



2025 & 2029 Draft LCR Study Results San Diego Non-Bulk Sub-Areas

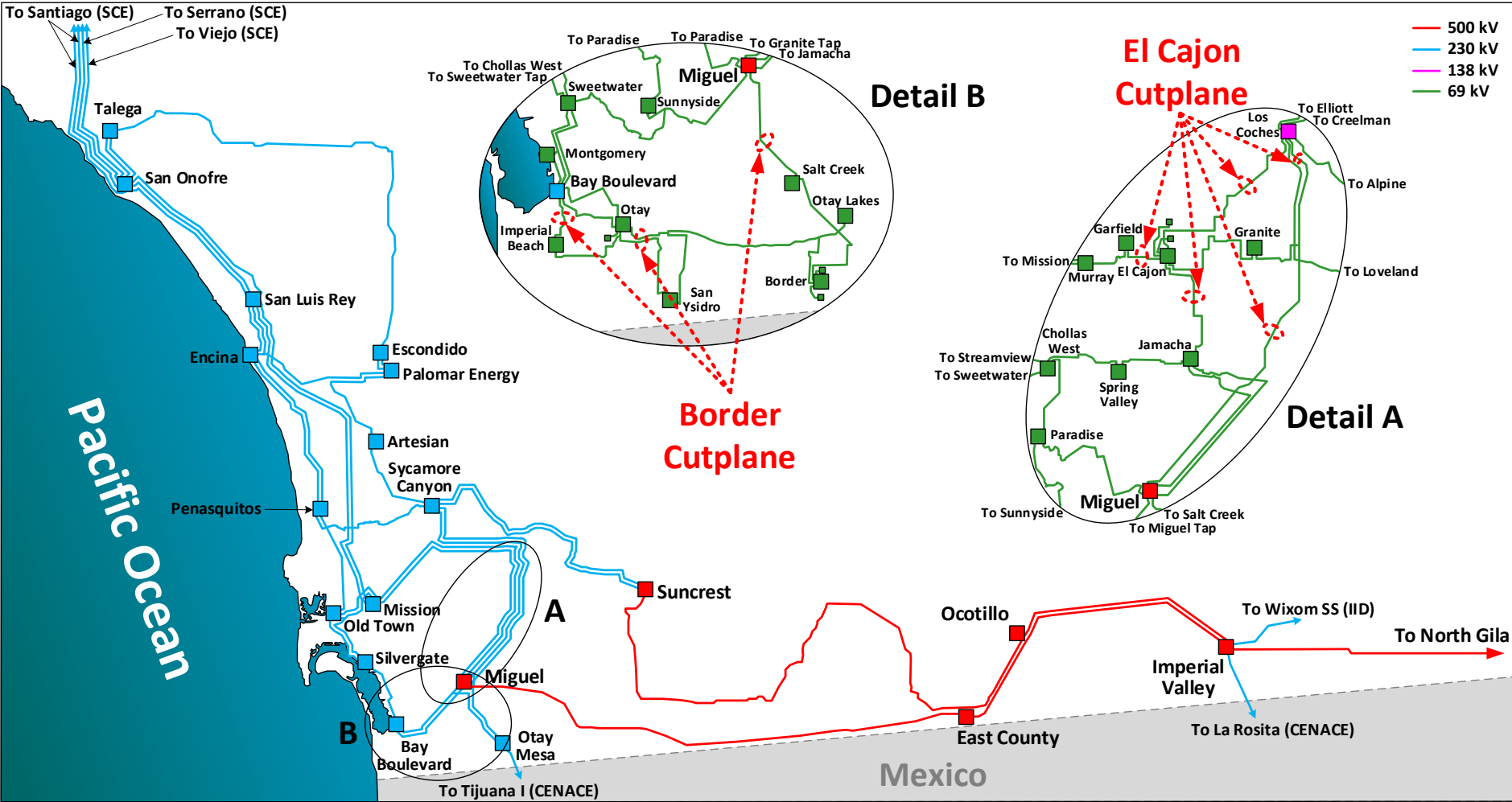
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Senior Engineer, Regional Transmission – South

