

## Honeywell Enraf Helps Shell Update Loading Terminals and Optimize Productivity



Shell looked to upgrade its fuel loading terminals with the integration of new controls, ethanol blending and additive injection systems. Shell turned to Honeywell Enraf to supply the main parts of the refurbishment program and provide a solution that minimized operational impact while optimizing productivity.

### Benefits

Shell UK was ready to perform a major upgrade to its fuel loading terminals in Stanlow and Jarrow, UK. Shell selected Honeywell Enraf to supply the major parts of the refurbishment program, including batch controllers, ethanol blending systems, additive injection cabinets, exothermic pressuring skids and IBOX containerized additive systems. Honeywell was also selected to provide a solution that could minimize the operational impact on Shell during the refurbishment.

Honeywell Enraf was selected to design, install and commission an upgraded Additive Monitoring Unit (AMU) as the first phase of the refurbishment program. The focal point of the AMU was Honeywell's HC900 system augmented with its proven Experion® SCADA interface and serial gateways from the 16 loading bays. With the support of Honeywell Enraf, Shell UK experienced the following benefits:

- Simultaneously controlled the existing and newly integrated systems while both ran in parallel
- With upgraded AMU the existing infrastructure could be decommissioned in phases with minimal disruption
- The new AMU enables pump control for new additive pressurizing skids, calling in individual user's additive pumps on demand
- Any discrepancies are flagged by the system so operators are notified immediately of an over or under injection alarm
- Remote access to field devices enables approved personnel to monitor and reset system alarms from the control room and then be logged for traceability



Honeywell minimized disruptions to Shell operations during a major loading systems upgrade project.

### Background

Shell employs around 8,500 people in the UK and is a key provider of the energy that millions of people use for heating and power in the UK. It produces around one tenth of the UK's oil and gas and operates around 900 retail sites in the UK. Its Stanlow refinery near Ellesmere Port in Cheshire is at the heart of Britain's oil and chemical industry, producing a range of transport fuels and chemicals for industry.

The two main businesses are Shell UK Exploration and Production, an operating division of Shell UK Limited, and Shell UK Oil Products Limited. Shell businesses in the UK are part of the Shell Group, a global group of energy and petrochemical companies operating in more than 100 countries and employing approximately 102,000 people.

## Challenge

When Shell UK decided to upgrade to its fuel loading terminals at Stanlow (Ellesmere Port, Cheshire) and Jarrow (Tyne and Wear), the major refurbishment required a phased introduction to maximize operational capability during the upgrade and minimize any disruptions.

With the Stanlow terminal loading approximately 600 road tankers per day and more than 20 million liters of product going through the 16 gantries on site, a seamless integration was paramount for Shell.

In addition, the previous additive injection system had been linked to a bespoke AMU that interfaced the additive operations with loading and reconciliation systems. This system had become increasingly difficult to maintain due to obsolescence and diminishing long-term support capability from the supplier. Shell's existing system was also incapable of facilitating the integration of a new ethanol blending infrastructure that the terminals were keen to implement.

## Solution

Shell UK selected Honeywell Enraf to supply the major parts of the refurbishment program including batch controllers, ethanol blending systems, additive injection cabinets, exothermic pressurizing skids and IBOX containerized additive systems. As in-depth project discussions took place, Honeywell Enraf was also chosen to provide the critical solution that would minimize the operational impact on Shell during this refurbishment phase.

As part of the first phase of the program, Honeywell was to design, install and commission an upgraded AMU, which would initially be integrated with the existing load control and additive hardware. Once satisfactorily implemented, the existing infrastructure could be decommissioned in phases, upgraded to the new loading, blending and additive systems and then reinstated on the new AMU.

## More Information

For more information on Honeywell Enraf, visit [www.honeywell.com/ps](http://www.honeywell.com/ps) or contact your account manager.

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By monitoring the loading automation, the new Honeywell AMU managed the pump control for the new additive pressurizing skids, calling in individual user's additive pumps on demand. This could all be monitored remotely at the operator interface. In addition the system enhanced the accuracy and security of the additive injection systems by cross-referencing additive flow meters installed at the pressurizing skids with totals from the Honeywell Enraf Mini-Pak injection systems. Any discrepancies would be flagged by the system and the operator notified of an over or under injection alarm.

The new AMU allowed interfaces to PCM3 additive controllers and V2 ethanol blenders and provided daily blend total and additive total reports for stock reconciliation and cross checking and per load reporting for ethanol blending for traceability. Additive and blender status and alarms are displayed on the operator station in the control room.

Via separate screens, the AMU reported back transactional data from both the Mini-Pak additive injection systems and the ethanol MicroBlender systems. This allowed reconciliation data such as injection rates and blend ratios from all systems to be collated and stored by the terminal. Remote access to the field devices also enabled personnel with the appropriate security access levels to monitor and reset system alarms from the control room, and then be logged for traceability.

Honeywell's solution facilitated Shell's planned implementation with minimal operational disruption and optimized productivity and operational effectiveness.

## Honeywell Enraf

Honeywell Enraf provides a comprehensive range of products and systems for accurate tank gauging, inventory management and tank terminal operations, offering open connectivity, modular design and solid migration paths. These solutions enable optimum use of tank storage capacity to optimize operations and increase revenues. Honeywell Enraf products and systems are approved for custody transfer and compliant with all major international standards.