



2022 & 2026 Final LCR Study Results San Diego Non-Bulk Sub-Areas

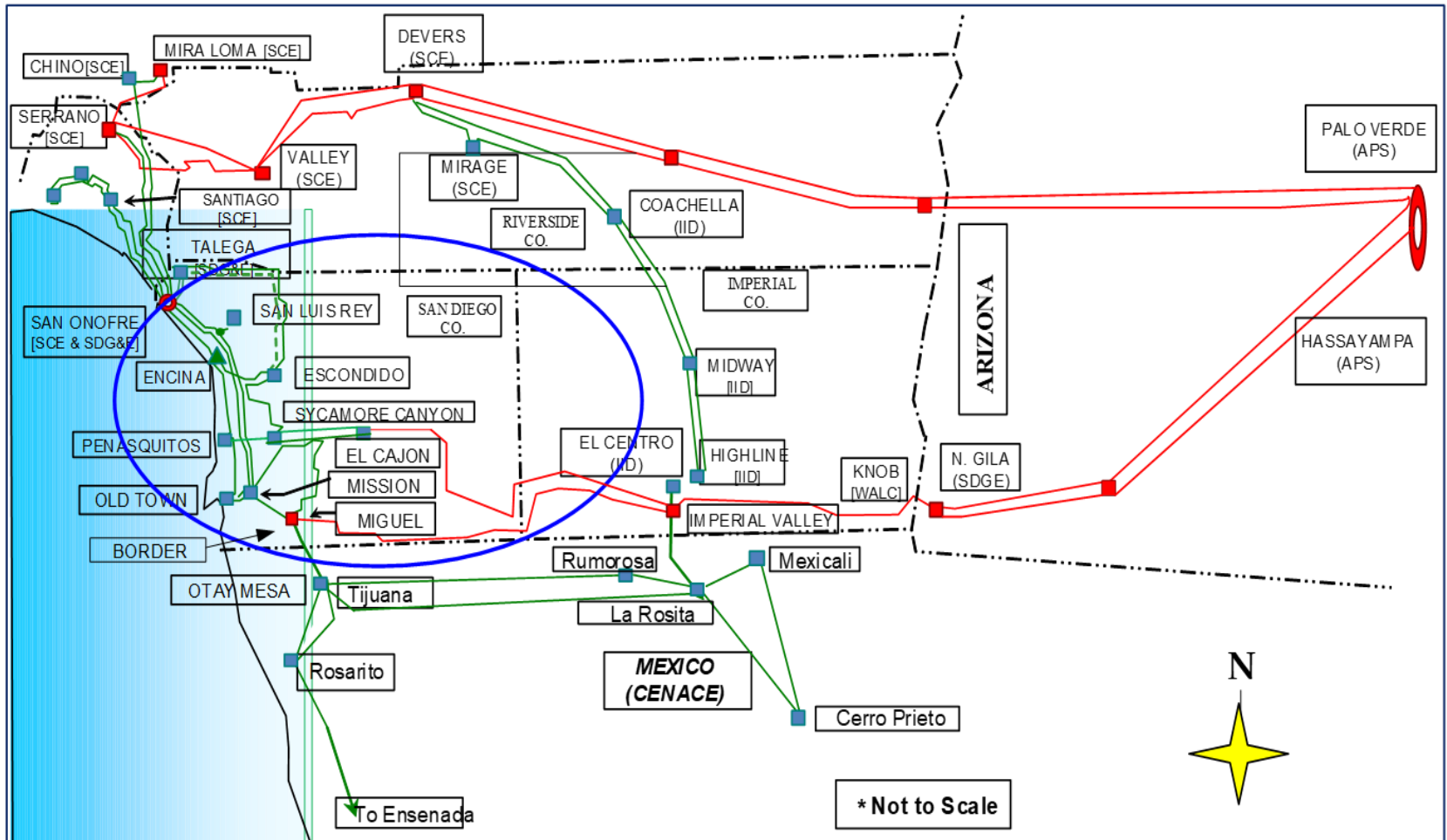
Frank Chen

Regional Transmission Engineer Lead

Stakeholder Call

April 7, 2021

San Diego Area



Major Network Upgrades Modeled for 2022

1. Miramar-Mesa Rim 69 kV System Reconfiguration
2. Ocean Ranch 69 kV substation
4. TL633 Bernardo - Rancho Carmel 69 kV line upgrade
5. San Ysidro 69 kV Reconductoring
6. TL13834 Trabuco-Capistrano 138 kV line upgrade
7. 2nd San Marcos–Escondido 69 kV line
8. Gateway energy storage project

