



Financial Plan Refresh

Public Workshop
February 9, 2022





Facilities

Executive Ownership: Robin Furrer, CAO

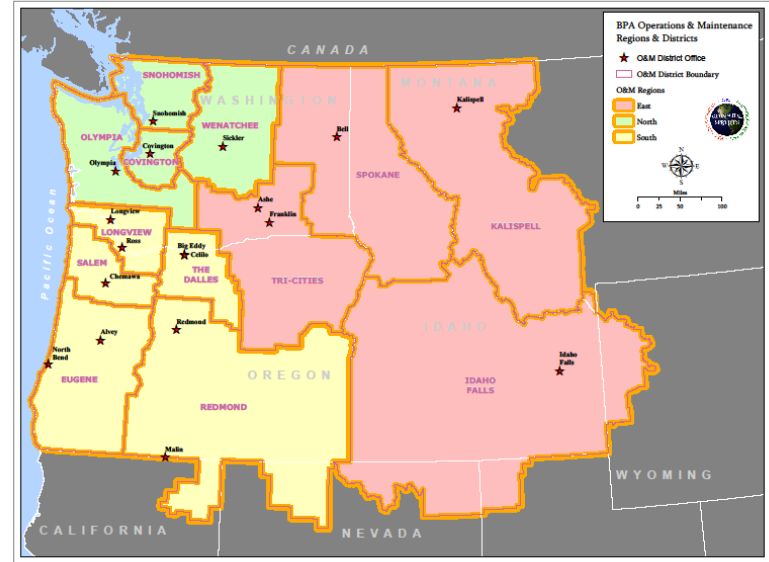
Today's Presenter: Steve Capps,
Supervisor of Facilities Operations



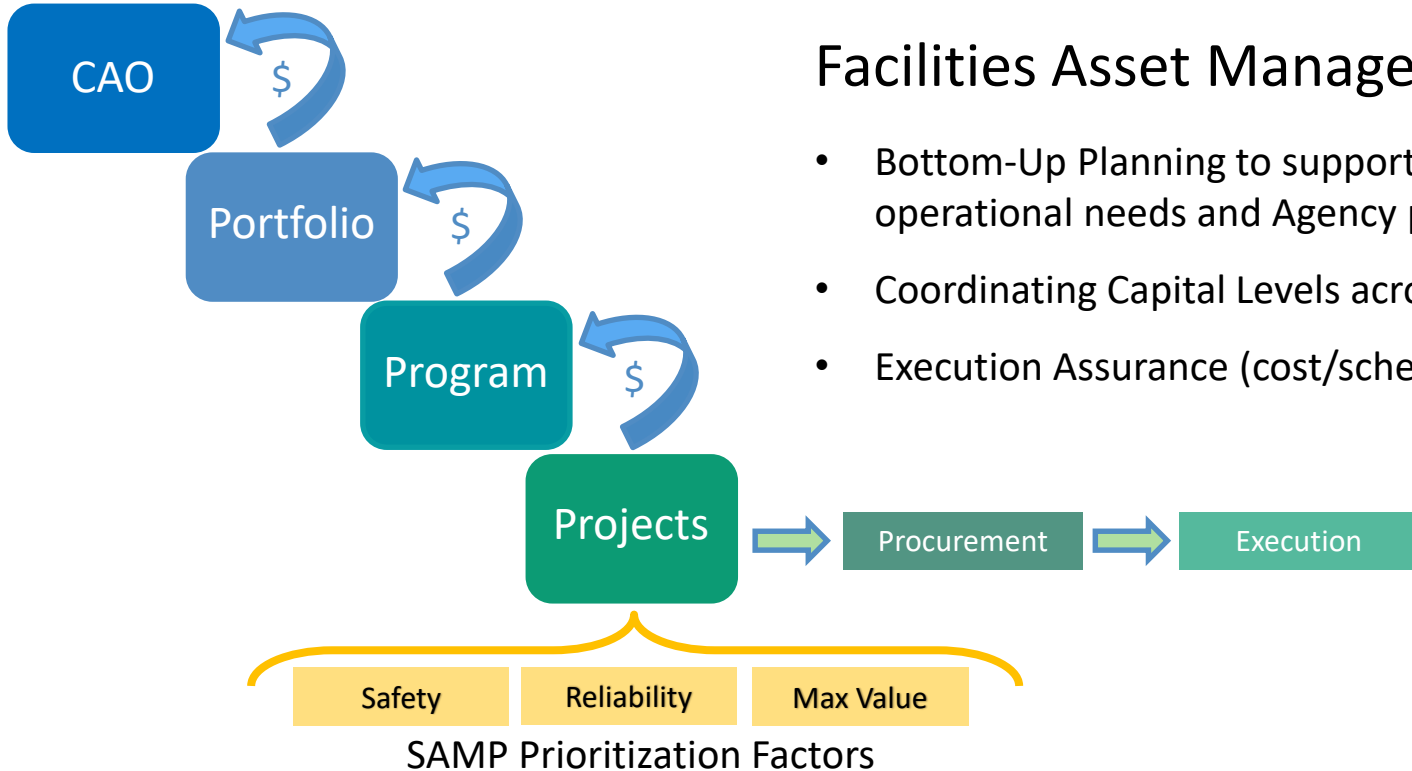
Facilities Capital Prioritization Framework

