

DOCKETED

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**Submittal of Pacific Gas and Electric Company
2022 IEPR Electric Transmission-Related Data Collection for the California
Energy Commission
October 21, 2022
Docket 22-IEPR-03**

**DISCUSSION OF NEW OR UPGRADED TRANSMISSION REQUIRED TO
DELIVER ENERGY FROM CONTRACTED RESOURCES,
GENERATORS, OR POWER PURCHASE AGREEMENTS NEEDED BY
THE LOAD-SERVING ENTITIES TO MEET RENEWABLE PORTFOLIO
STANDARDS AND THE STATE'S SENATE BILL 100 GOALS^{1,2}**

Investor-Owned Utility Name: Pacific and Electric Company • 300 Lakeside Drive, Oakland, CA 94612

Date submitted: October 21, 2022

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Pursuant to the California Public Resources Code Sections 25216 and 25216.5, Pacific Gas and Electric Company (PG&E) submits the requested information to the California Energy Commission (CEC) Docket Number 22-IEPR-03.

Transmission Information

As a Participating Transmission Owner and in accordance with the California Independent System Operator's (CAISO) Corporation Tariff Section 24, PG&E is required to participate in the CAISO's Transmission Planning Process (TPP). In this process, PG&E coordinates with the CAISO and other stakeholders to annually develop a Transmission Plan in which the CAISO approves transmission

¹ California Senate Bill 100, De León, Chapter 312, Statutes of 2018.

² Hesters, Mark. July 2022. Instructions for Electric Transmission-Related Data Collection. California Energy Commission. Publication Number: CEC-200-2022-004.

upgrades or transmission system additions. CAISO's latest TPP Transmission Plan (2021-2022) includes the evaluation of PG&E's transmission system and is available on the CAISO's website.³

20-Year Outlook for New and Upgraded Transmission

In parallel with the 2021-2022 Transmission Plan, the CAISO also collaborated with the California Public Utilities Commission (CPUC) and the CEC to create the first ever 20-Year Transmission Outlook for the California ISO grid with the goal of exploring longer-term grid requirements and options for meeting the State's greenhouse gas reduction and renewable energy 2045 mandates reliably and cost-effectively. In the study, the CAISO included the Senate Bill (SB) 100 Core scenario with statewide high-electrification load projection, assumed a projected reduction of 15,000 Megawatts (MW) of natural gas-fired generation, and assumed a Starting Point resource scenario that adds 120.8 Gigawatts (GW) of new clean energy resources.⁴

Although the resulting informational study did not recommend projects for immediate approval, it indicates the likely significant scale of transmission build up and investments required to fully accommodate the new capacity being added to the grid to meet California's clean energy goals. CAISO's 20-year Transmission Outlook, which also includes the evaluation of PG&E's transmission system, is available on the CAISO website and can provide invaluable support to future resource planning processes conducted by the CEC and CPUC.⁵

Description of Projects in PG&E Transmission Expansion Plans:

Transmission capacity and network upgrades are identified through the CAISO's TPP and the CAISO's Tariff, Appendix DD, *Generation Interconnection and Deliverability Allocation Procedures* (GIDAP)⁶ processes. The required TPP and GIDAP-driven upgrades are listed and updated through the CAISO Transmission Development Forum (TDF) process.⁷

Under the guidelines for the CEC's Integrated Energy Policy Report (IEPR) Transmission Data Collection request, PG&E identified 26 projects that have a contract with renewable generation projects to meet their load serving needs (Table 1). These projects have an executed Interconnection Agreement (IA) and are in various phases of implementation to achieve their in-service date. High-level specifics for each project, such as technology type and capacity, are listed in Table 1. Additional details and project

³ 2021-2022 Transmission Plan, California ISO, March 2022,

<https://www.aiso.com/Documents/ISOBoardApproved-2021-2022TransmissionPlan.pdf>.

⁴ 2021 SB 100 Joint Agency Report: Charting a path to a 100% Clean Energy Future, California Energy Commission, March 2021, Publication Number: CEC-200-2021-001,

<https://efiling.energy.ca.gov/EFiling/GetFile.aspx?tn=237167&DocumentContentId=70349>.

⁵ 20-Year Transmission Outlook, California ISO, May 2022, <https://www.aiso.com/InitiativeDocuments/20-YearTransmissionOutlook-May2022.pdf>.

⁶ California ISO, Fifth Replacement Tariff, Appendix DD: Generator Interconnection Deliverability Allocation Procedures (GIDAP), September 2022, <http://www.aiso.com/Documents/AppendixDD-GeneratorInterconnectionDeliverabilityAllocationProcedures-Sep1-2022.pdf>.

