

**SAFETY
GOLDEN
RULES**

HOME
WITHOUT HARM

Safety Golden Rule Requirements

Critical Control Guide

Start

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One of our core values is "Safety and Care."

It drives us to think before we act, put safety at the forefront of everything we do, care for our environment, consider the wider community, look out for one another, and actively create a safe work environment for everyone.

Our Safety Golden Rule Requirements are specifically targeted to preventing fatalities and serious injuries (critical risks). They are built on our long-term collective knowledge, learnings from serious incidents and safety standards.

They provide clarity about what is expected of us, our contractors and subcontractors when conducting high-risk activities by:

- Planning works, identifying hazards, evaluating risks, using the hierarchy of controls to eliminate or mitigate risks So Far As Is Reasonably Practicable (SFAIRP) / As Low As Reasonably Practicable (ALARP), monitoring and reviewing health and safety risks.
- Maintaining safe plant, safe systems of work and a safe work environment.
- Equipping our managers, supervisors and employees with the knowledge, skills, resources and management support to achieve our goal of 'Home without Harm'.

Together, let us work to make our offices and project sites, places where every individual can thrive in a safe and secure environment.

A place where every day begins and ends with the assurance of returning home without harm.

Thank you

Scott Cummins
Chief Executive Officer

The Safety Golden Rule Requirements detail the criteria and behaviours vital for effectively managing critical safety risks on our projects. These rules are applicable to our entire workforce, including employees, contractors, and subcontractors, ensuring a unified approach to safety.

There are **10 key areas** where a lack of control could lead to serious injuries (**see Golden Rules**). These are broken into Standard Controls, Critical Controls, and Behaviours.

What is a Standard Control?

Standard Controls play a pivotal role in preventing or mitigating the consequences of potential events. They are an act, object (engineered) or system (combination of act and object) intended to prevent or mitigate an unwanted event.

What is a Critical Control?

Critical Controls **substantially** reduce risk. The absence or failure of a critical control would significantly increase the risk despite the existence of the other controls.

Tell me about Behaviours

Each of the ten Safety Golden Rules clearly defines the expected behaviours for every member of our workforce, including employees, contractors, and subcontractors.

It is crucial for individuals to always follow these behavioural expectations to uphold our commitment to Home without Harm.

Important points when managing risk

- When a Standard or Critical Control is lacking, all workers are empowered to **Stop Activity** and notify the supervisor immediately.
- Supervisors are both authorised and obligated to **Stop Activity** without requiring consent from construction or project managers.
- Any deviation from a defined Standard and Critical Control is **strictly prohibited** unless prior authorisation is obtained from the Operations Manager / Regional General Manager. This proactive approach ensures safety by preventing potential risks, fostering a culture of immediate action in prioritising safety measures on the frontline.
- The Safety Golden Rule Requirements **do not** represent every possible risk. Nothing replaces the need for everyone to proactively manage risk every day and in every activity undertaken.

Safety Golden Rule Requirements

CEO Message

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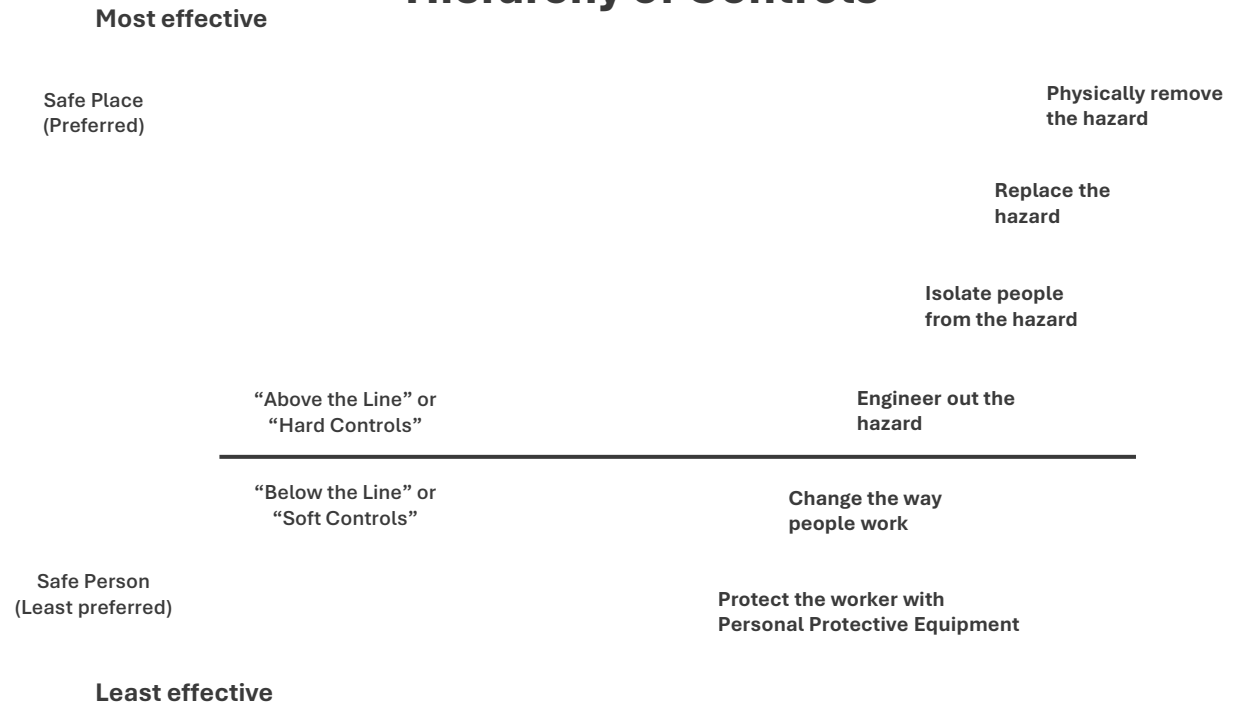
Safety Golden Rule Requirements – Four Essential Elements:

1. START Safe Fundamentals
2. Standard Controls and Critical Controls
3. Safety Golden Rule – Behaviours
4. Safety Golden Rule Requirements – Verification

Combined, these elements ensure:

- Above the line’ controls are prioritised (refer to ‘Hierarchy of Controls’ chart)
- Everyone involved in the activity is clear on the requirements to manage critical risks
- The conditions to achieve the highest levels of safety are achieved
- Expected behaviours are understood and applied

Hierarchy of Controls



Fundamental safety planning activities must be undertaken **before starting any task** to which a **Safety Golden Rule Requirement** applies.

These activities ensure that work is planned and that workers are fit, competent and experienced in the task and the nature of risks involved.



Competency Requirements

Before you start work, confirm the following...

Workers and supervisors:



Have completed the project induction.



Are appropriately trained, licensed (as required by law)/ticketed or verified as competent and authorised person for the activity.



Are wearing required fit for purpose PPE for the activity.



Are physically and mentally fit for work. *Note: including being free from the influence of alcohol, drugs, and fatigue.*

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Fit for Purpose Plant & Equipment

Before you start work, confirm the following...



Plant/Equipment is approved for use on site.



Pre-Start Checks are completed, and plant/equipment fit for use.



Work Activity Requirements



Engineer completed Construction Risk Assessment Workshop (CRAW). *Note: Apply principles of safety in design to eliminate and minimise risks (when designing structures, layouts, hardware and/or temporary works).*



Engineer briefed Delivery team on Construction Execution Procedure (CEP) complete. *Note: CEPs to be prepared for all complex, high-risk activities. For all other construction activities CEPs are to be prepared at the discretion of the Project Manager.*



Supervisor facilitated activity specific Safe Work Method Statement (SWMS)/Job Safety & Environment Analysis (JSEA) with workers. *Note: SWMS are only required for High-Risk Construction Work.*



Workers have completed START Cards, understood them and all involved have signed.



