing air flow tests, measuring air quality parameters, conducting odor tests with suspect cleaning products, and presenting findings and recommendations to management. (2001).

- Defendant's mold expert in a product defect liability case at a residential development in San Diego County. The project involved observing and documenting plaintiff consultants' activities, including destructive testing and emergency repairs, remedial actions, and mold testing procedures, and advising legal counsel. (2001).
- Mold testing at a residential location following repair of water damaged area for a California insurance company. The work involved collecting spore trap, culturable and tape lift samples for analysis by a microbiological laboratory, and preparing a report of the testing results to the insurance claims representative and homeowner. (2001).
- Baseline indoor air quality assessment at a San Diego-based electronics manufacturing/corporate headquarters building under contract to an EHS consulting firm. The scope involved a walk-through of the building, monitoring for temperature, relative humidity, carbon dioxide, carbon monoxide, formaldehyde, ozone, total VOCs, and PM-10, as well as sampling for viable and non-viable fungi, and bacteria at representative locations throughout the building. (2001).
- Indoor air quality assessment at a high rise office building for a property transfer due diligence. The scope involved a site inspection of the building, evaluation of the HVAC system, air monitoring for carbon dioxide, CO, temperature and humidity, as well as non-viable spore trap sampling for biological contamination, as part of a Phase I site assessment under contract to a California environmental consulting firm. (2000).
- Viable and non-viable mold testing at a residential complex in a toxic tort case. The work involved conducting a walk-through inspection of residential units, collecting spore trap, culturable and tape lift samples for analysis by a microbiological laboratory, and preparing a report of the testing results for plaintiff's counsel. (2000)
- Assessment of residential indoor and outdoor pesticide residues for a litigation case in Los Angeles County. The work involved researching and developing a protocol for forensic testing of pesticide residues after dursban and baygon application, site inspection, sample collection for analysis by a laboratory, and making report to client. (2000)
- Indoor environmental evaluation at outpatient medical facility to investigate employee complaints of mold contamination. The scope involved conducting a field investigation of the building, testing for viable and non-viable mold species, measuring air quality parameters, as well as discussing findings with affected employee and management. (2000)
- Indoor air quality evaluation of apartment unit to assess occupant's health concerns associated with persistent mold growth caused by water damage. The scope included occupant interviews, visual inspection of the dwelling, monitoring for comfort parameters, and preparing a report for client's counsel. (2000)
- Indoor air quality assessment in a residential unit to identify exposures to potential environmental allergens associated with severe eczema symptoms in small child. (2000)
- Evaluation of plaintiff’s consultant mold testing at residential locations, as part of a construction defect case in Orange County. The engagement included site inspections at residential facilities, evaluating consultant’s testing procedures and protocols, advising legal counsel on strategy and submitting photographic record to client. (1999).

- Indoor air quality investigation at a large medical complex. The IAQ investigation involved site evaluation, employee interviews, inspection of the HVAC system, review of chemical usage, and monitoring for carbon dioxide, temperature and humidity. Recommendations resulted in improved employee comfort and elimination of all associated complaints. (1999)
- Residential walk-through inspection and evidence review for defendant's legal counsel in a fire-related personal injury case in San Diego County. The case involved site inspection of the subject residence, evidence evaluation, and making a report to client. (1999)

