



A World of **Solutions**™

Statement of Qualifications for



Environmental Services

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Section 1 — Introduction



Shaw's corporate headquarters
Baton Rouge, LA

The Shaw Group Inc. is an integrated provider of comprehensive engineering, design, construction, technology, maintenance, and pipe fabrication services to the environmental, infrastructure, power, and energy and chemicals industries.

The Shaw Group was founded in 1987 by Jim Bernhard, our Chairman, President, and Chief Executive Officer, and two colleagues as a fabrication shop in Baton Rouge, LA. Driven by leaders with bold vision and a strong entrepreneurial spirit, the Shaw Group has evolved into a Fortune 500 Company with 27,000

employees in 120 strategic locations around the world.

Shaw Environmental & Infrastructure, Inc.

Shaw Environmental & Infrastructure Inc. (Shaw) was incorporated into The Shaw Group in 2002 by combining the engineering and construction expertise of Stone & Webster and The IT Group. This legacy of more than 100 years provides a strong foundation for developing and implementing long-term solutions.

From redeveloping contaminated sites to devising innovative solutions to complex environmental issues, Shaw resolves environmental and infrastructure challenges for clients worldwide.

Through innovation, experience, and responsiveness, we have cultivated a performance-based culture focused on delivering solutions that meet or exceed our clients' needs across all phases of a project—from planning and permitting through design, construction, operation, demolition, restoration, and redevelopment.

Shaw's broad experience and multidisciplinary approach provide the expertise and flexibility to meet all environmental and infrastructure project needs.

Shaw offers a highly skilled team of approximately 6,000 professionals strategically located in approximately 80 offices throughout the U.S. and abroad. Our clients include the federal government, municipalities, nongovernmental organizations, and myriad industries.

Shaw's success depends on the services, systems, processes, and tools implemented on every project, no matter how big or small. Through consistent and constant application of proven safety and quality programs, effective project management processes and procedures, and solution-oriented engineering and construction services, Shaw ensures project success. Our core competencies include the following.

Safety

Safety is of paramount importance to all of us at Shaw. Protecting our

people and providing them a safe place to work deserves the highest priority and attention. While other companies may strive for safety performance which barely exceeds national averages, our ultimate goal is to have zero incidents on every job site, office, and on the roads.

Shaw's statistics are evidence that our commitment to safety is producing results. Shaw's Experience Modification Rate (EMR), averaged over the last three years are 0.96 and 0.53, respectively. An EMR of less than 1.0 means that you have incurred fewer expected losses than other companies performing similar activities.

Consulting

As recognized leaders in thinking "outside the box," we develop innovative, yet practical, solutions that give our clients a distinct competitive edge.

Technology

The constant pursuit of leading edge technologies remains a core component of our strategic plan. Our expanding technology portfolio features value-added, groundbreaking solutions for clients in every facet of our business.

Procurement

With decades of design-build expertise, we are well versed in delivering premium equipment and services components at the best value for clients around the world. This legacy continues, establishing us as a valued and trusted resource for industrial clients.

Project Delivery/Project Management

Streamlined, cost-effective, state-of-the-art systems and processes as well as an acute focus on the details ensure our clients' projects are delivered on time and within budget.

Section 2 — Services

Shaw offers comprehensive health and safety (EH&S) environmental services to a myriad of clients across the U.S. and the world. Shaw's unique **National Practice Program (NPP)** was developed to provide clients with consistent, quality services delivered locally via a national network of resources.

Shaw provides these services on a national basis to clients with multiple locations across the country. We design, create, and deliver programs and materials that are consistent and provide a systematic approach for our clients. We assist our clients in meeting EH&S regulatory requirements and minimizing EH&S risk and liability from their operations.

The NPP includes a professional workforce of more than 1,500 experienced EH&S scientists and engineers in approximately 80 offices nationwide. They ensure consistent, cost-effective, and quality delivery of services to our clients.

The NPP features the following eight services:

1. Air Quality
2. Auditing & Compliance
3. Due Diligence
4. Industrial Hygiene and Safety
5. Natural Resources
6. Remediation
7. Risk Assessment
8. Sustainability

On the following pages, we provide summaries of our NPP service capabilities.

