



City Council

Item #1: Silicon Valley Power Quarterly Update

RTC 23-757

July 18, 2023

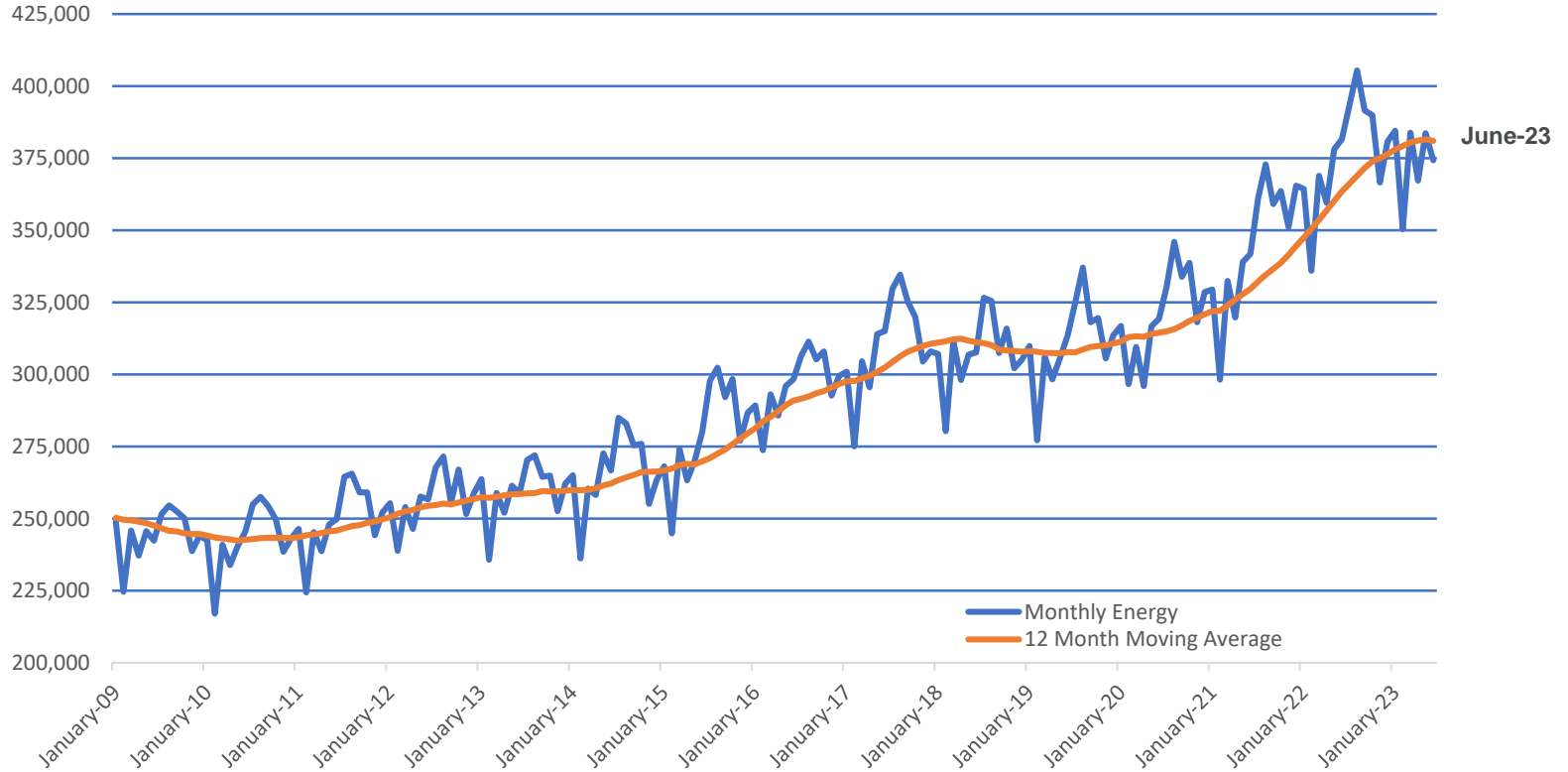


Agenda

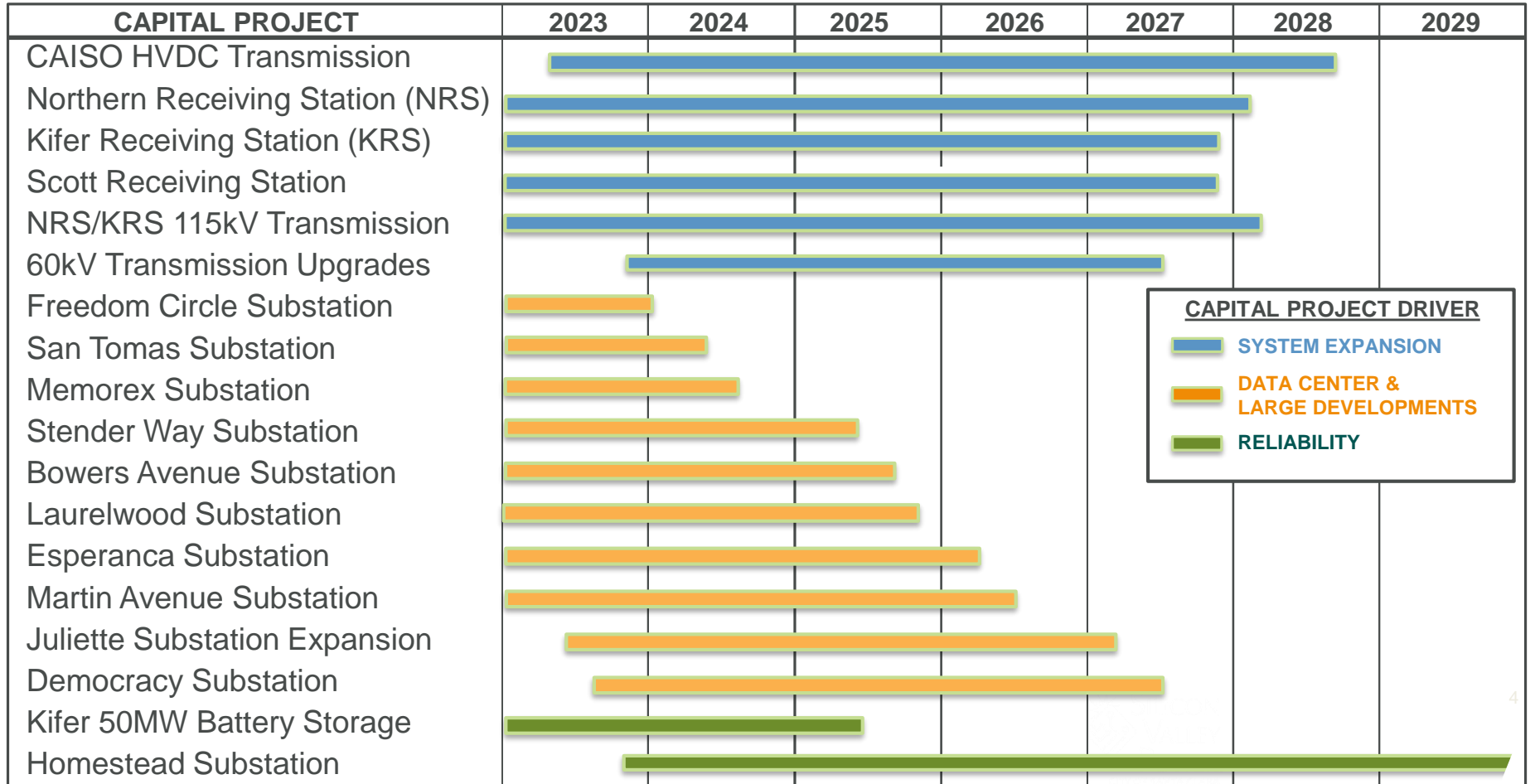
- Load Growth
- Capital Projects Update
- System Capacity Expansion Program
- BESS Update
- Electric Vehicle Update
- Solar Programs
- Upcoming Items

SVP Historic Load Growth

Megawatt Hours (MWh)



Electric Utility Capital Projects



