

RESILIENT PV IN THE SOUTHEAST: Regulators, utilities, and DoD align for on-base solar projects



US Navy, Public Domain

Background

Naval Construction Battalion Center Gulfport (NCBC Gulfport) is a 1,100-acre installation located in Harrison County, Miss. The installation is home to the Atlantic Fleet Seabees, which include Mobile Construction Battalions that have deployed to conflict and disaster zones around the world, as well as to natural disaster relief efforts in the United States. The mission of NCBC Gulfport is to “maintain and operate facilities and provide services and material in support of Naval Construction Force Units.”³⁴

Naval Construction Battalion Center Gulfport, Miss., is leasing part of its land to host a solar photovoltaic (PV) system that sells electricity to the utility. In exchange for the lease, the project developer is building a microgrid that connects the PV with diesel generators and energy storage to power the base during blackouts. The Mississippi Public Service Commission has approved the power purchase agreement as part of a formal regulatory proceeding. This project is one example in which state regulators across the Southeast have authorized utility cost recovery for military energy resilience projects.

Energy Resilience Innovation

The 4.29 MW PV system at NCBC Gulfport is part of an 11-project, 310-megawatt portfolio of PV systems installed as part of Southern Company’s Pentagon Partnership with the military.³⁵ Southern Company is the parent company of utilities in four southeastern states: Alabama Power, Georgia Power, Mississippi Power and Gulf Power (which serves parts of Florida). The NCBC PV system, which began operation in 2017, consists of more than 29,000 PV panels installed on approximately 23 acres of land. The PV system was developed by CB Energy LLC,³⁶ which entered into a 25-year power

purchase agreement (PPA) with Mississippi Power. The project cost \$6.2 million to install and was financed by WGL Energy Systems. WGL Energy will own the project over the term of the contract.³⁷

In exchange for the use of its land, NCBC Gulfport will be able to use the installed energy infrastructure to support its resilience objectives. In 2016, the Navy entered into an enhanced use lease (EUL)³⁸ agreement with the project developer. Under EUL agreements, the military services can lease land to other entities in exchange for cash or “in-kind consideration” equal to the fair market value of the property. For the PV project, CB Energy agreed to construct a microgrid for NCBC Gulfport as its in-kind contribution which would include 1 MW of battery storage and 3 MW of diesel generation.³⁹ The PV system would be configured to supply the microgrid in the event of power disruptions. Construction of the microgrid is currently on hold while an expansion of the planned microgrid is explored.

Defense Community Partnership

State commissions regulate the rates that utilities can charge to customers in exchange for providing safe, adequate and

reliable electric service. In many states, state regulators have oversight over utility plans to build or procure energy resources, including authority over whether utilities can recover the costs of their investments from state ratepayers. A growing number of state commissions have considered and approved utility investments in projects that support energy resilience of military installations. This section summarizes the regulatory proceeding related to the NCBC Gulfport project, as well as similar proceedings involving Southern Co. utilities.

Mississippi Power and CB Energy submitted a joint petition to the Mississippi Public Service Commission for approval to include the PPA payments in the company's annual fuel cost recovery filing.⁴⁶ Mississippi Power noted that the PPA would result in a slight increase in rates during the first two years of operation but that it would place downward pressure on rates over the long-term.⁴⁷ The utility also noted that the PV system "provides the potential to improve energy independence and preserve the viability of a key Department of Defense installation in the region."⁴⁸ The commission authorized the utility to recover its costs associated with the PPA in a December 2015 order,⁴⁹ which enabled the project to move forward. The commission agreed that the project created an opportunity to put long-term downward pressure on utility rates, and found that the project created opportunities to add fuel diversity to the utility's portfolio and capture the benefits of solar generation for its customers.⁵⁰ The commission also found that because "the project generates energy from the sun, there will be no carbon emissions associated with its operation, which ... serves to enhance the value of the project for [its] customers."⁵¹

The NCBC Gulfport project is only one example in which state regulators approved cost recovery for energy resilience projects associated with the Southern Co. Pentagon Partnership.⁴⁸ Examples in other states include:

Alabama. In 2015, the Alabama Public Service Commission authorized⁴⁷ Alabama Power to recover its costs to build and own a 10 MW PV system at Fort Rucker⁴⁸ and a 7 MW PV system at Anniston Army Depot.⁴⁹ The commission found that the projects would help meet military energy requirements. Commission staff also took the direct benefits of military base retention and the "indirect benefits associated with retaining residential and commercial loads that are highly dependent on the economic impact of each military base"⁵⁰ into account in their positive evaluation of the projects. The Army granted 30-year easements to the utility for use of its property and both

projects have been configured to be "microgrid-ready"; i.e., infrastructure would be in place to enable islanding ability at a later date.⁵¹ The Army is currently pursuing funding through the DoD Energy Resilience and Conservation Investment Program (ERCIP)⁵² to convert the PV systems at both installations into microgrids.⁵³

Georgia. The Georgia Public Service Commission has authorized Georgia Power to recover costs to build and own large-scale PV systems at military installations in a series of regulatory proceedings. In its regulatory orders, the commission consistently found that the projects contribute to the energy security and resilience objectives of the military services, promote fuel diversity within the state and represent significant investments in Georgia military installations. The PV projects include:

- Three 30 MW projects located at Fort Benning, Fort Gordon and Fort Stewart.⁵⁴ The Army is currently pursuing ERCIP funding to convert the PV projects into islandable microgrids.⁵⁵
- A 31 MW project at Marine Corps Logistics Base Albany.⁵⁶ The base also is pursuing a separate microgrid that will be powered by biogas, landfill gas and diesel generation.⁵⁷
- A 139 MW project at Robins Air Force Base.⁵⁸ Robins already is home to two 80 MW natural gas combustion turbines that Georgia Power uses as peaker plants during normal operations. These plants can be islanded to support the base during power disruptions.⁵⁹
- Georgia Power also has received commission approval to build a 30 MW project at Naval Submarine Base Kings Bay⁶⁰ and a 32 MW project at Moody Air Force Base.⁶¹