



**NATIONAL COMPETENCY STANDARDS  
FOR  
PAY LOADER OPERATOR  
(NC2 & NC3)**

**Department of Occupational Standards  
Ministry of Labour and Human Resources  
Thimphu Bhutan**



**NATIONAL COMPETENCY STANDARDS  
FOR  
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**Department of Occupational Standards  
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Thimphu Bhutan**

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## FOREWORD

The Department of Occupational Standards of the Ministry of Labour and Human Resources is pleased to present the National Competency Standards (NCS) for Pay Loader Operator. The standards represent the fruits of hard work and invaluable experiences gained by the department since its establishment in the latter half of 2003. The main aim of developing NCS is to set up a well-defined nationally recognized Vocational Qualifications System that will help set a benchmark for the Technical Vocational Education and Training (TVET) System in our country aligned to international best practices.

NCS is one of the base pillars in the Bhutan Vocational Qualifications Framework (BVQF) and is the first step in its implementation. The NCS are developed and revised to ensure that employees or vocational graduates possess and acquire the desired competencies required by industries and employers. In order to ensure this close match in supply and demand of competencies, NCS have been developed and revised in close consultation and partnership with industry experts and validated by the Technical Advisory Committees of the concerned economic sectors.

A vocational education and training system based on NCS shall ensure that delivered training is of a high quality and relevant to the needs of the labour market. As a result, future TVET graduates will be better equipped to meet the need and expectations of industries and employers. This positive impact on the employability of TVET graduates will enhance the reputation of vocational education and training and make it attractive to school leavers.

I gratefully acknowledge collaboration and the valuable contributions made by experts from industries during the consultation and validation processes of the standards. I look forward for continued engagement and participation of the industry and employers in the development of a quality assured demand driven TVET system and to build competent and productive national workforce that will contribute to the continued socio-economic progress of our country.

Director  
Department of Occupational Standards  
Ministry of Labour and Human Resource

## INTRODUCTION

### **A. National Competency Standards (NCS)**

The National Competency Standards specify the skill, knowledge and attitudes applied to a particular occupation. Standards also specify the standards or criteria of performance of a competent worker and the various contexts in which work may take place. Standards provide explicit advice to assessors regarding the skill and knowledge to be demonstrated by candidates seeking formal recognition either following training or through work experience.

### **Purpose of National Competency Standards**

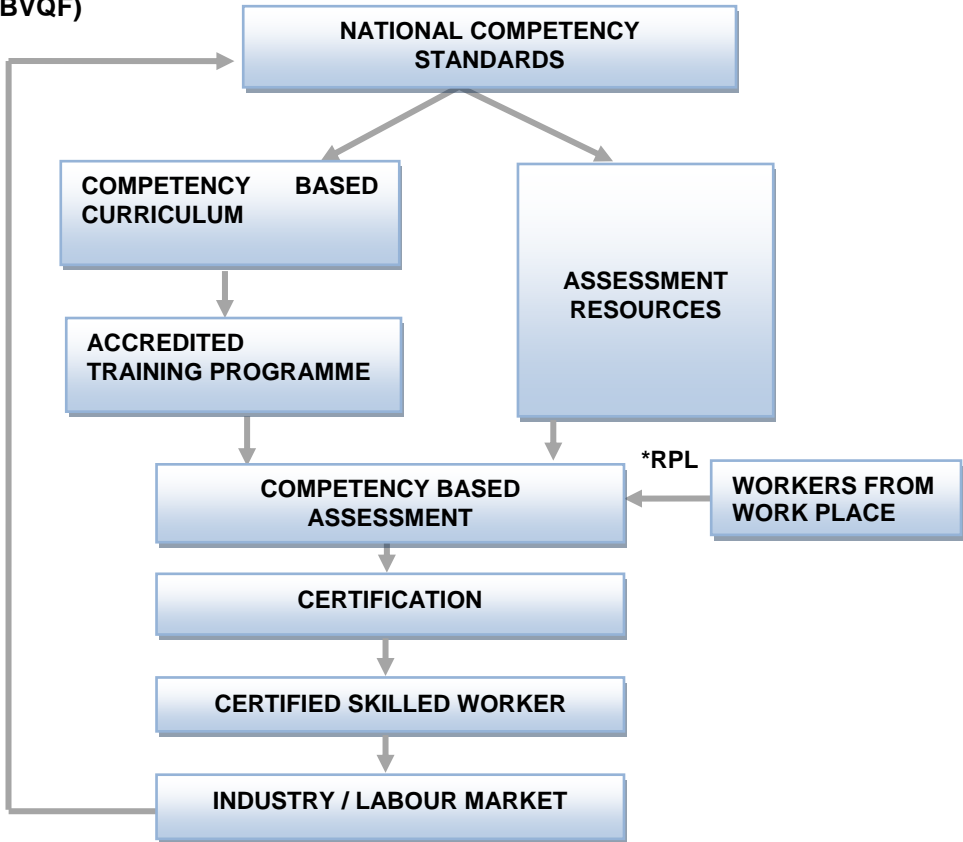
National Competency Standards serve a number of purposes including:

