Safe Procurement and Acquisition of Plant and Equipment Guideline

Section 1 - Purpose and Scope

(1) This Guideline provides advice on the safe procurement and acquisition of plant at The University of Queensland (UQ). This Guideline supports and should be read in conjunction with:

a. Safe Procurement and Acquisition of Plant and Equipment Procedure; and
b. Safe Use Of Plant and Equipment Procedure.

(2) There are many considerations for selecting plant to ensure risks across the life of the plant are adequately controlled. The procurement process consists of three phases: planning, sourcing and managing. Consideration of risks to the health and safety of staff and students must be made in each of these phases to ensure safe plant is procured and acquired.

Section 2 - Risk Management

(3) The early and systematic identification and assessment of plant safety risks allows for the development of plans and controls to address these risks. Risks must be managed across the life of plant from selection to disposal.

(4) Prior to acquisition and throughout the procurement process, consideration must be given to risks arising from all stages of the life of plant. Following the requirements in the Safe Procurement and Acquisition of Plant and Equipment Procedure, the advice in this Guideline, and completing the Safe Procurement and Acquisition of Plant Checklist (refer to the Appendix) assists with this task.

(5) Prior to the use of the plant or equipment, a risk assessment must be developed in UQSafe. The hierarchy of controls must be considered when considering and implementing controls for identified risks. Standard Operating Procedures (SOPs), training documentation, and maintenance logs should be developed in conjunction with the risk assessment where relevant for the safe operation, repair and maintenance of the plant. Refer to the Health and Safety Risk Assessment Procedure for further information.

Section 3 - Planning the Procurement and Acquisition of Plant

(6) The planning process is essential to managing risks across the life of plant. The following considerations must be planned for and then later actioned. For example, whilst installation cannot occur until the item of plant has been received, planning needs to occur prior to acquisition to identify, assess and manage safety and financial risks.

Transport, Receiving and Storage

(7) Before procuring or acquiring plant, consider how the item will be safely transported, received and stored prior to installation or internal delivery. Relevant considerations include:

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a. Size and weight of the item and how it will be delivered and received –
    i. items may be transported on a pallet and require a forklift and competent operator to receive – delivery location is therefore important and must be suitable for forklift operation and truck movement.
    ii. larger items may need the use of a crane and competent operator to receive, e.g. they may not fit through doorways or inside lifts.
    iii. smaller items may still need a pallet jack, trolley or hoist for their transport and installation.
b. Day and time the item will be delivered and who will be available to receive the item. Provide forewarning the item is to be delivered and specify an accurate and appropriate delivery location.
c. A suitable location to store the item until it is ready for installation. Ensure, for example, that fire exits will not be blocked.

Licensing, Registration and Certification

(8) Before procuring or acquiring plant, consider all required licenses, certificates and registrations, including:

a. Registrations for registrable plant (e.g. boilers and pressure vessels) and registrable plant designs (e.g. pressure vessels).
b. Permits or licenses required to possess, use/operate or acquire, transport or dispose the item. For example –
    i. Radiation apparatus and premises may require a possession licence, approval and certificates of compliance. A licence or approval for the use, transport and disposal is also often required;
    ii. High risk work licenses are required to operate forklifts, gantry cranes, boilers and perform dogging and rigging.
c. Verification of installation by a Registered Professional Engineer of Queensland (RPEQ), where relevant. For example, process plant may need structural, mechanical, chemical and /or process safety engineer approval and verification before it is used.

Inspection, Maintenance, Repair and Cleaning

(9) Before procuring or acquiring plant, consider how inspection, maintenance, repair and cleaning will occur safely throughout the life of the plant. Relevant considerations include checking if the plant:

a. needs to be added to a UQ preventative maintenance schedule, with defined inspection and service intervals based on manufacturer’s recommendations;
b. has sufficient access for inspection, maintenance, repair and cleaning once installed; and
c. has adequate means to isolate power, disengage and de-energise prior to inspection, maintenance, repair and cleaning.

