

LEADERS IN ENERGY SECURITY

Michael Baker
INTERNATIONAL

Ensuring our nation's energy security by increasing resilience and diversifying resources



ABOUT US

In response to the world's changing power and energy landscape, many organizations are looking for comprehensive solutions that meet today's demands for reliable energy, while increasing resilience.

Whether the goal is to ensure compliance with energy and security mandates, transition to alternative energy sources, or achieve energy independence, Michael Baker International has the expertise to ensure our nation's energy security.

Our portfolio includes developing energy strategic plans, designing microgrids, and working with building owners to lower energy demand. Our services extend through the entire project life cycle, enabling us to serve our clients wherever they are on the energy security journey.

At Michael Baker, we are ready to rethink and reimagine the future with innovative, cost-effective, and resilient critical energy infrastructure solutions.



Photo courtesy of the Tobyhanna Army Depot

Energy Resilience Study

**Tobyhanna Army Depot,
Coolbaugh Township, Pennsylvania**

In support of the Tobyhanna Army Depot's efforts to improve its energy resilience, Michael Baker provided a detailed approach for implementing an onsite microgrid. This included the identification of funding mechanisms, an energy analysis, distributed energy resource technology review, solar photovoltaic sizing calculations, biomass implementation, battery energy storage system planning, and development of a conceptual schematic to integrate a microgrid within the depot's existing electrical infrastructure.

Cogeneration Facility Commissioning

Yokota Air Base, Fussa, Japan

To reduce utility costs, enhance power reliability and ensure operational continuity over 25 years, we commissioned a 10MW combined heat and power cogeneration plant with microgrid controls that support a selected group of 400 buildings. Our team performed functional acceptance testing on lighting systems, mechanical systems, and digital controls. We also upgraded the control systems for multiple boiler plants; specified upgrades to high-efficiency lighting, plumbing fixtures, and HVAC controls for 9.5M square feet of improved space within 450 buildings.



Energy Resilience Conservation Investment Program (ERCIP) Smart Microgrid

Mountain View, California

As the managing partner of a joint venture, Michael Baker is providing microgrid and distributed energy planning, design and project management services for military installations globally. One project includes the development of a smart microgrid for the U.S. Army Reserve 63rd Readiness Division Headquarters. Our team is providing field investigations, utility coordination, cybersecurity technical reviews, fire protection engineering and design, construction schedules and cost estimates.



Electric Grid Grant Program Development and Administration

Statewide, Alaska

Michael Baker assisted the Alaska Energy Authority with the development of the new federally funded program to administer \$12.4 million annually of competitive grant funding available to electric grid operators throughout the state, in order to provide system resilience improvements. Deliverables included developing the program narrative, defining parameters of program administration, developing a request for applications, and identifying and refining quantitative and qualitative application evaluation criteria.

Trans-Alaska Pipeline System (TAPS)

Statewide, Alaska

Michael Baker was a major engineering consultant for the design and construction of the 789-mile-long, 48-inch diameter pipeline. We dedicated more than 2.5M man-hours in civil, structural and mile-by-mile pipeline design. In addition, we were responsible for civil design and survey of more than 200 access roads, airstrips and pipeline bridges; as well as the design and survey of the U.S.'s northernmost Dalton Highway, a 358-mile haul road that links TAPS and the North Slope oil fields to Alaska's road system.



Emergency Generator Commissioning

Naval Medical Center San Diego, California

Michael Baker provided comprehensive commissioning services for the replacement of emergency generators and upgrades to the existing electrical infrastructure to support new automatic transfer switches and controls. This project was essential for the cogeneration plant and associated generator room, located at the heart of the hospital campus. The improvements ensured that critical patient care areas were provided with constant and reliable power.



CAPABILITIES

Construction & Commissioning Services

Economics & Finance Services

Energy & Water Use Efficiency Strategies

Energy Master Planning & Roadmaps

Engineering & Design Services

Environmental & Regulatory
Compliance Services

High-Performance Building Solutions

Microgrid & Distributed Energy Solutions

Operational Technology (OT) Cybersecurity
Risk Assessments & Management

Strategic Grant Services

System Optimization

Visit mbakerintl.com for more information about our capabilities and iconic projects.

CONTACT

Elizabeth Bradford, MS, ENV SP
Vice President, National Resilience Lead
P: 845-392-4053
E: elizabeth.bradford@mbakerintl.com



Guy Carpino, P.E., RCDD
Engineering Principal
P: 858-812-9161
E: guy.carpino@mbakerintl.com



Niek Veraart, AICP, ASLA, ENV SP
National Practice Lead, Planning
P: 917-509-0468
E: niek.veraart@mbakerintl.com



Michael Baker
INTERNATIONAL



ALASKA ENERGY SECURITY TASK FORCE REPORT



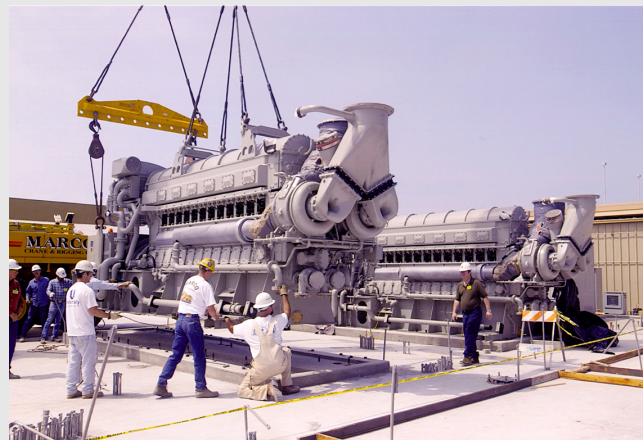
Alaska Energy Security Task Force Report Statewide, Alaska

Michael Baker worked collaboratively with the Alaska Energy Authority and Alaska Energy Security Task Force to develop an initial statewide energy plan that evaluates energy generation, distribution and transmission for the state and its communities. The report recommends actions that will help pave the way to a more affordable energy future in Alaska. Actions include identifying policies, programs, regulatory changes and funding that can accelerate adoption of these energy strategies.

Scattergood Generating Station Hydrogen-Ready Modernization Project

Los Angeles, California

Michael Baker is preparing environmental regulatory and permitting documents for a key Los Angeles Department of Water & Power (LADWP) in-basin generating station. The project would result in a rapid-response, combined-cycle generation system capable of operating on a fuel mixture of natural gas and a minimum of 30% hydrogen gas. This capability would enable LADWP to convert from natural gas to green hydrogen in its in-basin combustion-turbine generation system.



Electrical Design of Cogeneration Facility

BF Goodrich, Chula Vista, California

We provided electrical design-build services for this 13.4MW combined cycle facility. Our team supplied the electrical design, detailed control logic and operational sequences for programming the paralleling switchgear. The facility features four 3.165MW Fairbanks Morse dual-fuel gas reciprocating engines, a 12kV 3-phase 3-wire wye system and detailed integration with the local grid service at the substation. The plant provides all power and industrial heating, which manufactures multiple critical components for Boeing commercial aircrafts.