

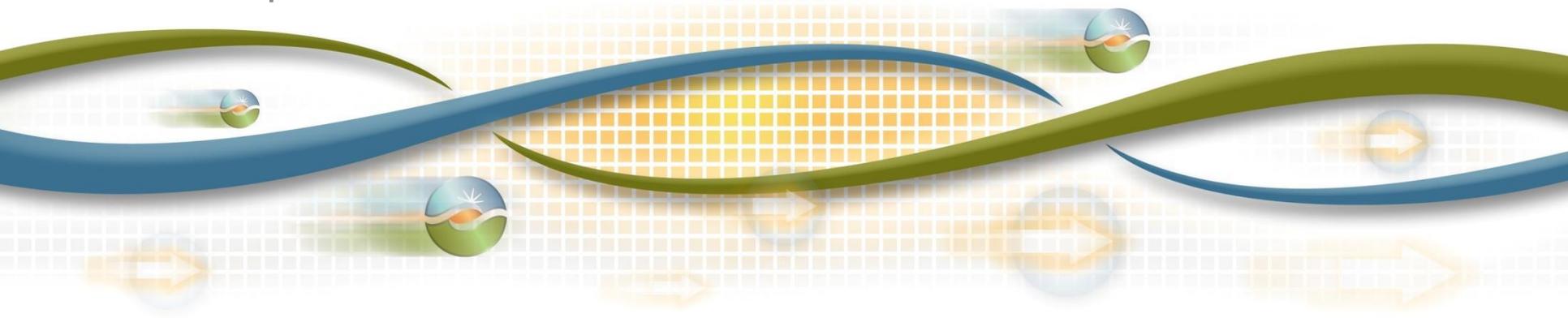
2018 & 22 Final LCR Study Results Summary of Findings

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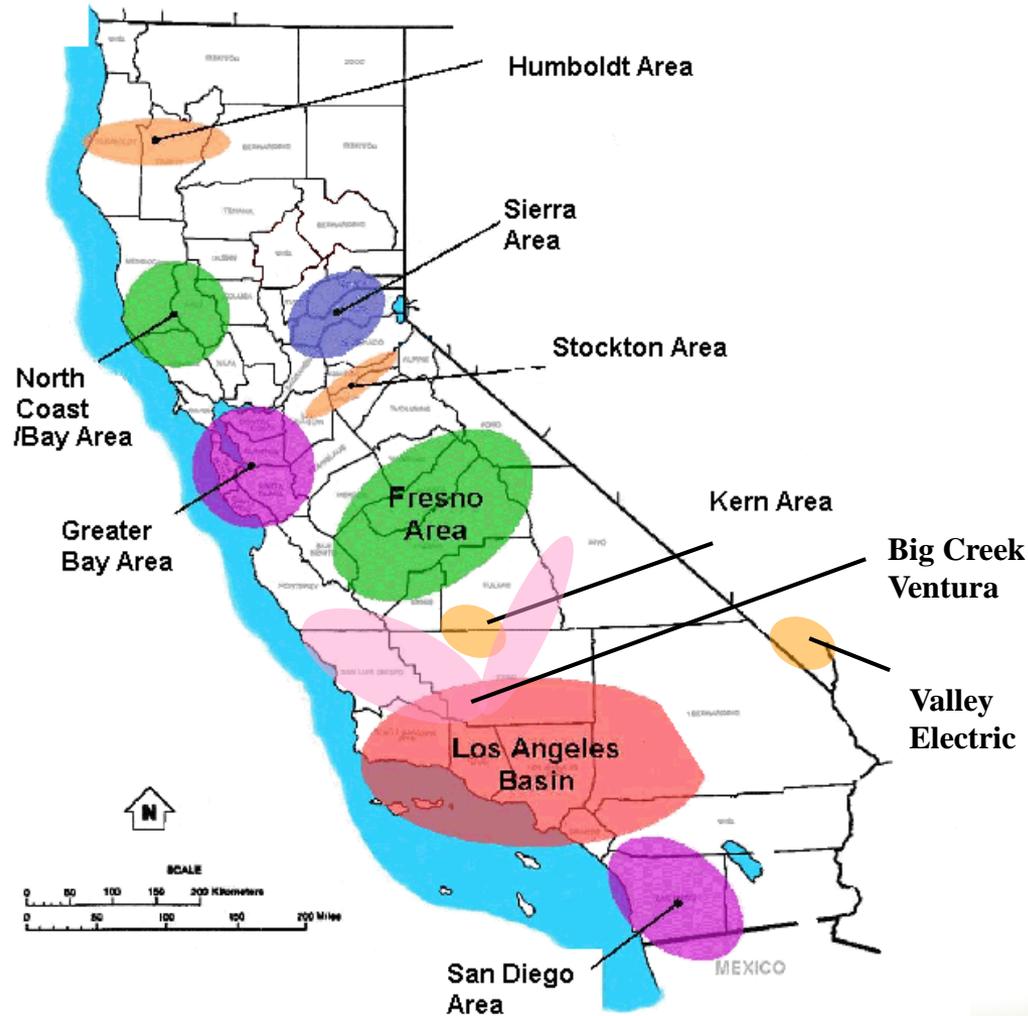
Senior Advisor Regional Transmission Engineer

