

JANET L. GREENBERG, P.E.

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PROFESSIONAL HISTORY

GREEN Environmental Consulting, Inc.	President and Project Manager	1997 to date
EC-Applied, Inc.	Project Manager	1992 to 1997
ENTRIX, Inc.	Project Engineer	1990 to 1992
ARCO Chemical Company	Environmental Engineer	1989 to 1990
ENSR Consulting & Engineering	Senior Project Engineer	1988 to 1989
ENSR Consulting & Engineering	Project Engineer	1986 to 1988

EDUCATION

Rice University	M.S. - Environmental Science & Engineering	1987
Rice University	B.S. - Civil Engineering	1985

TECHNICAL SPECIALTIES

Regulatory Compliance * Project Management * Environmental Permitting * Chemistry

REPRESENTATIVE EXPERIENCE

Ms. Greenberg has over 30 years of industrial and professional consulting experience in environmental science and engineering, including air, water, and industrial/hazardous waste management and permitting. She has experience with site investigations and assessments, facility closures, and regulatory negotiations. Specific experience includes:

Air Emissions Regulatory Compliance and Permitting

Prepared Federal Clean Air Act Amendments (FCAAA) Title V permit applications for submission to TCEQ (TNRCC) for chemical manufacturing and processing facilities and barge and container cleaning facilities.

Prepared TCEQ (TNRCC and TACB) New Source Review air permit applications for chemical manufacturing and processing facilities, barge and container cleaning facilities, surface coating/preparation facilities, and a heavy equipment manufacturer. Included regulatory and BACT reviews and peak and annual average emissions calculations, as well as other information required. Reviewed modeling results. Negotiated chemical flexibility permit conditions. Participated in state and local agency negotiations.

Project manager for the determination of the applicability of and the preparation of notifications required under various NSPS, NESHAP, MACT standards, and state regulations. Assisted the plants with establishing and maintaining recordkeeping programs and with general compliance. Succeeded in exempting a facility as a batch distillation unit from NSPS Subpart NNN regulations via EPA negotiations.

Prepared a NOx RACT Initial Control Plan for a Gulf Coast chemical plant. Prepared MECT("cap and trade") initial and annual submissions and calculated NOx allowances for plants. Provided regulatory applicabilty determinations on the Houston-Galveston-Brazoria NOx regulations.

Managed and participated in the preparation of a spreadsheet for the automation of emissions calculations using look-up tables for equipment and chemical parameters. Also managed the preparation of Visual Basic macros for automated emissions calculations.

Calculated air emissions of Greenhouse Gases and criteria pollutants for combustion units.

Reviewed TCEQ (TNRCC) air permits for chemical plants and advised the plants on compliance with the permit provisions, including both operational and recordkeeping requirements.

Researched possibilities, prepared documentation, and performed calculations for the exemption of facility modifications under TCEQ (TNRCC) Standard Exemptions, including exemptions 30 TAC 106.261 and 262 (formerly nos. 106 and

118). Facilities included chemical processing plants, chemical distributors, cleaning facilities, and paint booths/blast buildings. Exemptions included changes in chemical service and physical modifications to facilities.

Managed the preparation of annual TCEQ (TNRCC) Air Emissions Inventories for tanks, loading, process units, natural gas combustion units, and wastewater treatment plant units.

Managed and participated in the preparation of an application to modify a TNRCC permit to allow the burning of hazardous waste in an industrial boiler (BIF). Included a spreadsheet showing long- and short-term impacts based upon modeling results and TNRCC Effects Screening Levels. Predicated allowable feed composition. Considered lead (Pb) NAAQS, beryllium NESHAP, and SO₂ non-attainment issues. Reviewed the applicability of all Texas and federal air regulations.

RCRA Air Compliance

Provided guidance regarding the installation of a vapor abatement device under the RCRA air emissions standards (Subparts AA and BB of the permitting standards). Determined EPA and TNRCC (TACB and TWC) roles in the approval process.

Prepared tables to instruct two plants regarding compliance with the Subpart CC standards for various units. Also provided each plant with an Implementation Plan.

General Regulatory Compliance and Permitting

Responsibility for overall environmental compliance of a major petrochemical plant including manufacturing areas, wastewater treatment facilities, deepwells, landfarms, waste storage areas, and laboratory.

Assessed overall environmental compliance of a tolling facility that performs fine distillations for major petrochemical manufacturers. Served as Project Manager in directing the effort to achieve compliance, including preparation of RCRA facility management plans, SARA 312 and 313 reports, and a TACB air emissions inventory. Advised the plant regarding retrofitting required for compliance with the RCRA tank and container regulations and federal and state air regulations. Suggested modifications to customer contracts to reduce environmental liability.

Oversight of multi-media environmental compliance at barge and container cleaning facilities, surface coating facilities, and metallurgical facilities.

Attended Responsible Care site visits and assisted in the preparation of facility documents.

Regulatory liaison in negotiations with state and federal environmental agencies on hazardous waste, air emissions, and wastewater discharge permits for new and existing petrochemical facilities. Assisted in negotiations regarding the reduction of fines and penalties.

Prepared environmental assessment of a Texas trailer manufacturing facility and sales/service branch. Performed visual site inspection, reviewed paperwork and regulations, and contacted agencies regarding compliance status. Included RCRA, TACB, wastewater, and SARA issues.