- Providing advice to curriculum developers about the competencies to be included in curriculum.
- Providing specifications to assessment resource developers about the competencies within an occupation to be demonstrated by candidates.
- Providing advice to industry/employers about job functions, which in turn can be used for the development of job descriptions, performance appraisal systems and work flow analysis.

## B. Bhutan Vocational Qualifications Framework (BVQF)

Bhutan Vocational Qualifications Framework is an agreed system of Assessing, Certifying and Monitoring nationally recognized qualifications for all learning in the TVET sector against national competency standards, in training institutions, in the workplace, in schools or anywhere where learning takes place.

### Components of the Bhutan Vocational Qualifications Framework (BVQF)



\* RPL = Recognition of Prior Learning

## **BVQF Levels**

The Bhutan Vocational Qualifications Framework has three levels classified based on the competency of the skilled workers. The three levels are:

- National Certificate Level 3 (NC III)
- National Certificate Level 2 (NC II)
- National Certificate Level 1 (NC I)

## **BVQF Level Descriptors**

The qualification levels are decided based on level descriptors. The detail of the qualification level descriptor is as follows:

### **National Certificate Level 1 (Semi Skilled)**

<b>Carry out processes that:</b>	<b>Learning demand:</b>	<b>Responsibilities which are applied:</b>
<ul style="list-style-type: none"><li>• Are narrow in range.</li><li>• Are established and familiar.</li><li>• Offer a clear choice of routine responses.</li><li>• Involve some prioritizing of tasks from known solutions.</li></ul>	<ul style="list-style-type: none"><li>• Basic operational knowledge and skill.</li><li>• Utilization of basic available information.</li><li>• Known solutions to familiar problems.</li><li>• Little generation of new ideas.</li></ul>	<ul style="list-style-type: none"><li>• In directed activity.</li><li>• Under general supervision and quality control.</li><li>• With some responsibility for quantity and quality.</li><li>• With no responsibility for guiding others.</li></ul>



## National Certificate Level 2 (Craftsman)

Carry out processes that:	Learning demand:	Responsibilities which are applied:
<ul style="list-style-type: none"> <li>• Require a range of well-developed skills.</li> <li>• Offer a significant choice of procedures requiring prioritization.</li> <li>• Are employed within a range of familiar context.</li> </ul>	<ul style="list-style-type: none"> <li>• Some relevant theoretical knowledge.</li> <li>• Interpretation of available information.</li> <li>• Discretion and judgments.</li> <li>• A range of known responses to familiar problems</li> </ul>	<ul style="list-style-type: none"> <li>• In directed activity with some autonomy.</li> <li>• Under general supervision and quality checking.</li> <li>• With significant responsibility for the quantity and quality of output.</li> <li>• With some possible responsibility for the output of others.</li> </ul>

## National Certificate Level 3 (Master craftsman)

Carry out processes that:	Learning demand:	Responsibilities which are applied:
<ul style="list-style-type: none"> <li>• Requires a wide range of technical or scholastic skills.</li> <li>• Offer a considerable choice of procedures requiring prioritization to achieve optimum outcomes.</li> <li>• Are employed in a variety of familiar and unfamiliar contexts.</li> </ul>	<ul style="list-style-type: none"> <li>• A broad knowledge base which incorporates some theoretical concepts.</li> <li>• Analytical interpretation of information.</li> <li>• Informed judgment.</li> <li>• A range of sometimes innovative responses to concrete but often unfamiliar problems.</li> </ul>	<ul style="list-style-type: none"> <li>• In self-directed activity.</li> <li>• Under broad guidance and evaluation.</li> <li>• With complete responsibility for quantity and quality of output.</li> <li>• With possible responsibility for the output of others.</li> </ul>

