Connected energy future

AGILE
RESILIENT
CONNECTED
RESPONSIVE
INTEGRATED
ENGAGED
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”
Boundaries are approximate and for illustrative purposes only.
EIM objectives

• Ensure reliable delivery of our hydropower while adjusting to a changing energy mix
• Respond to customer feedback requesting WAPA lead organized market discussions
• Address WAPA BA limitations
• Facilitate integration of renewable resources
• Enable participants who want to optimize their resources
Market status timeline

- **UGP**
  - EI decision Sept. 2019
  - Full market Oct. 2015
- **SN**
  - EI decision Aug. 2019
  - TBD
- **RM**
  - EI decision Sept. 2019
  - TBD
- **CRSP**
  - EI decision Sept. 2019
  - TBD
- **DSW**
  - EI Study 2019/2020
RC transition

- UGP-East – SPP 10/2015
- SN – CAISO 7/2019
- DSW/RM/CRSP/UGP-West – SPP 12/2019
Continuous Process Improvement

CPI projects: $3,371,040
ex: HQ Purchase Card Invoice Payments

Just Do It projects: $41,312,181
ex: SN Settlements Tagging

WAPA Strategic Initiatives: $45,532,014
ex: OFCO Automated Self-Service Invoicing Tool

WAPA cost savings and avoidance: $90,215,234 as of June 30, 2019
Helicopter benefits

• Replace 90 miles of dampers on Bears Ears-Bonanza 345-kV

• Options
  – Climbing: >$1 million
  – Bucket trucks: >$1 million
  – HEC: $369,610

• Cost savings: ~$640,000
Unmanned Aerial Vehicles

• Inspect 25 structures for Ault-Craig spacer replacement

• Options
  – Climbing (3 hours/structure): $11,250
  – UAS (30 mins/structure): $2,187.50

• Cost savings: >$9,000
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

• Purchase Power and Wheeling report
PPW report

• Submitted to Congress Sept. 10
• Details authority to use receipts as offsetting collections for PPW
• Proposes common definitions
• Describes risk mitigation strategies
• Demonstrates how PMAs are executing current authority to carry over unobligated balances for PPW
• Available at The Source
Key takeaways

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