



**GTC**<sup>TM</sup>  
Control Solutions

# Case Study

## Martinez Refining Company

Martinez Refining Company is an oil and energy company based in Martinez, California. In 2020, the company performed a GTG turnaround, which included a GE Frame 6B, operated/controlled using the GE Mark V control platform (circa 1995).

The Mark V platform was moved to the obsolescence phase of life by GE in 2014, and GE would not support the obsolete Mark V platform. After reviewing all options, the company opted to purchase components from GTC. The positive experience the company had with GTC in past transactions led Martinez Refining Company to utilize GTC for the controls portion of the 2020 outage.



*"The Mark V configuration is complex and always seems to present new challenges. Having a GTG and Mark V system expert like Abel from GTC makes a huge difference. Our investment was well worth it, as start-up delays were minimized and we even saved costs with the remote support while remaining compliant with all COVID-related restrictions.*

*Thank you Abel and GTC Control Solutions."*

### Challenge

The GTC team was scheduled to come onsite to offer TA support. Abel Rochwarger, GTC Chief Engineer, was to support the controls set up post-TA and also commissioned to perform onsite Mark V training to site controls engineers.

Unfortunately, the COVID-19 pandemic precluded the GTC team from coming to the site, but Abel offered full remote support for all TA controls needs.

The turnaround went well and the controls components SRV, GCV and IGV's were all successfully calibrated. Shortly after startup, however, the GTG experienced an intermittent failure of an exhaust thermocouple. Maintenance was dispatched, but during troubleshooting, the GTG was inadvertently tripped. The trip was due to one exhaust thermocouple indication failing upscale.

During a phone consultation with Abel, a weakness in the Mark V exhaust spread trip logic was identified. He advised that due to GE TIL 1524 not being implemented, one thermocouple failing upscale would cause a GTG trip.

### Solution

Martinez Refining Company management was determined to implement the TIL solution, especially with Abel's assurances that the Mark V program could be modified and loaded remotely. Mark V unit files were copied and emailed to GTC, and Abel made the modifications and returned the updated files quickly. He then guided on-site personnel through the process of loading the modified program and Modbus files.

Abel provided a testing method to prove the new logic functioned properly. He guided all loading and testing, and GE TIL 1524 successfully implemented. During start up, multiple controls-related issues surfaced. In each case, Abel provided start up technical assistance, quickly providing technical solutions that minimized delays.