Engineers, supervisors and workers Checked for Change and reviewed the effectiveness of risk control measures.



If it's not safe, workers should not start activity and notify supervisor immediately.

Safety Golden Rules

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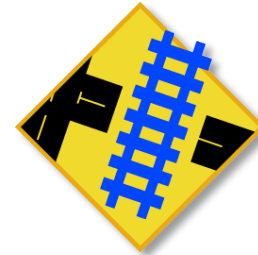
Click icons to learn more



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Heights & Dropped Objects Critical Control Guide

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Heights & Dropped Objects

All Working at height activity must be conducted safely to eliminate risk or minimise, so far as is reasonably practicable, the risk of a worker or an object falling from one level to another.

The following Critical and Standard Controls must be in place:

Critical Controls



Fall Protection & Prevention



Exclusion Zone & Safe Access & Egress



Equipment Safety Critical Checks

Standard Controls



Competency Requirements



Fit for Purpose Plant & Equipment



Work Activity Requirements



Fall Prevention and Protection

- Work must be conducted on the ground or from a solid construction. When this is not possible, one must minimise the risk of a fall by providing a fall prevention device (including but not limited to secure fencing, edge protection, working platforms and covers).
- All edges, structures and working platforms must be protected via screens, guardrails and scaffolding systems.
- Where work from ladders cannot be avoided, platform ladders with safety rails are to be prioritised. The ladder must be suitable for the task and set up correctly. Any work from a ladder where a person could fall more than two metres must be subject to risk assessment.
- When unloading/loading trucks, ensure fall protection is in place.
- Shafts, penetrations and voids must be protected, covered and secured to prevent dropped objects.



Exclusion Zone and Safe Access and Egress

- Safe and unambiguous access and exit points to the work area must be provided.
- Establish exclusion zones around overhead work areas and secure materials, structures, and plant items to prevent dropped objects. Tool lanyards, signs and screens/barriers must be used where there is a risk of injury.



Equipment Safety Critical Checks

- Safety critical faults/damage must be tagged out and immediately reported to the Supervisor. The plant must not be used until the issue has been rectified.
- Elevated Work Platforms are to be suitable for the ground conditions at the work location and are to be fitted with an approved fall arrest or guard rail system. Where there is a risk of crushing against a fixed structure, an effective operator protective device needs to be fitted.

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Competency Requirements

- Workers, permit issuers/holders, and supervisors must be appropriately trained, licensed (by law) or verified as a competent/authorised person for working at height activity.
- All mobile plant operators must be licensed or verified as competent for the specific item of plant.



Fit for Purpose Plant & Equipment

Pre-Operation Inspections

- Pre-start inspections/checks must be completed daily by the operator prior to operating the plant.

Plant and Equipment Certification

- Plant and equipment (e.g., Elevated Work Platforms, scissor lifts, man cages, scaffolds, anchor points, and fall arrest and restraining devices) must be fit for purpose and certified as suitable by a competent person.

Scaffolding Inspection and Compliance

- Fixed/mobile scaffolding must be inspected before use or following any event that could affect its stability (such as a severe storm), repairs, and at least every 30 days (SEA - every 7 days). All scaffolding must comply with current standards and/or statutory requirements.



Work Activity Requirements

Risk Assessment and Work Permit

A risk assessment that addresses emergency management and permits must be in place where:

- Personal fall protection equipment is required.
- Elevated Work Platforms are to be used near potential crush hazards associated with fixed structures above.
- A work at heights permit must be implemented and approved when fall arrest/restraint equipment is used as the primary means of fall protection.
- Work method, permit requirements, emergency protocols and any changes must be communicated with those involved in the work.

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Work Activity Requirements

Work Platforms

- Temporary work platforms include scaffolds, elevating work platforms, mast climbers, workboxes, building maintenance units, portable or mobile fabricated platforms or any other platform that provides a working area designed to prevent a fall.

Fall Protection and Work Positioning Systems

- Anchor points must be used to secure a worker where fall arrest systems are required and must be installed by a competent person in accordance with an approved design prior to use.
- If a single control is not sufficient, a combination of practicable controls may be used to provide adequate risk protection.
- A work positioning system must only be considered if it is not reasonably practicable to carry out work on the ground or on a solid construction, or by providing a fall prevention device.



Heights & Dropped Objects Behaviours

Never



Never work at heights without fall protection.



Never enter an exclusion zone without supervisor authorisation.

Always



Always operate plant within defined safety limits.



Always prevent dropped objects.

Heights & Dropped Objects - Good Practice Examples

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Critical Controls

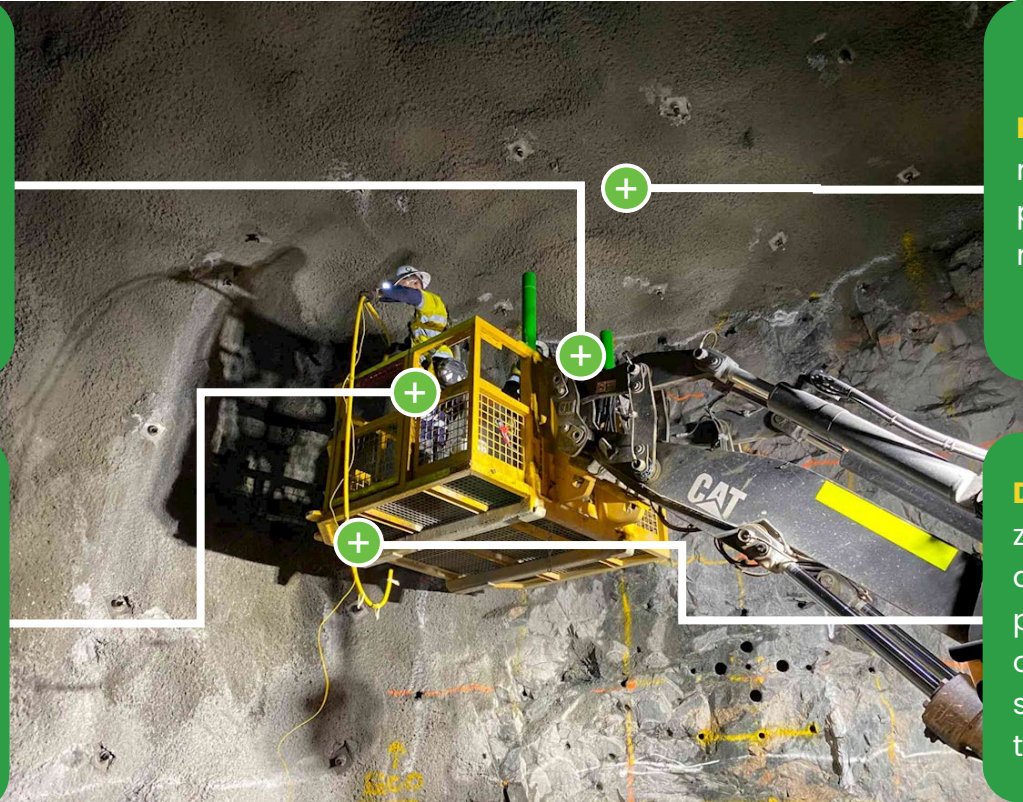
Standard Controls

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Fit for Purpose Plant & Equipment. All plant and equipment (e.g., EWPs, scissor lifts, man cages, scaffolds, anchor points and fall arrest and restraining devices) must be fit for purpose and certified as suitable by a competent person.

Competency Requirements. Workers, permit issuers, permit holders, and those supervising the work must be appropriately trained, licensed (as required by law) or verified as a competent and authorised person for working at height activity.



Risk Assessment. A risk assessment must be in place that addresses, permit, rescue plan and SWMS requirements.

