

April 11, 2019

Lewes Board of Public Works

Darrin Gordon, General Manager
107 Franklin Avenue
Lewes, Delaware 19958

RE: Request for Information | Electric System Analysis and Study

Dear Mr. Gordon:

Thank you very much for considering Pennoni to provide engineering services to the City of Lewes Board of Public Works (BPW). After a review of the RFI, we regretfully cannot respond in full as we lack in-house Transmission Engineering services.

However, we feel our Distribution Engineering and Energy Generation services would benefit the BPW and we would be pleased to continue the conversation. Below are some of the areas we'd like to cover if a meeting is of further interest.

Utility Distribution Engineering

- Pennoni provides design and engineering services to major utility companies in the Mid-Atlantic and Northeast including currently Baltimore Gas & Electric, Exelon, PSE&G, and Dominion Energy. Our experience in a wide variety of electric utility distribution projects continuously allows us to provide cost-effective and quality design product to our clients.
- Pennoni has extensive experience in the evaluation of photovoltaic interconnection studies for electric utilities.

Renewable Energy Evaluation and Development

- Pennoni's Energy and Design-Build division consists of diverse, experienced, qualified professionals with capabilities to execute commercial, industrial & light-utility scale renewable energy projects.
- We provide turnkey project development, grant & rebate services, engineering, procurement, and construction for public and private clients. This background as a Design-Builder allows us to provide clear insight to constructability and project economics.
- Combining our renewable energy experience and utility distribution services produces efficient and accurate projects.

Battery Energy Storage System (BESS) Evaluation and Development

- We provide BESS evaluation to help grid stabilization, peak load management, load shifting, power reserve, frequency and voltage regulation, renewable energy source integration, back-up power supply during outages, and integration with microgrids.
- Pennoni can deliver a turnkey solution via a transparent bidding process of technology and service provider vendors, through analysis and engineering, construction, on-going operations, and monetization of market benefits.
- Pennoni would appreciate the opportunity to develop a turnkey BESS solution for the BPW including direct purchase and 3rd party financed scenarios.

We thank you for your time to date and hope you understand our reason for not submitting a complete RFI response. We look forward to future collaboration with the City of Lewes BPW. For your review, please find attached relevant qualifications and summaries.

Respectfully submitted,

PENNONI ASSOCIATES INC.



Michael Cromer
Regional Vice President – Energy & Design-Build

The Pennoni Difference

Partners for What's Possible

Pennoni views the start of every project as the beginning of a collaboration because we understand the value of partnership. As a multidisciplinary firm, we approach engineering challenges from a wider spectrum of angles than most. From land development to energy management, our expertise runs deep and our passion for problem-solving runs even deeper. Throughout five decades, our commitment to elevating the impact of our outcomes through personalized service has been steadfast. We have the experience to anticipate roadblocks and the insight to understand how to move past them. We also have the flexibility to be innovative in our approach with the integrity to get things right. Our goal is to help communities and private sector clients alike navigate the ever-changing technological advancements available and learn how best to integrate “smart” solutions into the current landscape and make them a part of resilient and sustainable planning.

Pennoni milestones are bigger than any one project. We measure achievement in innovation, efficiency, and excellence. The footprint of our work may be large, but our focal point is not just on “where”; it’s on “how”. We are relentless in our aim to bring fresh perspectives and new technologies. We establish relationships based on honesty to create trust and longevity. The net effect? Our combination of talent and experience that generates unprecedented results for diverse and iconic projects around the globe.

