Senate Bill 319 Report

BIENNIAL REPORT

December 1, 2024



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affairs/2024-reports-to-the-legislature

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INTRODUCTION

This is the first biennial report on electrical transmission projects from the California Public Utilities Commission (CPUC) to the California State Legislature required by California Public Utilities Code section 913.12 as added by Senate Bill (SB) 319 (McGuire, Chapter 390, Statutes of 2023), on or before December 1, 2024, and biennially thereafter. This report is separate and distinct from several other SB 319 requirements, including, but not limited to: the creation of an electrical transmission development guidebook, in conjunction with the California Energy Commission (CEC) and the California Independent System Operator (CAISO); and reviewing and updating the transmission and resource planning implementation Memorandum of Understanding (MOU) between the CPUC, the CEC and the CAISO and workplan.

Existing law requires the CPUC, in consultation with the CEC, on or before March 31, 2024, to provide transmission-focused guidance to the CAISO about resource portfolios of expected future renewable energy resources and zero-carbon resources, including the allocation of those resources by region based on technical feasibility and commercial interest in each region to allow the CAISO to identify and approve transmission facilities needed to interconnect resources and reliably serve the needs of load centers, as specified.

On December 23, 2022, the CPUC, CEC, and CAISO entered into an MOU related to resource and transmission planning, transmission development and permitting, procurement, and interconnections in order to achieve reliability and policy needs and to coordinate the timely development of resources, resource interconnections, and needed transmission infrastructure.

SB 319 requires the CEC and CPUC, in coordination with the CAISO to review the MOU and a related workplan every five years to ensure the MOU and workplan reflect the coordination that is needed to meet the state's energy goals.

SB 319 also requires the Energy Commission, CPUC, and CAISO, on or before July 1, 2025, to jointly develop an electrical transmission infrastructure development guidebook that describes the state's electrical transmission infrastructure planning and permitting processes conducted by the CEC, CPUC, and CAISO, and to provide an opportunity for stakeholder input and public comment on the guidebook, as specified.

This report addresses the SB 319 requirement that the CPUC, in consultation with California balancing authorities, on or before December 1, 2024, and biennially thereafter, submit a report to the Legislature that includes specified information related to electrical transmission projects. Specifically, SB 319 established Public Utilities Code section 913.12, which specifies the required information in the biennial report, as follows:

(a) A description of the electrical transmission project applications submitted to the commission for certificates of public convenience and necessity in the preceding two-year period.

- (b) The number of electrical transmission projects that were issued certificates of public convenience and necessity in the preceding two-year period.
- (c) The number of electrical transmission projects that, in the preceding two-year period, went into operation, were approved by the Independent System Operator, and did not require the issuance of certificates of public convenience and necessity.
- (d) The estimated transmission capital cost added to the rate base for each electrical transmission project that was, in the preceding two-year period, either approved by the Independent System Operator or issued a certificate of public convenience and necessity.

This report contains the information specified in Public Utilities Code section 913.12. CPUC consulted with CAISO on this report. Other California balancing authorities comprising local public-owned utilities are not required to obtain permits from CPUC for construction of new electrical infrastructure, and therefore, were not consulted in the preparation of this report.

ELECTRICAL TRANSMISSION PROJECT DATA

The preceding two-year period used in this report is August 1, 2022 through July 31, 2024. For this time period, Tables 1 through 4 present the required data on electrical transmission projects as specified in Public Utilities Code section 913.12(a) through (d), respectively.

Table 1 provides descriptions of six (6) Certificate of Public Convenience and Necessity (CPCN) applications for electrical transmission projects submitted to the CPUC by LS Power Grid California LLC (LS Power), Pacific Gas and Electric Company (PG&E), and Southern California Edison (SCE).

Table 2 provides the required information for the two (2) CPCN permits approved by the CPUC.

Table 3 lists the forty-five (45) projects that went into operation, were approved in a CAISO Transmission Plan, and did not require the issuance of a CPCN.

Table 4 shows that, between 2022 and 2024, an estimated total of \$1.1 billion was added to rate base from twenty-seven (27) projects approved in a CAISO Transmission Plan dating back to 2007.

Data from CPUC's Transmission Project Review (TPR) process were utilized to prepare this report, supplemented by CPUC's data on active and past proceedings. Project names and project descriptions were given by each utility. The data include the "CAISO Year," or the year the project was first approved in a CAISO Transmission Plan.