CAISO Transmission Line from PG&E Newark Station to SVP Northern Receiving Station

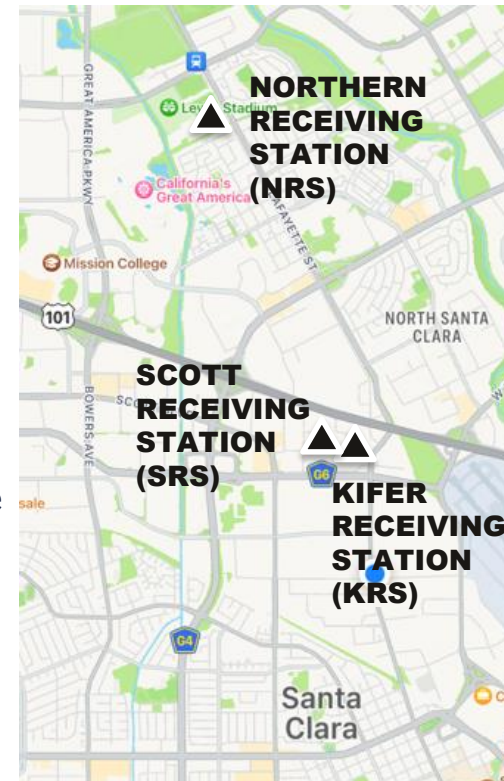
- Project scope:
 - Two High Voltage Direct Current (HVDC) Terminals,
 - ± 320 kV HVDC underground and overhead transmission line between the terminals (preliminary preferred route is ~8 miles)
 - 230 kV interconnection at each station
- CAISO awarded to LS Power on March 7, 2023
- Target in-service date by mid 2028
- Coordination meetings with SVP currently underway