Dropped Objects. Establish exclusion zones around overhead work areas and secure materials, structures, and plant items to prevent dropped objects. Tool lanyards, signs and screens/barriers must be used where there is a risk of injury.



People & Plant Critical Control Guide

[Learn more](#)





People & Plant

All People and Plant Operations must be conducted safely to eliminate or minimise, so far as is reasonably practicable, the risk of injuries, fatalities and incidents associated with such operations.

The following Critical and Standard Controls must be in place:

Critical Controls



Pedestrian & Traffic Management



Communication



Plant Safety Critical Checks



Loading & Unloading Safety



Overhead Services & Plant Movements

Standard Controls



Competency Requirements



Fit for Purpose Plant & Equipment

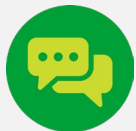


Work Activity Requirements



Pedestrian and Traffic Management

- Mobile plant and vehicle movements must be physically separated from designated pedestrian access routes. Separate site entrance/exit points for pedestrians and vehicles must be provided to prevent inadvertent interaction.
- Designated pedestrian crossing points that intersect with plant routes must be clearly identified and effectively controlled.



Communication

- A reliable means of communication controls must be implemented between mobile plant, vehicles and people on the ground to manage mobile plant movements. In restricted areas, plants must come to a complete stop to allow people to pass.



Plant Safety Critical Checks

- Any safety critical faults/damage must be tagged out and immediately reported to the Supervisor. The plant must not be used until the issue has been rectified.
- No plant is to be modified outside manufacturers' specifications, unless modification is engineered, certified and approved by a competent authorised person.



Loading and Unloading Safely

- Loading and unloading zones must be clearly delineated with controls to prevent unauthorised access and minimise plant and people interaction.
- All loads must be secured and carried within all physical and capacity limits of the vehicle.



Overhead Services and Plant Movements

- Overhead services and structures are to be identified, and appropriate control measures implemented to prevent collision by mobile plant and vehicles.
- Safeguards must be in place to prevent uncontrolled movement of mobile plants (e.g., stable ground conditions, wheel chocks).

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Competency Requirements

- All mobile plant operators must be licensed (as required by law) or verified as competent for the specific item of plant.
- Workers and supervisors must be appropriately trained, licensed (as required by law) or verified as a competent and authorised person for People and Plant activity.
- Operators of plants that have been subject to modification must receive appropriate information, instruction and training about the modifications.
- Mobile plant must be operated in accordance with the manufacturer's instructions, including all safety features (guarding, operational controls, emergency stops and warning devices).



Fit for Purpose Plant & Equipment

Plant Safety and Maintenance

- All plants must be inspected, serviced and maintained as per the Original Equipment Manufacturer (OEM) requirements and supplier recommendations.

Planning and Inspections

- Pre-start inspections/checks must be completed daily by the operator prior to operating the plant.
- A Plant Risk Assessment must be completed for all mobile plants by a competent person, approved by the operator and be readily available.



Work Activity Requirements

Traffic Management

- A Traffic Management Plan must be in place which seeks to eliminate reversing operations and identifies, eliminates and/or mitigates all traffic, plant and people interface.



People & Plant Behaviours

Never



Never enter an exclusion zone without supervisor authorisation.

Always



Always stay out of the line of fire of vehicles and plant.



Always operate plant within defined safety limits.

People & Plant - Good Practice Examples

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Fit for Purpose Plant & Equipment. All plant must be inspected, serviced and maintained as per the Original Equipment Manufacturer (OEM) requirements and supplier recommendations.

Competency Requirements All mobile plant operators must be licensed (as required by law) or verified as competent for the specific item of plant.



Traffic Management. A Traffic Management Plan must be in place which seeks to eliminate reversing operations and identifies, eliminates and/or mitigates all traffic, plant and people interface.

Designated Pedestrian Access Routes. Mobile plant & vehicle movements must be physically separated from designated pedestrian access routes and separate site entrance/exit points for pedestrian and vehicles must be provided to prevent inadvertent interaction.



Roads & Rail

Critical Control Guide

[Learn more](#)









Roads & Rail




All work on or adjacent to road and rail traffic must be conducted safely to eliminate or minimise, so far as is reasonably practicable, the risk of injuries, fatalities and incidents associated with such operations.

The following Critical and Standard Controls must be in place:

Critical Controls

-  **Pedestrian & Traffic Management**
-  **Communication**
-  **Overhead Services & Plant Movements**
-  **Plant Safety Critical Checks**

Standard Controls

-  **Competency Requirements**
-  **Fit for Purpose Plant & Equipment**
-  **Work Activity Requirements**



Pedestrian and Traffic Management

- Mobile plant and vehicle movements must be physically separated from designated pedestrian access routes. Separate site entrance/exit points for pedestrians and vehicles must be provided to prevent inadvertent interaction.
- Designated pedestrian crossing points that intersect with plant routes must be clearly identified and effectively controlled.
- In restricted areas, any plant must come to a complete stop to allow people to pass.



Overhead Services and Plant Movements

- Overhead services and structures are to be identified, and appropriate control measures implemented to prevent collision by mobile plant and vehicles.



Communication

- A reliable means of communication must be established between mobile plant, vehicles and people on the ground to manage mobile plant movements.



Plant Safety Critical Checks

- Any safety critical faults/damage must be tagged out and immediately reported to the relevant supervisor. The plant must not be used until the issue has been rectified.

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Competency Requirements

- Workers and supervisors must be appropriately trained, licensed (as required by law) or verified as a competent and authorised person for work on or adjacent to road or rail traffic.
- All mobile plant operators must be licensed (as required by law) or verified as competent for the specific item of plant.



Fit for Purpose Plant & Equipment

Pre-start Inspections and Maintenance

- Pre-start inspections/checks must be completed daily by the operator prior to operating the plant.
- All plant must be inspected, serviced and maintained as per the Original Equipment Manufacturer (OEM) requirements and supplier recommendations.
- Operators of plant must receive appropriate information, instruction and training in relation to any modifications made to plant.



Work Activity Requirements

Traffic Management

- Traffic Management plans must be developed by a competent person (for example Traffic Engineer) who holds relevant qualifications/license and must be verified as competent.
- A Traffic Management Plan must address the separation and protection of people from vehicles and equipment, regulate traffic and construction vehicle movements, parking, refueling, ensure safe pedestrian and cyclist passage, and establish exclusion zones.
- Traffic management, must be implemented with appropriate equipment and competent workers. For example, a truck or Trailer Mounted Attenuator (TMA), the driver must have an appropriate unit of competency to operate a TMA.
- Traffic management control devices shall be regularly inspected and monitored for correctness, tampering, vandalism and reviewed for adequacy as the project develops.

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Competency Requirements

Rail Safety

- All Rail Safety Workers requiring access to the rail corridor must hold a valid Rail Industry Worker card with applicable roles and competencies.
- Rolling Stock Operators must be fit for all duties in accordance with a Category 1 Health Assessment, hold the respective competency and be verified as competent to operate the respective rail plant.



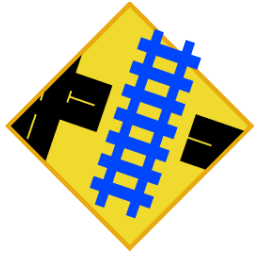
Fit for Purpose Plant & Equipment

- All rolling stock (Rail Infrastructure Maintenance Plant, Road/Rail Vehicles/Rail Trolleys) must be certified to operate on the respective network.



Work Activity Requirements

- Network Operator/Rail Asset Owner approval must be in place prior to accessing the rail corridor, in conjunction with a Track Force Protection Coordinator/Protection Officer being allocated to the workgroup.
- All site workers must attend and sign the Track Force Protection Coordinator/Protection Officer's Safe Working Pre-Start Brief detailing the worksite track protection arrangements in place.




