

**APPENDIX A**

**QUALIFICATIONS AND EXPERIENCE**

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#### A1.0 An Introduction to Environmental Standards, Inc.

Environmental Standards, Inc. (Environmental Standards) is a consulting firm specializing in ecological and human health risk assessment, the validation of chemical analysis data, hydrogeological assessments, air regulatory and air quality studies, sophisticated fate and transport modeling, and environmental data management. Established in 1987, Environmental Standards is headquartered in Valley Forge, Pennsylvania. Since its inception, Environmental Standards has gained a reputation for excellence in the performance of ecological and human health risk assessment, consultation on chemistry data issues, consulting air sciences, hydrogeological assessment, and information technologies. This reputation has brought Environmental Standards a client base that extends nationwide.

Environmental Standards was co-founded in 1987 by Dr. Kenneth G. Symms, Ph.D., DABT, Technical Director of Toxicology and Risk Assessment and Mr. Rock J. Vitale, CPC, Technical Director of Chemistry.

Environmental Standards services include consulting for risk assessments, contaminant fate and transport modeling, risk-based remedial investigation/feasibility studies (RI/FSs), second-party oversight, environmental liability assessments, and hydrogeologic and air modeling/monitoring studies. In addition, Environmental Standards has considerable experience conducting independent validation and managing environmental sample data. These highly specialized fields demand a thorough knowledge of current chemical analysis techniques and US EPA contract laboratory program (CLP) procedures.

Environmental Standards' well-qualified risk assessment personnel have expertise in ecological and human health risk assessments, preparation of toxicity profiles, contaminant transport modeling, air quality/pathway analysis, development of defensible cleanup standards, and the development of acceptable intake levels for chemicals that do not have US EPA-derived toxicity benchmarks. Environmental Standards toxicological evaluations are supported by extensive literature resources and databases to ensure that up-to-date information is utilized in formulating each assessment. Our first-hand knowledge of US EPA toxicological assessment guidelines enables us to make accurate determinations of federally-acceptable exposure limits or to develop scientifically sound and defensible health-based cleanup objectives.

Environmental Standards has extensive experience performing human health and ecological risk assessments for Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Conservation and Liability Act (CERCLA), Clean Air Act Amendment (CAAA), Department of Defense (DOD), Department of Energy (DOE), and state regulatory agency-driven investigations nationwide. Environmental Standards has successfully developed numerous risk assessments in which Environmental Standards has defensibly shown that no risk existed, thereby *demonstrating compliance without need for remediation*. Where unacceptable risk did exist, Environmental Standards has successfully determined site-specific cleanup goals that afford adequate protection of human health and the environment.

Environmental Standards is experienced in performing quantitative risk evaluations for liability underwriters, property transfer investigations, environmental audits, and prescoping formal remedial investigations (RIs). Environmental Standards' risk assessment expertise encompasses development of cleanup standards, toxicology, chemistry, environmental fate, and achieving regulatory consensus.

Our 20,000-square-foot headquarters office houses the professional staff, word processing and technical editing personnel, libraries, three Geographic Information systems, computer-aided design capabilities, and computer database and accounting departments. There are currently 58



employees. An adjacent building serves as a centralized location for the storage of field operations equipment and as the primary dispatch area for field activities. Environmental Standards maintains a sophisticated and integrated computer network system which provides our highly-skilled professionals access to widely-accepted project management, modeling, design, accounting, and spreadsheet programs.

Environmental Standards derives its insight and understanding from its access to a vast array of information resources. We maintain an extensive library containing scientific reports, trade journals, periodicals, technical books, government documents, and publications in the areas of toxicology, pharmacology, air pollution engineering, meteorology, water pollution, solid waste, waste management, chemistry, biology, physics, geology, and hydrogeology. Environmental Standards maintains access to numerous toxicology, chemistry, air quality, and hydrogeology databases, including: OAQPS, Toxnet, Toxline, Chemline, IRIS, Chemtox, GWOL, RTECS, and laboratory chemical analysis files. We also use public access to a body of scientific knowledge through the many libraries of science and medicine in the local Philadelphia area.

## **A2.0 The Risk Assessment Department**

The Risk Assessment Department is organized by functional positions within a flexible project framework designed to provide quick response time. These functional positions include Technical Staff, a Project Manager, and a Project Director.