Stakeholder Call

March 6, 2024

San Diego Area



Major Network Upgrades Modeled in 2025

Project Name	In-service Date
IID S-Line Upgrade	2023
Southern Orange County Reliability Upgrade Project – Alternative 3 (Rebuild Capistrano Substation, construct a new SONGS - Capistrano 230 kV line and a new 230 kV tap line to Capistrano)	Dec-23
Reconductor TL 605 Silvergate - Urban	Aug-24
TL649D Reconductor (San Ysidro - Otay Lake Tap)	Aug-24

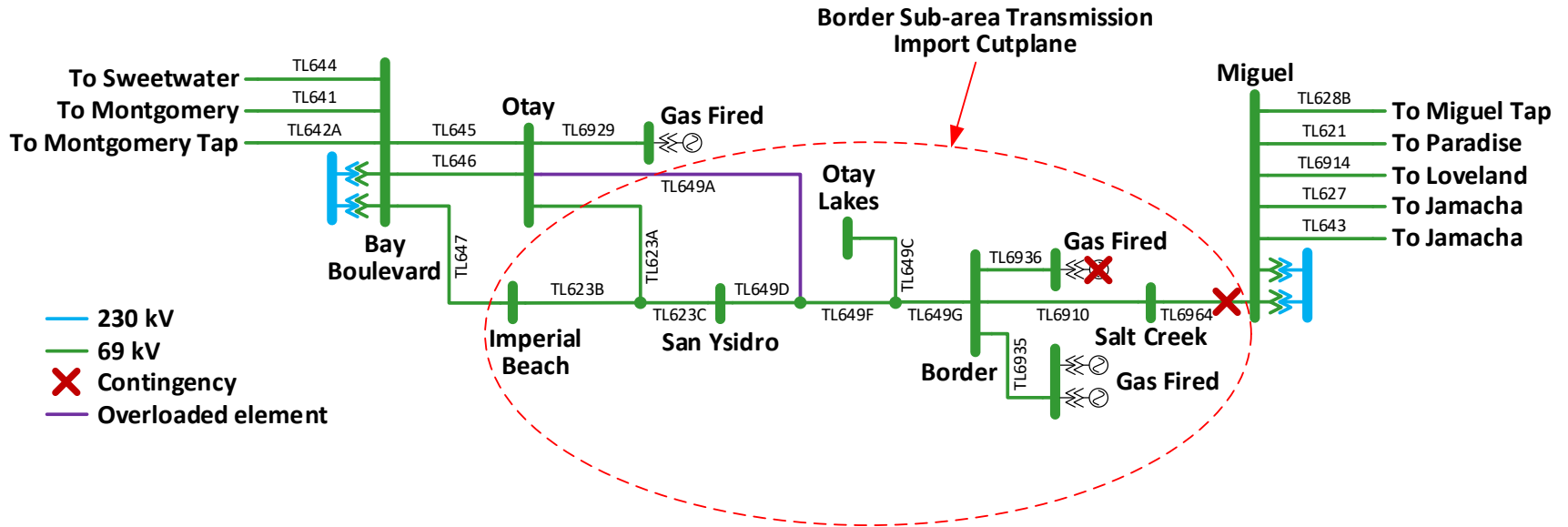
Additional Network Upgrades Modeled in 2029

Project Name	In-service Date
TL695B Japanese Mesa - Talega Tap Reconductor	Dec-26
TL632 Granite Loop-In and TL6914 Reconfiguration	Dec-26
Sweetwater Reliability Enhancement	Oct-27
TL690E, Stuart Tap - Las Pulgas 69 kV Reconductor	Jul-28

