



## *Transmission Development Forum*

*January 21, 2022*

# Reminders

- Stakeholder calls and meetings related to Transmission Planning are not recorded.
  - Given the expectation that documentation from these calls will be referred to in subsequent regulatory proceedings, we address written questions through written comments, and enable more informal dialogue at the call itself.
  - Minutes are not generated from these calls, however, written responses are provided to all submitted comments.
- To ask a question, press #2 on your telephone keypad. Please state your name and affiliation first.
- Calls are structured to stimulate an honest dialogue and engage different perspectives.
- Please keep comments friendly and respectful.

# Transmission Development Forum Stakeholder Call – Agenda

Topic	Presenter
Overview	Jeff Billinton – CAISO Christine Root - CPUC
Southern California Edison	SCE
San Diego Gas & Electric	SDG&E
Valley Electric Association / GridLiance West	VEA/GLW
Pacific Gas & Electric	PG&E
Wrap-up	Jeff Billinton



California ISO

## *Transmission Development Forum*

*Jeff Billinton*

*Director, Transmission Infrastructure Planning*

*January 21, 2022*

# Overview

- The CAISO is hosting, in collaboration with the CPUC, the Transmission Development Forum
- The purpose of the Transmission Development Forum is to create a single forum to track the status of transmission network upgrade projects that affect generators and all other transmission projects approved in the CAISO's transmission planning process
  - will not address individual interconnection concerns, but instead is intended to provide all stakeholders information on the status of new transmission projects and network upgrades

## The scope of the projects for the forum are:

- Previously approved projects through the CAISO transmission planning process
- Network upgrades identified in the generator interconnection process
  - Only projects that have progressed to having executed LGIA that have triggered initiation of projects have been included

# Project Information

- Workbooks of the approved transmission projects, network upgrades and the presentations are posted on the CAISO website under Transmission Development Forum
  - <http://www.caiso.com/informed/Pages/MeetingsEvents/UserGroupsRecurringMeetings/Default.aspx>
- The CAISO is proposing to update the status of the projects in the workbooks on a quarterly basis
- The CAISO is proposing to host the Transmission Development Forum on a quarterly basis to provide an opportunity to present changes in the status of projects

# Transmission Development Forum

Queue Network Upgrades and Approved Transmission Planning Projects

January 21<sup>st</sup>, 2022

# TPP Project Schedule

 In progress  
 Completed

No.	Project	In-service Date at Approval in Transmission Plan	Expected In-Service Date (2020-2021 Transmission Plan)	Current Expected In-service date
1	Alberhill 500 kV Method of Service	2014	TBD	Oct-2025
2	Lugo – Eldorado series cap and terminal equipment upgrade	2016	Jun-2022	Jun-2023
3	Lugo Substation Install new 500 kV CBs for AA Banks	Dec-2011	Dec-2024	Apr-2024
4	Lugo-Mohave series capacitor upgrade	2016	Jun-2022	Apr-2023
5	Method of Service for Wildlife 230/66 kV Substation	2009	Oct-2026	Oct-2026
6	Mesa 500 kV Substation Loop-In	Dec-2020	Mar-2022	May-2022
7	Laguna Bell Corridor Upgrade	Dec-2020	Mar-2022	May-2020
8	Moorpark-Pardee No. 4 230 kV Circuit	Dec-2020	Jun-2021	Jan-2022 <sup>1</sup>
9	Lugo – Victorville 500 kV Upgrade (SCE portion)	Dec-2018	Jun-2023	Jan-2025
10	Pardee-Sylmar 230 kV Line Rating Increase Project	Jun-2023	May-2023	June-2023 <sup>2</sup>
11	Tie line Phasor Measurement Units	N/A	Dec-2021	N/A

