INTELLIGENT OPERATIONS

Connected Worker – Electronic Permitting

Safety is always a major focus for CPChem and functions in the connected worker implementation are dedicated to the wellbeing of employees. This is built on two main elements: asset information management delivers standard information to everyone in the field, and the other piece is called SWIFT, which is an e-permitting tool that allows CPChem to move from paper permits to entering information on smartphones and tablets. This information is automatically synchronized, so the permit process is easier and more efficient.

Permitting is required when machinery needs to be shut down for repair or maintenance. Different elements have to be coordinated to ensure the work can happen safely, such as shutting off a power source and managing high-pressure lines. Employees in the field begin the permitting process by entering information on smartphones, which automatically triggers the other permits required for the work and notifies other groups that need to be involved. It creates a work permit and schedules the different elements, so an employee does not have to go back to the control room to enter information into a separate system. It also means the entire process is captured electronically, so employees no longer need to refer to paperwork.

"We made the permitting process auditable, so we can go back and look at what we did well or examine any incidents or identify areas of improvement. It is way for us to look at it and say, 'How can we get better every day?'"

Jason Gislason
Chief Digital Officer,
Chevron Phillips Chemical

But SWIFT is about more than efficiency; it is also standardization across all the plants and it increases safety, as everyone adheres to the same set of best practices and makes information readily available in case of emergency. If, for example, the same sequence of events is followed every time before any work starts, a much safer environment is created.

"When I was an operations manager, you would go plant-to-plant and, lots of times, the permitting processes or the standards were different at every plant and it could cause inefficiencies in one plant versus another. What we have done is we have taken this opportunity to standardize across all our plants. It helps with turnaround planning because introducing best practices means we can have one consistent process. We are all doing the best in what we do for permitting and in what we are doing for our work, rather than each plant having to learn how to do it best in their own organization."

One of the challenges with the electronic permitting process is interaction with thousands of people who have different experiences with technology. Some are more comfortable using a smartphone or tablet than others. In other cases, the technology has presented a challenge such as connectivity around large, rotating equipment that generates electronic fields.

"We have continuously made changes in the way we deploy the technology and the way we deploy the product in order to improve it," he says. "We were working primarily off an application that was on the device and we found it worked much better to go to a web application instead. It is almost counterintuitive but works so much faster when you do have the connectivity that it really improves that employee experience."

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