

TECHNICAL SPECIALTIES

Experience includes regulatory agency negotiation, cost and schedule control, expert opinion in matters associated with regulatory compliance. Extensive experience managing a wide variety of complex environmental projects for pharmaceutical, batch chemical, petrochemical and consumer product manufacturing facilities. Proven track record of representing the interests of associations with respect to pending legislative matters. Compliance management with an emphasis on regulatory analysis, policy communications, microbial evaluations, solid/hazardous waste issues, air quality issues, process safety management, risk management programs, and strategic environmental management.

EXPERIENCE SUMMARY

Thirty years of experience in environmental consulting: Principal Scientist at Roux Associates, Inc.; Principal-in-Charge at ERM, Inc.; Senior Scientist at Fred C. Hart Associates; Scientist at Galson Technical Services.

CREDENTIALS

MS., Environmental Science, Hunter College, New York, NY, in progress
 B.Sc., Environmental Science, SUNY College of Environmental Science and Forestry, Syracuse, NY, 1988
 Certified Microbial Consultant, AIAQC, 2000
 Air Pollution Training Institute - Control of Particulate Emissions, Control of Gaseous Emissions, Atmospheric Dispersion Modeling, 1991-1992
 Hazard Analysis Training Certification, Four-Elements Institute, 1991
 Massachusetts Institute of Technology-Negotiating Environmental Agreements, 1994

PUBLICATIONS

“The Clean Air Act Amendments of 1990: Operating Permit Program.” *Environmental Law and Practice*, Sept./Oct. 1994.
 “Planning and Evaluating Emission Control Projects.” *Environment Today*, Nov. 1994.
 “Emission Inventories and the CAA.” *The Metropolitan Corporate Counsel*, Nov. 1994.
 “MACT 112 Program Should Not Be Forgotten.” *New Jersey Environmental Law*, May, 1995.
Process Safety Management Manual for Unsaturated Polyester Resin Manufacturing. Washington DC: NMMA Publications, May 1996.
 “Strategic Planning for Title V Programs” *Key environmental issues in US EPA Region II*. Chicago: American Bar Association. June 1996
 “A Primer on Process Safety Analysis.” *Environmental Law and Practice*, July/Aug. 1996.

“Implementing Process Safety Management Systems.” *Chemical Engineering Process*, accepted for publication.

New York State’s Title V Operating Permit Program. Presented at five locations throughout New York State for the New York State Business Council

Strategic Planning for Title V Programs. Presented as invited guest speaker at the American Bar Association annual environmental meeting.

112r Accident Release Prevention Program. Presented at five locations throughout New York State for the New York State Business Council.

Chemical Bulk Storage Transfer System management. Presented as invited guest speaker at the New York State Department of Environmental Conservation CBS seminar series.

KEY PROJECTS

Clean Air Act

- Principal-in-Charge for completion of a Title V Operating permit at a major pharmaceutical R&D facility. The project included over 400-point sources including pilot plant batch operations involving a variety of unit operations. Process equipment included filtration units, centrifuges, reaction and evaporation vessels, dryers and heat exchangers as well as specialized organic synthesis processing equipment.
- Principal-in-Charge for the preparation of an OSHA Process Safety Plan for a complex toll batch production chemical plant. Applicable processes at the facility included high-pressure high heat reactors, distillation reactors and vacuum systems. Developed PHA, SOP, change management and BMP components for plant management.
- Principal-in-Charge for MACT standard applicability determinations and developed compliance strategies for various manufacturing facilities. Assisted manufacturing associations in developing MACT determination documents for EPA submission.
- Principal-in-Charge for VOC and NOx compliance plans for RACT regulations at manufacturing plants. Projects included presumptive RACT applicability analysis; process evaluations; available control technology identification, technological feasibility and economic reasonableness determinations.
- Principal-in-Charge for numerous air dispersion and receptor modeling studies, using EPA models, such as ISC2, PUFF, DEGADIS, SCREEN, and specialized air toxics and combustion models. In a key project for a major industrial corporation with nationwide facilities, conducted accidental release modeling for assessments under EPA’s 112(r) rule.
- Principal-in-Charge for p-MACT and MACT development effort for major trade associations. Assisted associations in writing and negotiating MACT standards for boat manufacturing and composite fabricators. In addition, prepared a critical review of

EPA AP-42 emission factor development data to negotiate modifying factors for association interests.

- Principal-in-Charge for numerous HAZOP risk studies at chemical plants in the US. Developed corrective action plans, RMP and 112r programs.
- Principal-in-Charge for numerous stack testing programs in the US. Developed testing protocols and implemented complex stack testing programs.