Stakeholder Call

April 13, 2017



LCR Areas within CAISO



Input Assumptions, Methodology and Criteria

See October 31, 2016 stakeholder teleconference - for study assumptions, methodology and criteria. The latest information along with the 2017 LCR Manual can be found at:

<http://www.caiso.com/informed/Pages/StakeholderProcesses/LocalCapacityRequirementsProcess.aspx> .

Transmission system configuration – all-projects with EDRO up to June 1, 2018

Generation – all-generation with COD up to June 1, 2018

Load Forecast – 1 in 10 local area peak (based on latest CEC forecast)

Criteria – see report for details

Methodology

1. Maximize Imports Capability into the local area
2. Maintain path flows
3. Maintain deliverability for deliverable units
4. Load pocket – fix definition
5. Performance levels B & C (if equal category B is most stringent)

Major Changes from last year studies

1. **New 2017 NQC data.**
2. **Final LCR results herein use CEC forecast with peak shift for all southern LCR areas and non-peak shift for all northern LCR areas.**
3. **Total 2018 LCR needs have increased by 660 MW or ~ 2.7%. Based on the corrected 2017 LCR requirement for San Diego-Imperial Valley, the LCR needs have actually decreased by about 400 MW or ~ 1.5%.**
4. **2018 LCR needs decrease in: North Coast/North Bay and Bay Area** due to decrease in load forecast and new transmission projects, **Kern** due to decrease in load forecast and **Stockton** due to new transmission projects.
5. **2018 LCR needs increase in: Humboldt** due to different limiting contingency, **Sierra, Fresno and Big Creek/Ventura** due to load forecast increase and **LA Basin** due to change in assumptions regarding Aliso Canyon.
6. **San Diego/Imperial Valley** technical requirements are going down since the correct 2017 LCR need should have been 4635 MW (with Aliso Canyon). The 2017 misalignment of assumptions gives the appearance that the San Diego-Imperial Valley needs are actually going up between the two years.

2018 Final LCR Needs

Local Area Name	Qualifying Capacity			2018 LCR Need Based on Category B			2018 LCR Need Based on Category C with operating procedure		
	QF/ Muni (MW)	Market (MW)	Total (MW)	Existing Capacity Needed	Deficie ncy	Total (MW)	Existing Capacity Needed**	Deficie ncy	Total (MW)
Humboldt	14	196	210	121	0	121	169	0	169
North Coast/ North Bay	118	751	869	634	0	634	634	0	634
Sierra	1176	949	2125	1215	0	1215	1826	287*	2113
Stockton	139	466	605	358	0	358	398	321*	719
Greater Bay	1008	6095	7103	3910	0	3910	5160	0	5160
Greater Fresno	364	3215	3579	1949	0	1949	2081	0	2081
Kern	15	551	566	0	0	0	453	0	453
LA Basin	1556	9179	10735	6873	0	6873	7525	0	7525
Big Creek/Ventura	430	5227	5657	2023	0	2023	2321	0	2321
San Diego/ Imperial Valley	202	4751	4953	4032	0	4032	4032	0	4032
Total	5052	31350	36402	21115	0	21115	24599	608	25207

