Twin Lakes Battery Energy Storage System (BESS)
Mono County Briefing

June 8, 2021

Project Summary

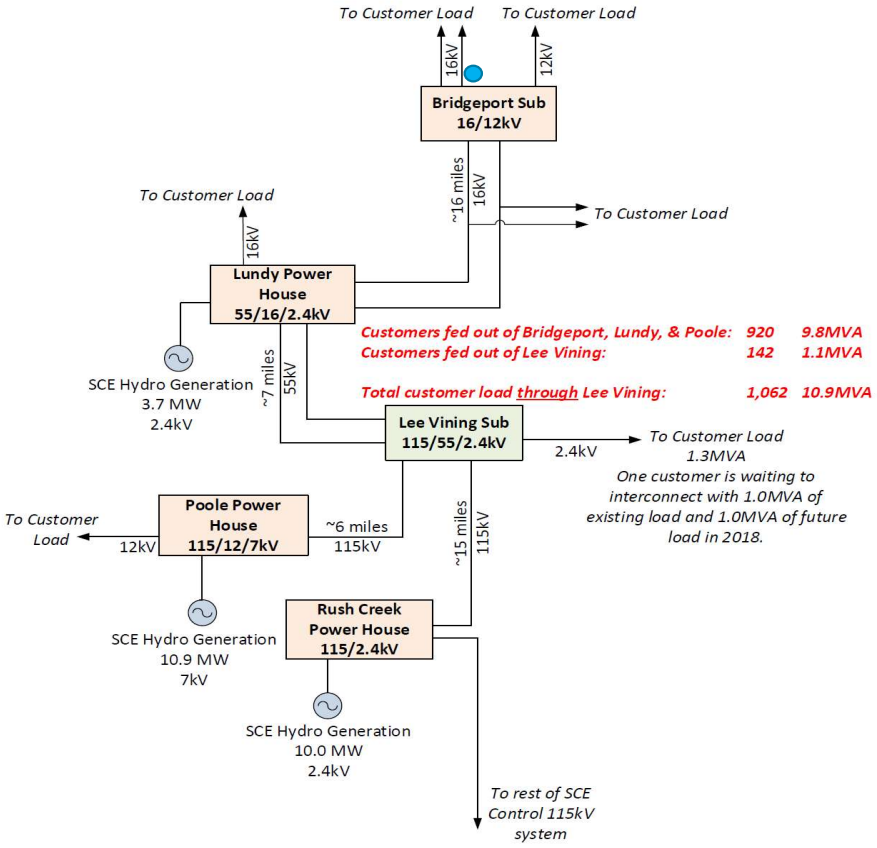
Opportunity Statement: Twin Lakes will support SCE's existing Poole Hydro Plant in the Bishop/Mammoth Region of SCE's service territory during islanding periods to allow SCE to better manage reservoir levels, hydro plant ramping, area load capacity, and fluctuations in customer-owned PV generation. Deployment in this region also provides lessons learned related to cold weather.

Scope Statement: The battery can provide additional capacity, improve power quality with voltage control, and regulate reactive power, during islanded conditions.

Technologies: 3.5MW/3.5 MWh lithium-ion Battery Energy Storage System (BESS) connecting to the 16kV Strosnider Circuit in Bridgeport, Ca