Services

-  Civil/Site
-  Construction Engineering
-  Construction Materials Engineering & Testing
-  Environmental
-  Geotechnical
-  Landscape Architecture & Planning
-  Mechanical, Electrical, & Plumbing
-  Structural
-  Survey & Geospatial
-  Technology Solutions
-  Transportation
-  Water Resources
-  Water/Wastewater

Markets

-  Commercial/Retail
-  Design-Build
-  Education
-  Energy & Sustainability
-  Government
-  Healthcare & Pharmaceuticals
-  Industrial
-  Infrastructure
-  International
-  Leisure & Entertainment
-  Residential

together to provide

Smart Solutions



Corporate Headquarters

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215-222-3000 | www.pennoni.com



Office Locations

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1705 South Gadsden Street, Suite 100
Tallahassee, FL 32301
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Winter Haven, FL 33880
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Boston, MA 02111
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State College, PA 16801
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Virginia Beach, VA 23452
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Richmond, VA 23238
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Winchester

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Winchester, VA 22601
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Energy & Sustainability



TODAY'S ENERGY MARKET IS DIVERSE AND EVER CHANGING. PENNONI SETS ITSELF APART BY PROVIDING EXPERTISE ACROSS THE ENTIRE MARKET INCLUDING ENERGY EFFICIENCY, ENERGY MANAGEMENT, DESIGN-BUILD, AND FINANCE SERVICES.



Energy Efficiency

- Energy Audit/Benchmarking
- High Performance Design
- Greenhouse Gas Studies
- Geothermal



Energy Management

- Procurement – Risk Management
- OPTICS Software
- Central Plant Optimization
- Asset Management
- REC Management



Distributed Generation

- Photovoltaic Solar
- Wind (Utility & Commercial)
- Combined Heat and Power
- Natural Gas Bypass Laterals



Alternative Fuels

- Compressed Natural Gas
- Liquefied Natural Gas
- Biogas/Synthetic Gas

Pennoni is deeply committed to helping clients adapt to the changing energy market through front-end energy efficiency programs, asset management, and distributed generation project development. Our firm provides feasibility, design, financing, and construction services for many types of energy projects for municipal, education, commercial and industrial clients, as well as public utilities.

We pride ourselves in being an industry leader in technology development and implementation. Pennoni works both behind and in front of the meter to offer our clients energy savings, resiliency, redundancy, and improved efficiencies for their facilities. We accomplish this by maintaining diverse technical staff and energy specialists with the support of our electrical, mechanical, structural, civil, and environmental engineering specialists.

Pennoni provides any level of service clients require for their specific energy needs:

- Feasibility Studies
- ROI Cash Flow Modeling
- Design Services
 - » *Permitting*
 - » *Design*
- Turnkey Design-Build Services
 - » *Procurement*
 - » *Construction*
- Project Financing
 - » *Power Purchase Agreements*
 - » *Lease Arrangements*
 - » *Grant and Incentive Sourcing*
- Commissioning
- Retro-commissioning

Energy & Sustainability



Energy Management



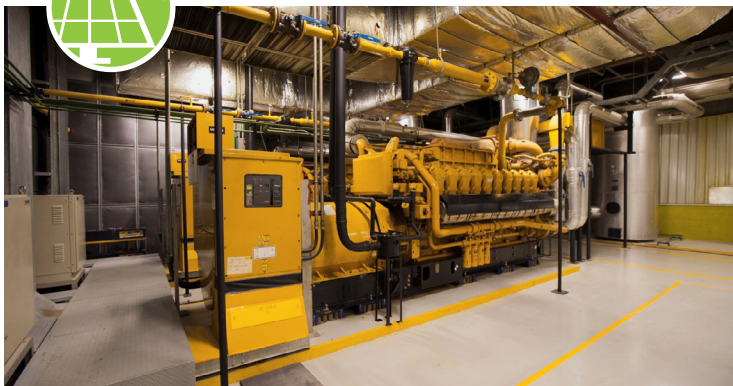
Pennoni provides energy management and energy procurement services to both private and public clients.

OPTICS – a proprietary web-based software Pennoni developed – helps end-users expand their energy purchasing strategies while tracking all seven steps of the procurement process. Pennoni's energy procurement structure enables end-users to control price on numerous energy components and achieve budget objectives.

This process offers an active approach to energy procurement by using common sense, technical and fundamental energy knowledge, combined with the years of experience of our staff. Pennoni's clients have achieved measurable and valued results utilizing this method of energy procurement.



