

Occupation	Plant Operator
Document type	Occupational Analysis Chart

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Occupational Analysis Chart – Plant Operator

Description: Pellet Plant Operator

A Plant Operators primary job is to maintain steady operation of the plant through the control room controls. This includes monitoring the plant operations to maximize performance and efficiency without risking safety or damaging equipment.

Plant Operators must be able to recognize, evaluate, and control hazards on an ongoing basis. The ability to maintain quality control and having the ability to respond to a range of upset conditions is vital. A Plant Operator must understand and consistently apply industry specific practices and applicable regulations and standards. Plant Operators may be chargehands or supervisors depending on the shift.

Plant Operators generally work indoors, undertake shift work and may be in a union or non-unionized environment.

Required – R

Optional – O

GENERAL A	Introduction to Online learning Environment 1001	Describe and Apply Workplace Attributes 1008	Describe Legislation, Regulation, Standards, Tickets and Documentation 1155						
	O	R	R						
SAFETY B	Describe Health and Safety for Operators 1156	Describe and Control Upset conditions 1157	Describe Process Safety Management 1158	Report and Investigate Incidents 1104	Describe Dust and Gas Combustion 1160	Describe Human Factors 1103			
	R	R	R	R	R		O		
LEADERSHIP, COMMUNICATION AND DUE DILIGENCE C	Describe and Apply Communication Skills 1099	Describe and Apply Due Diligence 1101	Describe and Apply Leadership Skills 1102						
	R	R	R						

WORK ACTIVITY

D

Operate Plant				
				1159
R				

Unit	1008
Title	Describe and Apply Workplace Attributes
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This is a knowledge and ability unit about:</p> <ul style="list-style-type: none"> • Professionalism; • Safe Productivity; and • Physical and Mental Well-Being.
-------------	--

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <p>There are no prerequisites for this unit.</p>
-----------------	--

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none"> • All Forestry occupations where applicable.
-------------	--

Element of Competence	Competence Outcomes
<p>1. Professionalism</p>	<p>1.1. Demonstrate knowledge of why it is important to be prepared and ability to arrive at work prepared for the task and the day.</p> <p>Work prepared for the task and the day may include:</p> <ul style="list-style-type: none"> • Task specific PPE, additional nutrition and hydration, change of clothes, task specific equipment, and site or work specific paperwork. <p>Why be prepared may include:</p> <ul style="list-style-type: none"> • Minimize operational delays, for safety, avoid being rushed, attend safety meetings, ensure tools and equipment are in working order, pre-trips. <p>1.2. Demonstrate knowledge of how to effectively deal with problems.</p> <p>Problems may include:</p> <ul style="list-style-type: none"> • Personal and interpersonal problems, problems as a result of changing work conditions. <p>1.3. Demonstrate knowledge of why it is important to be able to give and receive constructive feedback.</p> <p>1.4. Demonstrate knowledge of why it is important to have a good work ethic.</p> <p>Good work ethic may include:</p> <ul style="list-style-type: none"> • Self-respect/pride, respect for others/others respect for you, meet workplace expectations, deliver good product, minimize down time.
<p>2. Safe Productivity</p>	<p>2.1. Demonstrate ability to work in an organized manner within specific worksite requirements.</p> <p>Organized manner may include:</p> <ul style="list-style-type: none"> • Teamwork, predictability, work progressively. <p>2.2. Demonstrate ability to achieve outcomes while maintaining safe work practices.</p>
<p>3. Physical and Mental Well-Being</p>	<p>3.1. Demonstrate knowledge of, and ability to be fit for work.</p> <p>Fit for work must include:</p> <ul style="list-style-type: none"> • Self-awareness, recognition of personal limitations, impairment, drugs, alcohol, nutrition, eating right.

Element of Competence	Competence Outcomes
	<p>3.2. Demonstrate knowledge of <i>physical conditions</i> that can affect ability to perform job and how to mitigate them.</p> <p><i>Physical conditions</i> may include:</p> <ul style="list-style-type: none"> • Dehydration, frostbite, hypothermia, heat stress, fatigue/exhaustion, injuries. <p>3.3. Demonstrate knowledge of <i>mental conditions</i> that can affect ability to perform job and how to mitigate them.</p> <p><i>Mental conditions</i> may include:</p> <ul style="list-style-type: none"> • Mental fatigue, personal problems/emotions, over/lack confidence, sleep deprivation, anger, lack of trust, depression, money stress, family stress, interpersonal behavior, bullying, aggression, target or production fixation, peer pressure, unsafe behavior of others.

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• The importance of arriving at work prepared and on time• How to effectively deal with problems• Why constructive criticism is important• Importance of good work ethic• How to work in an organized manner• Importance of achieving outcomes• Physical conditions that affect work• Mental conditions that affect work.
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• Be fit for work• Manage time and productivity including:<ul style="list-style-type: none">○ Planning, scheduling and prioritizing of time○ Working under self-motivation or limited supervision○ Have a positive working ethic.• Achieve outcomes.