Major Changes from last year studies

1. **Total 2022 LCR needs have increased by about 800 MW.**
2. **2022 LCR needs decrease in: Humboldt, North Coast/North Bay and LA Basin** due to decrease in load forecast.
3. **2022 LCR needs increase in: Sierra** mostly due to corrected LCR needs in South of Table Mountain sub-area, **Stockton** due to delay in project implementation, **Bay Area, Kern, Big Creek Ventura and San Diego / Imperial Valley** due to load forecast increase, **Fresno** due to load forecast increase and due to new limiting constraint for Path 15 S-N direction.

Role and Purpose of sub-area LCR needs:

- Provide detail local procurement information
- Need to be satisfied in order to minimize ISO back-stop
- Sum of the parts may not equal the overall need

2022 Draft LCR Needs

Local Area Name	Qualifying Capacity			2022 LCR Need Based on Category B			2022 LCR Need Based on Category C with operating procedure		
	QF/ Muni (MW)	Market (MW)	Total (MW)	Existing Capacity Needed	Deficie ncy	Total (MW)	Existing Capacity Needed**	Deficie ncy	Total (MW)
Humboldt	14	196	210	121	0	121	169	0	169
North Coast/ North Bay	118	751	869	209	0	209	440	0	440
Sierra	1176	890	2066	836	0	836	1905	62*	1967
Stockton	139	466	605	355	0	355	406	296*	702
Greater Bay	1008	5871	6879	4257	0	4257	5153	162*	5315
Greater Fresno	231	3295	3526	1479	0	1479	1860	0	1860
Kern	15	551	566	0	0	0	123	0	123
LA Basin	1556	6582	8138	5957	0	5957	6022	0	6022
Big Creek/Ventura	430	3430	3859	2208	0	2208	2597	0	2597
San Diego/ Imperial Valley	217	4393	4610	4610	33	4643	4610	33	4643
Total	4904	26425	31328	20032	33	20065	23285	553	23838

2018 LCR Study Schedule

CPUC and the ISO have determined overall timeline

- Criteria, methodology and assumptions web conf. Oct. 31, 2016
- Submit comments by November 14, 2016
- Posting of comments with ISO response by the November 30, 2016
- Base case development started in December 2016
- Receive base cases from PTOs January 3, 2017
- Publish base cases January 15, 2017 – comments by the 29th
- Draft study completed by February 28, 2017
- ISO Stakeholder Meeting March 9, 2017 – comments by the 23rd
- ISO receives new operating procedures March 23, 2017
- Validate op. proc. – publish draft final report April 6, 2017
- ISO Stakeholder Web Conf. April 13, 2017 – comments by the 20th
- Final 2018 LCR report May 1, 2017



2017 ISO Procurement Schedule

Per ISO Tariff and BPM - overall timeline

- Final LCR Report May 1, 2017
- LSE self-guided local allocation; first week in May, 2017
- Receive new CEC coincident load forecast June 30, 2017
- ISO or CPUC to send out final local allocation; middle of July, 2017
- If Oakland under contract; LSEs to submit showings by 9/15/2017
- ISO to decide on retaining units under RMR by October 1, 2017
- Final LSE showings TBD – Usually last week of October, 2017
- ISO to send a market notice out stating deficiencies in procurement – about 3 weeks after final showing - about November 21, 2017
- ISO receives additional showing (30 days after market notice)
- ISO to enter back-stop procurement for local reasons (if needed)

Your comments and questions are welcome.

For written comments, please send to: RegionalTransmission@caiso.com