Table 1. Certificate of Public Convenience and Necessity (CPCN) Applications Filed Between Aug. 1, 2022 and Jul. 31, 2024 (Public Utilities Code Section 913.12[a]).

| Project Name | Project Description | Transmission Owner | CAISO Year ¹ | CPCN Appl. No. | CPCN Appl. File Date |
|---|--|-----------------------|----------------------------|-------------------|-------------------------|
| Eldorado-Pisgah-Lugo Transmission Line Rating | Reconductor portions of the transmission lines, | SCE | N/A | A.23-04-009 | 2023-04-21 |
| Remediation (TLRR) Project | install inter-set structures, and replace hardware | | | | |
| | on adjacent structures for the Lugo-Pisgah No. | | | | |
| | 1 220 kV transmission line; the Lugo-Pisgah | | | | |
| | No. 2 220 kV transmission line; the Cima- | | | | |
| | Eldorado-Pisgah No. 1 220 kV transmission | | | | |
| | line; and the Cima-Eldorado-Pisgah No. 2 220 | | | | |
| | kV transmission line. Project would also involve | | | | |
| | conducting modifications at the Pisgah | | | | |
| | Switching Station and Cima Substation. The | | | | |
| | Project would mitigate transmission line | | | | |
| | clearance discrepancies required by CPUC | | | | |
| | General Order (GO) 95 and North American | | | | |
| | Reliability Corporation (NERC) Facility Ratings | | | | |
| | as part of the TLRR Program. The TLRR | | | | |
| | Program is focused on developing and | | | | |
| | implementing engineering solutions for | | | | |
| | identified discrepancies on its bulk electric | | | | |
| | system facilities by 2025. | | | | |
| Northern San Joaquin 230 kV Transmission | The Project would loop Pacific Gas and Electric | PG&E | 2013 | A.23-09-001 | 2023-09-01 |
| Project (formerly known as the Lockeford-Lodi | Company's (PG&E's) existing Brighton - | | | | |
| Area 230 kV Development Project) | Bellota 230 kV transmission line into PG&E's | | | | |
| | Lockeford 230 kV Substation to bring a new | | | | |
| | 230 kV source into the area. A new 230 kV | | | | |
| | double circuit tower line would be constructed | | | | |
| | to connect the existing Lockeford Substation to | | | | |
| | a new PG&E 230 kV Thurman Switching | | | | |
| | Station to be constructed near the City of Lodi's | | | | |
| | existing Lodi Electric Utility (LEU) Industrial | | | | |
| | 60 kV Substation. LEU would be constructing a | | | | |
| | new 230/60 kV Guild Substation which would | | | | |

