Overview of the role

Operating and maintaining heavy mobile plant equipment like excavators, dumper trucks or construction material production plants

Standard in development

L2: Material processing plant operator

Title of occupation
Material processing plant operator

UOS reference number
ST0144

Core and options
Yes

This standard has options. Display duties and KSBs for:

Option title/s
Mobile plant
Static plant

Level of occupation
Level 2

Route
Engineering and manufacturing

Typical duration of apprenticeship
18 months

Target date for approval
31/07/2023
Resubmission
No

Would your proposed apprenticeship standard replace an existing framework?
No

Does professional recognition exist for the occupation?
Yes

Occupation summary
This occupation is found in various industries processing or producing products. Employers range from small independent businesses to large multi-national corporations.

This is a core and options apprenticeship standard. Apprentices will complete the core requirements, plus one option:

1. Mobile plant
2. Static plant

The broad purpose of this occupation is to process raw material or waste into a high-quality product, often meeting a product specification. This product may be needed to meet global infrastructure requirements or to improve our environment. Material processing plant operators operate either fixed or mobile specialist plant equipment to a high standard, efficiently and safely complying with legislation, company policies and procedures. It is likely they will specialise on one item of plant and will operate that equipment to a high degree of efficiency. However in some cases operatives may go on to learn to operate multiple items of plant equipment in the production process. In this occupation the operative can process a diverse range of products for various end uses and related manufacturing, such as ready mixed concrete, building and construction products, architectural aesthetic products, landscaping products, waste and recycled products, dimensional stone, cut and carved stone, marine aggregates, mortar, asphalt, cement, wood and timber products, precast or prestressed concrete products, ceramics, metallic, non-metallic or ferrous or non-ferrous alloys. Duties include carrying out proactive and routine maintenance inspections of fixed or mobile specialist plant equipment. They are expected to report plant defects, monitor the quality and specification of the products produced, conduct risk assessments and work to safe operating procedures, communicate with all stakeholders in a busy environment, they will be able to demonstrate a good product knowledge and a strong discipline towards safety, overall health, and sustainability. Employers encourage diversity so operators will be expected to promote the business culture towards a diverse workforce, supporting colleagues in all aspects of overall wellbeing. The associated job roles work with specialist plant and equipment that can be fixed or mobile each capable of moving and processing up to several thousands of tonnes of materials every day. Progression routes from this role can lead to team leaders, shift or site supervisors and managers and operation managers.

In their daily work, an employee in this occupation interacts with a team of operatives in
various aspects of production or process. The operatives will work mainly in an outdoor environment in all seasons and weathers in a diverse range of environments from urban sites to countryside operations.

An employee in this occupation will be responsible for processing materials or producing high quality end products for customers, often meeting a strict specification. Operators can work alone as well as in a team and they will work with a level of autonomy operating expensive equipment. Employees are expected to have a high degree of self-discipline, safety first focussed and be able to constructively challenge anyone who may be acting unsafe.

**Typical job titles**

Asphalt plant operator Concrete plant operator Crushing operator De-barking plant operator Kiln operator Locomotive operator Operations yard operator Packing plant operator Process operator Production plant operator Quarry operator Recycling plant operator Screening operator Washing plant operator

