

# WAPA Annual Customer Meeting

**Dec. 11, 2017**



# Agenda

- Opening Remarks
- WAPA 10-Year Capital Plan
- Financial Strategy Update
- Market Strategies Update
- Organizational Approach to Markets
- Transformer Risk Strategy
  - Grid Assurance Presentation
  - Transformer Risk Strategy Discussion (WAPA and customers)

# Opening Remarks

**Mark A. Gabriel**  
**Administrator and CEO**

# Welcome back



# Are we bringing the right rocks?



# Roadmap 2024



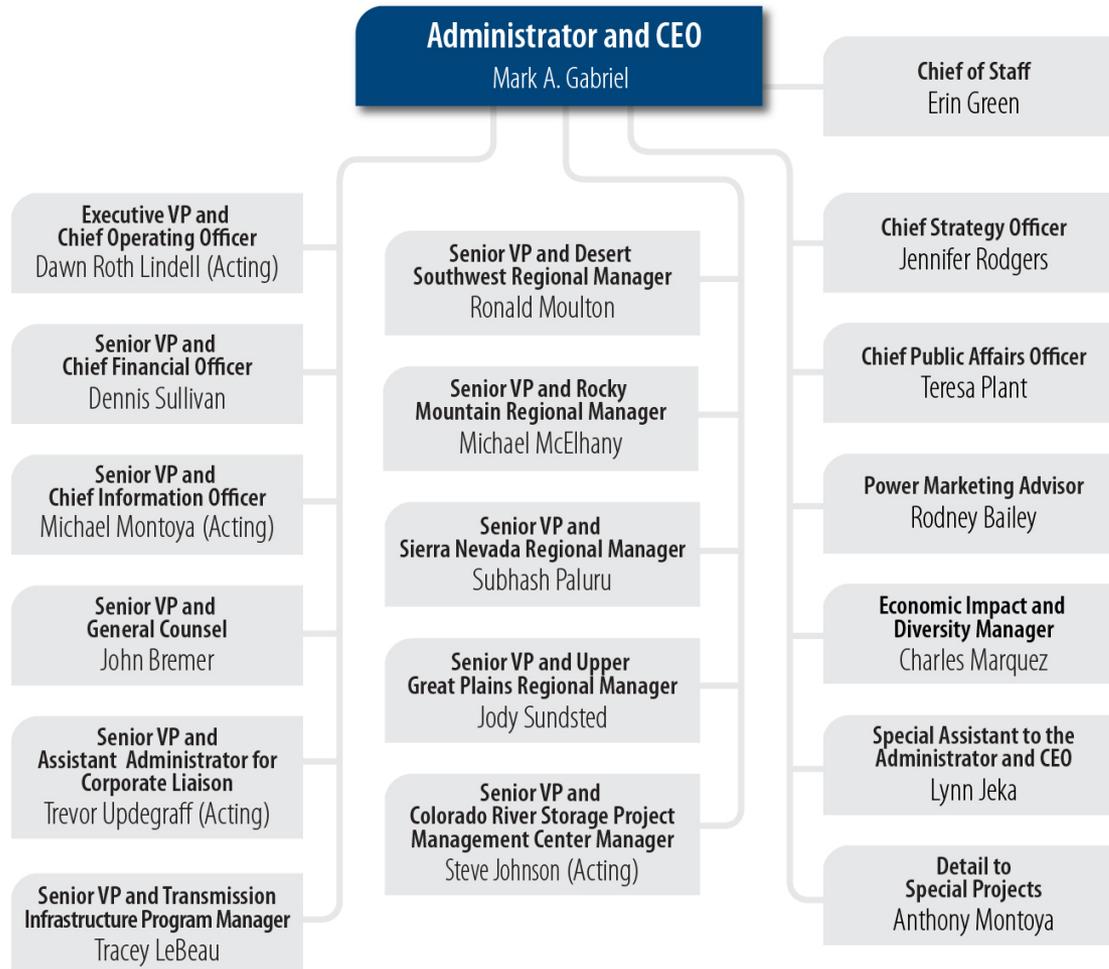
# FY 2017 Accomplishments



# Asset management

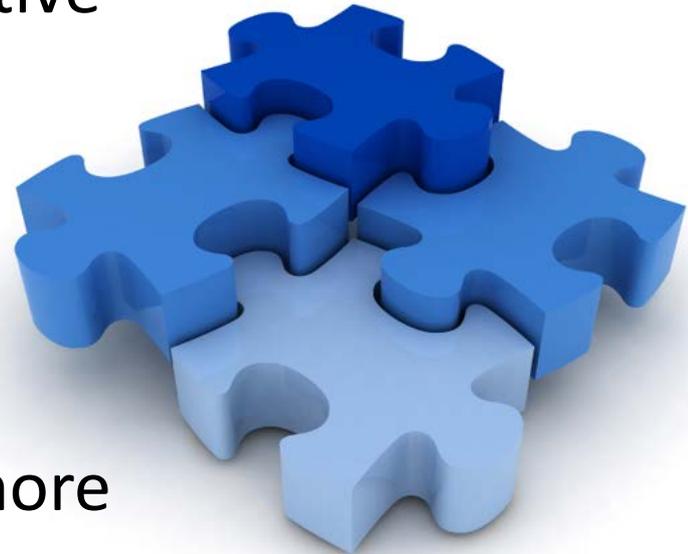


# Organizational chart

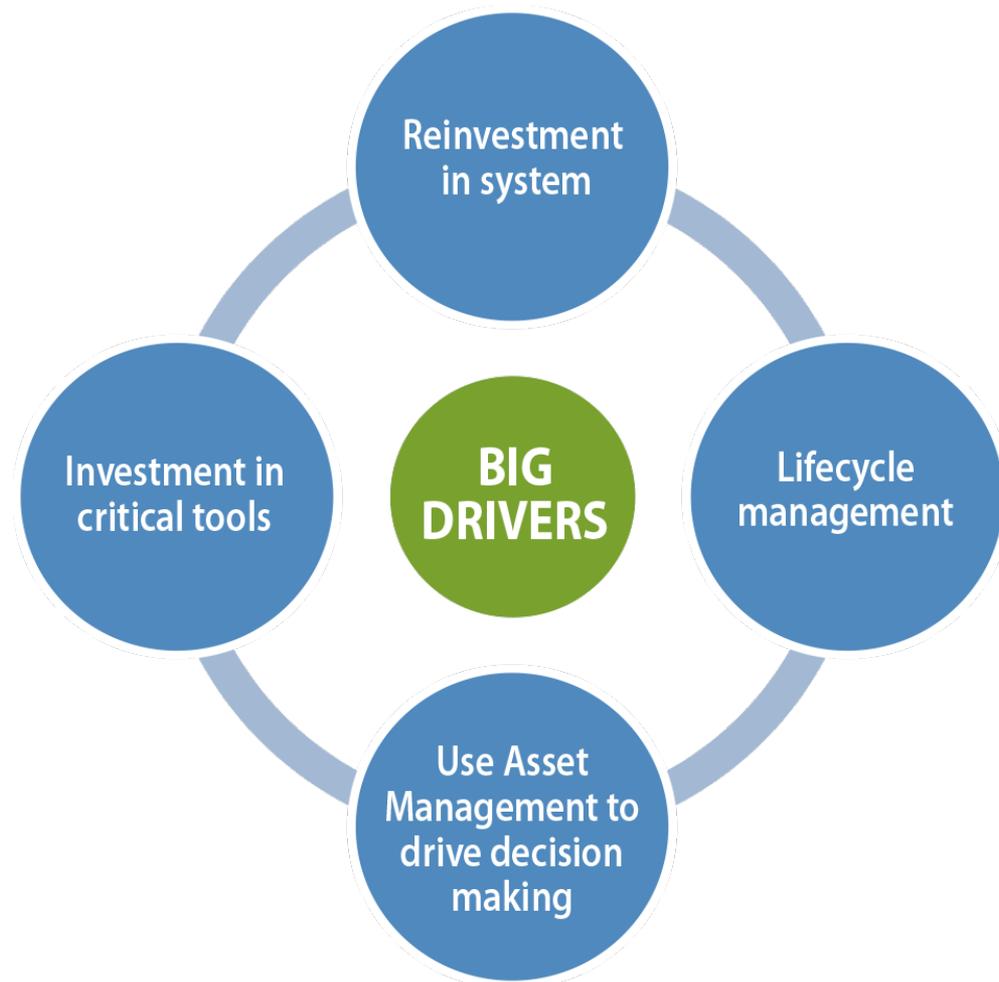


# Organizational realignment

- Exploring COO structure
- CAO to oversee administrative functions residing in COO
- SES and staff neutral
- COO and CAO evaluating reporting assignments
- Each organization will be more effective and focused



# Next 5-10 years



# Audit plan for FY 2018

Audit/review category	Description