General Assessment Guide

<p>General Information</p>	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none"> • Training modules are available for this unit. • Assessments are available for this unit.
<p>Evidence to be Assessed</p>	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none"> • Completion of training module • Completion of assessments where applicable. • All required “skills to be assessed” demonstrated multiple times in a variety of contexts. Valid evidence must be on record.
<p>Evidence Sign Off</p>	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none"> • Trainer • Assessor • Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1099
Title	Describe and Apply Communication Skills
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none">• Verbal; and• Non-Verbal Communication.
-------------	--

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none">• There are no prerequisites for this unit.
-----------------	---

Occupations	<ul style="list-style-type: none">• Supervisors• Plant Operators• Other Forestry occupations as required.
-------------	---

Element of Competence	Competence Outcomes
<p>1. Verbal</p>	<p>1.1. Demonstrate ability to communicate in a clear concise way so that the message is received and understood.</p> <p>1.2. Demonstrate knowledge of how communication can <i>support or work against safety.</i></p> <p><i>Support or work against safety</i> may include:</p> <ul style="list-style-type: none"> • Barriers, distractions • Sharing knowledge, raising awareness, suggesting solutions. <p>1.3. Demonstrate knowledge of and ability to communicate with stakeholders in a professional manner.</p>
<p>2. Non-Verbal</p>	<p>2.1. Demonstrate knowledge of the pros and cons of using technology to communicate.</p> <p>2.2. Demonstrate knowledge of, and ability to, write effectively so records are clear, concise, and understood in accordance with workplace policy and procedures.</p> <p>2.3. Demonstrate knowledge of, and awareness, of how body language can affect communication.</p> <p>2.4. Demonstrate knowledge of confidentiality requirements in accordance with workplace policy and procedures and relevant legislation.</p>

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• How communication can support or work against safety• How to communicate with stakeholders in a professional manner• The pros and cons of using technology to communicate• How to write effectively• How body language can affect communication• Confidentiality requirements.
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• Communicate in a clear, concise manner• Communicate in a professional manner with all stakeholders• Write effectively.

General Assessment Guide

<p>General Information</p>	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none"> • Training modules are available for this unit. • Assessments are available for this unit.
<p>Evidence to be Assessed</p>	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none"> • Completion of training module • Completion of assessments where applicable. • All required “skills to be assessed” demonstrated multiple times in a variety of contexts. Valid evidence must be on record.
<p>Evidence Sign Off</p>	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none"> • Trainer • Assessor • Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1101
Title	Describe and Apply Due Diligence
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none">• General Due Diligence; and• Legislation and Regulations related to Due Diligence.
-------------	---

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none">• There are no prerequisites for this unit.
-----------------	---

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none">• Supervisors• Plant Operators• Other forestry occupations as required.
-------------	---

Element of Competence	Competence Outcomes
<p>1. General Due Diligence</p>	<p>1.1. Demonstrate knowledge of <i>due diligence</i>.</p> <p><i>Due diligence</i> must include:</p> <ul style="list-style-type: none"> • Practice, defense. <p>1.2. Demonstrate application of best practices to support due diligence</p> <p>1.3. Demonstrate knowledge of the definition of reasonable in relation to the application of due diligence.</p> <p>1.4. Demonstrate knowledge of and ability to use documentation to support due diligence.</p>
<p>2. Due Diligence Legislation and Regulations</p>	<p>2.1. Demonstrate knowledge of legislation, regulation, guidelines, and policy associated with due diligence.</p> <p>2.2. Demonstrate knowledge of inspections in accordance with OHS Regulations.</p> <p>2.3. Demonstrate knowledge of worker assessments in accordance with OHS Regulations</p>

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• Due diligence as it relates to supervision• Best practices related to supervision• What is considered reasonable in relation to supervision• Importance of documentation in relation to due diligence• Legislation related to due diligence• Inspections related to due diligence• Worker assessment related to due diligence.
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• Apply best practice related to due diligence• Use documentation to support due diligence• Promote due diligence in workers.

General Assessment Guide

<p>General Information</p>	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none"> • Training modules are available for this unit. • Assessments are available for this unit.
<p>Evidence to be Assessed</p>	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none"> • Completion of training module • Completion of assessments where applicable. • All required “skills to be assessed” demonstrated multiple times in a variety of contexts. Valid evidence must be on record.
<p>Evidence Sign Off</p>	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none"> • Trainer • Assessor • Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1102
Title	Describe and Apply Leadership and Professionalism
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none">• Personal Awareness;• Leadership Skills and Professionalism; and• Team Building and Worker Relations.
-------------	---

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none">• There are no prerequisites for this unit.
-----------------	---

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none">• Supervisors• Plant Operators• Other forestry occupations as required.
-------------	---

Element of Competence	Competence Outcomes
<p>1. Personal Awareness</p>	<p>1.1. Demonstrate knowledge of personal strengths and limitations and how they affect leadership and professionalism.</p> <p>1.2. Demonstrate knowledge of how leadership style is adapted/modified based on personality traits of workers.</p> <p>1.3. Demonstrate ability to lead by example by using safe work procedures in accordance with regulations and workplace policies and procedures.</p>
<p>2. Leadership Skills and Professionalism</p>	<p>2.1. Demonstrate knowledge of and ability to show effective leadership.</p> <p>2.2. Demonstrate knowledge of and ability to show leadership skills and behavior.</p> <p>2.3. Demonstrate knowledge of and ability to show professional qualities and the impact on other workers.</p> <p>2.4. Demonstrate understanding of how leadership fosters the safety culture of an organization.</p> <p>2.5. Demonstrate knowledge of and ability to build trust in relationships.</p> <p>2.6. Demonstrate knowledge of how to recognize and resolve conflict.</p> <p>Resolve conflict must include:</p> <ul style="list-style-type: none"> • Bullying, harassment, sexism, intimidation, types of abuse, violence. <p>2.7. Demonstrate knowledge of how to motivate people.</p> <p>Motivate must include:</p> <ul style="list-style-type: none"> • Intrinsic and external motivators, value of reward systems.
<p>3. Team Building and Worker Relations</p>	<p>3.1. Demonstrate knowledge of characteristics of effective workers.</p> <p>3.2. Demonstrate ability to engage with other workers and create effective teams.</p> <p>3.3. Demonstrate knowledge of building and leading safe high functioning teams.</p>

