

Emily Guyer, P.E.

Consultant



Education and Credentials

B.S., Civil & Environmental Engineering, Bucknell University, Lewisburg, Pennsylvania, 2007

Professional Engineer, New York (License No. 092686)

Continuing Education and Training

Hazardous Waste Operations and Emergency Response 40-Hour Certification (current)

Professional Affiliations

Engineers Without Borders

Society of Women Engineers

NatureBridge

Professional Profile

Ms. Emily Guyer is a professional engineer with 13 years of consulting experience focusing on environmental remediation of contaminated sediments, soils, groundwater, and nonaqueous-phase liquids (NAPLs). She is a project manager and remediation design engineer with substantial litigation support experience on cases across the country involving a range of remediation issues, engineering cost analysis, and liability allocation. Her experience includes executing environmental investigations, analyzing the fate and transport of contaminants and determining implications for clients, screening and selecting remedial technologies, designing remedial systems, and providing consulting expert support. She specializes in identifying and controlling contaminant sources and developing strategic remedies and plans for complex environmental systems with multiple stakeholders. Ms. Guyer routinely advises clients on site investigation, remediation, regulatory climate, and source control measures for contaminated sites that meet wide-ranging stakeholder needs.

Relevant Experience

Liability Assessment and Litigation Support

Expert Allocation Mediation Settlement, Confidential Superfund Site, New Jersey—Technical and strategic support for a PRP group for a site with co-located arsenic, waste oils, and tar processing residuals, with multiple forms of light and dense NAPL in unsaturated/saturated soils, groundwater dissolved phase, and river sediments. Provided conceptual site model and engineering support for constituent fate and transport, forensic chemical characterization, and cost estimation evaluations. Served as the task manager and technical support person to experts during the development of an allocation framework, including cost scenarios for negotiations with other parties considering future site redevelopment, use of Gore Factors, and other criteria. Helped develop risk management objectives, conceptual remedial alternatives, cost analysis, and cost forecasting in support of technical dispute resolution. Assisted in the preparation of an allocation report and mediation statement, made technical presentations to a mediator, and sat at the mediation table and provided key technical support during negotiations. Supported the successful defense of the client group against a significant third-party cost claim, ultimately reducing the claim by



over two orders of magnitude for the upland portion of the site and eliminating costs entirely for remediation and natural resource damages liability for river sediments.

Consulting Expert Support, Confidential Sediment Superfund Site, New York—Served as project manager and consulting expert providing technical support to an industrial client for liabilities associated with historical manufacturing operations at a complex urban waterway site contaminated with PAHs, PCBs, metals, and NAPLs including tar from multiple sources. Evaluated chemical fate and transport and remedial cost drivers. Performed source identification, risk assessment, and bioavailability evaluations. Quantified and determined the fate of historical contaminant loadings. Carved out remedial design and construction costs related to sources. This work helped demonstrate that the remediation drivers were not related to the client's operations. Ongoing matter.

Consulting Expert Support, Confidential Sediment Superfund Site, Washington—Project manager and consulting expert for an industrial client for liabilities associated with historical manufacturing activities at a complex urban waterway site. Conducted historical operations research, environmental data analysis, mapping, remedy driver and cost evaluations, chemical fate and transport evaluations, report and disclosure document preparation, and expert witness support. Consulting team leader and client advisor. Ongoing matter.

Allocation Support for Multiple Sediment Sites, Upstate New York—Provided consulting expert support and project management. Performed reviews of historical operations and remedial design documents, and conducted assessments of remedy cost drivers and physical and forensic chemical characteristics to distinguish sources of PAHs, metals, and NAPLs in lake and tributary sediments in upstate New York.

Remediation Engineering

Pearl Harbor Sediment Remediation, Hawaii—Task manager and design engineer for a range of projects conducted for an electrical utility in association with the U.S. Navy's planned Superfund cleanup of PCB-impacted sediments in Pearl Harbor. Activities included review and comment on the Navy's RI/FS documents, and an ongoing PCB source tracing and source control design project at the power plant to identify and control ongoing upland sources of PCBs and ensure that those sources are mitigated. Mitigation measures include soil and sediment removal, capping, and sewer cleaning.

