

ID	Network Upgrades	Description	PTO	Study	Type of Upgrade	Category	Status	Current Expected Const Start	Expected CPUC Permit Application	Trigger Year	Expected In-Service Jul 2022 TDF	Expected In-Service Oct 2022 TDF	Notes
C9P2-F17	Panoche 115 kV circuit breakers 152 overstress	Replace Panoche 115 kV circuit breaker 152 and associated switches/relays	PG&E	C9	Reliability	SCD overstress	Removed						
19smt-3	Schindler 70kV Bus Normal & Outage Overload	Upgrade Schindler 70 kV Bus to 1113 kcmil AAC	PG&E	RA-19	Reliability	Bus Flow	Not Triggered						
C13P1-KPN02	Midway Substation 230 kV bus and 27 circuit breakers overstress	Install 2 x 16 ohm series bus reactors between Midway Substation 230 kV bus sections D and E (16 ohm parallel / 8	PG&E	C13	Reliability	SCD overstress	Not Triggered						Q4 Notes: not triggered
20smt-3	Midway 230 kV Bus Section E overload mitigation	Replace limiting conductor and/or fittings on Bus Section E to achieve 3372 A min. rating	PG&E	RA-20	Reliability	Bus Flow	In-Service			Jul-05	Q3-2022	Q3-2022	Q4 Notes: In-Service
21smt-4	Monta Vista 115 kV circuit breaker 1322 overstress	Replace Monta Vista 115 kV circuit breaker 1322	PG&E	RA-21	Reliability	SCD overstress	In-Service	Q4-2021		Jul-05	Q4-2021	Q4-2021	
C11P2-FC01	Midway 500kV CB's 722 Overstress	Midway Sub: Replace 500kV CB's 722, SW's and Relays	PG&E	C11	Reliability	SCD overstress	In-Service	Q3-2022		Jul-05	Q3-2022	Q3-2022	Q4 Notes: In-Service
C11P2-FP01	Midway 500 kV circuit breakers 732, 802, 832 and 842 overstress	Replace Midway 500 kV circuit breakers 732, 802, 832 and 842 and associated switches/relays	PG&E	C11	Reliability	SCD overstress	In-Service	Q4-2022		Jul-05	Q3-2022	Q3-2022	Q4 Notes: In-Service
C12P1-NPN02	Lodi Substation 60 kV circuit breakers 12 and 22 overstress		PG&E	C12	Reliability	SCD overstress	In-Service	Q3-2020			Q2-2022	Q2-2022	
C12P2-GRNU3	Midway Substation 500 kV CB 712 overstress	Replace Midway Substation 500 kV CB 712 with 63 kA interrupting capability	PG&E	C12	Reliability	SCD overstress	In-Service	Q4-2022		Jul-05	Q1-2022	Q1-2022	
C12P2-KC01	Midway Substation 500kV CB 722 Overload mitigation	Replace Midway 500 kV CB 722 to achieve 3600 A emergency rating	PG&E	C12	Reliability	Bus Flow	In-Service	Q4-2022		Jul-05	Q3-2022	Q3-2022	Q4 Notes: In-Service
C9P2-N09	Re-conductor Stockton A-Weber #3 60 kV Line (Stockton A-Hazelden Jct)	Re-conductor 0.9 mi of Stockton A-Weber #3 60 kV Line from Stockton A to Hazelden Jct Pole 000026 with 715 AAC.	PG&E	C9	Deliverability	Re-conductor	In-Service	Q1-2022		Jul-05	Q1-2022	Q1-2022	
20smt-7a	Tesla 500 kV circuit breaker 632 overstress	Replace Tesla 500 kV circuit breaker 632 with 63 kA interrupting capability	PG&E	RA-20	Reliability	SCD overstress	In-Service	Q4-2021			Q4-2021	Q4-2021	
22smt-3	Metcalf 230 kV Substation Circuit Breaker #292 Upgrade	Upgrade Metcalf Circuit Breaker #292 due to overstress issues	PG&E		Capacity		In-Service		TBD	Jul-05	Q4-2025	Q3-2022	Q4 Notes: In-Service
