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California ISO

2018 Summer Loads & Resources Assessment

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2018 IEPR Commissioner Workshop on Renewable Integration and Electric System Flexibility, California Energy Commission

June 20, 2018

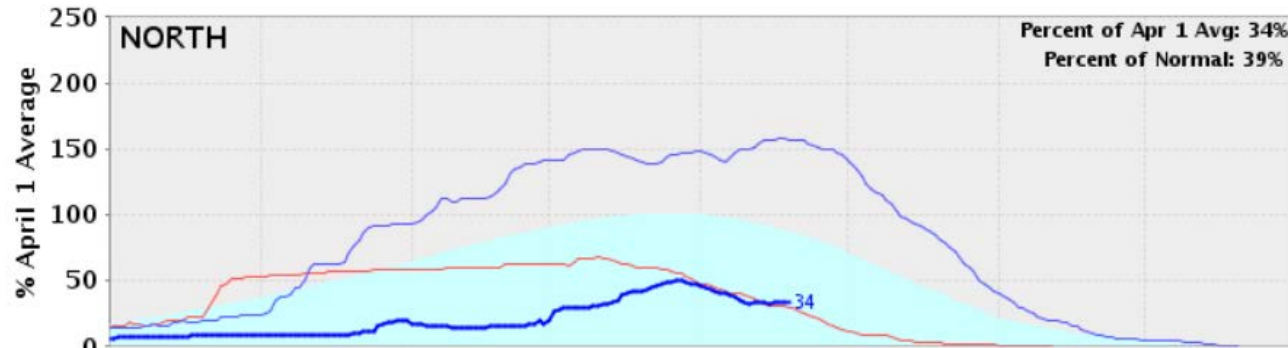
ISO Summer Assessment – a probabilistic approach

- Models all hours of the summer in 2,000 scenarios
- Models full range of load forecasts
- Considers all resources that qualify as an RA resource
- Uses unit specific forced outage rates, ramp rates, start times and minimum down times
- Designed help ISO operations prepare for operational issues ISO could encounter, including potential extremes

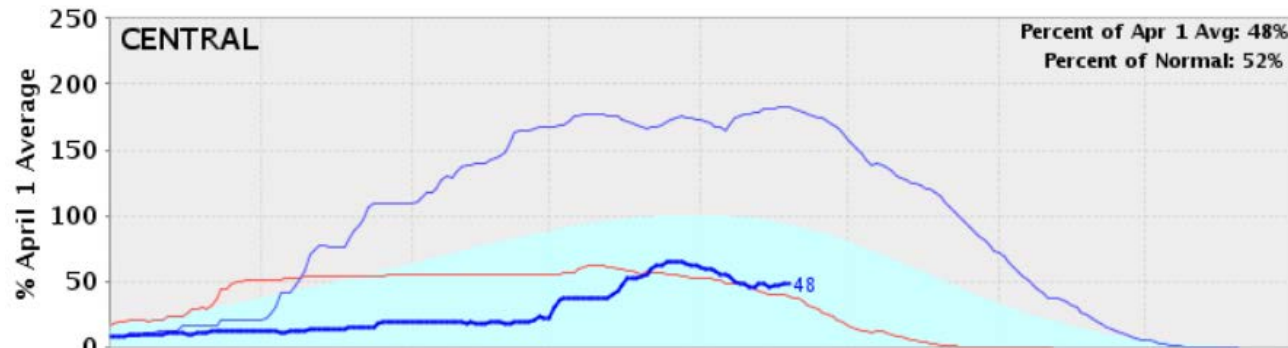
ISO 2018 Summer Assessment projecting challenging summer conditions





- 50% probability of a stage 2 emergency for at least 1 hour
- ISO peak demand relatively unchanged from 2017
- Hydro below normal
- 789 MW reduction in dispatchable resources due to retirements
- Aliso Canyon related gas restrictions not included in the results, but could result in additional risk

