

Mid-Atlantic Power Pathway (MAPP) Environmental Permitting for Electric Transmission

Delaware, Maryland and New Jersey

Black & Veatch provided permitting, National Environmental Policy Act (NEPA) / Certificate of Public Convenience and Necessity (CPCN) documentation, environmental review, environmental monitoring of construction activities, surveying, and geographic information systems (GIS) services for the construction of three new segments and rebuild segments of overhead and / or aerial / underwater transmission lines (up to 120 miles in length) in Delaware and New Jersey and an alternating / direct current (AC / DC) converter station in Delaware. This project covers the Delaware and New Jersey portions of a major 250-mile long 500 kV electricity transmission line known as the Mid-Atlantic Power Pathway (MAPP). The project includes agency consultations; review of federal, state, and local statutes, regulations, and guidelines; identification of required permits and licenses; and preparation of environmental permit applications and supporting documentation (EIS / EA).

Client Goals / Drivers

The Maryland portion of MAPP was originally contracted to a separate consulting firm. In fall 2009, PHI expanded Black & Veatch's scope of work to include site-specific studies, wetland delineation, and development of an Environmental Review Document (ERD) to support third-party NEPA documentation being prepared to support Department of Energy (DoE) funding.

Black & Veatch Role on Project

The scope of work for this project included specific tasks to be conducted for each project segment and the converter station site. These included:

- **Preparation and Submittal of Consultation Letters** - Black & Veatch prepared letters and maps providing a general description of the project and its location to send to federal, state, and regional resource agencies as well as Native American tribes. Agencies were asked to determine if resources under their jurisdiction may be affected by the project based on existing information about other significant natural resources that may be in the project vicinity. Black & Veatch also scheduled and attended agency pre-application conferences accompanied by appropriate PHI staff to determine the agency preferences and key issues of concern.
- **Land Acquisition Support** – Black & Veatch provided support to PHI relating to the acquisition of new sites or rights-of-way by accessing public sector data to develop maps illustrating key features that may impact property acquisition and / or permitting requirements, and by conducting Phase I Environmental Site Assessments (ESAs) to evaluate the potential for site contamination. Black & Veatch also investigated opportunities to acquire potential Brownfield sites to fulfill project development needs.
- **Wetland Delineation** – Black & Veatch conducted wetland delineations in order to assess project impacts to wetlands and to support subsequent permitting efforts. Wetland delineations were performed using the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands, the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987, Tech. Rept. Y-87-1 or the US Army Engineer Waterways Experiment Station, Vicksburg, MS). For the project segments located in Maryland and Delaware, wetlands were delineated in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, Coastal Plain Supplement.

Black & Veatch Role
Consulting Services

Key Team Members

Anne F. Harris, Project Manager
Jody Lima, Environmental Scientist
Scott M. McBurney, Environmental Scientist
Ryan M. Liddell, GIS Specialist

Associated Firms

Richard Grubb & Associates, Subcontractor
Trident Environ. Consultants, Subcontractor
Coastal Resources, Inc., Subcontractor
Tuck Mapping Solutions, Subcontractor
Taylor Wiseman & Taylor, Subcontractor
True Measure Consulting, Subcontractor