Border Sub-area: Load and Resources

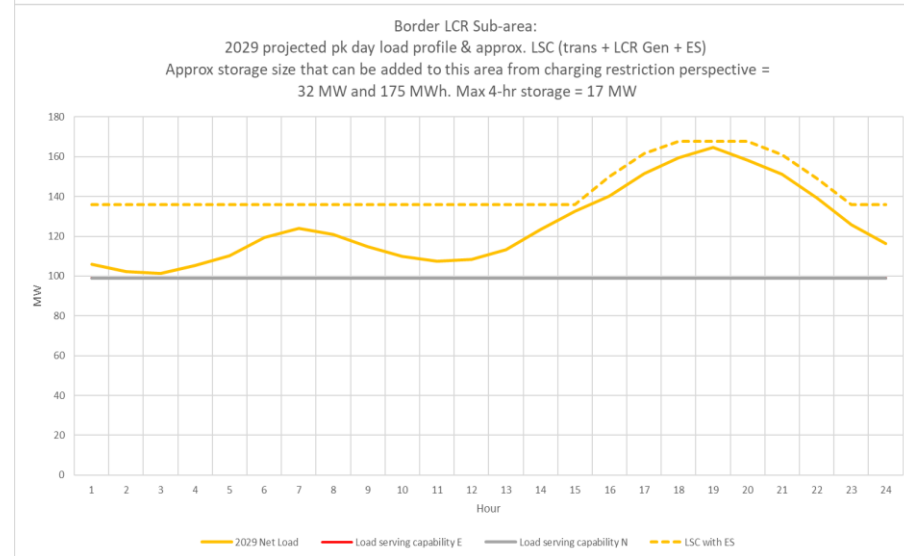
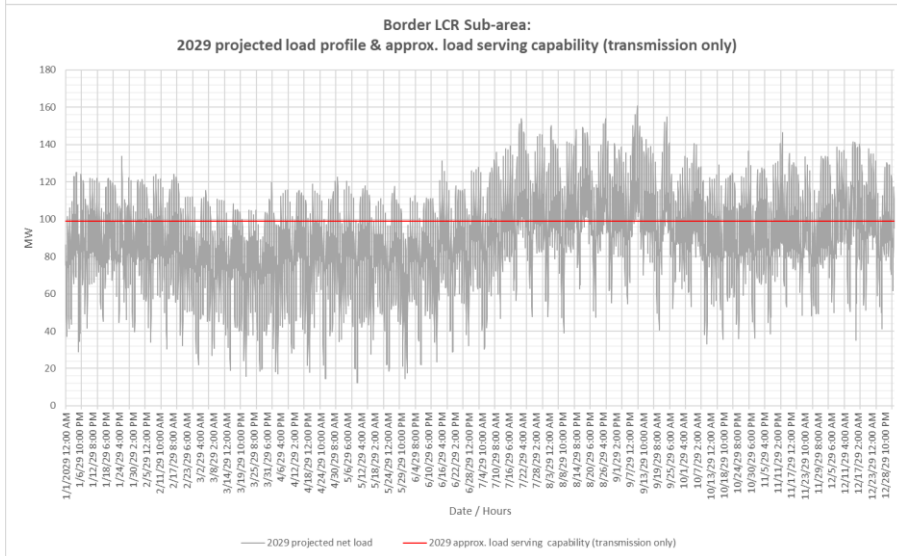
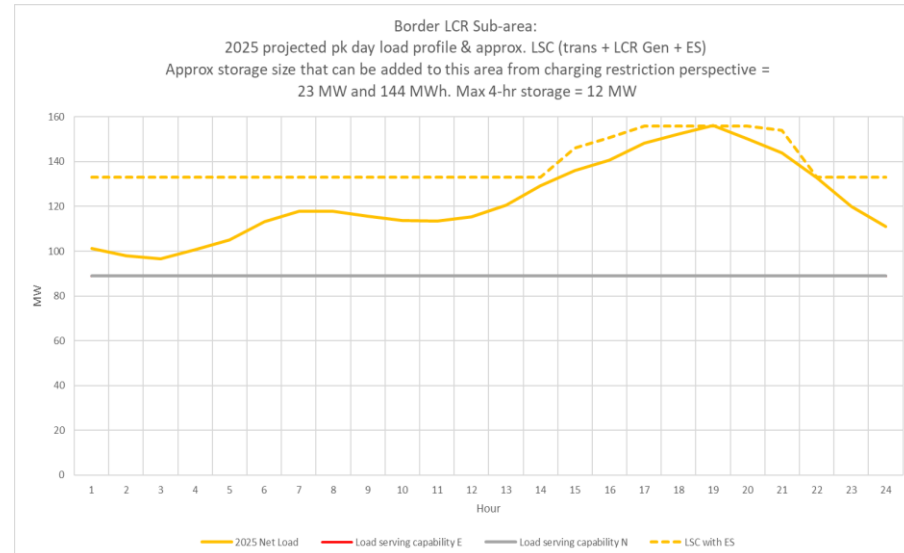
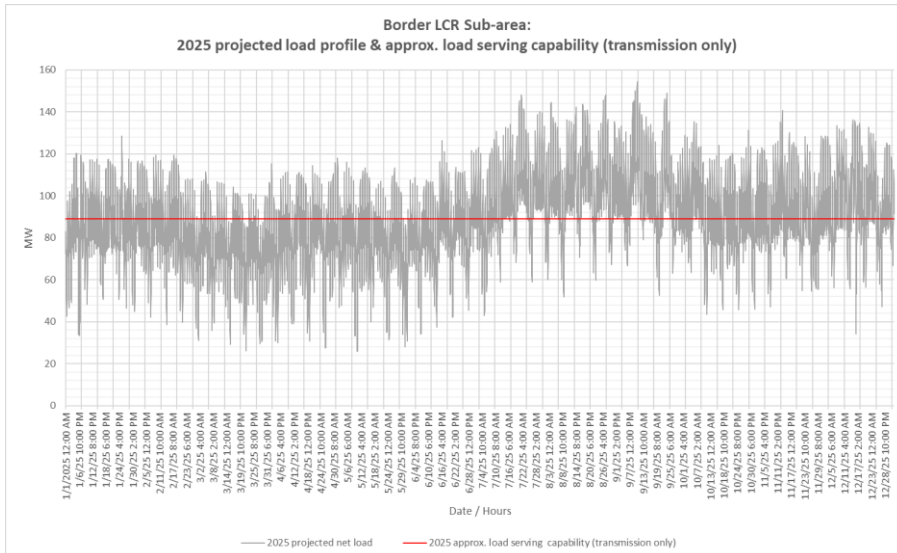
Load (MW)	2025	2029	Generation (MW)	NQC
Gross Load	176	192	Market/Net Seller	149
AAEE	-2	-3	Battery	0
Behind the meter DG	-18	-24	Wind	0
Net Load	156	165	Solar	0
Transmission Losses	1	1	Muni/QF	0
Pumps	0	0	Future preferred resource and energy storage	0
Load + Losses + Pumps	156	165	Total Qualifying Capacity	149