Phase 1 & 2 Site Assessments

- Phase 1 Environmental Site Assessments of two industrial properties in Texas and California. Deliverables included the standard ASTM Phase 1 report of Recognized Environmental Conditions, as well as a Due Diligence Report listing potential costs associated with identified RECs and related compliance issues. (2008).
- Phase 1 and Phase 2 Environmental Site Assessment at a skylight manufacturing facility in California as part of an acquisition due diligence. The project involved conducting a site visit at two sister facilities to assess potential environmental liabilities, and preparing a Phase 1 report based on ASTM International standards. This was followed by a Phase 2 investigation involving air monitoring and soil sampling to assess potential contamination from past and current practices at the facilities. (2008).
- Phase 1 Environmental Site Assessment of contaminated industrial property in Missouri for a U.S.-based manufacturing company. In addition to the standard due diligence, the project scope involved evaluation of vapor intrusion potential from historic releases of volatile organic compounds to groundwater at the site. (2007).
- Phase 1 Environmental Site Assessments of industrial properties in Chihuahua, Mexico for a U.S.-based manufacturing company. (2007).
- Phase 1 Environmental Site Assessment and regulatory compliance review of industrial properties in Baja California for a U.S.-based metal manufacturing company. The scope also included assisting the client in understanding Mexican environmental regulatory requirements for opening a new facility. (2006).
- Phase 1 Environmental Site Assessment of industrial property in Southern California for a recreational vehicle manufacturing company. In addition to the site assessment, the project involved assisting the client with the regulatory compliance requirements of the Southern California Air Quality Management District for planned coating operations. (2006).
- Phase 1 Environmental Site Assessment at a brewery in Baja California for a U.S.-based company. The scope also included a regulatory compliance review of the operating facility. (2005).
- Phase 2 Environmental Site Assessment (ESA) at an electronics manufacturing facility in Mexico as part of an acquisition by a U.S.-based corporation. A limited Phase 2 soil investigation was conducted to evaluate areas of Potential Environmental Concern identified during a Phase 1 ESA. (2005).

- Phase 1 and Phase 2 Environmental Site Assessment at an adhesives products manufacturing facility in Nuevo Leon, Mexico as part of an acquisition due diligence project for a U.S.-based company. The project involved conducting a site visit at the facility, and reviewing historical and agency records to assess potential environmental liabilities, and preparing a Phase 1 report based on ASTM standards. This was followed by a Phase 2 soil investigation to assess potential soil contamination from past practices at the facility (2004-2005).
- Phase 2 Environmental Site Assessment (ESA), and regulatory compliance review at a rubber products manufacturing facility in Mexico as part of an acquisition by a U.S.-based corporation. A limited Phase 2 soil investigation was conducted to further evaluate areas of Potential Environmental Concern identified during a Phase 1 ESA. (2004).
- Phase 1 and Phase 2 Environmental Site Assessment at an optical products manufacturing facility in Baja California, Mexico as part of an acquisition due diligence project for a U.S.-based company. The project involved conducting a site visit at the facility, and reviewing historical and agency records to assess potential environmental liabilities. This was followed by a Phase 2 soil investigation to assess potential soil contamination from past practices at the facility (2003).
- Phase 1 and Phase 2 Environmental Site Assessment at a lead acid battery manufacturing facility in Baja California, Mexico as part of an acquisition by a U.S.-based corporation. The phase 1 identified areas of Potential Environmental Concern, which resulted in a limited Phase 2 soil investigation, as well as surface lead testing, and subsequent oversight of a remediation plan as part of the owner's site closure obligations. (2003).
- Phase 1 Environmental Site Assessments at three industrial sites in Baja California for a U.S.-based company. A zoning determination investigation was involved to evaluate the sites' feasibility for the proposed industrial use. This project was conducted under an accelerated schedule to meet client's project timetable. (2003).
- Phase 1 and Phase 2 Environmental Site Assessment and Compliance Review at a metal products manufacturing facility in Baja California, Mexico as part of an acquisition due diligence project for a U.S.-based company. The project involved conducting a site visit at the facility, and reviewing records to assess compliance with environmental regulations. A limited Phase 2 soil investigation was conducted as a result of the initial assessment to rule out potential soil contamination from past practices at the facility. (2001).
- Phase 1 Environmental Site Assessment at an undeveloped site at a Mexican resort destination for a U.S.-based real estate finance company. This multi-million dollar project required an extremely short turnaround period to meet contractual deadlines. Within 24 hours of initial site inspection, all client concerns were addressed in a preliminary oral report to allow the project to proceed on schedule. (2001).
- Project Director for multiple site investigations and compliance audits at nine chemical facilities in Central Mexico, as part of an expedited due diligence assessment subcontracted by a U.S. client. Field teams simultaneously conducted inspections and regulatory record reviews at the facilities and collected soil and groundwater samples under EPA protocols. (1998).