Black & Veatch Contact

Anne F. Harris,
Project Manager

- **Rare, Threatened & Endangered Species Site Survey** – Black & Veatch staff worked with Team Subcontractors with specific familiarity with regulated species and regulatory personnel in the project area. Field investigations were conducted to determine the presence and / or absence of an existing onsite habitat type. Several species of rare plants were identified along the project route and Black & Veatch worked with the State of Delaware to develop management practices (fencing, timing restrictions, and matting) that would ensure the protection of these plant communities.
- **Cultural Resource and Architectural / Visual Assessments** – Black & Veatch staff worked with Team Subcontractors with specific familiarity with local cultural resources and architectural / historical places and the appropriate regulatory personnel in the project area. Initial Phase 1A Evaluations and Visual Assessments Field investigations were conducted to determine the likely presence and / or absence of these resources. One potential archaeological site (Hickory Hill) was identified along the project route. At this location, a Phase IB survey (pit tests) was conducted to identify fragments or other signs of actual resources. Having found several artifacts, Black & Veatch and its subcontractor worked with the DE State Historical Preservation Office to develop management methods (matting) to avoid impacting these resources and developed a recovery program to recover artifacts where a pole impact could not be avoided.
- **NEPA / Environmental Review Document (ERD)** – An ERD was developed jointly by Black & Veatch and the firm doing the permitting in MD. The ERD was prepared to support the NEPA EIS being prepared by DoE, required because the project is partially funded by DoE. The ERD was also used to support the application for a Certificate of Public Convenience and Necessity (CPCN) required for the work in MD.
- **Alternatives Analysis** – Black & Veatch professionals worked with PHI Engineering and Environmental staff to identify sites suitable for the AC / DC converter station. Black & Veatch identified seven potential sites that were appropriately close to the transmission line ROW and were of suitable size and configuration to support the converter station (> 25 acres). Using a variety of public sector data sets addressing cultural resources, RTE species, wetlands, soils suitability, tax parcel ownership, hydrology, floodplains, and topography, Black & Veatch personnel developed a short list of potential sites that minimized environmental impact while providing the best value to PHI. Site-specific studies for RTE, wetlands, and cultural resources were conducted on the preferred site.
- **Survey, GIS Development, and Mapping** - Survey, project, and environmental data are maintained in a GIS geodatabase which is used for data analysis, route selection, permit map production, and public relations. GIS services were a key component of this project. GIS tasks included four primary phases of data development. Data delivery to PHI was in formats suitable for use in ESRI ArcGIS, SmallWorld, MapInfo, MicroStation and PLS CADD. A pilot program to ensure the accuracy and compatibility of field-collected survey data with PHI's GIS system was completed using sites in NJ and DE. Subsequently, survey data was collected and converted into GIS-based data to meet the PHI data model standard. Data collection methods converted by Black & Veatch included aerial photography and LiDAR, Cadastral and GPS data of wetland flags and RTE species, and digitized hand markups of cultural data. Black & Veatch GIS professionals used this data to prepare maps required as part of the environmental permit applications. Each line and substation project required a number of maps to cover each study area.
- **Permit Application Preparation, Submittal, and Receipt** –The project required permits from the US Army Corps of Engineers Philadelphia District for impacts to freshwater wetlands and DNREC for impacts to wetlands and watercourses in Delaware. Black & Veatch prepared applications and supporting documentation and maps for all permits, submitted those to the respective agencies, and monitored the agency review.
- **Noise Surveys** – Black & Veatch conducted a thorough review of the applicable noise regulations at the city, county, and state levels. Black & Veatch also conducted site visits and an ambient noise

surveys to quantify the existing ambient acoustical environment within the vicinity of the site. The site visit included an investigation of each site, the locations of the neighboring noise-sensitive receptors, and the character of the local terrain. An ambient noise survey was at the site to represent the nearby noise sensitive receptors and will included continuous monitoring and short-term measurements over both daytime and nighttime hours. Facility noise modeling was conducted in accordance with ISO 9613. Modeling was based on all equipment operating under normal conditions exclusive of emergency and upset conditions. Black & Veatch evaluated potential construction noise impacts on noise-sensitive receptors (e.g., residences, schools, churches, and hospitals).

Added Value

Black & Veatch added value to the project and the project team by:

- Establishing a SharePoint Portal open to all project team members (Black & Veatch, Client, and subcontractors) which supported excellent project control, document review and tracking, and open collaboration.
- Proactively conducting agency consultation to ensure all project obstacles were identified and the scope of targeted studies could be defined early in the project to minimize costs and ensure the most expedient review of permits. As an example, the DE Subaqueous Lands Permit, required for work in wetlands and watercourses, was submitted and put out for public comment by the State within days, rather than the weeks that customarily are required.
- Responding rapidly and effectively to major project challenges. In August 2009, the firm holding the contract for the Maryland portions of MAPP experienced technical deficiencies with wetland delineation work they performed along 70 miles of transmission line right-of-way (ROW). These deficiencies prevented approval of the wetland delineation and subsequently, rendered the permit application to the Corps of Engineers (USACE) incomplete. The USACE gave PHI 15 days to revise the wetland and deliver a correct wetland delineation on the first 21 miles of the ROW. PHI asked Black & Veatch to re-do the wetland delineation, complete the survey, and prepare all submittal documents for all 70 miles of ROW; completing the first 21 miles within 15 days and complete the remaining 49 miles in the following 3 months to meet agency specification. Black & Veatch met all these schedule milestones and the work met agency specifications with little modification.

Mark Okonowicz, PHI Environmental Coordinator, September 9, 2010:
"Today's review was very positive and that is thanks to the hard work of this team. Thanks all again, great job!"