Air Quality

Today, sweeping changes are taking place in industries affected by the Clean Air Act (CAA). Air emissions are now being regulated more comprehensively, and many businesses are facing tighter operating constraints than before, particularly under the Title V operating permits and Title III air toxics rules. Furthermore, regulators are increasingly pursuing multimedia

enforcement. Requirements of the CAA are so far-reaching that many companies no longer seek simply to reduce pollutants; they are rethinking their production methods and business objectives. The challenge is to go beyond technical and regulatory compliance.

To accomplish this, Shaw takes an integrated strategic approach to air quality compliance. Our approach seeks to reduce overall environmental impacts through multimedia solutions. We work strategically to reduce the cost of compliance by evaluating the long-term implications of today's decisions.

Shaw helps clients in their efforts to maintain compliance as existing market and regulatory drivers change, and new drivers emerge. Our services seek to integrate compliance with clients' business strategies to provide a competitive advantage. The following describes the major services we offer.

- Ambient Air Quality/
Meteorological Measurements
- Air Emissions Inventories and
Compliance Assessments
- Air Toxics Health Risk
Assessments
- Air Permitting
- Pollution Prevention/
Waste Minimization
- Risk Management Planning
- Stack Emissions Testing
- Air Impact Modeling
Assessments
- Leak Detection and Repair
Services
- Specialty Services (legal
services, technology
development, training
regulatory research, indoor air
flow modeling)

Auditing & Compliance

EH&S compliance auditing services are provided by Shaw's staff of engineers and scientists with demonstrated expertise in multimedia regulatory compliance. Compliance auditing is a systematic, documented, and objective review of facility operations and practices related to meeting environmental requirements. Audits are designed to verify compliance with EH&S requirements (federal, state, and local regulations, as well as company policy); to evaluate the effectiveness of EH&S management systems (EMS-BSI 18001) (procedures and

responsibilities); and to assess potential liabilities from regulated and unregulated materials and practices.

Our compliance services include:

- EH&S Compliance Auditing Program Development & Support (corporate and facility-level)
- Environmental Compliance Program Support and Development (e.g., compliance-focused Environmental Management Programs/Systems)
- Air Quality Compliance Management
- Hazardous Waste Permitting, Storage, and Management
- Hazardous Material Storage, Inventory, Reporting, And Management (SARA 311,312 and 313 reporting)
- Pollution Prevention Planning
- Spill Prevention, Control and Countermeasure (SPCC) Plan Development, Certification, and Management
- Stormwater Permitting, Plan Development, Inspections, and Reporting
- Training Services (One-On-One, Classroom, Web-Based, Train-the-Trainer)
- Wastewater Permitting, Sampling, and Reporting

Due Diligence

Shaw supports clients involved with commercial and industrial real estate transactions, providing a range of environmental due diligence services.

Shaw services include:

- Phase I Environmental Site Assessments (ASTM E1527-05/All Appropriate Inquiry)
- Hazardous Building Material Assessments (asbestos-containing materials, mold, and radon)
- Property Condition Assessments (PCA) in accordance with ASTM 2018
- National Environmental Policy Act (NEPA) assessments
- Sensitive Receptor Surveys
- In addition, our Senior Transactional Services team will be providing assessment services in response to the upcoming ASTM standard on Vapor Intrusion Assessment, Standard Practice E2600.

Shaw has provided due diligence services to clients in the following market sectors:

- Banks and other lending institutions
- Private equity funds
- Merger and acquisition specialists
- Real estate investment trusts (REITs)
- Public and private sector land owners and businesses

- Developers
- Legal firms

Shaw is ideally positioned to provide these services in support of multi-site transactions and large portfolio programs.

Industrial Hygiene & Safety

Shaw offers a broad range of industrial hygiene and safety services to both commercial and government clients. As an industry leader, Shaw can help customers:

- Protect their most valuable asset – their employees
- Reduce potential liabilities
- Minimize the risk of occupational disease and injury
- Maintain compliance with regulatory requirements
- Maximize productivity

Shaw offers numerous client-oriented industrial hygiene and safety services and a staff that includes Certified Industrial Hygienists (CIHs), Certified Safety Professionals (CSPs), Certified Health Physicist (CHPs), Certified Environmental Trainers (CETs), and Certified Indoor Air Quality Professionals (CIAQPs). These professionals can address issues ranging from risk reduction to compliance with Occupational Safety and Health Administration (OSHA) requirements. Industrial hygiene and safety services include:

