

CASE STUDY

Caltrans California

Challenge

Implement a backup power solution for the Caldecott high-traffic tunnel in Oakland, CA as quickly as possible to combat expected PSPS power outages.

Solution

Global Power Supply provided an engineered solution including in-stock 2500 kW generators, switchgear, emissions control kits, and customized site-specific enclosures.

After devastating wildfires caused by downed power lines across the state of California, energy provider PG&E rolled out a new program aimed at reducing the potential for further wildfire instances. The new program, called Public Safety Power Shutoff (PSPS) works by shutting off power to certain regions of the state during extreme high wind events. The PSPS program has had a huge impact on the need for backup power for all types of industries throughout the state, and one of the most critical is transportation infrastructure.

Loss of power to high-traffic tunnels, which rely on the grid to power their ventilation and lighting, could have a devastating impact on traffic, business, and safety for all those who pass through or near tunnels in their commute. In order to ensure the safety of daily commuters it has been vital for tunnel operators to implement backup power solutions as quickly as possible.

In April of 2020, Bentancourt Bros Construction reached out to GPS



MTU Generators for Oakland California (2) 2500 kW Standby Generators in Custom Enclosures, Paralleling Switchgear, and UPS

through our website to inquire about some of our in-stock 2500 kW backup diesel generators. Bentancourt Bros was looking for a solution for his customer, Caltrans, in their pursuit of a backup power solution for the Caldecott Tunnel in Oakland, CA. One of GPS's backup power experts, Jeme Turcios, responded right away and they immediately began discussing GPS's history in dealing with installation projects of this scope. Further preliminary discussions followed with Dave Bentancourt (President Bentancourt Bros Construction) addressing the BOM, pricing, design, and delivery schedule. GPS was then brought into discussions with all of the parties including Caltrans, MTU, ASCO, and Johnson Thermal.

GPS was able to provide first round of pricing and quotations within 10 days from when Greg first approached GPS. From there, additional engineering conversations fine-tuned the specifics on the switchgear, emissions control kits, and enclosure designs. After six weeks of collaborative meetings, design, engineering, and detailed quoting, GPS was awarded the project by Betancourt.

The combination of the scope of this project, California permitting,

along with the location caused some significant logistical challenges. The generators would be placed on a bridge on one end of the Caldecott Tunnel, providing limited space to accommodate such large equipment. Even after initial production was approved, design changes to enclosures were needed to meet the complex installation challenges.

"GPS 's expertise and commitment to detail were vital to the success of this project."

Dave Bentancourt
**President Bentancourt
Bros Construction**



Delivery of Generators to Caldecott



At A Glance

The Caldecott Tunnel in Oakland, CA needed to implement a backup power solution as quickly as possible. Global Power Supply installed an end-to-end backup power solution including diesel generators, switchgear, customized enclosures, and emissions control kits to meet EPA and BAAQMD emissions requirements.

Highlights

- ◆ Caldecott Tunnel
- ◆ Oakland, CA
- ◆ (2) 2500 kW MTU Gensets
- ◆ Custom Enclosures
- ◆ UL-142 Subbase Fuel Tank
- ◆ Tier 4 Final Emissions Control
- ◆ ASCO Paralleling Switchgear
- ◆ Vertiv Liebert 80 kVA UPS

POWERED BY GPS



Due to this project being in California, there were local and state EPA and BAAQMD emissions requirements. These can be complex and time consuming issues to resolve. Fortunately GPS has many years experience in projects like this one. GPS's

production team worked closely with Bentancourt and Caltrans through every step of this process to ensure a smooth delivery, installation and testing. GPS also worked closely with MTU, ASCO and Johnson Thermal in designing the custom solution for this unique application. Delivery of all equipment was made in March of 2021, almost 11 months after initial discussions. Startup and load testing was done in early June of 2021. Delivery and installation of a project on this scope is a true accomplishment for all parties involved. GPS's team managed to successfully execute the project during the onset of Covid, battled increased and uncertain health and safety requirements, PPE, supply chain issues and manufacturing delays.



Craning of Generators



Caldecott Tunnel, Oakland, CA.