| Power Santa Clara Valley Project (formerly known as Metcalf-San Jose B High-Voltage Direct Current [HVDC] Project) Construct two new high-voltage direct current (HVDC) terminals, the Skyline Terminal and Grove Terminal to interconnect to PG&E's San Jose B and Metcalf Substations, respectively. Includes construction of one approximately 13- mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting the IS Power 2022 A.24-04-017 2024-04-29 | Project Name | Project Description | Transmission Owner | CAISO Year ¹ | CPCN Appl. No. | CPCN Appl. File Date |
|--|--|---|-----------------------|----------------------------|-------------------|-------------------------|
| Station.Station.Power Santa Clara Valley Project (formerly known as Metcalf-San Jose B High-Voltage Direct Current [HVDC] Project)Construct two new high-voltage direct current (HVDC) terminals, the Skyline Terminal and Grove Terminal to interconnect to PG&E's San Jose B and Metcalf Substations, respectively. Includes construction of one approximately 13- mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting theLS Power LS Power2022 A.24-04-017 A.24-04-0172024-04-29 | | be connected to the new Thurman Switching | | | | |
| Power Santa Clara Valley Project (formerly known as Metcalf-San Jose B High-Voltage Direct Current [HVDC] Project)Construct two new high-voltage direct current (HVDC) terminals, the Skyline Terminal and | | Station. | | | | |
| Power Santa Clara Valley Project (formerly known as Metcalf-San Jose B High-Voltage Direct Current [HVDC] Project)Construct two new high-voltage direct current (HVDC) terminals, the Skyline Terminal and Grove Terminal to interconnect to PG&E's San Jose B and Metcalf Substations, respectively. Includes construction of one approximately 13- mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting theIS Power2022A.24-04-0172024-04-29 | | | | | | |
| Power Santa Clara Valley Project (formerly known as Metcalf-San Jose B High-Voltage Direct Current [HVDC] Project)Construct two new high-voltage direct current (HVDC) terminals, the Skyline Terminal and Grove Terminal to interconnect to PG&E's San Jose B and Metcalf Substations, respectively. Includes construction of one approximately 13- mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting theLS Power2022A.24-04-0172024-04-29 | | | | | | |
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| Power Santa Clara Valley Project (formerly known as Metcalf-San Jose B High-Voltage Direct Current [HVDC] Project)Construct two new high-voltage direct current (HVDC) terminals, the Skyline Terminal and Grove Terminal to interconnect to PG&E's San Jose B and Metcalf Substations, respectively. Includes construction of one approximately 13- mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting theLS Power2022A.24-04-0172024-04-29 | | | | | | |
| Power Santa Clara Valley Project (formerly known as Metcalf-San Jose B High-Voltage Direct Current [HVDC] Project)Construct two new high-voltage direct current (HVDC) terminals, the Skyline Terminal and Grove Terminal to interconnect to PG&E's San Jose B and Metcalf Substations, respectively. Includes construction of one approximately 13- mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting theLS Power2022A.24-04-0172024-04-29 | | | | | | |
| Power santa Clara Valley Project (formenty known as Metcalf-San Jose B High-Voltage Direct Current [HVDC] Project) Construct two new high-voltage direct current (HVDC) terminals, the Skyline Terminal and Grove Terminal to interconnect to PG&E's San Jose B and Metcalf Substations, respectively. Includes construction of one approximately 13- mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting the IS Power 2022 A.24-04-017 2024-04-29 | Derror Sente Clarr Veller Deriert (formode her error | Construct two new high realtage direct surrent | LC Domon | 2022 | A 24 04 017 | 2024 04 20 |
| Current [HVDC] Project) Grove Terminal to interconnect to PG&E's San Jose B and Metcalf Substations, respectively. Includes construction of one approximately 13- mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting the | Power Santa Clara Valley Project (Iormeny known | (HVDC) terminals, the Shuling Terminal and | LS Power | 2022 | A.24-04-017 | 2024-04-29 |
| Jose B and Metcalf Substations, respectively. Includes construction of one approximately 13- mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting the | as Metcall-Sall Jose D High-voltage Difect | Grove Terminal to interconnect to PG&E's San | | | | |
| Includes construction of one approximately 13- mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting the | | Jose B and Metcalf Substations, respectively | | | | |
| mile underground 320 kV DC transmission line connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting the | | Includes construction of one approximately 13- | | | | |
| connecting the Skyline Terminal to the Grove Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting the | | mile underground 320 kV DC transmission line | | | | |
| Terminal; one 100-foot overhead alternating current (AC) 115 kV tie line connecting the | | connecting the Skyline Terminal to the Grove | | | | |
| current (AC) 115 kV tie line connecting the | | Terminal: one 100-foot overhead alternating | | | | |
| | | current (AC) 115 kV tie line connecting the | | | | |
| Skyline Terminal to the San Jose B Substation; | | Skyline Terminal to the San Jose B Substation; | | | | |
| and one 1.2 mile underground 500 kV AC | | and one 1.2 mile underground 500 kV AC | | | | |
| transmission line between the Grove Terminal | | transmission line between the Grove Terminal | | | | |
| and the Metcalf Substation. ² | | and the Metcalf Substation. ² | | | | |
| Power the South Bay Project (formerly known as Construct two new high-voltage direct current LS Power 2022 A.24-05-014 2024-05-17 | Power the South Bay Project (formerly known as | Construct two new high-voltage direct current | LS Power | 2022 | A.24-05-014 | 2024-05-17 |
| the Newark-Northern Receiving Station HVDC (HVDC) terminals, the Albrae Terminal and | the Newark-Northern Receiving Station HVDC | (HVDC) terminals, the Albrae Terminal and | | | | |
| Project) Baylands Terminal, to interconnect to PG&E's | Project) | Baylands Terminal, to interconnect to PG&E's | | | | |
| existing Newark Substation and to Silicon | | existing Newark Substation and to Silicon | | | | |
| Valley Power's existing Northern Receiving | | Valley Power's existing Northern Receiving | | | | |
| Station (NRS) 230 kV Substation, respectively. | | Station (NRS) 230 kV Substation, respectively. | | | | |
| Includes construction of one approximately 8.6- | | Includes construction of one approximately 8.6- | | | | |
| mile 320 kV DC overhead and underground | | mile 320 kV DC overhead and underground | | | | |
| transmission line connecting the Albrae | | transmission line connecting the Albrae | | | | |
| Terminal to the Baylands Terminal; one 0.4- | | Terminal to the Baylands Terminal; one 0.4- | | | | |
| mile overhead and underground 320 kV AC | | mile overhead and underground 320 kV AC | | | | |
| transmission line from the Albrae Terminal to | | transmission line from the Albrae Terminal to | | | | |
| the inewark Substation; and one 5.5-mile | | une Inewark Substation; and one 5.5-mile | | | | |