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• Personal strengths and limitations and affect on supervision• How to modify supervision based on personal traits and traits of workers• Qualities of effective leadership• Leadership skills and behavior• How leadership sets the safety culture of an organization• How to build trust in relationships• How to motivate people• Characteristics of good leaders• How to build high functioning teams.
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• Lead by example using safe work practices and procedures• Recognize and resolve conflict• Build trust in relationships• Motivate people• Engage with staff and create effective teams.

General Assessment Guide

<p>General Information</p>	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none"> • Training modules are available for this unit. • Assessments are available for this unit.
<p>Evidence to be Assessed</p>	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none"> • Completion of training module • Completion of assessments where applicable. • All required “skills to be assessed” demonstrated multiple times in a variety of contexts. Valid evidence must be on record.
<p>Evidence Sign Off</p>	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none"> • Trainer • Assessor • Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1103
Title	Describe Human Factors and System Safety
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none">• Terms and Concepts;• Perspectives on Performance;• Performance Shaping Factors;• Building a Just Learning Culture.
-------------	--

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none">• There are no prerequisites for this unit.
-----------------	---

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none">• Supervisors• Plant Operators• Other forestry occupations as required.
-------------	---

Element of Competence	Competence Outcomes
<p>1. Terms and Concepts</p>	<p>1.1. Demonstrate knowledge of human factors and system safety terminology.</p> <p>Terminology must include:</p> <ul style="list-style-type: none"> • Workplace system, interrelated, interconnected, interactive, context, local rationality principle, performance shaping factors. <p>1.2. Demonstrate knowledge of concepts related to human factors and system safety.</p> <p>Concepts must include:</p> <ul style="list-style-type: none"> • Workplace system influences performance, local rationality principle, error is normal, just culture.
<p>2. Perspectives on Performance</p>	<p>2.1. Demonstrate understanding of how workers contribute to safety.</p> <p>2.2. Demonstrate understanding of how to manage a dynamic workplace.</p> <p>2.3. Demonstrate understanding of differences between new and experienced (novice and competent) workers.</p> <p>2.4. Demonstrate knowledge of how error can manifest and perpetuate through workplace system.</p>
<p>3. Performance Shaping Factors</p>	<p>3.1. Demonstrate knowledge of how workplace system factors influence performance.</p> <p>3.2. Demonstrate knowledge of organizational factors that affect performance.</p> <p>Organizational factors may include:</p> <ul style="list-style-type: none"> • Executive decisions, business planning, pay rates and compensation, work volume, production pressure <p>3.3. Demonstrate knowledge of task factors that affect performance.</p> <p>Task factors may include:</p> <ul style="list-style-type: none"> • Environment – Noise, lighting, vibration, terrain, weather, air quality, temperature, SWP/SOP's

Element of Competence	Competence Outcomes
	<ul style="list-style-type: none"> • Equipment – Availability, accessibility, ease of use, maintenance, design • Physical – Force, repetition, duration, posture. <p>3.4. Demonstrate knowledge of <i>individual</i> factors that affect performance.</p> <p><i>Individual</i> factors may include:</p> <ul style="list-style-type: none"> • Knowledge and expertise • Job related stress • Expectations and experience • Sensory limitations – vision, touch, hearing, smell • Biases and heuristics • Fatigue/sleep – Acute, chronic, causes/symptoms, control measures.
<p>4. Building a Just Learning Culture</p>	<p>4.1. Demonstrate knowledge of safety and occurrence reporting.</p> <p>4.2. Demonstrate knowledge of <i>just learning culture</i>.</p> <p><i>Just learning culture</i> must include:</p> <ul style="list-style-type: none"> • Positive outcomes, industry best practice, sharing, learning from other. <p>4.3. Demonstrate knowledge of the importance of <i>teamwork and communication</i> in reducing error.</p> <p><i>Teamwork and communication</i> must include:</p> <ul style="list-style-type: none"> • Exchange of information, critical communication situations, what goes right and what can go wrong, improving communication.

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• General terminology related to human factors and system Safety• Concepts related to human factors and system safety• How workers contribute to safety• How experts manage a dynamic workplace• Differences between new and competent workers• How error can manifest and perpetuate through workplace system• How workplace system factors influence performance• Organizational factors that affect performance• Task factors that affect performance• Individual factors that affect performance• Safety and occurrence reporting• Just learning culture• Importance of communication and teamwork in reducing error.
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• This is a knowledge only unit.

