San Diego Section of the American Planning Association Luncheon Program
Collaborative Planning: A Navy Perspective on Energy & Mission Compatibility

Tuesday, August 27, 2013, 12:00-1:30pm
Navy Region Southwest Energy Program

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Renewable Program Office Project Manager
Strategic Objectives & Policy

Navy’s Five Major Energy Goals

- **Reduce Energy Consumption & Intensity**: By 2020, USN will reduce energy consumption & intensity by 50% from a 2003 baseline.

- **Power from Renewable Sources**: By 2020, 50% of total ashore energy will come from renewable sources.

- **Net-zero installations**: By 2020, 50% of installations will be net-zero consumers.

- **Reduce Non-Tactical Petroleum Use**: By 2015, reduce petroleum used in commercial vehicle fleet by 50% from a 2009 baseline.

- **Increase Energy Security**: Provide reliable, resilient and redundant power to increase the energy security of mission critical assets.

Policy, guidance and directives shape the Navy’s Energy Strategy
Renewable Energy
Region Southwest

Navy Renewable Energy

<table>
<thead>
<tr>
<th>Type</th>
<th>Capacity (KW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geothermal</td>
<td>272</td>
</tr>
<tr>
<td>PV</td>
<td>22</td>
</tr>
<tr>
<td>Wind</td>
<td>675</td>
</tr>
<tr>
<td>Wind (Auth/Awarded)</td>
<td>700</td>
</tr>
<tr>
<td>Wind (in development)</td>
<td>200</td>
</tr>
</tbody>
</table>

Naval Support Activity Monterey

Naval Air Station Fallon

Naval Air Station Lemoore

Naval Air Weapons Station China Lake

Naval Air Facility El Centro

Naval Base Ventura County

Naval Base Point Loma

Naval Base Coronado

Naval Base San Diego
Integrated Renewable Energy Storage System

- Energy security
- Reduced liquid fuel consumption
- Operational reliability
- Reduced emissions

Existing Electric Power Plant

Zinc-Bromine (ZnBr) Battery Enclosure

Wind Turbine Switchgear Pad

Future 100 KW Wind Turbines

NOLF-SNI

Advanced Micro-grid

Export lessons-learned to grid connected Installations

Existing Micro-grid

1 MW-Hour
Power Purchase Agreement Execution

- Market Research (June-Dec. 2007)
- Site Selection - NEPA (2008)
- RFP Development (2008-2009)
- RFI Issued (March 2008)
- RFP Issued (March 2009)
- RFP Issued (March 2009)

- Competitive Bids Due (July 2009)
- Solar MAC Award (February 2010)
- Task Order Discussions (April 2010)
- PPA Negotiations Complete (May 2011)
- OSD Approval & Task Order Award (September 2011)
- Financing Closed
- Construction Begins (November 2011)
- Construction Complete (September 2012)
What Drives Renewable Energy Project Viability

- Project Risks
  - Off-taker
  - Interconnection
  - Transmission
  - Land

- Contracting & Feasibility
  - Assignment
  - Term Length
  - Contract clauses

- Economic Drivers
  - Rates
  - Incentives/Rebates
  - Resource
NAWS China Lake Solar PPA

Term: 20 years (10 USC 2922(a))
Technology: Single Axis Tracking Solar Array
Capacity: 13.78 MW

29,000 MWh Annually
- 30% annual requirement
- 50-70% summer day peak
- 70-90%+ winter day peak
- 20 Year PPA (First in Federal Gov’t)
- Fixed Price PPA Below Utility Rate
- Buy-American Compliant Modules
- High Efficiency Modules maximized land use
- Panels installed on ~118 acres
Navy Region Southwest
Naval Air Facility El Centro Alternative Energy Development

David Hulse
Community Plans and Liaison Officer
Planning Considerations

Site Clearance Constraints

- **Electromagnetic Interference**: Projects that produce electromagnetic signals may interfere with installation communications, ordnance safety, and radar.

- **Present Value/Useful Life**: Facilities past their useful life may not be appropriate locations for significant capital investment.

- **Anti-terrorism Force Protection**: Constraints include setback, line of site (i.e., Air Traffic Control), proximity to fence line.

- **Backup Power Source or Redundancy**: Methods available to supply power during emergency (grid, generators, storage systems).

- **Energy Demand/Source/Storage**: Steps to determine project feasibility to ensure reliable, resilient and redundant power to increase the energy security of mission critical assets.
Alternative Energy Project Types
Naval Air Facility El Centro

• Photovoltaic Electrical Duel Use
• Photovoltaic Lighting
• Photovoltaic Roof Panels
• Solar Hot Water Heating
Alternative Energy Projects
Naval Air Facility El Centro

Solar Powered Streetlights

Carport Photovoltaic System
Alternative Energy Projects
Naval Air Facility El Centro

Swimming Pool Solar Thermal

Roof Mounted Photovoltaic System
Alternative Energy Projects
Naval Air Facility El Centro

Future Photovoltaic Project Site
Navy Region Southwest
Encroachment Management Program

Kimberly Peacher
Intergovernmental Planner
Encroachment Management Overview

The Navy Region Southwest (NRSW) objective is to protect DoD Military Operating Areas (MOAs) from incompatible land uses through engagement with:

- Private landowners,
- Local land use jurisdictions, and
- All other major land owners including the USFS and BLM

through the implementation of plans and ordinances that discloses the MOAs to the public and establishes a project notification and DoD engagement procedure to limit potential encroachment proximate to installations and under military airspace.
California Government Code section 65302 (a)(2), states the land use element of the General Plan:

"shall consider the impact of new growth on military readiness activities carried out on military bases, installations, and operation and training areas, when proposing zoning ordinances or designating land uses covered by the general plan for land, or other territory adjacent to military facilities, or underlying designated military aviation routes and airspace."

To ensure early notification to the military of proposed discretionary development projects within Military Operating Areas, California Government Code Sections 65352 (a)(5) and (6)(A), 65940, and 65944 require the exchange of project related information pertinent to military operations:

“when the proposed action is within 1,000 feet of a military installation, or lies within special use airspace, or beneath a low-level flight path…”
Encroachment Management Engagement Process

START
Prioritize Engagement

Agency Engagement

United States Forest Service

County Planning

Planning and Ordinance Development

Stakeholder Input

Public Hearings

Adoption of Jurisdiction Ordinances and/or Procedures

Implementation of Ordinance and Regulatory Provisions

Navy Project Review Process
Update on Engagement

- There are 58 counties in California with 28 containing Navy air operations. There are approximately 72 counties in the NRSW.

- To date NRSW has engaged 22 of the 28 local jurisdictions with Navy air operations in California and Region 5 Forest and 7 associated Forests.

- Currently engaging the State of NV, NV counties, and US Forests and counties in Utah, and the remaining CA US Forests.

Example: Through a collaborative partnership, the General Plan revisions provided to Plumas County includes a notification process for all upcoming major industrial and commercial projects, as well as renewable energy projects that would be located in our MOAs.
Thank you!

Upcoming Events

October 6-9:
   California APA Conference in Visalia, CA

November 1:
   Corridor Planning Workshop

More information on upcoming events at:
   http://sdapa.org