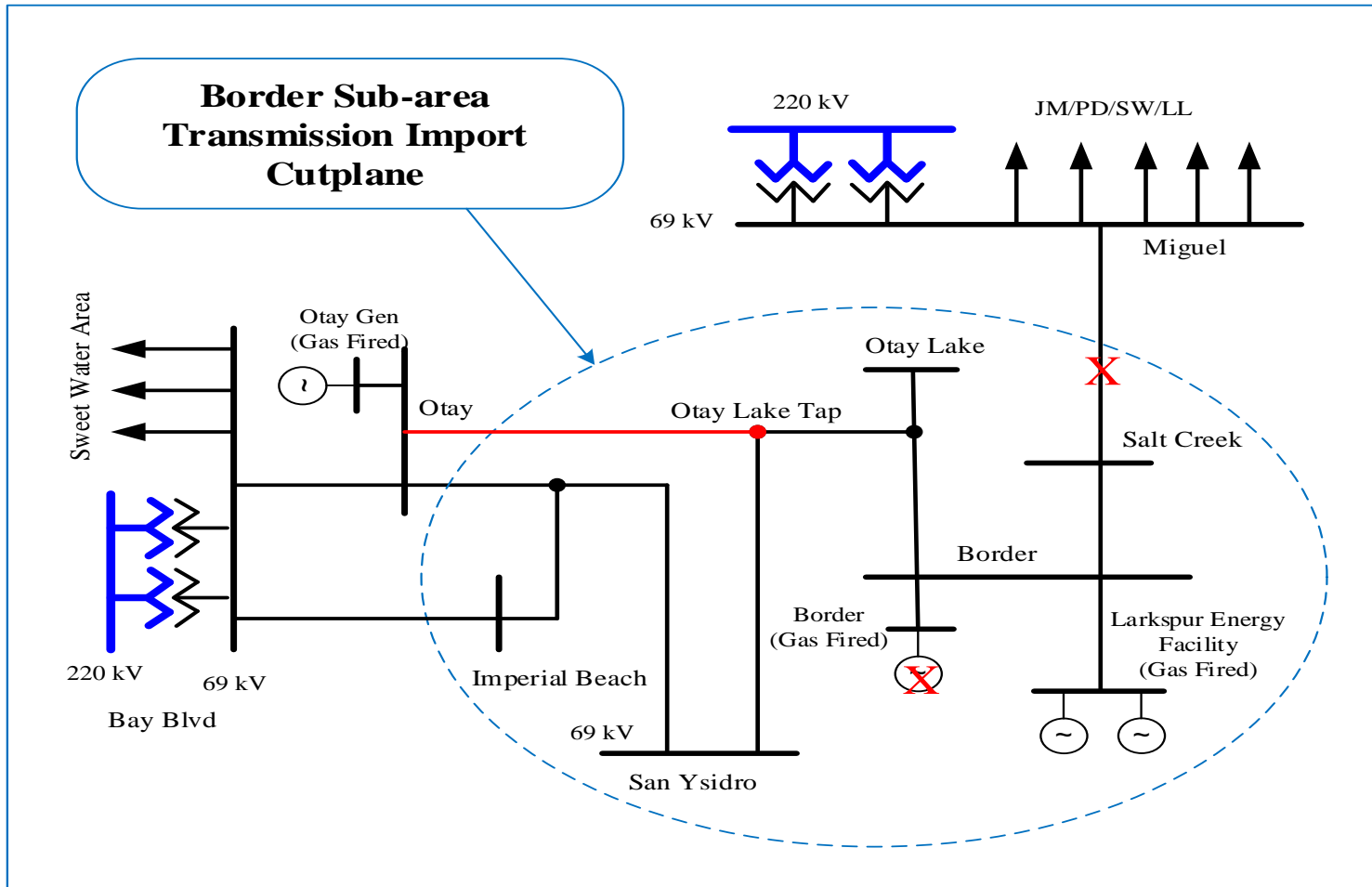
Additional Network Upgrades for 2026

1. Reconductor of Stuart Tap–Las Pulgas 69 kV line (TL690E)
2. TL695B Japanese Mesa-Talega Tap reconductor
3. Artesian 230 kV expansion with 69 kV upgrade
4. Rose Canyon-La Jolla 69 kV T/L upgrade
5. South Orange County Reliability Enhancement
6. IID's S-Line upgrade

Border Sub-area: Load and Resources

		2022	2026
Load (MW)	Gross Load	143	154
	AAEE	-1	-1
	Behind-The-Meter PV	0	0
	Net Load	142	153
	Transmission Loss	1	1
	Net Load + Loss	143	154
Resources (MW)	Gas-Fired	143	143
	Solar PV	0	0
	Wind	0	0
	QF/Other	0	0
	Demand Response	0	0
	Energy Storage	0	0