C12P2-LDNU3	Bellota-Riverbank-Melones Sw Sta 115 kV Line 115 kV Line Reconductor	Reconductor a total of 17 miles of Bellota-Riverbank-Melones SW STA 115 kV Line with 477 ACSS	PG&E	C12	Deliverability	Re-conductor	Initiating			Jul-05	Q4-2027	Q4-2027	Q4 Notes: Scoping
C12P2-LDNU1	Ripon-Manteca 115 kV Line Reconductor	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)	PG&E	C12	Deliverability	Re-conductor	Initiating			Jul-05	Q4-2027	Q4-2027	
C12P2-LDNU2	Stanislaus-Melones Sw Sta-Manteca #1 115 kV Line Reconductor	Reconductor Stanislaus-Melones Sw Sta-Manteca #1 115 kV line 25.23 miles section of various conductors from 018/115-	PG&E	C12	Deliverability	Re-conductor	Initiating			Jul-05	Q4-2027	Q4-2027	
C12P2-LDNU4	Stanislaus-Melones SW STA-Riverbank Jct Sw Sta 115 kV Line Reconductor	Reconductor Stanislaus-Melones Sw Sta-Riverbank Jct Sw Sta 115 kV Line 7.53 miles section of various conductors from	PG&E	C12	Deliverability	Re-conductor	Initiating			Jul-05	Q4-2027	Q4-2027	
C12P1-NPT04	Vaca Dixon Substation 230 kV circuit breakers 442, 452 and 462 overstress	Replace Vaca Dixon Substation 230 kV circuit breakers 442, 452 and 462 and associated switches/relays	PG&E	C12	Reliability	SCD overstress	Initiating	Q3-2023		Jul-05	Q4-2024	Q1-2025	Q4 Notes: Work prioritization.
22smt-4	New 230 kV switching station to loop Dos Amigos – Panoche # 3 230 kV	Build a new 2 bay 230 kV BAAH switching station to loop in the Dos Amigos – Panoche # 3 230 kV Line requiring access road.	PG&E	RA-22	Deliverability	New Station	Initiating					Q4-2028	Q4 Notes: 2022 Reassessment determined new Dos-Amigos-Panoche #3 Switching Station to be looped in with scope to remove Dos Amigos
20smt-4	Metcalf 115kV breakers Overstress (almost all breakers) (Reactors)	Install 2 x 5.3 ohm reactors at Metcalf 115 kV between bus sections D and E	PG&E	RA-20	Reliability	SCD overstress	In-Flight	Q4-2024		Jul-05	Q3-2025	Q4-2025	Q4 Notes: Design change from 115kV CB overstress replacement to Transformer Reactor Installs on 230kV
20smt-6	20RSMTRAS-02 (Reliability) to open Bitterwater Sw Sta-Wheeler Ridge #2 230 kV Line for loss of Midway-Bitterwater 230 kV	20RSMTRAS-02 RAS to open Bitterwater Sw Sta-Wheeler Ridge #2 230 kV Line for loss of Midway-Bitterwater 230 kV	PG&E	RA-20	Reliability	RAS (Reliability)	In-Flight	Q2-2023		Jul-05	Q4-2023	Q4-2023	Q4 Notes: Material on Order
21smt-1	Hennetta Substation 70kV CBs 12 and 72 Overstress	Hennetta Sub: Replace 70kV CB 12 & 72 and switches.	PG&E	RA-21	Reliability	SCD overstress	In-Flight	Q2-2025		Jul-05	Q1-2025	Q3-2026	Q4 Notes: Work prioritization.
21smt-3	Kern PP Substation 115 kV CBs 182, 262 and 282 overstress (BAAH Conversion Phase 4 - incl CB182)	Kern PP Sub: Existing PG&E 115 kV BAAH conversion project will cover this replacement.	PG&E	RA-21	Reliability	SCD overstress	In-Flight	Q1-2027		Jul-05	Q4-2025	Q4-2027	Q4 Notes: Work prioritization.
21smt-3	Kern PP Substation 115 kV CBs 182, 262 and 282 overstress (BAAH Conversion Phase 1)	Kern PP Sub: Existing PG&E 115 kV BAAH conversion project will cover this replacement.	PG&E	RA-21	Reliability	SCD overstress	In-Flight	Q3-2021		Jul-05	Q2-2023	Q4-2024	Q4 Notes: Work prioritization.