1 The Moorpark-Pardee No. 4 230 kV Circuit was completed in January after the SCE's updates were submitted to CAISO

2 Joint SCE/LADWP project. Date indicated only includes SCE scope

# Queue Network Upgrades (1/3)

 In progress  
 Completed

No.	NU	Upgrade Name	Upgrade Description	Study	Estimate ISD
1	SCE-2021RA-E-R6	West of Colorado River CRAS Palo Verde Extension	Include Palo Verde Sub in the WOCR Inland/Devers Extension CRAS.	2021 Reassessment	Dec-23
2	SCE-C10P2-E-R3	West of Colorado River CRAS Inland/Devers Extension - monitoring infrastructure	Expansion of the WOCR CRAS to include outages west of Devers Substation.	C10 Phase II	Aug-25
3	SCE-C11P2-E-R1	West of Colorado Rivers CRAS - Inland/Devers Extension – additional remote monitoring	Generation addition to the Inland/Devers Extension CRAS.	C11 Phase II	Aug-25
4	SCE-C11P2-E-R1-C12	WOCR CRAS Inland/Devers Extension Additional Monitoring (QC11) at Wildlife Sub	Additional monitoring to account for Wildlife Substation looping the Mira Loma-Vista No.1 220kV T/L.	C12 Phase II	Oct-26
5	SCE-C8P2-E-CR-M	West of Colorado River CRAS -Include monitoring infrastructure relays to monitor the Red Bluff 2nd AA bank	West of Colorado River CRAS -Include monitoring infrastructure relays to monitor the Red Bluff 2nd AA bank.	C8 Phase II	May-22
6	SCE-TCP2-E-R5	Colorado River Corridor RAS - CR Transformers	Develop a RAS to trip 500MW TC2 generation at the Colorado River 500/220kV Substation to mitigate the overload by on one AA bank for the loss of another AA bank (T-1 contingency).	TC Phase II	Mar-22
7	SCE-C9P2-NOL-R1	New North of Lugo CRAS - Backbone Portion	New North of Lugo CRAS combining HDPP RAS and Calcite RAS.	C9 Phase II	Jun-24
8	SCE-C11P2-EOP-R1	Lugo - Victorville CRAS - monitoring infrastructure	Infrastructure to convert the Lugo - Victorville RAS to centralized RAS platform.	C11 Phase II	Jun-25
9	SCE-C72021-EOP	Participate and modify the planned Lugo-Victorville CRAS - SCE portion	Participate and modify the planned Lugo-Victorville CRAS - SCE portion	2021 Reassessment	Jun-25
10	SCE-TCP2-EOP-R4	Lugo - Victorville RAS	Trip generation for Eldorado area 500kV line outages.	TC Phase II	May-23

# Queue Network Upgrades (2/3)

 In progress  
 Completed

No.	NU	Upgrade Name	Upgrade Description	Study	Estimate ISD
11	SCE-C11P2-NOL-R3	Upgrade Roadway 115kV Operating/Transfer Bus	Terminating a 3rd party generation tie-line into the Roadway 115kV Operating/Transfer Bus with circuit breakers, disconnect switches, relays, metering, & telecom.	C11 Phase II	Jun-22
12	SCE-C3C4P2-E-D1	Red Bluff 2AA	Install Red Bluff 500/230kV bank No. 2	C3&4 Phase II	May-22
13	SCE-C8P2-POS-C11	220kV line position at Colorado River Substation.	Terminating a 3rd party generation tie-line into the Colorado River 220kV Switchrack with circuit breakers, disconnect switches, relays, metering, & telecom.	C11 Phase II	Aug-22
14	SCE-TCP2-E-R4	Colorado River Corridor RAS - Line Outages	Develop a RAS to trip 1400MW TC2 generation to mitigate dynamic voltage violations under the N-2 of DPV1 and DPV2 500kV lines.	TC Phase II	In-service May-15
15	SCE-TCP2-EOP-R3	Ivanpah SPS Expansion for Eldorado AA bank	Replace originally identified Eldorado AA bank RAS. Trip generation for Eldorado 5AA bank.	TC Phase II	In-Service Jul-15
16	SCE-TCP2-E-R2	Red Bluff Loop-in	Loop-in the Red Bluff Substation into the Colorado - Devers 500kV #2 line	TC Phase II	In-service Sep-13
17	SCE-TCP2-E-D2	Colorado River Substation Expansion - Deliverability	Install Colorado River 2AA bank	TC Phase II	In-service Oct-13
18	SCE-TCP2-E-R1	Colorado River Substation Expansion - Reliability	Expand Colorado River substation and install Colorado River 1AA bank	TC Phase II	In-service Nov-21
19	SCE-TCP2-EOP-R2	Eldorado 230kV Bus Split	Split Eldorado 230kV bus	TC Phase II	In-service Jul-15
20	SCE-C9P2-EOP	Sloan Canyon RAS (fka Bob RAS - SCE monitoring infrastructure)	include monitoring infrastructure (relays) to monitor Eldorado 5AA bank to include them in the Sloan Canyon RAS (f.k.a. Bob RAS)	C9 Phase II	N/A