SVP Receiving Station Upgrades

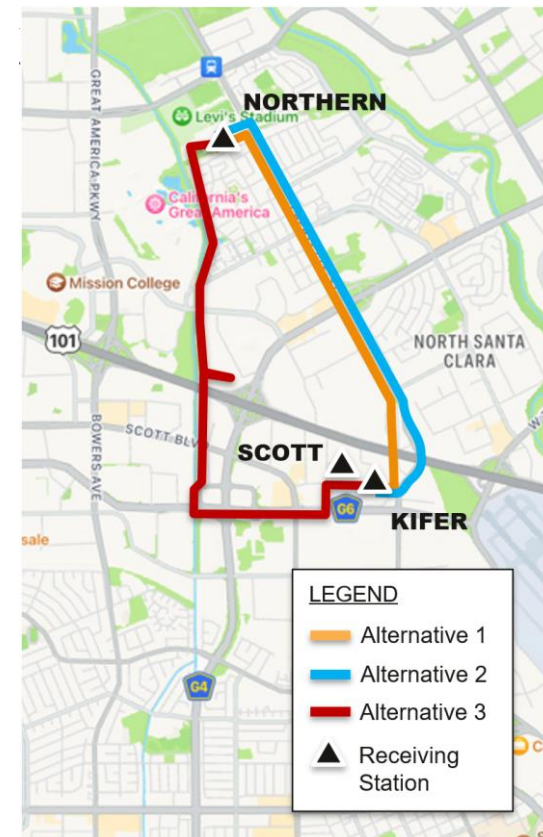
- Northern Receiving Station (NRS):
 - Relocation of two existing PG&E 115 kV overhead connections and CAISO meters, additional transformers, upgrade of existing main/transfer bus configurations, circuit breakers, disconnect switches and system protection improvements.
 - Stantec - 30% design is underway
 - Currently working on procurement for switches for Breaker 412 Mitigation
- Scott and Kifer Receiving Stations (SRS & KRS):
 - Full Rebuild - New 60kV/115kV Switchgear, control rooms, transformers, circuit breakers, disconnecting earthing switches, cable sealing, relocation of 60kV and 115kV transmission lines associated with each substation and removal of the existing substation at two sites.
 - TRC - 30% design is underway
 - Currently working on procurements for switchgear and control room enclosures





115kV Transmission Line Northern to Kifer Receiving Stations

- Project Scope: Construct a new 115kV transmission line between Northern Receiving Station and Kifer Receiving Station. The line will be designed to the higher 230 kV standards and energized at 115 kV.
- Electrical Consultants, Inc. was selected as the design consultant and a Route Analysis Report has been prepared.
- Verification of route feasibility will be performed by potholing for buried utilities prior to a final route recommendation.





Transformer Procurement for SVP Receiving Stations

- Proposals received on May 2, 2023
- Proposals are currently under evaluation/best and final offer (BAFO) for recommended selection
- Base quantity of two 240kV and nine 115kV transformers
 - Optional quantity is being considered. SVP has option to purchase future quantity based on this selection.
- Request for award and purchasing approval will come to Council in Fall 2023
- Procurement Lead Time average of 20 months with potential of 40+ months



Kifer Battery Energy Storage Project

Size:

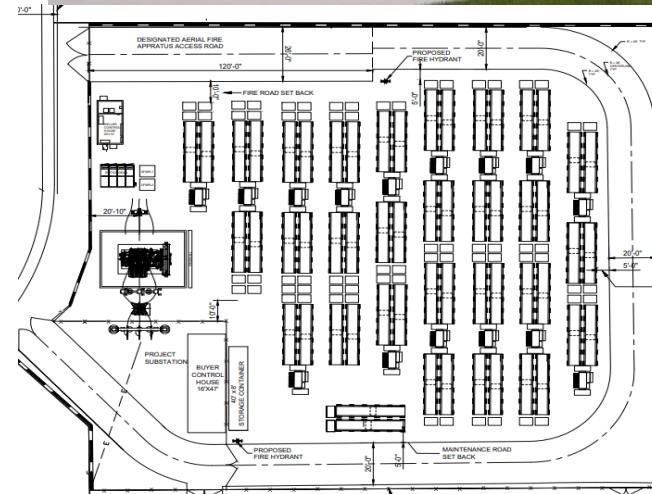
- Capacity up to 50MW/200MWh (4 hours daily)
 - Currently anticipating 45MW/180MWh of Guaranteed Capacity, with additional 5MW/20MWh of Excess Capacity
 - Tesla Megapack technology

Estimated costs:

- \$4 million in Capital Costs
- \$7 M annually with 3.5% annual escalator for 20-year term

Benefits:

- Increased local area capacity for system reliability and flexibility
- Serves peak load
- Increase use of renewable energy
- Ability to perform intraday energy arbitrage
- Qualifies for CAISO Resource Adequacy
- Enhanced Resiliency
 - May reduce load shedding events during high stressed conditions on the grid.



