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APPENDIX B

Application No.: A.20-10-011

Exhibit No.: PG&E-20

Date: June 1, 2021

Joint Stipulation on Study for MGCC Rate Design Issue

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Application of Pacific Gas and Electric Company (U39M) for Approval of its Proposal for a Day-Ahead Real Time and Pilot to Evaluate Customer Understanding and Supporting Technology.

Application 20-10-011
(Filed October 23, 2020)

Joint Stipulation on Study for MGCC Rate Design Issue

I. INTRODUCTION

PARTIES STIPULATING: The parties sponsoring this stipulation are the Public Advocates Office at the California Public Utilities Commission (Cal Advocates), Small Business Utility Association (SBUA), and Pacific Gas and Electric Company (PG&E) (together Stipulating Parties). Cal Advocates and SBUA have authorized PG&E to submit this stipulation on their behalf consistent with Rule 1.8 (d) of the Commission's Rules of Practice and Procedure.

SCOPE OF STIPULATION: The Stipulating Parties have taken different positions in this proceeding regarding the development of a marginal generation capacity cost (MGCC) component for a real time rate to be used in PG&E's pilot for commercial electric vehicles, the DAHRTP-CEV pilot (CEV Pilot). The Stipulating Parties have entered into this stipulation to make clear their support for a research study (Study) to analyze the relationship of the following variables to the condition of the CAISO grid: 1) hydro year conditions, 2) the definition and weighting of the hydro variable in the calculation of Adjusted Net Load (ANL), 3) CAISO restricted maintenance operations (RMO), 4) day-ahead CAISO Flex Alerts and CAISO alerts events, 5) other CAISO warning and emergency events,

6) the Peak Capacity Allocation Factor (PCAF) threshold, and 7) the functional form of PCAF weighting above the PCAF threshold,¹ using SERVVM data that Energy Division would provide. The Stipulating Parties believe that the analyses will provide useful information to inform the development of the MGCC element of a real time pricing (RTP) rate for the CEV Pilot, and also of the MGCC element for the RTP pilot for Commercial and Industrial (C&I) customer being considered in the RTP track of PG&E's GRC Phase II (the GRC II Pilot). The Stipulating Parties agree that it is very important that the findings of the Study, when complete, be included in the record and considered by the Commission in its determination of the MGCC element for the real-time rate design in this proceeding.

II. STIPULATED STUDY

PG&E has used its generation peak capacity allocation factor (PCAF) method to develop generation rates for TOU rates and allocate MGCC among customer classes in revenue allocation for several years,² based on adjusted net load (ANL)³ above a threshold. PG&E's ANL/PCAF method includes a hydro variable in the definition of ANL and uses all weather year scenarios in the calculation of the threshold and the "PCAF denominator." Cal Advocates has proposed to reflect different hydro year assumptions than used by PG&E, by limiting the selection of weather years used to calculate both the PCAF threshold and the PCAF denominator in the MGCC allocation to those simulated weather years with similar hydro conditions to the current year.

¹ This refers to the shape of the PCAF risk curve above the PCAF threshold, such as whether the risk curve should increase linearly with increasing adjusted net load (ANL) or if it would more accurately match the underlying hourly capacity risk by using a non-linear function.

² There is only one customer class in the DAHRTP-CEV pilot. Therefore, allocation among customer classes is not relevant for purposes of the pilot in A.20-10-011.

³ ANL refers to system-level metered load net of all solar and wind generation, small and large hydro, nuclear, geothermal, biomass and biogas generation. None of the Stipulating Parties contest the general use of PG&E's ANL/PCAF method for these purposes.

Cal Advocates and SBUA also each propose a different adjustment for how MGCC would be allocated to hours. Cal Advocates proposes to assign 13 percent⁴ of the MGCC to the hours 3-9pm during which CAISO issues a day-ahead Flex Alert or alert (CAISO alert) and only for hours for which PG&E's PCAF-based capacity prices do not meet or exceed a certain threshold, possibly with limits on the minimum and maximum number of hours called in each calendar year. The remaining MGCC value (87 percent of total)⁵ would be assigned to hours based on PG&E's PCAF methodology. SBUA proposes to allocate the MGCC based on CAISO Flex Alerts, CAISO RMOs, and an ANL/PCAF method based on PG&E's hydro assumptions or with Cal Advocates hydro year modification, potentially using a different functional form for PCAF weighting above the threshold than PG&E's linear function, and/or using a different threshold than PG&E's 80 percent of scenario-averaged maximum annual ANL.

