



# Health and Safety

## Machinery

### Minimum Standard

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<b>Approver</b>	ELT Operating Committee
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## 1 Aims and Principles

The aim of this Government of Jersey (GoJ) Minimum Standard is to provide guidance on the steps which should be taken to ensure the safe use of machinery.

Departments which use machinery should develop their own procedures detailing the specific arrangements to be implemented. The procedures must include the standards set out in this document or be of an equivalent or higher standard.

It should be noted that this Minimum Standard is not applicable to the following:

- The use of vehicles in the workplace which are covered by the GoJ Minimum Standard – Workplace Transport
- The use of lifts in the workplace which are covered by the GoJ Minimum Standard – Passenger and Goods Lifts

## 2 Legislation and Guidance

### a) Applicable Legislation and UK Guidance

[Health and Safety at Work \(Jersey\) Law, 1989](#)

[Safety in the Use of Machinery \(ACoP 10\)](#)

### b) Guidance

[Work Equipment and Machinery \(UK HSE\)](#)

## 3 Definitions

### Machinery

An assembly fitted with, or intended to be fitted with, a drive system other than one using only directly applied human or animal effort, consisting of linked parts or components.

A full list of definitions relating to machinery are available in the [Safety in the Use of Machinery \(ACoP 10\)](#).

## 4 Who this Minimum Standard Applies to

Applies to:

- All Government of Jersey (GoJ) and States' employees
- Voluntary staff or those on honorary contracts where there is no implied contract of employment

## 5 Links to other GoJ Policies, Minimum Standards and Guidance

### a) Policies

Government of Jersey - Health and Safety Policy

### b) GoJ Minimum Standards

Risk Assessment

Manual Handling

COSHH

Slips and Trips

Noise

Vibration

Occupational Health – Assessment and Surveillance

### c) Other Internal Guidance

Further guidance may be available from other departments carrying out this type of work.

For assistance with preparing internal procedures, contact should be made with your departmental Health and Safety Manager/ Adviser/ "Professional".

## 6 Roles and Responsibilities

The department's procedures which cover the use of machinery, must clearly set out the roles and responsibilities of all those individuals involved with the work.

Reference should be made to the Corporate Health and Safety Policy for general responsibilities.

## 7 Overview

**This minimum standard provides a summary of the action which should be taken to ensure the safe use of machinery.**

**The Jersey [Approved Code of Practice - Safety in the Use of Machinery](#)**

**[\(ACoP 10\)](#) sets out further details of the expected standard of machinery safety in the workplace and must be consulted in conjunction with this Minimum Standard.**

**Following the standards set out in the ACoP will help to ensure compliance with the Health and Safety at Work (Jersey) Law, 1989.**

## **8 Selection of Machinery and Installation**

Any machinery selected must be appropriate for the tasks to be performed and be suitable for use in its intended environment. It should also be constructed to recognised safety standards.

When selecting machinery, consideration should be given to the following:

- Intended location
- How it is to be used
- The type of user e.g. employee, young person etc.
- Initial and ongoing training requirements
- Maintenance and service requirements
- Any calibration requirements
- Cleaning requirements
- Future decommissioning, removal and disposal

Consideration should also be given to:

- Space and access arrangements for use, maintenance and cleaning
- Ergonomic factors to avoid undue strain on the user
- Energies created by the machinery e.g. vibration, noise etc.
- Substances produced during the use of the machine e.g. dust, swarf, fumes etc.

If necessary, the suitability of machinery should be discussed with the supplier and/or manufacturer to ensure it is appropriate for the tasks required and suitable for the working environment in which it is to be used.

### **Installation**

All machinery must be installed in accordance with the safety instructions set out in the design and manufacturing information.

The location of machinery should be carefully considered to ensure that it can be safely used, cleaned and maintained and does not introduce new hazards.

If changes to the premises are required to accommodate the new machinery, this should be discussed with relevant parties e.g. landlord.