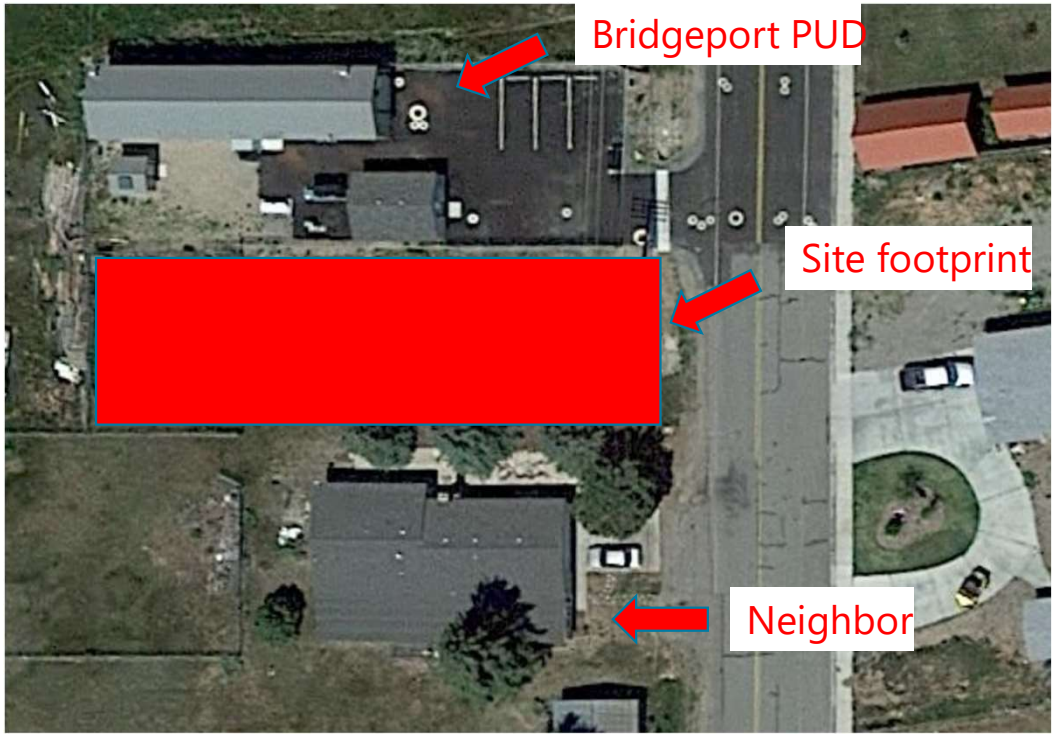
Reliability Benefits

- Provide power quality improvement due to BESS's instantaneous load balancing, ramp rate, and harmonics reduction capabilities, not a reduction in customer outages.
- Provide voltage and/or frequency control in normal grid connected mode
- Provide the necessary functionality to smooth system fluctuations from varying loads caused by customer solar generation
- Provide capacity support if the Lundy hydro plant is islanded and can't sustain the distribution load.