Former Manufactured Gas Plant (MGP) Site, Newark, New Jersey—Evaluated and selected remedial alternatives for MGP-contaminated soil. Performed as project engineer to develop design plans for interim remedial measures, including preparation of engineering drawings. Prepared construction bid specifications for soil remediation. The scope of the project involved the installation of an approximately 1,500-linear-foot barrier wall, excavation of 54,000 cubic yards of soil, construction of a 1.2-acre engineered cap, and *in situ* oxidation. An active business was present onsite and continued to operate during all phases of the remedial activities. Scope of work also included all permitting necessary for implementation of the remedy and oversight.



Also served as project engineer to develop the final site plan for City of Newark approval. Work included preparation of site restoration drawings, calculations, and details for a commercial parking lot to be constructed at the site after completion of remedial activities. Detailed design included layout of the 52,000-square-foot parking lot in accordance with local codes, including stormwater drainage, lighting, and landscaping design and a traffic flow analysis. This work included close coordination with city engineers and members of the City of Newark Central Planning Board.

Lower Passaic River Superfund Site, New Jersey—Estimated costs for five sediment remedial alternatives for the 17+ mile site. Provided other technical support on the feasibility study, including future waterway user and technology evaluations.

Soil and Sediment Remediation at a Former MGP Site, New York—Prepared the remedial design work plan and engineering design documents for regulatory approval, including engineering drawings, a sampling and analysis plan, a citizen participation plan, design mix testing requirements, specifications, and other ancillary plans for the remediation of upland soil and sediment at a former MGP site. Selected remedial technologies included *in situ* solidification, removal, and capping.

Remedial Design and Site Reclassification of a Commercial Site, Great Neck, New York—Prepared remedial design documents and drawings for a chlorinated solvent site in Great Neck, New York. Remedial design components included an upgrade of a sub-slab depressurization system (SSDS) with electrical performance/operational monitoring components. Also performed a confirmatory round of groundwater sampling and worked closely with regulators to reclassify the site.

Multiple Sites throughout Brooklyn, Queens, Bronx, Manhattan, and Staten Island, New York—Assisted in preparation of remedial design specifications and drawings for multiple sites throughout New York City. Remedial design components included gas vapor barriers and SSDSs for new commercial building and school construction. Assisted in collaborations with architects to incorporate environmental design into overall new construction design packages.

Feasibility Studies for Multiple Media at Former MGP Superfund Sites, New York—Prepared feasibility studies to address MGP-related contaminants above applicable or relevant and appropriate requirements in soil, sediment, and groundwater. Feasibility study reports included a summary of existing conditions; identification of standards, criteria, and guidance; development of remedial action objectives; identification and screening of remedial technologies and process options; development of alternatives for each media and a detailed analysis of the alternatives; a comparative estimate of capital and operation and maintenance costs; and the selection of a preferred remedy for each contaminated medium.

Remedial Action Work Plan for PCB Remediation, New Rochelle, New York—Prepared the remedial action work plan for the remediation of PCBs in soil at a former military facility located on an island in the City of New Rochelle, New York.



Former Metals Plating and Metals Products Sites, New Jersey and New York—Prepared feasibility studies and engineering design plans for contaminated soil and groundwater at Superfund sites. Prepared the feasibility study to address contamination of inorganic chemicals in soil, volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) in groundwater and surface water, and inorganic chemicals and SVOCs in sediments. Technologies included soil excavation, *ex situ* groundwater treatment, and sediment capping. Also provided risk management support, including presentations to the public. Evaluated state land use (freshwater wetlands, flood hazard area) permit issues associated with construction of the groundwater treatment plant. Prepared remedial design documents and freshwater wetlands and flood hazard area submittals to the New Jersey Department of Environmental Protection, Land Use Regulation Program.