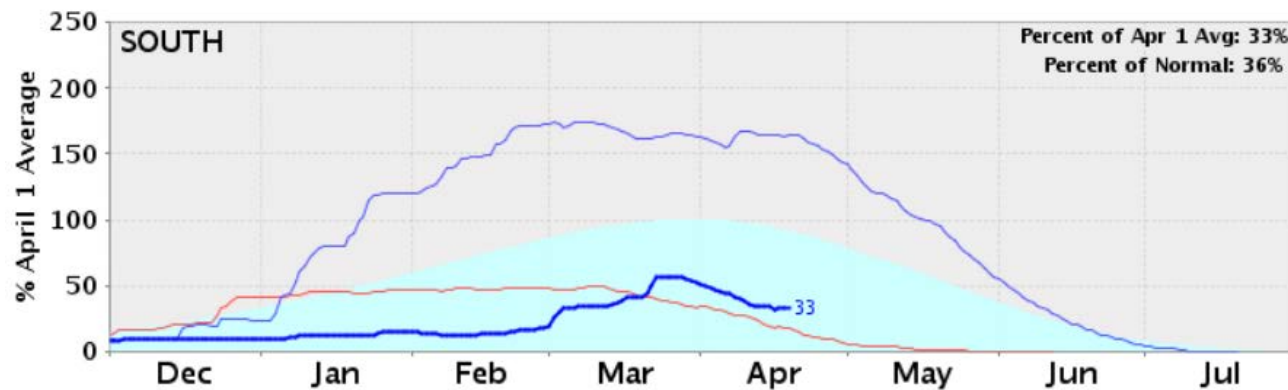
2018 hydro is below normal, and significantly below 2017



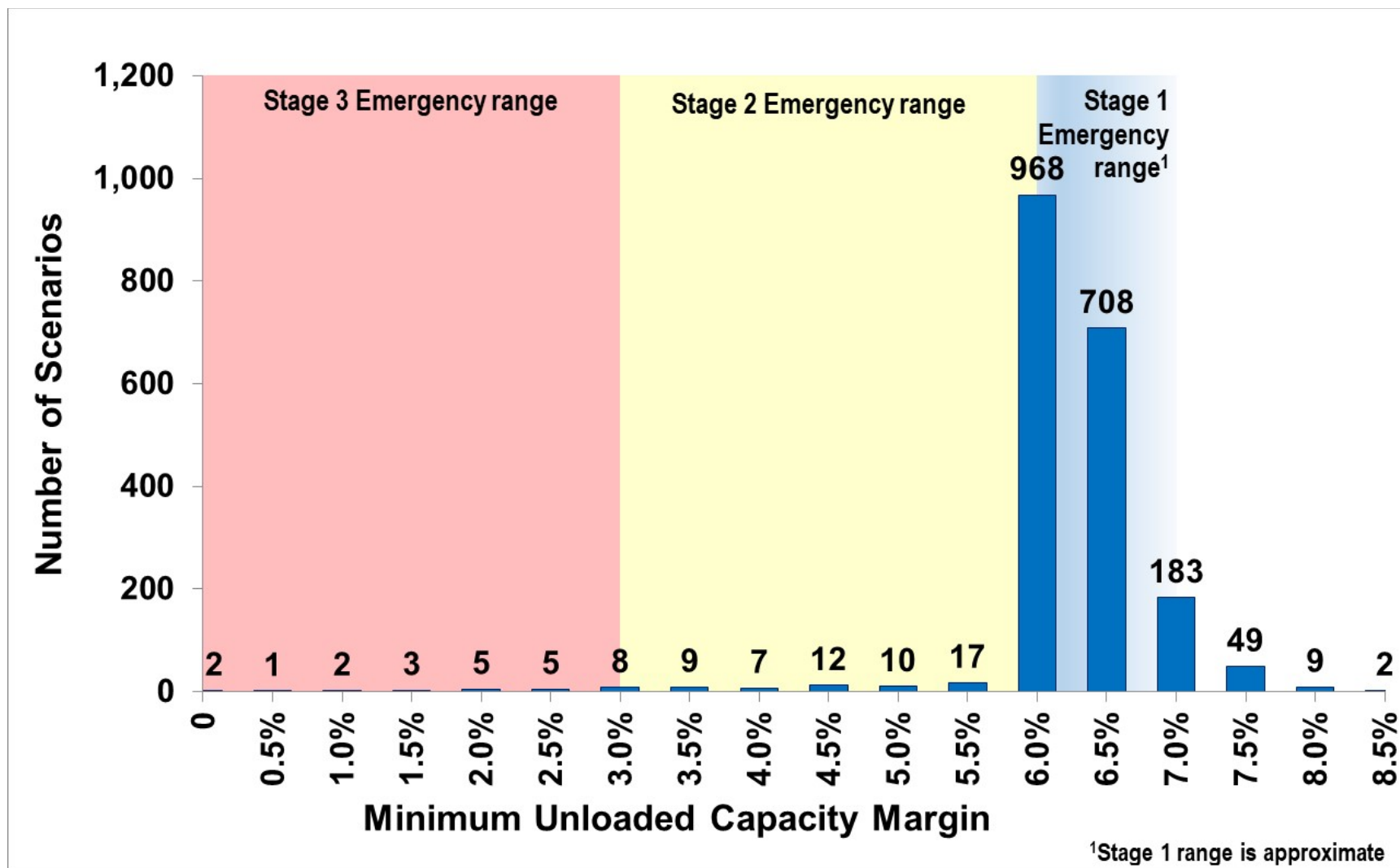
California Snow
Water Content
(percent of average
on April 19, 2018)