| Project Name | Project Description | Transmission | CAISO Vear ¹ | CPCN Appl. | CPCN Appl. File Date |
|--|--|--------------|----------------------------|-------------|-------------------------|
| | transmission line from the Baylands Terminal to the NRS Substation. ² | owner | Tear | NO. | The Date |
| Manning 500/230 kV Substation Project | Construct a new 500/230 kV Manning Substation; construct a new double-circuit 230 kV transmission line to interconnect PG&E's Tranquility Switching Station; construct new 230 kV transmission lines to interconnect to PG&E's Los Banos-Midway #2 500 kV transmission line, Los Banos-Gates #1 500 kV transmission line, and Panoche-Tranquility Switching Station #1 and #2 230 kV transmission lines; and reconductor 7 miles of PG&E's Panoche-Tranquility Switching Station #1 and #2 230 kV transmission lines. | LS Power | 2022 | A.24-06-017 | 2024-06-28 |
| Collinsville 500/230 kV Substation Project | Construct a new 500/230 kV Collinsville Substation, two new single-circuit 500 kV transmission line segments to interconnect PG&E's Vaca Dixon-Tesla 500 kV transmission line, and one new double-circuit 230 kV transmission line to PG&E's existing Pittsburg Substation including 4.5 miles of submarine cables beneath the Sacramento-San Joaquin River Delta waterways. | LS Power | 2022 | A.24-07-018 | 2024-07-29 |

Source: California Public Utilities Commission (CPUC) proceeding dockets. See CPUC Energy Division's California Environmental Quality Act (CEQA) website under Current Projects for more details (<u>https://www.cpuc.ca.gov/ceqa/</u>).

Notes:

¹CAISO Year is the first year the project was approved in a CAISO Transmission Plan.

²On November 12, 2024, the CAISO Board of Governors approved modifications to the scope of these projects due to significant increases in the load forecasts in the area since the projects were approved as part of the 2021-2022 Transmission Plan. Project scope modifications are detailed here:

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https://www.caiso.com/documents/decision-on-modifications-to-the-2021-2022-transmission-plan-presentation-nov-2024.pdf and here: https://www.caiso.com/documents/decision-on-amendment-to-the-2022-2023-transmission-plan-memo-nov-2024.pdf

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Table 2. Certificate of Public Convenience and Necessity (CPCN) Applications Approved Between Aug. 1, 2022 and Jul. 31, 2024 (Public Utilities Code Section 913.12[b]).

| Project Name | Project Description | Transmission Owner | CAISO Year ¹ | CPCN Appl. No. | CPCN Appl. File Date | CPCN Appl. Approval Date |
|--|---|-----------------------|----------------------------|-------------------|-------------------------|-----------------------------|
| Gates Dynamic Reactive Support Project | Construct two Static Synchronous Compensator (STATCOM) units (and ancillary components) that would connect to the existing PG&E Gates Substation via two new 300-foot long single circuit 500 kV transmission lines. A STATCOM unit is a regulating device facility that keeps transmission voltages within specified parameters, reduces transmission losses, and increases transmission capacity, improving system stability and reliability. | LS Power | 2019 | A.21-2-018 | 2021-02-19 | 2022-12-15 |
| Round Mountain Dynamic Reactive Support Project | Construct a STATCOM Substation (the Fern Road Substation), which would include an approximately 529 million volt-amperes-reactive (MVAR) dynamic reactive support facility to include a minimum of two equally sized STATCOM units. The STATCOM units. The STATCOM units would looped-in to PG&E's existing Round Mountain – Table Mountain #1 and #2 500 kV transmission lines, and the project includes upgrades to the existing PG&E Round | LS Power | 2019 | A.22-04-004 | 2022-04-06 | 2024-01-11 |

