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Shaping a Renewed Future

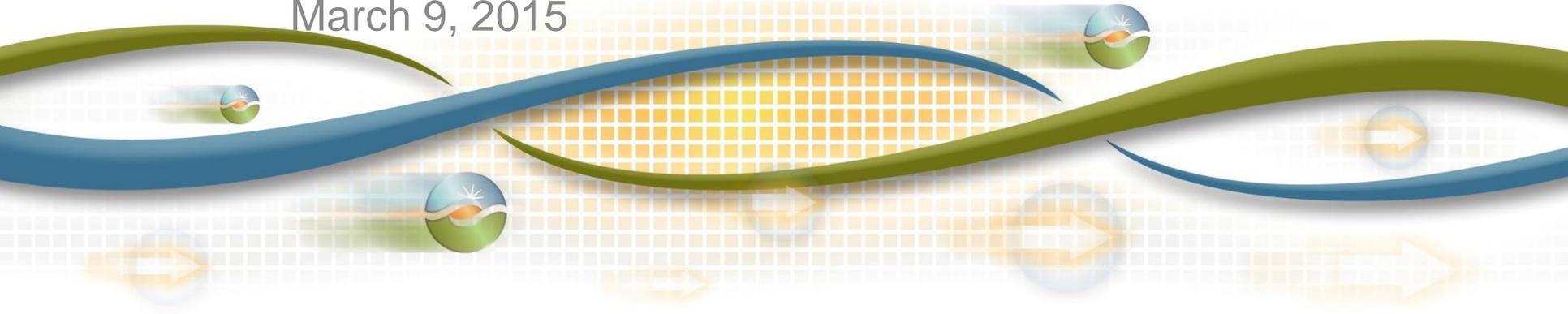
2016 and 2020 Draft LCR Study Results - LA Basin and Big Creek/Ventura Local Areas

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LA Basin Area Loads & Resources

Load

Year	Load (MW)	Pump Load (MW)	Transmission Losses (MW)	Total (MW)
2016	19975	76	117	20168
2020	20568	76	120	20764

Available Generation

Year	QF/Wind (MW)	Muni (MW)	Nuclear (MW)	Market (MW)	Max. Qualifying Capacity (MW)
2016	1045	1163	0	8985	11193
2020	1044	1163	0	8985	11192

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

2016 LCR need: 580 MW (includes 50 MW of QF and Muni generation)

2020 LCR need: 580 MW (includes 50 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

2016 LCR need: 488 MW (includes 3 MW of QF generation)

2020 LCR need: 488 MW (includes 3 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 ValleySC/Alberhill-Serrano 500 kV line or vice versa

Limiting component: Camino-Iron Mountain 230 kV line

2016 LCR need :1,722 MW (includes 208 MW of QF and Wind)

2020 LCR need: 1,260 MW (includes 208 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

2016 LCR need: 4,472 MW (includes 1,155 MW of QF, Muni and Wind)

2020 LCR need: 4,993 MW (includes 1,155 MW of QF, Muni and Wind)

Western LA Basin Sub-area – Category B

Non binding – multiple combinations possible.

Critical Area Contingencies

LA Basin Overall – Category B

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

Limiting component: Sylmar-Eagle Rock 230 kV line

2016 LCR need: 7,576 MW (includes 2,208 MW of QF, Muni and Wind)

2020 LCR need: 7,978 MW (includes 2,208 MW of QF, Muni and Wind)

LA Basin Overall – Category C

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

Limiting component: Sylmar-Eagle Rock 230 kV line

2016 LCR need: 8,887 MW (includes 2,208 MW of QF, Muni and Wind)

2020 LCR need: 9,229 MW (includes 2,208 MW of QF, Muni and Wind)

Changes

Since last year:

- 1) 2016 load forecast is down by 340 MW vs. 2015.
- 2) Total overall LCR is down by 210 MW, mainly due to load.
- 3) 2020 load forecast is up by 211 MW vs. 2019.
- 4) Total Long-term LCR is up by 110 MW mainly due to load.

Your comments and questions are welcome.

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

Big Creek/Ventura Area Loads & Resources

Load

Year	Load (MW)	Pump Load (MW)	Transmission Losses (MW)	Total (MW)
2016	4372	369	65	4806
2020	4467	369	63	4899

Available Generation

Year	QF (MW)	Muni (MW)	Market (MW)	Max. Qualifying Capacity (MW)
2016	768	392	4203	5363
2020	768	392	4203	5363

Critical Area Contingencies

Rector Sub-area – Category B

Contingency: Vestal-Rector #1 or #2 230 kV line with Eastwood out of service

Limiting component: Remaining Vestal-Rector 230 kV line

2016 LCR need: 492 MW (includes 10 MW of QF generation)

2020 LCR need: 464 MW (includes 10 MW of QF generation)

Rector Sub-area – Category C

Same as above.

Vestal Sub-area – Category B

Contingency: Magunden-Vestal #1 or #2 230 kV line with Eastwood out of service

Limiting component: Remaining Magunden-Vestal 230 kV line

2016 LCR need: 739 MW (includes 131 MW of QF generation)

2020 LCR need: 703 MW (includes 131 MW of QF generation)

Vestal Sub-area – Category C

Same as above.

Critical Area Contingencies

Santa Clara Sub-area – Category C

Contingency: Pardee-S. Clara 230 kV line followed by DCTL Moorpark-S. Clara #1 and #2 230 kV lines

Limiting component: Voltage collapse

2016 LCR need: 247 MW (includes 67 MW of QF generation)

2020 LCR need: 293 MW (includes 67 MW of QF generation)

Santa Clara Sub-area – Category B

No requirement.

Critical Area Contingencies

Moorpark Sub-area – Category C

Contingency: Pardee-Moorpark #3 230 kV line followed by DCTL Pardee-Moorpark #1 and #2 230 kV lines

Limiting component: Voltage collapse

2016 LCR need: 462 MW (includes 96 MW of QF generation)

2020 LCR need: 547 MW (includes 96 MW of QF generation)

Moorpark Sub-area – Category B

No requirement.

Critical Area Contingencies

Big Creek/Ventura Overall – Category B

Contingency: Sylmar-Pardee #1 or #2 230 kV line with Ormond #2 out of service

Limiting component: Remaining Sylmar-Pardee 230 kV line

2016 LCR need: 2,141 MW (includes 1,160 MW of QF, Muni and Wind)

2020 LCR need: 2,598 MW (includes 1,160 MW of QF, Muni and Wind)

Big Creek/Ventura Overall – Category C

Contingency: Sylmar-Pardee #1 or #2 230 kV line followed Lugo-Victorville 500 kV or vice versa

Limiting component: Remaining Sylmar-Pardee 230 kV line

2016 LCR need: 2,398 MW (includes 1,160 MW of QF, Muni and Wind)

2020 LCR need: Same as Category B

Changes

Since last year:

- 1) 2016 load forecast is down by 76 MW vs. 2015.
- 2) Overall LCR is up by 128 MW, mainly due to LA Basin LCR requirements and load.
- 3) 2020 load forecast is down by 60 MW vs. 2019.
- 4) Long-term LCR is down by 21 MW, mainly due to transmission projects and load.

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