Facilities Asset Base:

- 450 sites over the BPA service area
- ~ 1,000 buildings
- 2.8 million square feet of assets
- 885,000 square feet of commercially leased office space



Facilities Capital Prioritization Framework



Facilities Asset Management:

- Bottom-Up Planning to support Transmission operational needs and Agency priorities
- Coordinating Capital Levels across BPA
- Execution Assurance (cost/schedule)

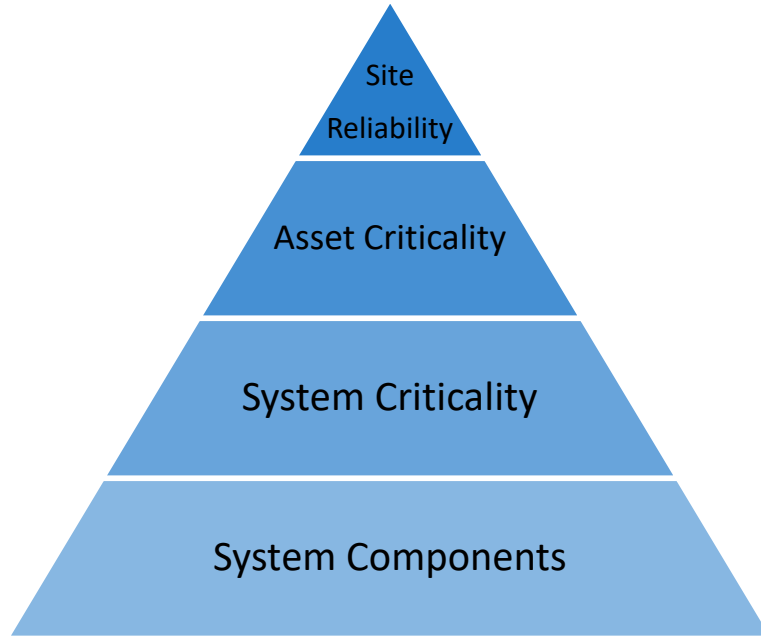
Facilities Capital Prioritization Framework

Facilities Asset classification groups are assessed relative to the criticality as it pertains to the assets importance in supporting or maintaining the bulk electric system.

CRITICALITY LEVEL	ASSET CLASSIFICATIONS	BUILDING ASSET TYPES	
1	Mission Critical	Control Center Data Center	Converter Station
2	Mission Essential	Control House Control/Maintenance Relay House Hangar SVC Stations	Microwave Engine Generator Bldgs. Guard Shack Warehouses Corporate Headquarters
3	Primary Support Facilities	Administration/Office Bldg Maintenance HQ/Shop HMEM	
4	Secondary Support Facilities	Laboratories/Training Facilities Pump House Meter Houses	Storage Building Untanking Tower Fueling Station/Wash Bay
5	Other	Decommissioned Oil House	



Facilities Capital Prioritization Framework



Criticality Ranking Factors:

- Bottom up risk assessment and ranking
- Building system impact to reliability
- Asset impact to system reliability
- Specific Substation and Radio Station Reliability Levels
- Internal operational needs from partners

