

# Significant Energy Projects undertaken by our Consultants

**Director, Project & Program Management Consultant** – for a State Utility’s renewable energy program, Honolulu HI.: Focused on the strategy, legislative policy, **program budget** and organizational change necessary to deliver overall project execution for the Inter-Island Renewable Energy Network, a multi-billion dollar program to help meet the state Renewable Energy Portfolio goal of 40% before 2030.

**Director Of Engineering: Utility-Scale Solar PV Systems** – for a Northeastern US Solar Solutions Provider, Edison NJ.: **Directing engineering projects**, providing input on constructibility, validation of design and construction schedules, assurance of efficiency in the design process, and managing design costs. Projects included:

- > Operations, Maintenance, Retro-Commissioning, Performance Guarantee and Electrical Repairs on the following solar PV systems (including the **ground-breaking Morris County schools project**):

Project Name	Size MW(dc)	Application Type(s)	Finance Structure	Notes
<a href="#">Morris County</a>	3.100	Parking Lot Canopy & Roofs	PPA	16 schools & municipal bldgs; Award-winning financing!
<a href="#">Atalanta Corporation</a>	1.210	Flat & Metal Seam Roof	CPA	
<a href="#">NY Jets Training Center</a>	0.690	Standing Seam Roof	PPA	Built in over 100 degree weather ahead of schedule
<a href="#">Atlantic City Utility Authority</a>	0.500	Carport	CPA	Award-winning project; Customized structural design
<a href="#">University of Texas</a>	0.300	Parking Lot Canopy	CPA/ARRA	Project funded by ARRA
<a href="#">NJ Army Base</a>	0.290	Carport	CPA	Customized structural design
<a href="#">Global Pharma Co.</a>	0.135	Ballast Rooftop	CPA	
<a href="#">Jersey Construction</a>	0.100	Fixed Tilt Ground	CPA	2008 Act Performance 106%

- > Commissioning, Construction and Administration of the following projects:

Project Name	Size MW(dc)	Application Type(s)	Finance Structure	Notes
<a href="#">NJMC 1A Landfill</a>	3.120	Ballasted Ground & PLC	CPA/ARRA	3 MW ground array on landfill
<a href="#">United Stationers, Cranbury</a>	3.265	Warehouse roof	PPA	14,000 Trina solar panels on 570,000 square-foot roof

- > Energy Auditing, Planning, Permitting, Design and Bidding for the following projects:

Project Name	Size MW(dc)	Application Type(s)	Finance Structure	Notes
<a href="#">IPP 1</a>	10.0	Ground		
<a href="#">Rutgers University</a>	8.0	Parking Canopies	Lease	
<a href="#">Middlesex Apple Orchard</a>	6.8	Ground	PPA	
<a href="#">IPP 2</a>	3.5	Ballasted Roof	PPA	
<a href="#">US Navy in California</a>	1.7	Single-axis Trackers	PPA	
<a href="#">Stockton College</a>	.900	Parking Canopies	PPA	

**Program Manager: Smart Grid and Distributed Generation Infrastructure** – for a Northeastern US State Utility Company, Shelton CT.: **Planning and delivery** of utility transmission and distribution electrical construction projects across the territory, as part of the corporation's Ten Year Plan. Projects included:

- > **Smart Grid Network Transformer Sidewalk Vault Rebuild** – Undertook full-service Design and Construction Management Program to rebuild the underground transmission (13.8kv) and distribution (480V and 208V) system, using grid and energy storage technology in Bridgeport, CT and New Haven CT. Responsible for strategic and tactical operational planning, substation design, smart grid communication, NERC CIP compliance, SCADA and proprietary control system design, and civil and electrical system asset replacement strategy. Development of construction standards, and the means and methods for the safe rehabilitation, of sidewalk and street-placed structural transformation vaults, duct bank and man holes. Authored provision of DPUC testimony to justify the program costs and schedule of values. Developed OSHA compliant rules for engineering consultant and construction contractors under 29 CFR §1910.269 to perform work. Closely coordinated with CT EPA, the City of Bridgeport and New Haven Building Departments, and CT DOT. Procurement and supplier contract negotiation, qualification and quality control. Successfully developed a TARGET ZERO safety and security culture, with 90,000 program team work hours with ZERO injuries or security violations.
- > Network Vista Switching and 13.8kV/240V Transformation. Responsible for design and construction management of Vista-based switching for heavy commercial customers in the city of New Haven, CT and Bridgeport, CT.

**Program Manager: Renewable Energy Systems** – for a US-based Clean Energy & Efficiency Innovator, New Haven CT.: **Planning and oversight** of energy conservation and generation construction projects for Fortune 100 clients of this pioneering start-up business venture. Projects included:

- > Anaerobic Digester Biogas Co-generation – Sales, design, permitting, interconnection and air permitting needed to integrate five C65 Capstone Microturbine systems, in a grid parallel arrangement, into a wastewater treatment plant. This system was the **first Biogas Co-generation system** in approved for construction by the state of Massachusetts DEP. The system has a rating of 325kWe, and produces 1,200,000 BTU/hr hot water used in maintaining temperature for the anaerobic digestion process. Project included a proprietary gas conditioning skid and Microturbine control system.
- > Ammonia / Glycol Refrigeration Central Plant Infrastructure Upgrade – Development, design, and construction management needed to integrate new chillers, compressors, evaporative condensers, energy efficiency controls measures, floating head pressure controls and process integrated heat and cooling exchangers, into an existing milk and juice plant.
- > Clean Heat and Power Thermal Efficiency Improvements / Food Plant CHP Platform Development – Design, and construction management for the integration of 2,700,000 BTU/hr potable commercial hot water generation into a custom storage and delivery system. Included an 18,000 gallon insulated vertical hot water storage tank, PLC-based controls and automation, and process piping directly into the Clean-In-Place Tanks, Balance Tanks, High Temperature Short Time Heat (HTST) Exchangers and heat recovery systems. By observing and evaluating operations at the two facilities, and comparing and contrasting their performance, the project was able to implement a strategy to enable two facilities (Food Plant and CHP) to surpass their energy and cost-saving goals and, at the same time, increase Food Plant throughput.

**Program Manager: Facilities Services & Electronics and Advanced Technology** – for a globally active Full-service Engineering Company, Pittsburgh PA.:

**Planning and oversight** of design for construction projects for the Fortune 100 clients of this global leader in engineering, consulting, construction and operations.

- > Co-generation plant – Supplied construction management to install and commission a grid parallel turbine 4.2MWe plus 4,000 lb/hr Steam (8bar) Co-generator plant for 650,000 sq. ft. office/laboratory building.
- > Emergency Stand-by Generator Replacement and Upgrade – Project management for the design an upgrade and replacement of a 600KW stand-by emergency generator system for 650,000 sq. ft. office/laboratory building.
- > Co-generation plant – Construction management to install and commission a proprietary grid parallel reciprocating co-generator plant to stabilize utility power for critical high performance data center power systems, including absorption chillers and heat recovery steam generation.
- > Production Data Center - Project management to design a Tier IV 8 MW0 High Density Computer Data Center. System deployed was a state-of-the-art 800 watt/ sq. ft. machine with the advanced thermal energy recovery by implementing a mix of advanced IBM cooling technologies and co-generation systems, including energy efficiency breakthroughs and revolutionary design for cloud computing. Project achieved energy savings greater than 40% and Data Center energy efficiency measures showed average pay back less than 2 years.

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