# Queue Network Upgrades (3/3)

 In progress  
 Completed

No.	NU	Upgrade Name	Upgrade Description	Study	Estimate ISD
21	SCE-C12P2-N-R2	Tehachapi CRAS: monitoring infrastructure addition	Add N-1 to RAS	C12 Phase II	Sep-24
22	SCE-C12P2-N-R3	Moorpark CRAS: monitoring infrastructure	New Moorpark CRAS	C12 Phase II	Jul-24
23	SCE-C9C10-N	Windhub AA Bank cRAS - monitoring infrastructure	Windhub AA Bank cRAS - monitoring infrastructure	2021 Reassessment	Feb-23
24	SCE-C9P2-N-R1	Whirlwind AA Bank CRAS Monitoring Infrastructure	Implement Whirlwind AA Bank CRAS - monitoring infrastructure	2018 Reassessment	Dec-22
25	SCE-C11P2-N-L1	Pardee – Pastoria- Warne 220 kV T/L rating increase	Upgrade terminal equipment and fix ground clearance for Pardee – Pastoria- Warne 230kV line	C11 Phase II	Oct-22
26	SCE-C3C4P2-SCD	Vincent CB Upgrades	Upgrade Vincent 500kV CBs to 63 kA	C3&4 Phase II	Jun-24
27	SCE-PreC12-SCD-Vincent-C12	Vincent 500kV SCD (Install seven (7) sets of 500 kV TRV)	Install TRV capacitors to upgrade CBs to 63 kA	C12 Phase II	Jun-24
28	SCE-TCP2-N-R1	Whirlwind T-1 SPS	Install Whirlwind T-1 SPS	TC Phase II	In-service Jun-15
29	SCE-TCP2-N-D1	Whirlwind 2nd & 3rd Bank	Install Whirlwind 3AA and 4AA banks	TC Phase II	3AA In-service Dec-14; 4AA In-service Dec-16
30	SCE-TCP2-N-R2	Whirlwind Bus Expansion	Expand Whirlwind 230kV bus	TC Phase II	In-service Nov-12

## Further Information

- For more information, please access the Stakeholder Review Process (SRP) information available [here](#).



# Transmission Development Forum and Transmission Updates



January 21, 2022  
Habib Maiga

# Summary

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- This status update covers upgrades required for Projects that have an LGIA and are moving forward with construction activities.
- TPP-approved projects in the SDG&E area have not been identified as Precursor Network Upgrades (PNU).
- There are currently 4 new generator interconnection remedial action schemes (RAS) being designed/built in the SDG&E area.