General Assessment Guide

General Information	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Training modules are available for this unit.</p> <p>Assessments are available for this unit.</p>
Evidence to be Assessed	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none">• Completion of training module and formative assessments.• Completion of knowledge assessment.
Evidence Sign Off	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none">• Trainer• Assessor• Supervisor. <p>Final evidence sign off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1104
Title	Report and Investigate Incidents
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none">• Reporting• Reasons to Investigate;• How to Investigate; and• Concluding Investigations.
-------------	---

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none">• There are no prerequisites for this unit.
-----------------	---

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none">• Supervisors• Plant Operators• Other forestry occupations as required.
-------------	---

Element of Competence	Competence Outcomes
1. Reporting	1.1. Demonstrate knowledge of why reporting is important 1.2. Demonstrate knowledge of what types of incidents must be reported. Incidents that must be reported: <ul style="list-style-type: none"> • Hazards, close calls (near miss), injuries, damage, production issues, quality issues • Bullying, harassment, workplace violence
2. Reasons to Investigate	2.1. Demonstrate knowledge of what triggers an investigation. 2.2. Demonstrate knowledge of the connection between investigation and incident reduction. 2.3. Demonstrate knowledge of business reasons to investigate incidents. 2.4. Demonstrate knowledge of reasons of conscience in relation to investigations. 2.5. Demonstrate knowledge of regulations and legislation related to investigations. 2.6. Demonstrate knowledge of time frames related to investigations.
3. How to Investigate	3.1. Demonstrate knowledge of how to investigate. 3.2. Demonstrate knowledge of steps of an investigation. 3.3. Demonstrate knowledge of how to meet regulatory reporting requirements related to investigations. 3.4. Demonstrate knowledge of how to gather information for an investigation. 3.5. Demonstrate knowledge of immediate and contributing factors (root cause analysis).
4. Conclude Investigation	4.1. Demonstrate knowledge of how to take corrective actions and improvement opportunities as a result of an investigation. 4.2. Demonstrate knowledge of follow up communication and how to wrap up the investigation.

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• Why it is important to report• Types of incidents that should be reported• Triggers of an investigation• Connections between investigations and incidents• Business reasons to investigate incidents• Reasons of conscience in relation to investigations• OSHR and legislation related to investigations• Time frames related to investigations• How to investigate• Regulatory reporting related to investigations• How to gather information for an investigation• Root cause analysis• How to take corrective action• Follow up communication and investigation wrap up
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• This is a knowledge only unit.

General Assessment Guide

General Information	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none">• Training modules are available for this unit.• Assessments are available for this unit.
Evidence to be Assessed	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none">• Completion of training module• Completion of assessments where applicable.
Evidence Sign Off	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none">• Trainer• Assessor• Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1155
Title	Describe Legislation, Regulation, Tickets and Documentation for Plant Operators
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none">• Legislation;• Regulation;• Standards;• Tickets; and• Documentation and Records.
-------------	--

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none">• There are no prerequisites for this unit.
-----------------	---

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none">• Plant Operators.
-------------	--

Element of Competence	Competence Outcomes
<p>1. Legislation</p>	<p>1.1. Demonstrate knowledge of legislation related to supervisor, employer and employee responsibilities.</p> <p>Legislation must include:</p> <ul style="list-style-type: none"> • BC, Alberta <p>Legislation may include:</p> <ul style="list-style-type: none"> • Other provinces and states.
<p>2. Regulation</p>	<p>2.1. Demonstrate knowledge of environmental regulations related to plant operation.</p> <p>Environmental regulations must include:</p> <ul style="list-style-type: none"> • Spills, emissions <p>2.2. Demonstrate knowledge of OHS Regulations related to plant operation.</p> <p>OHS Regulations must include:</p> <ul style="list-style-type: none"> • Right to refuse unsafe work, confined space, lock-out, working from heights, mobile equipment, safeguarding, Personal Protective Equipment, combustible wood dust, cranes-hoist-rigging, First Aid, hearing conservation. <p>2.3. Demonstrate knowledge of other regulations related to plant operation</p> <p>Other regulations may include:</p> <ul style="list-style-type: none"> • Electrical, pressure vessels. <p>2.4. Demonstrate knowledge of provincial and federal railway regulations.</p>
<p>3. Standards</p>	<p>3.1. Demonstrate knowledge of Standards.</p> <p>Standards may include:</p> <ul style="list-style-type: none"> • National Fire Protection Association (NFPA), Canadian Standards Association (CSA),

Element of Competence	Competence Outcomes
<p>4. Tickets/ Certificates</p>	<p>4.1. Demonstrate knowledge of <i>tickets</i> required to work in a plant.</p> <p><i>Tickets</i> may include:</p> <ul style="list-style-type: none"> • TDG, WHMIS, First Aid, Red Seal Millwright, Red Seal Electrician, fall protection, confined spaces, railway operations, mobile equipment, fire brigade
<p>5. Documentation and Records</p>	<p>5.1. Demonstrate knowledge of policies and procedures</p> <p><i>Policies and procedures</i> may include:</p> <ul style="list-style-type: none"> • SWP/SOP for all workers, Emergency Response Plans, Job Safety Analysis. <p>5.2. Demonstrate knowledge of and ability to access and use <i>records</i> related to plant operation.</p> <p><i>Records</i> may include:</p> <ul style="list-style-type: none"> • HMI reports, rail car, production sheets, fire suppression impairment forms, First Aid, observation report, site access, contractor sign-in sign-out, dust audits, fire station checklist, occupational health and safety, plant inspection, pellet temperature check list, fire incident sheet, pre-trip inspections, blow down checklist. (list not exhaustive)