Remedial Investigations

- Oversight of clean up of an abandoned lead smelter located in Tijuana, Baja California, Mexico. The remedial design involved excavation and construction of a lined containment cell on the site, cement stabilization of 15,400 cubic meters of contaminated waste, and final liner and concrete capping. The scope involved independent oversight of the project on behalf of the local community to verify implementation of engineering measures and work practices by the contractor to prevent public health and environmental hazards. The project was successfully completed in 2008. (2007-08).
- Site characterization, remedial plan preparation and remediation at a hydrocarbon-affected site in a machining and manufacturing facility in central Mexico for an international client. The project was conducted under the oversight of the federal environmental agency, and involved performing a site investigation, delineation of the affected area, development of a remedial corrective action plan, setting clean up levels, conducting the remediation, and obtaining approval from an agency-designated third party overseer. Remedial action was completed and obtained regulatory agency closure in 2008. (2006-08).
- Review of remedial plan for a lead contaminated site in Tijuana, Baja California for a community-based organization. Working on a pro-bono basis, reviewed the government-sponsored clean up plan, provided input to the community on technical elements, and participated in negotiations with a working group composed of federal and state government agencies, US EPA, and the community. The revised plan was approved by the working group and funding was earmarked for implementation in 2007. (2004-06).
- Oversight and clearance sampling for a remediation project involving metal contamination at a manufacturing facility for an international company. The project involved assisting the client in establishing a remediation plan; setting clearance standards; preparing a clearance sampling plan; overseeing industrial hygiene monitoring of containment area, and conducting clearance sampling of building interior and structures. (2003-2004).
- Site characterization at an abandoned lead contaminated site in Tijuana, Baja California as part of an investigation by an international environmental organization. The project involved preparation of a hazardous waste site health and safety plan, training site personnel in hazardous waste operations, and conducting extensive soil sampling for analysis of heavy metals. Results of metal concentrations were compared with Mexican and U.S. remediation standards. The final report included designing site maps in three languages for public information. (2001).
- Assessment of environmental conditions and operations at garbage dumps in various municipalities in Mexico, for a California based landfill construction company. (1999)
- Project Manager for a remedial action at a US–owned electronics manufacturing facility in Mexico. Included approval of a remediation plan by the federal environmental agency, and developing a site health and safety plan using Level "C" protection with continuous monitoring under direct oversight of a third party inspector. The project was completed on time, under budget and obtained clearance from the regulatory agency. (1998)

- Project Manager of site investigation of a closed landfill in Acapulco, Mexico operated by a U.S. landfill construction and management company to assess claims of potential leaching of landfill effluents into surface streams. (1998)
- Project Manager for a remedial investigation, risk assessment and soil remediation at two pharmaceutical facilities, as part of a buy-sell agreement. Conducted a site characterization and prepared a risk assessment to determine clean-up levels and reduce the extent and cost of the ensuing remediation. The project met with regulatory approval, allowing the property transfer to proceed. (1997)
- Project Director for a soil and groundwater remediation of petroleum hydrocarbons at a railroad terminal in Matias Romero, Oaxaca, Mexico. Activities involved site characterization, fate and transport modeling, establishment of clean-up levels, and presentation of the plan to state and federal agencies for approval. The Project included the design, construction, and operation of an in-situ remediation system over a five-year period to reach the remedial goals and obtain site closure approval. (1994-98)
- Project Director for site characterizations, risk assessments, and remedial feasibility studies at ten railroad terminals owned by the Mexican Nacional Railroad in the states of Chihuahua, San Luis Potosí, Durango, Morelos, and Oaxaca. The activities included preliminary site characterizations using geoprobe methods, collection and analysis of soil and groundwater samples for VOCs, TPH, PNA, and metals. Risk assessments used the RBCA methods for determination of clean-up levels to obtain regulatory approval. The feasibility studies included evaluation of pump-and-treat, bioremediation, and natural attenuation technologies. (1994-1998)

