# HYDROGEOLOGIC CONSULTING & DECOMMISSIONING SUPPORT SERVICES

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PWGC
CLIENT DRIVEN SOLUTIONS

# PWGC: SOLUTIONS FOR A CHANGING WORLD

## MEET PWGC

PWGC was founded 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, Syracuse, Saratoga Springs, Connecticut and Washington.

PWGC serves the New York Metropolitan region and has established a strong reputation for innovative problem solving and providing quality services to municipal, educational, private, public and federal clients. The firm is dedicated to providing cost-effective and timely services that result in practical solutions for its clients.

PWGC has a multi-disciplined staff of more than 70 professionals, which includes recognized experts in the application of wastewater and water supply technologies. Its strength lies with these licensed professional engineers, geologists and hydrogeologists, LEED accredited professionals and environmental compliance specialists, which gives PWGC a wealth of experience key to helping bring your project from idea to reality.

## CHOOSE PWGC

Whether your objectives are planning, design and/or redevelopment, PWGC's solutions are innovative and economical. PWGC is committed to client goals and our dynamic team of professionals provide innovation and flexibility
to deliver customized solutions to projects regardless of size, complexity or duration.

## THE PWGC DIFFERENCE

What sets us apart is our customized approach to each project, rapport with regulatory agencies and exceptional project management. This approach has cemented PWGC's industry reputation as a leader in engineering. PWGCs assets that translate into additional value for you:

- Strong working relationships with key regulatory sector players
- Specialists in regulatory requirements to facilitate quicker approvals
- Highly responsive to budget & time constraints to get your project on line faster
- Project and quality control monitoring to exceed your project needs
- More than 70 dedicated professionals to provide a wide array of services
- Strict adherence to environmental compliance standards

**Make PWGC's quality environmental consulting and engineering solutions work 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
- Saratoga Springs, 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

- 87489905 Environmental Consulting
- 8711 Engineering Services


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# SUMMARY LIST OF SERVICES

## SEQRA Consulting and Planning Services

- Administration of the SEQRA Process
- Type II Opinion Letters
- Coordinated Review
- Environmental Assessment Forms
- Scoping Documents
- Environmental Impact Statements
- Determinations of Significance
- Findings Statements
- Notices and Assistance with Resolutions
- Land Use and Zoning Assessments

## 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

## Expert Counseling/Client Representation

- Expert Testimony, Support & Counsel

## Wastewater/Water Supply

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

## Natural Resource Studies

- Wetlands Delineation, Permitting & Mitigation Design
- Threatened & 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 & Construction Management
- Renewable Energy Design for Solar & Wind
- Carbon Footprint Analysis, Profile & Management
- Alternative Fueling Station Planning & Design, Equipment Specification, Construction Observation, Permitting, Compliance & Facility Commissioning for Compressed Natural Gas, Hydrogen, Biodiesel & Ethanol-85
- Building Due Diligence & Energy Studies
- LEED Administration & Sustainable Design Practices
- High Performance Sustainable Buildings
- Energy Conservation & Energy Recovery Alternatives
- MEP/High Efficiency Equipment Solutions
- Power Generation, Cogeneration & Fuel Cells
- Energy Modeling, Utility Rebate Programs & Tax Incentives
- Green Legislation & ARRA Stimulus Grants
- GIS Based Modeling for Wind, Solar & 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 & Conversion
- Infrastructure & Asset Management
- Wetlands & Endangered Species Delineation
- Digital Elevation Model Analysis
- Customized GIS Applications, GIS/CAD Integration
- Database Development, Conversions, Manual Digitizing
- Website Development
- GPS Field Data Collection & Post-Processing
- Remote Sensing & Image Processing

# FIRM PROFILE

# 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, permanenet 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 numerated 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 HBFR and BOP structures.



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# INTRODUCTION TO HYDROGEOLOGIC CONSULTING & DECOMMISSIONING SUPPORT SERVICES

### 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**<br>**Mr. Vincent Racaniello - (631) 344-5436**<br>P.O. Box 5000, Upton, NY 11973 | **BROOKHAVEN NATIONAL LABORATORY**<br>**Ms. Diane Rocco - (631) 344-8122**<br>P.O. Box 5000, Upton, NY 11973 |
| **BROOKHAVEN NATIONAL LABORATORY**<br>**Mr. Tom Daniels - (631) 344-4752**<br>P.O. Box 5000, Upton, NY 11973 | **BROOKHAVEN NATIONAL LABORATORY**<br>**Mr. Michael Hauptmann - (631) 344-4202**<br>P.O. Box 5000, Upton, NY 11973 |
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