Roads & Rail Behaviours

Never

-  Never work on or near live traffic without having Track Protection or Traffic Management in place.
-  Never enter an exclusion zone without supervisor authorisation.

Always

-  Always keep a safe distance from all operating vehicles and plant.

Roads & Rail - Good Practice Examples

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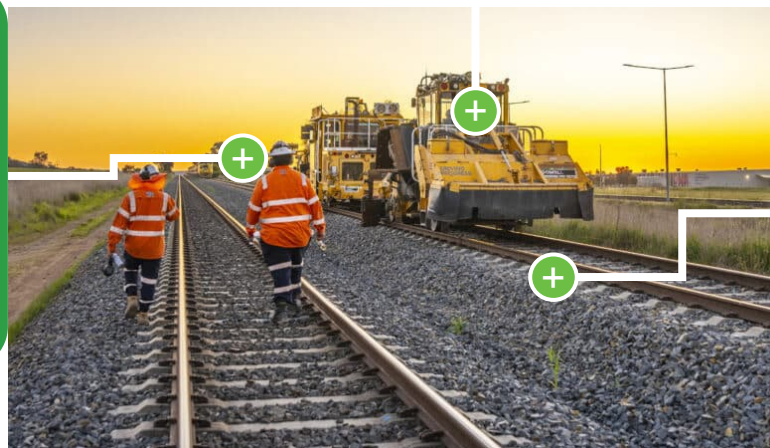
Good Practice Examples

Fit for Purpose Plant & Equipment.

All rolling stock (Rail Infrastructure Maintenance Plant, Road/Rail Vehicles/Rail Trolleys) must be certified to operate on the respective network.

Competency Requirements.

Workers and those supervising the work must be appropriately trained, licensed (as required by law) or verified as a competent and authorised person for work on or adjacent to road or rail traffic.



A Traffic Management Plan must be in place to cater for:

- The separation and/or protection of people from vehicles and plant
- Traffic movements and flow
- Construction vehicle movements, parking and refuelling
- The safe passage of pedestrians and cyclists
- Exclusion zones

Network Operator/Rail Asset Owner approval

must be in place prior to accessing the rail corridor, in conjunction with a Track Force Protection Coordinator/Protection Officer being allocated to the workgroup.



Lifting Operations Critical Control Guide

[Learn more](#)










Lifting Operations




All Lifting Operations must be conducted safely to eliminate or minimise, so far as is reasonably practicable, the risk of injuries, fatalities and incidents associated with such operations.

The following Critical and Standard Controls must be in place:

Critical Controls

-  **Suspended Loads**
-  **Plant & Equipment Use within Safety Limits**
-  **Ground Conditions**
-  **Exclusion Zones**
-  **Plant Safety Critical Checks**

Standard Controls

-  **Competency Requirements**
-  **Fit for Purpose Plant & Equipment**
-  **Work Activity Requirements**

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Suspended Loads

- Loads must not be lifted or suspended over people. Workers must keep clear of suspended loads.



Plant and Equipment Use within Safety Limits

- Cranes and Lifting equipment must only be used for their designed purpose and be used within their rated capacity.
- Earthmoving equipment used for lifting must be specifically designed and certified for lifting.



Ground Conditions

- Ground conditions must be assessed prior to set-up to check whether the ground can withstand the loads and pressures imposed by the lifting equipment.



Exclusion Zones

- Controls must be in place to prevent inadvertent entry into the lifting zone. Barricades, signage or spotters shall be used as is deemed appropriate for the level of risk.



Plant Safety Critical Checks

- Any safety critical faults/damage must be tagged out and immediately reported to the relevant supervisor. The plant must not be used until the issue has been rectified.

Golden Rules

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Critical Controls

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Competency Requirements

- All lifting operations must be planned, managed and conducted by a competent person, including the commissioning and decommissioning of cranes.
- Workers and supervisors must be appropriately trained, licensed and verified as a competent and authorised person for lifting operations.



Fit for Purpose Plant & Equipment

Inspections and Maintenance

- Daily pre-start inspections/checks must be completed by the operator prior to operating the plant.
- All lifting equipment and cranes must be regularly inspected, certified, tested, maintained and comply with current Standards, statutory requirements or as defined by the manufacturer.



Work Activity Requirements

Planning and Management

- All lifting operations must be planned, managed and conducted by a competent person, including the commissioning and decommissioning of cranes.
- All critical lifts require a **Crane Lift Plan**. This plan must be reviewed and verified by an Engineering Representative.
- A **Pre-Lift Meeting** with the **Lift Crew** must be held by the Crane Lifting Supervisor to discuss **Lift Plan** requirements, roles and responsibilities of each member of the Lift Crew, emergency protocols and the execution of the lifting operation.
- A lifting permit must be implemented and approved in all lifting operations for the **South East Asia (SEA) Business Unit**.

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Lifting Operations Behaviours

Never

-  Never be under a suspended load.
-  Never enter an exclusion zone without supervisor authorisation.

Always

-  Always operate plant within defined safety limits.

Golden Rules

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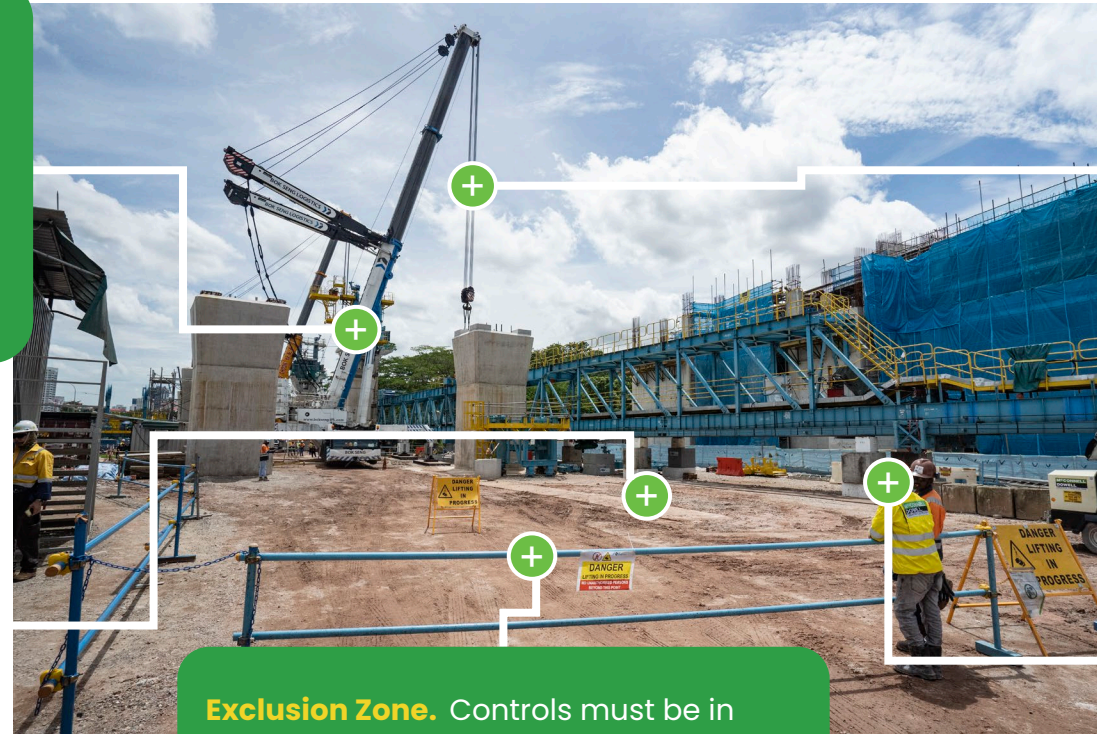
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Fit for Purpose Plant & Equipment.

