



California ISO

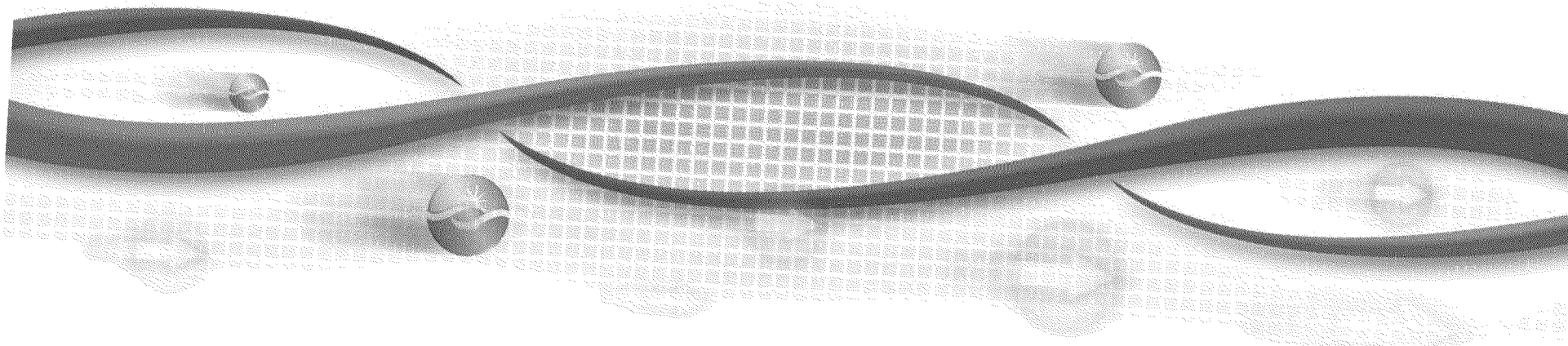
Shaping a Renewed Future

Agenda – Day 1 Preliminary Reliability Assessment Results

Tom Quccia

Senior Stakeholder Engagement and Policy Specialist

2013 / 2014 Transmission Planning Stakeholder Meeting
September 25 - 26, 2013



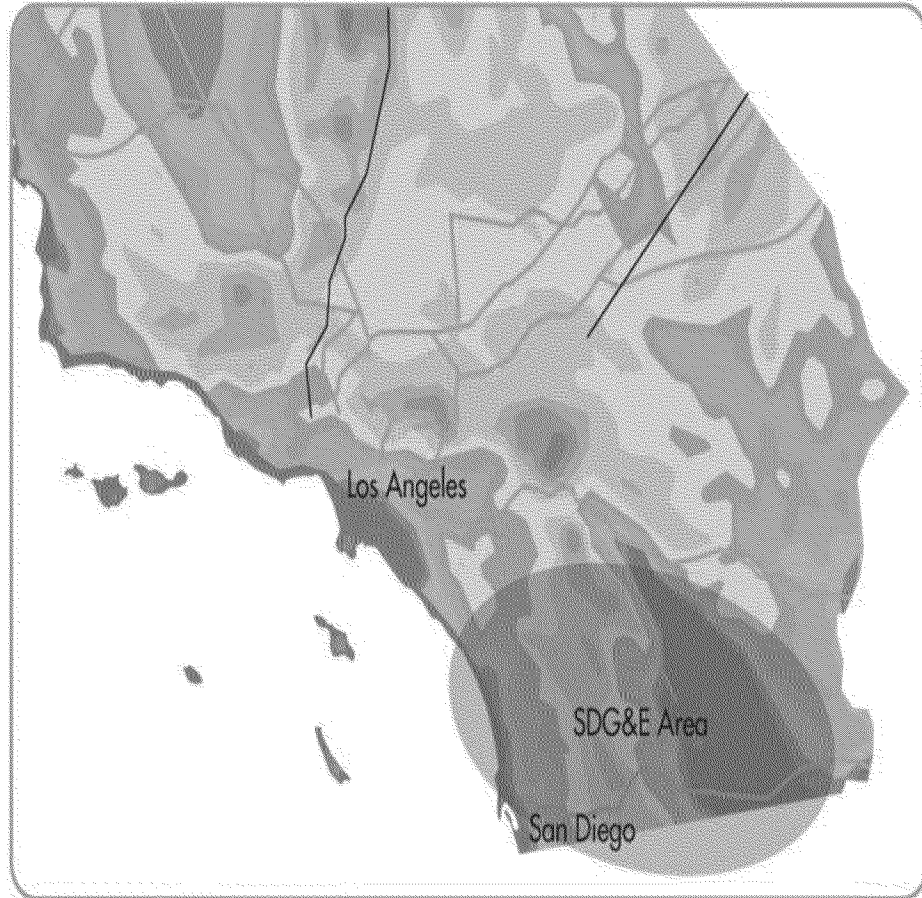


California ISO
Shaping a Renewed Future

San Diego Gas & Electric Area Preliminary Reliability Assessment Results

Frank Chen
Sr. Regional Transmission Engineer
2013 / 2014 Transmission Operational Assessment Stakeholder Meeting
September 25 - 26, 2013

SDG&E Area



- Consisted of main transmission facilities (230 / 500 kV) and transmission facilities (69 / 138 kV)
- Generation: Over 4,700 MW qualifying capacity by 2014
- SONGS Nuclear Plant retirement and OTC assumptions
- Summer Peak load of 5,784 with Energy Efficiency load reduction in 2023

SDG&E Area Assessment Summary