21smt-3	Kern PP Substation 115 kV CBs 182, 262 and 282 overstress (BAAH Conversion Phase 3 - incl CB262)	Kern PP Sub: Existing PG&E 115 kV BAAH conversion project will cover this replacement.	PG&E	RA-21	Reliability	SCD overstress	In-Flight	Q1-2026		Jul-05	Q4-2024	Q4-2026	Q4 Notes: Work prioritization.
21smt-3	Kern PP Substation 115 kV CBs 182, 262 and 282 overstress (BAAH Conversion Phase 2 - incl CB282)	Kern PP Sub: Existing PG&E 115 kV BAAH conversion project will cover this replacement.	PG&E	RA-21	Reliability	SCD overstress	In-Flight	Q2-2025		Jul-05	Q4-2023	Q4-2025	Q4 Notes: Work prioritization.
21smt-SCD-23	El Cerrito G 115kV CB 112, 142, 132 Overstress	Replace Overstressed Circuit Breakers	PG&E	RA-21	Reliability	SCD overstress	In-Flight	Q1-2024			Q3-2024	Q4-2025	Q4 Notes: Work prioritization.
C11P2-NP01	Contra Costa 230kV SW's 601, 603 overload	Contra Costa PP: Replace 230kV SW's 601 & 603 and jumpers.	PG&E	C11	Reliability	Bus Flow	In-Flight			Jul-05	Q3-2025	Q2-2025	
C11P2-NP02	Contra Costa 230kV Bus Sections D, E and F and circuit breaker 820 overload	Contra Costa PP: Reconductor Bus Sections D, E and F. Replace circuit breaker 820.	PG&E	C11	Reliability	Bus Flow	In-Flight			Jul-05	Q3-2025	Q2-2025	
C11P2-NR01	Cottonwood Substation 230 kV circuit breakers 232, 242 overstress	Replace Cottonwood Substation 230 kV circuit breakers 232, 242 and associated switches/relays	PG&E	C11	Reliability	SCD overstress	In-Flight	Q1-2025		Jul-05	Q2-2024	Q3-2025	Q4 Notes: Work prioritization.
C12P1-GPT01	Ames Distribution 115 kV circuit breaker 132 overstress	Replace Ames Distribution 115 kV circuit breaker 132	PG&E	C12	Reliability	SCD overstress	In-Flight	Q4-2025		Jul-05	Q3-2024	Q1-2026	Q4 Notes: Work prioritization.
C12P1-NPT01	Gold Hill Substation 115 kV circuit breakers 142 and 172 overstress	Replace Gold Hill Substation 115 kV circuit breakers 142 and 172 and associated switches/relays	PG&E	C12	Reliability	SCD overstress	In-Flight	Q2-2024		Jul-05	Q4-2023	Q3-2025	Q4 Notes: Work prioritization. Q2 2025 CB 142. Q3 2025 CB172
C12P2-GRNU2	Gates Substation 230 kV Bus Overstress	Install series bus reactors between Gates Substation 230 kV bus sections E and F	PG&E	C12	Reliability	SCD overstress	In-Flight	Q1-2024		Jul-05	Q4-2025	Q1-2025	Q4 Notes: Schedule Improvement. Subject to change through the design process.
C12P2-PNU-02	Gates 230 kV circuit breakers 352, 362 and 372 overstress mitigation (Cap Banks)	Replace Gates 230 kV circuit breakers 352, 362 and 372 with 63 kA interrupting capability	PG&E	C12	Reliability	SCD overstress	In-Flight	Q4-2022		Jul-05	Q1-2023	Q2-2023	
C13P1-GPN04	Metcalf Substation 230 kV capacitor circuit breakers 654, 664, 674 and 684 overstress	Replace Metcalf Substation 230 kV capacitor circuit breakers 654, 664, 674 and 684	PG&E	C13	Reliability	SCD overstress	In-Flight	Q4-2024		Jul-05	Q2-2025	Q1-2026	Q4 Notes: Work prioritization. Q4 2022 Interim Solution removes the overstress condition until CBs replaced.