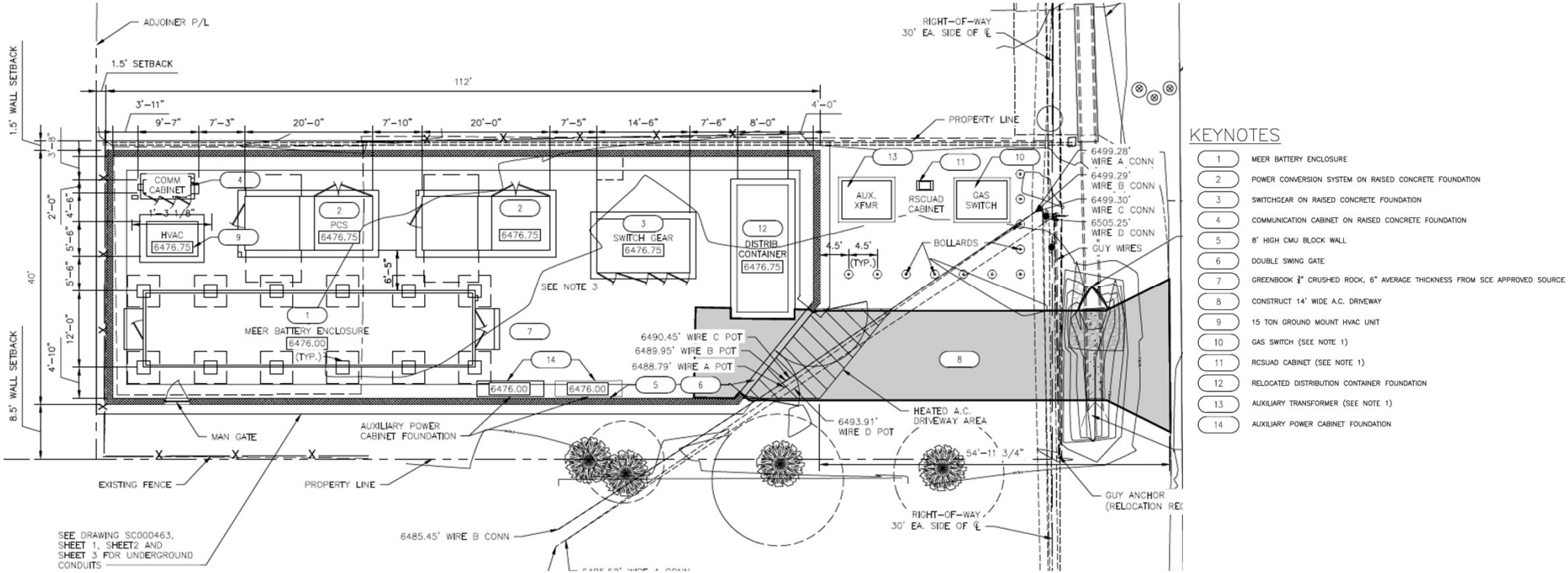


Project Overview

- The 3.5 MW, 3.5 MWh Twin Lakes Battery Energy Storage System project is in Bridgeport, California at 126 Twin Lakes Road on SCE Fee-owned property
- The enclosed site is approximately 5,100 sq. feet.
- The site will include a 12’ x 52’ MEER enclosure housing the battery racks and associated appurtenances.
- The original contract was a turnkey EPCM contract awarded to NEC Energy Solutions
- Revised deliver strategy breaks out the site development work from NEC’s contract due to numerous challenges with NEC and their lack of understanding of the construction scope. Currently bidding out the work and will de-scope from NEC to minimize risk to SCE.



Project Overview



KEYNOTES

1	MEER BATTERY ENCLOSURE
2	POWER CONVERSION SYSTEM ON RAISED CONCRETE FOUNDATION
3	SWITCHGEAR ON RAISED CONCRETE FOUNDATION
4	COMMUNICATION CABINET ON RAISED CONCRETE FOUNDATION
5	8' HIGH CMU BLOCK WALL
6	DOUBLE SWING GATE
7	GREENBOOK ¾" CRUSHED ROCK, 6" AVERAGE THICKNESS FROM SCE APPROVED SOURCE
8	CONSTRUCT 14' WIDE A.C. DRIVEWAY
9	15 TON GROUND MOUNT HVAC UNIT
10	GAS SWITCH (SEE NOTE 1)
11	RCSUAD CABINET (SEE NOTE 1)
12	RELOCATED DISTRIBUTION CONTAINER FOUNDATION
13	AUXILIARY TRANSFORMER (SEE NOTE 1)
14	AUXILIARY POWER CABINET FOUNDATION

Project Overview – Current Site Conditions

Project Status – High-Level Milestones

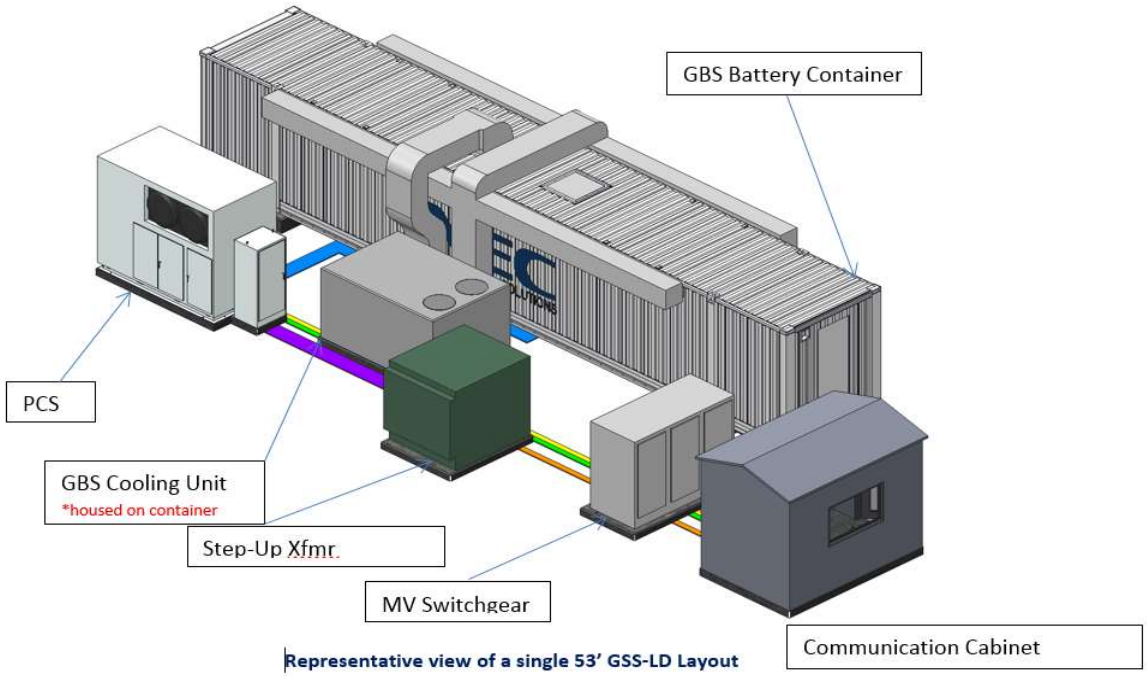
- **Finalize design:** Complete
- **Submit Plans for permitting:** Submitted and fees paid on June 7, 2021
- **Bid out Civil Structural Work:** Bids due on June 8, 2021
- **Review bid results and select contractor:** 6/25/21
- **Pump Test:** Pending contract award. Work may commence 1st week of July
- **Contractor negotiations & onboarding:** 6/28/21 – 7/30/21
- **Construction Start:** 8/16/21
- **Testing & Commissioning:** Q1 2022
- **Close-out:** Q2 2022

