ABB save client time and resources by providing a tailored PHR to reduce safety risks.

PHR was the chosen technique for an overall safety review of a large natural gas and condensate separation and treatment terminal in Europe.

The site comprised ten processing and separation units taking gas / condensate from three separate sub-ocean gas gathering pipelines. The units were of various ages from two to twenty years old. In addition, the site had condensate storage and loading facilities and a full spectrum of utility and support services. The site covered an area of about 18 Ha.

Benefits
The study allowed results to be achieved with fewer resources than other techniques. Our client estimated that the alternative would have been to carry out a retrospective HAZOP on the plant, which could have taken many months to complete and was not considered to be a viable option because resources to man such a study were not available. The PHR allowed them to save at least five times the manhours and costs.

The PHR technique also gave a broader based picture than would have emerged from a retrospective review of the plant design aspects only.

The output provided a clear view of the position of the whole site on a consistent basis for the first time. Health Safety and Environment (HSE) issues were viewed by the management as their highest priority ensuring that action was taken on any potential major loss areas.

The information proved essential for management in allocating resources before further development was undertaken, and provided a sound strategic direction for future growth to be put in place.

The study helped in meeting regulatory obligations and thereby maintaining their licence to operate.

Solution
Process Hazard Review (PHR) is a novel process developed by ABB Engineering Services, based on the proven Hazard Study Methodology. It is entirely flexible in application and captures and capitalises on real experience.

The entire site was subjected to PHR during ten half-day meetings. During this time a specialist and independent facilitator guided and challenged a team of experienced operators, engineers and technical site based staff.

Checklists and guide diagrams were used to identify credible loss of containment or release of energy scenarios, to understand the consequences and assess the need for remedial measures. The process took in account real operational experience, including any variations from design intent.

A report was presented on the findings to allow the client to implement any necessary changes to reduce risk.
The PHR followed ABB's 3 steps to managing risks approach.

The approach states that any potential risks should be identified, then options to reduce them defined and finally cost effective, pragmatic solutions should be implemented. This proven approach provides peace of mind that any possible risks have been reduced to as low as reasonably practicable.

The entire task was completed and the report issued over the space of ten weeks, from the first introduction of the technique and briefing of the participants, to the presentation of the final report.

The use of ABB’s PHR technique although quite novel to our client was judged to be completely successful in achieving their prime corporate aims.

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