# Status

NU	Upgrade Name	Upgrade Description	PTO	Study	Type	Still Needed	Estimated Time to Construct (Months)	Estimate ISD	Notes
SDGE-C07-PHI-RNU-01	Participate in the proposed RAS to protect TL23006/TL23010/TL23002 San Luis Rey – San Onofre 230kV lines	Participate in the proposed RAS to protect TL23006/TL23010/TL23002 San Luis Rey – San Onofre 230kV lines	SDGE	C7 Phase I	PNU		12	Jun-23	ISD is based on need identified in the Operational Deliverability study
SDGE-C08-PHII-RNU-05	Participate in the proposed RAS to protect TL23029 Silvergate-Old Town&TL23028 Silvergate-Old Town Tap 230 kV lines (New Silvergate - Old Town RAS)	Participate in the proposed RAS to protect TL23029 Silvergate-Old Town&TL23028 Silvergate-Old Town Tap 230 kV lines (New Silvergate - Old Town RAS)	SDGE	C8 Phase II	PNU		12	Jun-23	ISD is based on need identified in the Operational Deliverability study reviews
SDGE-C11-PHII-RNU-02	Participate in the proposed RAS to protect TL13810A/TL13810B/TL13810C Friars - Penasquitos Doublet Tap 138kV Lines (formerly known as Participate in the proposed RAS to protect TL13827 Mission – Friars 138kV line)	Participate in the proposed RAS to protect TL13810A/TL13810B/TL13810C Friars - Penasquitos - Doublet Tap 138kV Lines (formerly known as Participate in the proposed RAS to protect TL13827 Mission – Friars 138kV line)	SDGE	C11 Phase II	PNU		12	Jun-22	In construction
SDGE-EXISTING-RNU-01	Imperial Valley Existing/Modified RAS'	Imperial Valley Existing/Modified RAS'	SDGE		PNU		12	Operational	time to construct reflects time to add new generators to the existing RAS
SDGE-EXISTING-RNU-7.1	Existing Miguel BK 80 / 81	Existing Miguel BK 80 / 81	SDGE		PNU		12	Operational	time to construct reflects time to add new generators to the existing RAS
SDGE-EXISTING-RNU-02	Existing Otay Mesa RASs	Existing Otay Mesa RASs	SDGE		PNU		12	Operational	time to construct reflects time to add new generators to the existing RAS
SDGE-EXISTING-RNU-04	Existing ECO/BUE anti-islanding scheme for radial generators	Existing ECO/BUE anti-islanding scheme for radial generators	SDGE		PNU		12	Operational	time to construct reflects time to add new generators to the existing RAS
SDGE-C08-PHII-RNU-04	Participate in the proposed RAS to protect TL23003 & TL23011 Encina to San Luis Rey 230 kV lines (Proposed grouping RAS to protect Encina/Per/San Luis Rey 230kV Lines)	Proposed RAS to Protect TL23003 Encina - San Luis Rey 230 kV line	SDGE	C8 Phase II	PNU		12	Jun-23	ISD is based on need identified in the Operational Deliverability study

# **CAISO / CPUC Transmission Development Forum**

## **GLW / VEA Project Updates**

**January 21<sup>st</sup>, 2022**

**All ongoing GLW / VEA projects approved as part of CAISO's Transmission Planning Process are expected to be completed by end of 2022**

## CAISO's TPP-Approved Projects

Project	Transmission Plan Approved	Current Expected In-service Date
Tie line Phasor Measurement Units	2017-2018	December 2022
Bob-Mead 230 kV Reconductoring	2017-2018	December 2020
Gamebird 230/138 kV Transformer Upgrade	2019-2020	VEA portion: December 2021 GLW portion: November 2021 Transformer: Q2 22

# All cluster 9 and earlier GLW / VEA network upgrade projects are in service or expected to be completed by Q3 2022

## Network Upgrade Projects

Project	Study	Type	Actual / Estimated In-service Date
Trout Canyon - Sloan Canyon 230kV line upgrade	2021 Reassessment	LDNU	Dec-25
Bob - Eldorado Telecom	C6 Phase II	RNU	Dec-19
RAS related telecom from Valley 138 kV to Bob 230 kV	C6 Phase II	RNU	Dec-19
Vista RAS (Project Replaced)	C6 Phase II	RNU	Apr-21
Innovation RAS	C8 Phase II	RNU	Sep-22
Innovation RAS (VEA-GLW portion)	C9 Phase II	RNU	Sep-22
Sloan Canyon RAS (VEA-GLW portion)	C9 Phase II	RNU	Sep-22
Vista - Charleston 138 kV	Transition Agreement	Transition Agreement	On hold



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# Transmission Development Forum

GIDAP and TPP Upgrade Status

January 21, 2022



# Presentation Summary

- PG&E workbooks capture 48 GIDAP and 78 TPP project statuses.
- This presentation provides updates and the opportunity for discussion on the status of 30 GIDAP and 7 TPP projects that are highest priority to immediate generation interconnection. This is a technical discussion on the projects.
- PG&E requests that stakeholders save questions until the completion of each slide. Projects have been grouped to enable efficient and productive discussion.