Carryover from FY 2017	Government Purchase Card follow-on
	Stores inventory (RM, SN, DSW, UGP)
New for FY 2018	Project Management
	Permanent Change of Station
Follow-up on prior DOE-OIG audits	Vegetation Management
	Critical Asset Protection
Required reviews	OMB A-123 (Financial Controls)
	WAPA Entity Assessment (non-financial controls)
	Improper payments
	California Independent System Operator (meter data)
Continuous monitoring	GPC, fleet and travel cards

# Contact/follow me

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[WesternAreaPower1](https://www.youtube.com/channel/UC...)



# WAPA 10-year Capital Plan

**Dennis Sullivan**

**Senior VP and Chief Financial Officer**

# WAPA-wide Capital Plan overview

## Fiscal Years 18-27

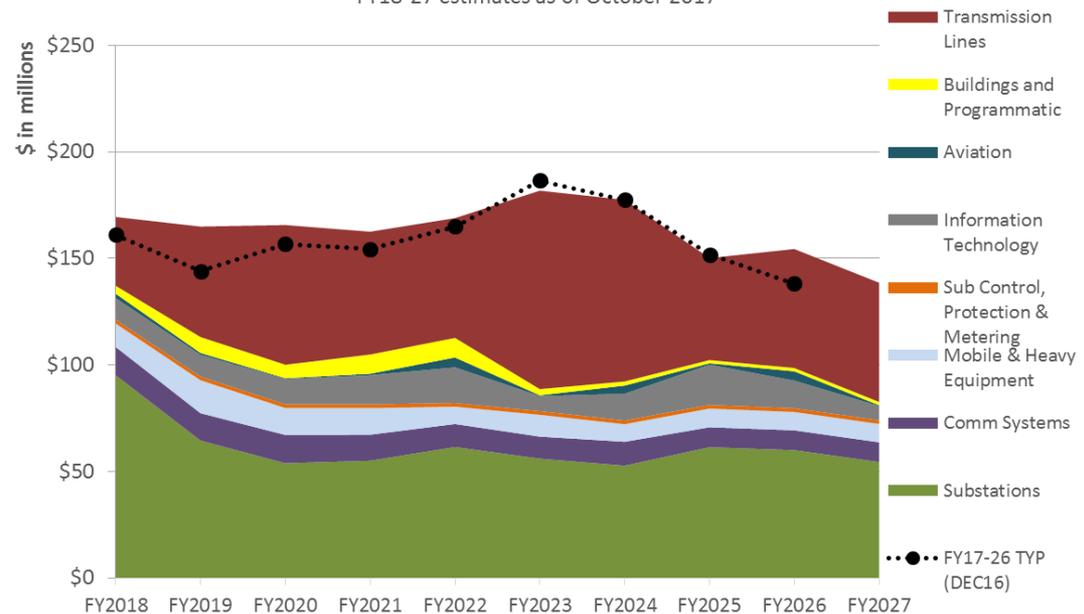
- Invests \$1.6B in transmission system
  - Up \$36M or 2%; Avg. \$160M/year
  - HQ plan: WAPA-wide vs. Regional allocations
  - Drivers
- Significant reimbursable work for others
- State of capital appropriations

