

Cost Analysis



Plant Integrity & Life Assessment Worldwide

Power & Process Plant • Plant Integrity • Plant Services • Training • R&D

ETD Consulting has significant expertise in performing cycling cost and performance analysis of power plants. The analysis we conduct can project the current and future maintenance costs and performance impact caused by plant cycling operation through top down and bottom up analysis according to cold, warm and hot starts. Maintenance / failure history, operating, cost and reliability data is typically collated for the units under study, which is used to determine correlations between reliability performance, operating mode, maintenance expenditure and component life - both historically and predicted for future operation. ETD would typically perform in-depth condition assessment, including water chemistry and corrosion analysis, to identify key engineering threats which support the estimates of future costs and performance, and therefore the results generated are also of use to engineers and technical staff.

Industry Need

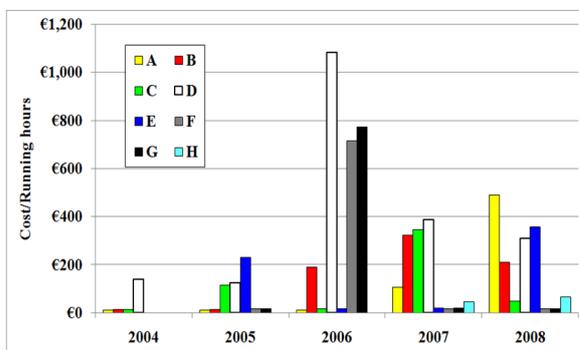
Privatisation of the power industry has resulted in changes in the ownership and management of power plants. Economic conditions, environmental restrictions, the ensuing competition and demand by shareholders for higher profits have resulted in an increasing need to supply power on demand. Market demands have increased the need for the Conventional and Combined Cycle Gas Turbines (CCGTs) being subjected to load-following and/or two-shifting / cyclic operation. However, cyclic operation can introduce new types and higher rates of damage, and hence result in increased maintenance and repair costs.

The Solution

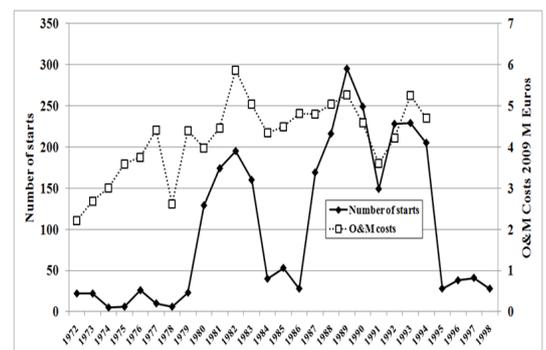
In order to operate the plants efficiently, reliably and profitably, plant operators need to understand the cost and reliability impact of cyclic operation due to for example, increased maintenance and inspection, decrease in component service life etc. ETD has developed expertise on technical and cost analysis related to the effects of increased starts and is therefore ideally placed to deliver these requirements for the benefit of owners, operators and shareholders.

Results

The results of ETD's cycling analysis studies can be used for various applications, such as to provide more accurate data for planning maintenance budgets, conducting market modelling within the system and to provide greater knowledge of a plant's potential schedule rankings, and therefore would be of use in determining potential profitability & risk going forward.



Graph showing management costs for Rankine Power Plants and CCGTs.



Graph showing comparison between O&M costs and number of starts

For more information on Cost Analysis, visit www.etd-consulting/cost-analysis

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