# Power Generation Process Control and Monitoring

## TSC Description
Perform process control and monitoring in power generation plants to drive operational efficiency.

<table>
<thead>
<tr>
<th>TSC Proficiency Description</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
<th>Level 6</th>
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<td>EPW-MPR-2029-1.1</td>
<td>EPW-MPR-3029-1.1</td>
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<tr>
<td>Support routine process control procedures and monitoring under supervision</td>
<td>Interpret routine process control procedures and perform monitoring independently</td>
<td>Inspect process control and monitoring activities in accordance to standard operating procedures</td>
<td>Review process control policies and procedures to further improve plant operational efficiency and reliability</td>
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### Knowledge
- Concepts on logic of process control systems
- Routine process control procedures
- Layout and design of power generation plants
- Major equipment and operational practices
- Organisational standard operating procedures
- Operational data interpretation techniques
- Technical reporting methods
- Logic and sequences of process control systems
- Routine process control procedures
- Operational data interpretation techniques
- Operational knowledge and practices of major equipment
- Technical reporting methods
- Process control and monitoring policies and procedures
- Organisational strategies and policies
- Principles of operational efficiency
- Local and international industry best practices

### Abilities
- Read the logic of process control systems
- Assist in performing routine process control procedures under supervision
- Assist in the monitoring of plant equipment for abnormalities or deviations from normal operating limits
- Record routine operational data on assigned areas
- Interpret logic and sequence of process control system
- Perform routine process control procedures
- Monitor equipment for abnormalities or deviation from normal operating limits
- Consolidate routine operational data on assigned areas
- Analyse logics and sequences of process control systems
- Perform non-routine process control and monitoring procedures
- Lead the team on process control and monitoring to ensure tasks are performed in accordance with standard operating procedures
- Review operational data to identify key areas of variation from operational parameters
- Inspect activities in accordance with process
- Review process control policies and procedures to enhance plant operational efficiency and reliability
- Review process monitoring procedures to ensure that they are aligned with plant specifications
- Review operation reports to identify potential issues and areas of improvement for plant operations
- Adopt industry best practices on process control and monitoring to
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<th>Range of Application</th>
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<td>Range of application includes, but is not limited to:</td>
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<tr>
<td>• Plant Operations Systems:</td>
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<td>o Co-generation systems, combined cycle gas turbine, Heat Recovery Steam Generator (HRSG), gas turbine, steam turbine, boiler, Programmable Logic Controller (PLC), distributed control systems, including valves, transmitters, meters and transformers, Supervisory Control and Data Acquisition (SCADA), natural gas system, generator, plant electrical equipment</td>
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<td>• Plant Operations Auxiliaries or Ancillaries:</td>
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<td>o Biomass plants, water treatment plant, waste treatment plant, waste water recovery system, fuel preparation systems, feed water flow system, lubricant oil system, barring gear, air compressor, gas compressor</td>
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<td>• Multi-Utility Systems:</td>
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<td>o Water desalination plant, de-mineralisation plant, steam recovery systems, Programmable Logic Controller (PLC), Distributed Control systems, water, steam or gas analysers</td>
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<td>• Multi-Utility Auxiliaries or Ancillaries:</td>
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<td>o Fuel preparation systems, oil system, cooling towers</td>
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