2019 & 2023 Final LCR Study Results
Greater Bay Area

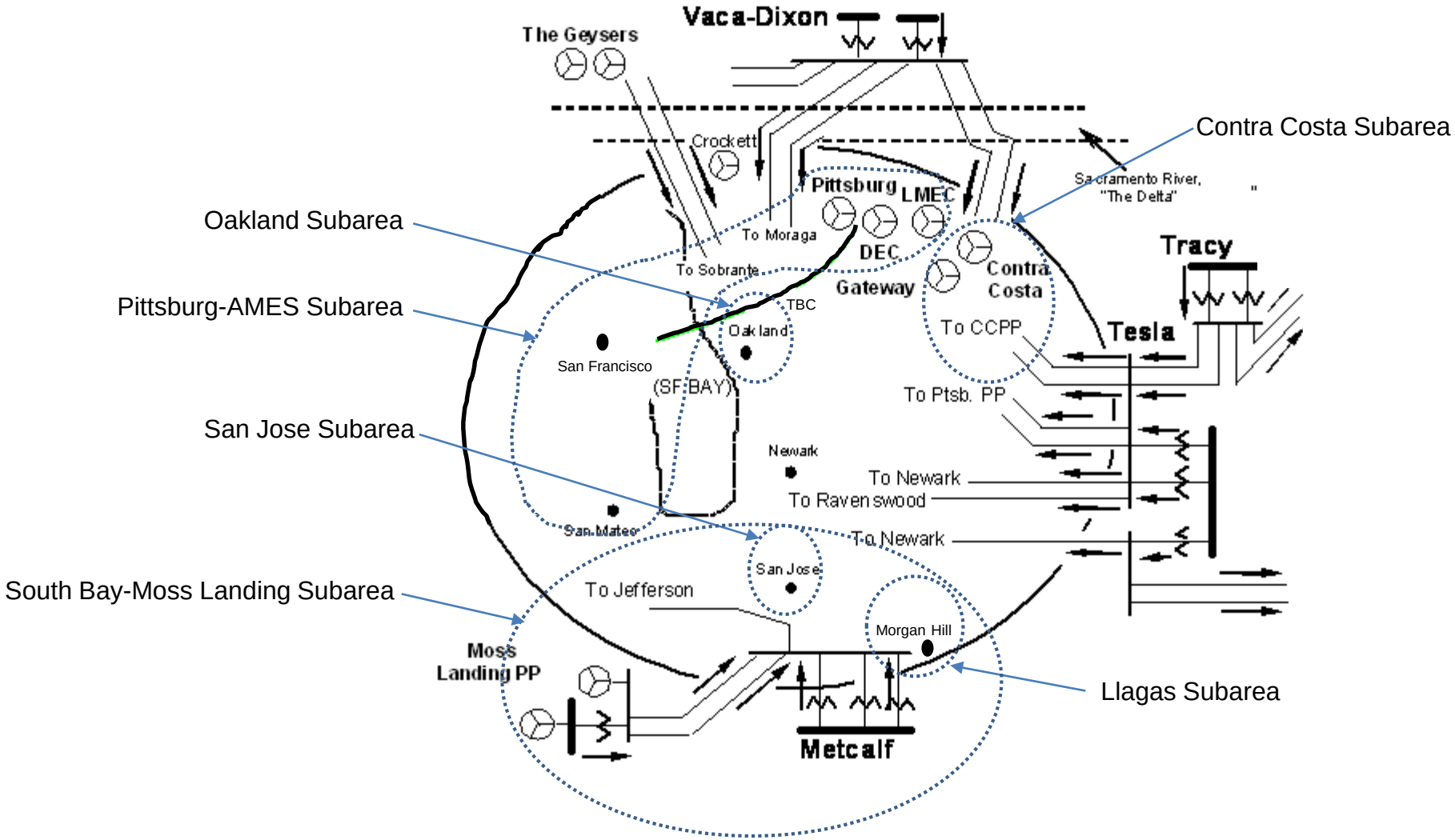
Binaya Shrestha

Regional Transmission Engineer Lead

Stakeholder Call

May 1, 2019

Greater Bay Area Transmission System



New major transmission projects

2019:

- Metcalf-Evergreen 115 kV Line Reconductoring
- South of San Mateo Capacity Increase (revised scope)
- San Jose-Trimble 115 kV Line Limiting Facility Upgrade
- Moss Landing–Panoche 230 kV Path Upgrade
- San Jose-Trimble 115 kV Series Reactor

2023 (Additional):

- Oakland Clean Energy Initiative Project (Oakland CTs assumed retired)
- Morgan Hill Area Reinforcement (revised scope)
- Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
- East Shore-Oakland J 115 kV Reconductoring Project
- Vaca Dixon-Lakeville 230 kV Corridor Series Compensation

Power plant changes

Additions:

- No new resource addition

Retirements:

- United Co
- Tres Vaqueros Wind
- Container

Bay Area Load and Resources (MW)