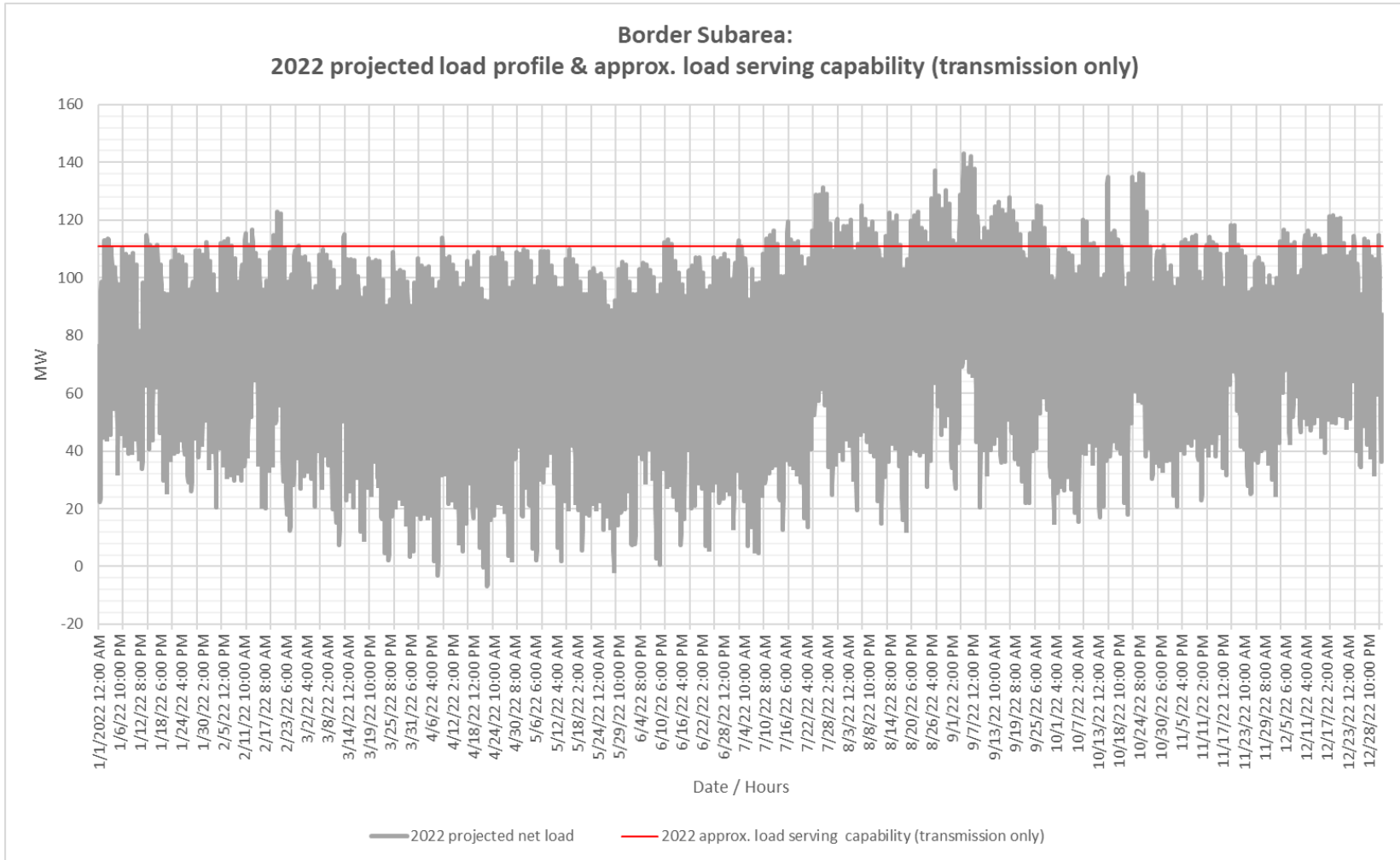
Border Sub-area: One-line diagram



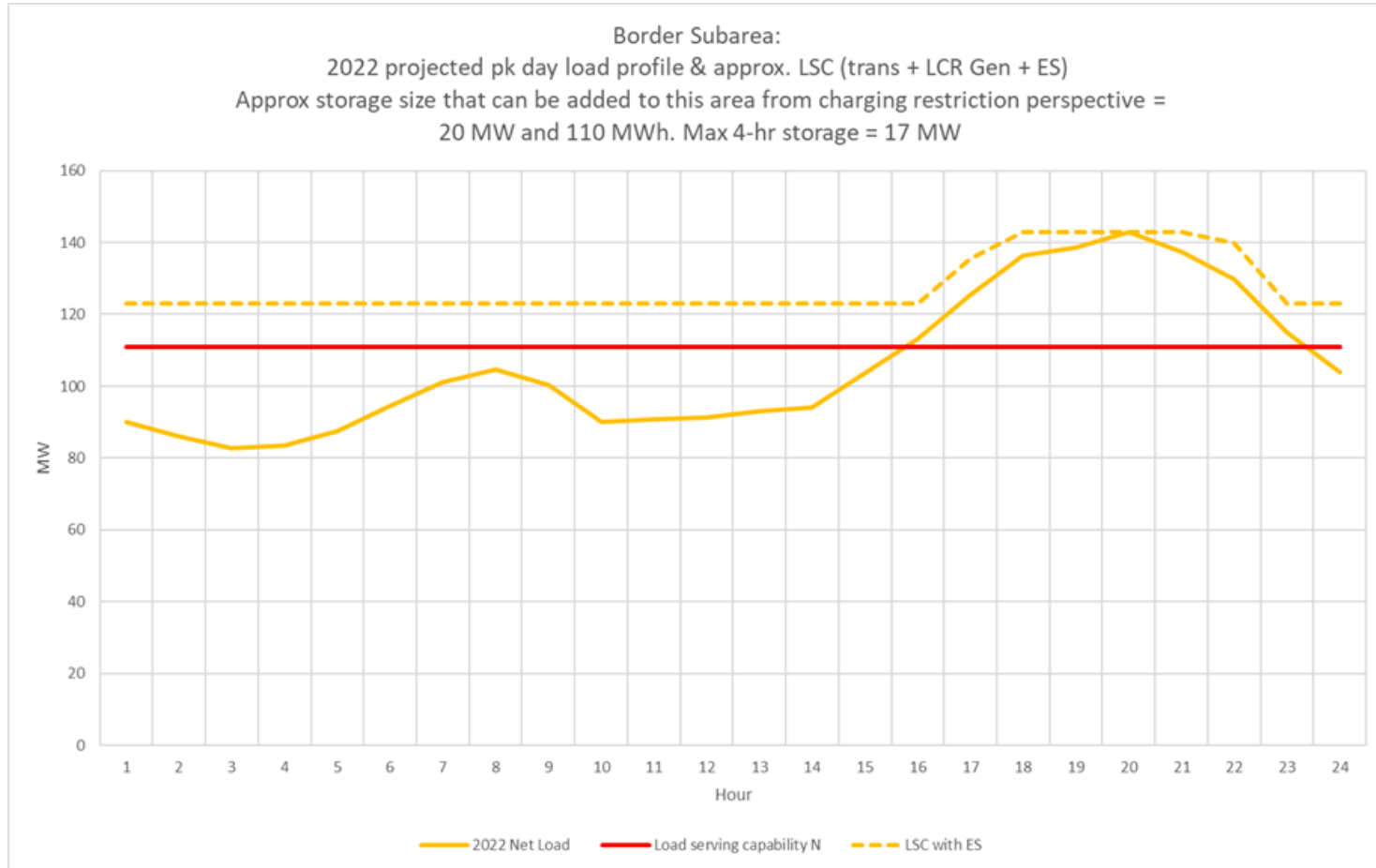
Border Sub-area: LCR Requirement

Year	Category	Contingency	Limiting Facility	LCR (MW)
2022	P3	Border unit out of service followed by the outage of Miguel-Salt Creek 69 kV #1 (TL6910)	Otay-Otay Lake Tap 69 kV (TL649)	68
2026	P3	Border unit out of service followed by the outage of Miguel-Salt Creek 69 kV #1 (TL6910)	Otay-Otay Lake Tap 69 kV (TL649)	77

