Shared Integrated Grid
Connected energy future
Core Values

Listen to understand, speak with purpose

Seek. Share. Partner.

Be curious, learn more, do better. Repeat.

Respect self, others and environment.

Do what is right. Do what is safe.

Serve like your lights depend on it.
## Pick-Sloan composite rate projection

<table>
<thead>
<tr>
<th>WAPA project</th>
<th>Long-term composite rate (weighted average) $/MWh</th>
<th>Average long-term market-based electricity prices $/MWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loveland Area</td>
<td>31.44</td>
<td>63.72-76.30</td>
</tr>
<tr>
<td>Pick-Sloan</td>
<td>24.00</td>
<td>35.26-66.60</td>
</tr>
</tbody>
</table>
Energy imbalance market decisions

“One size does not fit all”
RC transition
Common SCADA vendor

• Does not equal one SCADA across WAPA
• Equals one SCADA vendor
• Expected benefits
  – Improve operational flexibility
  – Increase reliability
  – Avoid future support and administrative costs due to cross training and supporting multiple contracts
Physical Security update

• Implementing new remediation validation process
• Tiered security protection levels focus resources on more critical sites
  • 1,000+ tasks reduced to ~450
• ~94 site assessments done in FY 2019
• 84%+ of planned security remediations done in FY 2019
• Conducting assessments in house in FY 2020 will save over $378,000
Cyber threat environment

- Increasing regulations
- Internet of Things
- Scope and breadth of organization
- Asset management nexus
- Continuous communications
OT/IT convergence

- Lifecycle discrepancy
- “Smart” technology
- Situational awareness
- Data management
DC update

• Fiber discussions
  – Improved capabilities for utility operations
  – Protect customers’ investments
  – Support customer needs for expanded services

• Integrated Resource Plans

• Non-reimbursable funding from DOE
## Work with DOE

<table>
<thead>
<tr>
<th>Initiative</th>
<th>DOE-provided non-reimbursable funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geomagnetic disturbance study</td>
<td>$1.2 million</td>
</tr>
<tr>
<td>Electro-magnetic pulse study</td>
<td>$88,787</td>
</tr>
<tr>
<td>Fiber pilot project</td>
<td>$750,000</td>
</tr>
<tr>
<td>Cybersecurity for Protective Relays</td>
<td>$200,000</td>
</tr>
<tr>
<td>IT equipment and licenses</td>
<td>~$1.25 million</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>~$3.48 million</strong></td>
</tr>
</tbody>
</table>
Key takeaways

Make the best decisions based on regional needs.
Prepare for and adapt to industry change.
Leverage partnerships to achieve mission.
Contact/follow me

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