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	For this unit, a competent worker must understand: <ul style="list-style-type: none">• WCA 115- 120• Environmental regulations• Regulations related to Plant operations• Provincial and federal regulations• Applicable standards• Tickets required to work in a plant• Policies and procedures related to working in a Plant.
Summary of Skills to be Assessed	For this unit a competent worker must be able to: <ul style="list-style-type: none">• Access and use records related to Plant operation

General Assessment Guide

<p>General Information</p>	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none"> • Training modules are available for this unit. • Assessments are available for this unit.
<p>Evidence to be Assessed</p>	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none"> • Completion of training module • Completion of assessments where applicable.
<p>Evidence Sign Off</p>	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none"> • Trainer • Assessor • Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1156
Title	Describe Health and Safety for Operators
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none">• Ergonomics;• Health and Personal Safety;• Workplace Safety: and• Equipment Use and Safety.
-------------	--

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none">• There are no prerequisites for this unit.
-----------------	---

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none">• Plant Operators.
-------------	--

Element of Competence	Competence Outcomes
<p>1. Ergonomics</p>	<p>1.1. Demonstrate knowledge of the definition of MSI, common contributors, and common types of MSI in the plant operations.</p> <p>Common types may include:</p> <ul style="list-style-type: none"> • Wrist, shoulders, back, eye strain. <p>1.2. Demonstrate knowledge of ergonomics.</p> <p>Ergonomics must include:</p> <ul style="list-style-type: none"> • Eye strain, sedentary lifestyle, work space layout, furniture/equipment.
<p>2. Health and Personal Safety</p>	<p>2.1. Demonstrate knowledge of PPE required for the job.</p> <p>PPE required may include:</p> <ul style="list-style-type: none"> • Steel toed boots with ankle support, Hi-Vis, eye, head- hand -eye protection, job specific PPE, respirator, dust masks. <p>2.2. Demonstrate knowledge of and the ability to conduct safety meetings.</p> <p>2.3. Demonstrate knowledge of how to manage shift changes.</p> <p>Manage shift changes may include:</p> <ul style="list-style-type: none"> • Nutrition, sleep patterns, managing time and schedules.
<p>3. Workplace Safety</p>	<p>3.1. Demonstrate knowledge of the components of an ERP.</p> <p>Components of an ERP must include:</p> <ul style="list-style-type: none"> • Who to contact, how to contact, when to contact, radio protocol, shut down procedures, responsibilities, fire response plan, evacuation procedures, First Aid. <p>3.2. Demonstrate knowledge and ability to run fire monitoring and suppression system including use, setting and faults.</p> <p>Monitoring and suppression system may include:</p> <ul style="list-style-type: none"> • System locations for deluge or spark detection <p>3.3. Demonstrate knowledge lock out procedures</p>

Element of Competence	Competence Outcomes
	<p>Lock out procedures may include:</p> <ul style="list-style-type: none"> • Single, Interlock, group lock out. <p>3.4. Demonstrate knowledge of confined space management.</p>
<p>4. Equipment Use and Safety</p>	<p>4.1. Demonstrate knowledge of and ability to use and monitor radio.</p> <p>Radio may include:</p> <ul style="list-style-type: none"> • Use, components, channels, protocol <p>4.2. Demonstrate knowledge of types, purpose and hazards of mobile equipment found at a plant operation.</p> <p>Mobile equipment may include:</p> <ul style="list-style-type: none"> • Overhead crane, button top loader, telehandler, manlift, maintenance truck, scissor lift, skid steer, track mobile, forklift, fire truck, front end loader. <p>4.3. Demonstrate knowledge of traffic control requirements related to equipment on site.</p>

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• Common types and contributors to MSI• Ergonomics• Required Personal Protective Equipment• Components of an Emergency Response Plan• Manage shift changes• Lock-out procedures• Fire monitoring and suppression systems• Requirements for entering confined spaces• Radio use• Types, purpose and hazards of mobile equipment• Traffic control requirements.
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• Conduct safety meetings• Operate Fire monitoring and suppression systems• Use radios.

General Assessment Guide

<p>General Information</p>	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none"> • Training modules are available for this unit. • Assessments are available for this unit.
<p>Evidence to be Assessed</p>	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none"> • Completion of training module • Completion of assessments where applicable.
<p>Evidence Sign Off</p>	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none"> • Trainer • Assessor • Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1157
Title	Describe and Control Upset Conditions
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none"> • Common Hazards; • Risk Assessment; • Hierarchy of Controls; and • Upset Conditions. <p>This unit is NOT about dust and gas combustion.</p>
-------------	--

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none"> • There are no prerequisites for this unit.
-----------------	---

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none"> • Plant Operators.
-------------	--