C13P1-GPN04	Metcalf Substation 230 kV capacitor circuit breakers Interim Solution	Metcalf Substation 230 kV capacitor circuit breakers Interim Solution	PG&E	C13	Reliability	SCD overstress	In-Flight	Q4-2022		Jul-05	Q4-2022	Q4-2022	
C8P2-15	Cottonwood Substation 230 kV Circuit Breaker 522 and 542 Overstress	Cottonwood Substation 230 kV CB Overstress: Replace CB 522 & 542 (rated @ 34.5KA, overstress close-in fault is	PG&E	C8	Reliability	SCD overstress	In-Flight	Q1-2023		Jul-05	Q3-2023	Q3-2024	Q4 Notes: Long Lead Time delay
C9P2-F13-F15	Gates 230kV Bus Section E and CB 312, 322, 2102, 2202 overload mitigation (BAAH)	Gates Substation 230 kV circuit breakers 312, 322, 2102, 2202 overload – convert bus section E to BAAH and move Panoche-	PG&E	C9	Reliability	Bus Flow	In-Flight	Q3-2021		Jul-05	Q2-2023	Q1-2023	

	Morro Bay MPAC	New 230kV MPAC building relocates 230kV equipment from existing Control Building	PG&E	n/a	Reliability	MPAC	In-Flight	Q4-2025				Q1-2027	Q4 Notes: Work reprioritization impacting EGI projects depending on DTT and Point Of Interconnection at Morro Bay
	Tesla MPAC	New 230kV MPAC building relocates 230kV equipment from existing Control Building	PG&E	n/a	Reliability	MPAC	In-Flight	Q2-2024				Q4-2024	Q4 Notes: Work reprioritization impacting EGI projects depending on DTT and Point Of Interconnection at Morro Bay
C11P2-ND03	North Dublin-Cayetano 230 kV Line	Reconductor North Dublin-Cayetano 230 kV Line 2.63 miles OH Line & 2.82 UG cable with new UG cable 797 MVA/2000 A	PG&E	C11	Deliverability	Re-conductor	In-Flight	Q4-2024	Q3-2023	Jul-05	Q4-2025	Q1-2025	Q4 Notes: Schedule Improvement. Subject to change through the design process. Tracking to 30% Design complete by Dec 2022
21rsmt-5	Palo Alto 115 kV circuit breakers 412 and 442 overstress	Replace Palo Alto 115 kV circuit breakers 412 and 442 with 63 kA interrupting capability	PG&E	RA-21	Reliability	SCD overstress	In-Flight	Q4-2026		Jul-05	Q2-2026	Q4-2027	Q4 Notes: Work reprioritization.
C8P2-10	QC8RAS-02 SPS (Deliverability Triggered RNU)	QC8SPS-02 SPS to modify the existing Hatchel Ridge SPS to trip Q1106 200 MW wind and Hatchel Ridge 102 MW wind for	PG&E	C8	Deliverability	RAS (Deliverability)	In-Flight	Q1-2023		Jul-05	Q3-2023		Q4 Notes: This work is being delayed due to triggering project schedule changes.
C8P2-3	QC8RAS-08 RAS (Deliverability Triggered RNU)	QC8RAS-08 RAS to trip Generation offline for outage AND overload of either Gates 500/230 kV Transformer Bank 11 or	PG&E	C8	Deliverability	RAS (Deliverability)	In-Flight			Jul-05	Q4-2023	Q2-2024	Q4 Notes: Sequencing aligning with Gates 500kV STATCOM activities
C8P2-1	Re-conductor Borden-Gregg #1 230 kV Line	Re-conductor 6.25 mi Borden-Gregg #1 230 kV Line with 1113 ACSS and upgrade equipment to 2000 A minimum (this is the	PG&E	C8	Deliverability	Re-conductor	In-Flight	Q3-2025	Q1-2023	Jul-05	Q1-2026	Q1-2026	
