



## CASE STUDY

# Refinery speeds recovery after natural disaster

Octave Tempo Automation Integrity minimizes lost production after major unplanned outage



### Key facts:

**Industry:**  
Oil and Gas, Chemical

**Country:**  
United States

**Octave products used:**  
Tempo Automation Integrity (PAS Automation Integrity)

### About the company

This U.S.-based, multi-national company is a global leader in the crude oil, natural gas, petroleum products and petrochemical industries. Dedicated to safe and environmentally responsible operations, the company operates over 30,000 wells and more than 30 refineries in 21 countries, constituting a combined daily refining capacity in excess of 6 million barrels.

### Challenge

Oil and gas refineries in the Gulf of Mexico region are no strangers to tropical storms and hurricanes. The region had a wake-up call in 2005 when two hurricanes, Katrina and Rita, pummeled the Gulf Coast region in a five-week period. Fortunately, this company reassessed and updated its disaster recovery strategy, which proved invaluable prior to Hurricane Ike making landfall in September 2008. It brought 110 mph winds and a 22-foot storm surge. The third costliest hurricane in U.S. history at the time, Ike had a major impact on the region, causing an estimated \$29 billion in property damage in Texas alone. While the refinery

had a personnel-oriented contingency plan in the form of supplies such as cots, food and generators; it did not anticipate a storm surge that would bring 8 feet of water into the facility and damage process-critical, industrial control systems.

They were forced to locate and fly in replacement control systems from sister sites, which was no small undertaking. They have a wide variety of control systems, including Honeywell EPKS<sup>®</sup>, Honeywell TPS<sup>®</sup>, Honeywell PHD<sup>®</sup>, Triconex TS1131, AB ControlLogix<sup>®</sup> and AspenTech DMCplus<sup>®</sup>. The greatest obstacle was configuring those systems properly and bringing production back online. The company leveraged Tempo Automation Integrity software from Octave, Octave consulting services and outside engineering to help rebuild these systems as fast as possible and restore operations.

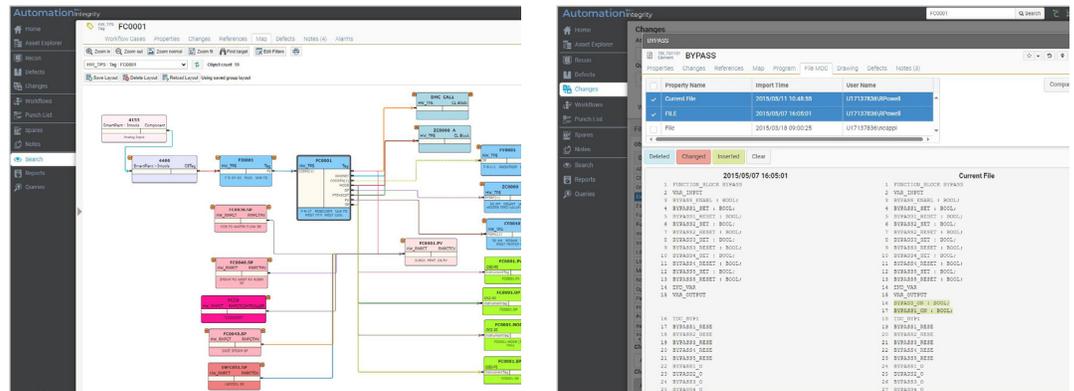
## Key benefits:

- Speeds time to recovery from major events and unplanned outages
- Improves productivity by 20% to 50% via always-on change management insight into ICS configurations
- Reduces documentation effort by 70% or more
- Minimizes human error to achieve safety and reliability objectives

## Solution

Rebuilding control systems from the ground up would normally take months to re-establish full production. This refining company had the Tempo Automation Integrity solution for more than 10 years and had full configuration backups, as well as change history, to speed the recovery process. Tempo Automation Integrity software helps industrial organizations understand and manage the interconnection among different automation vendor system solutions. It captures proprietary configuration data and strategies, software, and firmware. This enables organizations to recover rapidly in the event a control system or control system environment is lost or breached.

A team consisting of refinery personnel, Octave consulting services and an outside engineering firm worked together to rebuild the control system configurations to the state they were prior to shutdown. The entire process took approximately two weeks. Feedback from site engineering teams was that this process could have taken more than two months without the aid of Tempo Automation Integrity. Ultimately, the Tempo Automation Integrity solution helped to minimize the refinery downtime, translating into millions of dollars of production savings.



Tempo Automation Integrity improves asset and system performance.

## About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property, and assets— for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency, and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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