Distributed Generation



Pennoni prides itself as an industry leader in distributed generation design, permitting and construction services with over 200MW of commercial and industrial PV installation experience and extensive experience with cogeneration plants up to 60 MW.

Our firm maintains MEP engineers skilled in feasibility studies, conceptual design and project development. A differentiator for Pennoni is our on-staff grant specialists and access to project financing.

Pennoni's distributed generation services are turnkey from conception through design-build delivery of the final product. Once the asset is placed in service, Pennoni can also assist in monetizing its full potential in the market through our Energy Management services.



Energy Efficiency



All energy projects should start first with efficiency. Our engineers and sustainability professionals provide energy auditing and benchmarking services for a variety of clients. Pennoni has audited in excess of over 5,000,000 square feet of commercial, institutional and governmental buildings.

Pennoni inspects, surveys, and analyzes a building's energy-consuming systems, tailored to building complexity and expected savings using three auditing levels: Utility Evaluation, ASHRAE Level I and ASHRAE Level II audits.

Pennoni is an Energy Star partner and a corporate member of the United States Green Building Council. Pennoni offers Investment Grade Audits, EAct Engineering Statements, and Energy Star Certification including an Energy Star analysis for all buildings that are categorized by the Energy Star program.



Alternative Fuels



With the discovery of the Marcellus Shale natural gas reserve, the future of fuels was changed instantly. It is estimated that over 100 years of natural gas supply remains in the ground today. The use of the gas will be spread across domestic, commercial, and industrial clients including use for fueling vehicles in the form of Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG).

Pennoni has extensive experience in the design and construction of CNG gas stations in the Mid-Atlantic Region. With over 20 stations designed and developed by Pennoni for national client Clean Energy, we have remained on the forefront of this growing industry. Pennoni also has experience in the biofuels and LNG market.

Utility Engineering



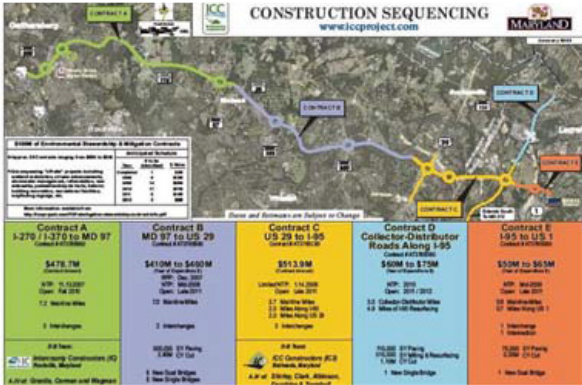
Verizon Maryland, Inc.; Various Locations in MD & VA

Under this existing Open-end contract, Pennoni has provided outside plant engineering services to Verizon within the Virginia- Maryland corridor over the last 20 years. These services include providing the consultation services for them design, planning and engineering for new service construction and relocation of the Verizon infrastructure. Also included in the planning for the relocation is the research of the right of ways, easements and adjoining property owners and use of the Verizon design standards, software and secured access to complete the project planning and value engineering cost analysis.



PECO Energy, Children's Hospital of Pennsylvania; Philadelphia, PA

Prepared the engineering design for PECO Energy for the Children's Hospital of Pennsylvania. This work consisted of analysis of approximately 2,000 manholes for reconductering of existing circuits and proposed new circuits.