Environmental Planning

- Principal-in-Charge for developing corporate environmental standards for various Fortune 100 companies. Developed corporate guidelines, worldwide standards of practice, and corporate policies for assuring compliance with regulations and global business charters. Worked closely with corporate environmental departments to integrate programs into a seamless merge with existing corporate policy.
- Principal-in-Charge responsible for plan development to assist the United States Postal Service with evaluating all solid waste streams in the New York District Operations. Completed detailed reviews of the various waste streams, characteristics of each, and existing management practice. Developed regulatory requirement analysis, waste reduction options and cost reduction estimates for each major facility location.
- Principal-in-Charge for a project to prepare EIS for a 80 acre truck engine plant. This included research of potential issues associated with the proposed action. Tasks included contacting local agencies, field surveys and engineering studies to document compliance. EIS sections included hazardous material management, natural resources, water issues, drainage and wetlands. Roux Associates then prepared a comprehensive report, which detailed the findings of the evaluation.
- Principal-in-Charge for over 500 siting studies for major telecommunication companies including Omni Point, Sprint and Nextel. Studies followed federal and state NEPA requirements. Prepared impact mitigation reports, visual impact studies, sensitive area evaluations, and wetland permits. Assisted site development engineers with zoning applications.
- Principal-in-Charge responsible for plan development to assist a multi-state holding company evaluate solid waste issues at 12 locations. This included performing a detailed evaluation of the solid waste flow from the generator to the final depository, which included landfills, incinerators or material recovery facilities (MRF's). A waste analysis was developed which analyzed the types of wastes, their quantities and generation location. Secondly, a recycling study was conducted to determine feasibility of recovering recyclable materials, what materials were financially attractive to recover and where they could be recovered (generator, transporter, or depository). Then, an analysis of the landfills or depositories utilized for disposal was conducted by reviewing and comparing them to applicable regulations.

- Principal-in-Charge for a project to prepare multiple sections of a SEQRA EIS for a 100-acre mixed use development in Yonkers, New York. This included research of potential issues associated with the proposed action. Tasks included contacting local agencies, field surveys and engineering studies to document compliance. EIS sections included hazardous material management, natural resources, water issues, drainage and wetlands. Roux Associates then prepared a comprehensive report, which detailed the findings of the evaluation.
- Principal-in-Charge for a project to prepare a formal determination of applicability of the National Environmental Protection Act (NEPA) to the proposed removal of Buildings at the Amtrak Sunnyside Yard location. This included research of potential issues associated with the proposed action. This included contacting local agencies, field surveys and engineering studies to document compliance. Also, a full of a line-of-sight photographic survey was performed. Roux Associates then prepared a comprehensive report, which detailed the findings of the evaluation. The report provided applicable justification and a record of compliance with the NEPA criteria. Based on the submission, a "Finding of No Impact" was issued within 30 days.
- Principal-in-Charge for a project to prepare a SEQRA EIS for a large power generation unit in the New York Hudson Valley. EIS sections included air quality analysis/modeling, hazardous material management, natural resources, water issues, drainage and wetlands. Prepared a comprehensive report, which detailed the findings of the evaluation.

Environmental Risk Assessment Surveys

- Principal-in-Charge for major underwriting which involved secured lending on 46 industrial properties. Portfolio included six superfund sites in New York State. Assisted legal team in developing indemnification agreements and access agreements, which allowed purchase of properties with no set-a-side funding required. Reduced cost liability from \$2.6M to \$300K for remaining properties by developing focused investigation approach.
- Principal-in-Charge for major private purchase of a former aircraft engine plant on 250 acres in New Jersey. Assisted legal team in developing indemnification agreement and access agreements, which allowed purchase of property with no set-a-side funding required. Indemnification agreement covered site related as well as third party coverage.
- Principal-in-Charge for various projects supporting EH&S and legal teams defining claims of environmental damages. Provided expert reports addressing impact and cost issues associated with contamination of media at industrial and commercial sites. Clients have included major law firms, corporate managers and international clients.
- Principal-in-Charge for various DOD property assessments throughout the US. Evaluated military

installations following detailed DOD protocols to access environmental conditions.

- Principal-in-Charge for over 125 environmental compliance audits in 26 states. Audited industries have included aerospace, electronics, medical, cosmetics, metal working, painting, ceramics, transformers, pulp and paper, petroleum, and TSDFs.
- Principal-in-Charge for completion of a wide range of environmental permits. Expert at agency negotiating and providing state-of-the-art regulatory interpretation.
- Principal-in-Charge for over 300 siting studies for major telecommunication companies including Omni Point, Sprint and Nextel. Studies followed federal and state NEPA requirements. Prepared impact mitigation reports, visual impact studies, sensitive area evaluations, and wetland permits. Assisted site development engineers with zoning applications.
- Principal-in-Charge for completion of solid waste characterization study for a major pharmaceutical operation. Obtained unique Beneficial Use Determination (BUD) for solid wastes generated at the plant, saving substantial disposal costs.
- Authored detailed "How-To" books on Process Safety Management, Pollution Prevention and CAA issues. End-users included clients such as Stanley Tools, Pfizer, USPS, NMMA, and Revlon and Coleman Company.
- Principal-in-Charge for completion of solid waste characterization study for a major pharmaceutical operation. Obtained unique Beneficial Use Determination (BUD) for solid wastes generated at the plant, saving substantial disposal costs.
- Principal-in-Charge responsible for plan development and compliance including field investigative techniques and accuracy of sampling methodology, equipment calibration and quality control procedures during the performance of remedial investigations and corrective actions conducted at hazardous waste sites and various manufacturing and industrial facilities.
- Principal-in-Charge for facility specific compliance and pollution prevention programs for Fortune 50 manufacturing companies. Programs included production systems focus and management systems for life cycle analysis and continuous improvement.

