



HYDROGEOLOGIC CONSULTING & DECOMMISSIONING SUPPORT SERVICES

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FIRM PROFILE

PWGC: SOLUTIONS FOR A CHANGING WORLD

MEET PWGC

PWGC was founded more than 29 years ago by Paul Grosser, PhD, PE, PG, a thought leader who recognized the need for a multi-disciplined engineering and environmental consulting firm that offered a diverse range of services to meet market demand regionally and nationally. Based in Bohemia, NY, PWGC has offices in New York City, Albany, Syracuse, Connecticut and Washington.

In 2012, PWGC was awarded with the Subcontractor of the Year Award presented by the US Small Business Administration (SBA), Region II for our superior service.

CHOOSE PWGC

PWGC counts the Department of Energy's Brookhaven National Laboratory (BNL), the United States Environmental Protection Agency and General Services Administration among our federal clientele who have benefited from our in-depth experience. PWGC has worked on large environmental/engineering projects for federal clients since 1993. Our spectrum of expertise includes:

- Design and implementation of remedial investigations
- Remedial Investigation/Feasibility Study (RI/FS)
- Preparation of Engineering Evaluation/Cost Analysis (EE/CA)
- Remedial Design/Remedial Action (RD/RA) work plans
- Preparing Proposed Remedial Action Plans (PRAPs) and Records of Decision (RODs)
- Remedial system design/operation/maintenance support
- Brownfield's Cleanup Program site remediation
- Project management support
- Construction/Demolition/Oversight
- Engineering cost estimating, project controls support
- Sustainable energy design (geothermal/CNG)
- Civil site design services

THE PWGC DIFFERENCE

What sets us apart is our customized approach to each project, rapport with regulatory agencies and exceptional project management. The PWGC approach has gained an eminent reputation within the industry, as well as with our clients. PWGC features unique assets that translate into additional value for you.

PWGC QUICK FACTS

Corporate

- Founded & Incorporated: 1990
- SAM/SBA Registered
- Small Business
- DUNS # 798730966
- Federal ID: 11-3612196

Offices

- Bohemia, NY
- New York, NY
- Albany, NY
- Syracuse, NY
- Seattle, WA
- Shelton, CT

Qualifications

- LICENSES - Engineer, Geologist, LSP, NC, NY, NJ, PA, MD, IN, NH, MA, FL, WA
- LEED-AP
- Envision

Service Codes

NAICS

- 562910 Environmental Remediation
- 541330 Engineering
- 541620 Environmental Consulting
- 562998 Waste Management Services
- 541370 GIS Base Mapping
- 237130 Green Services

SIC

- 8999 Environmental Services
- 8711 Engineering Services



SUMMARY LIST OF SERVICES

Environmental Services

- Contract Administration
- Petroleum & Chemical Spill Investigation & Remediation
- Remedial Alternative Assessment & Design
- Remedial Construction Management
- Property Transaction Services
 - Due Diligence, RI/FS, PCR
 - Brownfields Redevelopment—Investigation, Remediation, Program Management
 - Phase I, Phase II Environmental Site Assessments
 - NYC E-Designated Sites
 - NYC OER Program Management—Investigations, Remediation, Grant Application
 - Cost Estimating—Property Investigation & Remediation
- Environmental Audits—Assess Environmental Liability
- Environmental Assessment & Contaminant Source Evaluation
- Groundwater Investigation & Remediation
- Aquifer/Pumping Testing
- Risk-Based Approach Solutions
- Site Closure Reports
- UST/AST Management
- Air, Water, Soil & Soil Vapor Sampling/Monitoring Community Air Monitoring
- Environmental & Health Risk Assessment
- Radiological Investigation & Remediation Services
- Hazardous Waste Management
- Soil Management, Certified Clean Fill
- Storm Water Management
- Water Table Evaluation & Flood Mitigation
- Dewatering Design, Permitting & Compliance Sampling