C9P1-F12	Re-conductor Borden-Gregg #2 230 kV Line	Re-conductor 6.25 mi Borden-Gregg #2 230 kV Line with 1113 ACSS	PG&E	C9	Deliverability	Re-conductor	In-Flight	Q1-2025	Q1-2023	Jul-05	Q2-2025	Q2-2025	
C9P1-F11	Re-conductor Dos Amigos PP-Panoche #3 230 kV Line	Re-conductor 23.63 mi Dos Amigos PP-Panoche #3 230 kV Line with 795 ACSS	PG&E	C9	Deliverability	Re-conductor	In-Flight	Q3-2024		Jul-05	Q2-2025	Q2-2025	Q4 Notes: 2022 Reassessment determined new Dos-Amigos-Panoche #3 Switching Station to be looped in with scope to remove Dos Amigos
C11P2-ND01	Re-conductor Fulton-Hopland 60 kV Line (Fitch Mountain Tap-Geysers Jct)	Re-conductor Fulton-Hopland 60 kV Line (Fitch Mountain Tap 009/005A-Geysers Jct 016/004) ~7 mi total length with 715	PG&E	C11	Deliverability	Re-conductor	In-Flight	Q2-2025	Q4-2023	Jul-05	Q4-2027	Q4-2025	Q4 Notes: Scoping
C9P2-N02	Re-conductor Fulton-Hopland 60 kV Line (Geysers Jct-Cloverdale Jct-Hopland)	Re-conductor 24.21 mi Fulton-Hopland 60 kV Line (Geysers Jct 016/003A-Cloverdale Jct 026/002-Hopland) with 715 AAC and	PG&E	C9	Deliverability	Re-conductor	In-Flight	Q2-2025	Q4-2023	Jul-05	Q4-2027	Q4-2025	Q4 Notes: Scoping
C8P2-6	Re-conductor Los Banos-Q779 SS #1 230 kV Line	Re-conductor 4.5 mi Los Banos-Padre Flat SS #1 230 kV Line with 1113 ACSS and upgrade equipment to 1900 A.	PG&E	C8	Deliverability	Re-conductor	In-Flight	Q4-2022		Jul-05	Q1-2023	Q4-2022	
C8P1-35	Re-conductor Los Banos-Quinto SS 230 kV Line	Re-conductor 6.11 mi Quinto Sw Sta-Los Banos 230 kV Line with super bundled 795 ACSS	PG&E	C8	Deliverability	Re-conductor	In-Flight	Q1-2022		Jul-05	Q2-2023	Q2-2023	Q4 Notes: Materials Received
C8P1-34	Re-conductor Padre Flat SS-Panoche #1 230 kV Line	Re-conductor 32.59 mi Q779/Padre Flat SS-Panoche #1 230 kV Line with 795 ACSS	PG&E	C8	Deliverability	Re-conductor	In-Flight	Q3-2023	Q4-2022	Jul-05	Q2-2024	Q2-2024	
C12P1-NPT03	Rio Oso Substation 115 kV circuit breakers 412, 422, 482, 522 and 542 overstress	Replace Rio Oso Substation 115 kV circuit breakers 412, 422, 482, 522 and 542 and associated switches/relays	PG&E	C12	Reliability	SCD overstress	In-Flight	Q2-2021		Jul-05	Q4-2023	Q2-2024	Q4 Notes: Work reprioritization.
20rsmt-5	Tesla 500 kV circuit breaker 612 overstress	Replace Tesla Substation 500 kV CB 612 and associated switches/relays	PG&E	RA-20	Reliability	SCD overstress	In-Flight	Q2-2024		Jul-05	Q3-2024	Q3-2024	
20rsmt-7b	Tesla 500 kV circuit breakers 542 and 642 overstress	Replace Tesla 500 kV circuit breakers 542 and 642 with 63 kA interrupting capability	PG&E	RA-20	Reliability	SCD overstress	In-Flight	Q1-2024		Jul-05	Q2-2024	Q3-2024	
C12P1-GCR01	Moraga 115 kV circuit breakers 582, 612, 622, 642 and 712 overstress	Replace Moraga 115 kV circuit breakers 582, 612, 622, 642 and 712	PG&E	C12	Reliability	SCD overstress	Not Triggered	Q2-2029			Q4-2028	Q4-2029	Q4 Notes: Work reprioritization.

