

# Turbine and generator control and protection systems

## Benefits

- Better availability
- Better adjustability
- Precision of control
- More maintenance free devices
- Interface to main automation

We have decades of experience in plant perfection, and our job is to help you with your rotating main equipment management from planning to optimized maintenance, modernizations, and repairs.

## MODERNISATIONS

Fortum delivers modernisations for

- Turbine control systems
- Turbine protection systems
- Turbine valve operating system
- Turbine vibration measurement systems
- Generator protection systems
- Generator excitation systems
- Generator synchronization systems

When determining the scope of the modernisation for turbine control systems, we first select the turbine control equipment to be replaced. The most common of these are the rotation speed, bleeding and back pressure controls and the limiters. At the same time, we decide on the future controls for the turbine control system and main automation, and the new functions to be added to the system. In generator system modernisations the old field wires and voltage and current transformers are usually maintained.

## A MODERNISATION PROJECT INCLUDES:

- Implementation specification
- Operating measurements

- Design of new control system
- Selection and procurement of devices
- Installation work
- Tests and commissioning
- Documentation
- User training

## OWNER'S ENGINEERING

We provide owner's engineering services for commissioning turbine and generator plants and also for condition management. We perform periodical inspections, measurements and condition evaluations for turbine and generator systems and for their auxiliary.

## MAINTENANCE OF SERVOMOTORS

The core of a steam turbine's control and protection system consists of the controlling elements steering the steam valves, the servomotors. Correct functioning of these devices guarantees the sure and optimal availability of the turbine, plus sufficiently rapid protection of the turbine plant in the event of an emergency shutdown.

We have long-term experience of servomotor maintenance, controls and commissioning measurements. The servomotors are serviced and test-run at our hydraulic servicing point.

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