

# Norfolk Naval Base CHP

## PROJECT: NORFOLK NAVAL BASE CHP

Concord Engineering developed designs and economic models to support an Investment Grade Audit process for a Federal ESPC contractor. Project designs and micro-grid capability were developed and optimized to meet 2 primary purposes: Energy Savings through Demand Reduction and island capable Micro-Grids for resilient power to support their mission during a prolonged loss of distribution grid energy.



### CHALLENGES:

- **Interface with 3 separate sub-stations**
- **Parallel operation with existing 6 MW power plant**
- **Improved Resiliency for mission critical operations**
- **Uncertain electrical load flow and demand**
- **Project must paid back through energy savings economics**

### SOLUTIONS:

- **Developed complex site power quality and load flow model to inform electrical design**
- **15 MW of natural gas CHP + 10 MW demand response**
- **Island capable micro-grid**
- **Worked with client to develop economic dispatch model to validate Preliminary Assessment**

### PROJECT SUMMARY:

#### Site:

Norfolk Naval Station  
Norfolk, VA

#### Market:

Federal ESPC

#### Technology:

Combined Heat & Power

#### Services:

IGA Engineering Design

#### Date:

2016

### RESULTS:

- ✓ **Improved resiliency**
- ✓ **Mix of prime movers produced energy savings through economic demand management**
- ✓ **Project penciled for our Client**

Contact:

**Concord Engineering Group, Inc.**

520 South Burnt Mill Road

Voorhees, NJ 08043

p. (240) 344.8770

[info@concord-engineering.com](mailto:info@concord-engineering.com)

[www.concord-engineering.com](http://www.concord-engineering.com)