## **PURPOSE**

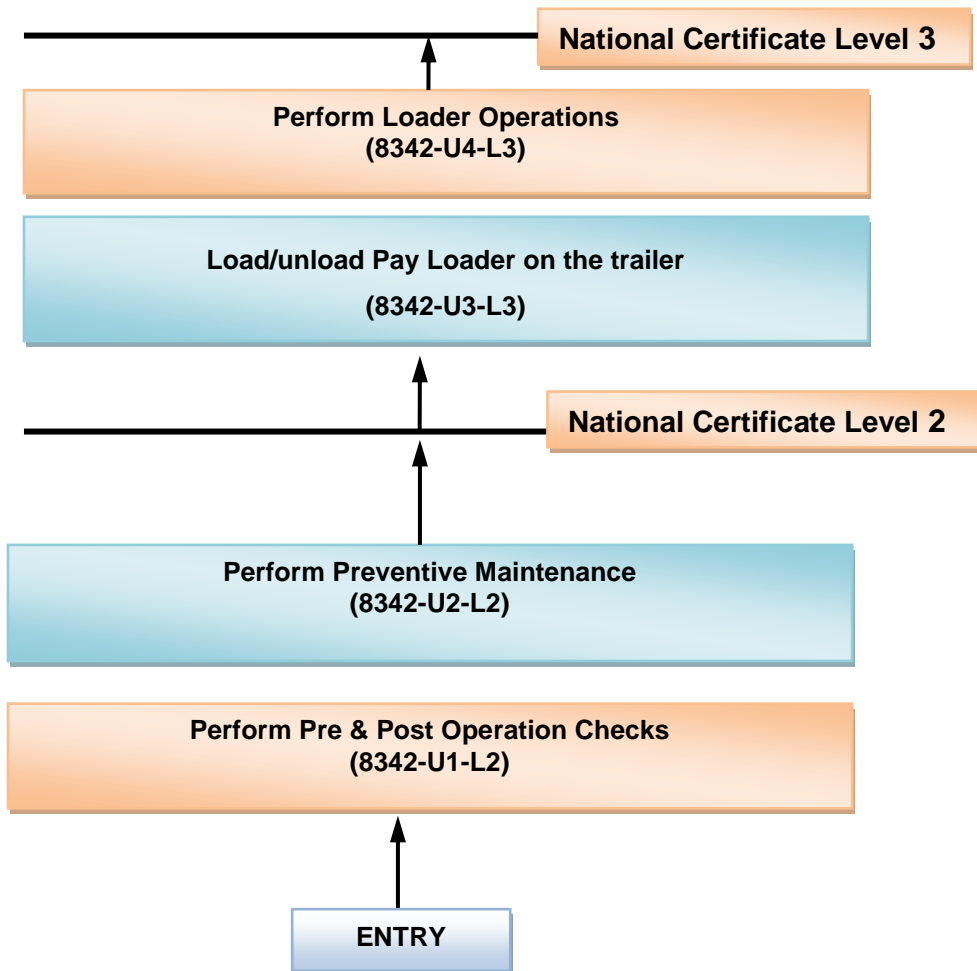
This qualification is designed for people interested in a career as Pay Loader Operator at the Certificate level. It comprises of four units that cover the essential knowledge and skills required for people working as a Pay Loader Operator.

The pre-requisite for the candidates aspiring to pursue certificate level in Pay Loader Operator should have minimum educational requirement.

It provides industry specific skills and demands a level of performance that will enable new recruits to the industry to be immediately productive.

## PACKAGING OF QUALIFICATIONS FOR PAY LOADER OPERATOR

The National Competency Standards for the Pay Loader Operator comprises four units of competencies which are clustered into following levels of qualifications.



## **CODING USED FOR NATIONAL COMPETENCY STANDARDS**

The coding and classification system developed in Bhutan is logical, easy to use, and also aligned with international best practises. The Bhutanese coding and classification system is based on the International Standard Classification of Occupations, 2008 (ISCO-08) developed by the International Labour Organisation (ILO).