## **9 Risk Assessment**

Where machinery is used in the workplace, risk assessments should be carried out which consider the following factors:

- Working environment
- Use of the machinery including:
  - Type of machinery and specific safety hazards associated with its use e.g. cutting, crushing, entanglement etc.
  - Fueling
  - Maintenance
  - Cleaning
  - Decommissioning, removal and disposal must also be considered where appropriate
- Noise
- Other non-mechanical hazards such as vibration, emissions etc.
- Use of hazardous substances e.g. grease, oil etc.
- Training and competency of operators
- Requirement for personal protective equipment (PPE)

The risk assessment(s) should include general matters e.g. the working environment, noise etc. and specific hazards associated with the different types of machinery being used.

## 10 Machinery Hazards

### Mechanical Hazards

Machinery can cause a wide variety of injuries including:

- Abrasion and friction
- Crushing
- Cutting
- Entanglement
- Impact
- Punctures and stabbing
- Shearing
- Trapping

Further information on these types of injury and how these can occur is available in the [Safety in the Use of Machinery \(ACoP 10\)](#).

When assessing machinery for possible mechanical hazards, the following should be considered:

- Machinery with moving parts that can be reached by people
- Machinery that can eject objects (parts, components, products or waste items) that may strike a person with sufficient force to cause harm
- Machinery with moving parts that can reach people, such as booms or mechanical appendages (arms)
- Mobile machinery, excluding vehicles, which is operated in areas where people may gain access.

## Non-mechanical Hazards

A common non-mechanical hazard associated with machinery is noise. However, there are others which may be present including:

- Vibration
- Emissions and explosions e.g. swarf, exhaust gases etc.
- Hazardous substances e.g. lubricants, grease, cleaning agents etc.
- Temperature – hot and cold
- Radiation e.g. infrared, ultra violet and laser light
- Musculoskeletal hazards e.g. manual handling, repetitive movements, force involved during use etc.

Further information on these hazards is available in the [Safety in the Use of Machinery \(ACoP 10\)](#) and GoJ Minimum Standard– Noise and GoJ Minimum Standard – Vibration.

## 11 Machinery Safety

### Guards

Guards will often come fitted as standard to a machine although not always e.g. distance barriers. Manufacturers are required to provide information on the safe use of machinery, including the use of guards, which should be available from the supplier.

There are many types of guards available and the design of guard will depend on the nature of the hazard. Guards which do not rely on people to ensure they are used e.g. fixed guards, are more effective than those which do e.g. adjustable guards. However, it is not always possible to use guards which require no operator intervention as they would interfere with the work process.

The type of guards available include:

- Fixed guards
- Interlocking guards
- Adjustable guards
- Distance barriers
- Presence sensing systems

A full description of the guards and some of the issues associated with their use is available in the [Safety in the Use of Machinery \(ACoP 10\)](#).

### Emergency Stops

These buttons are considered to be an additional control to others provided, such as guards. Their purpose is to bring the machinery to stop immediately, in the event of a dangerous occurrence or accident.

Emergency stop buttons will be fitted to machinery as standard, where their use does not pose a risk to the machine or operator. They can be retro-fitted to older machines but

careful consideration must be given to this to determine the following:

- Whether other risks are introduced by the stopping of the machinery in the event of an emergency
- Whether additional safety devices will also be necessary to supplement the safe isolation of the machinery in an emergency
- Whether other parts of the machinery will need to continue to operate to assure safety.

Further information on the design and location of emergency stops is available in [Safety in the Use of Machinery \(ACoP 10\)](#)

### Isolation

There should be an easily identifiable means of isolating machinery from the power supply to enable it to be taken out of use to be worked on safely e.g. during maintenance and cleaning or if it is found to be defective etc.

A procedure for ensuring proper isolation should be prepared and where a failure to isolate the machinery could place persons at risk during the works, a Permit to Work should be used.

### Pre-use Checks

Prior to using any machinery, pre-use checks should be carried out by the user to confirm that the machinery is safe and fit for use. The items required to be checked will depend on the type of machinery and in some cases, may need to be formally recorded. This process can be managed through use of a simple checklist.

Checks could include:

- General condition of the machinery including cleanliness
- Presence and condition of guards
- Functioning of safety devices e.g. interlocks, emergency stops etc.

