Covering the Bases

Helping our military with energy security, resiliency

Concentrated solar array at Utah's Tooele Army Depot

Idaho National Laboratory

The Department of Defense (DOD) has embraced renewable energy as essential not only to reducing dependence on foreign oil and addressing climate change concerns, but also to improving security and reducing costs. Idaho National Laboratory is working with DOD all over the United States and abroad, providing technical input and guidance for more than 25 projects.

In north Texas, INL has provided development, design and implementation support for the Pantex Wind Project, the largest federally owned wind project to date. The 11.5-MW project supplies more than half of the Energy Department facility's electrical power.

An array of batteries

On a smaller scale, here are some of the projects in which INL has provided expertise and support …

Joint Region Marianas/Naval Base Guam

December 2014, U.S. Navy, Guam
Nature of Project: Solar, battery storage
Purpose of Project: Integration and field-testing of utility-scale lithium-ion (Li-ion) battery storage and solar photovoltaic systems
INL Contribution: Design and testing of microgrid system

Naval Air Station North Island

November 2014, U.S. Navy, San Diego, Calif.
Nature of Project: Wind, battery storage
Purpose of Project: Feasibility planning and improvements to San Clemente Island power system
INL Contribution: Analysis and design of hybrid island/grid system improvements including three new 900-kW wind turbines

Naval Base Ventura County

October 2014, U.S. Navy, Oxnard, Calif.
Nature of Project: Wind, battery storage
Purpose of Project: Integration of wind energy and battery storage into San Nicolas Island power system
INL Contribution: Grid/system development and integration guidance of new 700-kW wind energy, and testing of potential zinc-bromine battery storage systems

Fleet Activities Sasebo

January 2015, U.S. Navy, Sasebo, Japan
Nature of Project: Wind
Purpose of Project: Development of first wind energy project in Navy Far East region
INL Contribution: Feasibility assessment and design/development support for 2-5 MW of wind energy; other wind energy feasibility/development assessments

INL's Kurt Myers checks the load history on a diesel generator at Utah's Dugway Proving Ground.

Photovoltaic solar array at Utah's Dugway Proving Ground.

Vandenberg Air Force Base

January 2015, U.S. Air Force, Lompoc, Calif.
Nature of Project: Study
Purpose of Project: Technical and investment planning on major projects affecting power/energy options and energy security
INL Contribution: Analysis of systems, technical and economic concerns, recommendations for improving power distribution and delivery

Tooele Army Depot

2015-2016, U.S. Army (AMC), Tooele, Utah
Nature of Project: Wind, solar, battery storage
Purpose of Project: Assist design review, planning and analysis for 1.7 and 1.5-MW wind project, 1.5-MW concentrated solar project upgrades, power system study and microgrid
INL Contribution: Interconnection and net metering agreements with utility, technical assistance, design review, and microgrid planning

Dugway Proving Ground

April-June 2015, U.S. Army (IMCOM), Dugway, Utah
Nature of Project: Solar
Purpose of Project: Identification of potential for solar photovoltaic, wind, geothermal, microgrid and energy storage systems
INL Contribution: Interconnection agreement with utility, design review and system integration for 2-MW solar photovoltaic project

Atlantic Undersea Test and Evaluation Center (AUTEC)

June 2014, U.S. Navy, Andros Island, Bahamas
Nature of Project: Wind
Purpose of Project: 1-MW turbine installed in remote location to supplement four diesel generators, reducing costs and meeting clean energy requirements
INL Contribution: Consultation on control and system improvements

F.E. Warren Air Force Base

2005-2010, U.S. Air Force, Cheyenne, Wyo.
Nature of Project: Wind
Purpose of Project: Wind turbines expected to save the Air Force more than $3 million over the next 20 years
INL Contribution: Design and technical oversight, basic support for base interfaces, energy security test

Soto Cano Air Base

2014-2018, U.S. Army (IMCOM), Honduras
Nature of Project: Solar photovoltaic
Purpose of Project: Improve reliability of mission-critical loads by connecting generators on microgrid using existing distribution networks
INL Contribution: Technical consultation in development of solar energy project

Army Reserve

2015-2018, U.S. Army, American Samoa
Nature of Project: Solar
Purpose of Project: Improve reliability of mission-critical loads by connecting solar to existing distribution network
INL Contribution: Technical consultation in development of solar energy project

Utah's Tooele Army Depot includes both wind and concentrated solar energy.

Contact

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