## TSC Category
Maintenance Management

## TSC
Electrical Field Maintenance Management

## TSC Description
Interpret and apply routine and non-routine electrical field maintenance and inspection work instructions and regimes to ensure optimal availability and reliability of electrical equipment and control systems in process plants

<table>
<thead>
<tr>
<th>TSC Proficiency Description</th>
<th>Level 1</th>
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<td>EPW-EPM-2007-1.1</td>
<td>EPW-EPM-3007-1.1</td>
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<td>Identify and apply electrical maintenance and inspection procedures and work instructions to perform electrical maintenance tasks, at field, in a safe and reliable manner</td>
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<td>Interpret electrical maintenance and inspection regimes, work instructions and procedures to coordinate electrical maintenance tasks at field</td>
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<td>Develop electrical field maintenance and inspection regimes, workflows and procedures to reduce likelihood of failure and ensure maintenance tasks are performed correctly and consistently</td>
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## Knowledge
- Electrical wiring regulations, codes and standards
- Types of electrical measurement and test equipment
- Principles of high voltage (HV) and low voltage (LV) systems
- Types of lighting systems
- Principles of earthing, bonding and lightning protection systems
- Electrical equipment used in hazardous areas installation and inspection
- Types of motors and motor control circuits
- Basic electrical protection systems
- Types of power electronics including relays, relaying
- Functions of switchgear and motor control centres
- Auxiliary electrical systems Electrical installation, testing, commissioning and troubleshooting methods
- Hazardous areas equipment installation, inspection, testing and maintenance methods
- Principles of programmable logic controllers (PLCs)
- Types of variable speed drive (VSD) systems
- Methods of interpreting condition monitoring systems and types monitoring devices
- Principles of power distribution, and power and load sharing
- Principles of asset integrity management and equipment maintenance
- Principles of electrical design and system selection
- Principles of programmable logic controllers (PLC) and their use within electrical systems
- High voltage (HV) switchgear maintenance and switching techniques
transducers, voltage transformers, and current transformers
- Types of conditioning monitoring for electrical equipment and systems
- Types of power transformers Cathodic protection systems
- Types of alternating current (AC) and direct current (DC)
- Uninterrupted power supply (UPS) systems
- Types of battery backup systems
- Electrical troubleshooting and fault-finding methods

### Abilities

- Identify and apply electrical maintenance and inspection procedures and work instructions
- Perform maintenance and troubleshooting of electrical equipment and systems
- Perform disassembly and reassembly of electrical equipment and components
- Use a range of measuring and test equipment to perform electrical testing and fault finding
- Perform maintenance on motors and motor control systems
- Perform maintenance on electrical protection systems

- Interpret electrical maintenance and inspection regimes, work instructions and procedures
- Coordinate the troubleshooting of electrical equipment and systems
- Coordinate disassembly and reassembly of electrical equipment and components
- Coordinate electrical maintenance and inspection of auxiliary electrical systems
- Apply and utilise advanced repair and refurbishment techniques for electrical equipment, in collaboration with vendors and external repair workshops
- Lead the maintenance and troubleshooting of electrical equipment and systems
- Supervise disassembly and reassembly of electrical equipment and components
- Manage electrical maintenance and inspection of auxiliary electrical systems
- Establish and review repair and refurbishment techniques for electrical equipment in cooperation with vendors and external repair workshops
- Lead troubleshooting and maintenance of variable speed motor drives and controllers
- Facilitate advanced electrical and electronic
| Perform inspections and checks on Ex-rated equipment Perform electrical cabling and terminations | Carry out troubleshooting and maintenance of variable speeds motor drives and controllers | diagnostics and troubleshooting for a wide range of electrical equipment and systems |
| Perform LV, typically less than 415VAC, switching operations | Perform high voltage (HV) switching operations under supervision | |
| Carry out troubleshooting and fault finding on electrical equipment and systems | Maintain condition monitoring systems and devices | |
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