Risk Assessment

- Fire Hazard Analysis of a 120 million gallon-per-year biodiesel manufacturing facility, tank farm and railroad and tank car unloading facility under construction in Nevada. The project involved conducting a process hazard analysis following standard practice for risk management plans and process safety management plans to identify possible release scenarios and fire risk, and preparing performance specifications for a fire suppression system design based on NFPA and International Fire Code standards. The project team included facility personnel, a fire system design consultant, and a fire code consultant, in addition to Alliance technical experts. (2008).
- Risk Evaluation at a proposed site for an autism research and education center in Southern California. The scope involved a health risk evaluation focused on existing regulatory thresholds for chronic and/or acute exposure to chemicals by air routes of exposure pursuant to the Air Toxics rule, and catastrophic release risk pursuant to the California Accidental Release Program. (2007).
- Risk Assessment of a chrome plating operation for an automotive parts manufacturing facility in Mexico as part of a phased expansion of operations. The environmental risk assessment was triggered by the use of nitric acid, and was prepared according to federal guidelines involving modeling of worst-case and alternative release scenarios, and development of mitigation measures. The risk assessment was approved by the agency, allowing the process to become operational. Follow-up regulatory compliance support is being provided to company EHS staff. (2004).

- Project Manager for a five-year review of the California Accidental Release Prevention Program (Cal ARP) at four energy cogeneration facilities under contract to a California environmental compliance firm. The project team reviewed and updated the RMP prepared for the facilities in 1999, including complementary programs, such as PSM, HMBP, EAP, HSCP, and ECP. (2004).
- Risk assessment for installation of an 80,000 gallon capacity liquefied petroleum gas (LPG) storage and dispensing facility at an industrial site in Baja California, Mexico. The project involved developing a number of failure scenarios, conducting consequence modeling, and working with the client facility, and gas company contractor to ensure the design and operation of the facility complied with Mexican regulatory requirements, as well as process safety management guidelines. The RA was approved by the regulatory agency and a permit was issued. (2003).
- Health Risk Assessment and Remedial Action Alternatives for an abandoned lead contaminated site in Tijuana, Baja California for a community-based, non-profit environmental organization. The project involved development of remedial action alternatives for the site based on results of health risk assessment using the California DTSC Lead Risk Assessment tool, as well as Mexican and U.S. remediation standards. (2003).
- Project Manager for preparation of Risk Management Plans (RMP) at three energy cogeneration facilities under contract to a California environmental firm. Anhydrous ammonia triggered federal Program 3 level under CAA section 112(r). Coordinated a multi-disciplinary team including process engineering and seismic evaluation, off-site consequence modeling, process safety management and regulatory compliance. The RMPs complied with EPA and California's Accidental Release Prevention Program. (1999)
- Project Manager for a Health Risk Assessment (HRA) pursuant to California's AB2588 "Toxics Hot Spots" law, for a San Diego coatings manufacturing company. The project involved conducting a HRA using the facility's approved 1993 Emissions Inventory to determine through risk calculations and air dispersion modeling, the cancer and non-cancer risk levels around the facility and the applicability of the public notification requirements of the San Diego Air Pollution Control District's Rule 1210. (1998)
- Project manager of a Proposition 65 compliance assessment of crystalline silica for a coatings manufacturing facility evaluating potential on- and off-site exposures from silica emissions. (1998)
- Project Manager for a risk assessment at a large industrial complex in Central Mexico. The project included identifying and evaluating environmental and occupational risks, as well as modeling potential ammonia releases, LPG tank failures, fire and explosions, and off-site consequences. (1995)

Training

- Preparation and presentation of a respiratory protection "train-the trainer" program in Spanish for supervisors at a California manufacturer of bar and game room mirrors. The course included conducting and overseeing qualitative fit testing of respirators for the course participants. (2008).