The coding of the National competency standards forms the basis of the identification code for the Vocational Education and Training Management Information System (VET – MIS) both in terms of economic sector identification and that of the individual standard.

### **Coding the individual national competency standards**

Coding the individual skills standard has a multiple purpose:

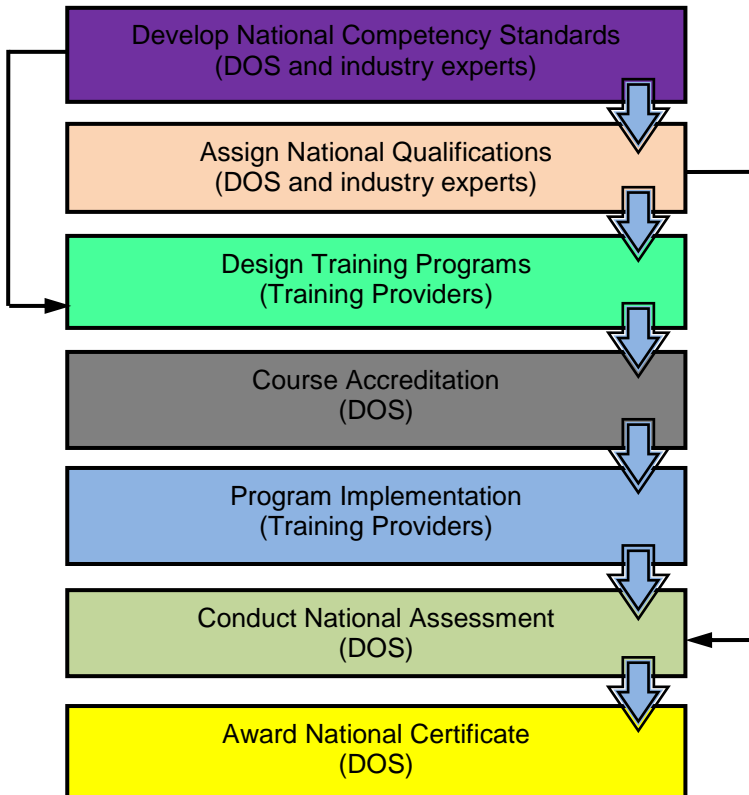
- to identify the level,
- to identify to which module the standard belongs,
- to identify in which order the standard is clustered within that module.

A job can include a number of competencies described in the national competency standards.

However, in order to follow a logical order, only national competency standards related to each other and following a logical sequence in terms of training delivery, from the simple to the complex, are clustered into a module. Some standards are so complex that they need to stand alone.

To illustrate with an example, the ILO assigns the code 8342 to the occupation of earthmoving and related trades. Therefore, in the Bhutan's context, the occupation Pay Loader Operator has been assigned the code 8342 in the National Coding System. The first unit is assigned the code U1. Levels are assigned the code L and follow a logical progression from the National Certificate Level 1 (NC I) to the National Certificate Level 3 (NC III). Therefore the National Certificate Level 1 is assigned the code L1.

# Implementation and operational procedures for National Competency Standards (NCS)



**Key:**

MoLHR – Ministry of Labour and Human Resources

DOS – Department of Occupational Standards

## **NATIONAL COMPETENCY STANDARDS FOR PAY LOADER OPERATOR**

**Validation date** : 12/06/2015

**Endorsement date** : 25/06/2015

**Date of Review** : 12/06/2017 (Max. 3 years)

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PAY LOADER OPERATOR**

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**UNIT TITLE** : **Perform Pre and Post Operation Checks**

**DESCRIPTOR** : This unit covers the competencies required to perform pre and post operation checks following safety rules and regulations at all times.

**CODE** : **8342-U1-L2**

<b>ELEMENTS OF COMPETENCE</b>	<b>PERFORMANCE CRITERIA</b>
1. Carry out pre Operation check	1.1 Select and use required <b>PPE</b> as per the standard procedure 1.2 Select and use required tools and equipment as per the job requirement 1.3 Carry out walk around <b>inspection</b> as per standard practices/ operating manual. 1.4 Check <b>fluid/oil levels</b> and <b>condition</b> as per the standard procedures 1.5 Check fan belt tension and take corrective measures as per the standard procedures 1.6 Check <b>electrical system</b> and take corrective measures as per the standard procedures 1.7 Document/update maintenance record as per the manufacturer's specification/operating manual 1.8 Update the <b>documents</b> as per the existing regulations
2. Carry out Post Operation Check	2.1 Carry out walk around inspection as per standard practices 2.2 Record <b>daily log /activities</b> as per the establishment procedures 2.3 Set <b>safety locks</b> and brakes as per the operator's manual