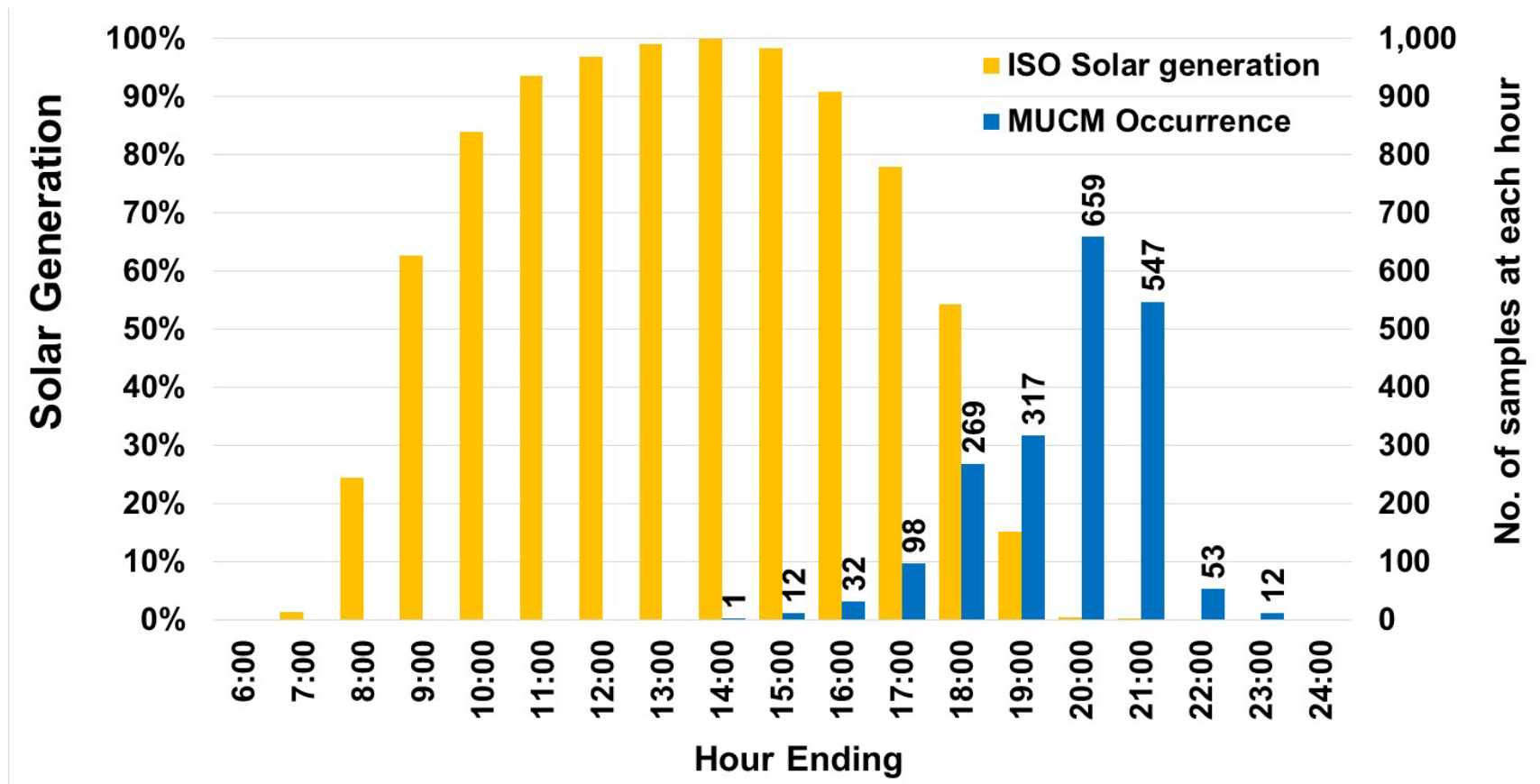
	Average
	2016-2017
	2017-2018 (Current)
	2012-2013



