Effluent treatment plant improvements

The Environment Agency (EA) required a major petrochemicals complex to consider a reduction of oil and grease discharge from its works. Being proactive, the operator extended the study to establish the effluent treatment process’s foreseeable requirements.

ABB was commissioned to undertake a ‘Best Available Technique (BAT)’ study into the performance of the effluent treatment plant, determining:

- BAT for effluent treatment at refinery and petrochemical installations
- The effectiveness and condition of existing assets
- Design and cost improvements to bridge any gaps between current operations and BAT

ABB was selected in favour of other consultants for the following reasons:

- Proven track record in effluent treatment and BAT studies
- Regulatory experience of ABB consultants
- Intimate knowledge of the complex
- Process design and project management capability
- Knowledge of surrounding industries, environment and local EA initiatives

“An excellent piece of work resolving a lot of complex issues.”

Client’s Plant Manager
Solution
Our understanding of legislative guidance and close contacts within the industry allowed us to determine BAT for effluent treatment at these oil refinery and petrochemical installations.

We worked out the environmental impacts of the complex’s effluent discharges and compared them to the firm’s environmental quality standards, its historic operating records, the impact of other local operators and knowledge of local EA initiatives.

Having established the required standard for effluent treatment, ABB assessed the suitability of the company’s existing assets and operations. This included process equipment, operating practices, manning levels, training, information provision and analytical techniques.

With our knowledge of current performance and future expectations of discharge quality, we developed a conceptual design and improvement strategy. The scope and expenditure of the programme was optimised against its environmental benefit. We produced and costed a two-phase improvement programme built on existing assets.

Benefits
- Checked for health
- Performance assessed
- Effluent treatment capability quantified
- Environmental impact assessed
- Environmental cost benefit analysed
- Improvement strategy for effluent treatment now in place
- Process improved