# WAPA-wide 10-year Capital Investment Plan (by category)

## Key investment drivers

- T-Lines = 37%
- Subs = 38%
- Comm = 7%
- IT = 7%
- Mobile / Heavy Equip = 6%

WAPA-wide 10-year Capital Investment Plan  
FY18-27 estimates as of October 2017

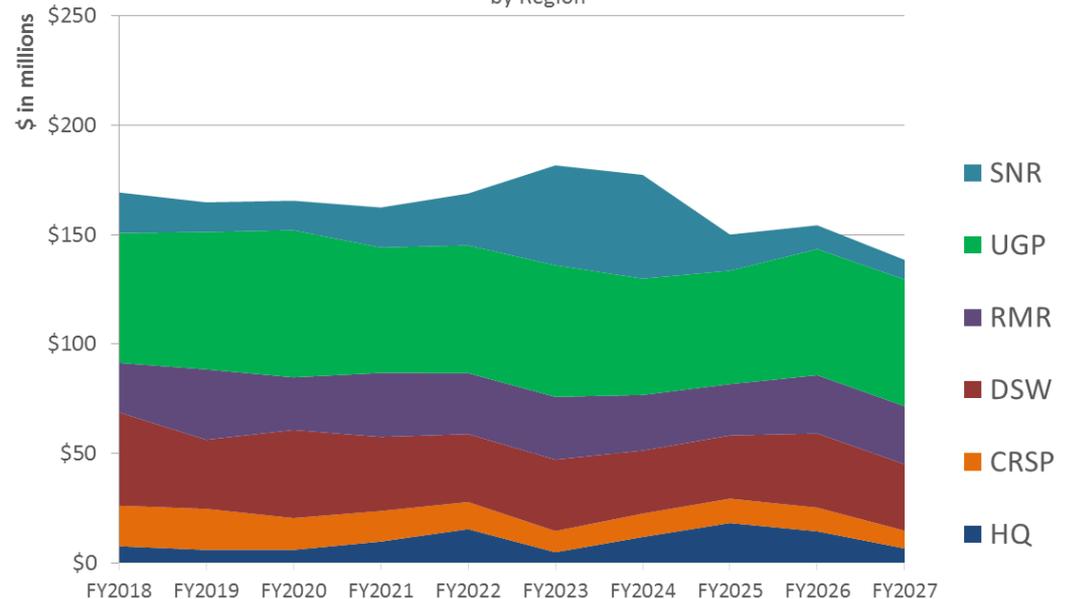


# WAPA-wide 10-year Capital Investment Plan (by region)

## Change by region

- CRSP + 16% (+\$17.9M)
- DSW - 2% (-\$8.5M)
- RM - 1% (-\$1.8M)
- SN - 8% (-\$18.5M)
- UGP + 6% (+\$31M)
- HQ (WAPA-wide) + 18% (+\$16M)

WAPA-wide 10-year Capital Investment Plan  
FY18-27 estimates as of October 2017  
by Region



# Summary of changes

- CRSP up \$18M (or 16%)
  - Primarily substation activity
- UGP up \$31M (or 6%)
  - Primarily substation and T-line activity
- HQ-managed plan down \$11M (or 7%)
  - WAPA-wide portion up \$16M (or 18%)
  - Regionally allocated portion down \$27M (or 40%)
  - Improved planning, Enterprise apps, O&M tech

# What drives the plan?

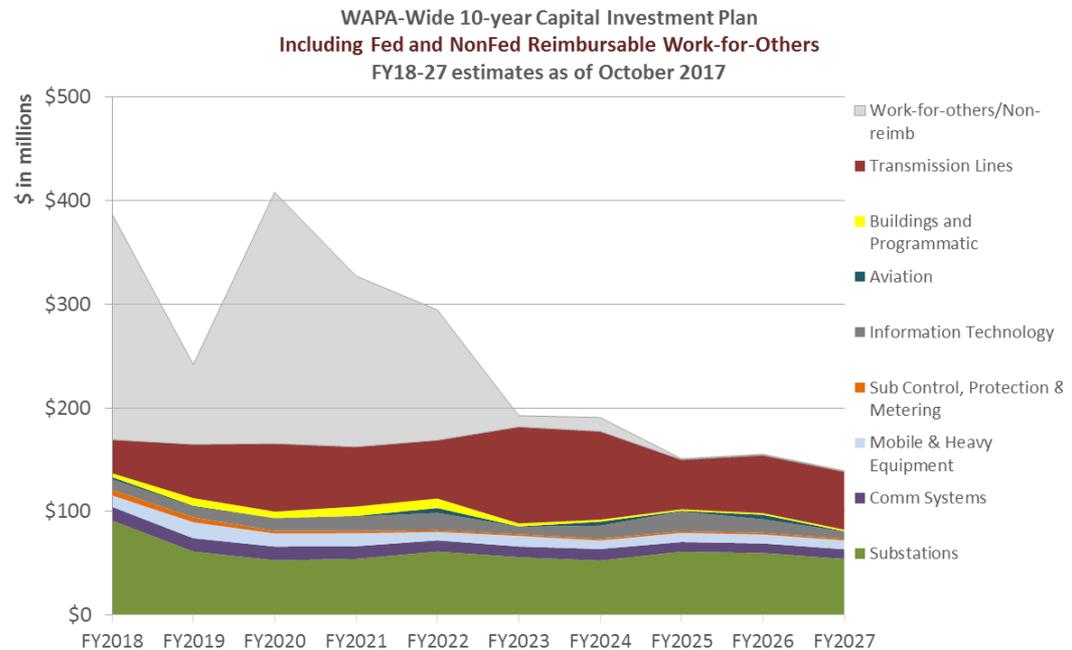
- Reliability through asset management
- Statutory and regulatory compliance
- Safety and security
- IT lifecycle management and business needs
- Markets (near-term)

# Significant reimbursable work-for-others begins in FY18

In addition to WAPA investment of \$1.6B, another \$855M in reimbursable Work-for-Others (WFO) is planned

## Key Projects

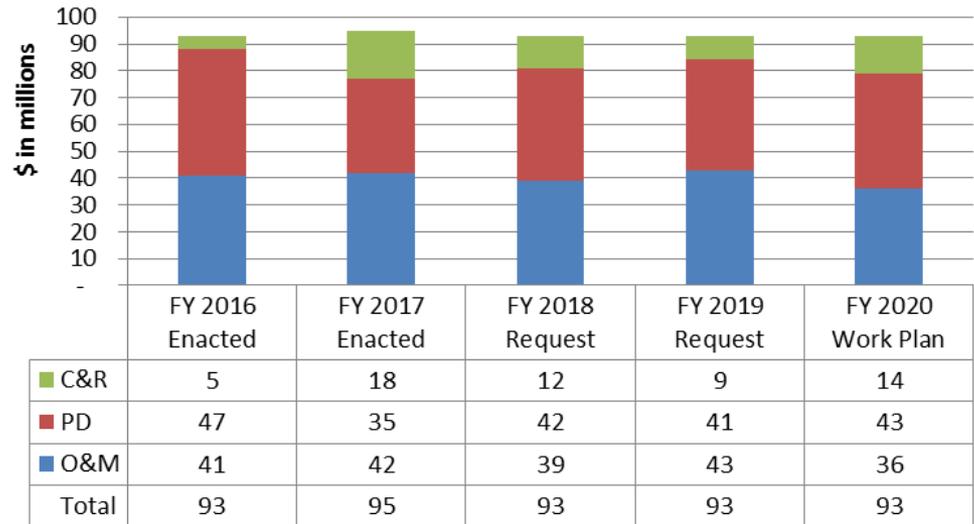
- **San Luis (SN)**
  - \$399M total project cost
  - FY18 \$183M, FY19 \$55M, FY20 \$108M
- **Colusa-Sutter (SN)**
  - \$271M total project cost
  - FY20 \$66M, FY21 \$38.5M
- **Southline (DSW) – NEW to TYP**
  - \$102M total project cost
  - FY20 \$50M