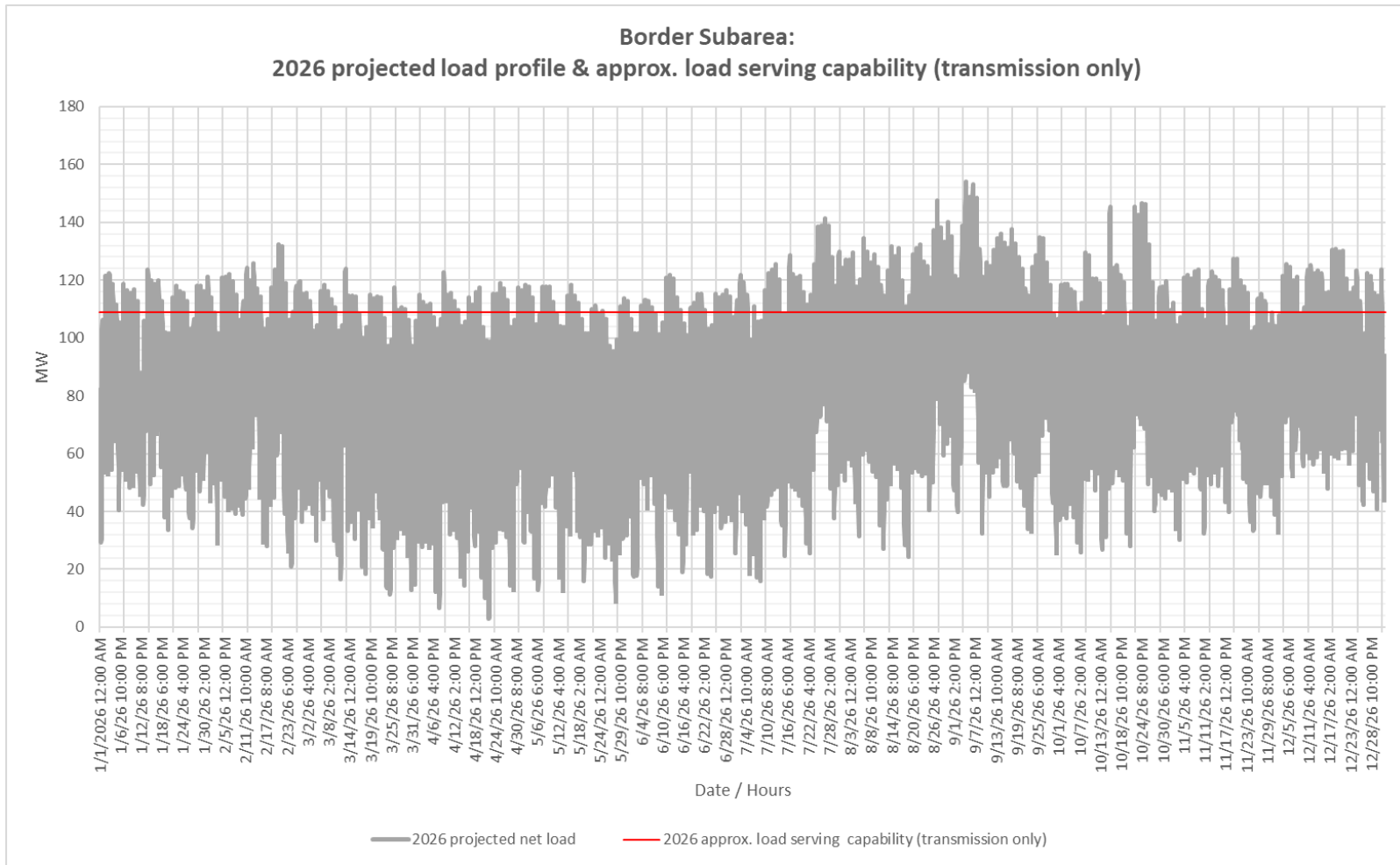
Border Sub-area Load Profiles - 2022



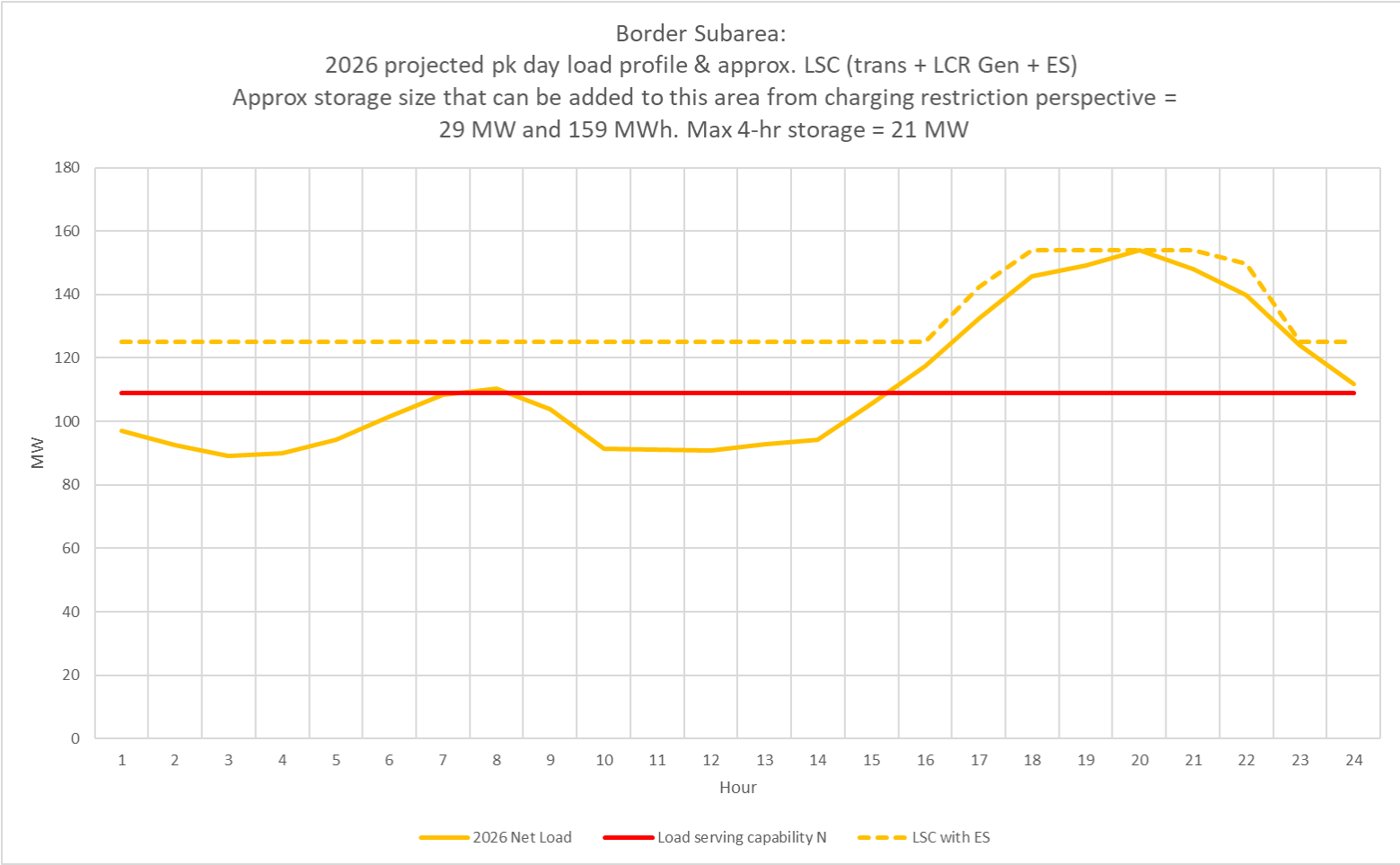
Border Sub-area Daily Load Profiles and L-1 Load Serving Capability - 2022