Border Sub-area: One-line diagram and LCR Requirement



Year	Cat	Limiting Facility	Contingency	LCR (MW)
2025	P3	Otoy - Otoy Lakes Tap 69 kV (TL649A)	Border unit out of service followed by the outage of Miguel - Salt Creek 69 kV (TL6964)	99
2029	P3	Otoy - Otoy Lakes Tap 69 kV (TL649A)	Border unit out of service followed by the outage of Miguel - Salt Creek 69 kV (TL6964)	97

Border Sub-area Load Profiles

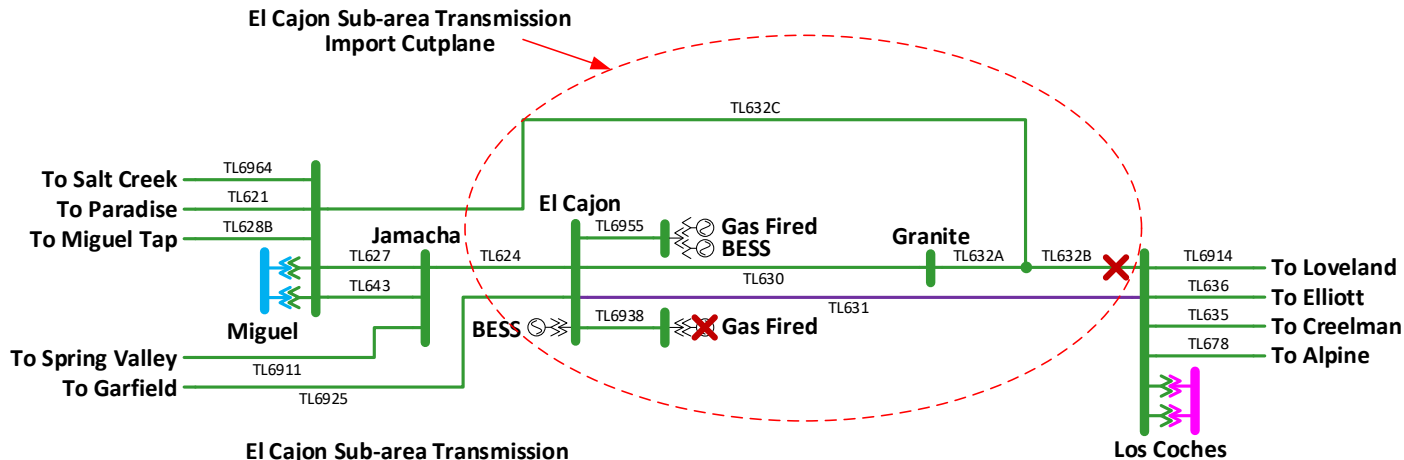


El Cajon Sub-area: Load and Resources

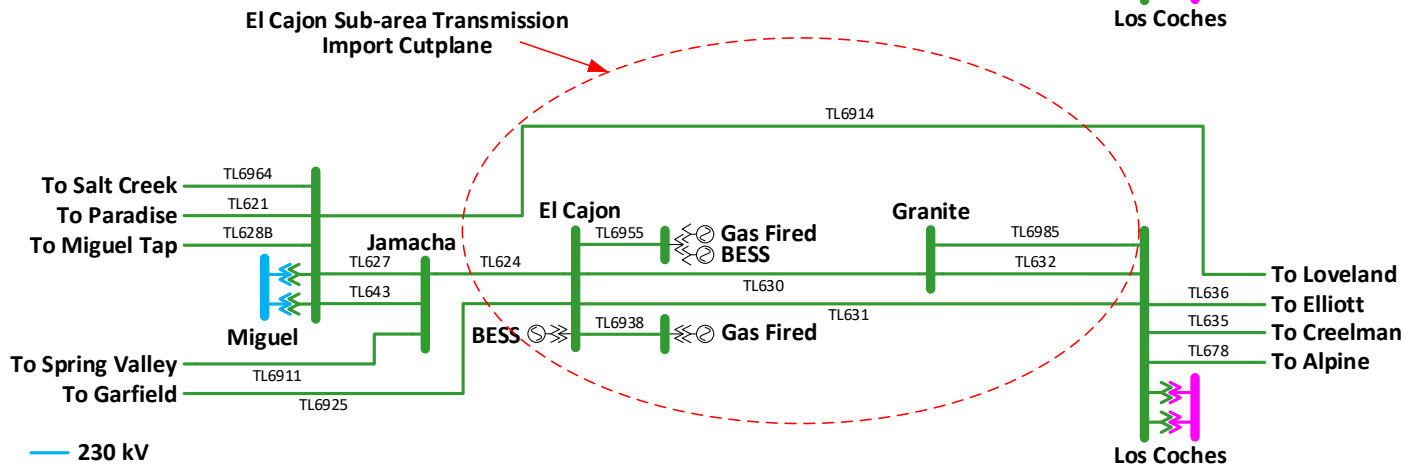
Load (MW)	2025	2029	Generation (MW)	NQC
Gross Load	184	193	Market/Net Seller	94
AAEE	-2	-4	Battery	57
Behind the meter DG	-16	-20	Wind	0
Net Load	166	170	Solar	0
Transmission Losses	0	0	Muni/QF	0
Pumps	0	0	Future preferred resource and energy storage	0
Load + Losses + Pumps	166	170	Total Qualifying Capacity	151

