



Staff Report - Item 02

To: Sonoma Clean Power Authority Community Advisory Committee

**From: Ryan Tracey, Director of Planning & Analytics
Geof Syphers, Chief Executive Officer**

Issue: Receive Geothermal Opportunity Zone Update

Date: May 11, 2023

Background

SCP's Mission includes phasing out reliance on fossil fuel power sources altogether. Out of that desire, SCP began buying geothermal power in 2014 to ensure Sonoma and Mendocino County's robust solar power systems could be backed up with clean power every night and all through the winter instead of relying exclusively on natural gas power plants. EverGreen customers have played an important role in growing our local renewable sources, but the new construction has been limited to solar and battery storage to date.

As California's use of solar and wind has expanded, there is an urgent need to construct more renewable power that can operate through the winter, and regulators and lawmakers have ordered procurement of offshore wind and geothermal energy in response. There is also growing pressure by regulators for California to build new fossil fuel power plants to sustain grid reliability, and SCP is working to demonstrate those new plants are not needed.

The Geothermal Opportunity Zone (GeoZone) was established by the SCP Board of Directors and the Boards of Supervisors in Sonoma and Mendocino Counties to help guide the development of local geothermal power so that local stakeholders can have a voice in the state's process. In addition, SCP's interest is in developing the resources necessary to allow SCP to stop relying on natural gas power plants altogether and to stop paying fossil fuel power plants for grid reliability. To that end, the GeoZone is seeking to sustain existing local geothermal production and add 600 MW of new geothermal capacity.

Ongoing updates, information, and materials about the GeoZone can be found at <https://sonomacleanpower.org/geozone>.

Private Partner Activity

SCP's private partners continue to be focused on identifying site opportunities for GeoZone demonstration projects and scale-up. Staff meets with each GeoZone partner every other week to coordinate on site opportunities, grant applications, advocacy, transmission planning, and other pertinent topics to the GeoZone. SCP's partners will also be expected to provide their first quarterly progress report in the coming months (a requirement of the cooperation agreements).

Public Engagement

Staff are exploring options to involve an external facilitator for the next public stakeholder engagement session, tentatively planned for later this year. SCP and its partners are eager to collect community feedback on compatible technologies, project locations, and other concerns to gauge alignment with the GeoZone and community values.

Well Permitting

Staff met with Permit Sonoma this month to discuss alternatives for permitting geothermal exploration wells. As flagged in last month's report, there are currently constraints at the state level in processing exploration permits, which are subject to the California Environmental Quality Act (CEQA). Both Chevron New Energies and Eavor Inc. are expected to need geothermal exploration well permits for their demonstration projects.

Grant Opportunities

SCP and Cyrq anticipate a decision from the DOE on their application to the DOE's Long-Duration Energy Storage grant in the next few months. Meanwhile, SCP and its partners are considering applications to the Energy Improvements in Rural or Remote Areas Program and the Bipartisan Infrastructure Law Enhanced Geothermal Systems Demonstration grants.

Transmission Planning

Staff's recent focus on GeoZone transmission has been to better characterize the impact of what CAISO calls the "Delevan 500 kV Constraint". The Delevan 500 kV constraint is a

key system upgrade identified in 2021 to enable deliverability of Northern California resources with an estimated cost of \$3.5 billion and 12-year construction schedule. Although the CAISO’s Draft 2022-23 Transmission Plan did not include the upgrade, it did include a related series compensation project and the approved 2021-22 Transmission Plan included a 500 kV substation at Collinsville (depicted in CAISO schematic below) and reconducting the 230 kV between Delevan and Cortina that are expected to add significant capacity to the region. Staff is working to understand whether the larger project will be able to accommodate the GeoZone or whether the interim projects will provide sufficient capacity.

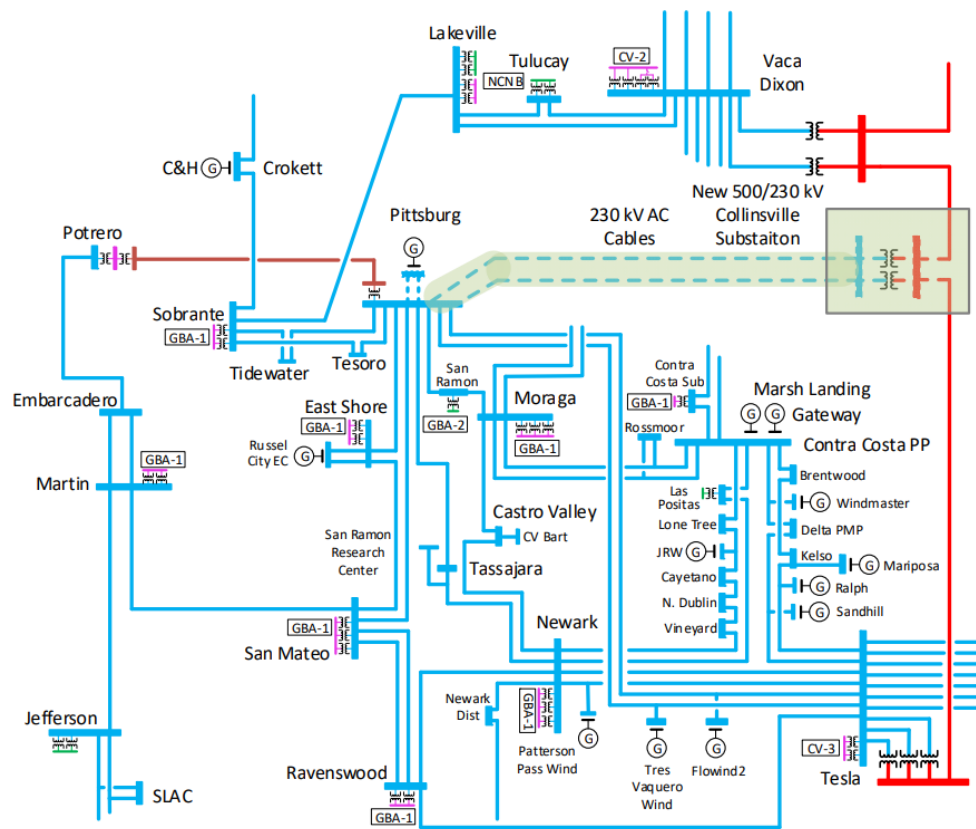


Figure 1. Transmission schematic from the 2021-22 Transmission Plan depicting the location of the new Collinsville Substation that will improve access to the 500kV system for the region. (Source: <http://www.caiso.com/Initiative Documents/AppendixG-BoardApproved-2021-2022TransmissionPlan.pdf>)

Staff are also exploring options to use new technology—such as advanced undergrounding of gen-ties or Grid Enhancing Technologies (GETs) on existing infrastructure to reduce the interconnection risk of GeoZone projects. As a first step, SCP is soliciting meetings with leaders in these areas to assess technical feasibility. Any suitable solutions would also require close involvement of PG&E, CAISO, and the CPUC.