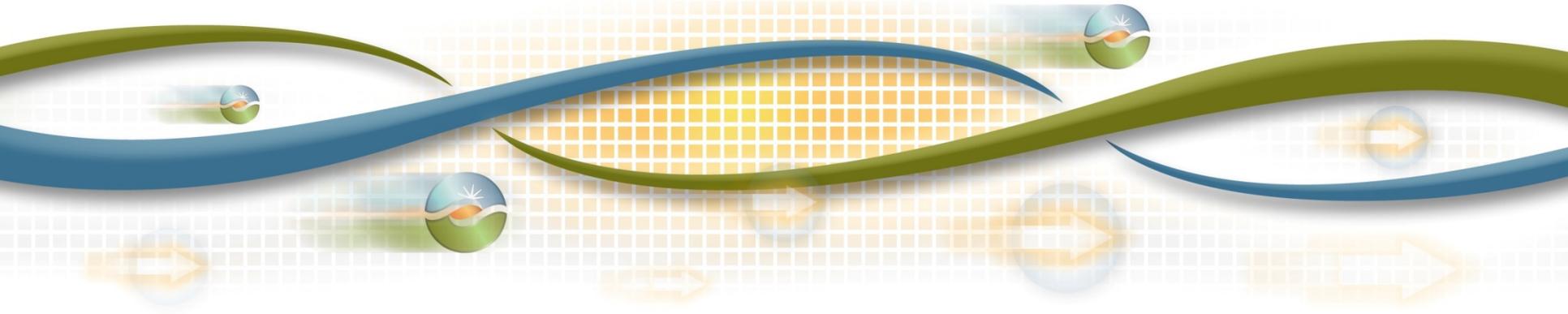




# Decision on reliability must-run designation for Metcalf Energy Center

Neil Millar  
Executive Director, Infrastructure Development

Board of Governors Meeting  
General Session  
November 2, 2017

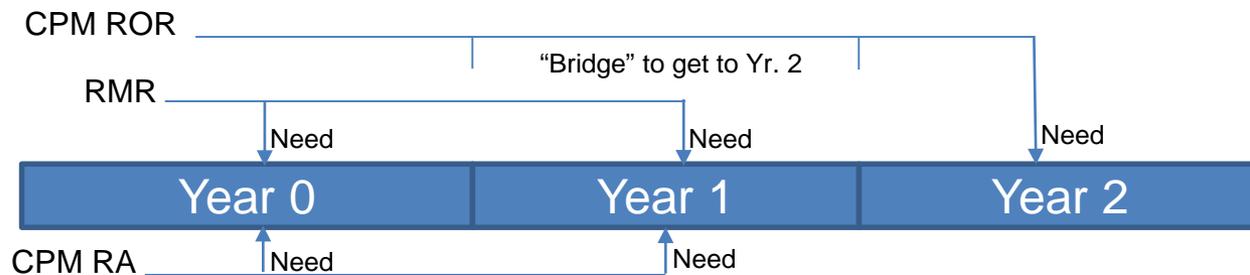


# Calpine has identified that the 602 MW Metcalf Energy Center will be unavailable in 2018 absent a capacity contract

- Calpine cited timing concerns with CPM mechanism due to capital outlay and resource planning requirements, in part due to major maintenance currently planned for spring 2018
- ISO undertook the necessary studies to confirm whether these units would create unacceptable reliability impacts