# Status of appropriations

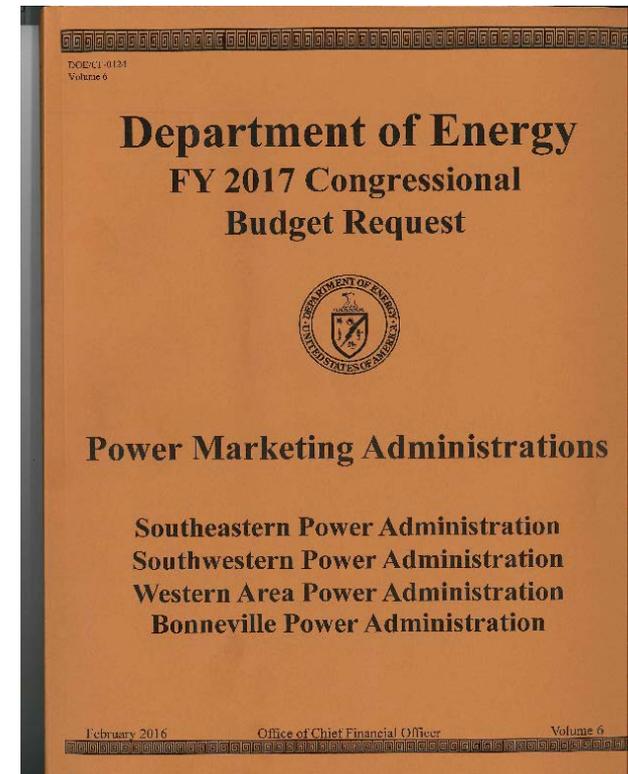
- Pressure on appropriation levels continues
- FY18: Under CR through Dec. 22; C&R request \$12M
- FY19: Request submitted through DOE to OMB; Work plan assumed \$9M for C&R
- FY20: Currently formulating budget request; C&R estimate is ~\$14M
- C&R 5-year average ~ \$12M/yr

Capital Appropriations  
FY 2016 - FY 2020



# 10-year Capital Investment Plan and FY 2020 Budget Formulation

- Capital **O&M** at \$36M in FY20 is down \$7M from \$43M in FY19
- Capital **PD** at \$43M in FY20 is up \$2M from \$41M in FY19
- **C&R** NonPD increases to \$53M in FY20 from an unusually low amount of \$33M in FY19. Avg over the 10 years is \$57M
- If WAPA approps remain flat at \$93M, WAPA will be able to fully cover O&M and PD totaling \$80M
- Approx **\$13M-\$14M** approps may be available for allocation to **C&R**, funding about 25% of the program



# SLIDES FOR REFERENCE ONLY

# CRSP MC 10-year Capital Investment Plan

- Invests **\$129M** in transmission system, FY18-FY27
  - Increase of **\$17.9M** from FY17-26 (DEC16) plan

## Key investment drivers

- Subs – 57%
- Comm – 16%

## Key Projects

- Glen Canyon
  - Warehouse/workspace – \$3.6M
  - Communication tower and associated system – \$1.2M
  - To Shiprock reactors – \$8.2M
- Heavy mobile equipment
  - \$2.1M increase to plan



# DSW 10-year Capital Investment Plan

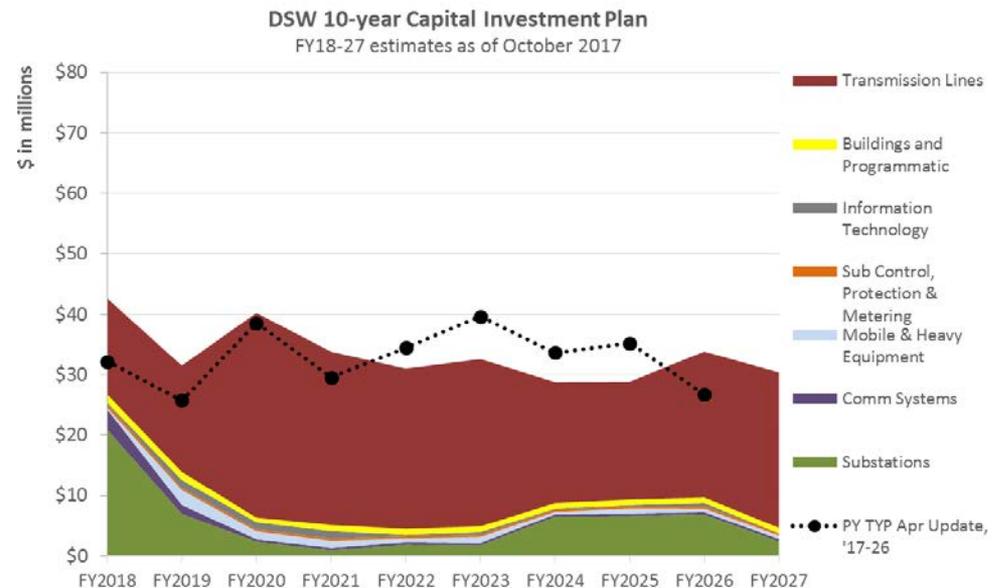
- Invests **\$334M** in transmission system, FY18-FY27
  - Decrease of **\$8.5M** from FY17-26 (DEC16) plan

## Key investment drivers

- T-Lines – 72%
- Subs – 17%

## Key Projects

- Kofa-Dome Tap 161kV Rebuild
  - FY18-20 \$5.4M
- Dome Tap-Gila 161kV Rebuild
  - FY18-20 \$7.1M
- Gila Substation Rebuild
  - FY18-20 \$14.1M