ID	Network Upgrades	Description	PTO	Study	Type of Upgrade	Category	Status	Current Expected Construction Start	Expected CPUC Permit Application	Trigger Year	Original Estimated In-service Date	Estimated In-service Date July 2022 TDF	Current Estimated In-service Date	Comments
SCE-C8P2-POS-C11	220 kV line position at Colorado River Substation.	220 kV line position at Colorado River Substation	SCE	C11 Phase II	CANU-IR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Recommending removal of project as not applicable to the TDF scope
SCE-C3C4P2-SCD	Vincent CB Upgrades	Upgrade Vincent 500kV CBs	SCE	C3&4 Phase II	RNU	SCD Over Stress	Cancelled	N/A	N/A	N/A	N/A	N/A	N/A	Project replaced by new project PIN8455 identified via ATRA
SCE-PreC12-SCD-Vincent-C12	Vincent 500kV SCD (Install seven (7) sets of 500 kV TRV)		SCE	C12 Phase II	CANU-GR	SCD Over Stress	Cancelled	N/A	N/A	N/A	N/A	N/A	N/A	Project replaced by new project PIN8455 identified via ATRA
SCE-TCP2-E-R1	Colorado River Substation Expansion - Reliability	Expand Colorado River substation and install Colorado River 1AA bank	SCE	TC Phase II	RNU	Capacity Increase	In-service Nov-21	N/A	N/A	Dec-10	N/A	In-service Nov-21	In-service Nov-21	Trigger Year based on GIA date.
SCE-TCP2-E-R5	Colorado River Corridor RAS - CR Transformers	Develop a SPS to trip 500 MW TC2 generation at the Colorado River 500/220 kV Substation to mitigate the overload by on one AA bank for the loss of another AA bank (T-1 contingency)	SCE	TC Phase II	RNU	RAS/CRAS	In-service May-22	May-21	N/A	Jan-18	Dec-21	In-service May-22	In-service May-22	Trigger Year based on GIA date.
SCE-C3C4P2-E-D1	Red Bluff ZAA	Install Red Bluff 500/230kV bank No. 2	SCE	C3&4 Phase II	DNU	Capacity Increase	In-service May-22	Feb-21	N/A	Oct-14	Oct-21	In-service May-22	In-service May-22	Trigger Year based on GIA date.
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	SCE	C8 Phase II	RNU	RAS/CRAS	In-service May-22	Mar-21	N/A	Dec-18	Aug-21	In-service May-22	In-service May-22	Project need was postponed from original ISD due to delays from projects in the triggering queue. Trigger Year based on GIA date.
SCE-C11P2-NOL-R3	Upgrade Roadway 115kV Operating/Transfer Bus	Upgrade Roadway 115 kV Operating/Transfer Bus with 1590 kcmil ACSR conductor or equivalent.	SCE	C11 Phase II	GRNU	Substation Expansion	In-service Jun-22	Apr-22	N/A	Nov-20	Oct-22	In-service Jun-22	In-service Jun-22	Trigger Year based on GIA date.
SCE-C11P2-EOP-R1	Lugo - Victorville CRAS - monitoring infrastructure	Infrastructure to convert the Lugo - Victorville RAS to centralized RAS platform	SCE	C11 Phase II	GRNU	RAS/CRAS	Design	Jun-24	N/A	Nov-19	Jun-24	Jun-25	Jun-25	Trigger Year based on the date of the QC11 Phase 2 report.
SCE-C10P2-E-R3	West of Colorado River CRAS Inland/Devers Extension - monitoring infrastructure	Infrastructure to convert the formally referred to as the New Devers RAS and the Inland RAS to centralized RAS platform	SCE	C10 Phase II	RNU	RAS/CRAS	Construction	Jan-21	N/A	Dec-18	Oct-21	Mar-23	Mar-23	Mar-23 is for Inland/Devers Extension CRAS monitoring equipment & Aug-25 is for the Alberhill modification to the CRAS. Trigger Year based on GIA date.
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	SCE	C11 Phase II	LDNU	Capacity Increase	Design	Jan-23	N/A	Jul-20	Oct-22	Jun-23	Dec-23	Project delayed from original ISD due to delays in triggering queue projects.
SCE-C9P2-N-R1	Whirlwind AA Bank CRAS Monitoring Infrastructure	Implement Whirlwind AA Bank CRAS - monitoring infrastructure	SCE	2018 Reassessment	GRNU	RAS/CRAS	Design	Oct-22	N/A	Jul-20	Nov-22	Feb-23	Jun-23	Trigger Year based on 2020 Reassessment.