Element of Competence	Competence Outcomes
<p>1. Hazards</p>	<p>1.1. Demonstrate knowledge of the recognize, evaluate and control process.</p> <p>1.2. Demonstrate knowledge of common and critical hazards found in plant operations.</p> <p>Common and critical hazards may include:</p> <ul style="list-style-type: none"> • Fire, explosion, gas leak, breakdowns, hot surfaces, pinch points, dust, mobile equipment, water, weather, stairs, ladders, fatigue, impairment, other workers, falling objects, wildlife, working from heights, chemicals, fibre.
<p>2. Risk Assessment</p>	<p>2.1. Demonstrate knowledge of evaluating long term and general risk including probability and impact.</p> <p>2.2. Demonstrate knowledge of evaluating immediate risks including probability and impact.</p> <p>2.3. Demonstrate knowledge of how change or unexpected events affect risk levels.</p> <p>2.4. Demonstrate knowledge of how to conduct a job hazard assessment.</p> <p>2.5. Demonstrate knowledge of change management.</p>
<p>3. Hierarchy of Controls</p>	<p>3.1. Demonstrate knowledge of hierarchy of controls.</p> <p>Hierarchy of controls must include:</p> <ul style="list-style-type: none"> • Elimination, substitution, engineering controls, administration controls, PPE. <p>3.2. Demonstrate knowledge of levels of effectiveness for common and critical safety controls.</p>
<p>4. Upset Conditions</p>	<p>4.1. Demonstrate knowledge of upset conditions related to fire found in plant operations.</p> <p>Fire may include:</p> <ul style="list-style-type: none"> • Wood fibre storage ,silo fire, pelleter fire (bad/hot rolls), pelleter cooler fire, pipe fires, high temperature shutdowns, manual deluge malfunctions, fire pump quits working. <p>4.2. Demonstrate knowledge of upset conditions related to electrical found in plant operations.</p>

Element of Competence	Competence Outcomes
	<p>Electrical may include:</p> <ul style="list-style-type: none"> • Back-up generator, power outage, communication error between PLC and HMI or between electrical and computer communication, auto deluge malfunctions, motor failure, burner won't relight, dryer shut down. <p>4.3. Demonstrate knowledge of upset conditions related to mechanical found in plant operations.</p> <p>Mechanical may include:</p> <ul style="list-style-type: none"> • Cyclone plug ups, conveyor plug ups and breaks, dryer infeed conveyor failure, drag chain breakage, outfeed conveyor failure, drag chain breakage, green infeed conveyer failure, belt breakage (dryer or conveyor). <p>4.4. Demonstrate knowledge of upset conditions related to operations found in plant operations.</p> <p>Operations may include:</p> <ul style="list-style-type: none"> • Fibre too wet or too dry coming into pelleters, decks bridging off or running empty, incident in yard/tracks/on-site, mobile equipment, cooler bins plugging up, lack on inbound fibre, mixing bin bridging, chemical spill. <p>4.5. Demonstrate knowledge of upset conditions related to weather found in plant operations.</p>

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• Recognize, evaluate and control Process• Common and critical hazards• Evaluating long term risk• Evaluating short term risk• How change affects risk levels• How to conduct a job safety hazard assessment• Change management• Hierarchy of controls• Levels of effectiveness for safety controls• Upset conditions related to fires• Upset conditions related to electrical• Upset conditions related to mechanical• Upset conditions related to operations• Upset conditions related to weather
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• This is a knowledge only unit

General Assessment Guide

<p>General Information</p>	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none"> • Training modules are available for this unit. • Assessments are available for this unit.
<p>Evidence to be Assessed</p>	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none"> • Completion of training module • Completion of assessments where applicable.
<p>Evidence Sign Off</p>	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none"> • Trainer • Assessor • Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1158
Title	Describe Process Safety Management
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none">• Process Safety Basics;• Hazards and Controls; and• Training and Standards.
-------------	---

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none">• There are no prerequisites for this unit.
-----------------	---

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none">• Plant Operators.
-------------	--

Element of Competence	Competence Outcomes
<p>1. Process Safety Basics</p>	<p>1.1. Demonstrate knowledge of the definition and common terminology related to Process Safety Management.</p> <p>Terminology must include:</p> <ul style="list-style-type: none"> • Process, process safety, process hazard analysis, critical hazards and critical controls • Hazard prevention, hazard mitigation. <p>1.2. Demonstrate knowledge of the benefits of a barrier focused approach to process safety.</p>
<p>2. Hazards and Controls</p>	<p>2.1. Demonstrate knowledge of the major hazards and high consequence events that are subject to the process.</p> <p>2.2. Demonstrate knowledge of how to identify critical controls.</p> <p>Controls may include:</p> <ul style="list-style-type: none"> • Human intervention, system, detection, automation, engineering. <p>2.3. Demonstrate knowledge of how to evaluate controls.</p> <p>2.4. Demonstrate knowledge of how to document the essentials for critical controls.</p> <p>Document may include:</p> <ul style="list-style-type: none"> • Objective performance requirements, supporting activities/dependencies, verification activities, triggers for investigation/shut down, accountabilities, <p>2.5. Demonstrate knowledge of how to assign accountabilities for critical controls</p> <p>2.6. Demonstrate knowledge on how to implement and monitor critical controls</p> <p>2.7. Demonstrate knowledge on how to respond to inadequate performance</p> <p>Inadequate performance may include:</p> <ul style="list-style-type: none"> • Action plan, iterative process
<p>3. Training and Standards</p>	<p>3.1. Demonstrate knowledge of the bowtie model.</p> <p>3.2. Demonstrate knowledge of components of PSM Standards.</p> <p>PSM Standards may include:</p>

Element of Competence	Competence Outcomes
	<ul style="list-style-type: none"> <li data-bbox="649 233 1409 499">• Accountability, process knowledge and documentation, capita project review and documentation, process risk management, management of change, process and equipment integrity, human factors, training and performance, incident investigation, standards, codes, regulations, audits and corrective actions, enhancing process safety knowledge

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• Process management terminology• Benefits of a barrier focused approach• Major hazards and high consequence events• How to identify critical controls• How to evaluate controls• How to document• How to assign accountabilities• How to monitor and implement critical controls• How to respond to inadequate performance• The bowtie model• The PSM Standards.
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• This is a knowledge only unit.

