

Lifetime assessment of power plants



With our lifetime assessment of power plant, we can support you by providing an evaluation of the current condition of critical pressurised components and giving recommendations for further actions, such as repairs and follow-up inspections.

Our lifetime assessment service involves several methods for detecting incipient damage even before they have any impact on the production process. Thus, you are able to anticipate the required repairs and plan future shutdowns well in advance. Typically inspections are focused on main steam lines, superheaters, headers and turbine components, where creep and corrosion, among other things, limit the component lifetime.

Options for main steam line inspections

Replica testing and magnetic particle inspection are the traditional methods for the inspection of the main steam line. In addition to these, we provide the inspection of supports as well as creep modelling (FEM) of selected steam line components. We use the combination to form an overall picture of the steam line condition and to focus the inspections to the most critical areas.

Replica testing reveals micro-level changes

Our experts use replica testing to determine microstructural changes in the material, such as creep and degradation, in high-temperature components. We recommend conducting the first replica testing already in the construction phase as a so-called zero-point inspection and starting the monitoring of creep after approximately 100,000 hours of use.

Additional lifetime inspection services

- Magnetic particle inspection
- Hardness measurement

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- Thickness measurement
- Thickness measurement of the oxide layer
- Other NDT methods

During the superheater inspection, we recommend taking a sample pipe for more detailed lifetime evaluation. We perform testing and needed analysis of the sample in our destructive testing laboratory.

Benefits of power plant lifetime assessment

- Support for decision-making: investments, refurbishment or upgrading
- An estimate of the remaining lifetime
- Better optimised inspection and maintenance planning

Typical areas of use

- Main steam lines and superheaters
- Turbines
- Vessels
- Boilers and process equipment, plants

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