Six month secondment with EDF Energy

EDF Energy asked ABB for a graduate process engineer for a sixth month secondment; this allowed the site operations team to benefit from additional process engineering resources. The graduate was supported by additional ABB expertise, with experience of high hazard specialist applications.

The graduate engineer was able to get involved in both routine gas plant operations and commissioning of the new facility. The secondment was a quick and effective solution, building on ABB existing consulting relationship with the site and EDF Energy in general.

Solution

The purpose of the sixth month secondment was to provide some additional process engineering assistance to the site operations team. ABB’s engineer was involved in a broad range of tasks including:

- Assisting health and safety team in hazard studies, including action close out responsibilities
- Supporting and supervising key maintenance and intervention work
- Complete independent system auditing. Data collection, analysis and trending
- Incident investigation and report writing

EDF Energy is a salt cavern natural gas storage facility near Crewe, Cheshire. The salt caverns were formed to mainly produce table salt, with solution mining from the mid 1970’s to the present day.

In 2001 the first gas processing plant and gas storage cavity was commissioned. This has led to further expansion projects over the years with additional storage cavities and supplementary compression and drying equipment and the completion of an additional gas processing plant, utilising pre-existing salt cavities. The recent gas handling plant was completed in 2014.

The site operations team operate and maintain the facility. This operations team also supported the EDF Energy project team in the completing and commissioning of the Hole House 3 gas processing facility, adjacent to original Hole House 1 and 2 gas processing facility. This stretched the existing operating team and additional resources were required in order to achieve the commissioning plan.

EDF Energy provided ABB with a graduate process engineer for a sixth month secondment with EDF Energy Gas Storage, Crewe, Cheshire, UK.
- Created maintenance schedules for PSSR registered pressure vessels, following an RBI completed by ABB
- Produced operating procedures for key maintenance intervention work
- Produced operating procedures for future cavity and wellhead intervention work, including the re-brining of an operational gas cavity for revalidation work
- Assist in the commissioning of new gas cavities

Due to the challenges involved with the commissioning of the new facility, whilst maintaining existing site operations, future improvement projects were put on hold to some degree, due to the required level of re-prioritisation. ABB was tasked with producing multiple operating procedures for one of the key improvement projects. This project involves the sequential re-brining of the original gas storage cavities in order to revalidate these cavities.

The ABB process engineer was also involved in assisting the maintenance team manage the construction of the process equipment. Following process upsets, abnormal operating envelopes and key maintenance work, investigations were completed, with the ABB process engineer tasked with reporting directly to the site and operating managers. This allowed the operations team to focus on returning the plant to normal operation.

Due to the quick cycle nature of the gas storage, with the facility aiming to be available 24/7, the process can switch between importing and exporting gas from the national transmission system of up to 4 cycles per day in order to meet demand. The ABB graduate engineer was able and willing to provide support to EDF Energy out of normal working hours with key wellhead maintenance activities at night and weekends to ensure continual availability, which is key to their operations.

ABB was also able to help with numerous hazard studies, including issues with waste condensate handling between a high / low pressure interfaces and compressor manufacturer notices regarding potential gas migration. ABB was able to assist producing meeting documentation, helping produce final reports and closing out any generated actions.

Following completion of the secondment EDF Energy took on another process engineering graduate from ABB. This secondment was for a further 6 months and carrying out similar support tasks.

**Benefit**
- Provided cost effective process engineering site support