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Retire Diablo Canyon

Additional submitted attachment is included below.

Comments of Robert Sarvey on Diablo Canyon Power Plant Retention.

The main reason the state is considering extending the operating life of the Diablo Canyon Power Plant is an alleged possible shortage of generation in 2021 and beyond.[1] This fear was created by the rolling outages that occurred in August of 2020 The August 2020 rolling blackouts were relatively small only 500 to 1,000 MW and they were short in duration. On August 14th, the CAISO initiated rotating outages for about an hour. This affected approximately 492,000 customers for a duration of 15 minutes to 150 minutes. On August 15th, a Stage 3 Emergency requiring rotating outages was declared at 6:28 pm for 20 minutes. This ultimately affected 321,000 customers for 8 minutes to 90 minutes. These rolling blackouts were nothing like the "Public Safety Power Shutoff" and wild-fire-related events in 2017, 2018 and especially 2019 when millions of customers had their power cut often for several days to reduce the risk of fires.

To put these outages in perspective, compare the combined 80-minute duration of these two electrical emergency outages to the System Average Interruption Duration Index (SAIDI) metric. The SAIDI metric represents the total time an average customer experiences a non-momentary power interruption during a year. In 2018, the PG&E's SAIDI was about 126.3 minutes per customer.[2] In 2019, SCE's SAIDI was about 91 minutes per customer (with Major Event Days excluded).[3] SDG&E reported that their 2019 SAIDI as 66 minutes per customer not including PSPS events.[4] In 2018, power outage durations for U.S. electricity customers averaged 5.8 hours per customer.[5]

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[1] Please note that peak demand as reported by CAISO in 2021 was 43,982 MW.[1] This is the lowest peak demand since 2003 when peak demand was 42,689 MW.

[2] https://www.pge.com/en_US/residential/outages/planning-and-preparedness/safety-andpreparedness/grid-reliability/electric-reliability-reports/electric-reliability-reports.

[3] https://www.sce.com/tl/outage-center/reliability-reports

[4]3 https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy/Energy_Programs/Electrical_Infrastructure,_Planning,_and_Permitting/Reliability_and_Distribution_Infrastructure/Reliability/2019_SDGE.pdf at Page 1

[5]EIA https://www.eia.gov/todayinenergy/detail.php?id=43915

These outages were unfortunate but not longer than total time an average customer experiences an outage during a year.

Besides these outages being relatively minor they were easily avoidable with simple modifications to the resource adequacy rules and reform of several CAISO market practices. One of the biggest factors in the August 14 and 15 rolling blackouts is the failure of the energy agencies to accurately assess the resource adequacy value of the natural gas generating facilities. The natural gas generation outages on both days in August exceeded the 9% reserve requirement that accounts for plant outages. On August 15, total plant outages were close to the 15% total reserve requirement. [6] The regulating agencies have utilized net qualifying capacity of fossil fuel resources without considering deration of the generating asset due to heat and time. Power plant output degrades under heat conditions and over time generating units degrade and no longer provide the full output represented by net qualifying capacity.

Analysis of the CAISO August 13-16 Balancing Authority Resource Outages shows that on August 14th the between 6:00 and 7:00 PM fossil fuel resources required to demonstrate resource adequacy were 946 MW short of what they were expected to provide. In addition, 1050 MW of resources adequacy was not provided due to forced outages for plant maintenance. The generation was not replaced. On August 14th between 7:00 and 8:00 pm fossil fuel resources generated 737 MW less than the resource adequacy generation that they were contacted for due to ambient conditions. In addition, 1231 MW or resource adequacy generation were not available due to forced outages for plant maintenance. None of that generation was replaced.

On August 15th between 6:00 and 7:00 PM 914.6 MW of contracted resource adequacy capacity was not available due to ambient conditions. Properly evaluating the resource adequacy values of its generation assets alone could have prevented the August 14 and 15 rolling blackouts. By not properly analyzing the capability of its resource adequacy CAISO assumed it had more generation available than it did.

[6] FERC Preliminary Observations on the August 2020 California Heat Storm December 17, 2020 Page 10

In addition to forced outages described above during the actual operating day the CAISO also had 514 MW and 421 MW of planned outages that were not replaced on August 14 and 15, respectively. The CPUC-approved PRM does not include planned outages under the assumption that planned outages will be replaced with substitute capacity or denied during summer months.[7] The August 15th load shed was only 500 MW which could have been almost eliminated by CAISO requiring scheduled outages to provide replacement energy.

