Camp Lejeune Solar

- Duke Energy Overview
- Project Overview
  - Project Background / Goals & Objectives
  - Timeline
- Project Development
  - Partnership
  - Initial Development Steps
- Project Background
- Lessons Learned
- Largest electric power holding company in the United States
- 150+ years of service
- 7.4 million electric customers and 525,000 gas customers
- 52,700 megawatts of generating capacity from a diverse mix of coal, nuclear, natural gas, oil and renewable resources
- Service area covering approximately 95,000 square miles in the Southeast and Midwest
- ~ 2,500 megawatts (MW) of renewable energy:
  - 2,100 MW wind power
  - 400 MW solar power
Kick Off Meeting – August 2014

- United States Navy / Duke Energy Executive Meeting
- Navy Renewable Energy Program Office Goals and Objectives
  - Facing mandates for sustainability, energy security, and energy intensity – 1 GW Goal
  - Three models to support Renewable Energy Goals
  - Camp Lejeune – First Model 2 in United States
- Duke Energy Renewable Energy Goals in North Carolina
  - Optimal Timing
  - North Carolina Renewable Energy Portfolio Standard
  - North Carolina State Investment Tax Credit
  - Camp Lejeune is one of DEP’s largest customers.
  - Base distribution system owned and managed by government employees
  - Camp Lejeune would be first distributed generation asset located on a military base in service territory

August 2014

STEPS

December 2015

COD
Duke Energy North Carolina Service Area and Camp Lejeune Location
Conduct Site Due Diligence

Navy/Duke Coordination & Goal Alignment

Contracting Strategy

Regulatory Process & Approvals

Camp Lejeune - Preliminary Steps & Constraints
Camp Lejeune Solar Final Plans

- Duke builds, owns and operates ~ 13 MWac / 17MWdc solar asset on Base
- Camp Lejeune provides land via a lease satisfied through in-kind consideration that aligns with energy security goals
- Cost Effective Solar facility that is interconnected to Duke Energy Substation – project is grid-tied
- No upfront capital required by Navy; costs are spread across system as it is a grid-tied asset
- RECs retained by Duke Energy on behalf of NC Renewable Portfolio Standard (RPS) compliance.
Camp Lejeune Progression

July 2015
August 2015
October 2015
Lessons Learned

Environment

• Environmental Assessment Completed Prior to Discussions
• Avoid Sensitive Areas
• Ensure EV Team Alignment with Project Team
• Tree Clearing is Not Fun

Project Team Exceptional

• Project Complete & Operational
• Scope, Schedule, Budget
• Incremental Steps to Future
– Can’t go Zero to Microgrid in one Project (at no cost)
• Picked the Right Contractors & Equipment
• Identify Decisions Makers
• Manage Expectations
• Open & Honest Communication
• Joint Problem Solving Approach
• Find Solutions – Not My Way or the Highway
• My Regulatory Requirements are Important & So Are Yours
• Land Lease; Not a MILCON
• Boundaries are Boundaries
• IKC & Value of Land
• Project Plan & Engineering will not be finalized to support lease discussions
• Ability to support emerging project needs

Lease

• Environmental Assessment Completed Prior to Discussions
• Avoid Sensitive Areas
• Ensure EV Team Alignment with Project Team
• Tree Clearing is Not Fun

Critical

• Not Your Normal Project Access
• Determine Access Requirements in Advance of EPC Discussions
• Cannot Unnecessarily Add to Costs
• Base Relationships Key!
Lessons Learned

Would you do it again????

Base Coordination

Communication

Environmental

Project Management

Regulatory Requirements

Lease
Overview of Project
• Leased Area: ~ 140 acres on base
• DC Capacity: 24.35 MW
• AC Capacity: 17.25 MW
• Interconnected on Duke 69kV line
• Placed in Service - 12/16
• Final Completion - 3/17