

The following cases illustrate our expertise and experience in risk assessment and asset management:

Case study 1

Following a Plant Life Usage System study at a coal-fired power station in the US, maintenance costs were reduced by 50% over a 4-year period, with no significant reduction in reliability.

Case study 2

An independent review of the commercial viability of repairing an old power plant provided the customer with the necessary justification to close the plant and minimise financial losses of over €50,000 per month.

Case study 3

RWE's business risk assessment of a 1,200MW oil/gas-fired plant in New York state, reduced the cold start timeline by half, established the most significant engineering issues affecting plant flexibility and influenced the development of new maintenance inspection regimes.

Case study 4

RWE's business risk enabled a North American operator to enhance earnings by €14 million over five years, through changes in operating practices.

"The RWE Environmental Risk Assessment Process provided a useful specialist focus on several issues, one of which was combustion. Ultimately, this contributed to the improved environmental performance of the station as well as reducing potential damaging conditions affecting plant integrity itself."

George Graham
Production Manager
International Power
Hub Power Station



Hub River – 1,300MW oil-fired power station, Pakistan



Gaining control

Risk assessment and asset management processes that give you greater control of your power business

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Risk Assessment Processes is one of a wide range of capabilities that RWE Power International can offer to the power and mining industries. For more information please contact us.

Power generation and mining experts



RWE Power International's specialist services cover every aspect of owning and operating power plant, from construction, commissioning, operations and maintenance, to eventual decommissioning. Our mining expertise covers minerals and solid fuels and spans exploration, development, operations and rehabilitation.

We have a great depth of operations and engineering knowledge and practical experience as an asset developer, owner and operator. As part of the RWE Group, we can call on the capabilities and resources of one of the world's leading multi-utility companies. We combine global reach with local understanding to provide innovative solutions that enhance the performance and profitability of any power generation or mining asset.

With clients in more than 70 countries around the world, our expertise spans the full range of electricity generation technologies, fuel sources including hard coal, lignite, oil, gas, nuclear, and mining methods.

A shared history of innovation

RWE Power International is a collaboration between two companies within the RWE Group, RWE Npower plc and RWE Power's consulting subsidiary, RE GmbH. We have a proud history of innovation, shared between RWE npower and RE. Our experience of transforming state-owned power utilities into commercially focused private organisations was achieved by adopting cutting-edge, innovative operating and engineering solutions. Our mining services are based on more than 40 years of developing and running lignite mines, and include large-scale groundwater management, reclamation and environmental services.

Gaining control

RWE's Risk Assessment and Asset Management Process identify and quantify all the key risks in power plant operation, calculated in terms of safety, cost, availability, performance, and environmental compliance. The results enable you to optimise the running of your plant – technically and commercially – in both the short and long term. It provides a balanced, independent view of your generation business, which includes:

- a commercially robust evaluation of your power generation assets
- an assessment of where to direct revenue and capital spend to areas that will provide the best returns
- a plant life health indicator to balance immediate revenues against premature destruction of plant value
- an assessment of plant engineering and maintenance costs
- a deeper understanding of the commercial availability of the plant in the market in which you compete.

The total Risk and Asset Management package includes six assessment processes, which may also be conducted separately. All the processes involve the client

at all stages, enabling a full transfer of operating and engineering knowledge from RWE engineers to client's staff. The processes are:

- Engineering Risk Assessment (ERAP)
- Plant Life Usage System (PLUS)/ Optimum Maintenance Spend Programme (OMSP)
- Environmental Risk Assessment (EnvRAP)
- Operational Risk Assessment (OpRAP)
- Lifetime Assessment Process (LTAP)
- Warranty Risk Assessment Process (WRAP).

ERAP: A comprehensive assessment of your engineering risks

The RWE Engineering Risk Assessment Process (ERAP) goes beyond standard assessments. ERAP is able to quantify risks in terms of cost and benchmark each plant against our unique, international plant reference database. It offers you:

- authoritative assessment of risks in relation to safety, commercial loss (availability and repair cost), and environment
- valuable operational information for insurers and stakeholders
- a platform for risk-based investment in plant, process and people

- budget and resource information to manage major residual risks.

PLUS/OMSP: A unique understanding of plant life and usage

The RWE Plant Life Usage System (PLUS) is a powerful business tool that offers a unique understanding of asset value and how maintenance costs can affect the profitability and economic life of plant. This is viewed against expected future usage and other plant operating in the market. The PLUS system measures actual and projected plant condition based on present maintenance investment scenarios and operating regimes.

The OMSP asset model is then capable of calculating projected conditions for any combination of maintenance spend, plant investment and operating regimes and relating them to their impact on forced outage rates and financial losses. Benchmarked against our global plant reference database, PLUS/OMSP provides key information on:

- areas of plant that are over or under maintained
- minimum investment required to maintain plant condition at acceptable levels
- revenues released when over-maintenance is corrected

- projections of plant condition and its impact on forced outage rates for any combination of investment and operating scenario, years into the future, presented on a net present value basis.

EnvRAP: Examining environmental risk

The environmental performance of your plant has impacts on the costs of your operation, the attitude of stakeholders and the environment itself. Our Environmental Risk Assessment Process (EnvRAP) examines these risks and the control measures available in normal operation together with the risks to the plant from external environmental factors.

This assessment will identify opportunities for incremental improvements in performance and requirements for compliance with current and emerging regulations. The outcomes are:

- a stronger foundation for decision-making
- initiatives that complement your existing environmental management systems
- the basis for a more proactive relationship with regulators, insurers, customers, lenders and local communities.

OpRAP: Optimising day-to-day operations

RWE's OpRAP is an assessment of the commercial, technical and management practices for specific business units. It looks at technical capabilities, thermal performance, environmental performance, plant maintenance, plant protection, plant testing, management processes, commercial performance, business planning, health and safety management and human resource issues. It also gives advice on how market exposure can be managed more effectively and examines the day-to-day risks associated with running specific plant.

LTAP: Stretching maintenance to the limit

RWE's Life Time Assessment Process develops an optimised maintenance plan for the remaining life time of a thermal power plant, thereby safely increasing time between inspections and overhauls. By recalculating the remaining life time for each part of the HP steam circuit, based on its actual operating history – starts and stops, temperatures and pressures – maintenance and inspection intervals can be significantly extended without compromising safety.

LTAP draws on RWE's wealth of experience in power generation to produce:

- detailed stress analysis for all critical HP components based on their actual operating history
- remaining life times for all critical HP components
- life time maintenance plan of the power station with extended maintenance and inspection intervals.

WRAP: Warranty Risk Assessment Process

RWE's WRAP is applicable to recently commissioned plant, prior to hand-over from supplier. The process determines warranty issues, non-conformity, and compliance with specification. Checks may be made on the performance of plant and by undertaking parameter tests. The process concentrates on areas such as non-conformity, warranty issues, parameter tests and compliance with specification. The product assists you in determining whether you have got what you paid for and if you are ready to take over the plant from the OEM with appropriate documentation. RWE can call on a wealth of engineering experience in dealing with all the above issues.