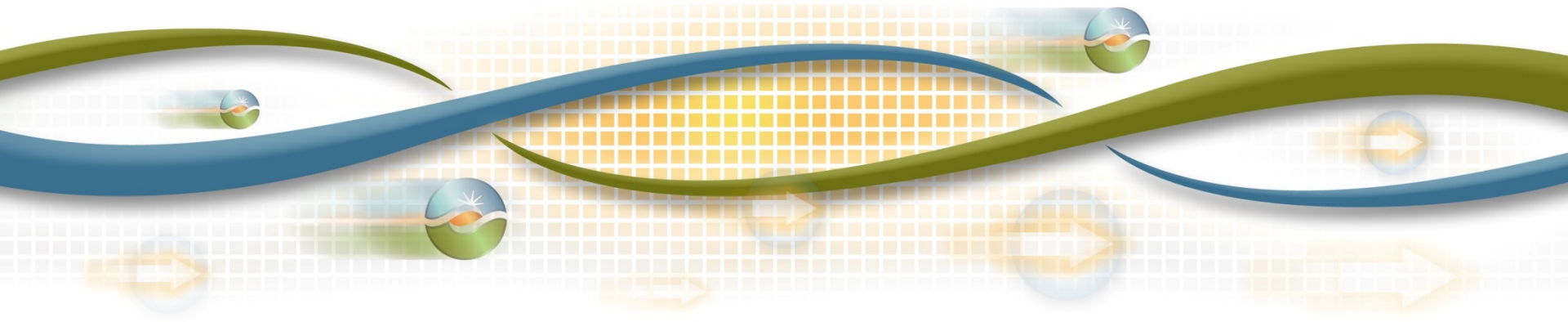




Calpine Peakers Retirement Assessment

Stakeholder Call

March 6, 2017



Calpine Peakers coming off contract 2017/12/31

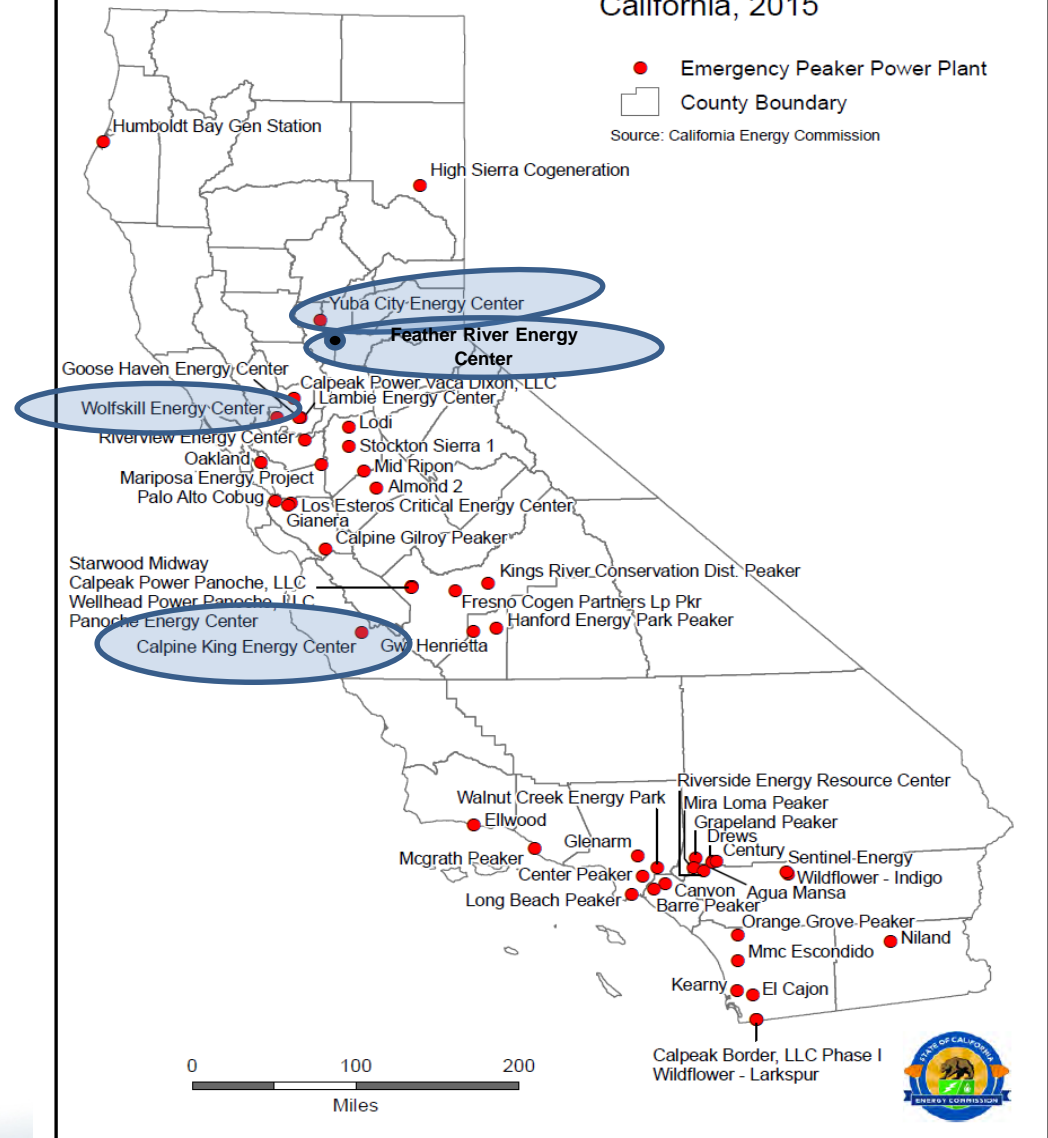
Generation identified to be unavailable to the ISO effective January 1, 2018 by Calpine in letter to Steve Berberich November 28, 2016:

- Yuba City Energy Center
- Feather River Energy Center
- King City Energy Center
- Wolfskill Energy Center

ISO requested to undertake the necessary studies to confirm that the absence of these units would not create unacceptable reliability impacts

Timing concerns cited with CPM mechanism due to capital outlay and resource planning requirements.