Border Sub-area Annual Load Profiles - 2026



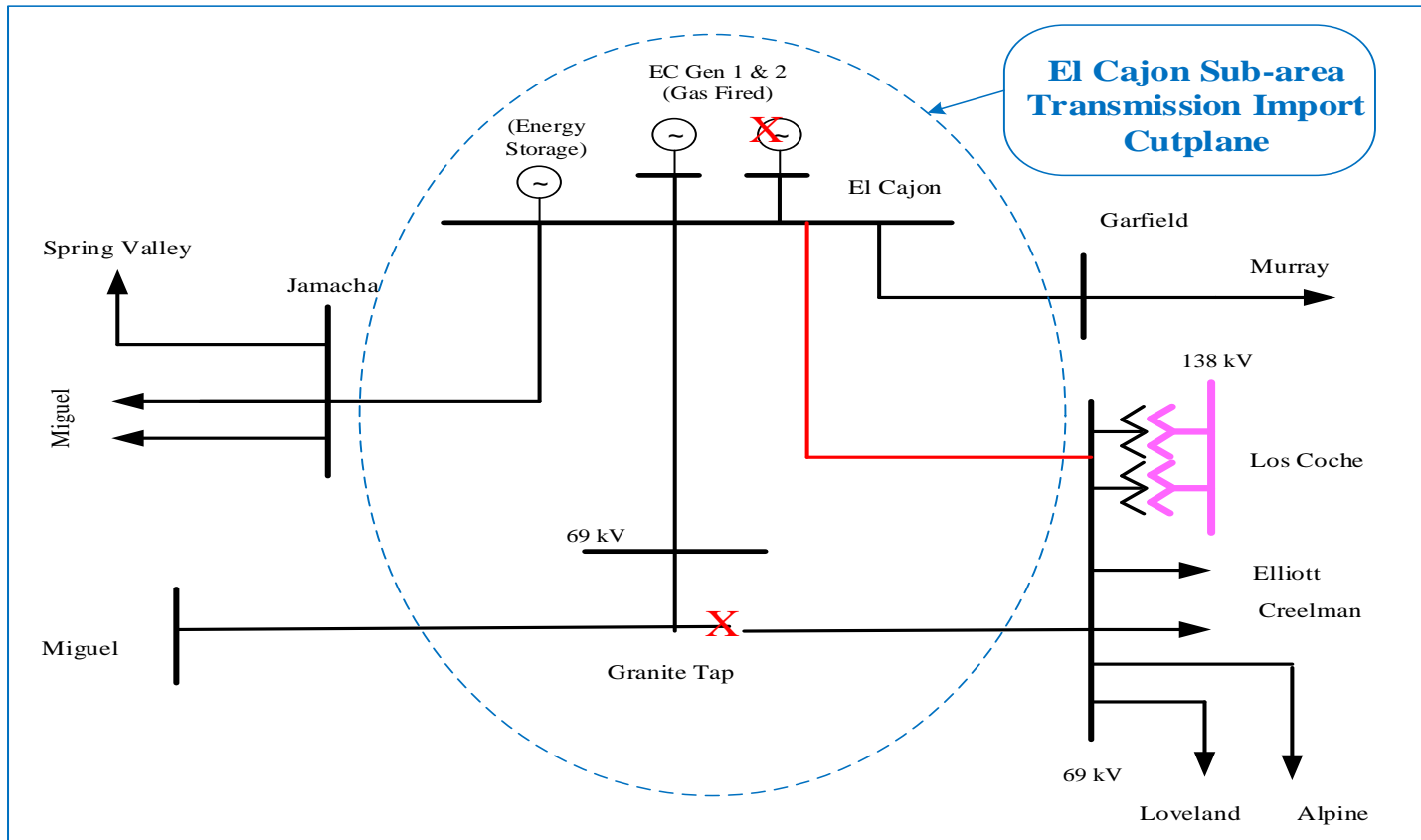
Border Sub-area Daily Load Profiles and L-1 Load Serving Capability - 2026



