2017 Final LCR Study Results
LA Basin LCR Area

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Stakeholder Call

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LA Basin Area Loads & Resources

Load

Year	Load (MW)	AEEE (MW)	Pump Load (MW)	Transmission Losses (MW)	Total (MW)
2017	19033	272	20	109	18890

The above total load for the LA Basin represents the electrical boundary area load. However, when Saugus load is included, the total LA Basin geographic area load is 19,891 MW, closely matches the CEC demand forecast for the LA Basin. Saugus is located in the LA County and is considered part of the LA Basin geographic area.

Available Generation

Year	QF/Wind (MW)	Muni (MW)	Nuclear (MW)	Market (MW)	Max. Qualifying Capacity (MW)
2017	440	1175	0	8960	10575

Major Transmission & Generation Assumptions

- Talega SVC (in-service Augus 2015)
- Huntington Beach Unit 4 Synchronous Condenser (RMR contract expires at the end of 2017)
- Hunting Beach Unit 3 retires in 2017 (RMR contract expires at the end of 2016)
- El Segundo Unit 4 retired (12/31/2015)
- Imperial Valley Phase Shifting Transformers (230/230kV 2x400 MVA)
- 20-minute Demand Response resources

Critical Area Contingencies

El Nido Sub-area – Category C

Contingency: Hinson-La Fresa 230 kV line out followed by double-circuit tower line Redondo-La Fresa #1 and #2 230 kV lines

Limiting component: Voltage Collapse

2017 LCR need: 318 MW (includes 2 MW of QF and Muni generation)

El Nido Sub-area – Category B

No requirement.

Critical Area Contingencies

West of Devers Sub-area – Category C

Contingency: San Bernardino-Etiwanda 230 kV line out, followed by San Bernardino-Vista 230 kV line or vice versa

Limiting component: Voltage Collapse

2017 LCR need: 261 MW (includes 1 MW of QF generation)

West of Devers Sub-area – Category B

No requirement.

Critical Area Contingencies

Valley-Devers Sub-area – Category C

Contingency: Palo Verde-Colorado River 500 kV line out, followed by Serrano-Valley 500 kV line, or vice versa

Limiting component: Iron Mountain – Eagle Mountain 230kV line

2017 LCR need: 1,415 MW (includes 67 MW of QF and Wind)

Valley-Devers Sub-area – Category B

No requirement.

Critical Area Contingencies

Western LA Basin Sub-area – Category C

Contingency: Serrano-Villa Park #2 230 kV line out followed by Serrano-Lewis #1 or #2 230 kV line or vice versa

Limiting component: Serrano-Villa Park #1 230 kV line

2017 LCR need: 3,871 MW (includes 787 MW of QF, Muni, and Wind)

Western LA Basin Sub-area – Category B

Non binding – multiple combinations possible.

Overall LA Basin Critical Contingencies

Category C

Under current and anticipated Aliso Canyon gas storage constraints, San Diego sub-area shares the same critical electric transmission constraint as the LA Basin as local resource needs are balanced with the San Diego area to help relieve the generation needs in the LA Basin which are directly affected by Aliso Canyon.

Contingency: Sylmar-Gould 230 kV line followed by Lugo-Victorville 500 kV line

Limiting component: Sylmar-Eagle Rock 230 kV line

2017 LCR Need: 10,283 MW

LA Basin: 7,368 MW (includes 1,615 MW of QF, wind and Muni generation)

San Diego subarea: 2,915 MW (includes 108 MW of QF and wind generation)

Category C – voltage instability sensitivity

Contingency: ECO-Miguel 500kV line followed by Ocotillo-Suncrest 500 kV line

This overlapping contingency could result in voltage stability concerns under a sensitivity scenario with less contribution from rooftop solar PV during the hour of 6:00 PM when customer demand remains high and where key static shunt capacitor switching does not occur in a timely manner following the second contingency.

Overall LA Basin Critical Contingencies

Category B

Contingency: Sylmar-Gould 230 kV line out with Redondo #7 out of service

Limiting component: Sylmar-Eagle Rock 230 kV line

2017 LCR Need: 8,929 MW

LA Basin: 6,873 MW (includes 1,615 MW of QF, Muni, and Wind)

San Diego subarea: 2,056 MW (includes 108 MW of QF and wind generation)

Changes

Since last year:

1) The 2017 load forecast for the LA Basin is lower by about 1,400 MW for geographic LA Basin area, or by 1,278 MW for electrical boundary area when compared to last year study for 2016.
2) Total overall LCR is lower by 1,519 MW, mainly due to decrease in load and additional transmission upgrades that are scheduled to be on-line in the San Diego area for the summer 2017.

Since last stakeholder meeting:

1) Updated NQC
2) Decrease overall LCR needs by 716 MW, or about 7 MMcf per hour, or 167 MMcf per day by balancing resource needs with the San Diego sub-area to address Aliso Canyon gas storage constraints directly impacting the LA Basin generation.

Your comments and questions are welcome.

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