Campus-Utility Partnerships for Success
JBSA Lackland Microgrid

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Agenda

• Background
• Project Overview
• Challenges
• Solution
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What Sparked Microgrid Discussions?

- Government Goals for Energy Efficiency (ESPC Contract)
- Resiliency
JBSA Lackland Microgrid Overview
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Distributed Generation Architecture
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Microgrid Coverage
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Power Modeling

• Electrical Model Setup
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Power Analysis

• Load Flow Study
• Short Circuit Analysis
• Coordination Study
• Reliability Analysis
• Transient Analysis
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Microgrid Concept Design Considerations

- Critical Load Locations
- Optimization (Generation-to-Load)
- Ties – Smart Grid Components
- Switching – Smart Grid Capable
- Re-wiring Requirements
- Load Shed Priorities
- Expansion / Scalability Considerations
- Security Concerns
Challenges | JBSA Lackland Microgrid

Interconnect Agreement with Utility (CPS Energy)

• Interconnection Application Process
• Engagement with the Utility
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Utility Coordination

• Determine Potential Sources of Conflict
  • Point of Common Coupling
  • Tie Breaker Operation
  • Loss of Utility Revenue
  • Negative Effects on Utility System
JBSA Lackland Microgrid Solution
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Interconnect Agreement with Utility (CPS Energy)

• Research Utility, PUC, ISO
• Interconnection Application Process
• Bi-weekly/Weekly Meetings
• On-site Power Flow Demonstration
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Mutual Advantages for Utility and Campus

- Additional Generation Capacity to the Grid
- Reduction of Load
- Additional Power During Peak Periods
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Mutual Advantages for Utility and Campus

• Non Wire Alternative
• Voltage support (VARs) to the Grid
• Opportunity to Reduce Carbon Emissions Footprint
• Meet Company Carbon Emission Reduction Goals
• Meet Statewide Renewable Portfolio Standards
• Opportunity for Positive Publicity
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Utility Coordination

• Engagement with Utility
  • Risk Analysis/Mitigation
• Determine Potential Sources of Conflict
  • Point of Common Coupling
  • Tie Breaker Operation
  • Loss of Utility Revenue
  • Negative Effects on Utility System
Utility Coordination

• They’re Not the Enemy
• Communication – Early and Regular
• Focus on Mutual Benefits
• Negotiate the Points of Conflict
• Coordination
• Technical Submittals/Meetings
Questions?
Thank You for Your Time

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