

# Major Oil Refiner Improves Operator Effectiveness by Implementing Optimized Startup Graphics

By implementing optimized high performance startup graphics using MAVERICK's proprietary development process, a major oil refiner reduced the number of graphics by 50% and significantly improved operator execution of heater and boiler startups.

## Objective

A gas desulfurization unit in a large Midwest refinery underwent a migration to implement a high performance human machine interface (HP-HMI). As part of this migration, the customer chose to have MAVERICK redesign and optimize their existing startup graphics to improve operator effectiveness by eliminating the need to look at multiple graphics for the information needed to execute a startup.

## Results

By optimizing the content and layout of the startup graphics, the number of graphics was reduced from 28 to only 5 with 13 supporting pop-ups. In addition, by providing a standard layout, operators are able to locate the required information faster and with less effort, resulting in incident-free startups that are completed in less time. This standard layout also makes it easier for new board operators to learn and understand how to properly start equipment.

## Solution

The project scope included facilitation of an optimized graphics layout, graphics development, site acceptance testing (SAT) and commissioning.

The MAVERICK team developed optimized startup graphics for two fired heaters and three boilers.

A standard layout was developed for each graphic, resulting in a consistent look and feel. The standardized graphics made it more efficient for the operator to carry out an effective startup.

MAVERICK's proprietary graphics development process engaged the plant operators and engineering personnel extensively throughout the project, resulting in a high level of ownership and interest in reaching the goal of effective optimized startup graphics.



The previous startup graphics consisted of a series of five to seven different screens for each piece of equipment, including an overview display, several startup permissive logic displays and startup sequence displays. With this method, the operator had to scroll through multiple graphics and / or have multiple graphics open at once to complete a startup.

With the optimized format, the screen count was reduced to a single primary graphic for each piece of equipment. The optimal layout includes the entire startup sequence on one side of the screen embedded with two to three supporting pop-ups to display permissives as needed without requiring navigation away from the main graphic. The opposite side of the screen depicts the equipment and all controls necessary to execute the startup.

MAVERICK's facilitation process can also be used to develop startup circulation displays allowing operations to establish and monitor inventory in an entire process unit from a single optimized graphic.

### The MAVERICK Difference

MAVERICK's highly refined startup graphic development process will result in an optimized HMI system with fewer graphics to navigate during unit startups. Our experience in this critical area can improve the effectiveness of your plant operations during these demanding tasks.



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### MAVERICK Technologies, LLC

265 Admiral Trost Drive | Columbia, IL 62236 USA

+1.888.917.9100 | Fax +1.618.281.9191

info@mavtechglobal.com | mavtechglobal.com