



**RAMBOLL**

## OPERATION AND MAINTENANCE OF YOUR PLANT

**Maintenance of a plant does not only mean repairs when something fails. To carry out proper operation and maintenance you have to combine methods, tools, experience and knowledge.**

An efficient operating economy depends on a stable and reliable production. Ramboll has strong competences within operation and maintenance which enables our customers to make their productions more efficient and hence optimise the operating economy of their plant.

### **Optimisation of maintenance**

The maintenance of equipment varies and we can assist by defining the requirements and plan the maintenance activities. We make thoroughly tested tools available to the owners in order to systematise and control all maintenance activities.

### **Support for operational tasks**

Ramboll can assist the plant in or even undertake tasks connected with the daily operation or optimisation of the operation. We can assist from the planning stage and organisation of operating staff through authority handling right through to the

actual execution of the individual maintenance tasks.

### **Monitoring of process**

Ramboll has more than 30 years hands-on experience in monitoring, follow-up and optimising power plant production processes. Our experts have developed process models for all types of plants – from the more simple plants to large, complicated stations all over the world. Our experience comprises all types of equipment and mixtures of fuel.

### **Maintenance of equipment**

We carry out supervision and inspections of both mechanical and electrical equipment. Noise and vibration measurements as well as updating and handling of the documentation of the complete plant are part of the services performed by Ramboll.

### **Trouble-shooting detection**

Minimised downtimes of the plant are often crucial for an optimised

economy. With a Ramboll service agreement technicians will trouble-shoot problems in the production within short notice.

Ramboll can assist with trouble-shooting on the entire power plant, from the inlet of the fuel through the delivery of power, steam and heating to the customers as well as the handling of residual products and flue gas.

### **Overview with a service agreement**

We can offer our customers a service agreement regarding operation and maintenance. On the page overleaf we show an example of the contents of an agreement. Please contact us or read more about Ramboll's services at [www.ramboll.com/power](http://www.ramboll.com/power)

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## RAMBOLL - YOUR OPERATION & MAINTENANCE PARTNER

### EXAMPLE OF CONTENT OF A SERVICE AGREEMENT

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Ramboll can offer a service agreement with long-term, user-defined maintenance programmes which ensures plant owners the highest possible availability of their plant.

The agreement may comprise:

- Management and planning of revisions
- Technical support at the plant
- 24/7 support on operation and maintenance
- Plant optimisation
- Predictable maintenance
- Preventive maintenance
- Planned maintenance / inspection
- Unplanned maintenance / inspection
- Preventive maintenance / inspection
- Larger conversions
- Maintenance of documentation
- Troubleshooting.

### MAINTENANCE OPTIMISATION

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A complete range of maintenance optimisation tools are available:

- Maintenance audits and technical assessments
- Reliability Centred Maintenance (RCM)
- Failure Mode, effects and Criticality analysis (FMECA Procedures)
- Availability analysis and RAM programmes (Reliability, Availability and Maintainability)
- Organisation (design, objectives and strategic planning)
- LCC & LCP (Life Cycle Costs & Life Cycle Profit)
- Total Productive Maintenance
- Lean spare part management & logistics
- Lean production.



#### PREVENTIVE MAINTENANCE

With planned maintenance, the activities may be carried out in an orderly and correct sequence in order to make the most of the equipment.