



Australian Government

Department of Education, Employment and Workplace Relations

FPPFCO340A Troubleshoot and rectify finishing and converting systems

Release: 1

FPPFCO340A Troubleshoot and rectify finishing and converting systems

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to troubleshoot and rectify finishing and converting systems in the pulp and paper industry

General legislation, regulatory, licensing and certification requirements applicable to this unit are detailed in the range statement

Specific high risk (and non-high risk) load shifting licensing requirements for this unit may be applicable and are to be met separately and prior to the achievement of this unit

Application of the Unit

Application of the unit

This unit applies to operators who troubleshoot and rectify finishing and converting systems in the pulp and paper industry. This work typically involves complex integrated equipment and continuous operations

This unit generally applies to those who:

- identify and analyse causes of system and quality faults
- rectify system faults
- rectify or re-work product with quality faults, and
- record and report system performance and product quality data

to meet safety, quality and productivity requirements

It does not include preparing and starting up, monitoring, controlling, or shutting down finishing and converting operations

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability skills This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and analyse causes of system and quality faults	1.1. Causes of system and quality faults are identified and analysed within Occupational Health and Safety (OHS) regulations, environmental and safe working requirements/practices, Standard Operating Procedures (SOP), and housekeeping requirements 1.2. Control system readouts are monitored to identify process variations 1.3. Trends and warning devices are interpreted to determine fault type and location 1.4. Quality checks are interpreted to identify variations from specifications or schedule 1.5. Cause and source of problem is identified and located 1.6. Relevant sources of information are accessed and interpreted to assist analysis
2. Rectify system faults	2.1. System faults are rectified within OHS regulations, environmental and safe working requirements/practices, SOP, and housekeeping requirements 2.2. Equipment is shut down and isolation procedures are implemented prior to fault rectification if required 2.3. Faulty equipment is identified, repaired or replaced 2.4. Faulty equipment is by-passed as required 2.5. Corrective adjustments are made and operator level maintenance requirements are undertaken 2.6. Restoration of machine or system to normal operation is verified and communicated to relevant personnel
3. Rectify or re-work product with quality faults	3.1. Product with quality faults is rectified or reworked within OHS regulations, environmental and safe working requirements/practices, SOP, and housekeeping requirements 3.2. Product quality faults or variations are identified by observation, systematic sampling, testing or quality checks 3.3. Quality checks are conducted 3.4. Quality tests are undertaken and results interpreted as required 3.5. Process adjustments are made as required 3.6. Out-of-specification product is actioned as required

ELEMENT	PERFORMANCE CRITERIA
4. Record and report system performance and product quality data	4.1. System performance and product quality data is recorded and reported within OHS regulations, environmental and safe working requirements/practices, SOP, and housekeeping requirements 4.2. Variations from process specifications are recorded 4.3. Actions undertaken to troubleshoot and rectify faults are recorded 4.4. Indications of performance variation are documented 4.5. Relevant information is communicated to appropriate personnel

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the skills and knowledge required for this unit.

Required skills

- Identifies, accesses and interprets relevant historical and operational data and information
- Uses required forms of communication in troubleshooting and rectifying finishing and converting systems
- Reads and interprets required documentation, procedures and reports
- Operates communications equipment
- Interprets instruments, gauges and data recording equipment
- Interprets troubleshooting guides, operational data, trend analysis and test results
- Accesses, navigates and enters computer-based information
- Communicates effectively with personnel to assist with analysis and resolution of operational problems
- Assists others to identify and resolve operational problems in the workplace
- Identifies and actions systems, quality and equipment faults within level of responsibility
- Identifies causes and effects of faults and corrective action on associated processes
- Selects and uses appropriate troubleshooting methods
- Takes timely corrective action to maximise safety, quality and productivity
- Undertakes necessary calculations to aid troubleshooting as required
- Identifies and monitors process control points
- Maintains situational awareness in the work area

REQUIRED SKILLS AND KNOWLEDGE

- Implements isolation and lockout procedures as required
- Operates required measuring and testing devices
- Perform tests and interprets and record results if required
- Operates high risk (and non-high risk) load shifting equipment as required
- Analyses and uses sensory information to adjust process to maximise safety, quality and productivity
- Uses electronic and other control systems to control equipment and processes as required

Required knowledge

- Procedures, regulations and legislative requirements relevant to finishing and converting system operation including OHS, environmental including relevant sustainability requirements/practices, SOP, isolation procedures, safe working requirements, risks and hazard identification and housekeeping
- Relevant forms of communication
- Detailed knowledge of finishing and converting system, processes and associated services sufficient to troubleshoot including:
 - plant layout
 - theory of operation
 - causes and effects of adjustments made to finishing and converting plant and processes
 - relationships between finishing and converting system, processes and associated services
- An appropriate range of troubleshooting methods
- Sampling and testing process for plant and system operations, and process monitoring - purpose, standards and procedures as per site agreements
- Operator level maintenance requirements
- Application of high risk (and non-high risk) load shifting equipment as required
- Sensory information that indicates a deviation from standard operating parameters
- Sufficient knowledge of electronic and other control systems, operation and application to make appropriate adjustments that control finishing and converting systems within level of responsibility

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence should be relevant to the work. It should satisfy the requirements of the elements and performance criteria and include consideration of:

- the required knowledge and skills tailored to the needs of the specific workplace
- applicable OHS regulations, environmental and safe working requirements/practices, SOP and housekeeping requirements
- applicable aspects of the range statement
- practical workplace demonstration of skills in troubleshooting and rectifying finishing and converting operations

Context of and specific resources for assessment

A workplace assessment must be used to assess:

- the application of required knowledge on the job
- the application of skills on the job, over time and under a range of typical conditions that may be experienced in finishing and converting operations

Access to the full range of equipment involved in integrated continuous manufacturing of finishing and converting operations in a pulp or paper mill is required

Method of assessment

A combination of assessment methods should be used. The following examples are appropriate for this unit:

- observation of applied skills and knowledge on the job
- workplace demonstrations via a mock-up or simulation that replicate part/s of the job
- answers to written or verbal questions about specific skills and knowledge
- third-party reports from relevant and skilled personnel
- written evidence e.g. log sheet entries, checklist entries, test results

Assessment processes and techniques must be

EVIDENCE GUIDE

culturally appropriate and in keeping with the language and literacy capacity of the learner and the work being performed. This includes conducting an assessment in a manner that allows thoughts to be conveyed verbally so that the learner can both understand and be understood by the assessor (e.g. use plain English and terminology used on the job)

A holistic assessment with other units relevant to the pulp and paper industry, mill and job role is recommended

Additional information on approaches to assessment for the pulp and paper industry is provided in the Assessment Guidelines for this Training Package

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Productivity requirements may include:

- energy efficiency
- waste minimisation
- evaporation minimisation, including landfill and waste water reduction
- environmentally safe waste disposal
- consideration of resource utilisation, including fibre efficiency
- minimising delays
- chemical recovery maximisation
- meeting key performance indicators
- line speed
- handovers
- quality checks
- meeting output targets i.e. net tonnes per employee per annum
- machine/process time availability i.e. time the

RANGE STATEMENT

machine or process is making product

- machine/process production rate

Finishing and converting processes may include:

- winding and re-winding
- decorating
- lotionising
- calendering
- water marking
- perforating
- slitting and cutting
- embossing
- laminating
- folding
- printing
- bonding
- core making
- wrapping and packing

Materials and supplies may include:

- parent roll or reel
- lotion
- shrink and stretch wraps
- pallets
- sheet paper
- labelling and stencilling
- wrap paper
- customer rolls
- boxes
- polythene wrap
- glues
- cartons
- strapping
- printing inks
- shippers
- reams
- signs and labels
- core board
- scent
- rolls

RANGE STATEMENT

Equipment and systems may include:

- separate servo controlled motors and drives
- electronic sensors and proximity system
- light curtains
- category three plus guarding
- program formatting
 - programmable production configurations
 - pre-set
 - modifiable
- quick change parts e.g. snap lock
- reels and winding equipment
- wrapping and packing equipment
- guillotine, knives and cutting equipment
- conveying systems
- materials handling equipment
- flexographic printing equipment used for decorating
- overhead cranes
- testing and measuring equipment
- roll grab attachments
- warehousing equipment
- warehousing control systems
- electronic, pneumatic and hydraulic process controls
- computer systems
- electronic screens and alarms
- process control systems
- analogue and digital instruments
- fully automated, semi-automated, manually operated plant and equipment appropriate to finishing and converting operations

Auxiliary systems may include:

- air
- lubrication
- vacuum
- dust extraction system

Electronic control systems may include:

- portable control device
- touch screens
- robotics

Legislation, regulatory, licensing and certification requirements may include:

- OHS and environmental requirements (local, state and commonwealth)
- activity or task specific high risk (and non-high

RANGE STATEMENT

Documentation, procedures and reports may include:

- risk) load shifting licensing requirements
- SOP
- enterprise policies, procedures and guidelines
- environmental sustainability requirements/practices
- plant manufacturing operating manuals
- production schedules
- production plans
- production specifications
- quality certification e.g. ISO
- quality procedures
- oil or chemical spills and disposal guidelines
- plant isolation documentation
- safe work documentation e.g. plant clearance, job safety analysis, permit systems
- reference documents on theory of operation of processes and systems
- vendor manuals
- checklists
- Material Safety Data Sheets (MSDS)

Maintenance may include:

- operator level maintenance as per site agreement
- operator maintenance schedules
- maintenance supplies
- maintenance systems
- maintenance suppliers
- pro-active maintenance strategies e.g. Total Productive Maintenance (TPM), Reliability Centred Maintenance (RCM)

Quality checks and tests may include:

- roll density
- core slippage
- damaged packaging
- reel hardness
- core size
- colour matching
- bulk
- core strength
- sheet size
- roll appearance
- print quality
- cut quality

RANGE STATEMENT

- MD&CD tensiles
- core scenting
- packaged product
- stretch
- roll size
- perforations
- product identification
- warehousing records

RANGE STATEMENT

Required action in the event of a missing or faulty component may include:

- operator level maintenance
- involvement of maintenance personnel
- replacement of component
- communication with appropriate personnel

Actions may include:

- process adjustments
- reporting to authorised person
- rectifying problem within level of responsibility

Communications may include

interaction with:

- warehousing personnel
- internal/external customers and suppliers
- maintenance services
- team members
- operational management
- statutory authorities

Situational awareness may include

awareness of:

- traffic
- pedestrians
- location of equipment
- product
- hazards
- obstruction
- unexpected movement

Sensory information may include:

- visual
- sound
- feel
- touch
- smell
- vibration
- temperature

RANGE STATEMENT

Forms of communications may include:

- written e.g. log books, emails, incident and other reports, run sheets
- reading and interpreting documentation e.g. SOP, manuals, checklists, drawings, data entry
- verbal e.g. radio skills, telephone, face to face, handover
- non-verbal e.g. hand signals, alarms, observations
- signage e.g. safety, access

Unit Sector(s)

Not Applicable