	2.4 Note and report abnormal conditions to the authorized person as per the establishment procedures
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<b>RANGE STATEMENT</b>	
<b>Fluid/Oil level and condition may include but not limited to:</b>	
<ul style="list-style-type: none"> <li>• Brake fluid</li> <li>• Hydraulic oil</li> <li>• Gear oil</li> <li>• Rear axel oil</li> <li>• Viscosity</li> </ul>	<ul style="list-style-type: none"> <li>• Engine oil</li> <li>• Coolant</li> <li>• Transmission oil</li> <li>• Quality</li> </ul>
<b>Personal Protective Equipments may include but not limited to:</b>	
<ul style="list-style-type: none"> <li>• Helmet</li> <li>• Safety Shoes</li> </ul>	<ul style="list-style-type: none"> <li>• Goggles</li> </ul>
<b>Inspections may include but not limited to:</b>	
<ul style="list-style-type: none"> <li>• Tire condition</li> </ul>	<ul style="list-style-type: none"> <li>• Pressure</li> </ul>
<b>Electrical System may include but not limited to:</b>	
<ul style="list-style-type: none"> <li>• Lighting</li> <li>• Indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Charging system</li> <li>• Battery connections</li> </ul>
<b>Documents may include but not limited to:</b>	
<ul style="list-style-type: none"> <li>• Registration certificate</li> </ul>	<ul style="list-style-type: none"> <li>• Insurance certificate</li> </ul>
<b>Daily log/activities may include but not limited to:</b>	
<ul style="list-style-type: none"> <li>• Operation timing</li> <li>• Maintenance log</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment condition</li> <li>• Fuel records</li> </ul>
<b>Safety locks may include but not limited to:</b>	
<ul style="list-style-type: none"> <li>• Door lock</li> </ul>	<ul style="list-style-type: none"> <li>• Hydraulic lock</li> </ul>

## ASSESSMENT GUIDE

### Form of assessment

- Continuous assessment together with collected evidence of performance will be used.
- Evidence of the performance shall be based on practical demonstration.
- Knowledge can be assessed through Viva/written form of assessment.

### Assessment context

- Competency may be assessed in the actual work place or in a simulated workplace setting.

### Assessment condition

- The candidate shall have access to all required tools, equipment, materials and documents.
- The candidate must complete the assessment in an accepted time frame.

### Critical aspects

- Demonstrate compliance with safety regulations applicable to work operations at all times.
- Set safety locks as per the standard procedures
- Update the documents as per the standard procedures

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"><li>• OHS regulation</li><li>• First Aid</li><li>• Types and uses of personal protective equipment</li><li>• House Keeping</li></ul>	<ul style="list-style-type: none"><li>• Interpretation of operating manuals</li><li>• Communication</li><li>• Team work</li><li>• Note taking skills</li></ul>

<ul style="list-style-type: none"><li>• Operating Manuals</li><li>• Types of fluids and lubricants</li><li>• Basic numeracy and literacy</li><li>• Gauges and its functions</li><li>• Work ethics</li></ul>	<ul style="list-style-type: none"><li>• Problem solving</li><li>• Logical thinking</li></ul>
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**UNIT TITLE** : **Perform Preventive Maintenance**

**DESCRIPTOR** : This unit covers the competencies required to carry out daily maintenance and one must be able to recommend for the periodic maintenance.

**CODE** : **8342-U2-L2**

<b>ELEMENTS OF COMPETENCE</b>	<b>PERFORMANCE CRITERIA</b>
1. Carry out daily maintenance	1.1 Select and use required <b>materials and spares</b> as per the job requirement 1.2 Carry out greasing as per the standard procedures 1.3 Check the condition and level of oils and replace/top up if required as per the job requirement 1.4 Replace bulb and fuse as per the job requirement 1.5 Service battery as per standard procedures 1.1 Troubleshoot fuel leakages and take corrective actions as per the job requirement 1.6 Check nuts and bolts and take corrective actions as per the standard procedures
2. Carry out periodic maintenance	2.1 Change tire(s) as indicated by Tire Wear Indicator as per the standard procedures 2.2 Service buckets and pivot pins as per the standard procedures 2.3 Report for <b>periodic maintenance</b> to concern authority as per the manufacturer's manual /maintenance log book & condition of machine

