

NAS NORTH ISLAND - NAVY REGION SOUTHWEST NAVY ENVIRONMENTAL LEADERSHIP PROGRAM

CONSERVATION

MICROTURBINE POWER GENERATION

LEAD ACTIVITY

Navy Public Works Center (PWC) San Diego
Naval Facilities Engineering Service Center (NFESC)
San Diego Regional Energy Office

STATUS

Planning

MISSION

Demonstrate feasibility of using natural-gas fired Microturbines in place of diesel engines for primary and emergency backup power generation.

REQUIREMENT

EO 13123, Greening the Government through Efficient Energy Management, requires federal agencies to reduce the use of petroleum and increase use of natural gas as an energy source.

DESCRIPTION

In order to lessen adverse impacts to Navy budgets due to unpredictable energy costs, the Navy is pursuing "distributed energy generation," whereby the Navy builds systems on base to generate electricity at times of peak energy costs - a strategy known as "peak shaving." Building distributed energy systems can reduce energy costs to the Navy in the deregulated marketplace.

A sustainable concept is to use microturbines in place of diesel engines for peak shaving and standby emergency power. Microturbines have lower emissions than diesel engines, and can be operated on a variety of fuel sources.

BENEFITS

- Low emissions as compared to diesel powered electrical generators
- Rapid startup for peak-shaving and emergency back-up applications
- Low maintenance cost
- Can be used for cogeneration to increase efficiency and reduce boiler fuel use and emissions

ACCOMPLISHMENTS / CURRENT STATUS

Date	Activity
SEP 2000	NFESC proposed microturbine demo project approved for PPEP Pre-Production Demonstration
SEP 2000	Teleconference between NFESC and NRSW/PWC San Diego to site demo at NAS North Island
JAN 2001	Began plans for demonstration

FUTURE PLAN OF ACTION & MILESTONES

Date	Activity
APR 2002	Install Microturbine
MAY 2002	Operate microturbine for Summer peak energy use season
MAY 2003	Complete demonstration, prepare demonstration report

BIBLIOGRAPHY

None Available

RELATED GOVERNMENT INTERNET SITES

[DoE Office of Industrial Technologies www.oit.doe.gov/power/micro.html](http://www.oit.doe.gov/power/micro.html)