































Table A1-3: Existing generation plants in SDG&amp;E planning area

Planning Area	Generating Plant	Maximum Capacity
SDG&E	Otay Mesa GT1	185.1
	Otay Mesa GT2	185.1
	Otay Mesa ST1	233.5
	Larkspur Border 1	46.0
	Larkspur Border 2	46.0
	Cabrillo	3.1
	Capistrano	5.3
	Carlton Hills	1.6
	Carlton Hills	0.3
	Chicarita	3.7
	Border/Calpeak	48.0
	El Cajon/Calpeak	45.4
	Escondido/Calpeak	48.0
	DIVSON_6_NSQF	41.7
	East Gate	0.3
	Encina 2	104.0
	Encina 3	110.0
	Encina 5	300.0
	Encina 4	330.0
	Encina GT	14.5
	MMC-Electrovest (Escondido)	49.5
	Palomar_CT1	162.4
	Palomar_CT2	162.4
	Palomar_ST	240.8
	Goalline	38.4
	Mesa Heights	3.6
	Miramar 1	48.0
	Miramar 2	47.9
	Mission	0.7
	North Island	36.4
	Otay Landfill I	2.8
	Otay Landfill II	2.6
	Covanta Otay 3	3.5
	MMC-Electrovest (Otay)	35.5
	Orange Grove 1	50.0
	Orange Grove 2	50.0
	NTC Point Loma Steam turbine	2.0
	NTC Point Loma	19.4
	Sampson	1.0
	San Marcos Landfill	0.7
El Cajon Energy Center	48.1	
Lake Hodges Pumped Storage 1	20.0	

Planning Area	Generating Plant	Maximum Capacity
	Lake Hodges Pumped Storage 2	20.0
	BREGGO SOLAR (NQC)	26.0
	Kumeyaay	50.0
	East County	155.0
	Ocotillo Express	265.0
	Miramar GT 1	17.0
	Miramar GT 2	16.0
	Naval Station	47.0
	El Cajon GT	13.0
	Ash	0.9
	Rancho Santa Fe 1	0.4
	Rancho Santa Fe 2	0.3
	Murray	0.2
	Kyocera	0.1
	<b>SDG&amp;E Area Total</b>	<b>3,388</b>



Table A1-4: Existing generation plants in VEA planning area

<b>Planning Area</b>	<b>Generating Plant</b>	<b>Maximum Capacity</b>
<b>VEA</b>	Community Solar (WDAT)	15
	<b>VEA Area Total</b>	<b>15</b>

## 2 Retired Generation (non-OTC)

Table A2-1: Generation plants projected to be retired in planning horizon

<b>PTO Area</b>	<b>Project</b>	<b>Capacity (MW)</b>	<b>Expected Retirement Year</b>
<b>SCE</b>	Ellwood	54	2021

### 3 Planned Generation

Table A3-1: Planned Generation

PTO Area	Project	Capacity (MW)	Expected In-service Year
SCE	Huntington Beach Energy Project Unit 6 (CCGT) *	644	2020
	Alamitos Energy Center Unit 8 (CCGT) *	640	2020

**Notes:**

\*These projects have received PPTA approvals from the CPUC as part of Long Term Procurement Plan (LTPP) process.

## 4 Reactive Resources

Table A4-1: Summary of key existing reactive modeled in ISO reliability assessments

Substation	Capacity (Mvar)	Technology
Gates	225	Shunt Capacitors
Los Banos	225	Shunt Capacitors
Gregg	150	Shunt Capacitors
McCall	132	Shunt Capacitors
Mesa (PG&E)	100	Shunt Capacitors
Metcalf	350	Shunt Capacitors
Olinda	200	Shunt Capacitors
Table Mountain	454	Shunt Capacitors
Devers	156 & 605 (dynamic capability)	Static VAR Compensator
Rector	200	Static VAR Compensator
Santiago	3x81	Synchronous Condensers
Sunrise San Luis Rey	63	Shunt Capacitors
Southbay / Bay Boulevard	100	Shunt Capacitors
Mira Loma 230kV	158	Shunt Capacitors
Mira Loma 500kV	300	Shunt Capacitors
Suncrest	126	Shunt Capacitors
Penasquitos	126	Shunt Capacitors
San Luis Rey	2x225	Synchronous Condensers
Talega	2x225	Synchronous Condensers
Talega	100	STATCOM
Miguel	2x225	Synchronous Condensers
San Onofre	225	Synchronous Condensers

## 5 Special Protection Schemes

Table A5-1: Existing Special Protection Schemes in the PG&E area

PTO	Area	SPS Name
PG&E	Central Coast / Los Padres	Mesa and Santa Maria Undervoltage SPS
	Central Coast / Los Padres	Divide Undervoltage SPS
	Central Coast / Los Padres	Temblor-San Luis Obispo 115 kV Overload Scheme
	Bulk	COI RAS
	Bulk	Colusa SPS
	Bulk	Diablo Canyon SPS
	Bulk	Gates 500/230 kV Bank #11 SPS
	Bulk	Midway 500/230 kV Transformer Overload SPS
	Bulk	Path 15 IRAS
	Bulk	Path 26 RAS North to South
	Bulk	Path 26 RAS South to North
	Bulk	Table Mt 500/230 kV Bank #1 SPS
	Central Valley	Drum (Sierra Pacific) Overload Scheme (Path 24)
	Central Valley	Stanislaus – Manteca 115 kV Line Load Limit Scheme
	Central Valley	Vaca-Suisun 115 kV Lines Thermal Overload Scheme
	Central Valley	West Sacramento 115 kV Overload Scheme
	Central Valley	West Sacramento Double Line Outage Load Shedding SPS Scheme
	Greater Fresno Area	Ashlan SPS
	Greater Fresno Area	Atwater SPS
	Greater Fresno Area	Gates Bank 11 SPS
Greater Fresno Area	Helms HTT RAS	
Greater Fresno Area	Helms RAS	