⁷ Transmission Development Forum, Generation Interconnection Project (GIP) Upgrades and Transmission Planning Process (TPP) Upgrade Status, Pacific Gas and Electric, July 2022, <https://www.aiso.com/Documents/PGEPresentation-TransmissionDevelopmentForum-Jul292022.pdf>.

information can be found in the CAISO Public Queue, as well as the PG&E Wholesale Distribution Tariff (WDT) Queue.^{8,9}

Generation in PG&E's system is grouped and studied based on the geographic location of interconnection. Projects can connect to the PG&E Transmission System through the CAISO's GIDAP or PG&E's WDT.

PG&E's Fresno region has eight projects totaling 188 MWs of Photovoltaic (PV), Battery Energy Storage (BESS) and Biomass generation technology. The Greater Bay Area has 830 MW of BESS, PV, and combined cycle generation. Generation in the North of Greater Bay Area and Kern area have PV and BESS generation totaling 358 MW and 125 MW, respectively.

Generation capacity of 1,442 MW will be connected to the transmission system by connecting to existing PG&E 230 kV, 115 kV or 60 kV switching stations or substations. An additional 60 MW of primarily PV Solar will connect through PG&E's 12 kV or 21 kV distribution feeders.

Facility Name	Technology	MW	Queue Position	PG&E Interconnecti on Area	Interconn ection Process	Project Status
Java Solar Project	PV	13.5	Q965	Fresno	CAISO (PG&E)	Implementation (In-Service Pending)
North Central Valley	BESS	150	Q1109	Fresno	CAISO (PG&E)	Implementation
WCW Generator 1	BioMass	3.88	1827-RD	Fresno	Rule 21	Implementation
Gonzalez	PV	1.75	2080-WD	Fresno	WDT	Implementation
Fresno Disadvantaged Community Solar Project	PV	10	2392-WD	Fresno	SGIP	Implementation
Jaton LLC	PV	3	2554-WD	Fresno	WDT	Implementation
Kings CSG 3 LLC	PV	3	2796-WD	Fresno	WDT	Implementation
RPCA Solar 7, LLC	PV	3	2799-WD	Fresno	WDT	Implementation
Kola Energy Storage, LLC	BESS	400	1275	Greater Bay Area	CAISO (PG&E)	Implementation
Moss Landing Energy Storage 3	BESS	350	1540	Greater Bay Area	CAISO (PG&E)	Implementation
Tracy Desalination Project	Steam Turbine	3.6	2187-RD	Greater Bay Area	Rule 21	Implementation

⁸ California ISO Generator Interconnection Public Queue, accessed October 14, 2022, <http://www.caiso.com/planning/Pages/GeneratorInterconnection/Default.aspx>.

⁹ Pacific Gas and Electric Wholesale Distribution Queue, accessed October 7, 2022, https://www.pge.com/pge_global/common/word_xls/for-our-business-partners/interconnection-renewables/energy-transmission-and-storage/wholesale-generator-interconnection/PublicQueueInterconnection.xls.

Alameda Grant Line Solar 1	PV	2.12	2589-WD	Greater Bay Area	WDT	Implementation
Hummingbird Energy Storage	BESS	75	Q1454	Greater Bay Area	CAISO (PG&E)	Implementation
Caballero CA Storage, LLC	BESS	99	1470	KERN	CAISO (PG&E)	Implementation
Pistachio Road	PV	4.8	1726-WD	KERN	WDT	Implementation
Rocha	PV	2	1783-WD	KERN	WDT	Implementation
Terry	PV	4.66	1818-WD	KERN	WDT	Implementation
Nachtigall	PV	4.66	1836-WD	KERN	WDT	Implementation
Kern Sunset	PV	2.4	1886-WD	KERN	WDT	Implementation
Highway 43	PV	2.5	1887-WD	KERN	WDT	Implementation
Beard	PV	2.5	1888-WD	KERN	WDT	Implementation
Tulare CSG	PV	3	2614-WD	KERN	WDT	Implementation
Sierra Energy Storage	BESS	10	Q1116	North of Greater Bay Area	CAISO (PG&E)	Implementation (In-Service Pending)
Corby Energy Storage, LLC	BESS	300	Q1270	North of Greater Bay Area	CAISO (PG&E)	Implementation
Cascade Energy Storage	BESS	45	1272 & 1835	North of Greater Bay Area	CAISO (PG&E)	Implementation
Blue Mountain Electric Company	BioMass	3	2008-RD	North of Greater Bay Area	Rule 21	Implementation

Table 1: PG&E's identified projects with a contract with renewable generation projects

Should you have questions or require additional information, please feel free to reach out to me anytime. For technical questions, please refer to subject matter experts Marco Rios and Michael Porter. Contact details can be found on Page 1 in the title section of this report.

Sincerely,

Jennifer Privett
PG&E, State Agency Relations