Environmental Compliance & Management

- Air Quality—Title V Permitting, Air Emission Inventories, Tier II & TRI Reporting
- Articles XI & 12 Hazardous Materials Storage Compliance for Nassau & Suffolk Counties, NY
- Chemical/Petroleum Bulk Storage Tanks—Permitting, Audits, Regulatory/Environmental Compliance Management
- Facilities Contingency Plan Development/Management, including SPCC, SWPPP, FRP
- Compliance Review
- Regulatory Compliance Reporting
- FAR 139.321 Fire Safety Inspections
- Fuel Storage Facilities & Mobile Fuel Equipment

Wastewater & Water Supply

- Water Supply/Wastewater—Systems, Planning, Design
- Groundwater Modeling
- Site/System/Feasibility Evaluation, Planning & Technical Assistance
- Water Conservation Plan Development

Expert Counseling/Client Representation

- Expert Testimony, Support & Counsel

Natural Resource Studies

- Wetlands Delineation, Permitting and Mitigation Design
- Threatened and Endangered Species Surveys
- Migratory Studies
- Ecological Studies
- Ecological Risk Assessments
- National Environmental Policy Act (NEPA) Studies
- Planning
- Watershed Analysis

Energy/Sustainability Solutions

- Geothermal System Feasibility Analysis, Design, Permitting and Construction Management
- Renewable Energy Design for Solar and Wind
- Carbon Footprint Analysis, Profile and Management
- Alternative Fueling Station Planning and Design, Equipment Specification, Construction Observation, Permitting, Compliance and Facility Commissioning for Compressed Natural Gas, Hydrogen, Biodiesel and Ethanol-85
- Building Due Diligence and Energy Studies
- LEED Administration and Sustainable Design Practices
- High Performance Sustainable Buildings
- Energy Conservation and Energy Recovery Alternatives
- MEP/High Efficiency Equipment Solutions
- Power Generation, Cogeneration and Fuel Cells
- Energy Modeling, Utility Rebate Programs and Tax Incentives
- Green Legislation and ARRA Stimulus Grants
- GIS Based Modeling for Wind, Solar and Carbon Footprint Analysis

Civil/General Engineering

- “Best Economic Alternatives” Evaluation
- Comprehensive Feasibility Studies
- Conservation Plan Development
- Construction Planning, Management, QA/QC
- Drainage Planning, Grading & Design
- Evaluation, Planning & Technical Assistance
- Facility Design & Condition Assessment
- Planning & Design
- Property Condition Report

Geographical Information Systems / Global Position Systems

- Data Collection and Conversion
- Infrastructure and Asset Management
- Wetlands & Endangered Species Delineation
- Digital Elevation Model Analysis
- Customized GIS Applications, GIS/CAD Integration
- Database Development, Conversions, Manual Digitizing
- Web site development
- GPS field data collection and post-processing
- Remote sensing and image processing





**HYDROGEOLOGIC CONSULTING
& DECOMMISSIONING SUPPORT
SERVICES**

INTRODUCTION TO HYDROGEOLOGIC CONSULTING & DECOMMISSIONING SUPPORT SERVICES

High Flux Beam Reactor (HFBR) Hydrogeologic Consulting and Decommissioning Support Brookhaven National Laboratory, Upton, NY

HFBR Tritium Groundwater Plume Investigation and Remediation

PWGC was contracted by Brookhaven National Laboratory (BNL) to investigate and delineate the tritium groundwater plume associated with the HFBR. Services included the installation of temporary vertical profile borings, permanent monitoring wells and recovery/extraction wells using various drilling technologies, including Geoprobe® and Hollow Stem Auger. PWGC provided observation and support services such as:

- Coordination and execution of daily safety meetings
- Health and safety oversight
- Oversight of subcontractors and field crew
- Collection of soil and groundwater samples
- Soil classification using the USCS and Munsell Color Chart
- Decontamination of sampling equipment
- Documenting and tracking wastes generated
- Development of permanent monitoring wells
- Documentation of field observations, including blow counts, sample collection techniques visual observation, health and safety information, and construction activities



PWGC also evaluated alternatives for remediation of the tritium plume, including capital and operating cost projections. PWGC engineers designed and provided construction oversight of the start-up of the associated groundwater remediation system on an urgent basis. The system design included treatment system mechanical design, structural and electrical systems, as well as piping and related site work. Construction of the tritium remediation system was completed ahead of schedule and within budget without change orders.