All lifting equipment and cranes must be regularly inspected, certified, tested, maintained and comply with current Standards, statutory requirements or as defined by the manufacturer.

Ground Conditions must be assessed prior to set-up to check the capability of the ground to withstand the loads and pressures imposed by the lifting equipment.



Exclusion Zone. Controls must be in place to prevent inadvertent entry into the lifting zone. Barricades, signage or spotters shall be used as is deemed appropriate for the level of risk.

Lift Plan. All Critical Lifts require a Crane Lift Plan. The Crane Lift Plan must be reviewed and verified by an Engineering Representative.

Competency Requirements. Workers and those supervising the work must be appropriately trained, licensed (as required by law) or verified as a competent and authorised person for lifting operations.



Temporary Works

Critical Control Guide

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Temporary Works

Temporary Works are temporary constructions or installations to aid in the construction, installation, access, protection, and removal of Permanent Works. This includes formwork, false work, precast elements, shoring, back propping, and other temporary structures.

All Temporary Works must be conducted safely to eliminate or minimise, so far as is reasonably practicable, the risk of injuries, fatalities and incidents associated with such operations.

The following Critical and Standard Controls must be in place.

Critical Controls



Safe Installation



Physical Protection of Temporary Works

Standard Controls



Competency Requirements



Fit for Purpose Plant & Equipment



Work Activity Requirements

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Safe Installation

- Proprietary temporary work systems must be installed in accordance with the manufacturers' instructions.



Physical Protection of Temporary Works

- Physical protection must be installed to protect temporary works where there is a risk of collision, or damage from operating plant or live traffic.

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Competency Requirements

- Temporary works must be identified, coordinated/managed, designed and independently verified by appropriately qualified and approved persons appropriate to the level of the risk.
- A **Temporary Works Category Evaluation** must be completed to determine the appropriate experience of the Designer, Verifier and Site Validator.
- A competent person/s with relevant experience and qualifications must be appointed to undertake the duties of **Temporary Works Coordination**.



Fit for Purpose Plant & Equipment

- Prior to using proprietary products, obtain specifications to understand its intended use and its compliance with applicable standards. Check if additional design and certification is required.



Work Activity Requirements

Design Change Management

- The Project Manager and Project Engineering Manager must be consulted before proceeding with any changes to designs in the issued for construction stage.
- Temporary works changes must not occur without prior acceptance by the designer, and where required, completion of revised certification and independent verification.

Safety in Design (SID) Risk Assessment

- Planning and use of temporary works must be design risk assessed (Safety in Design) and conducted by competent persons with relevant experience and qualifications.

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Work Activity Requirements

Design Reviews

- A design review must be completed by the site worker responsible for the construction of the temporary works and other parties involved in the execution of temporary works.
- The design must align with the project's contractual obligations, all relevant laws and regulations, and applicable industry codes.
- The design must be technically sound and fit for purpose.

Temporary Works Design Report

- A **Temporary Works Design Report** must be in place and verified.
- Ensure verification includes verifying the **Temporary Works Design Report** and any other design documents.
- Ensure that all design documentation issued for construction, procurement, meets the necessary standards and requirements.



Design Verification & Validation

- Temporary works must be regularly inspected by competent persons during installation, use, and dismantling.
- Site Validation must be complete to inspect and confirm all temporary works have been constructed and/or fabricated in accordance with the design drawings and/or specification prior to its application. This includes temporary works that are erected directly on site, those that are prefabricated off site, and includes all temporary works installed by subcontractors / third parties.



Temporary Works Behaviours

Never

-  Do not modify or remove temporary works without authorisation.
-  Never enter an exclusion zone without supervisor authorisation.

Temporary Works - Good Practice Examples

Golden Rules

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Critical Controls

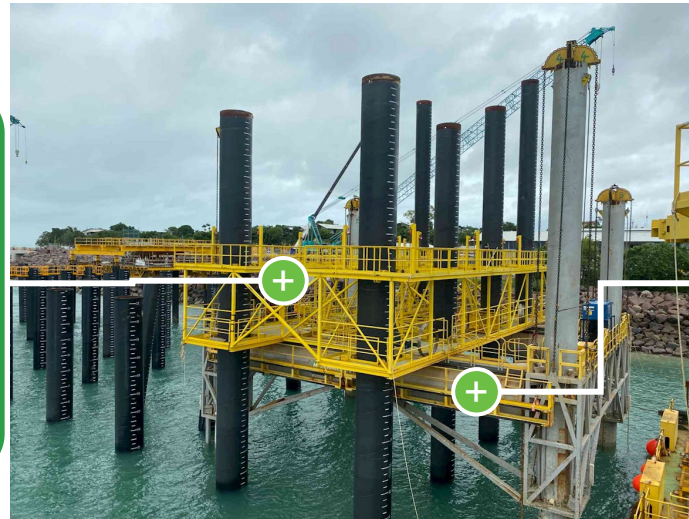
Standard
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Fit for Purpose Plant & Equipment.

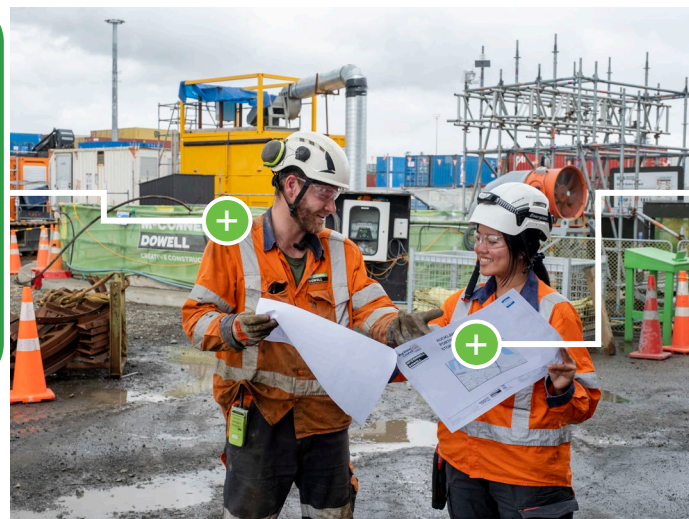
Proprietary temporary work systems must be installed in accordance with the manufacturers' instructions.



Physical protection must be installed to protect temporary works where there is a risk of collision, or damage from operating plant or live traffic.

Competency Requirements.

Temporary works must be identified, coordinated/managed, designed and independently verified by appropriately qualified persons appropriate to the level of the risk.



Regular Inspection. Temporary works must be regularly inspected by competent persons during installation, use, and dismantling.



Liquid Bodies

Critical Control Guide

[Learn more](#)





Liquid Bodies

All works Near Water/Liquid must be conducted safely to eliminate or minimise, so far as is reasonably practicable, the risk of injuries, fatalities and incidents associated with such operations.

The following Critical and Standard Controls must be in place.

Critical Controls



Work Permit & Emergency Requirements



Marine Vessel & Material Transport



Fall Prevention & Exclusion Zones



Equipment Safety Critical Checks

Standard Controls



Competency Requirements



Fit for Purpose Plant & Equipment



Work Activity Requirements



Work Permit and Emergency Requirements

- All requirements of permit to work must be implemented and maintained for the duration of the activity.
- Different types of work permits will be required when planned work is carried out near water/liquid bodies, including Diving, Work at Height, Work Box/Man Cage, Hot Works, Marine Refueling/Bunkering, Confined Space Entry, Grid Mesh/Floor Penetration.
- Emergency response and rescue requirements must be established specific to the scope of works. Emergency equipment must be on stand-by as per permit to work requirements.