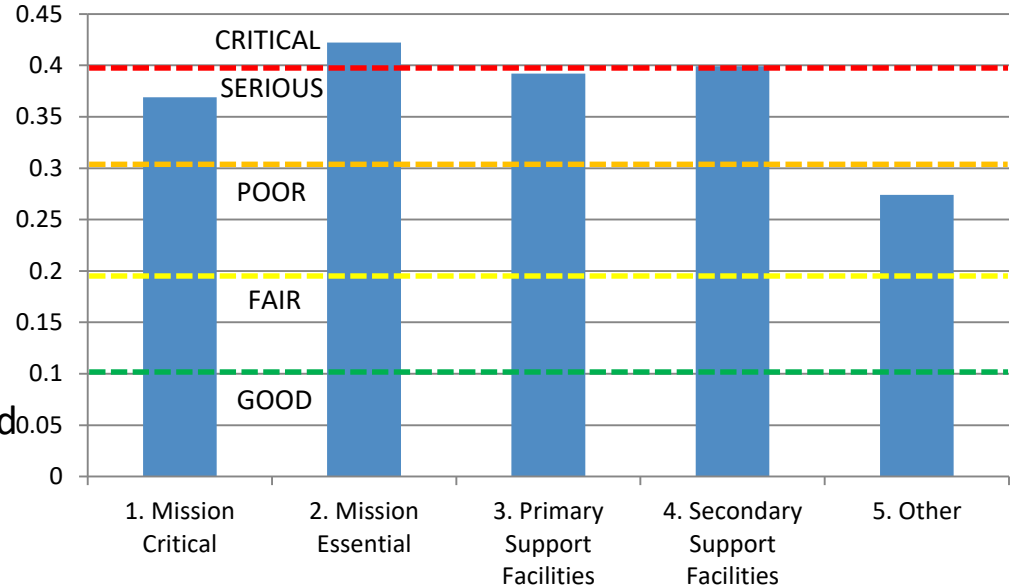
“do the right work, at the right time, for the right reason”

Facilities Capital Prioritization Framework

$$\text{Facility Condition Index (FCI)} = \frac{\text{Maintenance, Repair, and Replacement Deficiencies of the Facility}}{\text{Current Replacement Value (CRV) of the Facility}}$$

Asset Health:

- Average Age of Assets = 47 years
- Backlog of Maintenance and Repairs = \$266 million
- Average FCI = 0.37 (Serious Condition)
- Challenged to address premature assets/systems failures due to deferred routine maintenance

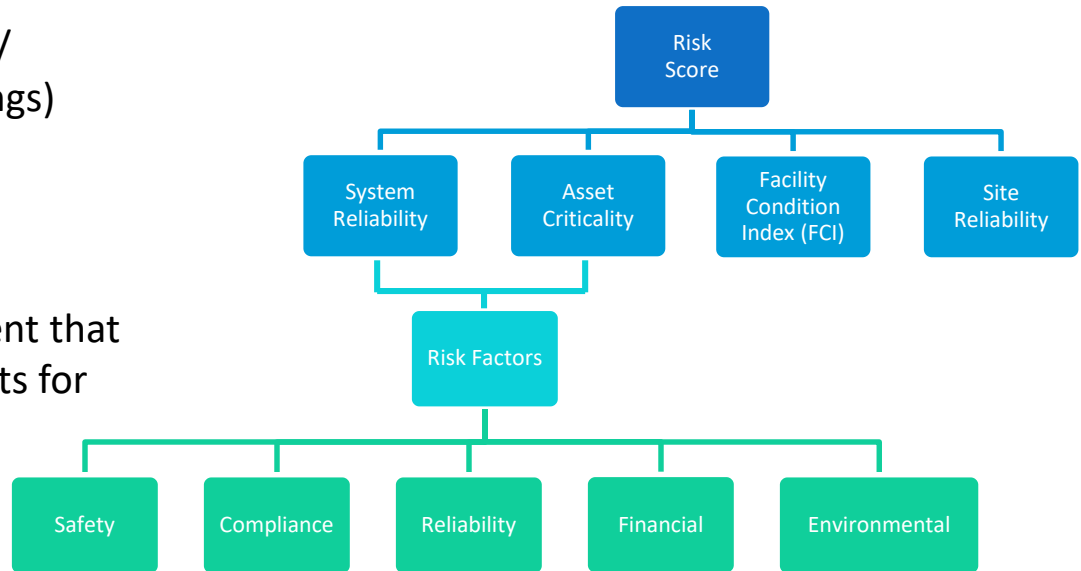


Facilities Capital Prioritization Framework

$$\text{Risk Score} = \left[(\text{SYSTEM RELIABILITY RATING} \times \text{ASSET CRITICALITY RATING}) \times \text{FACILITY CONDITION INDEX VALUE} \right] \times \text{SITE RELIABILITY RATING}$$

