

## **Solomon Gulch Substation Relocation Project**

### **Strategic Goal – Improved System Reliability**

#### **Project Cost - \$5.75M (2022-2024)**

In 2022, CVEA moved forward with the Solomon Gulch Substation Relocation Project, removing the substation from the top of the Solomon Gulch Powerhouse control room, where it was constructed in 1981-1982, following increased pressure to mitigate and/or eliminate environmental, reliability, and financial risks associated with the original design.

The substation, in its previous location, no longer met building codes and was at risk of becoming uninsurable by CVEA's insurance carrier. Specifically, the code and insurance concerns were the two large oil-filled transformers (1,166 gallons of mineral oil each) that were not separated from each other, or from the building, by a two-hour fire barrier, and they shared a common oil containment system.

Being unable to isolate the equipment or the building in the event of a fire left all equipment and the building susceptible to severe damage resulting in potential loss of CVEA's largest generation source and CVEA's dispatch center. This would have taken months or years to restore and hindered the cooperative's ability to meet summer loads. A fire may have also resulted in mineral oil spilling into the bay. CVEA minimized the risk of this occurring with continuous monitoring of the transformers and by performing annual preventive maintenance and inspections on all equipment.

The previous location also had caused significant issues related to wildlife. The co-op has had multiple 'bird strikes' over the years, with three occurring in July 2023 alone. Each bird strike caused systemwide power outages and equipment damage, increasing costs to the membership and reducing reliability. The new Project is enclosed and less susceptible to wildlife.

Because much of the substation equipment was over 40 years old and due to be replaced, the best long-term solution was to construct a new substation. It would have cost \$3M to replace the equipment in the original location and the facilities would still be at risk in the event of a fire. While the Project was more expensive, it addressed all CVEA concerns.

Project construction began in summer 2022 and continued through 2023. Work included construction of a new switchgear building, installation of power transformers, poles, transmission lines, wire and cable, and communications and controls upgrades.

The new, enclosed substation is complete and located on the same property as the powerhouse on Dayville Road. It was brought online and commissioned for service in December 2023. This project will eliminate the concerns mentioned above and will increase the serviceability and reliability of the Solomon Gulch Power Plant.

In 2024, old substation equipment will be removed from the sub-deck on the power plant, there will be partial repaving, and two spans of transmission line that are no longer needed will be removed.

If you have questions regarding this project, contact Darin Sauls, CVEA Engineering Manager, at [dsauls@cvea.org](mailto:dsauls@cvea.org).

