



# HYDROGEN FURNACE REPAIR

## CROSS-REGIONAL COLLABORATION

At Stork we have risen to the challenge time after time as our teams have learned to deal with setbacks, unexpected travel restrictions and social distancing measures. In Colombia, this rang particularly true while working with a customer in Cartagena who had needs that required both the LATAM team and Fluor's U.S. welding and materials expertise.

In February 2020, a hydrogen reformer heater at a Cartagena refinery suffered serious damage.

The customer asked us to support the damage assessment and propose repair methods to recover the asset. Fluor's welding and materials expert Mike Lang was immediately identified as the best fit to visit the site and help defining the scope of the repair.

After qualifying the welding procedures and local welders, Fluor's expert welding team traveled to Colombia to deliver the work. The project was progressing as planned when the COVID-19 pandemic hit Colombia. The Colombian government decided to close the entire country and cancel the international flights. As a result, the American welders were leaving Colombia on the very last flight to Houston, Texas, with the work only 60 percent complete. However, Maintenance team was still 60% complete.

In light of these changes, a new strategy was needed to complete the rest of the project. It was decided that local welders could complete the work, but only after extensive qualification with new samples to be ordered and delivered from Houston. Once the warranty process was completed, the job was successfully accomplished by the local welders, demonstrating the good quality and locally available skilled labor.

Local welders replaced the 182 catalytic tubes in accordance with the plan. After the tubes were certified, the catalyst was loaded by one of Stork's subcontractors and the job was completed.

Due to the importance of the furnace to supply clean fuels to Colombia, the visibility of this work was very relevant. Besides, the first wave of COVID-19 added a lot of uncertainty and complexity. However, thanks to Stork / Fluor's ingenious, integrated approach and ongoing customer interaction, the repair was successfully completed to the highest HSE and quality standards and under a very tight schedule, allowing the job to be completed without affecting the original customer.

This is a great example of integration with the customer and the different Stork and Fluor regions working together to the only objective of solve a problem and adding provide value to our customers.