Marine Vessel and Material Transport

- Marine vessel must be of sufficient size for all occupants and equipped with life jackets and rescue gear for spotting and rescue purposes.
- The following must be followed when transporting material over water:
 - Materials and equipment must be secured against movement.
 - Lashings are to be of adequate type and strength.
 - Tank compartments are to be either empty or completely full.
 - Covering are to be of adequate strength and well-secured.
 - The appropriate Marine Department is to be advised of hazardous cargos.

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Fall Prevention and Exclusion Zones

- All access/egress ways must be fitted with approved guardrails or other acceptable means of fall protection. Work platforms must be fully decked and guarded.
- Exclusion zones must be maintained when working near water/liquid bodies.
- Personal flotation devices must be worn when inside an exclusion zone (at night, they must be illuminated).
- Buoys or markers must be used to separate diving activity from vessel activity.



Equipment Safety Critical Checks

- Approved life buoys and lifelines must be secured and correctly positioned adjacent to ladder access for a work area and provided with sufficient line to reach the water level.
- Only quick release tool belts are to be worn.
- Any safety critical faults/damage must be tagged out of service and immediately reported to the relevant supervisor. The equipment must not to be used until the issue has been rectified.

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Competency Requirements

- Workers conducting construction diving work must have a current certificate of medical fitness to dive. Any work conducted by workers must be within any limits stated in the certificate.
- All marine vessel operators and mobile plant operators must be licensed (as required by law) or verified as competent for the specific item of plant or marine vessel.



Fit for Purpose Plant & Equipment

- All plant and equipment (e.g., marine vessels, diving equipment, elevated work platforms, scissor lifts, man cages, scaffolds, anchor points, fall arrest and restraining devices) must be fit for purpose and certified as suitable by a competent person.
- All scaffolding must be inspected by a competent person before use, after any event that could affect its stability (such as a severe storm), after any repairs, and at least every 30 days (South East Asia (SEA) BU – every 7 days).
- All scaffolding must comply with current Standards and/or statutory requirements.
- All emergency equipment (e.g., buoyancy vests/personal flotation devices and other emergency equipment) must be regularly inspected, calibrated (as required), tested, maintained and comply with current standards, statutory requirements or as defined by the manufacturer.
- Daily pre-start inspections/checks must be undertaken by a competent person prior to using equipment as per the original equipment manufacturer (OEM) requirements.





Work Activity Requirements

- A risk assessment must be in place for working near water/liquid bodies that addresses emergency management and permit requirements.
- Work methods, permit requirements, emergency protocols and any changes must be communicated with those involved in the work
- Risk controls and their effectiveness must be monitored for any changes to water conditions, tides, and weather.



Liquid Bodies Behaviours

Never

-  Never work near water or liquid bodies without authorisation.
-  Never work alone near water or liquid bodies where there is a risk of drowning.

Always

-  Operate plant /marine vessel within defined safety limits.

Liquid Bodies - Good Practice Examples

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Fit for Purpose Plant & Equipment. All plant and equipment (e.g., marine vessels, diving equipment, elevated work platforms, scissor lifts, man cages, scaffolds, anchor points, fall arrest and restraining devices) must be fit for purpose and certified as suitable by a competent person.

Competency Requirements. Workers, permit issuers, permit holders, and those supervising the work must be appropriately trained, licensed (as required by law) or verified as competent and an authorised person for work near water/liquid bodies.



Fall Protection. All access/egress ways must be fitted with approved guardrails or other acceptable means of fall protection. Work platforms must be fully decked and guarded.

Personal Floatation Devices must be worn when inside an exclusion zone. Night devices must be illuminated.



Energy Isolation

Critical Control Guide

[Learn more](#)





Energy Isolation

Hazardous energy is any form of energy with the potential to cause harm. This includes electrical, chemical, mechanical (or kinetic) energy, or stored energy such as gravitational, potential, pneumatic and hydraulic pressure energy.

Energy Isolation is the process of disconnecting energy sources completely. All Energy Isolation Works must be conducted safely to eliminate or minimise, so far as is reasonably practicable, the risk of injuries, fatalities and incidents associated with such operations.

The following Critical and Standard Controls must be in place.

Critical Controls



Equipment Safety Critical Checks



Exclusion Zone



Work Permit, Energy Isolation and De-isolation

Standard Controls



Competency Requirements



Fit for Purpose Plant & Equipment



Work Activity Requirements

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Equipment Safety Critical Checks

- Safety devices must not be disabled or overridden without written authorisation from the permit issuer.
- Any safety critical faults/damage must be tagged out of service and immediately reported to the relevant supervisor. The equipment must not be used until the issue has been rectified.



Exclusion Zone

- Exclusion zones must be maintained when working in the vicinity of hazardous energy.



Work Permit, Energy Isolation and De-isolation

- Permit to Work - Energy Isolation/Lock-Out Tag-Out (LOTO) must be in place where isolation from risk of hazardous energy sources is required.
- All isolation points must be clearly identified, proven, tagged, locked and controlled to prevent inadvertent energising.
- Prior to breaking containment systems, a test for hazardous energy must be performed with risk controls in place. The isolation status must be retested after any break or change in conditions.
- All guarding and safety systems must be reinstated upon completion of the work prior to de-isolation.

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Competency Requirements

- Workers, permit issuers, permit holders, and supervisors must be appropriately trained, licensed (as required by law) or verified as competent and authorised person to conduct energy isolation/de-isolation works.



Fit for Purpose Plant & Equipment

- Equipment used in energy isolation activity must be inspected, calibrated (as required) and approved by a competent person prior to use.



Work Activity Requirements

- Hazardous energy sources must be identified prior to starting work.
- All isolation and de-isolation of hazardous energy must be risk assessed, with the method for removal and restoration of hazardous energy authorised by a competent person.
- Isolation and de-isolation methods, and any isolation changes must be communicated with those involved in the work.
- Effectiveness of isolation controls must be subject to ongoing monitoring.



Energy Isolation Behaviours

Never



Never work on energised equipment unless it is isolated and locked out.



Never enter an exclusion zone without supervisor authorisation.

Always



Verify isolation and zero energy before work begins.

Energy Isolation - Good Practice Examples

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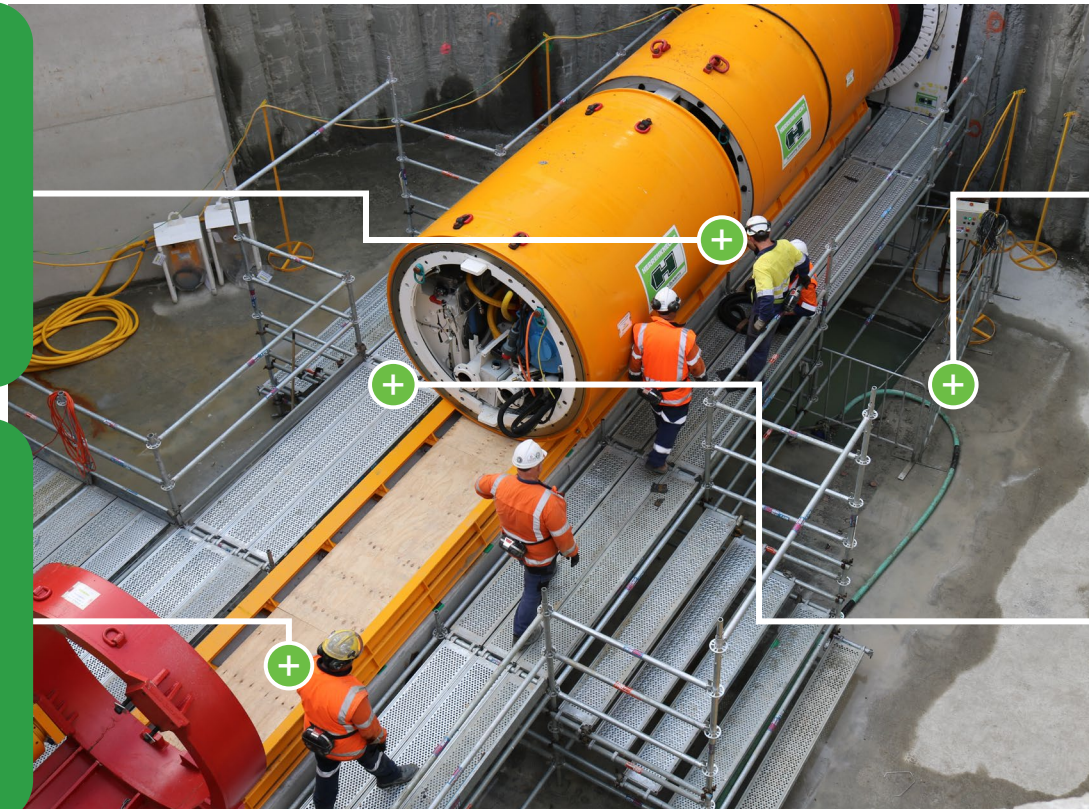
**Good Practice
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Fit for Purpose Plant & Equipment.