Soil Erosion and Sediment Control Plans, New Jersey—Prepared multiple soil erosion and sediment control plans, including engineering drawings, for approval from local soil conservation districts for remedial construction activities.

Model Toxics Control Act Sediment Site, Seattle, Washington—Project manager for feasibility study support and an engineering evaluation on the dredgeability of sediments.

Site Investigation and Fieldwork

Remedial Investigation and Liability Support at a Fuel Oil Terminal, Brooklyn, New York—Project manager for remedial investigation, and engineering and liability support. Prepared the remedial investigation work plan, managed field activities for the remedial investigation, and supported preparation of the remedial investigation report for a fuel oil terminal located in Brooklyn, New York. Design engineer for a solar-powered light NAPL recovery system. Field activities included collection of soil, groundwater, and light NAPL samples in addition to product recovery system installation oversight. Strategic liability, remediation management, and close coordination with multiple stakeholders successfully removed the fuel oil terminal client from liabilities at an adjacent property, and the regulatory agency granted a No Further Action designation for the site.

In Situ Oxidation Treatment of Perchloroethylene (PCE)–Contaminated Groundwater at a Superfund Site, Upstate New York—Provided task management and execution of a 10,000-gallon *in situ* chemical oxidation treatment of PCE-contaminated groundwater. Provided consultation to the EPA project manager and the New York State Department of Environmental Conservation project manager as the project was transitioned from EPA to the State of New York. Provided installation oversight and managed five subcontractors with four mobilizations. Performed work in harsh winter weather, in confined space entry conditions, and inside abandoned buildings for most of the subsurface effort. Obtained a shared vision with the client on a revised injection approach when subsurface conditions varied from previously documented information. Groundwater monitoring data demonstrated that an overall decrease in VOC contamination to below treatment goals was achieved.



Environmental Due Diligence, Multiple Sites, New York and New Jersey—Performed multiple Phase I environmental site assessments (ESAs) for redevelopment projects throughout the New York City metro area. Work included site inspections, Phase I ESA reporting, and probabilistic cost estimation for remediation and redevelopment scenarios.

Ecological Risk Assessment at PCB-Contaminated Commercial Site, New Jersey—Performed fieldwork associated with the ecological risk assessment for a site contaminated with PCBs. Work included supporting the risk assessment lead in small mammal collection for laboratory analysis.

Ecological Risk Assessment at PCB-Contaminated Federal Site, Virginia—Performed fieldwork associated with the ecological risk assessment for a federal site contaminated with PCBs. Work included shellfish collection for laboratory analysis.

Supplemental Groundwater Investigation, Great Neck, New York—Conducted low-flow groundwater sampling to confirm the site was not a contributing source of VOCs to groundwater.

Phase II Investigation and Liability Support, Brooklyn, New York—Planned, managed, and oversaw the collection of soil and groundwater samples to investigate areas of concern and potential CERCLA liability at a site located along an urban waterway.

Chemical Forensics Sampling, Multiple Sites, New York and New Jersey—Supported environmental forensics experts in collection of surface soil, surface sediment, surface water, and sheen samples for forensics analysis.

Free Product Delineation, Long Island City, New York—Provided task planning and field oversight for delineation of free product via laser-induced fluorescence at a site in Long Island City. Delineated a small volume of free product in the subsurface and performed recovery and confirmatory groundwater sampling to achieve site closure.

Presentations/Posters

Guyer, E., B. Petri, A. King, S. Gheen, and K. Peterson. 2019. How can the cost allocation process adapt to an adaptive remedy? Platform presentation at Tenth International Conference on the Remediation and Management of Contaminated Sediments, New Orleans, LA. February 11–14.

Kellems, B., and E. Guyer. 2017. Challenges and opportunities for incorporating climate change adaptation measures into sediment remedies. Ninth International Conference on Remediation and Management of Contaminated Sediments, New Orleans, LA.

Kellems, B., and E. Guyer. 2015. Consideration of climate change impacts during remedy design for sediment remediation. Eighth International Conference on Remediation of Contaminated Sediments, New Orleans, LA.