Note: *Pending schedule update and approved site development contractor schedule*

Appendix

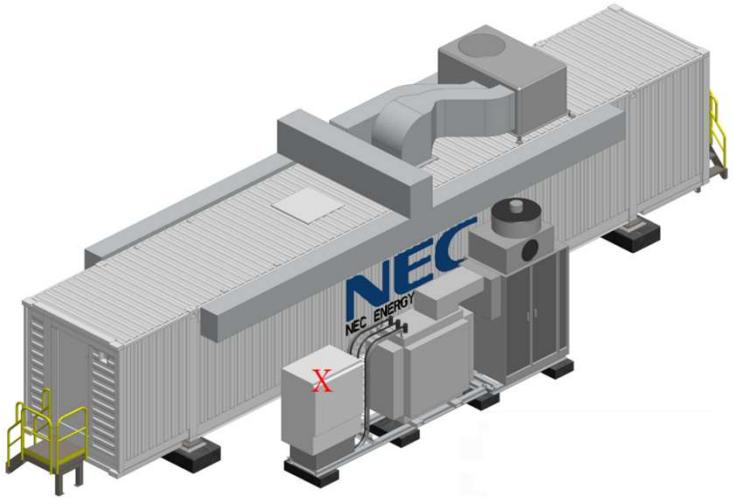
Example Battery Energy Storage System Layout

Representative single 53' GSS-LD Site Layout

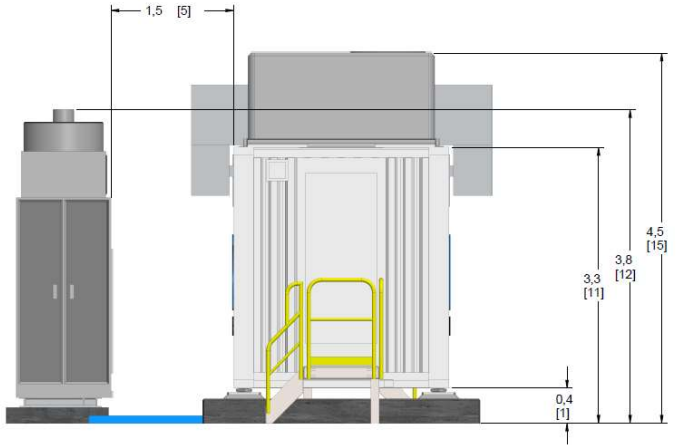


Representative view of a single 53' GSS-LD Layout

Battery Enclosure



Enclosure Dimensions (W x D x H): 53’ x 8.53’ x 9.54’
Highest point from ground to container: ~16’
Color: White



The battery enclosure houses the batteries

Battery cells are arranged into modules, which, in turn, are shelved on racks inside the enclosure

Power Conversion System

The batteries, which output DC power, rely on a PCS to convert the power to AC power so that it can be transferred to the grid

While charging the batteries, the PCS converts AC power to DC power

The PCS unit is housed in an outdoor cabinet

Switchgear

The switchgear connects the battery energy storage system to SCE's distribution system

Transformer

There are two transformers inside the project fence line

The larger transformer (example pictured) is the battery energy storage system transformer used to step power up or down

The second transformer serves auxiliary load

Communication Cabinet

The communication cabinet houses the battery system communication and control equipment which supports data transfers remotely