Sodium hypochlorite storage and loading facility upgrade

INEOS Chlor needed to replace their existing sodium hypochlorite storage and loading facility at Runcorn with a new facility capable of filling tankers and demounts at high-speed from their new enhanced storage capacity. The project had to be designed and built within a tight timescale and construction could have no impact on their existing site operations.

“With ABB’s support, the option selection process and the basic definition were completed efficiently and to our tight programme. A robust execution plan confirmed the need to significantly overlap the detail design, procurement and construction phases in order to meet the required beneficial operation date.

Close contact with the project stakeholders throughout the implementation phase ensured a free flow of information to all those who needed it. The stakeholders requirements were continually tested and incorporated into the project and implications on cost and programme were successfully managed.”

Andy Whitfield - INEOS Chlor, Project Manager

Solution
Working in partnership with INEOS Chlor, ABB developed a fast-track project to identify the best location for the new facility. The solution had to be cost-effective and designed / built within a very tight timescale. ABB produced the front-end definition package and the project estimate. On completion of this initial optioneering and definition phase ABB were awarded the implementation contract.
The project had to be designed and built within a very tight timescale while also being cost effective. During the front-end design, a value improvement process was used to optimise a number of features of the design:

- Optimisation of vessel design to achieve maximum volume whilst allowing off-site fabrication and delivery by road
- A design to minimise the spoil and waste materials from the process, reducing environmental impact as well as waste-removal costs
- A design to minimise working at height also resulting in significant reduction in scaffolding costs and ongoing maintenance

Other keys to the success of the project included:

- Identification of long delivery items and early placement of orders based on experience, close liaison with suppliers and a full understanding of associated risks
- Strong risk management processes put in place from day one and regularly reviewed to ensure the project kept within cost and programme targets
- Use of in-house design capability allowing significant overlap between design disciplines which enabled an early start of construction in order to meet the tight programme with minimal risk
- Structured weekly meetings with contractors to review safety performance and identify and resolve potential programme issues

- We carried out weekly safety and housekeeping audits involving INEOS Chlor and contractor representatives to engender team spirit and ownership. This resulted in zero safety and environmental incidents
- The smooth handover of the new facility was achieved through structured daily meetings with INEOS Chlor and the commissioning team during this phase
- Specialist consultancy in process safety was also provided by ABB

Benefits
- Delivered on time, to cost and quality by working in partnership with the client
- Construction time and costs minimised and standards maintained through the ability to work with the client and their preferred suppliers in a seamless and pro-active manner
- Risks controlled with mitigation measures put in place at the early stages of the project
- Disruption to normal operations minimised by drawing on ABB’s expertise in delivering fast-track projects in an operating chemical plant environment
- Excellent Health, Safety and Environmental performance