# The attributes needed affect how capacity is procured.

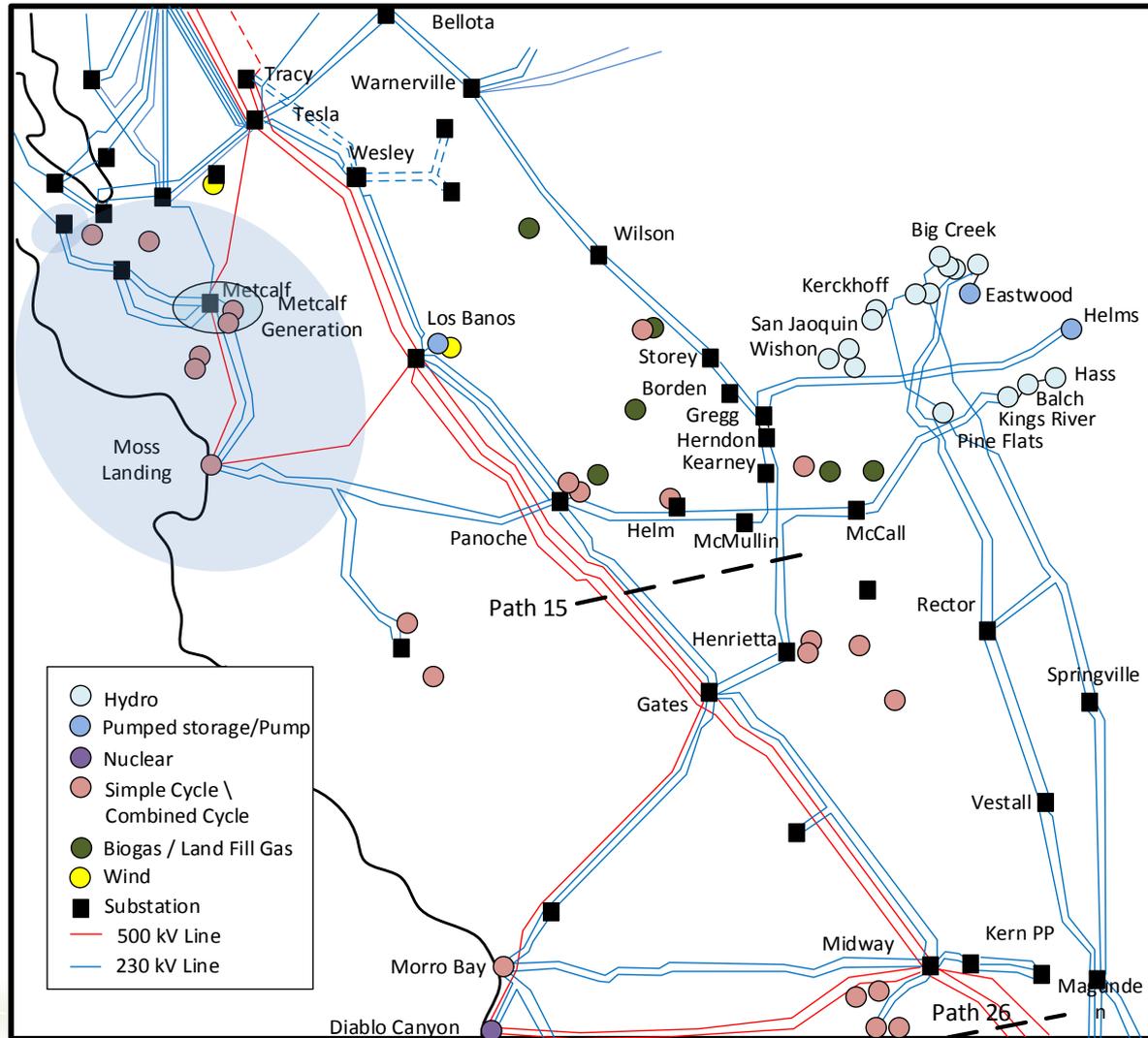
Element	RMR	CPM RA Showing Deficiency	CPM Risk of Retirement
<b>Reliability Need</b>	Local	Local and system	Local and system
<b>Timing of Need</b>	Near-term (yr. 0, yr. 1)	Near-term (yr. 0, yr. 1)	Longer term (yr. 2)
<b>Timing of Procurement</b>	Any time of year	Year-ahead or month-ahead	Year-ahead
<b>Term of Procurement</b>	Annual contract, with extension provisions	Annual or monthly, maximum of 12 months	Annual or monthly, maximum of 12 months
<b>Compensation</b>	Cost-of-service pricing	Market pricing	Market pricing (propose cost-of-service pricing)
<b>Compensation for Major Capital Expenditures</b>	Yes, and can be over several years	Yes – limited to CPM term	Yes – limited to CPM term
<b>Acceptance of Procurement</b>	Mandatory	Voluntary	Voluntary (propose mandatory)



ROR = Risk of retirement

# Metcalfe is located in the Greater Bay local capacity area and the South Bay-Moss Landing sub-area

South Bay-Moss Landing Sub-area



# The ISO's assessment confirmed the reliability need for the Metcalf Energy Center

- Current local capacity requirements in the South Bay-Moss Landing sub-area of the Bay Area local area are met with the Metcalf generation as a part of the generation in the area
- The entire plant is required to mitigate potential overloads and provide voltage support under contingency conditions
- The sub-area will be local capacity requirement deficient without Metcalf Energy Center

## Numerous contingencies are of concern in the sub-area without the Metcalf Energy Center

- The most critical contingency is the outage of the Tesla-Metcalf 500 kV and Moss Landing-Los Banos 500 kV
  - Key limitation is thermal overloading of the Las Aguillas-Moss Landing 230 kV
  - Secondary limitation is low voltage and potential voltage instability
- Other reliability concerns in the area include:
  - Thermal overloading of Newark-Los Esteros 230 kV line (for L-1-1)
  - Thermal overloading of Trimble-San Jose B 115 kV line (for L-1-1)
  - Thermal overloading of Metcalf #12 500/230 kV transformer (for T-1-1)
  - Thermal overloading of Metcalf #13 500/230 kV transformer (for T-1-1)

## Stakeholder call held on September 26

- Questions at the stakeholder session focused on:
  - The timing of the RMR designation, which was clarified in the call
  - Suggestions that the ISO should study all sub-areas to determine solutions to the identified resources capacity needs prior to retirement requests.
  - The reliability criteria used, operational dispatch of RMR resources and Bay Area electric reliability reliance on combined cycle power plants
- Stakeholder comments were due October 6:
  - Raised larger concerns with the overall resource adequacy program and its implementation,
  - PG&E opposes the ISO's proposed RMR designation on procedural grounds, did not challenge technical need

Management requests Board authorization to designate the Metcalf Energy Center for reliability must run:

- Calpine would then be expected to develop its proposed cost of service.
- ISO staff would then work with Calpine along with the responsible utility and the CPUC to review Calpine's proposed cost of service, including any proposed capital investments.
- The RMR agreement would likely be filed with FERC in Q4 2017.