SCE-2021RA-E-R6	West of Colorado River CRAS Palo Verde Extension	Include Palo Verde sub in WOCCR CRAS	SCE	2021 Reassessment	RNU	RAS/CRAS	Cancelled	N/A	N/A	Dec-19	Dec-23	Dec-23	N/A	Trigger Year based on Upgrade Facility Agreement.
SCE-C9C10-N	Windhub AA Bank cRAS - monitoring infrastructure	Windhub AA Bank cRAS - monitoring infrastructure	SCE	2021 Reassessment	GRNU	RAS/CRAS	Construction	Jun-22	N/A	Aug-21	Nov-22	Feb-23	Mar-23	Trigger Year based on 2021 Reassessment
SCE-TCP2-EOP-R4	Lugo - Victorville RAS	Trip generation for Eldorado area 500kV line outages.	SCE	TC Phase II	RNU	RAS/CRAS	Permitting	Dec-22	N/A	Sep-11	Dec-20	May-23	Dec-23	Trigger Year based on GIA. Additional working areas caused SCE to refile application
SCE-C9P2-NOL-R1	New North of Lugo RAS - Backbone Portion	New North of Lugo RAS combining HDPP RAS and Calcite RAS	SCE	C9 Phase II	RNU	RAS/CRAS	Design	Jun-24	N/A	Nov-17	Jun-24	Jun-25	Jun-25	Trigger Year based on Letter Agreement.
SCE-C12P2-N-R3	Moorpark CRAS: monitoring infrastructure	New Moorpark CRAS	SCE	C12 Phase II	GRNU	RAS/CRAS	Design	Dec-23	N/A	Jul-21	Jul-24	Jul-24	Jul-24	Trigger year based on GIA.
SCE-C12P2-N-R2	Tehachapi CRAS: monitoring infrastructure addition	Add N-1 to RAS	SCE	C12 Phase II	GRNU	RAS/CRAS	Design	Oct-23	N/A	Feb-21	Sep-24	Sep-24	Apr-25	Trigger year based on GIA. Schedule adjusted to meet earliest generation in-service date
SCE-C72021-EOP	Participate and modify the planned Lugo-Victorville CRAS - SCE portion	Participate and modify the planned Lugo-Victorville CRAS - SCE portion	SCE	2021 Reassessment	RNU	RAS/CRAS	Design	Jun-24	N/A	Aug-21	Jun-25	Jun-25	Jun-25	Trigger Year based on 2021 Reassessment report date.
SCE-C11P2-E-R1	West of Colorado Rivers CRAS - Inland/Devers Extension – additional remote monitoring	Additional infrastructure to convert the formally known Inland Empire RAS to centralized RAS platform	SCE	C11 Phase II	GRNU	RAS/CRAS	Design	Pending	N/A	Dec-18	Aug-25	Apr-27	Apr-27	Contingent on Alberhill licensing schedule. Trigger Year based on GIA date.
SCE-C11P2-E-R1-C12	WOCCR CRAS Inland/Devers Extension Additional Monitoring (QC11) at Wildlife Sub		SCE	C12 Phase II	PNU	RAS/CRAS	On Hold	Pending	N/A	Mar-20	Oct-26	Oct-26	Jun-27	Trigger Year based on Riverside Transmission Reliability Project CPUC CPCN approval date.
PIN8455	Vincent 500 kV Circuit Breaker Upgrade	ATRA: Upgrade 3 500 kV CB, and install 4 TRV Capacitor to increase breaker rating	SCE	ATRA 2021	SCE	SCD Over Stress	Cancelled	N/A	N/A	Dec-21	Dec-23	Dec-23	N/A	Project cancelled due to circuit breaker re-rate
PIN8449	Whirlwind 230 kV Circuit Breaker Upgrade	ATRA: Install 2 TRV to upgrade breaker rating	SCE	ATRA 2021	SCE	SCD Over Stress	Cancelled	N/A	N/A	Dec-21	Dec-23	Dec-23	N/A	Project cancelled due to circuit breaker re-rate
PIN8450	Vista 230 kV Circuit Breaker Upgrade	ATRA: Upgrade one 230 kV circuit breaker	SCE	ATRA 2021	SCE	SCD Over Stress	Cancelled	N/A	N/A	Dec-21	Dec-23	Dec-23	N/A	Project cancelled due to circuit breaker re-rate
PIN8454	Antelope 230 kV Circuit Breaker Upgrade	ATRA: Replace 2 Circuit breakers	SCE	ATRA 2021	SCE	SCD Over Stress	Cancelled	N/A	N/A	Dec-21	Dec-23	Dec-23	N/A	Project cancelled due to circuit breaker re-rate
TBD	South of Vincent CRAS	Add lines south of Vincent to the Tehachapi CRAS	SCE	C13 Phase II	RNU	RAS/CRAS	Initiation	Pending	Pending	Dec-21	Apr-26	New	Apr-26	Trigger Year based on GIA date.