### Inspection and Maintenance

All machinery should be maintained in accordance with manufacturer's guidance and only competent persons should carry out maintenance tasks. A planned preventative maintenance schedule should be prepared using the manufacturer's guidance and where necessary, in consultation with the competent person(s) who will carry out work on the equipment.

Regular safety checks should be carried out on machinery to ensure that it remains safe to use. These checks may be carried out in-house, or may need to be carried out by external engineers. Any persons carrying out checks on machinery should have appropriate knowledge, qualifications and experience to assess the machinery and identify any defects or issues.

The frequency of inspections will depend on the type of machinery but is usually at least

every 12 months. When preparing inspection schedules, manufacturer's guidance should be referred to as some inspections may be required more frequently. Additional inspections should be carried out if any safety concerns arise between planned inspections.

### Identification and Reporting of Faults

Employees should be trained to immediately report any fault or dangerous situation arising from the use of machinery, to ensure that any fault can be rectified. A formal system should be in place for reporting defective machinery, which should include a means of recording the action taken in response to the report.

Where defective machinery has been identified, it should be taken out of use until safety checks have been carried out by a competent person, and assurance has been provided to confirm that it is safe and can continue to be used safely.

Defective machinery should also be clearly identified as defective, to ensure it is not used inadvertently e.g. signage and where practicable, should be isolated from the power supply.

## 12 Training and Supervision

All employees permitted to work with machinery must be trained and assessed as competent to use it.

Any persons providing training, including in-house, must have sufficient knowledge, skills and experience in the use of the machinery to be considered competent.

Training of operators can take a number of forms:

- External
- In-house
- A combination of both
- Refresher

Whatever the type of training, a training record for each operator on each piece of machinery should be maintained and be periodically reviewed.

There are no prescribed levels of supervision required during training as it will depend on the existing knowledge, skill level and progress made by the operator.

It may be continuous and on a one-to-one basis initially but as the trainee becomes more competent, this can be relaxed. However, when new operations or elements are introduced, even for experienced operators, the supervision requirements are likely to increase again.



## 13 Working Environment

A safe working environment must be provided where machinery is used in the workplace.

### Space

Checks should be made to ensure that there is adequate space around the machinery for both the operator and the work piece that is being machined. There must also be sufficient space for the operator to work safely and without distraction from passing persons.

### Floor

The floor around any machinery must be level and be kept clear and free from obstructions. Any cables or ducting connected to the machine should be mounted on the walls or ceiling so as not to cause a trip hazard.

### Lighting

Adequate and suitable lighting should be provided throughout the workshop/working area and at each item of machinery either through natural or artificial means. The operator must have a clear view of the work piece, any moving parts and all controls and the lighting should be positioned to avoid any glare from surfaces.

### Heating

Adequate heating must be provided in any area where machinery is used and where it is impracticable to heat the entire workplace, radiant heaters can be provided near to the working area.

## 14 Provision and Use of Personal Protective Equipment (PPE)

Where the risk assessment has identified the requirement for PPE to be used when working with machinery, this must be provided to the employee.

Typical PPE which may be required includes:

- Safety footwear
- Hearing protection
- Eye protection
- Gloves
- Overalls

Care should be taken that the PPE does not introduce any additional hazards e.g. gloves becoming caught up in moving parts.

Further information on the assessment, provision, use and maintenance of PPE is available in the GoJ Minimum Standard – Personal Protective Equipment.

## 15 Provision of Information to Employees

All persons who use machinery should be provided with sufficient information on the risks associated with the work to be carried out and the control measures to be used to manage those risks.

Typical information includes:

- Machinery specific risks and the requirement for guards/safety devices to be used at all times
- Risk of materials being ejected e.g. swarf
- Risks associated with exposure to:
  - Noise
  - Vibration
  - Fume
- Pre-use safety checks required
- Use of any LEV system/noise curtains etc.
- Use of personal protective equipment
- Isolation procedures

The manufacturer's information should also be readily available to them.

## 16 Health Surveillance

Any persons working with machinery which exposes them to potential hazards to their health e.g. fume, noise, vibration etc. should be subject to health surveillance to identify any potential effects at an early stage.

Further information on health surveillance is available in the GoJ Minimum Standard – Occupational Health Assessment and Surveillance.