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| Project Name | Project Description | Transmission Owner | CAISO Year ¹ | CPCN Appl. No. | CPCN Appl. File Date | CPCN Appl. Approval Date |
|--------------|-----------------------------|-----------------------|----------------------------|-------------------|-------------------------|-----------------------------|
| | Mountain and Table Mountain | | | | | |
| | substations. | | | | | |

Source: California Public Utilities Commission (CPUC) proceeding dockets. See CPUC Energy Division's California Environmental Quality Act (CEQA) website under Current Projects for more details (<u>https://www.cpuc.ca.gov/ceqa/</u>).

Notes:

¹CAISO Year is the first year the project was approved in a CAISO Transmission Plan.

Table 3. Non-CPCN CAISO-Approved Projects That Went Into Operation Between Aug. 1, 2022 and Jul. 31, 2024 (Public Utilities Code Section 913.12[c]).

| Project Name ¹ | Transmission Owner | CAISO Year ² | In-Service Date |
|--|-----------------------|----------------------------|--------------------|
| REPLACE VACA DIXON BANK #5 | PG&E | 2018 | 2022-08-11 |
| Caltrain IC - T-Line Site 3 (82) | PG&E | 2017 | 2022-08-29 |
| Ravenswood-Cooley Landing 115 kV | PG&E | 2009 | 2022-12-20 |
| LOS BANOS - PADRE FLAT SS 20266: RECON - | PG&E | 2018 | 2022-12-24 |
| Los Banos: Upgrade Terminal Equipt. | PG&E | 2018 | 2022-12-24 |
| Manteca Sub Install PTs & Cntrl Bldng | PG&E | 2018 | 2022-12-28 |
| Mesa Substation Expansion | SCE | 2014 | 2023-01-11 |
| WRO Generator Network Upgrades | PG&E | 2015 | 2023-02-17 |
| Panoche - Oro Loma Phase 2 | PG&E | 2016 | 2023-02-22 |
| WRO Generator Network Upgrades | PG&E | 2021 | 2023-03-14 |
| Gates Sub Bus Section E(RNU) | PG&E | 2019 | 2023-04-17 |
| Gates-Panoche 230 Line Relocation | PG&E | 2019 | 2023-04-17 |
| Warnerville-Bellota 230 kV line reconduc | PG&E | 2013 | 2023-04-28 |
| WARNERVILLE-BELLOTA: Rec 230 KV Line | PG&E | 2013 | 2023-04-28 |
| WRO Generator Network Upgrades | PG&E | 2018 | 2023-04-28 |
| LOS BANOS-QUINTO SS 20244: RECON. | PG&E | 2018 | 2023-05-08 |
| Castanea Line Relocation | PG&E | 2019 | 2023-05-24 |
| Gates: Replace CBs 352, 362, 372 | PG&E | 2021 | 2023-05-25 |
| WRO Generator Network Upgrades | PG&E | 2018 | 2023-05-31 |
| TESLA: 230KV BUS REACTORS D - E | PG&E | 2019 | 2023-06-14 |
| EASTSHORE: Reconductoring 115 KV | PG&E | 2012 | 2023-08-10 |
| East Shore-Oakland J 115 kV Reconductor | PG&E | 2012 | 2023-09-13 |
| OAKLAND J: Install 115 kV Reconductor | PG&E | 2012 | 2023-09-14 |
| WRO Generator Network Upgrades | PG&E | 2019 | 2023-10-13 |
| WRO Generator Network Upgrades | PG&E | 2020 | 2023-10-13 |
| GRANT: Support 115 KV Reconductoring | PG&E | 2012 | 2023-10-31 |