Risk Score combines:

- Risk Factors applied to Systems / Components and Assets (Buildings)
- Asset Criticality
- Site Criticality / Reliability
- Risk score provides an assessment that prioritizes reliability and accounts for enterprise risk



Facilities Current State

Limitations:

- Manual process to assess overall risk and prioritize investments
- Assets created by Transmission and shared maintenance by Transmission/Facilities

Improvements:

- Mature and integrated O&M and Capital program
- More maintenance = Extended service life and lower total cost of ownership

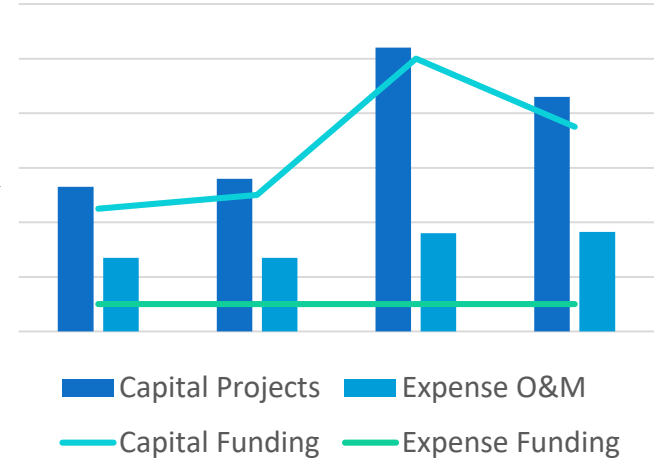
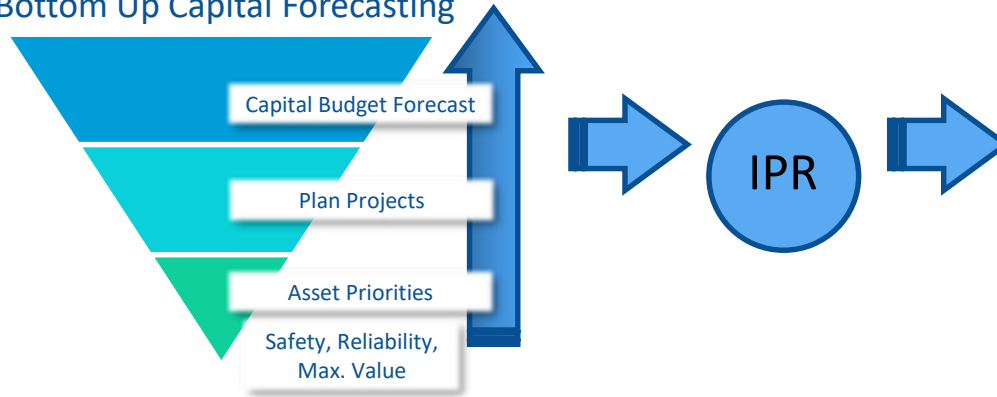
Maintenance:

- Limited expense funding = Focus on emergency maintenance/repair at field sites
- Desired state = Reliability centered maintenance on critical assets and time based maintenance with common standards and a service model that can support aging facility maintenance needs

Facilities Capital Forecast Process

Focus: *Ross Complex lifecycle replacements and VCC over the next 5 years then shift to Maintenance Headquarters replacements*

Bottom Up Capital Forecasting



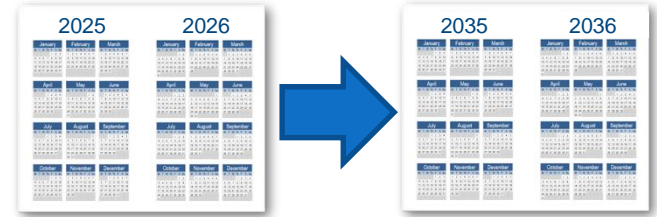
Forecasting adjustments due to:

- Competing major projects
- Supply chain (external labor and material)
- Integrated project delivery across BPA
- COVID-19 vaccine mandates

Facilities Capital Forecast Process

Execution:

- Forecasting/Planning can happen 10+ years prior to design & construction
- Project duration can be 1-3 years



Challenges:

- Labor and material escalation exceeding forecast
- Constrained to provide O&M for asset base

Impacts on Execution:

- Internal resource availability
- External vendor interest
- Limited contract delivery methods
- Use of Progressive Design Build delivery model to mitigate schedule/cost variability



Questions?