The Stipulating Parties agree that their different approaches are reasonable to evaluate, but that insufficient data is currently available to support more than a hypothetical evaluation of parties' different MGCC allocation proposals in terms of whether one proposal or some combination of the proposals would produce the best alignment with underlying hourly capacity shortfall risk for the CAISO system – which is essential to the construction of a meaningful, cost-based capacity price signal in the DAH RTP rate.

To address the lack of data, SBUA has recommended PG&E perform a Study quantifying the relationship between various alternative forms of its PCAFs and reliability metrics.⁶ PG&E recognizes the value of such a Study and proposes including

⁴ That is, Cal Advocates proposes to assign the marginal capacity costs associated with the 15% planning reserve margin (PRM) to an hourly capacity component based on CAISO Alerts and Flex Alerts. $15\% / 115\% = 13.04\%$.

⁵ 100%-13%. See footnote 4.

⁶ See SBUA Direct Testimony, pp. 11-12.

further variables in the Study such as 1) the definition of the hydro variable,⁷ 2) the weighting of the hydro variable,⁸ 3) variations of Cal Advocates' reliability Capacity Peak Pricing (reliability CPP) or CAISO Alert-Based Adjustment (CABA) proposal, as discussed in PG&E's rebuttal testimony,⁹ and 4) SBUA's proposed inclusion of RMOs.

To perform the Study, PG&E will need system-wide historical and/or forecasted hourly capacity shortfall (reliability) metrics such as Loss of Load Probability (LOLP), Loss of Load Expectation (LOLE), Expected Unserved Energy (EUE), and/or reserves shortfalls data, which PG&E believes is available through SERVVM data which the Commission's Energy Division retains.¹⁰ Upon delivery of this data to PG&E, the study can likely be completed within five to six months, with participation by Cal Advocates, and SBUA.¹¹

It would also be valuable to the Study to obtain more detailed information from CAISO regarding the standards that it applies to initiate an Alert, Warning or Emergency (AWE) event, both in general and with respect to historical events. Among the actions and efforts that the CAISO, CPUC and CPUC are taking to prepare California for extreme heat waves without having to resort to rotating outages, "[t]he CAISO, CPUC, and CEC are planning to enhance the efficacy of Flex Alerts to maximize consumer conservation and other demand side efforts during extreme heat events."¹²

⁷ For instance, PG&E's marginal energy cost (MEC) model currently uses a 25-day rolling average of average daily hydro generation and daily maximum hydro generation. The averaging (25-day, daily) and type (average or maximum) may need to be changed to most accurately represent hydro's contribution to capacity needs. See PG&E Rebuttal Testimony, pp. 2-8:18-28 to 2-9:1-6.

⁸ PG&E's MEC model currently applies a 1.19 weighting factor to the hydro variable, based on a calibration using all hours from 2012 to 2019. However, PG&E believes that a weighting factor less than one may be more appropriate to model capacity risk, as hydro capacity is less dependent on annual inflow volume than is annual hydro energy.

⁹ See PG&E Rebuttal Testimony, p. 2-13:8-11.

¹⁰ See PG&E Rebuttal Testimony, p. 2-9:20-25.

¹¹ PG&E states the study would require the first half of 2022. See PG&E Rebuttal Testimony, p. 2-9:14-17.

¹² CAISO, CPUC, and CEC, *Root Cause Analysis: Mid-August 2020 Extreme Heat Wave* (January 13, 2021), pp. 1-2.

III. GOALS OF THE STUDY:

The purpose of the Study is to determine the fit between alternative formulations of hourly MGCC, as described above or as developed during the Study, and capacity shortfall (reliability) metrics.¹³ The primary purpose of a real-time capacity price signal is to accurately reflect temporal (hourly) variations to the risk that there will be insufficient capacity to serve demand – and thus variations in the capacity costs at the margin of serving incremental load. The Stipulating Parties agree that the Study will provide a data-driven benchmark of which real-time capacity pricing proposals, or combinations thereof, most closely align with hourly capacity shortfall risk and with the costs PG&E incurs to serve marginal load. This would enable the DAHRTP pilot rate to send more effective forecast generation capacity price signals, increasing the potential benefits of the CEV Pilot. A more accurate generation capacity price signal could improve system reliability, and reduce the duration or magnitude of power outages during the extreme capacity shortfall events; and could also reduce cost shifting between participants and non-participants by ensuring that pilot participants pay as close as possible to the actual marginal costs incurred by PG&E (whether in the operating year or a subsequent year).