**Are there any statutory/regulatory or other typical entry requirements?**

No

**Core occupation duties**

<table>
<thead>
<tr>
<th>DUTY</th>
<th>KSBS</th>
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</thead>
<tbody>
<tr>
<td><strong>Duty 1</strong> Conduct prestart and routine safety checks on the equipment and the working area in line with regulations, company policies and procedures.</td>
<td>K1 K2 K8 K9 K12 K13 K15 K17 K18 S1 S2 S4 S5 S9 S11 S13 S15 S16 S17 B2 B6 B7</td>
</tr>
<tr>
<td><strong>Duty 2</strong> Carry out mobile or static plant operations sustainably and minimise waste.</td>
<td>K3 K9 K12 K13 K15 K16 S3 S10 S13 S15 S16 B2 B6 B7</td>
</tr>
<tr>
<td><strong>Duty 3</strong> Work with colleagues to achieve work goals. Promote overall wellbeing and ensure a positive approach to inclusivity.</td>
<td>K5 K6 K7 K10 K11 K12 K13 K15 K19 S8 S12 S13 S14 S15 S16 S18 S19 B1 B2 B3 B4 B5 B6 B7 K12 K13 K19 S7 S8 S13 S15 S16 B2 B3 B6 B7</td>
</tr>
<tr>
<td><strong>Duty 4</strong> Contribute to continuous improvement activities.</td>
<td>K2 K8 K9 K12 K13 K14 K15 S4 S5 S9 S11 S13 S15 S16 S17 B2 B6 B7</td>
</tr>
<tr>
<td><strong>Duty 5</strong> Conduct planned and preventative maintenance in line with regulations, manufacturers guidance, company policies and procedures.</td>
<td>K1 K2 K3 K8 K12 K13 K15 K16 K17 S5 S6 S9 S13 S15 S16 S17 B2 B6 B7</td>
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### Duty

<table>
<thead>
<tr>
<th>Duty</th>
<th>Requirements</th>
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<tbody>
<tr>
<td>7</td>
<td>Complete handover requirements.</td>
</tr>
<tr>
<td>8</td>
<td>Keep stakeholders such as colleagues and line managers informed about materials processing work.</td>
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</tbody>
</table>

### Mobile plant duties

<table>
<thead>
<tr>
<th>Duty</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Operate mobile plant to carry out tasks in line with process operations, regulations, manufacturers guidance, mobile plant operating specifications, and company policies and procedures.</td>
</tr>
<tr>
<td>10</td>
<td>Position mobile plant in designated parking area and carry out shut down process in line with regulations, manufacturers guidance, mobile plant operating specifications, company policies and procedures.</td>
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<tr>
<td>11</td>
<td>Identify and report issues with materials or products.</td>
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<tr>
<td>12</td>
<td>Extract materials using mobile plant equipment.</td>
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</tbody>
</table>

### Static plant duties

<table>
<thead>
<tr>
<th>Duty</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Operate static plant to carry out tasks in line with process operations, regulations, manufacturers guidance, mobile plant operating specifications, and company policies and procedures.</td>
</tr>
<tr>
<td>14</td>
<td>Process materials to meet specification.</td>
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<tr>
<td>15</td>
<td>Check and maintain stocks of materials for processing.</td>
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<tr>
<td>16</td>
<td>Monitor quality of raw materials and products during operation.</td>
</tr>
<tr>
<td>17</td>
<td>Adjust the plant equipment to maintain quality and specification of the product.</td>
</tr>
</tbody>
</table>

### KSBSs

**Knowledge**
K1: Processing plant incident management - fire, accidents, near misses, dangerous occurrences. Reporting process. Mitigation methods
K4: Reporting and escalation procedures.
K5: Verbal communication techniques. Giving and receiving information. Matching style to audience. Barriers in communication and how to overcome them.
K6: Non-verbal communication techniques: gestures, facial expressions, tone of voice, eye contact, body language.
K7: Awareness of team working techniques.
K8: Tools and equipment used in materials processing. Purpose and operation.
K9: How to use manufacturer’s instructions and manuals.
K10: Awareness of issues and common symptoms and warning signs of stress, anxiety and depression. Where to go for help and the resources available.
K11: Principles of equity, diversity, and inclusion in the workplace and the impact on own work.
K12: Quality assurance requirements and monitoring processes.
K13: Documentation methods and requirements - digital and paper based.
K14: Maintenance practices and techniques: planned, preventative, predictive and reactive methods and their frequency.
K15: Stock requirements. Stock considerations: availability, stock levels, stock lead times, stock rotation and stock quality management.
K16: Raw materials used in materials processing. Where they come from and what they are used for.
K17: How to complete pre-start checks of plant equipment.
K18: How to complete post operation checks of plant equipment.
K19: How to access learning and development opportunities.
K20: Handover procedures.
K21: Hazards and risks of operating mobile plant equipment.
K22: Operational and technical aspects of mobile plant equipment. Efficient operations, additional cab equipment or operator aids, capabilities of the plant, the correct plant attachment for the task.
K23: Mobile plant specifications and operating limits.
K24: How to select, check and ensure the most suitable mobile equipment is utilised.
K25: How to identify the required amounts of consumables.
K26: Hazards and risks of operating static plant equipment.
K27: Operational and technical aspects of fixed plant equipment. Efficient operating processes, capacities, and capabilities of the plant, adjustments of the processes to maintain quality and specification of the product.
K28: The products and product specifications required.
K29: Principles of inspection of raw materials to be used as part of the processing operation.
K30: Emergency stop procedures.