The Preliminary Root Cause Analysis ("PRCA") shows that CAISO market rules allowed over 3,500 MW of exports during the system emergencies.[8] During August 14 and 15, under-scheduling of load and convergence bidding clearing net supply signaled that more exports were supportable. Scheduling coordinators representing LSEs collectively under scheduled their demand for energy by 3,386 MW and 3,434 MW below the actual peak demand for August 14 and 15. This allowed a significant amount of generation to be exported as the day ahead forecast was severely underestimated. Combining all these factors demonstrates that there was no shortage of generation on August 14 and 15th just market mismanagement.

Diablo Canyon is the biggest threat to reliability and should not be retained.

The fact is Diablo Canyon is the most severe single contingency that could potentially destabilize the Balancing Authority Area (BAA) and cause cascading outages throughout the Western interconnected grid, if Diablo Canyon. Diablo Canyon has become less reliable over time as would be expected form a 49 year old power plant. Diablo Canyons capacity factor shrank to 83% in 2019 and 2020. In 2020 the year of the rolling blackouts Diablo Canyon Unit 1 underwent a planned refueling outage, which occurs approximately every 18 months and unit 2 had three generator maintenance

[7] CAISO, CEC, and CPUC, Preliminary Root Cause Analysis: Mid-August 2020 Heat Storm at Page 47 (Oct. 6, 2020) available at http://www.caiso.com/Documents/Preliminary-Root-CauseAnalysis-Rotating-Outages-August-2020.pdf

[8] CAISO, CEC, and CPUC, Preliminary Root Cause Analysis: Mid-August 2020 Heat Storm at 84-90, 100 (Oct. 6, 2020) available at http://www.caiso.com/Documents/Preliminary-Root-CauseAnalysis-Rotating-Outages-August-2020.pdf

outages that, combined, lasted more than 80 days.[9] According to CAISO's daily generation outage report that Diablo Canyon Unit 1 was in forced outage, starting Aug. 12, 2020 and ending Aug. 16, 2020. Diablo Canyon is an old increasingly unreliable and dangerous power plant.

Demand is Falling and the CPUC has Authorized Thousand of MW's new Storage and Generation.

While the CEC and other agencies issue dire warnings and estimates about increased demand the fact is demand is falling. Peak load in 2021 was 43,982 MW.[10] This is the lowest peak load since 2003 when peak load was 42,689 MW.

Even with demand falling the CPUC has authorized an incredible amount of new resources which are scheduled to come online over the next four years. In June 2021, the Commission approved D.21-06-035 requiring procurement of an 11,500 MW of net qualifying capacity to be procured on a set schedule from 2023 to 2026. CPUC Decision D.19-11-016 authorized 3,300 MW of new system RA capacity of which 2,475 MW is expected to be operating by summer 2022. D.21-02-028 authorized 500 MW of system RA contracts to "Take Actions to Prepare for Potential Extreme Weather in the Summers of 2021 and 2022." CPUC decision D.21-03-056 approved 1,500 MW of new system RA contracts. CPUC decision D.21-06-036 approved 11,500 MW of new system RA contracts. In light of this massive amount of authorized procurement there is no need to retain Diablo Canyon.

PG&E is a Careless Operator, Irresponsible, and a Menace to California.

U.S. District Judge William Alsup wrote in a report reviewing his oversight of the utility. "In these five years, PG&E has gone on a crime spree and will emerge from probation as a continuing menace to California." Since 2017 the utility has been blamed for more than 30 wildfires that wiped out more than 23,000 homes and businesses and killed more than 100 people. PG&E has pleaded guilty to 84 felony counts of involuntary manslaughter for a 2018 wildfire that wiped out the town of Paradise, about 170 miles (275 kilometers) northeast

[9] https://www.pgecorp.com/corp_responsibility/reports/2021/pf07_nuclear_operations.html
[10] https://www.caiso.com/documents/californiaisopeakloadhistory.pdf

of San Francisco. Now PG&E faces more criminal charges in two separate cases, for a Sonoma County wildfire in 2019 and a Shasta County fire in 2020. To allow PG&E to continue to operate this aging nuclear plant located on several earthquake faults is irresponsible. A catastrophe at Diablo Canyon would dwarf any of the harm PG&E has already caused to the resident and ratepayers of the state of California.