- Mold Remediation Containment Procedures for Infection Control and Personal Protection training to facilities personnel in a Southern California medical center. The training objective was to improve awareness of mold exposure potential among facilities staff involved in performing Levels III and IV repairs and renovations in the hospital, and to present measures to ensure the safety and health of personnel and patients in affected areas for implementation in the facility's Infection Control Construction Permit. (2007).
- Respiratory Protection, Personal Protection Equipment, and Thermal Stress training for professional industrial hygienists as part of UCLA's Southern California Education and Research Center's Comprehensive Industrial Hygiene Review course. (2007).
- Fall Protection and Electrical Safety training in Spanish for regional operations managers and crew supervisors for an international billboard advertising company in Mexico. This two-day course included classroom, and field training exercises on a variety of billboard structures. (2006).
- Health and Safety training program at a medical diagnostic instrument R&D and production facility in California. The project involved developing and delivering a training program to all staff encompassing the Bloodborne Pathogen Program, Emergency Action Plan, Fire Protection Plan, and Injury and Illness Prevention Program to ensure compliance with Cal-OSHA standards. An evacuation drill was conducted as part of the training program. (2005).
- Leading Safety Performance Index training program in Spanish for Human Resources, Environmental, and Health and Safety managers and supervisors of an international packaging products manufacturing facility in Mexico. The course material was also translated into Spanish. (2005).
- Basic Industrial Hygiene Tool Kit, and Hearing Conservation for EHS Managers and Supervisors of a Multinational manufacturing corporation (2004).
- Overview of Mexican Environmental Regulations in Air Pollution, Hazardous Waste, and Pollution Release and Transfer Registries for EHS Managers and Supervisors of a Multinational manufacturing corporation (2004)
- A Primer on Sustainable Development for EHS Managers and Supervisors of a Multinational manufacturing corporation (2003).
- OSHA 10-hour General Industry Outreach training in English for an international construction materials manufacturing company (2003).
- Mexican Health and Safety compliance program training in Spanish for an international adhesives manufacturing company (2003).
- Hazardous Waste Operations and Emergency Response training for workers at a lead-contaminated hazardous waste site. (2001)
- OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) 8-hour refresher course for consulting geologists and engineers. (Archive)
- Mexican EH&S regulatory requirements, and Job Hazard Assessment development training for EHS Managers at medical products manufacturing facilities. (2001)
- Spanish-language training in Confined Space Entry for workers at a large commercial bakery in San Diego County. (2000)

- Bilingual OSHA Hazard Communication Standard training program for workers, supervisors and managers of an Arizona insulation contractor. (1999)
- Biological-Infectious Waste Operations Health and Safety Training for medical waste transportation and treatment facility employees. (1997)
- Asbestos Management Training for Boiler Room Operators and Maintenance Personnel. (Archive)
- Bloodborne Pathogen Standard for OSHA compliance, for general industry and health care personnel. (Archive)
- EPA's Integrated Contingency Planning: Environmental Safety and Health Strategies for Emergency Response for EH&S personnel of an international mining and manufacturing company. (Archive)
- Crisis Management and Disaster Recovery/Business Continuity workshop for managers of an international mining and manufacturing company. (Archive)

Community and NGO Experience

- Mr. Medina has worked with non-governmental organizations (NGOs) on issues of food, nutrition, health care and bi-national environmental policy over the past 28 years. From 1978-80, he worked with migrant farm worker families in Central California in the areas of food outreach, nutrition education and health care, and helped start *Salud Para La Gente*, a migrant farm worker health clinic in Watsonville. He later headed a project to bring aquaculture technology to poor rural communities throughout Mexico. In 1990 he helped start *Proyecto Fronterizo de Educación Ambiental,* a Tijuana-based NGO focusing on community environmental education and advocacy. He also assisted environmental NGOs in efforts to develop Mexico's "Right-to-Know" program that became law in 1996. Mr. Medina is a volunteer with the San Diego Natural History Museum Canyoneers, leading interpretative nature hikes for the public to promote stewardship and conservation of the region's unique natural resources.