Emergency Response Online Assistance Tool

Author block: B. AlDerhalli, Aramco.

Abstract

Objectives/Scope: In an effort to enhance and improve emergency response as well as to support business continuity, The Emergency Response Online Assistance tool was developed.

Methods, Procedures, Process: Its main purpose is to provide the emergency response team with easy and quick access to safety critical information at the plants. Developed using the PI Processbook, this tool provides the user with an overview dashboard, plant wide battery limit isolation map, unit specific isolation map and finally critical information tool bar. Starting with the overview dashboard, quick and easy navigation between different systems and contents is provided on the main page. Upon clicking on the battery isolation map, an overview of the entire plant is provided alongside integral information such as ESD, MOV and manual isolation valves. These isolation valves are also detailed with information such as whether or not it is Tight Shut Off (TSO). This overview allows the team to quickly identify an isolation strategy that may involve an alternative unit isolation in case main valves are malfunctioning or passing. Moving on, the unit specific isolation maps provide a more detailed overview of each area. This page provides critical process information such as depressurizing lines, pressure, temperature and hydrocarbon liquid levels. This information is vital to identify during isolation and depressurization scenarios. Finally, this page presents the interconnection with other system to identify what will be impacted during an emergency. The final aspect of the Emergency Response Online Assistance Tool is the critical information tool bar. This includes a critical utilities page which provides information regarding the status of firewater, instrument air and nitrogen systems. An important aspect of this page is the online calculation of firewater balance and firewater tank depletion time. This toolbar also offers a critical inventories page which keeps track of inventory levels of propane accumulators, propane storage tanks, NGL product spheres and utilities inventories. Alongside this, there is also a page which informs the user on the status of plant wide depressurizing valves and an overview on the flare system load

Results, Observations, Conclusions: This tool has been utilized at all emergency drills and scenarios that have occured and has led to better communication and quicker response time from the control team

Novel/Additive Information: This tool is an essential part of the gas plant emergency response team to ensure a quick return to safe and steady operation