| Project Name ¹ | Transmission Owner | CAISO Year ² | In-Service Date |
|--|-----------------------|----------------------------|--------------------|
| WRO Generator Network Upgrades | PG&E | 2017 | 2023-11-02 |
| WRO Generator Network Upgrades | PG&E | 2017 | 2023-12-01 |
| WRO Generator Network Upgrades | PG&E | 2017 | 2023-12-13 |
| Giffen 70 kV Tap Line Reconductoring | PG&E | 2019 | 2023-12-21 |
| WRO Generator Network Upgrades | PG&E | 2020 | 2024-01-23 |
| WRO Generator Network Upgrades | PG&E | 2019 | 2024-02-08 |
| WRO Generator Network Upgrades | PG&E | 2017 | 2024-03-06 |
| TESLA: 230KV BUS REACTORS C - D | PG&E | 2019 | 2024-03-22 |
| Reconductor Bellota-Cottle 230 kV | PG&E | 2013 | 2024-03-31 |
| Panoche: Upgrade Terminal Equipt. | PG&E | 2018 | 2024-04-05 |
| Padre Flat - Panoche#1 20074: Recon-Land | PG&E | 2018 | 2024-04-15 |
| WRO Generator Network Upgrades | PG&E | 2015 | 2024-04-22 |
| WRO Generator Network Upgrades | PG&E | 2015 | 2024-04-30 |
| WRO Generator Network Upgrades | PG&E | 2015 | 2024-04-30 |
| Panoche - Oro Loma Phase 3 | PG&E | 2016 | 2024-04-30 |
| QC8RAS-08 Gates 500/230 kV Transformer B | PG&E | 2018 | 2024-05-03 |
| GLENN: Replace BK 1 | PG&E | 2014 | 2024-05-30 |
| WRO Generator Network Upgrades | PG&E | 2021 | 2024-07-30 |
| Arco 230kV Control Building NU | PG&E | 2020 | 2024-07-31 |

Source: Transmission Project Review (TPR) data dated May 1, 2024 (PG&E), June 1, 2024 (SCE), and July 1, 2024 (SDG&E) (https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/transmission-project-review-process). Notes:

¹The project names used in this table are the names used by utilities in the TPR data. Projects with names containing the terms "Reconductoring", "Reconduct", "Reconduct", "Reconduct", or "RECON" are all assumed to involve reconductoring.

²CAISO Year is the first year the project was approved in a CAISO Transmission Plan.

Table 4. CAISO-Approved Projects or Projects Requiring CPCNs Added to Rate Base between Aug. 1, 2022 and Jul. 31, 2024 (Public Utilities Code Section 913.12[d])

| Project Name | Transmission Owner | CAISO Year ¹ | CPCN Req'd?2 | CPCN Appl. No. | CPCN Appl. File Date | Dollars Put into FERC Rate Base 2022 (\$000) | Dollars Put into FERC Rate Base 2023 (\$000) | Dollars Put into FERCRate Base 2024 (\$000) | Total Dollars Put into FERC Rate Base 2022- 2024 (\$000) |
|--|---|----------------------------|-----------------|-------------------|----------------------------|--|--|---|---|
| Ten West Link Project | Delaney Colorado River Transmission (DCRT) | 2014 | Yes | A.16-10-012 | 2016-10-12 | - | - | 545,927 | 545,927 |
| South Orange County Reliability Enhancement | SDG&E | 2011 | Yes | A.12-05-020 | 2012-05-18 | 5,202 | 129,169 | 4,707 | 139,078 |
| Mesa Substation Expansion | SCE | 2014 | No | N/A | N/A | 40,908 | 29,734 | 8,481 | 79,124 |
| 230kV Artesian Substation | SDG&E | 2014 | No | N/A | N/A | 74,458 | 1,652 | 401 | 76,511 |
| Moorpark-Pardee Circuit Install | SCE | 2018 | No | N/A | N/A | 59,612 | 523 | 26 | 60,161 |
| Eldorado-Lugo-Mohave RPS Upgrade | SCE | 2013 | Yes | A.18-05-007 | 2018-05-02 | 28,297 | 20,844 | 9,567 | 58,708 |
| TL6975 San Marcos to Escondido | SDG&E | 2014 | No | N/A | N/A | 332 | 49,594 | 1,584 | 51,510 |
| Caltrain IC - Substation Site 3 (82) | PG&E | 2017 | No | N/A | N/A | 27,585 | 652 | 84 | 28,321 |
| West of Devers Conductor Upgrade | SCE | 2011 | Yes | A.13.10-020 | 2013-10-25 | 12,827 | 7,595 | 1,300 | 21,722 |
| REPLACE VACA DIXON BANK #5 | PG&E | 2018 | No | N/A | N/A | 13,006 | 122 | 9 | 13,138 |
| Ravenswood-Cooley Landing 115 kV | PG&E | 2009 | No | N/A | N/A | 12,770 | 1,131 | 11 | 13,912 |
| TL644 Reconductor (Bay Blvd - Sweetwater) | SDG&E | 2011 | No | N/A | N/A | 10,022 | 709 | 72 | 10,804 |
| 2796627 - A HATS Work Release 2 | SDG&E | 2021 | No | N/A | N/A | 8,458 | 216 | 49 | 8,723 |