- Industrial Hygiene Evaluations/Monitoring (chemical, noise, ventilation)
- Chemical
- Noise
- Ventilation
- Health Hazard Evaluations
- Industrial Hygiene and Safety Program Assessment And Development (third party)
- Engineering Controls (ventilation system design, noise controls, machine guarding, etc.)
- Indoor Air Quality, including Mold Issues
- OSHA Voluntary Protection Program (VPP) Assistance (gap analysis, application, health and safety procedure writing, and pre-OSHA audit)
- Job Hazard Analyses/Personal Protective Equipment Assessments, including use of an Internally Developed Software Program
- OSHA Required Training (hazard communication; chemical specific, such as lead, arsenic, etc.; confined spaces; personal protection equipment noise, etc.)
- Hazardous Waste Operations and Emergency Response (HAZWOPER) Training (40 hour, refresher, supervisor, first responder, hazardous materials technicians, hazardous materials specialists, and incident commander)

- Comprehensive EH&S Training Needs Analysis and Software Design and Development
- Health Physics/Radiation
- Comprehensive Reports

Natural Resources

The loss of natural habitat due to industrial development, urban growth, and natural causes is a growing concern. The natural resource market is driven primarily by development activities governed by multiple federal, state, county and local regulations (e.g., Clean Water Act [CWA], Oil Pollution Act, NEPA, and the Endangered Species Act). The political pressure to consistently enforce natural resource regulations across the country has increased. Regional variations in the market are driven by enormous differences in the degree to which state and local regulations govern environmental impacts. Additionally, there are notable regional differences in the degree to which federal regulations are implemented and enforced.

Shaw has been actively engaged in the natural resources market for more than 25 years and offers a broad range of support for natural resources planning, protection, and restoration:

- Land Disturbance Permitting and Mitigation
- Ecosystem Restoration Design/Build

- Environmental Assessments/ Impact Statements
- Threatened and Endangered Species Studies

The natural resources market can be divided into two primary markets: the project permitting market (development-driven) and the ecosystem restoration market (program-driven). The project permitting market includes permitting for development projects that may have an adverse impact on regulated natural and aquatic resources. Studies typically required to document potential environmental impacts and support permit applications include wetland delineations, plant surveys, aquatic surveys, threatened and endangered species surveys, other wildlife surveys, and mitigation planning and design. Depending upon the scale of the project, a more comprehensive suite of discipline studies may be conducted as part of an environmental assessment/environmental impact statement as governed by NEPA. Clients include any agency, municipality, industry, or developer that engages in development activities that may affect regulated natural resources. The size of these natural resources projects varies widely and scales directly with the size and extent of the proposed development activity.

The large-scale ecosystem restoration market is characterized by significant projects or

programs such as the Florida Everglades Restoration, the Louisiana Coastal Programs, Iraq Marshlands, Saudi Coastline, the CalFed Program, and the Puget Sound Regional Salmon Recovery Plan. These projects are almost exclusively sponsored by larger state and federal agency programs. Some non-government organizations (e.g., Nature Conservancy, Trust for Public Lands, American Rivers) sponsor large-scale ecosystem projects as part of an organized program with a national presence. Federal agencies most engaged in large-scale ecosystem restoration and recovery include the U.S. Army Corps of Engineers, Bureau of Land Management, National Park Service, and Natural Resources Conservation Service (formerly Soil Conservation Service). Among the state agencies, many transportation departments take a programmatic approach to wetland and habitat mitigation for the impacts associated with road and highway projects. Such programs lend themselves to large-scale advance compensatory mitigation projects and/or mitigation banks.

Remediation

From excavation and off-site disposal to application of our patented technologies, Shaw provides our clients with the most effective and cost efficient solutions to their remediation projects in full compliance with regulatory requirements.

Innovative Technologies

In solving hazardous, toxic, and radiological waste problems, Shaw has innovated many new remediation technologies and processes that have brought about lasting, cost-effective solutions.

- Air Sparging
- Intrinsic Bioremediation
- Dual-Phase High-Vacuum Extraction
- Ozone Sparging
- In Situ Metals Fixation
- Electrokinetics

We have a long history of applying new technologies to reduce costs and shorten the time to closure.