# PG&E Projects Status Summary

## TPP Projects Impacting Generation

Project No.	Scope	Status	Planned * Const. Start	Planned ** In-Service	Comments
T.0002231	Reconductor Wilson-Le Grand 115 kV line	Conducting: Complete Terminal Upgrades: In-Flight	Q1-2021	Conductor: Q4-2021 Terminals: Mar 2022	
T.0004833	Reconductor Giffen Tap 70 kV Line	Engineering	Q3-2022	Q1-2023	
T.0000043	Reconductor Bellota-Warnerville 230kV Line Reconductor Bellota-Cottle 230kV Line Reconductor	Preconstruction	Q2-2022	BW Line: Q4-2023 BC Line: Q4-2024	
T.0004421	Remove Limiting Substation Equipment Moraga-Castro Valley 230 kV Line Capacity Increase	Engineering	Q3-2023	Q3-2023	
T.0000157	Reconductor Oro Loma 70 kV Area Reinforcement	Engineering	Q1-2026	Q4-2026	
T.0000155	Lockeford-Lodi Area 230 kV Development	Pre-filing with CPUC	Q4-2024	Q4-2027	Expect to submit draft PEA in Q2 2022
T.0004673	Tesla 230 kV Bus Series Reactor	Engineering	Q2-2022	Q3-2023	See also slide 6
TBD	CAISO 2021 TPP Approved Project to optimize line terminal configuration at Contra Costa PP 230 kV Bus to address overloads. Move Lone Tree to SEC 2D and Birds Landing to SEC 2E at Contra Costa PP 230 kV Substation Relocate Windmaster from Section F to Section E	Initiating	TBD	TBD Q4-2025	See also slide 4

\* Construction start is dependent on design strategy, CPUC permitting, obtaining necessary land / aerial rights, clearance sequence, obtaining necessary construction easements, and access to structures

\*\* In-Service Date is subject to change through the design process as more information becomes available.



# PG&E Projects Status Summary

## Generation Interconnection Project Upgrades

Project No.	Scope	Status	Planned * Const. Start	Planned ** In-Service	Comments
GIP: C11P2-NP02	Bus flow Overload Contra Costa Substation 230kV Bus Sections D, E and F and circuit breaker 820 overload Reconductor Bus Sections D, E and F. Replace circuit breaker 820.	Initiating	TBD	TBD Q4-2025	See also slide 3 TPP project
GIP: C11P2-NP01	Bus flow Overload Contra Costa Substation 230kV SW's 601, 603 overload – Replace 230kV SW's 601 & 603 and jumpers.				
TPP Project GIP: C13P1-GPN04 T.0007291	Short Circuit Duty Overstress Metcalf Substation 230 kV capacitor circuit breakers 654, 664, 674 and 684 overstress	In-Flight	Q4-2023	Q2-2025	An interim solution is being evaluated. Const Start Q3-2022, ISD Q3-2022
GIP: 20rsmt-4 T.0007291	Short Circuit Duty Overstress Metcalf Substation 115kV breakers Overstress (almost all breakers) Install 2 x 5.3 ohm reactors at Metcalf 115 kV between bus sections D and E	In-Flight	Q2-2024	Q1-2025	

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# PG&E Projects Status Summary

## Generation Interconnection Project Upgrades

Project No.	Scope	Status	Planned * Const. Start	Planned ** In-Service	Comments
GIP: C12P1-GPT01 TPP: T.0007287	Short Circuit Duty Overstress Ames Distribution 115 kV circuit breaker 132 overstress	In-Flight	Q4-2023	Q1-2024	
GIP: C12P1-NPT04 T.0001609	Short Circuit Duty Overstress Vaca Dixon Substation 230 kV circuit breakers 442, 452 and 462 overstress	In-Flight	Q3-2022	Q1-2024	
GIP: C12P1-NPT03 T.0000614.04	Short Circuit Duty Overstress Rio Oso Substation 115 kV circuit breakers 412, 422, 482, 522 and 542 overstress	In-Flight	Q3-2021	Q3-2023	
GIP: 21rsmt-3 T.0000980	Kern PP Substation 115 kV CBs 182, 262 and 282 overstress Existing PG&E 115 kV BAAH conversion project will cover this replacement.	In-Flight Execution	Q3-2021	Q1-2026	
GIP: 21rsmt-5 T.0001493	Palo Alto 115 kV circuit breakers 412 and 442 overstress Replace breakers 412 and 442 with 63 kA interrupting capability	In-Flight Engineering	Q2-2023	Q3-2024	

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# PG&E Projects Status Summary