The Maryland State Highway Administration - ICC Team; Montgomery and Prince George's Counties, MD

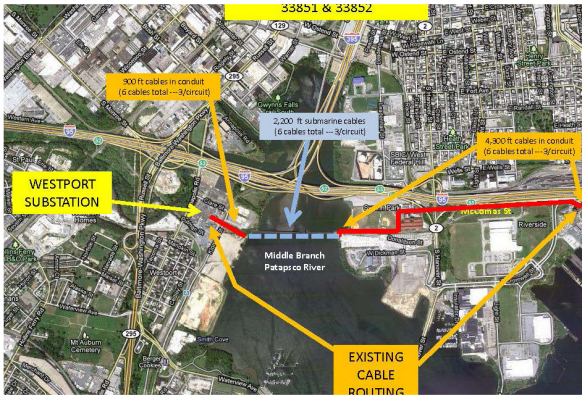
Pennoni was responsible for the full planning, design and evaluation of the location, condition, and easement/right-of-way for all of the existing telecommunication and electrical distribution facilities within the Intercounty Connector Project corridor. The project included the evaluation of these distribution facilities for Contract A, from I-270 / I-370 east to MD 97, and Contract B, from MD 97 east to US 29 and Contract C, US 29 east to I-95. This project covered a proposed road corridor 19 miles long.

Baltimore Gas and Electric (BGE); Baltimore, MD

Pennoni has held an on-call contract with BGE for that last 20 years that has included investigation design, permitting, and construction of conduit for power supply and electrical distribution. Pennoni is constantly rated as one of BGE's top consultants for quality of work and near the top for the quantity of work accomplished. Pennoni has up to 7 or 8 designers/technicians working on BGE work at any one time, resulting in the sixth consecutive year that BGE has awarded the contract to Pennoni. We have completed more than 100 tasks involving system expansion or upgrading of existing systems. Work has ranged from relatively short lengths of a few hundred feet of single conduit to large multi-duct banks of several thousand feet in length with associated manholes and infrastructure.



Utility Engineering



BGE Sub-Transmission Cable Replacement Project; Baltimore, MD

Pennoni provided engineering and design services for a plan to replace six 34 KV sub-transmission cables running 7,500 FT from the Gould Street power plant to the Westport substation. The cables were originally installed in the 1930s. The project route traveled through congested Baltimore City streets and environmentally sensitive land on both sides of the Patapsco River, and involved a 2,000 FT crossing of the river. Pennoni's engineering staff coordinated with BGE's project management, transmission, and system planning departments to shepherd this project along its pre-design process. Pennoni's coordination with Baltimore City Department of Public Works authorities and the State of Maryland Department of the Environment created an opportunity to revise the design project and install a new overhead pole line rather than underground manholes and conduits, and saving more than \$5.1 million in construction costs.

BGE New South River Feeder 7466 Installation; Anne Arundel County, MD

Pennoni performed a feasibility study to install a new 13 KV feeder extension from BGE's South River substation along and adjacent to Solomons Island Road. The total route distance required installation of almost 19,000 LF of overhead wires and underground cable. A significant 2,000 FT crossing of the South River was originally engineered using directional bore technology. Pennoni performed extensive field studies and worked with BGE's System Planning Department to investigate alternative construction options. A coordinated effort with Pennoni's Bridge Engineering Division and the Maryland State Highway Administration produced an alternative method of crossing the river utilizing ducts installed within the bridge girders. Several preliminary bids were obtained to verify a true cost savings of \$2.1 million was achieved with this suggested alternative.



BGE High Ridge 34kv Supply to Ashton Modular Substations; Howard County, MD

Pennoni was contracted to perform a feasibility study for this BGE reliability project. The project called to extend a new 34 KV feeder supply four miles along/adjacent to MD Route 108 from Scaggsville Road to Ashton substation in Howard County, MD. Pennoni's distribution engineering staff coordinated with BGE Project Management and System Planning Units to produce a menu of construction options and costs for presentation to management for construction approval. Potential savings of \$1.7 million were documented by assuming joint ownership of an existing Verizon pole line in this corridor.

BGE Primary and Secondary Cable Replacements, Various Locations

Pennoni has a specialized design work force dedicated to BGE's systematic program replacement of primary, secondary, and street light cables. A coordinated team of field specialists and CAD designers and drafters produce consistent construction documents supporting BGE's efforts to standardize the design work product that is forwarded to their construction forces. Pennoni's cable replacement design team has completed over 480 jobs since 2011 with over 58,000 LF of cable designed to be replaced during this time.