El Cajon Sub-area: Load and Resources

		2022	2026
Load (MW)	Gross Load	154	155
	AAEE	-1	-1
	Behand-The-Meter PV	0	0
	Net Load	153	154
	Transmission Loss	1	1
	Net Load + Loss	154	155
Resources (MW)	Gas-Fired	93.5	93.5
	Solar PV	0	0
	Wind	0	0
	QF/Other	0	0
	Demand Response	0	0
	Energy Storage	7.5	7.5

El Cajon Sub-area: One-line diagram

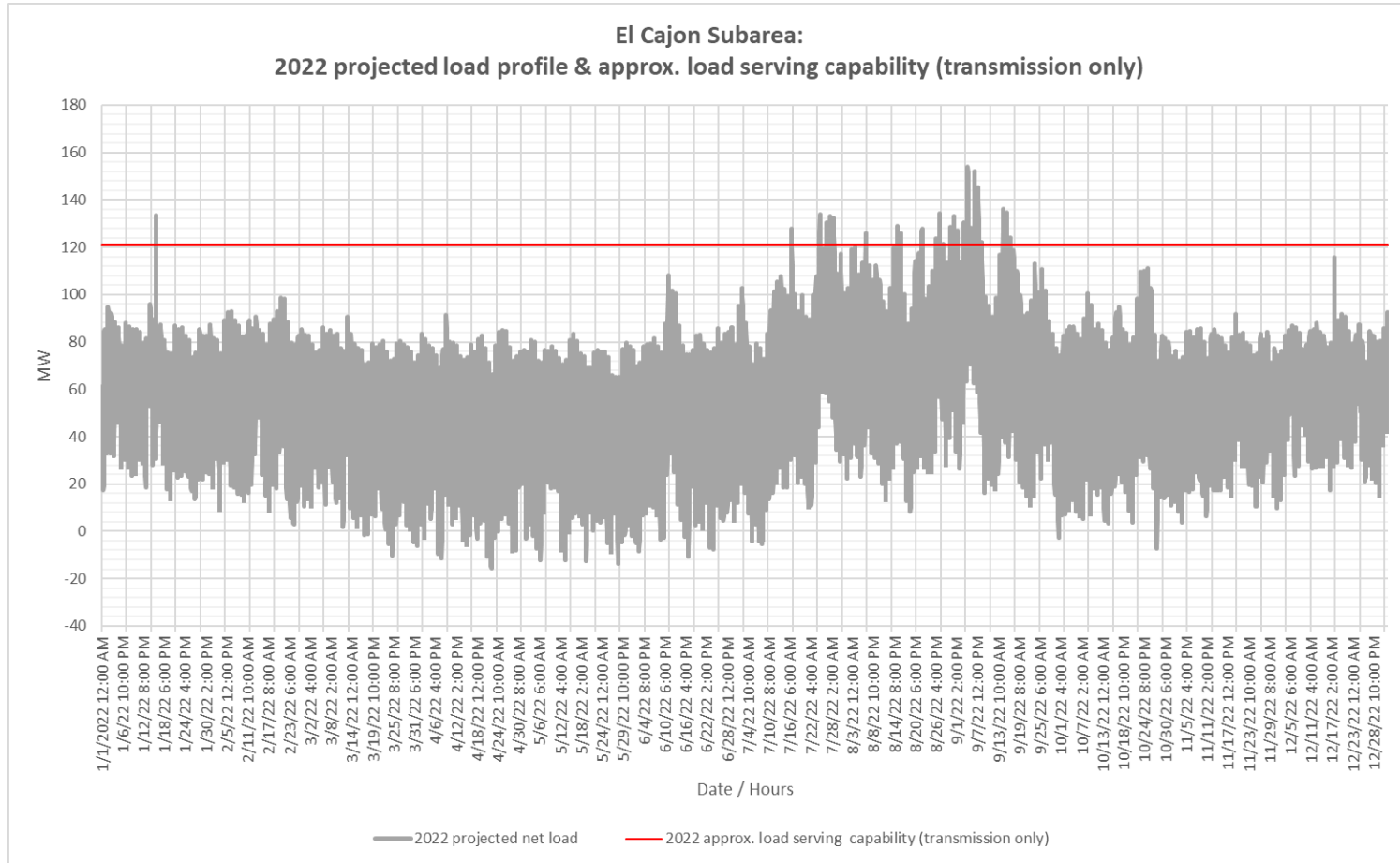


El Cajon Sub-area: LCR Requirement

Year	Category	Contingency	Limiting Facility	LCR (MW)
2022	P3	El Cajon unit out of service followed by the outage of TL632 Granite–Los Coches–Miguel 69 kV 3-terminal line	El Cajon-Los Coches 69 kV (TL631)	88
2026	P3	El Cajon unit out of service followed by the outage of TL632 Granite–Los Coches–Miguel 69 kV 3-terminal line	El Cajon-Los Coches 69 kV (TL631)	99