## Generation Interconnection Project Upgrades

Project No.	Scope	Status	Planned * Const. Start	Planned ** In-Service	
GIP: C11P2-NC01 T.0004673	Short Circuit Duty Overstress Tesla Substation 230 kV bus section D and circuit breakers 372, 382 and 842 overstress Increase Tesla Substation 230 kV series bus reactors between bus section C and D and D and E	In-Flight: Engineering ERTC April 2022 for CB372  Maintenance Inspections for CB382 & CB842	Q2-2022	Q3-2023	
GIP: 20rsmt-7a	Short Circuit Duty Overstress Tesla Substation 500 kV circuit breaker 632 overstress - Replace circuit breaker 632 with 63 kA interrupting capability	Maintenance Inspection "Passed"		Q4-2021 In Service	
GIP: 20rsmt-5 & 20rsmt-7b T.0007288	Short Circuit Duty Overstress Tesla Substation 500 kV circuit breakers 642 and 542 overstress - Replace circuit breakers 642 and 542 with 63 kA interrupting capability	In-Flight: Planning	CB542: Q2-2023 CB642: Q1-2024	CB542: Q3-2023 CB642: Q3-2024	
	Short Circuit Duty Overstress Tesla Substation 500 kV circuit breaker 612 overstress - Replace CB 612 and associated switches/relays	In-Flight: Planning	CB612: Q4-2023	CB612: Q1-2024	

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# PG&E Projects Status Summary

## Generation Interconnection Project Upgrades

Project No.	Scope	Status	Planned * Const. Start	Planned ** In-Service	Comments
GIP: C11P2-FC01 & C12P2-KC01	Short Circuit Duty Overstress Midway Substation 500kV CB's 722 Overstress Replace CB722, SW's and Relays	In-Flight: Maintenance Inspection	Q3-2022	Q3-2022  if inspections fail: Q4-2025	
	Bus Flow Overload Midway Substation 500kV CB 722 Overload Replace CB722 to achieve 3600 A emergency rating mitigation				
GIP: C12P2-GRNU3 Maintenance	Short Circuit Duty Overstress Midway Substation 500 kV CB 712 overstress Replace CB 712 with 63 kA interrupting capability	In-Flight: Maintenance Inspection	Q3-2022	Q4-2022  if inspections fail: Q4-2025	
GIP: C11P2-FP01 T.0004673 for CB372 only	Short Circuit Duty Overstress Midway Substation 500 kV circuit breakers 732, 802, 832 and 842 overstress	TPP-In-Flight: Maintenance Inspections	Q2-2022	CB732 & 832 (BK-11)-Q2- 2022 CB802-Q3-2022 CB842-Q3-2022 if inspections fail: Q4-2025	
GIP: 20rsmt-3 T.0007329.05	Bus Flow Overload Midway Substation 230 kV Bus Section E overload mitigation Replace limiting conductor and/or fittings on Bus Section E to achieve 3372 A min. rating	In-Flight: Maintenance Inspections	Q3-2021 Initial IR Scan Q3-2022 Final Scan	Q2-2024	Final IR scan due in Jul 2022 to confirm no upgrades are needed.

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# PG&E Projects Status Summary

## Generation Interconnection Project Upgrades

Project No.	Scope	Status	Planned * Const. Start	Planned ** In-Service	Comments
GIP: C12P2-GRNU2	Short Circuit Duty Overstress Gates Substation 230 kV Bus Overstress Install series bus reactors between Gates Substation 230 kV bus sections E and F	Initiating	TBD	Need by Q4-2025	Triggering interconnection agreement now initiating
GIP: C12P2-PNU-02 T.0007289	Short Circuit Duty Overstress Gates Substation 230 kV circuit breakers 352, 362 and 372 overstress mitigation with 63 kA interrupting capability	In-Flight  Maintenance Inspections for CB352, 362, 372	Q3-2022	Q3-2023	
GIP: C12P2-GRNU2 T.0006452	Bus Flow Overload Gates Substation 230kV Bus Section E and CB 312, 322, 2102, 2202 overload mitigation	In-Flight	Q3-2021	Q2-2023	

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# PG&E Projects Status Summary