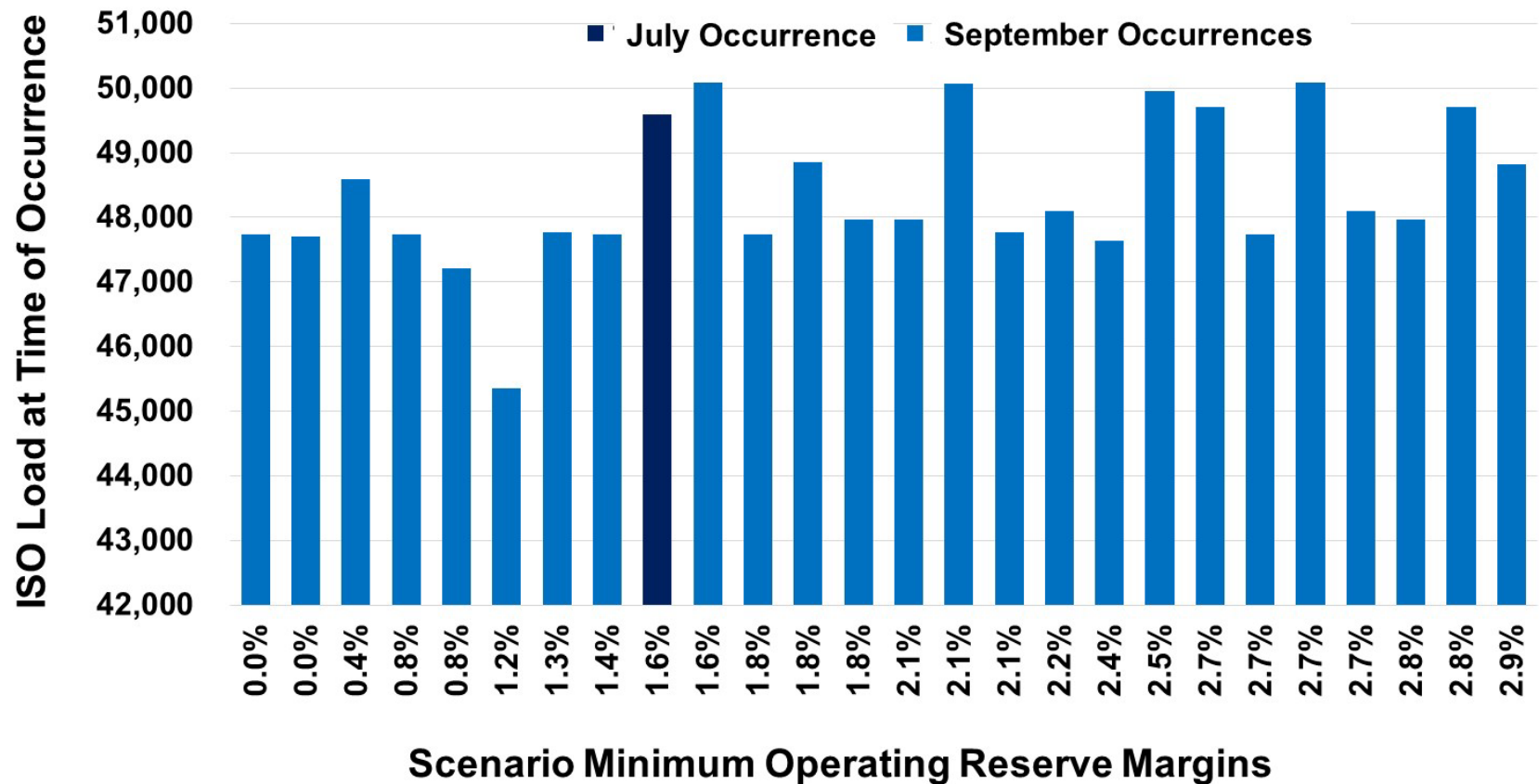
Distribution of worst-case hour from all 2,000 samples



79% of low operating reserve margins occur during low to zero solar generation



Nearly all operating reserve margins below 3% are in Sept.



Preparation activities and operational actions

- Outreach performed
 - Governor's office, CPUC, CEC, CA Legislators, FERC, Operations annual summer outlook meeting (ISO LSEs, neighboring BAs, EIM participants, gas suppliers)
 - Raised the potential for significant calls on DR
- Actions ISO will implement if system operating conditions get near or go into the emergency stages
 - Utilization of Flex Alert program
 - Utilization of CAISO Restricted Maintenance program
 - Exceptional dispatch of resources
 - Utilization of Alert/Warning/Emergency program
 - Utilization of Demand Response program at “Warning” stage