## RANGE STATEMENT

### Tools and equipment may include but not limited to:

- Spanners set
- Screw drivers
- Grease gun
- Socket set
- Wheel wrench
- Pliers
- Files
- Allen Key
- Jack
- Pipe wrench

### Materials and spares may include but not limited to:

- Emery cloth
- Filters
- Oils
- Fuse
- Battery acid
- Grease
- Distill water
- Washers
- Hoses

### Periodic Maintenance may include but not limited to:

- Oil change
- Filter
- Hydraulic pipes and hoses
- Adjustments
- Fluids
- Bushes
- Buckets

## ASSESSMENT GUIDE

### Form of assessment

- Continuous assessment together with collected evidence of performance will be used.
- Evidence of the performance shall be based on practical demonstration.
- Knowledge can be assessed through written form of assessment.

**Assessment context**

- Competency may be assessed in the actual work place or in a simulated workplace setting.

**Assessment condition**

- The candidate shall have access to all required tools, equipment, materials and documents.
- The candidate must complete the assessment in an accepted time frame.

**Critical aspects**

- Demonstrate compliance with safety regulations applicable to work operations at all times.
- Perform periodic and daily maintenance as per the manufacturer's manual/maintenance log book and machine condition

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"><li>• OHS Regulations</li><li>• First Aid</li><li>• Type of POL(Petroleum, Oils and Lubricants)</li><li>• Fuel , Oil and cooling System</li><li>• Machine parts and functions</li><li>• Environment rules and regulations</li><li>• Record Keeping</li><li>• Functions of Tools and equipment</li><li>• Types of materials and spare parts</li></ul>	<ul style="list-style-type: none"><li>• Read and Interpret Owner's Manual</li><li>• Time Management</li><li>• Team Work</li><li>• Interpersonal Relationship</li><li>• Communication</li><li>• Decision Making</li></ul>

**UNIT TITLE** : **Load/unload pay loader on the trailer**

**DESCRIPTOR** : This unit covers the competencies required to perform loading of pay loader on the trailer and unloading of pay loader from the trailer following safety procedures at all times.

**CODE** : **8342-U3-L3**

<b>ELEMENTS OF COMPETENCE</b>	<b>PERFORMANCE CRITERIA</b>
1. Carry out Loading and unloading	1.1 Follow safety procedures as per the site conditions. 1.2 Prepare loading station as per the job requirement 1.3 Maintain coordination and communication with authorized personnel as per the standard procedures 1.4 Carry out loading and unloading as per the standard procedures
2. Carry out anchoring and harnessing	2.1 Select and use appropriate <b>ropes/chain</b> as per the job requirement 2.2 Carry out anchoring and harnessing of equipment as per the job requirement 2.3 Secure and set all safety locks and controls at required position as per the job requirement 2.4 Check and ensure safe transportation of equipment as per the safety requirements

<b>RANGE STATEMENT</b>
<b>Ropes/chain may include but not limited to:</b> <ul style="list-style-type: none"><li>• Poly propylene(PP) rope</li><li>• Chain</li></ul>



- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Manila/jute rope</li> <li>• Belt fastener</li> <li>• Turn buckle</li> <li>• D-shackle</li> </ul> | <ul style="list-style-type: none"> <li>• Steel wire rope</li> <li>• Hooks</li> <li>• Ratchet</li> <li>• Bull dog grips</li> </ul> |
|---|---|

## ASSESSMENT GUIDE

### Form of assessment

- Continuous assessment together with collected evidence of performance will be used.
- Evidence of the performance shall be based on practical demonstration.
- Knowledge can be assessed through written form of assessment.

### Assessment context

- Competency may be assessed in the actual work place or in a simulated workplace setting.

### Assessment condition

- The candidate shall have access to all required tools, equipment, materials and documents.
- The candidate must complete the assessment in an accepted time frame.

