Efficient safety action close out for North Sea offshore asset

ABB carried out a HAZOP study in 2010 / 2011 generating hundreds of actions that needed to be closed-out with Phase 1 of the HAZOP action close-out commencing in 2011 and Phase 2 following in 2012. Phase 1 included packages of higher risk actions whilst Phase 2 included medium to lower risk actions.

Some of the actions were best suited for the operator to manage; with BP completing procedural and hardware changes. ABB were asked to manage the rest; a wide variety of design / engineering type actions.

Solution
ABB provided a dedicated, experienced, safety study action close-out team, who worked closely with client resources throughout, led by an experienced ABB project manager.

The compact team encompassed experienced process engineers, with an understanding of BP processes, allowing for greater efficiency and control.

The project manager planned the assignment, set up the project framework and reporting mechanisms and drove completion of actions by the team.

ABB’s approach to managing action close-out was:

Team
- Utilised dedicated team generating greater control and efficiency for the client
- Experienced ABB team implemented a pragmatic and challenging approach to the outstanding actions. By avoiding unnecessary modifications they delivered a cost benefit to the customer
- Robustly managed using ABB’s safety experience as well as functional expertise that other organisations don’t necessarily have
The actual category of actions taken varies from those predicted by the HAZOP team. ABB’s experience of this across a range of studies is shown in the chart below. Nearly 60% of HAZOP actions normally result in no further action.

**Benefits**
- Higher risk action close out prioritised first to reduce risk as quickly as possible
- Rigorous review of approach to action responses, avoiding unnecessary modifications and expenditure
- Ensured the residual risks are ALARP consistent with the BP safety matrix
- Faster close-out by interfacing with both the BP offshore engineers and onshore technical support team. Continued BP and ABB review of proposed recommendations
- Project progress reporting providing assurance that deadlines were met

**Project control / programme**
- Set up programme framework and reporting mechanisms, allowing for effective reporting into the client for their overall project progress
- Estimated average time per action, whether they are complex or normal actions and used to monitor progress
- Adopted established project management principles to monitor progress and efficiency throughout and take action as necessary to meet overall objectives
- Assurance that the solutions manage the risk to ALARP levels because we can access specialists, including hazard study leaders from the original study, allowing a proficient programme to be formulated

**Methodology**
- Understand the real issue and the risks highlighted by the HAZOP team
- Agree the broad approach to reduce risk and close action
- Gather data - P&IDs, operating procedures, data sheets, calculations etc.
- Develop a solution that reduces risk to acceptable limit
- Agree the solution and residual risk
- Prepare unambiguous action response record (e.g. red-lined P&IDs, procedures, scope of work etc.)

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