Skills
S1: Conduct pre-start checks of plant equipment.
S2: Conduct post operation checks of plant equipment.
S3: Identify and report environmental issues of work undertaken.
S4: Conduct maintenance activities such as planned, preventative, predictive or reactive.
S5: Use materials, fluids or lubricants required for operation and maintenance.
S6: Monitor stock levels.
S7: Monitor end product quality and report issues.
S8: Carry out and record learning and development activities.
S9: Comply with health and safety procedures in compliance with regulations and standards. Comply with safe systems of work.
S10: Follow procedures in line with environmental and sustainability regulations, standards, and guidance. Segregate resources for reuse, recycling and disposal.
S11: Lock off and isolate equipment or systems using Lockout, Tag out, Try out (LOTOTO) procedures.
S12: Follow equality, diversity and inclusion procedures.
S13: Identify, organise and use resources to complete tasks, with consideration for cost, quality, safety, security and environmental impact.
S14: Communicate with others verbally for example colleagues and stakeholders.
S15: Record or enter information - paper based or electronic. For example, energy usage, risk assessments, equipment service records, handover documents and manufacturers’ documentation, checklists, pre-start and post operation check records, waste records.
S16: Identify and take action when observing unsafe practice.
S17: Carry out risk assessments.
S18: Applies team working principles.
S19: Follow handover procedures.
S20: Use mobile plant equipment to transport materials.
S21: Operate mobile plant within specification and tolerances.
S22: Select mobile equipment or attachment.
S23: Identify issues with raw materials such as contamination.
S24: Process products.
S25: Operate static plant to produce a manufactured product.
S26: Complete inspection of raw materials to identify issues such as contamination.
S27: Monitor static plant processing and adjust tolerances.
S28: Follow emergency stop procedures.
S29: Calibrate equipment prior to use taking into account required tolerances.
S30: Check and confirm raw materials into the correct location.

Behaviours

B1: Team-focus to meet work goals.
B3: Seek learning and continuous personal development opportunities.
B4: Seek opportunities to help and assist colleagues.
B5: Support an inclusive workplace, for example respectful of different views or beliefs.
B6: Put health and safety first.
B7: Considers the environment and sustainability.

Qualifications

English and Maths
English and maths qualifications form a mandatory part of all apprenticeships and must be completed before an apprentice can pass through gateway. The requirements are detailed in the current version of the apprenticeship funding rules.

**Does the apprenticeship need to include any mandated qualifications in addition to the above-mentioned English and maths qualifications?**

Yes

**Other mandatory qualifications**

Level 2 Diploma in Mineral Products Mobile Plant Operations.

Level: 2

Level 2 NVQ Diploma in Plant Operations (Construction)

Level: 2

Level 2 Diploma in Mineral Products Processing Operations

Level: 2

Level 2 Diploma in Precast Concrete Operations

Level: 2

**Professional recognition**

This standard aligns with the following professional recognition:

- The Institute of Quarrying (IQ) for Associate
- Institute of Asphalt Technology for Affiliate

**Consultation**

Consultation to go here.

**Progression Routes**

**Supporting uploads**

Mandatory qualification uploads
Mandated degree evidence uploads
Professional body confirmation uploads

**Involved employers**