RCRA (Waste) Compliance and Permitting

Prepared or managed the preparation of several Class 1, Class 1ED, and Class 2 modifications to TCEQ (TNRCC) hazardous waste permits. All modifications have been successfully approved.

Developed permitting strategy and coordinated the preparation of an original RCRA Part B application and a renewal application to permit tanks and container storage areas for a hazardous waste storage and processing facility that consolidates hazardous waste for off-site generators.

Assisted two facilities in the self-classification of wastes in accordance with TCEQ (TNRCC and TWC) rules.

Assisted two facilities in the preparation of TCEQ (TNRCC) Source Reduction/Waste Minimization Plans and annual reports. Also assisted with the preparation of Pollution Prevention Plans.

Assisted three facilities with their RCRA Visual Site Inspections (VSI) and RCRA Facility Assessments (RFA).

Provided guidance regarding the disposal of hazardous wastes in accordance with the RCRA land disposal restrictions. Completed the land ban certification forms of various disposal companies to accompany the generators' waste manifests.

Project manager for the preparation of laboratory waste management procedures for two Texas chemical plants with in-house labs. Addressed segregation of RCRA-listed or chlorinated solvent wastes from plant waste management facilities, including wastewater treatment plants, drum consolidation areas, and boiler feed systems.

Organized and/or performed RCRA personnel training for two Texas chemical plants. Used an operations-oriented approach to make the training appropriate for the audience. Also trained operators at one plant on wastewater issues.

Prepared a procedure for the management of spills of products that become classified as RCRA-listed wastes. Considered the "mixture" and "derived-from" rules.

Provided guidance regarding burning wastes for energy recovery, including shipment off-site into the fuels blending market, in terms of environmental regulation and liability.

Coordinated the revision of RCRA Part B facility management plans and the preparation of tank engineering reports and air addendum for two major petrochemical plants in Texas. Provided regulatory support in the preparation of several RCRA tank integrity assessment certifications for several facilities.

Researched EPA and TNRCC (TWC) interpretations of various regulations, particularly those involving secondary containment for equipment ancillary to tanks and provided clarification to a major Texas Chemical plant. Performed a thorough review of TNRCC (TWC and TACB) regulations pertaining to new construction; coordinated preparation of information for submission to the agencies. Also researched and clarified regulations governing recycling for several facilities.

Prepared documents stating rationales for the regulatory exemption of units. Successfully received TNRCC (TWC) approval to remove several tanks from the RCRA Part B permit application of a major petrochemical facility in Texas.

Provided guidance regarding the Conditionally Exempt Small Quantity Generator (CESQG) regulations.

Prepared TNRCC/TWC annual solid waste summaries and monthly waste shipment summaries for several facilities.

RCRA / BIF Compliance

Participated in EPA negotiations regarding qualifications for interim status under the RCRA Boiler and Industrial Furnace (BIF) rules. Assisted in the preparation of a BIF Precompliance Certification.

Prepared RCRA facility management plans for a BIF used to burn hazardous wastes for energy recovery. Considered TACB and RCRA feed limitations in the preparation of the waste analysis plan.

Spill Notification Requirements

Prepared concise flowcharts of federal and state regulatory notification requirements for use during emergency hazardous material spill response and air releases at a chemical plant in Texas City. Provided guidance regarding spill reporting to several chemical plants and a natural gas pipeline facility.

Prepared report for a major petrochemical plant in Texas addressing the plant's environmental incidents, their causes, and reporting schemes. Made recommendations for reduction in number of future incidents.

Municipal/Industrial Wastewater Treatment Facility - Assessment of Operating Problem

Investigated the cause of foaming in a municipal/industrial WWTP. Sampled wastewater discharged from several sources and examined analytical data for evidence of surfactants. Considered synergistic effects.

Closure and Corrective Action Plans

Project manager for the clean closure of a sludge pit. Wrote the closure plan and participated in the field effort.

Prepared interim status closure plans for container storage areas, underground and aboveground storage tanks, surface impoundments, and a thermal treatment facility.

Prepared RCRA Corrective Action Plan for a closed landfill with groundwater contamination.

Wastewater and Stormwater Permits

Assisted facilities with compliance issues regarding multi-sector, general, and individual stormwater permits. Prepared Notices of Intent.

Prepared and served as project manager/advisor on NPDES and TPDES wastewater permit amendment and renewal applications. Also coordinated preparation of Texas application to deposit waste for a transport company.

Reviewed and provided interpretation regarding the NPDES stormwater regulations for manufacturing and commercial facilities.

Provided guidance regarding stormwater and wastewater sampling strategy and methods. Reviewed procedures for measuring stormwater flow rate.

Laboratory Research

Studied the precipitation kinetics of iron carbonate (a naturally occurring protective coating for steel pipes in CO₂ wells) in laboratory batch experiments.

LICENSES

Licensed Professional Engineer, Texas, since 1993

Registered Engineering Firm, Texas, since 2000

AFFILIATIONS

American Chemical Society

Member, Division of Environmental Chemistry

Member, Education Committee, Greater Houston Section

Rice Engineering Alumni

Rice University, Adjunct Professor, Environmental Chemistry, Fall 2014 and 2015

PUBLICATIONS

Available on request