Shaw has developed and patented more than 50 innovative technologies, and we have frequently been the first to commercialize innovative practices. We understand the effort it takes to bring science to reality. Our training as engineers and scientists facilitates our understanding of the work being done in laboratories, and our skills as consultants and constructors give us the ability to

take lab-tested technologies and transform them into field-implementable systems that will meet commercial standards.

The testing facilities we own and operate make Shaw unique as a provider of environmental services. We place a tremendous emphasis on selecting the right technology for our clients—the technology that will provide the quickest remediation at the lowest-possible cost. Identifying that optimal technology often requires performing treatability, bench-scale, and pilot-scale studies to evaluate methods under specific site conditions.

Shaw owns and operates three primary test facilities in Knoxville, Tennessee to evaluate technologies and perform treatability and pilot testing. Additionally, Shaw maintains and operates four U.S. Environmental Protection Agency (EPA) test and evaluation facilities nationwide. The capabilities and resources of these facilities allow Shaw to evaluate a wide range of industrial technologies, including:

- Incineration
- Thermal Desorption
- Stabilization for Organics and Metals
- Biotreatment
- Enhanced Soil Vapor Extraction (SVE)
- Soil Washing
- UV Photolysis

- Photocatalytic Oxidation
- Mixed Waste Treatment

Risk Assessment

The Risk Assessment NPP is focused primarily on human health and ecological risk assessment services as part of hazardous waste site investigation and cleanup projects, however, some services such as negotiation of cleanup levels, cost/risk/benefit analysis, and toxicological services. Environmental litigation and risk communication are also part of this NPP.

Human health and ecological risk assessments are complex processes that require the integration of information from many disciplines. Shaw provides our clients with technically-sound and legally defensible quantitative and qualitative information about chemicals, their fate and transport in the environment, the potential health risks resulting from exposure, and the potential for adverse environmental impact. We emphasize scientifically valid assumptions to address site-specific concerns. These assumptions are applied to realistic estimates of risk and used to establish technically sound and cost-effective human health and environmental protection remedies for our clients.

Shaw's expertise in human health and ecological risk assessment supports a wide range of regulatory programs:

- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); CAA; CWA; Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
- State Voluntary Cleanup Programs
- Risk-Based Closures
- NEPA in the U.S.
- World Bank and European Union compliance

Shaw has completed numerous evaluations on potential impacts to human health and the environment for projects involving:

- Waste Management (waste water, hazardous waste, and solid waste)
- Facility Closures
- Transportation Corridors (highways and airports)
- Fiber Optic Cable Lines
- Housing Developments
- Industrial Developments
- Recreational Developments
- Industrial Hazards and Pollution Discharges
- Agrochemicals and Pest Management
- Oil Spills
- Natural Resource Protection and Management

- Renegotiating Records of Decision
- Building Decontamination

Sustainability

Shaw's sustainability practice is based around four focused areas:

1. **Sustainability Management Systems.** Shaw's sustainability experts provide clients with a multi-phase approach designed to assist in developing or refining sustainability programs. The phased approach allows maximum flexibility that permits the approach to be tailored to the individual needs of the clients.
2. **Climate Change / Greenhouse Gas Management.** Shaw's air quality experts provide a wide range of services to help reduce greenhouse gas emissions and minimize the effects of climate change. We also work to help clients prepare themselves to act on opportunities that may arise as domestic and international trading systems develop. Our services focus on simple strategies for documenting steps operators may already be taking as part of their day-to-day operations. Shaw services include analysis, quantification/inventory, verification, reduction, and performance reporting.

3. **Sustainable Design and Development.** Shaw is helping clients develop green building concepts and strategies that are well integrated with their organizations' plans and goals. We've employed a multi-disciplinary team with a thorough and working knowledge of green buildings and research methods of sustainable development techniques, strategies, and best practices.

Shaw has Leadership in Energy and Environmental Design (LEED)-accredited professionals throughout the country and our skilled architects, engineers, landscape architects, consultants, and scientists are implementing solutions such as identifying energy efficiencies; and creating waste minimization programs, water efficiency, indoor environmental quality, and materials selection.

4. **Clean Energy.** Shaw's teams of engineers, architects, planners, and professionals offer innovative, effective solutions helping clients meet their need for clean, reliable and cost-effective energy. We are looking for solutions in the areas of energy efficiency, renewable energy options, alternate fuels, fleet efficiency, and value creation.