Installation and Commissioning

(10) Before procuring or acquiring plant, consider how the item will be safely installed and commissioned. Relevant considerations include:

a. If the plant will be connected to any building services, consult with your Client Facilities Manager (Property and Facilities Division). Services such as gas, ventilation, vacuum, compressed gas, RO water, dust extraction or compressed air are to be considered for availability and adequacy, and if required planned for installation.
b. Electrical supply required, for example phase, volts, amps, hardwiring, IPX rating and/or intrinsic rating. Is appropriate power supply present or does it need to be installed?
c. Ensuring there is sufficient physical space to house, install and operate the item at the intended location.
d. That the item can be safely transported to its location, including in the building lift, through corridors and

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around corridor corners.

e. The load capacity of the structural flooring, ensuring it is sufficient for the weight of the plant.
f. Whether the plant needs to be installed on a stand, special bench or other supporting structure. Proximity to other equipment and/or how users will interface with the equipment may dictate bench sizes or heights.
g. Qualifications and competency of the person/s installing the plant.
h. Costs for installation.
i. Suitability of the environment to be installed, including compatibility with facility and other plant. For example, plant installed in a PC2 laboratory, Biosecurity AA, animal facility, clinic room or workshop may require additional consideration.
j. Necessary equipment for installation and who will supply these e.g. forklifts, cranes, trolleys, hoists, tools.

Section 4 - Selection of Plant

(11) Selecting the most appropriate plant will ensure that unexpected risks are not introduced. Retrofitting equipment with safety controls can be costly, cause delays and may still not offer the same level of protection as well-designed equipment. The selection of appropriate and safe plant is an important part of the procurement process.

Electrical Considerations

(12) Before procuring or acquiring plant, ensure it will be supplied as electrically safe and consider how it will remain in this state. Relevant considerations include:

a. The item is supplied with an Australian power plug and has a Regulatory Compliance Mark (RCM).
b. The equipment can run safely without a backup or uninterruptable power system.
c. The vendor states the item is compliant with AS/NZS 3820 Essential safety requirements for electrical equipment.
d. The equipment is safe to operate without additional electrical protection for the facility.
e. The plant is to be installed in a space where a hazardous area is present. If so, ensuring it is not an ignition source and/or is not installed within the hazardous area.
f. How the equipment will be tested and tagged, both prior to commissioning and on-going (i.e. how will the equipment be accessed during routine testing?).

Specific Hazards

(13) Before procuring or acquiring plant, consider how risks associated with specific hazards will be controlled. All risks that exist during inspection, maintenance, repair, decommissioning and disposal activities should be managed for plant that:

a. Is designed to be operated or energised remotely or automatically.
b. Produces hazardous dusts, fumes, noise or waste (additional engineering controls such as ventilation may be required to be installed prior to use).
c. Includes hydraulic or pneumatic systems.
d. Contains asbestos (e.g. within the mechanism or as insulation).
e. Requires or is intended for use with hazardous chemicals or biologicals, particularly if these are being newly introduced into the work environment.
f. Is an electrical item that will be used in or around water.
g. Is powered mobile plant.

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General Considerations

(14) Before procuring or acquiring plant, consider how the item will be safely used. Relevant considerations include:

a. Is it fit-for-purpose and to be used for the same purpose as it was designed? For example, the item is manufactured for commercial, industrial or research applications. Items designed for home use may not be suitable.
b. Compliance with statutory laws and relevant Australian Standards.
c. Installation in a suitable location, in view of work environment layout and lighting.
d. Has the item been supplied with –
    i. all required guards, interlocks, lockout/isolation points, safety switches, emergency shutdown buttons and other safety features;
    ii. a user manual, written in English, and all other required information; and
    iii. required consumables, adaptors or other components that are industry standard.
e. Acceptable plans are in place for safe decommissioning and disposal, at end-of-life.
f. Compatibility with existing activities, substances and equipment.
g. Adequate existing security arrangements to prevent unauthorised access.
h. Adequate controls in place for abnormal situations, for example, foreseeable misuse, fluctuation in operating conditions or emergency situations.

Training and Competency

(15) Before procuring or acquiring plant, consider the training and competency requirements for its operation and maintenance. Relevant considerations include:

a. Any special skills required for people who operate the plant or carry out inspection and maintenance.
b. The correct use of guarding and other control measures.
c. How to safely access and operate the plant.
d. Who may use the item (e.g. only authorised or licensed operators).
e. How to carry out inspections, shut-down, cleaning, repair and maintenance.
f. Traffic rules, rights of way, clearances and no-go areas for mobile plant.
g. Emergency procedures.

Section 5 - Appendix

Pre-procurement of Plant Checklist

(16) Complete this checklist during the procurement planning process at UQ. Refer to the Safe Procurement and Acquisition of Plant and Equipment Procedure for more information.

(17) Based on the responses to the questions, a risk assessment in UQSafe may be required to manage risks arising from identified hazards.

(18) Pre-procurement of Plant Checklist

Status and Details

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