- The assessment identified:
 - 9 branches overloaded due to Category B outages
 - Various branches overloaded due to Category C outages
 - 5 buses with voltage concern for Category B outages
 - Various buses with voltage concern for Category C outages
 - 2 post-transient voltage instability concerns due to Category B and C outages
- Compared to last year results:
 - A few thermal violations in the main transmission system the SONGS retirement
 - Various thermal violations in the sub-transmission system
 - Previous approved projects eliminated multiple Category B C overloads

SDG&E Area Potential Solutions

■ Potential Mitigation Solutions

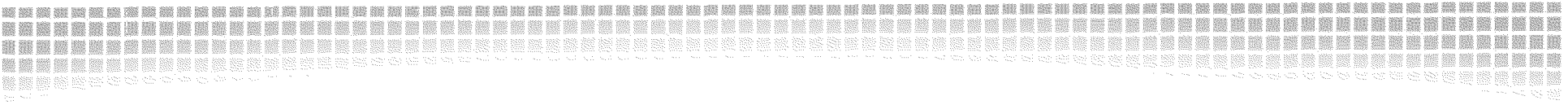
SDG&E 500 / 230 kV Transmission System

- Post-SONGS Transmission Strengthen Plan with various alternatives under investigation
- SPS, generation dispatch, Operational Procedures, or Load shed address Category B & C issues in the short term

