

Amended and Restated Facilities Agreement Schedule Update

Facilities Committee

April 5, 2017

Background

- CAISO Master File
 - Contains generating resource operating parameters used by the CAISO to develop dispatch orders
 - Information is also used to calculate resource specific operating costs

- Review of Operating Parameters
 - Each year NCPA staff review the modeling parameters contained in the CAISO Master File to ensure they are consistent with current business practices and physical operational limitations

Issue

- Staff recently completed a review of NCPA's CAISO Master File
 - Staff identified certain operating parameters for each of the combustion turbine resources that need to be updated
- Next Steps
 - Submit a request to the CAISO to update the Master File based on the finding of the review
 - Update certain Schedules contained in the Amended and Restated Facilities Agreement based on the revised operating parameters

Operating Parameters: ALMEGT_1_UNIT 1

Category	Segment No.	Current Value	Revised Value	Unit
Maximum Generation Capacity	-----	23.8	23.4	/ MW
Minimum Generation Capacity	-----	22.8	23.0	/ MW
Minimum Dispatchable Level	-----	22.8	23.0	/ MW
Minimum Off Time	-----	15.0	120.0	/ MIN
Minimum Load Cost	-----	Calc. as REGC	Null via Proxy	
Minimum Load Cost Basis	-----	REGC	PRXC	
Start-Up Cost Basis	-----	REGC	PRXC	
Best Operational Ramp Rate	-----	23.8	5.75	MW / MIN
Heat Rate	1	22.8 MW @ 16120	23.0 MW @ 14300	BTU / kWh
	2	23.0 MW @ 16100	23.4 MW @ 14200	BTU / kWh
	3	23.8 MW @ 16020	-----	BTU / kWh
Heat Emission Rate	1	-----	23.0 MW @ 1.243	lbs. of NOx / MWh
	2	-----	23.4 MW @ 1.222	lbs. of NOx / MWh
Start-Up Time	-----	8.0	14.0	/ MIN
Start-Up Cost	-----	Calc. as REGC	Null via Proxy	
Start-Up Aux	-----	2.2	0.2	/ MW
Start-Up Fuel	-----	3.09	27.0	/ MMBtu

Next Step: ALMEGT_1_UNIT 1

- Submit request to CAISO to updated Master File parameters as described herein
- Amend Section 1.3 of Facilities Schedule 5 to reflect updated Pmax and Pmin ratings

Operating Parameters: ALMEGT_1_UNIT 2

Category	Segment No.	Current Value	Revised Value	Unit
Maximum Generation Capacity	-----	25.4	23.5	/ MW
Minimum Generation Capacity	-----	24.4	23.0	/ MW
Minimum Dispatchable Level	-----	24.4	23.0	/ MW
Minimum Off Time	-----	15.0	120.0	/ MIN
Minimum Load Cost	-----	Calc. as REGC	Null via Proxy	
Minimum Load Cost Basis	-----	REGC	PRXC	
Start-Up Cost Basis	-----	REGC	PRXC	
Best Operational Ramp Rate	-----	25.4	5.75	MW / MIN
Heat Rate	1	24.4 MW @ 16210	23.0 MW @ 14800	BTU / kWh
	2	25.0 MW @ 16150	23.5 MW @ 14700	BTU / kWh
	3	25.4 MW @ 16090	-----	BTU / kWh
Heat Emission Rate	1	-----	23.0 MW @ 1.243	lbs. of NOx / MWh
	2	-----	23.5 MW @ 1.217	lbs. of NOx / MWh
Start-Up Time	-----	8.0	14.0	/ MIN
Start-Up Cost	-----	Calc. as REGC	Null via Proxy	
Start-Up Aux	-----	2.2	0.2	/ MW
Start-Up Fuel	-----	3.09	27.0	/ MMBtu

Next Step: ALMEGT_1_UNIT 2

- Submit request to CAISO to updated Master File parameters as described herein
- Amend Section 1.3 of Facilities Schedule 5 to reflect updated Pmax and Pmin ratings

Operating Parameters: LODI25_2_UNIT 1

Category	Segment No.	Current Value	Revised Value	Unit
Maximum Generation Capacity	----	25.3	23.8	/ MW
Minimum Generation Capacity	----	22.2	23.0	/ MW
Minimum Dispatchable Level	----	22.2	23.0	/ MW
Minimum Off Time	----	15.0	120.0	/ MIN
Minimum Load Cost	----	Calc. as REGC	Null via Proxy	
Minimum Load Cost Basis	----	REGC	PRXC	
Start-Up Cost Basis	----	REGC	PRXC	
Best Operational Ramp Rate	----	23.0	5.75	MW / MIN
Heat Rate	1	22.2 MW @ 16430	23.0 MW @ 14600	BTU / kWh
	2	23.0 MW @ 16350	23.8 MW @ 14500	BTU / kWh
	3	24.0 MW @ 16250	----	
	4	25.3 MW @ 16160	----	BTU / kWh
Heat Emission Rate	1	----	23.0 MW @ 1.243	lbs. of NOx / MWh
	2	----	23.8 MW @ 1.202	lbs. of NOx / MWh
Start-Up Time	----	8.0	14.0	/ MIN
Start-Up Cost	----	Calc. as REGC	Null via Proxy	
Start-Up Aux	----	2.2	0.2	/ MW
Start-Up Fuel	----	3.09	27.0	/ MMBtu

Next Step: LODI25_2_UNIT 1

- Submit request to CAISO to updated Master File parameters as described herein
- Amend Section 1.3 of Facilities Schedule 5 to reflect updated Pmax and Pmin ratings

Operating Parameters: STIGCT_2_LODI

Category	Segment No.	Current Value	Revised Value	Unit
Minimum Load Cost	-----	Calc. as REGC	Null via Proxy	
Minimum Load Cost Basis	-----	REGC	PRXC	
Start-Up Cost Basis	-----	REGC	PRXC	
Heat Rate	1	35.0 MW @ 9568	35.0 MW @ 9500	BTU / kWh
	2	40.0 MW @ 9279	40.0 MW @ 9200	BTU / kWh
	3	41.0 MW @ 9242	49.9 MW @ 8900	BTU / kWh
	4	42.0 MW @ 9213	-----	BTU / kWh
	5	43.0 MW @ 9190	-----	BTU / kWh
	6	46.0 MW @ 9163	-----	BTU / kWh
	7	48.0 MW @ 9121	-----	BTU / kWh
	8	49.9 MW @ 9000	-----	BTU / kWh
Heat Emission Rate	1	35.0 MW @ 4.67	35.0 MW @ 0.077	lbs. of NOx / MWh
	2	40.0 MW @ 4.67	40.0 MW @ 0.067	lbs. of NOx / MWh
	3	41.0 MW @ 4.67	49.9 MW @ 0.054	lbs. of NOx / MWh
	4	42.0 MW @ 4.67	-----	lbs. of NOx / MWh
	5	43.0 MW @ 4.67	-----	lbs. of NOx / MWh
	6	46.0 MW @ 4.67	-----	lbs. of NOx / MWh
	7	48.0 MW @ 4.67	-----	lbs. of NOx / MWh
	8	49.9 MW @ 4.67	-----	lbs. of NOx / MWh
Start-Up Fuel	-----	214.00	190.0	/ MMBtu

Next Step: STIGCT_2_LODI

- Submit request to CAISO to updated Master File parameters as described herein

Recommendation

- NCPA staff recommends Facilities Committee approval and recommendation for Commission approval of an amendment to Facilities Schedules 5 of the Amended and Restated Facilities Agreement to update the CT1 Project Statistics, as further described in this presentation.

Questions / Comments