El Cajon Sub-area: One-line diagram

Current



2029



- 230 kV
- 138 kV
- 69 kV
- ✗ Contingency
- Overloaded element

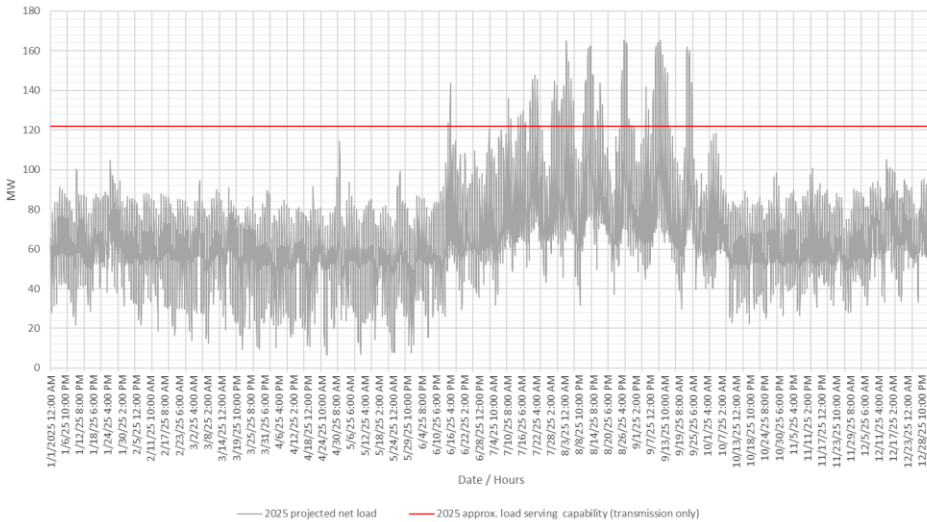
El Cajon Sub-area: LCR Requirement

Year	Cat	Limiting Facility	Contingency	LCR (MW)
2025	P3	El Cajon – Los Coches 69 kV (TL631)	El Cajon unit out of service followed by the outage of Granite – Los Coches – Miguel 69 kV 3-terminal line (TL632)	96

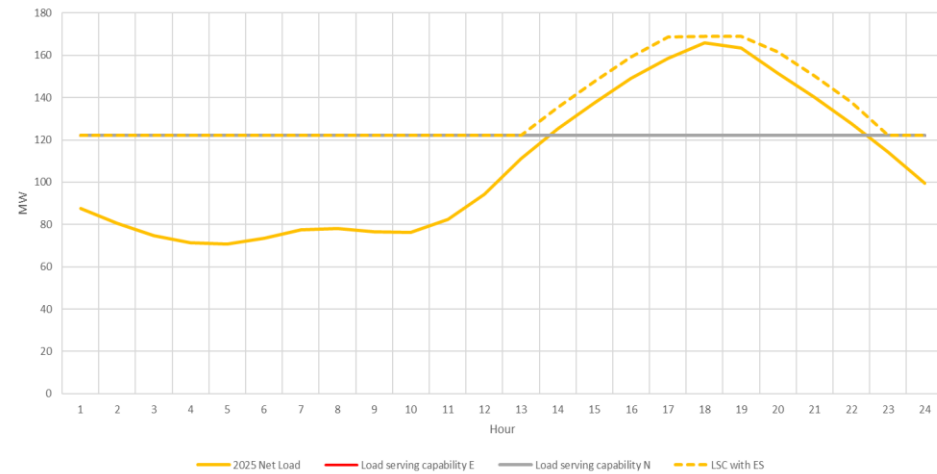
There is no LCR requirement in 2029 since project “TL632 Granite Loop-In and TL6914 Reconfiguration” will be in service in December 2026.

El Cajon Sub-area Load Profiles

El Cajon LCR Sub-area:
2025 projected load profile & approx. load serving capability (transmission only)



El Cajon LCR Sub-area:
2025 projected pk day load profile & approx. LSC (trans + LCR Gen + ES)
Approx storage size that can be added to this area from charging restriction perspective =
47 MW and 300 MWh. Max 4-hr storage = 23 MW



Changes Compared to Previous LCR Requirements

Sub-Area	MW								Major Reason for LCR Change
	2024		2025		2028		2029		
	Load	LCR	Load	LCR	Load	LCR	Load	LCR	
Border	153	82	156	99	169	94	165	97	SDG&E managed peak load changed from HE 19 to HE 17 in latest CEC hourly forecast, therefore there is a different distribution of the forecasted load between substations and a different power factor in 2025 case compared to 2024 case
El Cajon	179	96	166	96	190	0	170	0	