Contaminant Assessment

- Principal-in-Charge for major Contaminant cleanup at World Trade Center impact area. Contaminants included mold, dust, metals and asbestos. Represented insurance interest in the cleanup of Contaminants at residential properties. Developed state-of-the-art remediation methods to deContaminant occupied buildings within an expedited time frame. Tasks included investigation, risk evaluation, designing control systems and the development of "first of the kind" preventive measures. Restoration activities included mechanical systems, common areas, and elevator shafts and occupied residential space.

- Principal-in-Charge providing expert services for a major class action certification motion. Case involved school age children seeking damages against a large school district. Client was several third-party contractors, which were involved in construction of the school buildings. Provided expert services and deposition on key scientific issues associated with microbial levels within the schools.
- Principal-in-Charge for construction claims involving commercial and residential buildings. Supported legal defense by providing critical review of cases, completing intrusive inspections, microbial sampling and designing remedy for water intrusion issues.
- Principal-in-Charge for a several multi-million-dollar mold claims involving large commercial hotels. The cases concerned a series of complex water intrusion investigations and associated damages. Expert services included evaluation of intrusion pathways to determine the root-cause of water damage claims. Assisted in determining the age of water damage and appraisal of appropriate remedy for final cure of remediation
- Principal-in-Charge for completion of an extensive mold investigation and remedial program. Assisted client in assessment of mold contamination at an 800-apartment complex impacted by storm flooding. Tasks including sampling various media, risk determination and designing remedy. Represented owner at hearings with local agencies.
- Principal-in-Charge for an in-door air quality investigation associated with mold, bird excrement and microbial contamination. The commercial building tenant was high risk HIV population. Services included sampling and remedial action plans. Assisted corporation in negotiating requirements and represented client during health department inspections.
- Principal-in-Charge for numerous microbial projects for several major insurance companies. Projects have included over 150 buildings in multiple states. Tasks including sampling various media, risk determination and designing remedy. The project properties have ranged from simple residential homes to complex estates. Roux Associates has assisted in claims management, reviewed public adjuster claims and managed large problem claims.
- Principal-in-Charge for major Contaminant cleanup at Brookhaven National Laboratory in New York State. Responsible for the development and implementation of procedures during the excavation and processing of radiological, chemical, biological and high hazard materials. This project included the oversight of ten safety professionals and sixty remediation workers

RECENT CASES

Zincke vs. Pacific Energy Corp., State of New York, County of Kings, Index No. 3892/08

Expert Report, Case consultation

Watkins vs. Albano Fuel Oil, State of New York, County of Westchester, Index No. 552/2007

Expert Report, Case consultation

Hendricks vs. Trade-Winds, State of New York, County of New, Index No. 15335/05

Expert Report, Trial Testimony December 12, 2008

Zizzo vs. Pender County Board of Education, State of North Carolina, County of Pender, File No.:02CVS1064

Deposition on October 28, 2004, case consultation

Axiohm USA Inc. against NCR Corporation, American Arbitration Association Arbitration No. 13 192 02762 03

Case consultation

Archstone-Smith, et al. v. Travelers Indemnity Co. of Illinois, et al., Fairfax City Circuit Court, File No. 279110.01530

Case consultation, expert report

Jeffrey Gilfix and Martha Creager-Gilfix vs. Begay Realty, Supreme Court of the State of New York County of Kings

Case consultation, expert report

John Nawn and Christina Ernst vs. Servicemaster, Circuit Court of Cook County, Illinois, No. 03 L 7374

Case consultation, expert report

Marshall vs. The Hickey Group, Inc., State of Indiana, County of St. Joseph, St. Joseph County Superior Court, Cause No. 71D04-0407-PL-341

Case consultation

Holland vs. W. M. Reality, Supreme Court of the State of New York, Kings County, Index No. 28601/05

Case consultation, expert report

Frame vs. Total Restoration, Supreme Court of the State of New York, New York County, Index No. 105995/06

Case consultation, expert report

Ultimate Precision vs. GSM, LLC, Supreme Court of the State of New York, Suffolk County, Index No. 13529/2010

Case consultation, expert report

Lucy Kung vs. Jimmy Zheng, Supreme Court of the State of New York, Queens County, Index No. 4647/07

Case consultation, expert report

McMahon vs. Suburban Water, Supreme Court of the State of New Jersey, Docket sxx-l-188-04

Case consultation, expert report