Located on Raymond Street next to DVR Powerplant and new Kifer Receiving Station



Kifer Battery Energy Storage Project

Status:

- PPA and Lease near completion (execution in August)
- Final MND posted to City website
 - Draft Resolution near final, currently drafting RTC to request Council adoption (August)
- Interconnection Agreement near completion (requesting Council approval in August)
- Utility Location Survey and Topo Survey Completed

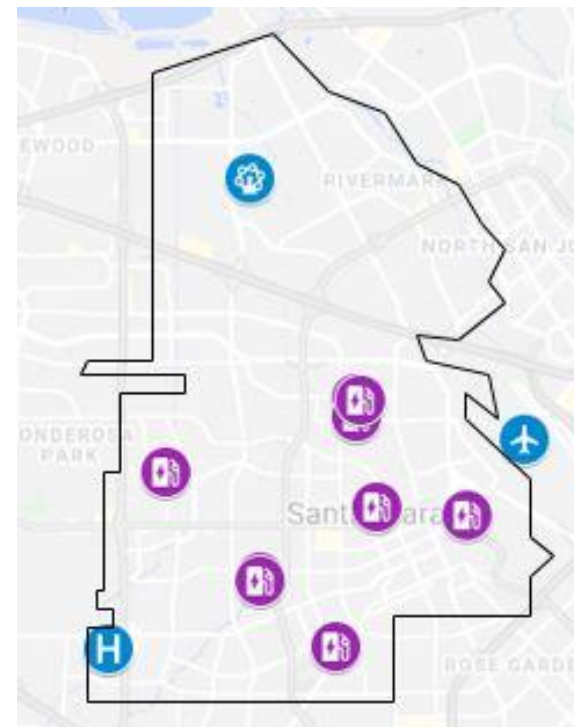
Next Steps:

- Upon execution of contracts
 - Ameresco to begin design and place order for equipment
 - Battery and Balance of Plant Equipment order anticipated in Oct/Nov 2023
 - Environmental Assessment for Permit Request
- Demo to begin in Q4 2023
- CAISO Phase II Interconnection Study Report to be published 1/31/2024
 - PG&E to complete Affected System Study
- Project construction to begin in Summer 2024
- Equipment to be delivered in Fall 2024
- COD anticipated summer 2025



Chargers and Grants

- Phase 2 Installations Complete – commissioning through June
 - Fleet (39 ports) - Police Dept, Utility Yard, Parks Service Center
 - Public (10 ports) - Central Park Tennis Courts, Henry Schmidt, Machado Park (July/August)
- Awarded (~\$360,000)
 - EnergIIze Med-heavy-duty EV fleet charging
 - Energy Efficiency and Conservation Block Grant (EECBG)
- Applied - Charging and Fueling Infrastructure (CFI) (\$2M)





New Initiatives

- Employee Workplace EV Charging Pilot
- Electric Vehicle-to-Building Integration
- Direct-Install EV charging 4 schools (SCUSD)
- EV Charging Public Access Expansion (parking lot leasing)
- Silicon Valley Hopper Support– refueling options for ZEV community ride-hail vehicles





Solar Focus

- **Commercial & Multi-Family Solar Program**
 - June 6, 2023, City Council Approved creation of a commercial solar rebate program in the Public Benefits Expenditure Plan
 - Staff is in the process of creating a program, expected launch January 2024
- **Community Solar Survey Highlights – 171 Responses**
 - Strong support of those surveyed support a community solar program – 75%
 - Willingness to pay a small premium to lock in energy bill over time – 84%
 - Right financial model will be crucial for program adoption
- **Community Solar Next Steps**
 - No in-house solar expertise, will need to contract
 - Request for Proposal for Feasibility Study and Business plan





Upcoming Items

- Next 6 months highlights
 - Switchgear Procurement for KRS/SRS/NRS
 - Bond Financing of 4 CIP Transmission Projects ~ October/November to align with procurement of materials
 - Completion of solicitations and master agreements for critical services supporting existing infrastructure (power plants, substations, transmission and distribution.)
 - Integrated Resources Plan (IRP)
 - Many additional items.....



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