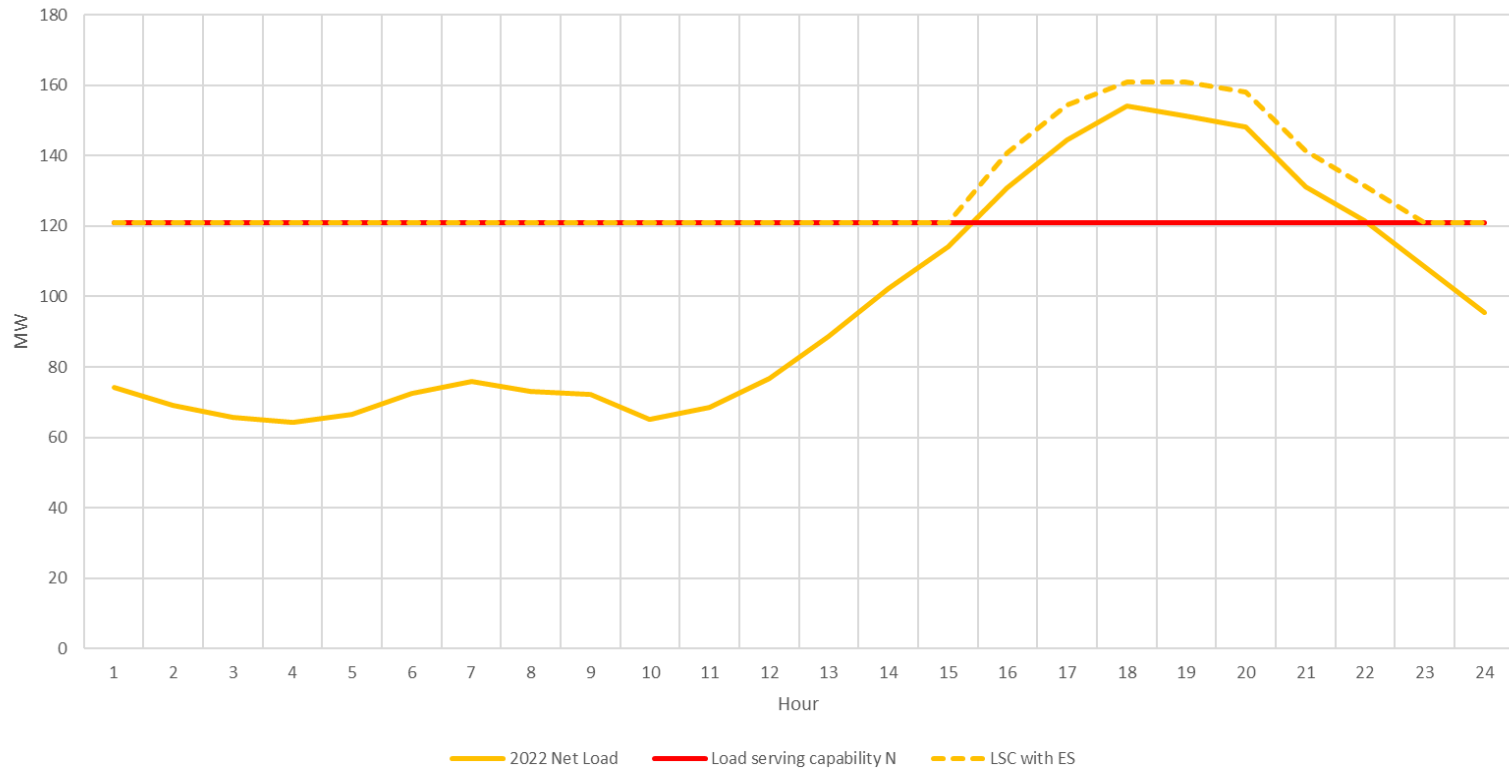
The LCR needs for the El Cajon sub-area will be eliminated with the completions of the TL632 Granite loop-in and TL6914 reconfiguration project, currently scheduled for 10/2026.