SDG&E 138 / 69 kV Sub-Transmission System

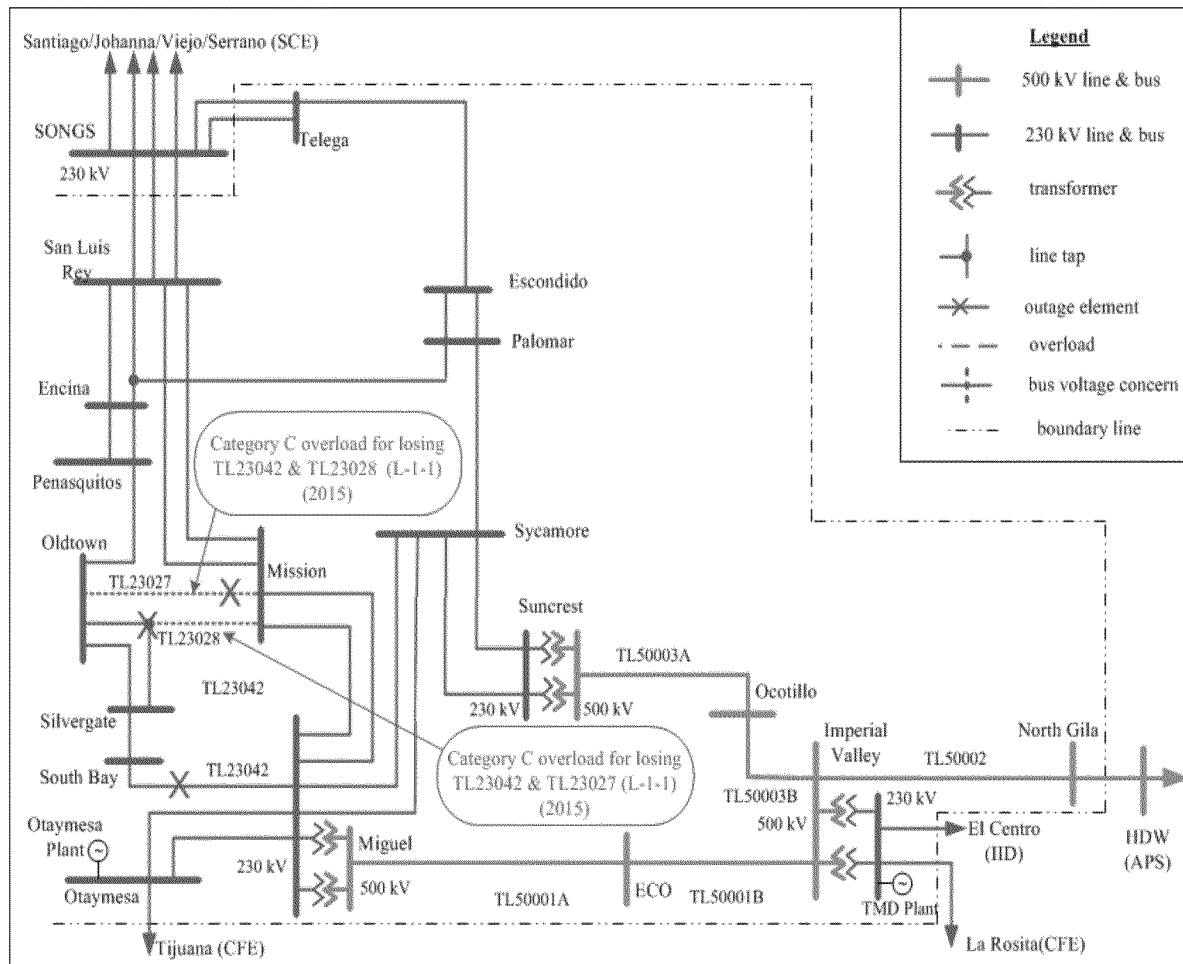
- 3 Network upgrades to address Category B issues, and 6 Network upgrades, generation dispatch, SPS, or Operational Procedures to address Category C issues in the Sub-Transmission System

Energy Efficiency, DG Demand Response as part of mitigations



SDG&E Main Transmission 500 / 230 kV System

Category C Thermal Violation - (1 6)