## Deliverability Reconductoring Projects

Project No.	Scope / Description	Status	Planned * Const. Start	Planned ** In-Service	Comments
GIP: C8P2-1 & C9P1-F12 T.0007056	Cluster 8 Reconductor – AKA Project 5 Borden-Gregg 230kV Line # 1 & # 2 12.5 mi w/ 1113 bundled AAC + Optical Ground Wire, includes 48 Tower replacements	Now: Design Next steps: Land Rights CPUC NOC Filing late 2022	Q4 2024	Line#1: Q1-2026 Line#2: Q2-2025	Start dependency on Bellota-Cottle Finish See slide 3
GIP: C8P1-35 T.0003789	Cluster 8 Reconductor – AKA Project 1 Los Banos–Quinto SS 230kV Line Reconductor 6.11 mi w/ super bundled 795 ACSS + Optical Ground Wire	NOC Received Now: Procurements Next Step: Construction	Q1-2022	Q2-2022	
GIP: C8P2-6 T.0003016	Cluster 8 Reconductor – AKA Project 2 Los Banos–Padre Flat SS 230kV Line #1 Reconductor 4.5 mi with 1113 ACSS	Now: Engineering Next Step: Seek Expanded Land Rights	After Project 1 Q4-2022	Q1-2023	
GIP: C8P1-34 T.0003792	Cluster 8 Reconductor – AKA Project 3 Padre Flat SS–Panoche #1 230 kV Line Reconductor 32.59 mi with 795 ACSS	Now: Engineering Next Step: Seek Expanded Land Rights	After Project 2 Q1-2023	Q2-2024	
GIP: C9P1-F11 T.0004255	Cluster 8 Reconductor – AKA Project 4 Dos Amigos PP–Panoche 230kV Line #3 Reconductor 23.63 mi with 795 ACSS	Now: Engineering on hold Next Step: Seek Expanded Land Rights	After Project 3 Q3-2024	Q2-2025	

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# PG&E Projects Status Summary

## Deliverability Reconductoring Network Upgrades

Project No.	Scope	Status	Planned * Const. Start	Planned ** In-Service	Comments
GIP: C11P2-ND01 & C9P2-N02 T.0007629	Cluster 9 Reconductor Fulton-Hopland 60 kV Line Reconductor 31.1 mi with 715 AAC from Geysers Jct - Fitch Mountain	Initiating	TBD	Q1-2026	
GIP: C11P2-ND03 T.0007846	Cluster 11 Reconductor North Dublin-Cayetano 230 kV Line 2.63 miles OH Line & 2.82 UG cable with new UG cable 797 MVA/2000A	Initiating	TBD	Q4-2025	
GIP: C12P2-LDNU1 T.0007979.01	Cluster 12 Reconductor Ripon-Manteca 115 kV Line 1.51 mi section of 2/0 CU and 0.92 mi 4/0 ACSR (2.43 mi total) with 715 AAC	Initiating	TBD	Est. Q4-2027	1.5 miles of overlap with T.0003638 ISD Q3-2027. Encroachments. ROW
GIP:: C12P2-LDNU2 T.0007979.02	Cluster 12 Reconductor Stanislaus-Melones Sw Sta-Manteca #1 115 kV Line 25.23 miles section of various conductors from 018/115-043/277 with 715 AAC	Initiating	TBD	Est. Q4-2027	Scope overlap with T.0004301 from 018/115 to 030/195 (12 miles total) NOC Approved 12/2001. Rebuilding single to double ckt.
GIP: C12P2-LDNU3 T.0007979.03	Cluster 12 Reconductor Bellota-Riverbank-Melones Sw Sta 115 kV Line 115 kV Line 17 miles of Bellota-Riverbank-Melones SW STA 115 kV Line with 477 ACSS	Initiating	TBD	Est. Q4-2027	
GIP: C12P2-LDNU4 T.0007979.04	Cluster 12 Reconductor Stanislaus-Melones SW STA-Riverbank Jct Sw Sta 115 kV Line 7.53 miles section of various conductors from 000/001-007/043 with 715 AAC	Initiating	TBD	Est. Q4-2027	Scope overlap T.00004515 ISD Q2-2027. NOC expected

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California ISO

*Wrap-up*

# Transmission Development Forum

*January 21, 2022*

# Comments

- Comments due by end of day February 4, 2022
- Submit comments to:  
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