General Assessment Guide

<p>General Information</p>	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none"> • Training modules are available for this unit. • Assessments are available for this unit.
<p>Evidence to be Assessed</p>	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none"> • Completion of training module • Completion of assessments where applicable.
<p>Evidence Sign Off</p>	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none"> • Trainer • Assessor • Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1159
Title	Operate Plant
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none"> • Start-up and Shut-down Procedures; • Control and Monitor the HMI; • Managing Work Activities.; and • Quality Control for Finished Product.
-------------	--

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none"> • All occupational skills units.
-----------------	--

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none"> • Plant Operators.
-------------	--

Element of Competence	Competence Outcomes
<p>1. Start-Up and Shut Down Procedures</p>	<p>1.1. Demonstrate knowledge of and ability to follow safe work procedures to shut down operations.</p> <p>Shut down may include:</p> <ul style="list-style-type: none"> • Upset conditions or emergency • Controlled shutdown • Winter shut down. <p>1.2. Demonstrate knowledge of and ability to follow safe work procedures for start -up.</p> <p>Start-up may include:</p> <ul style="list-style-type: none"> • Area clear of personnel, locks off and inspection hatches closed, guards up, arm abort gates, start-up fans conveyors, drums and related motors, start dryer.
<p>2. Control and Monitor the Human Machine Interface (HMI)</p>	<p>2.1. Demonstrate knowledge of and ability to recognize, evaluate, control and monitor HMI's.</p> <p>Monitor HMI's must include:</p> <ul style="list-style-type: none"> • Temperatures, flow rates, moistures, motor amps, system flow, alerts, alarms, trends, video. • Operator logs <p>Monitor HMI's may include:</p> <ul style="list-style-type: none"> • Portable HMI.
<p>3. Manage Work Activities</p>	<p>3.1. Demonstrate knowledge of and ability to use basic hand tools used for maintenance and repair of process equipment.</p> <p>Hand tools may include:</p> <ul style="list-style-type: none"> • Wrench, hammer, screw drivers, jack hammers, grinders, drills, saws. <p>3.2. Demonstrate knowledge of process equipment including purpose, function and common failure or maintenance points</p> <p>Process equipment may include:</p>

Element of Competence	Competence Outcomes
	<ul style="list-style-type: none"> • Furnace, heat exchanger, infeed bins, infeed conveyors, rock separators, dryers, hammer mills, cyclones, hammer hogs, metering bins, rotaries or airlocks, pellet mills, coolers, outfeed conveyors, shaker screens, bucket elevator, fans, abort gates, bag houses, Wet Electro Static Precipitator (WESP), scrubber system, dampers, storage silos, dryer drum, dryer burner, belt dryer, fuel storage, MCC rooms, dry valve rooms, fire suppression.
<p>4. Quality Control for Finished Product</p>	<p>4.1. Demonstrate knowledge of the purpose of quality control.</p> <p>4.2. Demonstrate knowledge and ability to conduct quality control for durability and fines.</p> <p>4.3. Demonstrate knowledge and ability to conduct quality control test for poured bulk density</p> <p>4.4. Demonstrate knowledge and ability to conduct quality control test for moisture</p>

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• Safe work procedures for start- up of Plant• Safe work procedures for shut-down of Plant• How to recognize, evaluate and control while monitoring HMI's• Basic tools used on the job• Process equipment including purpose, function and common failure and maintenance points• Quality control of finished product.
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• Follow Safe work procedures for start- up of Plant• Follow Safe work procedures for shut-down of Plant• Recognize, evaluate and control while monitoring HMI's• Use basic tools• Maintain quality control.

General Assessment Guide

<p>General Information</p>	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none"> • Training modules are available for this unit. • Assessments are available for this unit.
<p>Evidence to be Assessed</p>	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none"> • Completion of training module • Completion of assessments where applicable. • All required “skills to be assessed” demonstrated multiple times in a variety of contexts. Valid evidence must be on record.
<p>Evidence Sign Off</p>	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none"> • Trainer • Assessor • Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>

Unit	1160
Title	Describe Dust and Gas Combustion
Document type	Unit of Competency

DRAFT

In consultation with industry subject matter experts, the BC Forest Safety Council (BCFSC) facilitated the production of this material.

Description	<p>This unit is about:</p> <ul style="list-style-type: none">• Dust Combustion;• Gas Combustion;• Documentation, Legislation and Standards related to combustion; and• Emergency Planning and Preparedness.
-------------	--

Regulatory Requirements	<p>It is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulations related to the work being conducted. A full list of OHSR related to this unit can be found in the relevant package.</p>
-------------------------	---

Prerequisite(s)	<p>This unit has the following prerequisites:</p> <ul style="list-style-type: none">• There are no prerequisites for this unit.
-----------------	---

Occupations	<p>This unit is a component of the following occupations:</p> <ul style="list-style-type: none">• Plant Operators.
-------------	--