Mission-OldTown 230kV T/Ls

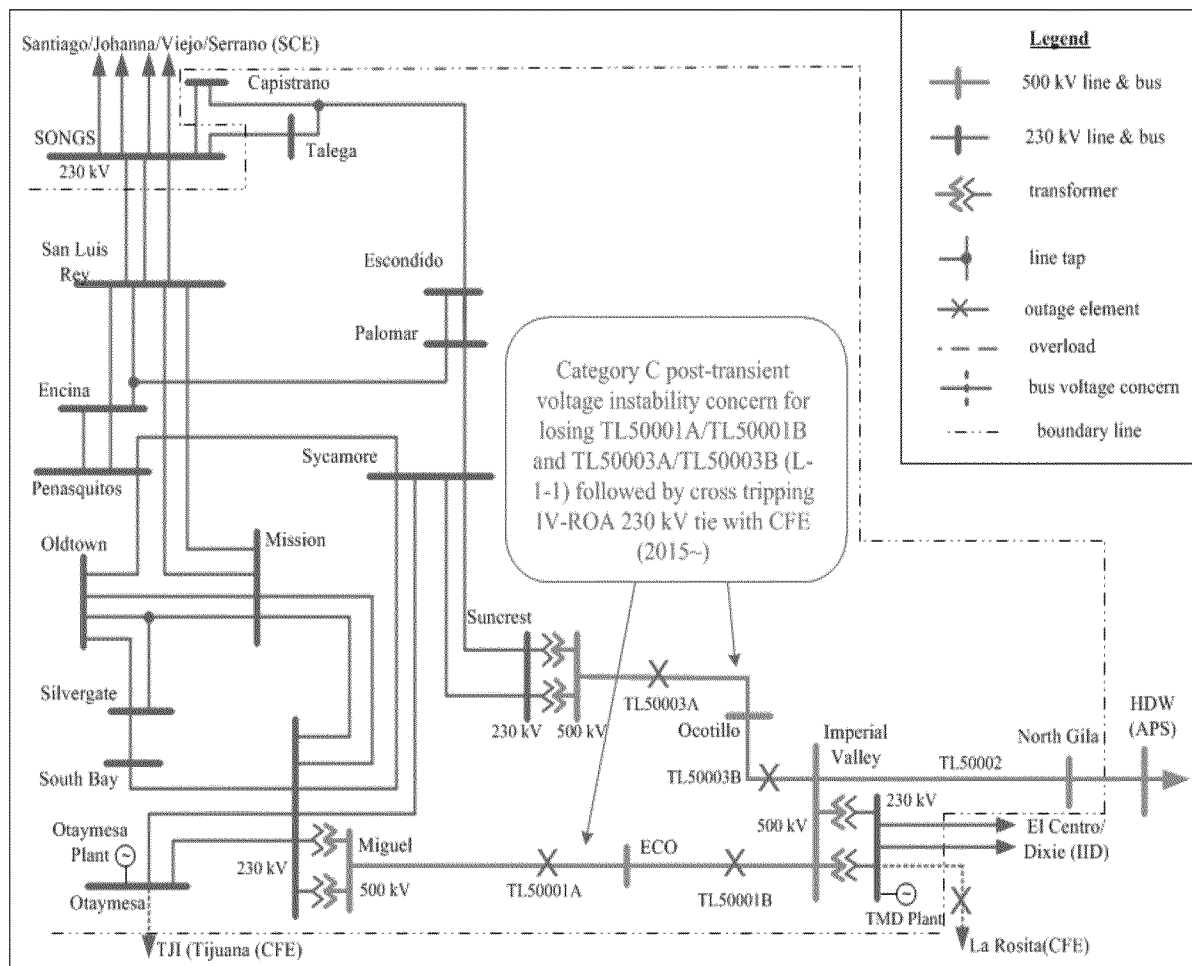
Thermal Overload

- ❖ TL23027 overload for losing TL23042 & TL23028 lines (2015)
- ❖ TL23028 overload for losing TL23042 & TL23027 lines (2015)

Potential Mitigation

- ❖ Temporary SPS or OP to shed load until SX-PQ 230 kV line in service
- ❖ Develop higher short term emergency line rating

Category C Post-Transient Voltage Instability Concern (2015~)



San Diego Area

Post-Transient Voltage Instability Concern

- ❖ For losing TL50001A/TL50001B and TL50003A/TL50003B (L-1-1) followed by cross tripping IV-ROA 230 kV tie with CFE (2015~)

Potential Mitigation

- ❖ OP, generation dispatch, load shed as needed in the short term
- ❖ Post-SONGS Transmission Plan in the long term