Emergency Peaker Power Plants California, 2015



Assessment Summary

Peaker Unit	Needed for Reliability?
Yuba City	✓
Feather River (Bogue)	✓
King City	✗
Wolfskill	✗

Yuba City Energy Center

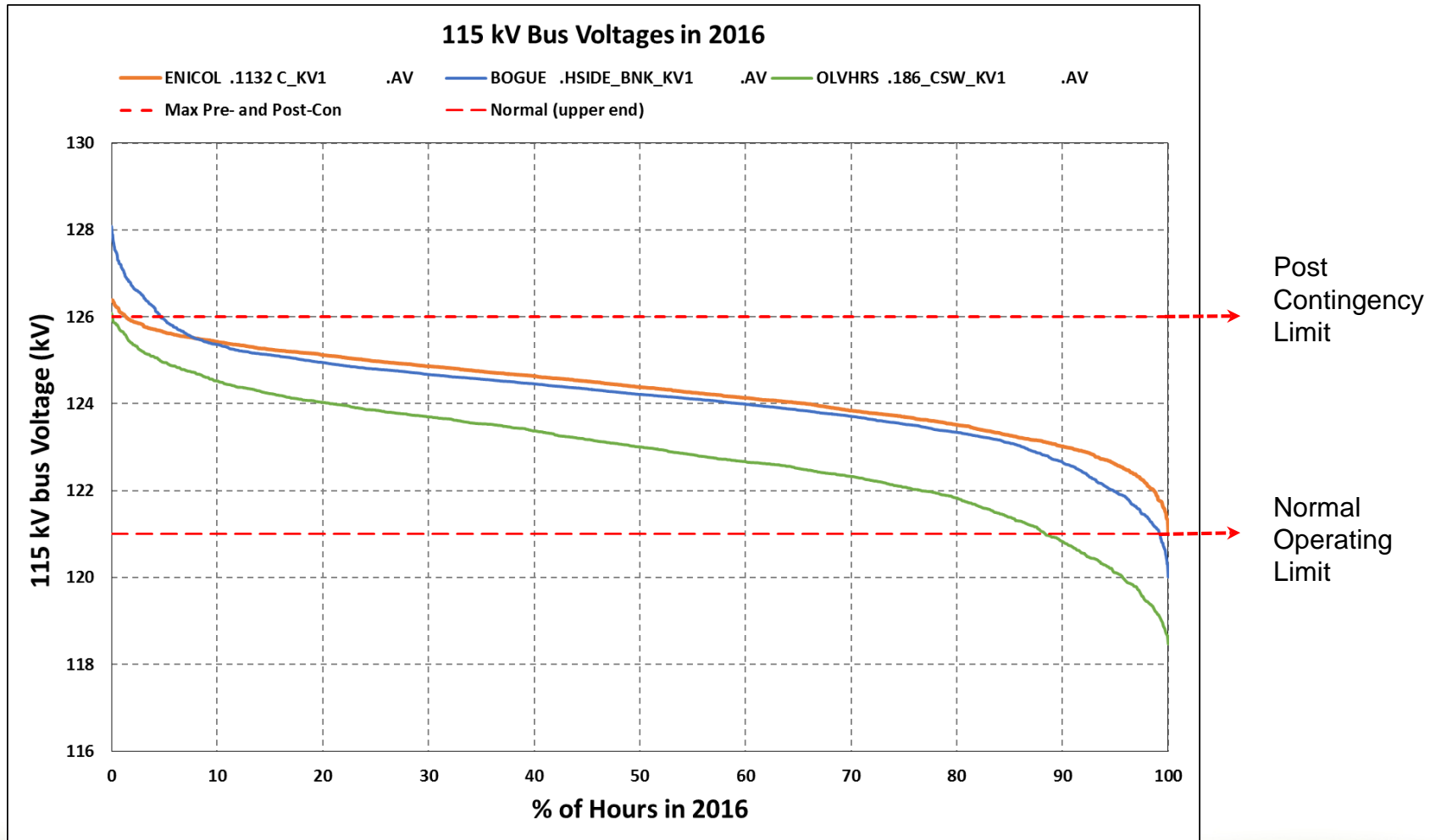
- Yuba CEC provides capacity for LCR in Pease sub-area
- 100 MW LCR is required in the area
- 82 MW capacity is available from other generators
- The area will be LCR deficient without Yuba CEC

Feather River Energy Center

- Feather River is not needed to address capacity issues
- Feather River is required for reliability reasons as it is effective in addressing voltage issues in the area by absorbing reactive power from the system
 - 115 kV bus voltages are significantly beyond upper limit of normal range
 - Longer term mitigations will be pursued in coordination with PG&E in future transmission planning cycles.

Feather River Energy Center

(High voltage issues at Bogue and other busses)



King City Energy Center and Wolfskill Energy Center

- There is no reliability need for King City Energy Center or the Wolfskill Energy Center from a capacity or voltage support perspective.

Next Steps

- Stakeholder call today
- Present to ISO Board at March meeting – seeking designation of RMR requirement:
 - Calpine would then be expected to develop its proposed cost of service.
 - ISO staff would then work with Calpine along with the responsibility utility and CPUC to review Calpine’s proposed costs for service including any proposed capital investments.
 - Subject to the resource adequacy showings in the third quarter of 2017, the RMR agreement would be executed as necessary and filed with FERC by Calpine.