Equipment used in energy isolation activity must be inspected, calibrated (as required) and approved by a competent person prior to use.

Competency Requirements.

Workers, permit issuers, permit holders, and those supervising the work must be appropriately trained, licensed (as required by law) or verified as competent and authorised person to conduct energy isolation/de-isolation works.



Isolation Points. All isolation points must be clearly identified, proven, tagged, locked and controlled to prevent inadvertent energising.

De-isolation. All guarding and safety systems must be reinstated upon completion of the work prior to de-isolation.



Electrical Equipment Critical Control Guide

[Learn more](#)










Electrical Equipment

Electrical equipment is any apparatus, portable appliances, devices, wiring, fixtures, fittings, and material used as a part of or in connection with an electrical installation.




Activities involving the use of electrical equipment must be conducted safely to eliminate or minimise, so far as is reasonably practicable, the risk of injuries, fatalities and incidents associated with such operations.

The following Critical and Standard Controls must be in place.

Critical Controls

-  **Residual Current Devices (RCD)**
-  **Test & Tag**
-  **Live Electrical Equipment**
-  **Isolation & Testing for Dead**
-  **Exclusion zones**

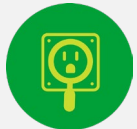
Standard Controls

-  **Competency Requirements**
-  **Fit for Purpose Plant & Equipment**
-  **Work Activity Requirements**



Residual Current Devices (RCD)

- A **RCD** must protect all electrical circuits (static and portable equipment).



Test and Tag

- Portable **RCD** must be tested by the user prior to use.
- Damaged or defective electrical equipment (equipment without guarding, exposed wires) must be tagged "out of service" and immediately reported to the Supervisor. The equipment must not be used until the issue has been rectified.



Live Electrical Equipment

- Working on live electrical equipment and infrastructure is prohibited, except in circumstances where fault finding, testing and commissioning work or electrical supply cannot be interrupted.



Isolation and Testing for Dead

- All isolation points must be clearly identified, proven, tagged, locked and controlled to prevent inadvertent energising.
- A test for dead (not live) must be completed:
 - Prior to or recommencing work on any electrical equipment.
 - Following any time away from the work.
 - Following changed conditions.

Note: Unless tested for dead, all wires and electrical equipment must be considered live.



Exclusion Zones

- Exclusion zones must be maintained when working in the vicinity of overhead electric lines or live electrical infrastructure.

Golden Rules

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Competency Requirements

- Electrical work and supervision of electrical work must only be conducted by competent licenced electrical workers and/or electrical engineers.
- Electrical equipment/tools must only be operated by workers who can demonstrate they are familiar with their use and the safety features. A person with Trade Certification is considered competent in the use of electrically powered tools associated with the work they perform.
- Testing and tagging is to be conducted by approved and qualified workers.



Fit for Purpose Plant & Equipment

- All electrical installations (temporary or permanent) and portable electrical equipment must be installed, tested and commissioned in accordance with the relevant standards or local electrical regulatory requirements.
- All electrical equipment must be inspected, calibrated/have current test tags (as required) and approved by a competent person prior to use. The following electrical equipment must be tested and tagged at regular intervals as defined in AS/NZS 3012, or local equivalent standard:
 - All construction wiring, including switchboards and wiring within relocatable structures before connection to the mains supply.
 - Flexible extension cords, portable tools and electrical plant.
 - Electrical appliances in site amenities, sheds, offices.



Work Activity Requirements

- Relevant local electrical regulatory requirements, network licences, certificates of electrical compliance and/or permits must be determined prior to commencement of works.
- Low/High Voltage signs must be in place for work on all electrical installations, except in circumstances where fault finding, testing and commissioning work or electrical supply cannot be interrupted.



Electrical Equipment Behaviours

Never



Never work on electrical equipment or any wires unless tested for dead.



Never enter an exclusion zone without supervisor authorisation.

Always



Keep leads off the ground on insulated supports and clear of water and traffic paths.

Electrical Equipment - Good Practice Examples

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Fit for Purpose Plant & Equipment.

All electrical circuits, static and portable equipment must be protected by a Residual Current Device .

Competency Requirements.

Electrical work and supervision of electrical work must only be carried out by competent licenced electrical workers and / or electrical engineers.

Planning. Relevant local electrical regulatory requirements, network licences, certificates of electrical compliance and/or permits shall be determined prior to commencement of works.

Electrical installations. All electrical installations (temporary or permanent) and portable electrical equipment must be installed, tested and commissioned in accordance with the relevant standards or local electrical regulatory requirements.





Excavation

Critical Control Guide

[Learn more](#)










Excavation

Excavation work means work involving the removal of soil or rock from a site to form an open face, hole or cavity, including trenches, shafts and tunnels using tools, machinery or explosives.




All Excavation Works must be conducted safely in order to eliminate or minimise, so far as is reasonably practicable, the risk of injuries, fatalities and incidents associated with such operations.

The following Critical and Standard Controls must be in place.

Critical Controls

-  **Identifying Services**
-  **Excavation Protection**
-  **Safe Access & Egress**
-  **Excavation Design & Support Structures**
-  **Excavation Inspection**

Standard Controls

-  **Competency Requirements**
-  **Fit for Purpose Plant & Equipment**
-  **Work Activity Requirements**



Identifying Services

- Underground services must be identified, positively located, marked and where possible isolated prior to ground penetration.
- Overhead services must be identified, and controls implemented to ensure the plant does not encroach within safe operating zones without authorisation.



Excavation Protection

- Open excavations, manholes, and pits must be secured to prevent unauthorised access. Barriers, covers, exclusion zones, edge protection, lighting, and signage must be provided to prevent people, plant, objects, and equipment from falling into excavations.
- Atmospheric monitoring and testing shall be undertaken where there is a likelihood of poor air quality.
- Controls must be in place to prevent accumulation of hazardous fumes and gases in excavations.
- All materials, including those removed from an excavation, must be placed in an area that reduces the potential for collapse.



Safe Access and Egress

- Safe access and egress for excavations must be maintained.



Excavation Design & Support Structures

- Excavations must be assessed by a competent person and benched, battered or shored to a suitable angle as determined by the assessment.
- Excavation support structures must be designed by a qualified geotechnical engineer, installed by competent persons, and verified as correctly installed prior to use. This includes hydraulic shoring, sheet piling, steel shoring/trench lining, sheeting, shields, ground anchors.
- Any safety critical faults/damage must be tagged out and immediately reported to the Supervisor. The plant must not be used until the issue has been rectified.



Excavation Inspection

- Excavations must be inspected by a competent person before each working shift and after rainfall or other events which could impact ground stability or introduce further hazards.