Additionally, the Study will help to identify the appropriate level of inter-annual variation in the DAHRTP pilot rate's MGCC price element. Parties' MGCC proposals result in differing levels of intra- and inter-annual variation in capacity prices.¹⁴ By comparing the various proposals to reliability metrics and determining which proposals produce the best fit, the Study could indicate what level of intra- and inter-annual

¹³ See SBUA Direct Testimony p. 11:10-14 and PG&E Rebuttal Testimony, p. 2-9:1-6.

¹⁴ See, for example, Table 1-8 on p. 1-27 of Cal Advocates' direct testimony comparing inter-annual variability in PCAFs between PG&E's and Cal Advocate's proposals under PG&E's 10 simulated weather years that comprise its 2021 DAHRTP rates forecast, and Figures 3 and 4 on pp. 17-21 of SBUA's reply testimony comparing highest priced hours between PG&E, Cal Advocates and SBUA proposals using PG&E's estimates of MEC and MGCC prices for 2017-2020.

variation is most appropriate and would most accurately capture varying levels of capacity shortfall risk within a year and across multiple years.¹⁵

IV. PROCEDURAL PROPOSAL

The Stipulating Parties would start work on the Study as soon as Energy Division makes the SERVVM data available. Thereafter, the estimate for completion of the Study is 5 to 6 months. When the Study results are available, each Stipulating Party would use the results to develop its proposal for 1) allocation of the MGCC to hours, and 2) what factors should be used, e.g., CAISO Alerts, CAISO RMOs, and ANL/PCAF implementation.

Stipulating Parties' proposals can consider other criteria for inclusion of those factors into the MGCC price element of DAH RTP pilot rate, such as customer understandability and acceptance of the rate component. Other parties could also develop proposals for MGCC based on the results of the Study.

The Stipulating Parties would move for admission of the study results into the record of this proceeding. The Stipulating Parties anticipate that MGCC proposals allowed by this procedural step would be presented in testimony, for decision by the Commission. The Administrative Law Judge could set limited hearings on the proposals, either on his or her own motion, or in response to a request by the Stipulating Parties for limited hearings on the MGCC proposals. Issues decided in the Commission decision for the DAH RTP-CEV pilot that are not related to the development of the MGCC or its allocation to hours, may not be relitigated in connection with this procedural process for the Study.

A key timing element is how soon the SERVVM data can be obtained, i.e., the sooner the Study can begin, the sooner parties can provide their testimony on

¹⁵ See PG&E Rebuttal Testimony p. 2-7:12-15.

incorporating the study results into the DAHRTP-CEV pilot rate. For this reason the Stipulating Parties have not included any specific dates in the Stipulation.

V. STIPULATING PARTIES' REQUEST FOR THE CURRENT JUNE 2021 PROCEEDINGS

The Stipulating Parties agree that a Commission decision based on the evidentiary record from the June 2021 hearings should not decide the MGCC issues addressed in this stipulation. The Stipulating Parties make this request to coordinate the inclusion of the study results and the preceding section IV Procedural steps in order to avoid confusion and potentially conflicting results if the MGCC issues to be studied were also addressed on the merits in a Commission decision on the upcoming June hearing record.

Allowing for inclusion and review of Study data in this proceeding prior to a Commission decision on MGCC design issues would reduce the likelihood that the Commission and parties will need to modify a decision reached without the benefit of Study data, should the Study findings warrant adjustment to the DAHRTP rate design.

The Stipulating Parties agree to waive cross-examination of their witnesses for the June 2021 hearings in A.20-10-011 on the MGCC issues covered by this Stipulation. The Stipulating Parties agree that each Stipulating Parties' testimony and cross-examination exhibits that have been served as of May 29, 2021 on the MGCC issues may go into the evidentiary record in A.20-10-011; but that the Stipulating Parties are not waiving their rights to cross-examine the witnesses on MGCC issues in future proceedings, including future proceedings that may address incorporation of the study results into the DAHRTP-CEV pilot rate.

The Stipulating Parties further request that in the Commission's decision in A.20-10-011, the Commission consider including the following findings:

1. The Commission finds that the Study will provide necessary data to set the MGCC element of the CEV RTP rate.

2. To perform the Study, PG&E will need system-wide historical and/or forecasted reliability metrics available through SERVVM data which the Commission's Energy Division retains. Energy Division is directed to take the appropriate steps to provide the SERVVM data to PG&E, and to allow parties participating in the Study to see the data, if necessary after signing a Non-Disclosure Agreement.

3. If additional information regarding standards that CAISO applies to initiate an Alert, Warning or Emergency (AWE) event can be obtained from the CAISO, both in general and with respect to historical events, the additional information may be useful input into development of the MGCC element of the real time rate.

(END OF APPENDIX B)