### Critical aspects

- Demonstrate compliance with safety regulations applicable to work operations at all times.
- Perform safe loading and unloading as per the standard procedures
- Carry out anchoring and harnessing as per the job requirement

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> <li>• OHS regulations</li> <li>• First Aid</li> <li>• Types and uses of PPE</li> <li>• Types of safety locks</li> <li>• Safety procedures for loading and Unloading</li> <li>• Types of ropes and its functions</li> <li>• Types of Knots</li> <li>• Types of chain</li> <li>• Types of Hooks and its functions</li> <li>• Harnessing and its types</li> <li>• Wedging and its purpose</li> </ul>	<ul style="list-style-type: none"> <li>• Knotting</li> <li>• Harnessing</li> <li>• Team Work</li> <li>• Communication</li> <li>• Interpersonal Relation</li> <li>• Confidence</li> <li>• Decision making</li> </ul>

**UNIT TITLE** : **Perform Loader Operations**

**DESCRIPTOR** : This unit covers the competencies required to perform on site loader operations following safety rules and regulations

**CODE** : **8342-U4-L3**

<b>ELEMENTS OF COMPETENCE</b>	<b>PERFORMANCE CRITERIA</b>
1. Prepare for site operation	1.1 Carry out starting and <b>moving off</b> as per the standard procedures 1.2 Carry out forwarding & reversing as per the standard procedures 1.3 Carry out maneuvering as per the standard procedures 1.4 Respond to <b>aid signal</b> where necessary as per the standard procedures 1.5 Perform <b>parking</b> as per the standard procedures
2. Carry out on site operation	2.1 Read and interpret site lay out plan as per the job requirement 2.2 Inspect <b>work site</b> as per the job requirement 2.3 Cut and doze as per the standard procedures 2.4 Pile and stock as per the standard procedures 2.5 Carry out loading as per the standard procedures 2.6 Carry out grading/leveling as per the standard procedures 2.7 Carry out road clearing as per the job requirement

<b>RANGE STATEMENT</b>	
<b>Moving off may include but not limited to:</b>	
• Plain	• Gradient
<b>Aid signal may include but not limited to :</b>	
• Lighting	• Walkie talkie
• Hand signal	• Flag Signals
• whistle	
<b>Work site inspections may include but not limited to:</b>	
• Soil condition	• Site layout
• Gradient	• Service drains/Cables /pipes
<b>Parking may Include but not limited:</b>	
• Gradient Parking	• Level ground

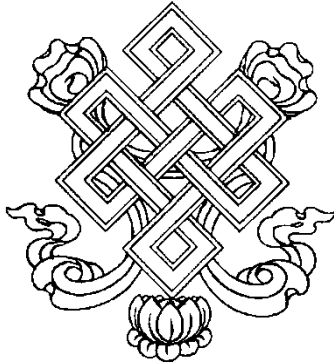
<b>ASSESSMENT GUIDE</b>	
<b>Form of assessment</b>	
<ul style="list-style-type: none"> <li>• Continuous assessment together with collected evidence of performance will be used.</li> <li>• Evidence of the performance shall be based on practical demonstration.</li> <li>• Knowledge can be assessed through written form of assessment.</li> </ul>	
<b>Assessment context</b>	
<ul style="list-style-type: none"> <li>• Competency may be assessed in the actual work place or in a simulated workplace setting.</li> </ul>	
<b>Assessment condition</b>	
<ul style="list-style-type: none"> <li>• The candidate shall have access to all required tools, equipment, materials and documents.</li> <li>• The candidate must complete the assessment in an accepted time</li> </ul>	

frame.

**Critical aspects**

- Read and interpret drawings as per the job requirement
- Carry out on site operation as per the standard procedures following safety regulations and designs

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"><li>• First Aid</li><li>• System of vehicle control (SOVC)</li><li>• Read and interpret gauge</li><li>• Soil condition</li><li>• Environmental conditions</li><li>• Traffic signs and signals</li><li>• Loading capacity</li><li>• Acceleration , mass and braking force</li><li>• Machine Components and its functions</li><li>• Environmental rules and regulations</li></ul>	<ul style="list-style-type: none"><li>• Interpretation of landscape design</li><li>• Read and interpret owner's manual</li><li>• Communication skills.</li><li>• Operating skills</li><li>• Loading skills</li><li>• Positive work values</li><li>• On site House keeping</li><li>• Decision making</li><li>• Judgment</li><li>• Stress and fatigue management</li><li>• Time Management</li><li>• Active listening</li></ul>



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