| Project Name | Transmission Owner | CAISO Year ¹ | CPCN Req'd?2 | CPCN Appl. No. | CPCN Appl. File Date | Dollars Put into FERC Rate Base 2022 (\$000) | Dollars Put into FERCRate Base 2023 (\$000) | Dollars Put into FERC Rate Base 2024 (\$000) | Total Dollars Put into FERC Rate Base 2022- 2024 (\$000) |
|--|-----------------------|----------------------------|-----------------|-------------------|----------------------------|--|---|--|---|
| Caltrain IC - Substation Site 1 (82) | PG&E | 2017 | No | N/A | N/A | 2,561 | 1,390 | 174 | 4,124 |
| Alberhill Substation Loop- In | SCE | 2009 | Yes | A.09-09-022 | 2009-09-30 | 1,362 | 768 | 1,572 | 3,702 |
| Manteca Sub Install PTs & Cntrl Bldng | PG&E | 2018 | No | N/A | N/A | 2,861 | 497 | 85 | 3,442 |
| PEASE: Reconfigure 115 KV Bus to BAAH | PG&E | 2013 | No | N/A | N/A | 1,073 | 1,908 | 307 | 3,288 |
| WRO Generator Network Upgrades | PG&E | 2020 | No | N/A | N/A | 476 | 1,609 | 346 | 2,431 |
| Calcite Substation Construction (TOT552_TOT640) | SCE | 2010 | No | N/A | N/A | 325 | 184 | 1,060 | 1,569 |
| Caltrain IC - T-Line Site 3 (82) | PG&E | 2017 | No | N/A | N/A | 1,455 | 8 | 2 | 1,465 |
| Colorado River Substation Expansion: Dracker Project (TOT276_Q294) | SCE | 2020 | No | N/A | N/A | 1,157 | 289 | 6 | 1,452 |
| Padre Flat - Panoche#1 20074: Recon-Land | PG&E | 2018 | No | N/A | N/A | 247 | 1,028 | 44 | 1,318 |
| PEASE: Install BK 5 | PG&E | 2013 | No | N/A | N/A | 473 | 540 | 1 | 1,014 |
| Panoche: Upgrade Terminal Equipt. | PG&E | 2018 | No | N/A | N/A | 163 | 144 | 601 | 908 |
| Eldorado - Sloan Canyon 220kV Interconnection | SCE | 2019 | No | N/A | N/A | 10 | 87 | 28 | 125 |
| RMR: NASA-AMES 115KV LINE #1 CB INSTALL | PG&E | 2007 | No | N/A | N/A | 54 | 11 | 1 | 65 |
| Borden: Upgrade Terminal Equipt. | PG&E | 2019 | No | N/A | N/A | 7 | 4 | 11 | 22 |

| Project Name | Transmission Owner | CAISO Year ¹ | CPCN Req'd? ² | CPCN Appl. No. | CPCN Appl. File Date | Dollars Put into FERC Rate Base 2022 (\$000) | Dollars Put into FERC Rate Base 2023 (\$000) | Dollars Put into FERC Rate Base 2024 (\$000) | Total Dollars Put into FERC Rate Base 2022- 2024 (\$000) |
|--------------|-----------------------|----------------------------|-----------------------------|-------------------|----------------------------|--|--|--|---|
| TOTAL | | | | | | | | | \$1,132,564 |

Source: Transmission Project Review (TPR) data dated May 1, 2024 (PG&E), June 1, 2024 (SCE), and July 1, 2024 (SDG&E) (<u>https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/transmission-project-review-process</u>) and FERC.(regarding the Ten West Link Project). Notes:

¹CAISO Year is the first year the project was approved in a CAISO Transmission Plan.