# RM 10-year Capital Investment Plan

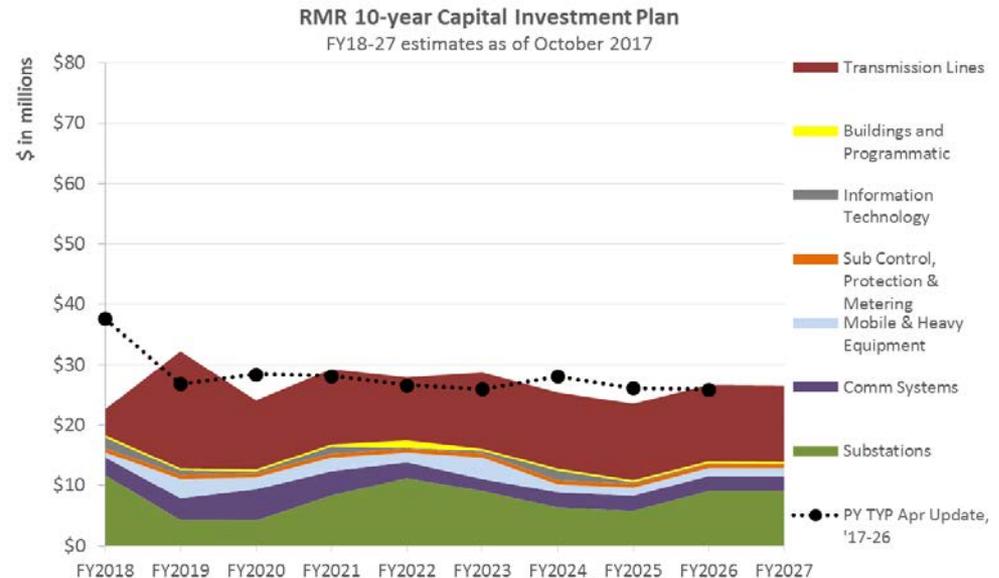
- Invests **\$267M** in transmission system, FY18-FY27
  - Decrease of **\$1.8M** from FY17-26 (DEC16) plan

## Key investment drivers

- T-Lines – 45%
- Subs – 30%
- Comm – 11%

## Key Projects

- Estes-Flatiron 115-kV Rebuild – FY18-20 \$16.8M
- Lovell-Yellowtail #1 & #2 T-Line Rebuild Phase III – FY19-21 \$10.1M
- Big George-North Cody 115-kV Conversion – FY18-19 \$7.1M
- Kimball Substation Sectionalizing – FY21-23 \$6M



# SN 10-year Capital Investment Plan

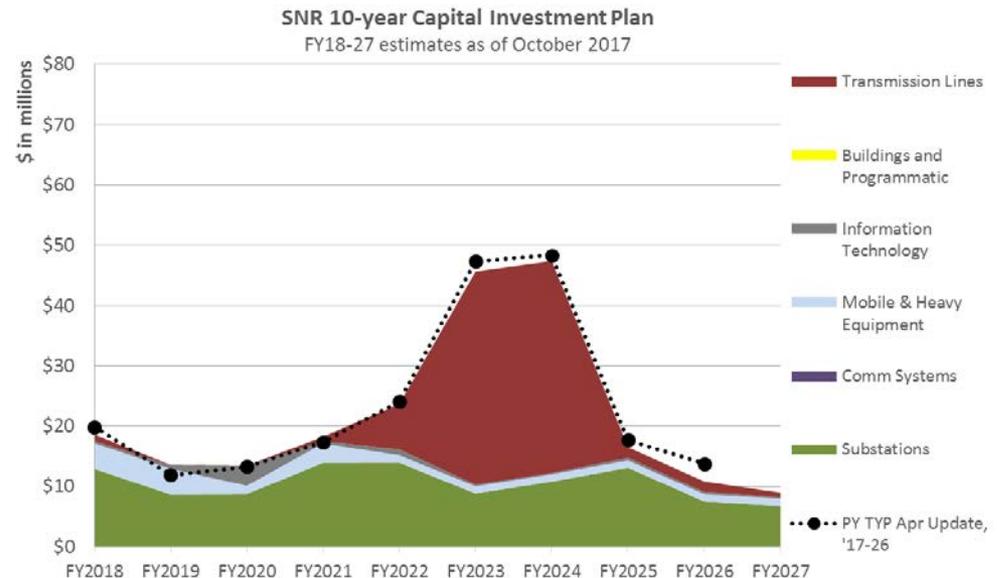
- Invests **\$217M** in transmission system, FY18-FY27
  - Decrease of **\$18.5M** from FY17-26 (DEC16) plan

## Key investment drivers

- Subs – 49%
- T-Lines – 39%

## Key Projects

- Cottonwood-Olinda Rating Upgrade – decrease \$3.9M
- 230kV Shunt Reactor – decrease \$3.9M
- Transmission Lines Projects
  - Hurley-Tracy Reconductoring project – FY22-26 \$77.8M



# UGP 10-year Capital Investment Plan

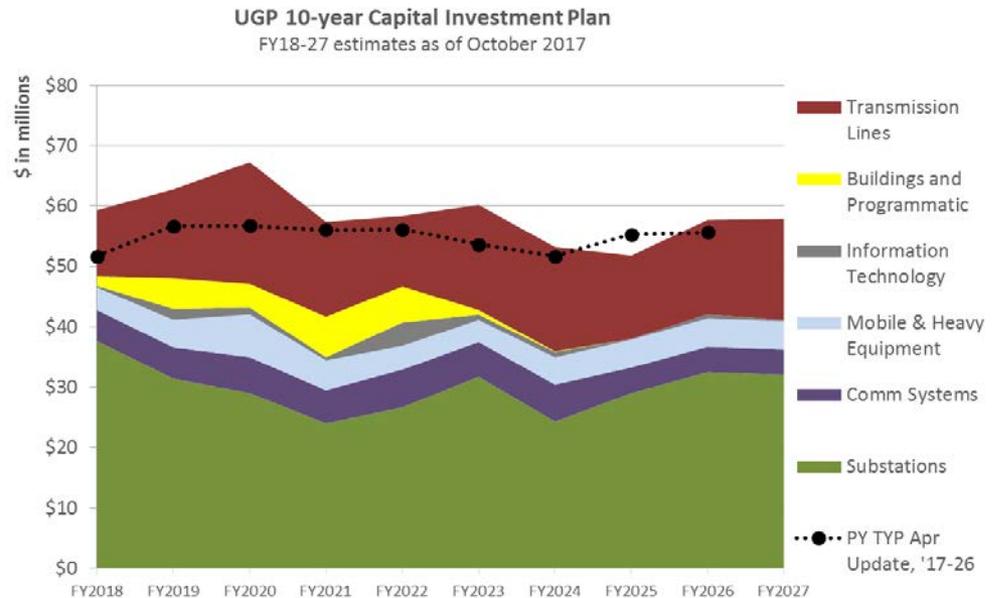
- Invests **\$586M** in transmission system, FY18-FY27
  - Increase of **\$31.2M** from FY17-26 (DEC16) plan