HFBR & Balance of Plant (BOP) Preliminary Assessment | Site Inspection (PA/SI)

PWGC conducted a PA/SI within the reactor and BOP structures to determine the existence of potential pathways for contamination to reach the environment; and, whether or not, identified issues warranted designation as an Area of Concern (AOC). PWGC researched, collected, and reviewed historical, public, and environmental records, building construction drawings, and available site-specific data, and conducted informal interviews with HFBR personnel. Potential issues, considered areas of interest (AOIs), were enumerated and PA results documented to develop an investigative scope of work for the SI. PWGC prepared the project documents to conduct the investigation such as: Sampling & Analysis Plan, Health & Safety Plan, and Waste Management Plan.

In the PA, PWGC identified a total of 53 AOIs. This being a comprehensive review of available environmental reports and on-going investigations, 26 AOIs were eliminated from the scope since they were being investigated as part of other projects, leaving 27 AOIs for further investigation for which PWGC conducted radiological walk over surveys surface/subsurface soil sampling, and groundwater sampling. Based on the SI data collected, PWGC integrated the results into the PA/SI Report; eliminating an additional 23 AOIs, and entered the remaining 4 into a tracking system pending future evaluation, since they could not be addressed due to their location. One AOI for the site was soil quality surrounding the spent fuel pool, suspected as a source of tritium groundwater contamination. This required coring through a 5-foot thick, reinforced heavy concrete mat with imbedded contaminated piping systems. PWGC implemented a specialized geophysical survey to locate rebar and piping systems. Six coring locations were chosen. Coring through the mat was conducted without an occurrence and soil and groundwater samples were collected. There was no significant source of groundwater contamination present under the building. Collectively PA/SI results were used to support decisions for end state alternatives for the HFBR and BOP structures.

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HFBR Stabilization

The HFBR Stabilization Project included preparing the HFBR confinement building (Building 750) for long-term safe storage and removing localized radiological contamination in areas immediately outside of Building 750. This project was performed in part with funding from the American Recovery and Reinvestment Act (ARRA) and in accordance with Closeout Procedures at National Priority List Sites, OSWER Directive 9320.2-09A-P.

Activities included:

- Modification of the ventilation exhaust system, security system and alarms
- Installation of a water infiltration detection system with remote alarms
- Modification of confinement building lighting and electric power distribution
- Correction of minor confinement building deficiencies
- Isolation and drain-down of mechanical systems and tanks
- Removal of miscellaneous waste and combustible materials
- Grading areas around the confinement building to improve storm water drainage
- Modifications to access/entry points
- Completion of a Final Status Survey and Independent Verification Surveys in areas immediately outside of Building 750

PWGC's Role:

- Prepared Baseline Work Packages and the final Closeout Report for submittal to DOE
- Provided project management oversight for the project, interface with regulatory agencies and DOE, contract administration construction management and preparation of work control documents in accordance with DOE requirements
- Provided personnel to fill key roles, including, Job Supervisor, Work Control Manager, Project Engineer, Soil Sampling Personnel, Health and Safety Manager, Laborers/D&D Workers, and Waste Manager

PWGC CLIENT REFERENCES

BROOKHAVEN NATIONAL LABORATORY Mr. Vincent Racaniello - (631) 344-5436 P.O. Box 5000, Upton, NY 11973	BROOKHAVEN NATIONAL LABORATORY Ms. Diane Rocco - (631) 344-8122 P.O. Box 5000, Upton, NY 11973
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BROOKHAVEN NATIONAL LABORATORY Mr. Steven Cannella - (631) 344-2116 P.O. Box 5000, Upton, NY 11973	BROOKHAVEN NATIONAL LABORATORY Mr. Les Hill - (631) 344-8631 P.O. Box 5000, Upton, NY 11973