		2019	2023
Gross Load	=	10,160	10,502
AAEE	=	-137	- 465
Behind the meter DG	=	-230	-61
Net Load	**=**	**9,793**	**9,976**
Transmission Losses	=	217	245
Pumps	=	220	220
Load + Losses + Pumps	**=**	**10,230**	**10,441**
Market Generation	=	6,128	6,106
Wind Generation	=	320	321
Muni Generation	=	382	382
QF Generation	=	246	245
Total Qualifying Capacity	=	**7,076**	**7,054**

San Jose Sub Area

San Jose Sub-area – Category B

2019 LCR need: No requirement.
2023 LCR need: No requirement.

San Jose Sub-area – Category C

Contingency: Newark-Los Esteros 230kV Line overlapped with Metcalf-Los Esteros 230kV Line
Limiting component: Newark-NRS 115kV Line
2019 LCR need: 177 MW
2023 LCR need: 293 MW

Llagas Sub Area

Llagas Sub-area – Category B

Contingency: Metcalf D-Morgan Hill 115 kV with one of the Gilroy peakers off line
Limiting component: Morgan Hill-Llagas 115 kV line
2019 LCR need: 77 MW
2023 LCR need: No requirement.

Llagas Sub-area – Category C

2019 LCR need: Same as Category B

Contingency: Metcalf-Morgan Hill 115 kV overlapped with outage of Morgan Hill-Green Valley 115 kV line
Limiting component: Morgan Hill-Llagas 115 kV Line
2023 LCR need: 13 MW

South Bay-Moss Landing Sub Area

South Bay-Moss Landing Sub-area – Category B

2019 LCR need: No requirement.
2023 LCR need: No requirement.

South Bay-Moss Landing Sub-area – Category C

Contingency: Tesla-Metcalf 500 kV and Moss Landing-Los Banos 500 kV
Limiting component: Thermal overload of Las Aguillas-Moss Landing 230 kV
2019 LCR need: 1653 MW
2023 LCR need: 1977 MW

Resources in San Jose and Llagas sub-areas are also included in this sub-area.

Oakland Sub Area

Oakland Sub-area – Category B

2019 LCR need: No requirement

2023 LCR need: No requirement

Oakland Sub-area – Category C

Contingency: overlapping D-L and C-X #3 115 kV cables

Limiting component: Thermal overload on the C-X #2 115 kV cable.

2019 LCR need: 20 MW

2023 LCR need: No requirement

Ames/Pittsburg/Oakland Sub-Area

NCNB Sub-area – Category B

Contingency: Vaca Dixon-Tulucay 230 kV line with Delta Energy Center power plant out of service

Limiting component: Thermal overload on the Vaca Dixon-Lakeville 230 kV line

Ames/Pittsburg/Oakland Sub-area – Category C

Contingency1: DCTL Newark-Ravenswood & Tesla-Ravenswood 230 kV

Limiting component: Thermal overload on the Ames-Ravenswood #1 115 kV line

Contingency2: Moraga-Sobrante & Moraga-Claremont #1 115 kV

Limiting component: Thermal overload on the Moraga-Claremont #2 115 kV line

	2019 LCR need:	2023 LCR need:
NCNB:	689 MW	553 MW
Ames/Pittsburg/Oakland :	1741 MW	1630 MW

Contra Costa Sub Area

Contra Costa Sub-area – Category B

Contingency: Kelso-Tesla 230 kV with the Gateway off line
Limiting component: Thermal overload on the Delta Switching Yard-Tesla 230 kV Line
2019 LCR need: 1067 MW
2023 LCR need: 1145 MW

Contra Costa Sub-area – Category C

Same as Category B.

Greater Bay Area Overall

Bay Area Overall – Category B

Contingency: Tesla-Metcalf 500 kV line with Delta Energy Center out of service

Limiting component: Reactive margin within the Bay Area

2019 LCR need: 3670 MW

2023 LCR need: 3676 MW

Bay Area Overall – Category C

2019 LCR need: Sum of Category C from sub-area needs: 4461 MW

2023 LCR need: Sum of Category C from sub-area needs: 4752 MW

Greater Bay Area

Available Generation

Year	QF (MW)	Muni (MW)	Wind (MW)	Market (MW)	Max. Qualifying Capacity (MW)
2019	246	382	320	6128	7076
2023	245	382	321	6106	7054

Total LCR need

	Existing Generation Capacity Needed (MW)		Deficiency (MW)		Total MW Need	
	2019	2023	2019	2023	2019	2023
Category B (Single)	3670	3676	0	0	3670	3676
Category C (Multiple)	4461	4752	0	0	4461	4752

Changes

Since last year:

1) Updated NQC
2) 2019 load forecast is lower by 17 MW vs. 2018
3) LCR need has decreased by 699 MW vs. 2018 – due to new transmission projects
4) 2023 load forecast is higher by 261 MW vs. 2022
5) LCR need has decreased by 563 MW vs. 2022 – due to new transmission projects

Since last stakeholder meeting:

1) Updated NQC
2) Updated load totals (no change to study results)

THANK YOU

Your comments and questions are welcome.

For written comments, please send to: RegionalTransmission@caiso.com

Stay connected

@California_ISO

Download ISO Today mobile app

Sign up for the Daily Briefing at www.caiso.com