## Key investment drivers

- Subs – 51%
- T-Lines – 26%

## Key Projects

- Roberts County Substation
  - NEW to TYP in FY18-19 \$7.6M
- Garrison-Watford City 230-kV line rebuild (99 miles)
  - \$20.4M across plan years
- Includes 19 transformer replacements across plan years



# HQ-managed (WAPA-wide portion) 10-year Capital Investment Plan

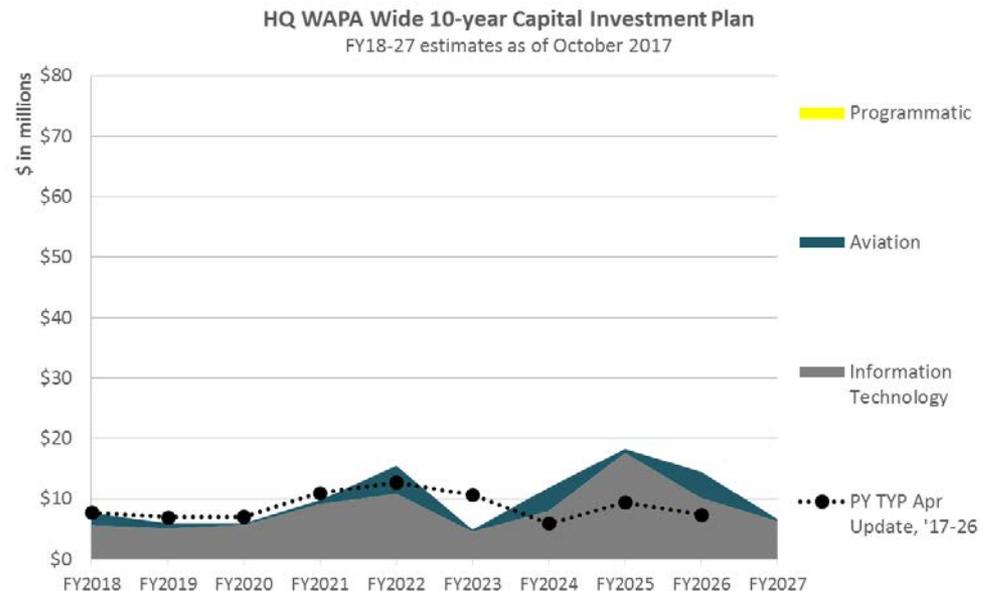
- Invests **\$101M** in transmission system, FY18-FY27
  - Increase of **\$15.8M** from FY17-26 (DEC16) plan
  - Overall HQ-managed plan reduced by \$11M

## Key investment drivers

- IT – 82%
- Aviation – 18%

## Key Projects

- Multiple Enterprise Applications upgrades - \$7.2M
- Power Billing Software replacement - \$13.6M
- Power Marketing/Settlements tools replacement - \$6.8M
- Helicopter replacements (3) and new (1) - \$13.2M



# Financial Strategy Update

**Dennis Sullivan**  
**Senior VP and Chief Financial Officer**

# Financial strategies

- Reserve balances strategy progress
- Proposed Transparency Act implementation
- Fiscal Year 2020 strategic budget guidance

# Reserve balances strategy

## Sustainable funding tool in support of WAPA's mission

	Annual O&M	Capital funding	Purchase power & wheeling
<b>Example</b>	Salaries, supplies and equipment	Building new transmission lines and related structures	Buying power on behalf of customers when water conditions require it
<b>Purpose</b>	Allows WAPA to sustain operations during emergencies, continuing resolutions or lapses in appropriations	Provides funding in advance of starting capital construction projects and flexibility with schedule / priority changes in collaboration with customers	Improves both WAPA and customer cash management, allowing for continued funding of critical capital construction and maintenance projects
<b>Strategy</b>	Retain 31% of annual funding need	Retain sufficient funding to cover up to 3 years of capital investments	Retain 3 years estimated funding during drought

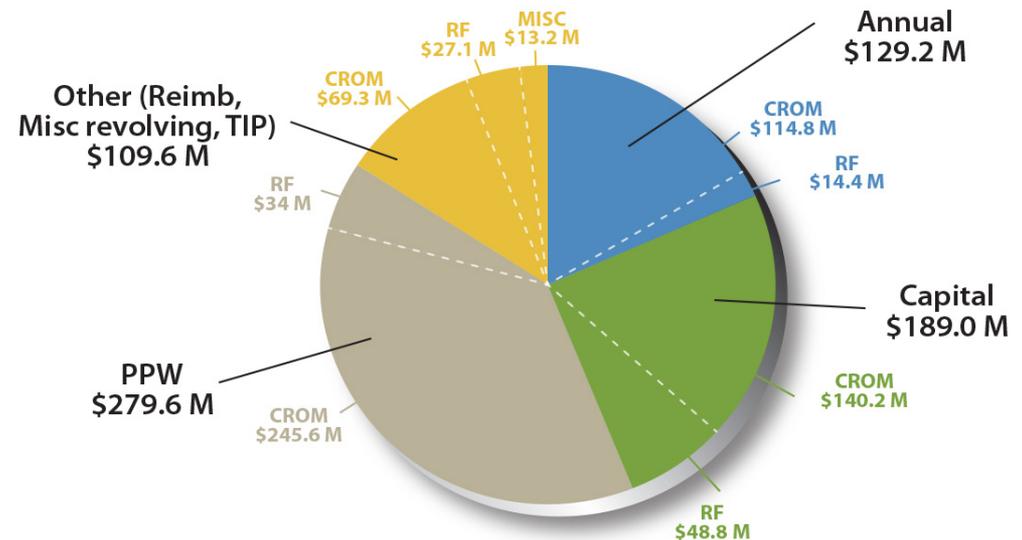
## Carrying reserve balances does not impact power rates

# Fiscal Year-End 2017 reserve balances

## Summary of all accounts

- Strategy progress: 2016-17
  - Total: Reduced ~ \$85M
  - Annual: Reduced ~ \$22M
  - Capital: Reduced ~ \$182M
  - PPW: Increased ~ \$97M
- Returns to U.S. Treasury
  - 2017: \$378M
  - 5-year total: \$1.6B

