

Title	Operate bark burner systems		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: explain fundamentals of bark burner systems used in a pulp mill; operate and maintain bark burner and associated equipment efficiently; monitor and control the efficient performance of bark burner and associated equipment.
----------------	---

Classification	Wood Fibre Manufacturing > Pulp and Paper Manufacturing Skills
-----------------------	--

Available grade	Achieved
------------------------	----------

Guidance Information

- 1 Definition
Worksite documentation refers to instructions to staff on policy and procedures (including the application of legislation to worksite situations) which are formally documented, and are available for reference at the worksite. Examples are standard operating procedures, specifications, manuals, and manufacturer's information.
- 2 The following apply to the performance of all outcomes of this unit standard:
 - a All work practices must meet recognised codes of practice and documented worksite health and safety and environmental procedures (where these exceed code) for personal, product, and worksite health and safety, and must meet the obligations required under current legislation, including the Health and Safety in Employment Act 1992, the Resource Management Act 1991, and their subsequent amendments.
 - b All work practices must meet documented worksite operating procedures. This includes the recording (by electronic or non-electronic means) of activities, events, and decisions.
 - c All communications made in relation to this unit standard must be made in accordance with worksite procedures for content, recipient, timing, and method.

Outcomes and performance criteria

Outcome 1

Explain fundamentals of bark burner systems used in a pulp mill.

Performance criteria

- 1.1 Function of bark burner systems is explained in accordance with worksite documentation.
- 1.2 Principles of bark drying are explained in accordance with worksite documentation.
- Range residence time, moisture content, hog fuel conveying, hot gas flows (including cyclone).
- 1.3 Components of the bark drying system and bark burner systems are identified, and their purpose and operation are explained, in accordance with worksite documentation.
- Range bark drying system may include but is not limited to – hog fuel conveying system, fans, hot gas flows, cyclone; bark burner systems may include but are not limited to – combustion chamber, fans, hot gas flow, grates, ashing system, hog fuel supply system, heat exchanger, hot oil system.
- 1.4 Hazards associated with operating the bark burner systems are identified and actions to be taken to isolate, minimise or eliminate the hazard are described in accordance with worksite documentation.
- Range hazards may include but are not limited to – explosions, heat, fire, hot oil, dust.
- 1.5 Consequences of non-conformance with worksite operating procedures on downstream production stages are explained in accordance with worksite documentation.
- Range explanation includes – mega watt usage, oil temperature, furnace temperature, fuel dryness, up time of furnace, flash dried pulp production rate, pulp quality, heavy oil use in the flash drying system.
- 1.6 Roles and responsibilities of the bark burner operator are described in accordance with worksite documentation.

Outcome 2

Operate and maintain bark burner and associated equipment efficiently.

Range associated equipment may include but is not limited to – hog fuel conveyors, bark dryer and cyclone, heat exchanger, stack, hot oil system.

Performance criteria

- 2.1 Safe work practices associated with operating the bark burner and associated equipment are identified and used in accordance with worksite documentation and legislative requirements.
- Range practices may include but are not limited to – isolation procedures, lock-outs, emergency stops, machine guarding, wearing appropriate safety equipment.
- 2.2 Bark burner and associated equipment are set up, started up, operated, and shutdown efficiently in accordance with worksite documentation.
- 2.3 Product specifications are maintained by the timely setting of operating parameters.
- Range operating parameters – furnace temperature, furnace pressures, oil temperature, hog fuel supply, air flows to the furnace.
- 2.4 Environmental specifications relevant to the plant are maintained by the monitoring and timely adjustment of operating parameters.
- Range hog fuel quality, air flows around the furnace, manual ashing.
- 2.5 Preventative maintenance and the plant cleaning schedule are carried out in accordance with worksite documentation.
- Range cleaning may include but is not limited to – hog fuel screens, ash and dust collecting systems, furnace, secondary chamber, heat exchanger chamber, conveyor roll build ups.

Outcome 3

Monitor and control the efficient performance of bark burner and associated equipment.

Performance criteria

- 3.1 Monitoring and interpretation of feedback information and the timely adjustment of control parameters enables efficient plant performance, product specifications, and process and legislative requirements to be maintained in accordance with worksite documentation.
- Range product specifications may include but are not limited to – oil temperature, pulp dryer temperature.
- 3.2 Operating and equipment faults and malfunctions are recognised, and corrective action is taken in accordance with worksite documentation.
- Range faults may include but are not limited to – mechanical, electrical, hydraulic, conveyor blockage, belt slippage, belt failure.

- 3.3 Production, maintenance, and quality records are explained and completed in accordance with worksite documentation.
- 3.4 Production rate is regulated in accordance with worksite documentation and process requirements.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 May 1997	31 December 2025
Revision	2	28 November 2000	31 December 2025
Review	3	18 December 2006	31 December 2025
Review	4	24 October 2014	31 December 2025
Review	5	30 November 2023	31 December 2025

Consent and Moderation Requirements (CMR) reference

0173

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.