Environmental Standards approaches project organization from a minimalist perspective in that we do not carry an excessive administrative burden. This allows us to limit project staff to those technical professionals absolutely necessary to complete the task. The result is a small, streamlined project team. Functional descriptions of Environmental Standards positions within the Risk Assessment Department are provided below.



**Project Director/Principal**--The Project Director is responsible for providing multi-disciplinary technical perspective regarding a project's goals and execution. It is the Project Director's task to assure that regulatory needs are adequately identified.

In this role, the Project Director is the senior technical contact and Principal-in-Charge for a project. Generally, unless otherwise specified, the Project Director reviews and edits draft/final documents prior to submission. This review ensures that the report presented is well-written and consistent with regulatory requirements.

**Project Manager**--Environmental Standards Project Managers provide day-to-day management and advanced technical functions during project execution. The Project Manager's role includes coordinating the various disciplines involved in the project. The Project Manager has a key role in developing documentation supporting the conclusions provided. Such documents may include rationale for sampling plans, exposure modeling methodologies, and narratives describing the work performed, the results, and an interpretation of the results.

At Environmental Standards, the Project Manager plans, organizes, and manages individual tasks and resources to accomplish the defined objective.

**Technical Staff**--Environmental Standards' technical staff of toxicologists, biologists, statisticians, and fate and transport modelers are well-trained and are reputed throughout the consulting industry as an innovative group of professionals. These professionals can provide services in a wide variety of environmental and regulatory applications.

### **A3.0 Development of a Baseline Risk Assessment**

It has been said, "There are as many types of risk assessments as there are risk assessors." In general, that adage is true. Environmental Standards risk assessments comply with US EPA, regional, and state regulatory requirements, as defined by the location of the site and type of



closure required. Environmental Standards uses up-to-date risk assessment techniques to evaluate health and environmental conditions associated with a site; these conditions are critical components for RIs as well as for risk analyses of proposed remedial alternatives.

#### **A4.0 Specific Experience With Wood-Preserving Facilities and Other Related Facilities**

Specifically, Environmental Standards personnel have conducted two risk assessments focused on wood-treating facilities, including their processes and chemicals, that are very similar to the Hattiesburg site. A detailed discussion of these assessments is provided below.

##### Telephone Utility Material Storage Yard - Pennsylvania

After conducting supplemental site investigations at this southeast Pennsylvania site, Environmental Standards provided risk assessment services for this Fortune 500 telephone network services company. The facility was located in a suburban Philadelphia location where leachable wood-treating constituents were believed to be affecting onsite and offsite soil, groundwater, and surface water. Constituents of particular concern included arsenic, pentachlorophenol, and various Polycyclic Aromatic Hydrocarbons (particularly benzo(a)pyrene and benzo(b)fluoranthene).

Media examined at the site included surface and shallow subsurface soils, surface water run-off from a storage area, and accumulated sediments in an off-site storm water retention basin. Rather than require excavation and treatment of massive soil volumes which contained chemical concentrations in excess of Pennsylvania generic cleanup standards, Environmental Standards developed a site-specific risk assessment and used statistical analyses to derive alternative cleanup criteria for the constituents of concern. The site-specific risk assessment included consideration of non-residential exposures using default exposure assumptions.



Wood Treating Facility - NPL Superfund Site, Delaware

Environmental Standards provided risk assessment services to a well-known wood-treating company at its abandoned facility in Delaware. The facility was listed as a hazardous waste site on the National Priority List.

Exposure scenarios such as future industrial workers, future construction workers, adolescent trespassers, adolescent swimmers, and fishermen were agreed upon as realistic of current and future site use. Over 40 different chemicals were detected in groundwater at the site. Other media examined at the site included soil, sediment, and surface water.

Other Related Facilities

Environmental Standards has performed risk assessments and developed health-based remedial objectives for a number of former manufactured gas plant (MGP) sites where creosote-like compounds (e.g., polycyclic aromatic hydrocarbons) comprised the majority of COPCs.

In addition, constituents comprising creosote are routinely included as COPCs in risk assessments conducted at National Priority List sites, RCRA facilities, and state-listed hazardous waste sites. Environmental Standards has conducted well over 100 risk assessments in its 11½ years of existence.

