

## The Missing Link – Environmental Functional Analysis in Site Selection

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Site selection is one of the most challenging tasks for asset managers. In narrowing down the choices, managers typically explore various geopolitical and socioeconomic factors. In addition, most managers perform an environmental due diligence study, such as a Phase I assessment, to define prevailing environmental issues. Unfortunately, however, these studies do not include an evaluation of environmental constraints that could potentially impede the desired functions of the planned facility or limit its growth and development. In absence of such a study, asset managers may prematurely conclude that a particular site is superior over another. The end result is a site that may be potentially unusable for projected growth and development leading to undue remedial expenses or litigation.

An environmental functional analysis (EFA), conducted prior to final site selection, serves as an important missing link to forecast potential functional constraints from an environmental perspective. Such a process will not only eliminate loss of site use due to functional constraints but also minimize potential environmental liabilities. An EFA would address the following issues:

- Are there any region-specific regulatory restrictions on multimedia release(s)?
- Are there any site-specific environmental constraints on the proposed facility layout?
- What are potential obstacles for facility expansion or building renovations?
- Are the current environmental resources sustainable?
- Are there any other functional constraints over the projected life of the facility?

Utilizing numerous case studies, the presentation will accentuate region-specific regulatory restrictions including national ambient air quality standards (NAAQS) criteria pollutant limitations, waste-water discharge limitations due to POTW capacity or performance criteria, interstate hazardous disposal constraints, and related issues. Site specific environmental constraints include air emission limits, noise limits, container storage area (CSA) prohibition in well-head protection areas, risk management criteria on release of hazardous material, spill prevention control and countermeasures (SPCC) constraints, storm water discharge limits, groundwater quality criteria, wetland and woodland constraints, threatened and endangered species issues, emergency planning and community right to know limits, homeland security, and other boundary limits. Concerns related to facility expansion or building renovations include asbestos, PCBs, lead-based paint, AST/UST removal and abandonment, historic leaks and spill liabilities, and other area restrictions. Long range forecasting of air emission, water supply, waste-water discharge, and other boundary limits may impede resources vital to plant functions over the projected life of the facility.

In striking contrast with the old adage, “What is good for the goose is good for the gander,” a site which meets the environmental requirements for an office building may be unsuitable for a manufacturing facility and vice versa. It is therefore important to complete a comprehensive EFA prior to final site selection. An EFA provides the missing link for asset managers, investors, financial institutions, insurance underwriters, and associated parties to integrate functional constraints in the final decision for a site of choice. It is also important to conduct an EFA during due diligence evaluation pertaining to mergers and acquisitions to ensure that transactions result in a favorable outcome.



Mr. Raj Mahadevaiah is President and CEO of Environmental International Corporation - an environmental engineering firm headquartered in the Atlanta metro area. Mr. Mahadevaiah has a M.S. degree in Civil Engineering (Groundwater Emphasis) from the University of Oklahoma, USA. Also, he is a registered professional engineer in over 13 states within the USA. Over the last 24 years, Mr. Mahadevaiah has developed expertise in conducting, environmental assessments and remediation, project management, and litigation support at over 200 sites in the North America, The Caribbean, The Middle East, South Asia, and other nations world-wide. At numerous sites, he has conducted multimedia due diligence and compliance audits for ISO 14001-related projects involving air, surface water, soil, groundwater, hazardous waste, and noise issues at various facilities. He has designed, implemented, operated, and maintained remediation systems at petrochemical storage and distribution facilities, public and private electric utilities, refineries, conveyance facilities, superfund sites, landfill, RCRA sites, and other hazardous waste facilities. At several sites, Mr. Mahadevaiah has critically evaluated existing remediation systems and developed cost-effective alternatives. He also developed telemetry-based remediation systems to manage remote sites in the Caribbean. In addition, he has solved environmental puzzles from multiple sources, during litigation support, and successfully served as an expert witness in trials for industrial, insurance, and law firms. Apart from over a dozen technical papers presented at various locations worldwide, Mr. Mahadevaiah has also served as a panelist representing the Electric Utility Industry concerning "The RCRA Reauthorization Bill proposed by the US Congress," at the Air and Waste Management Conference held in Vancouver, British Columbia.

