



Refinery Speeds Recovery After Natural Disaster

PAS Integrity Minimizes Lost Production After Major Unplanned Outage

ABOUT THE COMPANY

This American-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 six 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 their 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 eight 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 had a wide variety of control systems, including Honeywell EPKS®, Honeywell TPS®, Honeywell PHD®, Triconix TS1131, AB ControlLogix®, and AspenTech DMCplus®. The greatest obstacle to overcome was configuring those systems properly and bringing production back online. The company leveraged PAS software, PAS consulting services, and outside engineering to help rebuild these systems as fast as possible and restore operations.



Business Benefits

Speeds time to recovery from major events, cyber incidents, and unplanned outages

Improves productivity by 20 to 50 percent via always-on change management insight into ICS configurations

Reduces inventory and documentation effort by 70 percent or more

Minimizes human error to achieve safety and reliability objectives

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SOLUTION

Rebuilding control systems from the ground up would normally take months to re-establish full production. This refining company had the PAS Integrity™ solution for over 10 years and had full configuration backups, as well as change history, to speed the recovery process.

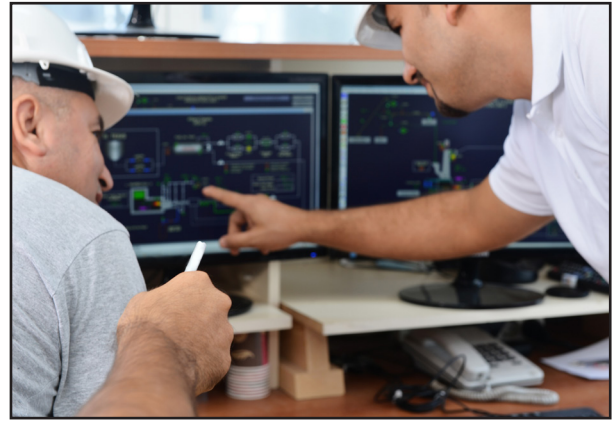
The PAS Integrity Software Suite helps industrial organizations manage and secure endpoints across their process control network. It provides a comprehensive inventory of all major control systems that captures proprietary configuration data and strategies, software, and firmware. This enables organizations to recover rapidly in the event a control system or control system environment is lost or breached.

A team consisting of refinery personnel, PAS 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 PAS Integrity. Ultimately, the PAS Integrity solution helped to minimize the refinery downtime translating into millions of dollars of production savings.

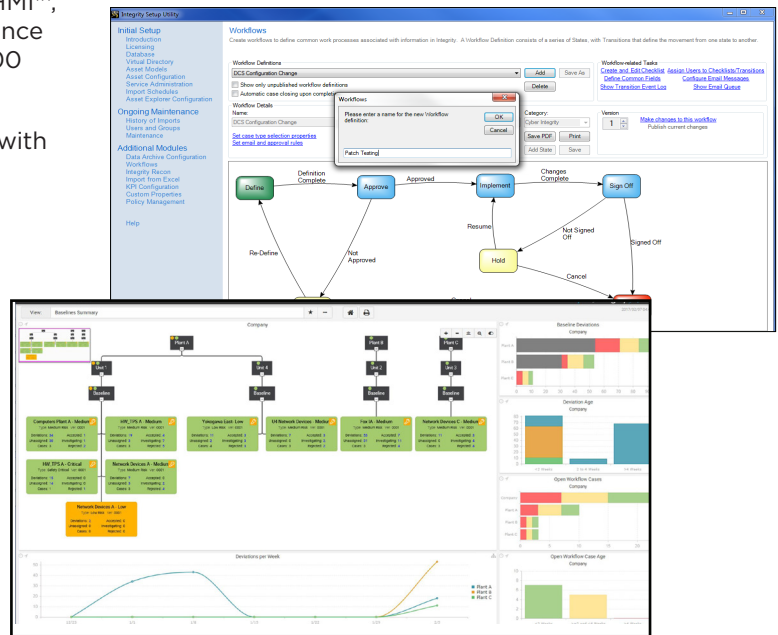
About PAS

PAS is the leading provider of software solutions for ICS cybersecurity, process safety, and asset reliability to the energy, process, and power industries worldwide. PAS solutions include industrial control system cybersecurity, automation asset management, IPL assurance, alarm management, high performance HMI™, boundary management, and control loop performance optimization. PAS solutions are installed in over 1,100 facilities worldwide in more than 70 countries.

For more information, visit cyber.pas.com. Connect with PAS on Twitter [@PASGlobal](https://twitter.com/PASGlobal) or [LinkedIn](https://www.linkedin.com/company/pas-global).



PAS Integrity™ hardens security for the most critical assets in a plant – the industrial control system endpoints.



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