



# Monitoring and Diagnostic in the New Plants

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# Monitoring and Diagnostic

## ▶ Monitoring

### ◆ Main task of the I&C

- Monitors and controls the processes in the nuclear and conventional part of the plant
- Integrates several protection systems and
- Large scale data acquisition and archive system

## ▶ Diagnostic

### ◆ Add on Systems

- Support the operator during normal plant operation
- Serves with additional information about the conditions of operational important components
  - Valves and actuators
  - Pumps and other rotating machines
  - Mechanical condition of the NSSS (primary and secondary side)
  - Loose or loosened parts in the primary loops.

# Monitoring and Diagnostic

## ► System considerations

### ◆ Diagnostic systems

- Should operate in parallel to I&C
  - Reduce the I&C computer load
  - Increase redundancy and stability
  - Realize diversity Monitoring and Diagnostic
- Use commercial available hardware (as far as possible and reasonable)
- M&D software integrates technical know how of the supplier company
- Should provide information to the plants management system
  - Outage planning
  - Condition based maintenance
  - Spare parts and other resources planning