FYE 17 Reserve / Unobligated Balances  
By purpose: \$707.5 (in Millions)



# Planned FYE 18 targets/actions CROM account strategies\*\*

Program	FYE 17 Balance	Strategy Target
<b>Annual O&amp;M</b> <ul style="list-style-type: none"> <li>FY18 budget request included \$34.7M use of balance</li> <li>Coordinating through DOE to use additional \$9M in FY18</li> <li>Re-evaluate current strategy</li> </ul>	<b>\$114.8M</b>	<b>\$65.6M</b>
<b>Capital</b> <ul style="list-style-type: none"> <li>Regions collaborate with customers on amount to retain</li> <li>Returns to treasury as needed</li> <li>Re-evaluate current strategy</li> </ul>	<b>\$140.2M</b>	<b>\$160.8M</b>
<b>Purchase Power &amp; Wheeling</b> <ul style="list-style-type: none"> <li>Incremental increase, up to \$50M, planned</li> <li>Reach target by FYE 2020</li> <li>Requires solution to CBO budget authority “scoring” issue</li> </ul>	<b>\$245.6M</b>	<b>\$393.0M</b>

\*\* Does not include: CROM “Other”; CRBPMF; TIP; Falcon & Amistad; Emergency Fund

# Proposed Transparency Act implementation

- Part-time, 23-person project team actively working requirements
  - Power and transmission rates
  - Capacity and energy sold
  - Expenditure detail
  - Unobligated balances
  - Annual summary report
- Challenges
  - Budget Activity reconciliation
  - “Digestible” report format
  - Contractor versus FTE reporting
- Target to deploy (some or all) “Phase 1” requirements by month-end Feb. 2018



# FY20 strategic budget guidance

- Investment drivers
- Assumptions / constraints
- Cost savings / avoidance

Read more:

[The Source - Budget Allocation](#)

# Investment drivers



- Engineering salary increases ~ \$1.2M
- Leadership development
- Cyber risk
- Market start-up costs

# Assumptions / constraints

- Investment drivers must be offset
- FTE neutral
- Inflation at 2% for labor / non-labor
- Revalidate Trust & Reimbursable assumptions
- Increases over FY19 work plan require approval

# Cost savings / avoidance



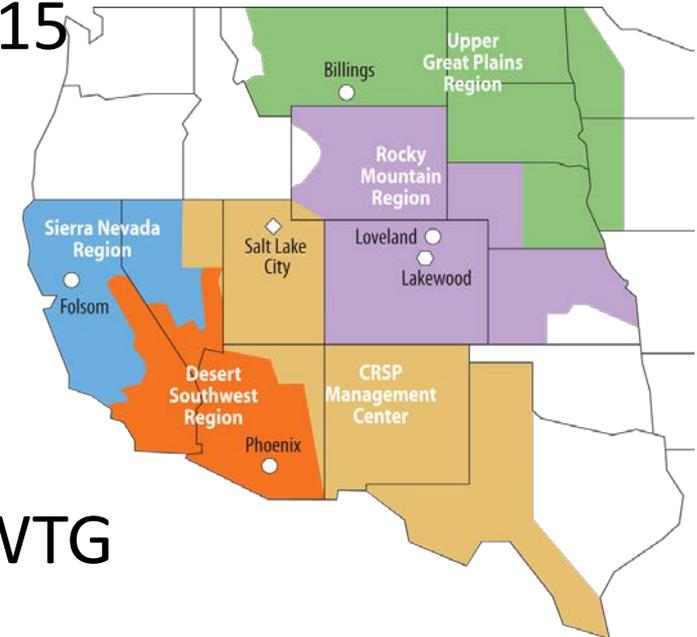
- Organizational Approach to Markets (OAM)
- Program assessments
- Reduction in facility footprint / cost
- Strategic sourcing

# Market Strategies Update

**Rodney Bailey**  
**Power Marketing Advisor**

# Current status

- UGP – Joined SPP October 1, 2015
- DSW – Southwest Market Alternatives Group (SMAG)
- SN – Evaluated EIM and CAISO
- RM & CRSP – Participants of MWTG



# Benefits of being proactive

- Leverage current negotiating strength
- Protect reliability
- Increase efficiency of operations and planning
- Entities define their own destiny



# Risks of inaction

- Reduced bilateral trading partners
- Increased supply costs
- Transmission sales affected by changes in power flows
- Balancing authorities required to accommodate changes



*“If you don’t like change, you’re going to like irrelevance even less.”*

General Eric Shinseki, Former Secretary of Veterans Affairs

# Public process

## Mountain West electricity providers to explore RTO options

Mountain West Transmission Group to open discussions on possible membership; expanded electricity market may improve reliability and create savings

FOR IMMEDIATE RELEASE: January 6, 2017

## Mountain West announces next step to potential Southwest Power Pool membership

Initial discussions with SPP reach completion; Mountain West to proceed to negotiations for SPP regional transmission organization membership

