



Australian Government

PMC553000 Set up and tune a process

Release: 1

PMC553000 Set up and tune a process

Modification History

Release 1. Supersedes and is equivalent to PMC553000C Set up and tune a process

Application

This unit of competency covers the skills and knowledge required to set up and tune a process as typically required for start-up, job change and equipment changes in preparation for production.

This unit of competency applies to experienced operators, leading hands, supervisors or those in similar roles who are required to shut down and isolate equipment, prepare and set up equipment, make adjustments to remedy faults and non-conformity and solve problems within area of responsibility.

This unit of competency applies to an experienced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The experienced operator may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1 | Prepare for equipment/change parts installation | 1.1 Identify all safety and emergency procedures |
| | | 1.2 Shut down equipment in accordance with procedures/work instructions and manufacturer specifications |
| | | 1.3 Isolate equipment according to procedures/work instructions |
| | | 1.4 Remove ancillary equipment in accordance with procedures/work instructions and manufacturer specifications |
| | | 1.5 Complete records and logs for removal of equipment or change parts |
| | | |
| 2 | Prepare the process for production | 2.1 Consult the production schedule to determine the product to be manufactured |
| | | 2.2 Ensure that the raw materials are available as required |
| | | 2.3 Ensure that the equipment/change parts, ancillaries and fixtures are available as required |
| | | 2.4 Perform pre-installment equipment preparation according to procedures/work instructions |
| | | 2.5 Ensure that the equipment is in a safe condition for use |
| | | |
| 3 | Set up process | 3.1 Perform checks and tests to product and equipment specifications |
| | | 3.2 Ensure alignment of all equipment according to product specifications and procedures/work instructions |
| | | 3.3 Ensure that process/equipment is set up as required for the production schedule |

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| 4 | Tune the process | 4.1 | Monitor operation and compare with standard operating procedures (SOPs) for appropriate operation |
| | | 4.2 | Identify any deviation from standard performance |
| | | 4.3 | Identify the cause of the deviation and take action |
| | | 4.4 | Make adjustments to the equipment settings, process conditions or raw materials to bring production into specification |
| | | 4.5 | Continue monitoring operation and making adjustments until product/equipment is within specification |
| | | | |
| 5 | Respond to problems | 5.1 | Identify possible routine and non-routine problems in the equipment or process |
| | | 5.2 | Determine problems needing action |
| | | 5.3 | Determine possible fault causes |
| | | 5.4 | Rectify problem using appropriate solution within area of responsibility |
| | | 5.5 | Report problems outside area of responsibility to designated person |
| | | | |
| 6 | Control hazards | 6.1 | Identify hazards from the job to be done |
| | | 6.2 | Identify other hazards in the work area |
| | | 6.3 | Assess the risks arising from those hazards |
| | | 6.4 | Implement measures to control those risks in line with procedures |

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- manufacturer's technical information
- job cards
- drawings
- emergency procedures
- work instructions
- SOPs
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Hazards Hazards must be identified and controlled. Identifying hazards requires consideration of:

- heat, smoke, dust, vapours or other atmospheric hazards
- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- electricity
- gas
- gases and liquids under pressure
- noise
- rotational equipment or vibration
- plant services (steam, condensate, cooling water, etc)
- structural hazards
- equipment failures
- machinery, equipment and product mass
- limited head spaces or overhangs
- working at heights
- working in restricted or confined spaces
- other hazards that might arise.

Problems Routine and non-routine problems must be resolved.

Routine problems are predictable and have known solutions and include one or more of:

- variations in raw materials feed
- equipment alignment
- out-of-specification settings (e.g. temperature and speed)
- product quality problems.

Non-routine problems are unexpected problems or variations of previous problems.

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution

- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

Operational knowledge includes one or more of:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Records and reports Records include one or more of:

- log books/sheets
- electronic records
- job/work sheets
- other records used for the smooth running of the plant.

Reports include one or more of:

- paper or electronic-based logs and reports
- verbal/radio reports
- reporting items found which require action.

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>