TBD	Calcite Substation	New four position 220 kV switchrack	SCE	Serial LGIP	GRNU	New Substation	Permitting	Pending	Pending	Nov-20	Jan-24	New	TBD	Trigger Year based on GIA date.

ID	Network Upgrades	Description	PTO	Study	Type of Upgrade	Category	Status	Current Expected Const Construction Start	Expected CPUC Permit Application	Trigger Year	Original Estimated In-service Date	Estimated In-service Date July 2022 TDF	Current Estimated In-service Date	Comments
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	Reliability	In construction		N/A	N/A	Jun-22	In service	In service	Placed in service on 6/18/22
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	Reliability	In design		N/A	N/A	Jun-23	Jun-23	Jun-23	New CEC RAS - will mitigate the overload of 23006 for the loss of 23010 AND 23002; protect TL23011B from overloading for loss of 23003; and protect 23003 from overloading for the loss of TL23011. On track for Jun-2023 ISD
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/Pen/San Luis Rey 230kV Lines)	Proposed RAS to Protect TL23003 Encina - San Luis Rey 230 kV line	SDGE	C8 Phase II	PNU									
SDGE-PRE-AMEND-RNU-01.2	Proposed RAS to Protect TL23011B Encina Tap - Encina 230 kV line	Proposed RAS to Protect TL23011B Encina Tap - Encina 230 kV line	SDGE		CANU-GR									

ID	Network Upgrades	Description	PTO	Study	Type of Upgrade	Category	Status	Current Expected Const Construction Start	Expected CPUC Permit Application	Trigger Year	Original Estimated In-service Date	Estimated In-service Date July TDF 2022	Current Estimated In-service Date	Comments
VEA-C6P2-EOP-R5	VEA Vista RAS	VEA Vista RAS. Install a new RAS to protect Jackass Flats - Mercury Switch 138 kV line under contingency conditions	VEA	C6 Phase II	RNU	Thermal	Cancelled	N/A	N/A	N/A	N/A	N/A	N/A	IC choose to re-build Jackass Flats - Mercury Switch line in place of Vista RAS. Completed June-21.
VEA-C8P2-VEA-R2	Innovation RAS	Install a new Innovation RAS	GLW	C8 Phase II	RNU					N/A	Sep-22	Nov-22	Nov-22	Supply chain issues pushed out the project outside the outage windows. As a result, a new outage plan was developed and the new anticipated in-service date is November 2022
VEA-C9P2-EOP-R3	Innovation RAS (VEA-GLW portion)	New Innovation RAS (include Desert View RAS from Q(C8) to trip generation under N-1	GLW	C9 Phase II	RNU					N/A	Sep-22	Nov-22	Nov-22	Supply chain issues pushed out the project outside the outage windows. As a result, a new outage plan was developed and the new anticipated in-service date is November 2022
VEA-C9P2-EOP-R4	Sloan Canyon RAS (fka Bob RAS - VEA-GLW portion)	New Sloan Canyon RAS to trip generation under N-1 and N-2	GLW	C9 Phase II	RNU					N/A	Sep-22	Nov-22	Nov-22	Supply chain issues pushed out the project outside the outage windows. As a result, a new outage plan was developed and the new anticipated in-service date is November 2022
GLW-2021-EOP-L1	Trout Canyon - Sloan Canyon 230kV line upgrade	Trout Canyon - Sloan Canyon 230kV line upgrade	GLW	2021 Reassessment	LDNU					N/A	Dec-25	Dec-25	Dec-25	