FOR IMMEDIATE RELEASE: September 22, 2017

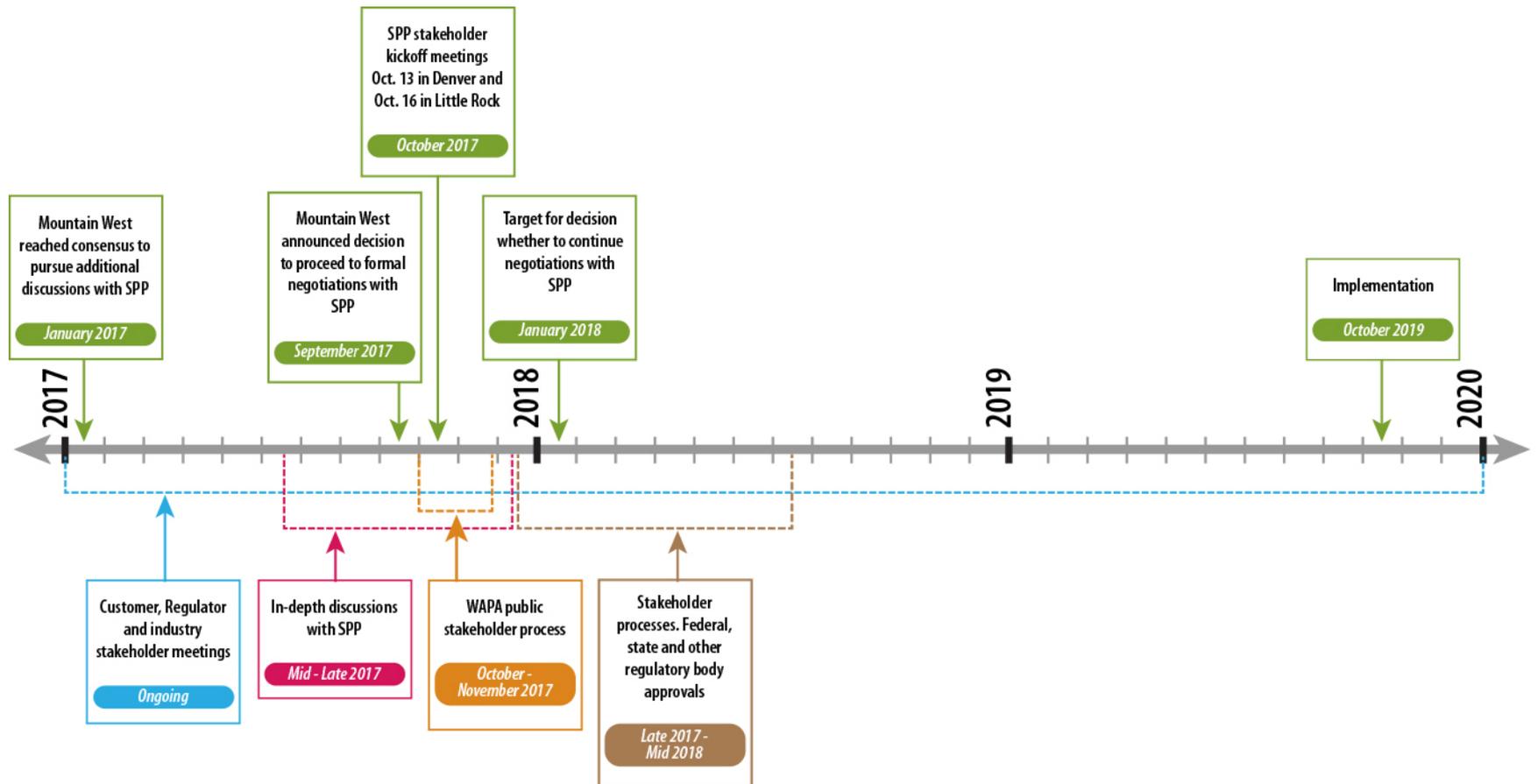
## WAPA seeks comments on SPP membership for two projects

Holding public meetings about RTO membership

FOR IMMEDIATE RELEASE: October 12, 2017

- Began Customer and public outreach in 2015
- FRN published Oct. 12
- Three public forums
- 45-day comment period closed Nov. 27
- Recommendation to pursue final negotiations with SPP
- Decision will be made in January 2018

# Timeline



# Mountain West information



## THE SOURCE

Find recent operational data and financial information in one convenient location.

[VISIT THE SOURCE](#)



## KEY TOPICS

Access key topics affecting WAPA's mission or service.

[www.wapa.gov](http://www.wapa.gov)

# Organizational Approach to Markets

**Jody Sundsted**

Acting Senior VP and UGP Regional Manager

**Steve Johnson**

Acting Senior VP and CRSP MC Manager

# OAM project overview

- OAM is the Organizational Approach to Markets Project
- PMMC and PSOC identified the OAM project to evaluate WAPA's readiness for potential market participation (*i.e.*, RTOs) in three areas:
  - Operations
  - EMMO
  - Settlements
- The purpose is to offer recommendations for improvements and efficiencies in tools, processes and organizational structure.

# OAM next steps

- PMMC and PSOC are formulating a 10-year timeline of actions to incorporate into the Roadmap 2018 Tactical Action Plan.
- The initial timeline and near-term and long-term actions will be presented to the senior executive team in Q1 of 2018.
- Interim project manager on board; will hire 2-3 year term position.

# Transformer Risk Strategy

**Chris Lyles**

**Asset Management Specialist**

# Topics

- Transformer spare need
- Objectives
- High Impact Low Frequency Events (HILF) and quantities
- Alternatives for evaluation
  - WAPA inventory
  - WAPA system robustness
  - Grid Assurance
- Customer feedback

# Why are spare transformers needed?

- Reliability requirement to customers and the bulk electric system
- Unanticipated loss directly impacts the resiliency/reliability
- Acquisition lead time of 18-24 months
  - require custom build
  - 100 tons, contain 25,000 gallons of oil
  - Transport requires specialized vehicles, permits, and task-specific crews.

# Typical WAPA large power transformer



# Specialized transportation



# Analysis objectives

- Alternatives for response to high-impact, low-frequency events resulting in loss of multiple transformers.
- Solicit feedback from WAPA subject matter experts (SMEs) and WAPA Customers.
- Develop final recommendation incorporating customer feedback and regional expertise.
- Analysis and subsequent report is a WAPA-wide strategy intended to produce a recommendation that most efficiently uses WAPA's entire fleet of transformer options.

# Event definition

- WAPA Analysis
  - Define three high impact low frequency event types.
  - Assume loss of all large power transformers within impacted site.
- Local Event
  - Event center at WAPA facility.
  - Impacted sites are within 5 mile radius of center.
  - All WAPA facilities could be center of event.
- Seismic Event
  - Event center at Tracy or Mead facility.
  - Impacted sites are within 80 mile radius of center.
- Targeted Event
  - Event center at major population centers and military installations – 9 sites identified.
  - Impacted sites are within 50 mile radius of center.

# Spares needed

- Quantities

Primary Voltage	Secondary Voltage	Type	Number of Spares
525kV	230kV	Single Phase	3
345kV	230kV	Three Phase	2
230kV	161kV	Three Phase	1
230kV	115kV	Three Phase	3
230kV	115kV	Single Phase	3
230kV	69kV	Three Phase	3

- Why Now?

- Threat of physical, calculated attacks
- Potential vulnerabilities in the electrical utility industry
- Power systems operating closer to operating limits

# Alternatives currently under evaluation

- WAPA Warehoused Alternative
- WAPA System Enhancement Alternative
- Grid Assurance Alternative
- Hybrid Alternative
- No Action – Status Quo

# Feedback

We want your feedback. We are in the beginning stages of assessing the various options and customer feedback is critical to our success.

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- John Quintana – 720-962-7296  
[Quintana@wapa.gov](mailto:Quintana@wapa.gov)

# Grid Assurance Presentation

**Mike Deggendorf**  
**CEO, Grid Assurance**