	Greater Fresno Area	Henrietta RAS
	Greater Fresno Area	Herndon-Bullard SPS
	Greater Fresno Area	Kerckhoff 2 RAS
	Greater Fresno Area	Reedley SPS
	Greater Bay Area	Metcalf SPS
	Greater Bay Area	SF RAS
	Greater Bay Area	South of San Mateo SPS
	Greater Bay Area	Metcalf-Monta Vista 230kV OL SPS
	Greater Bay Area	San Mateo-Bay Meadows 115kV line OL
	Greater Bay Area	Moraga-Oakland J 115kV line OL RAS
	Greater Bay Area	Grant 115kV OL SPS
	Greater Bay Area	Oakland 115 kV C-X Cable OL RAS
	Greater Bay Area	Oakland 115kV D-L Cable OL RAS
	Greater Bay Area	Sobrante-Standard Oil #1 & #2-115kV line
	Greater Bay Area	Gilroy SPS
	Greater Bay Area	Transbay Cable Run Back Scheme
	Humboldt	Humboldt – Trinity 115kV Thermal Overload Scheme
	North Valley	Caribou Generation 230 kV SPS Scheme #1
	North Valley	Caribou Generation 230 kV SPS Scheme #2
	North Valley	Cascade Thermal Overload Scheme
	North Valley	Hatchet Ridge Thermal Overload Scheme
	North Valley	Coleman Thermal Overload Scheme

Table A5-2: Existing Special Protection Schemes in SCE area

PTO	Area	SPS Name
SCE	Antelope-Bailey	Antelope-RAS
	Big Creek Corridor	Big Creek / San Joaquin Valley RAS
	North of Lugo	Bishop RAS
	North of Lugo	High Desert Power Project RAS
	North of Lugo	Kramer RAS
	Antelope-Bailey	Midway-Vincent RAS
	Antelope-Bailey	Lancaster N-2 Line Loss Tripping Scheme
	Antelope-Bailey	Palmdale N-2 Line Loss Tripping Scheme
	Antelope-Bailey	Pastoria Energy Facility Existing RAS
	North of Lugo	Reliant Energy Cool Water Stability Tripping Scheme
	Eastern Area	West-of-Devers Remedial Action Scheme
	Eastern Area	Colorado River Corridor SPS
	Eastern Area	Inland Empire Area RAS
	Eastern Area	Blythe Energy RAS
	Eastern Area	Eagle Mountain Thermal Overload Scheme
	Metro Area	El Nido N-2 Remedial Action Scheme
	Metro Area	Mountain view Power Project Remedial Action Scheme
	Metro Area	South of Lugo N-2 Remedial Action Scheme
	Metro Area	Mira Loma Low Voltage Load Shedding
	Metro Area	Santiago N-2 Remedial Action Scheme
	Metro Area	Valley Direct Load Trip Remedial Action Scheme
Metro Area	El Segundo N-2 Remedial Action Scheme	

Table A5-3: Existing Special Protection Schemes in the SDG&E

PTO	Area	SPS Name
SDG&E	SDG&E	TL695A at Talega SPS
	SDG&E	TL682/TL685 SPS
	SDG&E	TL633 At Rancho Carmel SPS
	SDG&E	TL687 at Borrego SPS
	SDG&E	TL13816 SPS
	SDG&E	TL13835 SPS
	SDG&E	Border TL649 Overload SPS
	SDG&E	Crestwood TL626 at DE SPS for Kumeyaay Wind Generation
	SDG&E	Crestwood TL629 at CN SPS for Kumeyaay Wind Generation
	SDG&E	Crestwood TL629 at DE SPS for Kumeyaay Wind Generation
	SDG&E	230kV TL 23040 Otay Mesa – Tijuana SPS (currently disabled and will not be enabled until its need is reevaluated with CENACE)
	SDG&E	230kV Otay Mesa Energy Center Generation SPS
	SDG&E	ML (Miguel) Bank 80/81 Overload SPS
	SDG&E	CFE SPS to protect lines from La Rosita to Tijuana
	SDG&E	TL 50001 IV Generator Drop SPS
	SDG&E	TL 50003 IV Generator Drop SPS
	SDG&E	TL 50004 IV Generator Drop SPS
	SDG&E	TL 50005 IV Generator Drop SPS
	SDG&E	TL 50001 IV Generator SPS
	SDG&E	Imperial Valley BK80 RAS
	SDG&E	TL23040 IV 500 kV N-1 RAS
SDG&E	TL 23054 / TL23055 RAS	
SDG&E	Path 44 South of SONGS Safety Net	