



Australian Government

Department of Education, Employment and Workplace Relations

FPPPUL320A Prepare and start up pulping system operations

Release: 1

FPPPUL320A Prepare and start up pulping system operations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to prepare and start up pulping system operations 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 prepare and start up pulping system operations in the pulp and paper industry. This work typically involves complex integrated equipment and continuous operations

This unit generally applies to those who:

- determine production requirements
- inspect and prepare systems for startup
- start up operations, and
- establish and stabilise the production and quality process

to meet safety, quality and productivity requirements

It does not include shutting down, monitoring, controlling or troubleshooting and rectifying pulping plant 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. Determine production requirements	1.1. Production requirements are determined within Occupational Health and Safety (OHS) regulations, environmental and safe working requirements/practices, Standard Operating Procedures (SOP), and housekeeping requirements 1.2. Grade type and flow rate for production are determined and communicated to relevant personnel 1.3. Availability of supplies to meet production requirements are determined and communicated to relevant personnel 1.4. Readiness and availability of facilities to receive process product and/or by-products is confirmed
2. Inspect and prepare systems for startup	2.1. Systems are inspected and prepared for startup within OHS regulations, environmental and safe working requirements/practices, SOP, and housekeeping requirements 2.2. Pre-startup checks are completed 2.3. Operational settings are made and confirmed 2.4. Delivery systems are set for operation 2.5. Monitoring devices and alarm systems are checked and confirmed operational 2.6. Identified faults are rectified 2.7. Production ready status is confirmed with relevant personnel
3. Start up operations	3.1. Startup operations are completed within OHS regulations, environmental and safe working requirements/practices, SOP, and housekeeping requirements 3.2. Pulping systems are activated and confirmed operational 3.3. Equipment startups are co-ordinated for production 3.4. Process operation is communicated to relevant personnel 3.5. Production startup is logged, recorded or filed as required
4. Establish and stabilise the production and quality process	4.1. Production and quality process is established and stabilised within OHS regulations, environmental and safe working requirements/practices, SOP, and housekeeping requirements 4.2. Pulping operation is monitored and adjusted to

ELEMENT**PERFORMANCE CRITERIA**

- rectify variations from specifications
- 4.3. Samples are taken as required and appropriately actioned
- 4.4. Product tests are verified as within specification where applicable
- 4.5. System operation, production and quality data is logged, recorded or filed as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the skills and knowledge required for this unit.

Required skills

- Uses required forms of communication in preparing and starting up pulping system operations
- Reads and interprets required documentation, procedures and reports
- Confirms production ready status with team members, suppliers and customers
- Accesses, navigates and enters computer-based information
- Interprets instruments, gauges and data recording equipment
- Identifies and actions problems within level of responsibility
- Identifies and monitors process control points
- Recognises when raw materials, equipment and personnel are available
- Conducts pre-startup checks of plant and equipment including instrumentation
- Removes isolations
- Determines pulping production requirements
- Conducts checks to ensure pulp, about to be produced, can be used or stored
- Activates and confirms operation of plant
- Takes samples, conducts tests, interprets and records results, if required
- Uses measuring equipment as required
- Maintains situational awareness in the work area
- Operates manual or materials handling equipment
- Operates high risk (and non-high risk) load shifting equipment as required
- Analyses and uses sensory information to adjust process to maintain and co-ordinate safety, quality and productivity
- Uses electronic and other control systems to control equipment and processes as required

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

- Procedures, regulations and legislative requirements relevant to pulping operations including OHS, environmental including relevant sustainability requirements/practices, SOP, isolation procedures, safe working requirements, risks and hazard identification and housekeeping
- Relevant forms of communication
- Roles and responsibilities of relevant personnel and customers
- Relationships within the pulping area members and with the area's suppliers and customers
- Basic problem-solving techniques consistent with level of responsibility
- Cause and affects of operational equipment faults
- Working knowledge of pulping plant, processes, layout and associated services sufficient to carry out startup activities within level of responsibility
- Purpose of the process controls and how the changes affect the production variables
- Purpose of each of the steps in the preparation of the pulping operation for production
- Purpose of each component of the pulping operation
- Process control points of the preparation for startup procedure
- Process control points of the monitoring process during startup
- Sampling and testing process for plant and system operations, and process monitoring - purpose, standards and procedures as per site agreements
- 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 the pulping plant, 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 preparing and starting up pulping 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 pulping operations

Access to the full range of equipment involved in integrated continuous manufacturing of pulping plant 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 culturally appropriate and in keeping with the language and literacy capacity of the learner and the work being

EVIDENCE GUIDE

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 machine or process is making product
- machine/process production rate

RANGE STATEMENT

Operational parameters may include:

- flows
- temperatures
- pressures
- through put
- consistencies
- amps
- set points
- valve settings
- levels
- interlocks

Storage levels may include:

- vats
- chests
- silos
- tanks
- bins
- piles

Pulping processes - chemical, mechanical and semi-chemical pulping may include:

- bleaching plant operations
- refining
- chip preparation
- cleaning or washing systems
- chemical preparation and treatment
- pulp lapping production
- stock distribution and storage
- digester operations
- mechanical pulping systems

Products of these processes may include:

- bleached or unbleached pulp
- fluff pulp
- crumbed pulp
- baled, rolled or sheet pulp
- slushed pulp

Materials and supplies may include:

- woodchips
- pulp
- steam
- water
- chemicals
- power

Equipment may include:

- power and steam systems
- hydraulic and electrical systems
- chemical delivery and processing
- conveyors and pump distribution equipment

RANGE STATEMENT

- pneumatic systems
- process plant
- materials handling equipment
- hand and power tools
- computer systems
- electronic screens and alarms
- process control systems
- analogue and digital instruments
- fully automated, semi-automated, manually operated plant and equipment appropriate to pulping operations

Electronic control systems may include:

- Digital Control System (DCS)
- 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 risk) load shifting licensing requirements
- relevant endorsed licences
- hazardous chemical handling
- air and gas discharges
- safety instructions

Documentation, procedures and reports may include:

- SOP
- work instructions or purchase orders
- environmental sustainability requirements/practices
- plant manufacturing operating manuals
- quality procedures
- oil or chemical spills and disposal guidelines
- plant isolation documentation
- safe work documentation e.g. plant clearance, job safety analysis, permit systems
- log sheets and shift reports
- work orders
- delivery or distribution documentation
- tally or production records
- incident reports
- Materials Safety Data Sheets (MSDS)

RANGE STATEMENT

Maintenance may include:	• process and instrumentation diagrams • operator level maintenance as per site agreement • operator maintenance schedules • calibrating test equipment • maintenance systems • maintenance suppliers • proactive maintenance strategies e.g. Total Productive Maintenance (TPM), Reliability Centred Maintenance (RCM)
Actions may include:	• process adjustments • reporting to authorised person • rectifying problem within level of responsibility
Communications may include	interaction with: • internal or external • customers and suppliers • team members • maintenance services • 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
Forms of communications may include:	• written e.g. log books, emails, incident and other reports, run sheets, data entry • reading and interpreting documentation e.g. SOP, manuals, checklists, drawings

RANGE STATEMENT

- 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