Element of Competence	Competence Outcomes
<p>1. Combustible Dust</p>	<p>1.1. Demonstrate knowledge of combustible dust.</p> <p>Combustible dust must include:</p> <ul style="list-style-type: none"> • Definition, size, types and speed of process, wood characteristics, primary and secondary dust, prevention. <p>1.2. Demonstrate knowledge of where dust builds up in the workplace.</p> <p>Dust build up may include:</p> <ul style="list-style-type: none"> • Floors, structural members, conduits, cable trays, equipment, structure surfaces, leaks around collectors and ducts, hidden areas, lighting/luminaires. <p>1.3. Demonstrate knowledge of combustible dust risk management programs.</p> <p>Risk management programs must include:</p> <ul style="list-style-type: none"> • Training, power, monitoring sensors, spark detection and extinguishing, ducting, electrical systems, inspections, maintenance, cleaning, hot work. • Effective controls, explosion protection, scheduled inspections and audits, education and training, engineering controls. <p>1.4. Demonstrate knowledge of pre-job planning to identify and assess risk.</p> <p>1.5. Demonstrate knowledge on how to prepare for dust inspections and audits.</p> <p>Prepare for dust inspections and audits must include:</p> <ul style="list-style-type: none"> • Identify conditions, determine corrective actions, prevent development of unsafe work conditions • General inspections, equipment inspections (electrical, mechanical, dust collection) and preventive maintenance • Frequency. <p>1.6. Demonstrate knowledge of and ability to conduct a site inspection and audit using a systematic approach.</p>

Element of Competence	Competence Outcomes
	<p>Conduct a site inspection and audit may include:</p> <ul style="list-style-type: none"> Review previous reports, interview workers, assess dust accumulations, controls and ignition sources, assess work activities, assess dust collection system, assess explosion prevention/suppression equipment, assess emergency preparedness, post inspection and corrective action.
<p>2. Combustible Gas</p>	<p>2.1. Demonstrate knowledge of combustible gas.</p> <p>Combustible gas must include:</p> <ul style="list-style-type: none"> Definition, components of gas, methods of generating combustible gas, risk, prevention. <p>2.2. Demonstrate knowledge of where gas builds up in the process.</p> <p>Gas build up may include:</p> <ul style="list-style-type: none"> Drying systems, ducting, cyclones, confined spaces. <p>2.3. Demonstrate knowledge of pre-job planning to identify and assess risk.</p> <p>2.4. Demonstrate knowledge of combustible gas risk management programs.</p> <p>Risk management programs must include:</p> <ul style="list-style-type: none"> Effective detection, explosion protection, scheduled inspections and audits, education and training, engineering controls. Training, start up and shut down, power, monitoring sensors, spark detection and extinguishing, ducting, electrical systems, inspections, maintenance, cleaning, confined space entry, hot work. <p>2.5. Demonstrate knowledge on how to detect combustible gas.</p> <p>Detect combustible gas must include:</p>

Element of Competence	Competence Outcomes
	<ul style="list-style-type: none"> • Identify conditions, determine corrective actions, prevent development of upset conditions (especially shut down and start up) • General inspections, equipment inspections (electrical, mechanical, sensors, and preventive maintenance).
<p>3. Documentation, Legislation and Standards</p>	<p>3.1. Demonstrate knowledge of documentation related to combustible dust and gas management systems.</p> <p>Documentation may include:</p> <ul style="list-style-type: none"> • Previous reports, contact persons, corrective actions, incident reports, preventative maintenance reports, gas detection trending, fire investigation reports, management of change reports. <p>3.2. Demonstrate knowledge of legislation and standards related to combustible dust and gas in the workplace.</p> <p>Legislation and standards may include:</p> <ul style="list-style-type: none"> • OHS Regulations, BC Fire Code, BC Electrical Code, BC Natural Gas and Propane Code, NFPA standards, ACHIH Industry Ventilation Manual.
<p>4. Emergency Planning and Preparedness</p>	<p>4.1. Demonstrate knowledge of emergency requirements</p> <p>Emergency requirements must include:</p> <ul style="list-style-type: none"> • Emergency procedures, ERP, drills, emergency equipment, training.

Summary of Knowledge and Skills

Summary of Knowledge to be Assessed	<p>For this unit, a competent worker must understand:</p> <ul style="list-style-type: none">• Combustible dust and gas• Combustible dust and gas build up• Dust and gas risk management programs• How and where dust and gas build up• Pre-job planning to identify risk• How to prepare for dust and gas inspections• Documentation related to inspections• How to conduct a site inspection• What to do in and emergency• Legislation and standards related to combustible dust and gas• Emergency requirements
Summary of Skills to be Assessed	<p>For this unit a competent worker must be able to:</p> <ul style="list-style-type: none">• Conduct site inspections for combustible dust.

General Assessment Guide

<p>General Information</p>	<p>Competence outcomes requiring “knowledge of” can be assessed through competency conversations or written assessment. Evidence must be on record of competence achieved.</p> <p>Competence outcomes requiring “ability to” or skills must have evidence on record demonstrating competence multiple times in a variety of contexts and may be holistically assessed with relevant work activities.</p> <ul style="list-style-type: none"> • Training modules are available for this unit. • Assessments are available for this unit.
<p>Evidence to be Assessed</p>	<p>Minimum evidence requirements for this unit must include:</p> <ul style="list-style-type: none"> • Completion of training module • Completion of assessments where applicable.
<p>Evidence Sign Off</p>	<p>Evidence must be signed off by designated:</p> <ul style="list-style-type: none"> • Trainer • Assessor • Supervisor. <p>Final evidence sign-off for Certificates of Qualification is the responsibility of the Quality Assurance – Internal and External Verifiers, a function of the relevant administrator.</p>