²All projects requiring CPCNs were also CAISO-approved projects. Projects ordered by total dollars added to FERC Rate Base between 2022 and 2024. Projects may include projects that are not in service yet.

Appendix A Glossary of Acronyms and Terms

(AC) alternating current: Flow of electricity that constantly changes direction between positive and negative sides. Almost all power produced by electric utilities in the U.S. moves in current that shifts direction at a rate of 60 times per second.

(Appl.) application: Submittal required to obtain a permit from the California Public Utilities Commission.

(CAISO) California Independent System Operator: The CAISO manages the flow of electricity across high-voltage, long-distance power lines, operates a competitive wholesale energy market, and oversees transmission planning.

(CAISO Transmission Plan) California Independent System Operator Transmission Plan: An annual plan that serves as the formal roadmap for the development of solutions to comprehensively meet the future needs of the CAISO-controlled transmission grid.

(CAISO Year) California Independent System Operator Year: The year a project was first approved in a CAISO Transmission Plan.

(CEC) California Energy Commission: A state agency responsible for, among other things, forecasting future energy needs and keeping historical energy data, licensing thermal power plants 50 megawatts or larger, promoting energy efficiency through appliance and building standards, and developing energy technologies and supporting renewable energy. It is overseen by a Governor-appointed five-person board.

(CEQA) California Environmental Quality Act: The principal statute mandating environmental assessment of projects in California. The purpose of CEQA is to evaluate whether a proposed project may have an adverse effect on the environment and, if so, if that effect can be reduced or eliminated by pursuing an alternative course of action or through mitigation.

(CPCN) Certificate of Public Convenience and Necessity: A legal permission granted by the California Public Utilities Commission to a company or individual by a government entity to operate in a specific area or provide a specific service.

(FERC) Federal Energy Regulatory Commission: A Federal independent regulatory body within the Department of Energy that regulates interstate gas and electric rates and facilities, as well as hydroelectric plant licenses.

(GO) General Order: A California Public Utilities Commission order that sets standards, procedures, or guidelines applicable to a class of utilities, as distinguished from a decision affecting only a single utility.

(HVDC) high voltage direct current: An electric power transmission system that uses direct current rather than the more common alternating current (AC) transmission system. HVDC is commonly used for

transmitting large amounts of electricity over long distances and interconnecting networks with different frequencies and characteristics.

(kV) kilovolt: Unit of measurement of electromotive force equal to 1,000 volts. A volt is the force required to produce a current of one ampere through a resistance of one ohm

(LEU) Lodi Electric Utility: A public-owned electric utility owned by customers in the City of Lodi.

(LS Power) LS Power Grid California LLC: A project sponsor approved by the California Independent System Operator (CAISO) to finance, construct, own, operate and maintain certain transmission infrastructure in California.

(MOU) Memorandum of Understanding: A formalized, legal understanding between parties to enter into an agreement or create stipulations in proceedings or cases.

(NRS) Northern Receiving Station: A 230-kilovolt substation owned and operated by Silicon Valley Power, a not-for-profit public-owned electric utility, owned and operated by the City of Santa Clara.

(PG&E) Pacific Gas and Electric Company: One of the largest combination natural gas and electric utilities in the U.S. The company is a subsidiary of PG&E Corporation and serves a large service area in northern and central California.

(SB) Senate Bill: A Legislative bill sponsored or authored by a state Senator.

(SCE) Southern California Edison: One of the largest electric utilities in the U.S. The company is the largest subsidiary of Edison International and serves a large service area in southern California.

(SDG&E) San Diego Gas & Electric: A regulated public utility that provides energy service to consumers in San Diego and southern Orange counties.

(TLRR) Transmission Line Rating Remediation: A program developed by Southern California Edison (SCE) to develop and implement solutions to discrepancies in minimum line clearances required in California Public Utilities Commission General Order 95.

(TPR) Transmission Project Review: With the passage of CPUC Resolution E-5252 on April 27, 2023, the CPUC established the Transmission Project Review Process (TPR Process) for the state's investorowned electric utilities. The purpose of the TPR Process is to have a uniform process to review investorowned utilities' capital transmission projects, allowing the CPUC and Stakeholders to receive robust data from Transmission Owners, and to inquire about and provide feedback on the investor-owned utilities' historical, current, and forecast transmission projects.