Competency Requirements

- Workers, permit issuers, permit holders, and supervisors must be appropriately trained, licensed (as required by law) or verified as a competent and authorised person to conduct excavation work.
- Workers involved in the installation of temporary excavation/trench support systems must have received adequate information/training in its correct use and method of installation and removal.
- All mobile plant operators must be licensed or verified as competent for the specific item of plant.



Fit for Purpose Plant & Equipment

- Lifting points on trench linings or shields must be certified and tested.
- Excavations must be designed by a qualified geotechnical engineer, installed by competent persons, and verified as correctly installed prior to use.





Work Activity Requirements

- Daily pre-start inspections/checks must be completed by the operator prior to operating the plant.
- A **Permit to Work** must be in place where work activities involve penetration of ground, floor, wall or any other surface deeper than 150mm.
- A **Retrieval Rescue Plan** must be in place together with the work permit.
- In ground service locations must be communicated to all relevant stakeholders prior to activities commencing.



Excavation Behaviours

Never

-  **Never enter a trench unless it is battered, benched or shielded.**
-  **Never enter an exclusion zone without supervisor authorisation.**

Excavation - Good Practice Examples

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Competency Requirements.

Workers, permit issuers, permit holders, and those supervising the work must be appropriately trained, licensed (as required by law) or verified as a competent and authorised person to conduct excavation work.



Prevent Unauthorised Access/Fall.

Open excavations, manholes and pits must be secured to prevent unauthorised access. Barriers, covers, exclusion zones, edge protection, lighting and signage must be provided to prevent people, plant, objects and equipment falling into excavations.

Fit for Purpose Plant & Equipment.

Lifting points on trench linings or shields must be certified and tested.



Inspection. Excavations must be inspected by a competent person before each working shift and after rainfall, or other events which could impact ground stability or introduce further hazards.



Confined Spaces Critical Control Guide

[Learn more](#)

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Confined Spaces

A Confined Space is a closed or partially enclosed area that has unsafe oxygen levels and airborne contaminants that can lead to impairment or unconsciousness, flammable substances causing fire or explosion, and solids or liquids that can cause suffocation or drowning.




The work planning processes must consider whether the requirement to enter a confined space can be eliminated. If work proceeds, Confined Space Works must be conducted safely eliminate or minimise, so far as is reasonably practicable, the risk of injuries, fatalities and incidents associated with such operations.

The following Critical and Standard Controls must be in place.

Critical Controls

-  **Equipment Safety Critical Checks**
-  **Communication**
-  **Air Quality & Ventilation**
-  **Access Control**
-  **Energy Isolation**
-  **Standby Person**

Standard Controls

-  **Competency Requirements**
-  **Fit for Purpose Plant & Equipment**
-  **Work Activity Requirements**

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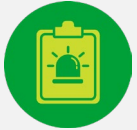
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Equipment Safety Critical Checks

- Any safety critical faults/damage must be tagged out of service and immediately reported to the Supervisor. The equipment must not be used until the issue has been rectified.



Communication

- Ensure an effective means of two-way communication is established with confined space entrants and a method for raising an emergency.



Air Quality and Ventilation

- Air quality must be checked prior to entry and periodically (as per Permit), and suitable ventilation must be in place.



Access Control

- Confined spaces must be clearly identified. Unauthorised entry must be prevented (e.g., via signage, barricades).



Energy Isolation

- Potentially hazardous sources of energy (solid, liquid, gas) affecting the confined space must be isolated.



Standby Person

- A standby person must be located outside of the confined space whenever the confined space is occupied, and they must have no other duties during the confined space entry.

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Competency Requirements

- Persons working in confined spaces, standby persons, rescuers, those monitoring atmosphere, permit issuers, permit holders, and supervisors must be appropriately trained, licensed (as required by law) or verified as a competent and authorised person to conduct Confined Space work.
- Training includes:
 - Entering and Working in Confined Spaces
 - Operating a Breathing Apparatus (if required for entry after risk assessment)
 - Gas Testing of Atmospheres
 - Working in Accordance with an Issued Permit



Fit for Purpose Plant & Equipment

- All equipment used in confined spaces must be inspected, calibrated (as required) and approved by a competent person prior to use.



Work Activity Requirements

- A **Permit to Work** must be in place where work activities involve entering any space that is classified as confined under Occupational Health and Safety Regulations, or equivalent local regulations.
- A **Retrieval Rescue Plan** must be in place together with the work permit.
- Products and equipment used in confined spaces or potential confined spaces (e.g., trenches and open tanks) must be assessed and managed to prevent risks of:
 - Suffocation from atmospheric contaminants
 - Explosion
 - Fire

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Confined Spaces Behaviours

Never



Never enter a confined space without supervisor authorisation.

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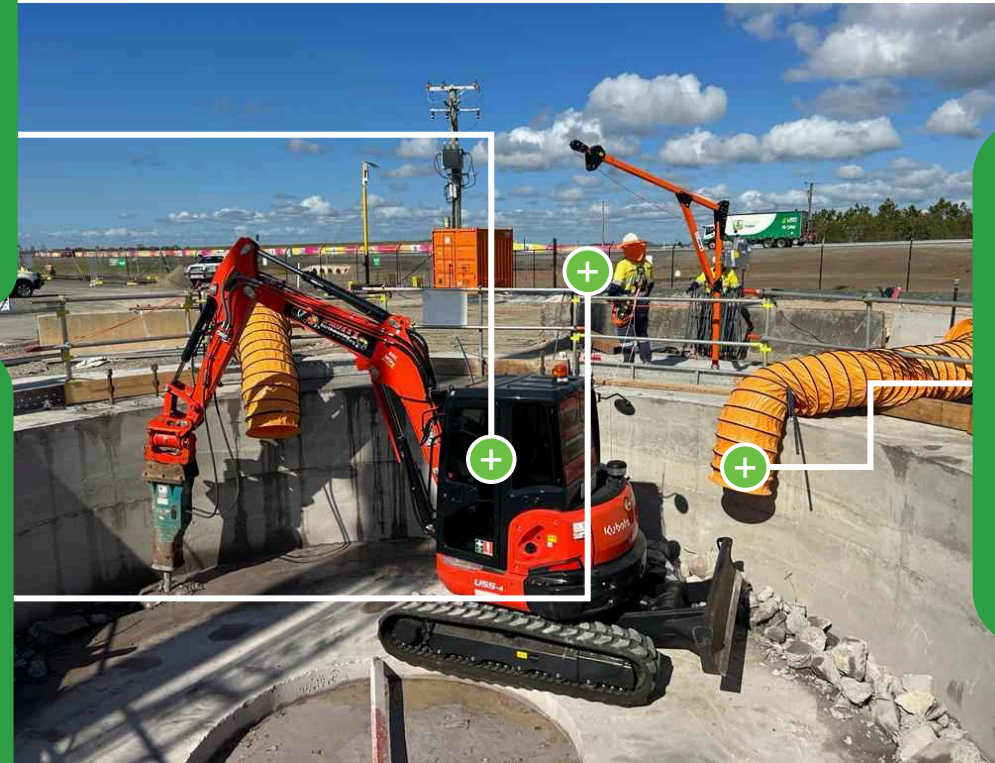
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Equipment used in confined spaces must be inspected, calibrated (as required) and approved by a competent person prior to use.

Competency Requirements. Persons working in confined spaces, standby persons, rescuers, those monitoring atmosphere, permit issuers, permit holders, and those supervising the work must be appropriately trained, licensed (as required by law) or verified as a competent and authorised person to conduct Confined Space work.



Products / Equipment used in confined spaces or potential confined spaces (e.g., trenches and open tanks) must be assessed and managed to prevent risks of:

- Suffocation from atmospheric contaminants
- Explosion
- Fire