El Cajon Sub-area Annual Load Profiles - 2022

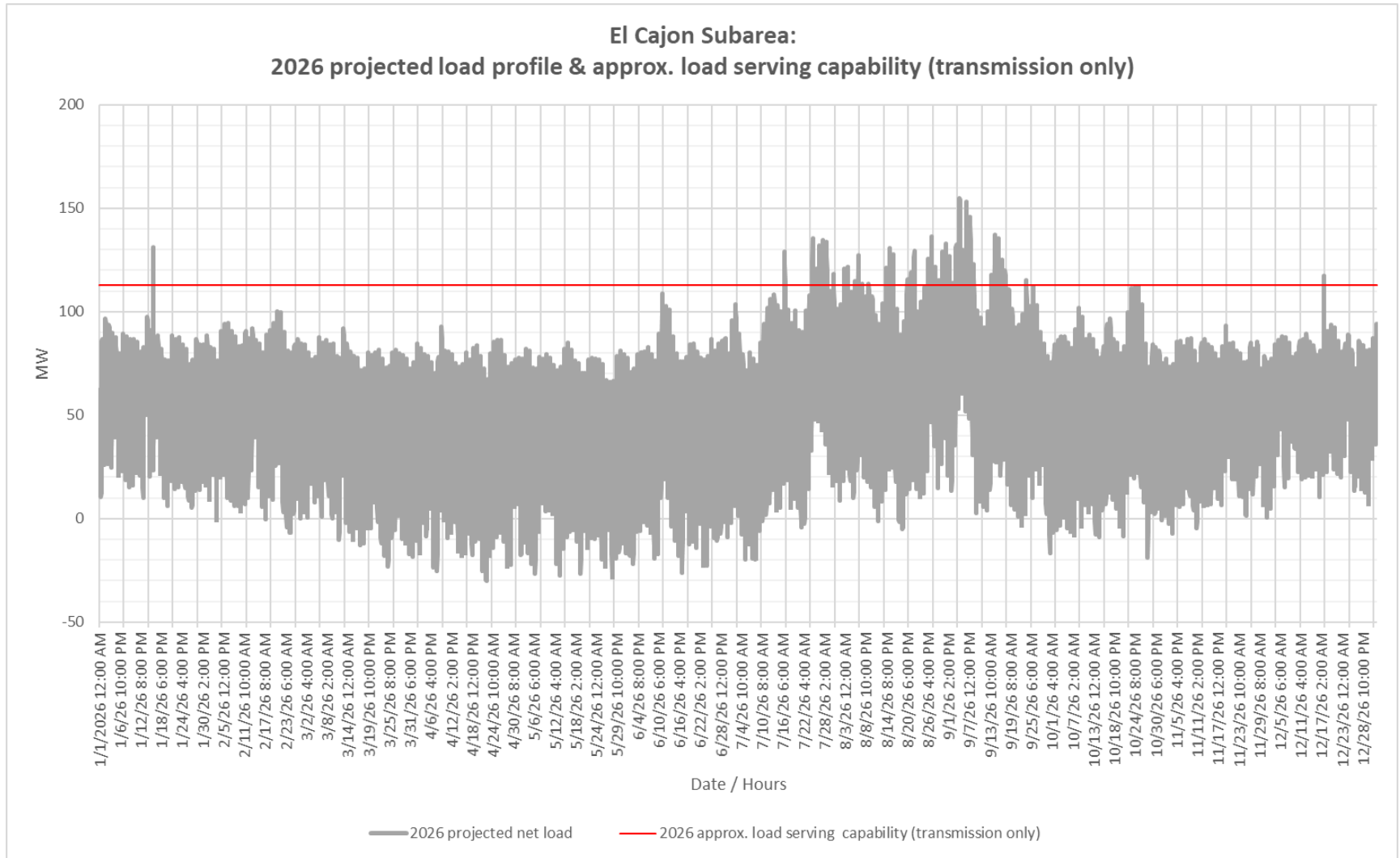


El Cajon Sub-Area Daily Load Profiles and L-1 Load Serving Capability - 2022

El Cajon Subarea:
2022 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 =
40 MW and 202 MWh. Max 4-hr storage = 40 MW

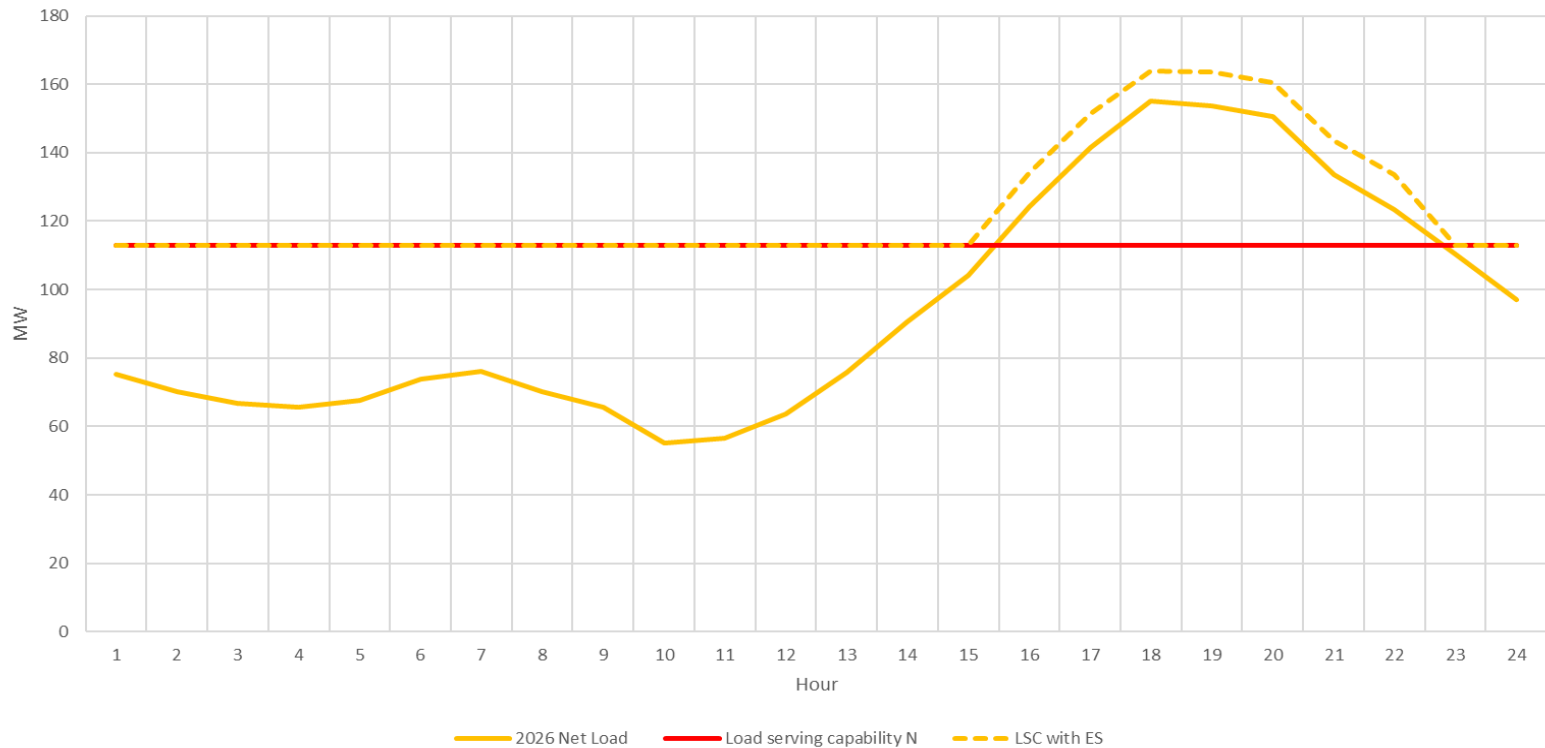


El Cajon Sub-area Annual Load Profiles - 2026



El Cajon Sub-Area Daily Load Profiles and L-1 Load Serving Capability - 2026

El Cajon Subarea:
2026 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 =
51 MW and 260 MWh. Max 4-hr storage = 51 MW



Changes Compared to Previous LCR Requirements

Sub-Area	2021 LCR	2025 LCR	2022 LCR	2026 LCR	Major Reason for LCR Change
	(MW)	(MW)	(MW)	(MW)	
Border	60	62	68	77	network modelling adjustment
El Cajon	92	99	88	99	load forecast variation