GFG Alliance Codes of Practice

CODES OF PRACTICE

COMMON SIGNIFICANT RISKS

Confined Space
Cranes and Lifting Operations
Crane Integrity and Safe Access
Electrical Safety
Excavation /Puncture of Surface
Isolation
Mobile Equipment Safety
Molten Material
Prevention of Falls
Road Transport Safety
Train and Rail Safety

CORE BUSINESS PROCESSES

Contractor Management
Incident Investigation
Management of Change (Modification Control)
WHS Risk Management

TABLE OF CONTENTS

Common Significant Risks

Core Business Processes

1.0 INTRODUCTION

In 2007 GFG Alliance Australia introduced a set of Codes of Practice for the management of common high risk activities within the organisation with the key goal of preventing significant injury and fatalities. Many of the Critical Elements within the Codes were developed as key controls post significant incidents that have occurred within GFG Alliance Australia or businesses that are now part of GFG Alliance Australia. In 2014 a new Code of Practice was developed to cover some of the key risks associated with Crane Integrity and Safe Access. Understanding and following the requirements of the Codes of Practice is a key part of GFG Alliance Australia's vision of having zero injuries and zero incidents in the workplace.

The Codes of Practice developed for Risk Management, Management of Change, Contractor Management and Incident Investigation are considered critical business processes to systematically manage significant risk and to support the elimination of serious incidents from our organisation.

The eleven Significant Risk focussed Codes of Practice establish minimum performance requirements for managing common high risk activities. They include the aspects of people's behaviour, equipment and systems required to effectively manage the risk associated with these identified activities.

The GFG Alliance Australia Codes of Practice do not represent comprehensive coverage of all significant risks faced by our operations. In addition to meeting the minimum requirement of the Codes of Practice, Business Leaders are accountable for the identification, assessment and management of other significant risks within their area of responsibility.

1.1 Context

The GFG Alliance Australia Codes of Practice are an element of the GFG Alliance Australia Risk Management Framework.

The Codes of Practice form an integral part of GFG Alliance Australia's Corporate Safety Standards.

<table>
<tr><td colspan="5">Potential Consequence</td></tr>
<tr><td>Negligible</td><td>Minor</td><td>Medium</td><td>Major</td><td>Extreme</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td colspan="5">Complexity of task or situation</td></tr>
<tr><td>Simple</td><td></td><td>Moderate</td><td></td><td>Complex</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td colspan="5">Management Tools</td></tr>
<tr><td colspan="3">Basic Investigation</td><td colspan="2">ICAM</td></tr>
<tr><td colspan="3">Incident Management</td><td>Emergency Management</td><td>Crisis Management</td></tr>
<tr><td colspan="2" rowspan="3">Stop & Think Pre Task Risk Assessment</td><td rowspan="3">ATW
JSA
SOP</td><td colspan="2">Codes of Practice</td></tr>
<tr><td colspan="2">Bow Tie</td></tr>
<tr><td colspan="2">HAZOP</td></tr>
</table>

The GFG Alliance Australia Risk Management process provides the framework to support the effective identification, assessment and management of identified risks associated with common high risk activities. The requirements set out in each Code of Practice are based on risk assessment, learnings from incident investigations, legislative requirements and current best practice identified from peer organisations.

1.2 Purpose – Codes of Practice

The GFG Alliance Australia Codes of Practice establish minimum performance requirements for managing common high risk activities within GFG Alliance Australia to prevent serious injuries and fatalities.

Chief Executives and General Managers are accountable for sites meeting the minimum requirements of the GFG Alliance Australia Codes of Practice.

1.3 Purpose - Critical Elements

The Critical Elements from the Codes of Practice describe the rules and standards for each GFG Alliance Australia Code of Practice or critical safety system to help develop leadership and employee understanding to prevent the potential for serious injury or fatality.

It is essential that all Leaders understand the Critical Elements and the effective application of each critical safety system.

The information in the Critical Elements is not a substitution for the Codes of Practice requirements but provides guidance information.

1.4 Application

The Codes of Practice apply to all GFG Alliance Australia managed operations and GFG Alliance Australia controlled activities, including GFG Alliance Australia personnel, contractors and visitors.

GFG Alliance Australia owns and operates a diverse range of businesses and operations globally. When applying procedures and practices to meet the requirements of the Codes of Practice, relevant local and national legislation shall be complied with. Where the local legislation prescribes standards that are below the requirements of the Codes of Practice, the Codes of Practice shall take precedence and be applied.

1.5 Requirements

The Mandatory Requirements of each Code of Practice are signified by the use of the word “shall”. The word “should” indicates that the primary intent is to comply with the requirement. However there are circumstances where local conditions may demonstrate that the requirement is not applicable or an alternate approach is necessary. In this case a formal variation is required.

Deviation from the requirements set out in each Code of Practice shall be formally approved by a variation which involves:

- A documented and detailed risk assessment of the situation;
- A documented recommendation supported by the Business Safety Manager;
- A documented recommendation from a Technical Expert where appropriate; and
- Formal approval from the Business Head of Safety and Business General Manager that the level of risk as a result of the alternate control measures is understood, and considered acceptable to the organisation.

1.6 Acquisition of New GFG Alliance Australia Sites

Where new sites are acquired or opened by GFG Alliance Australia, consideration will be given to the suitability of the Codes of Practice for managing the critical safety risks at those sites.

The Business General Manager is accountable for the development of an implementation plan for relevant Codes of Practice at the new sites.

1.7 Support Tools

The Codes of Practice - Guidance Material represent current good practice, and will be updated periodically to promote further sharing of learnings.

The Guidance Material has been prepared primarily for managers who have responsibility for designing and implementing systems, and supporting safety professionals. The Guidance material is by no means exhaustive, and is not intended as a template for achieving compliance.

The Code of Practice Audit tools are provided as a template for self assessment to support Business Leaders in tracking implementation of the requirements of the Codes of Practice.

The Significant Safety Risk Review Process will use the Code of Practice Audit tools to provide verification to Senior Leaders and the GFG Alliance Australia WHSE Council that significant risks are being effectively identified and managed within GFG Alliance Australia Businesses.

2.0 CONFINED SPACE

2.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from the hazards associated with working in Confined Spaces.

The aim is to prevent harm to persons resulting from:

- The possible existence of harmful gases or atmosphere;
- Materials that may entrap or engulf a person; and
- Explosive atmospheres.

2.2 Critical Elements

- People must be trained and assessed as competent to enter a confined space.
- Atmospheric testing must have been completed before a person enters a confined space.
- Standby Person must be present before persons enter a confined space and until all persons are out of a confined space.
- Follow the current authorised Confined Space Clearance/Entry Permit whilst working in a confined space.

2.3 Minimum Requirements

2.3.1 People

- There shall be a system in place to verify the qualifications of persons who are authorised to issue confined space entry permits.
- There shall be a competency based training system in place for persons required to work in confined spaces, or act as a standby person.
- The role of the standby person in an emergency is to initiate the rescue plan. Under no circumstances should the standby person enter the confined space to participate in a rescue.

2.3.2 Plant and Equipment

- Confined spaces shall be identified by signs erected at the entry points denoting that a Confined Space Entry Permit is required prior to entry.
- Confined space equipment, including monitoring equipment, breathing apparatus and rescue equipment shall comply and be used and maintained in accordance with relevant approved design standards and manufacturers' specifications.

2.3.3 Systems and Procedures

- A Competent Person shall identify and record confined space locations in a site confined space register.
- A Competent Person shall conduct a risk assessment for each identified confined space, including the requirements for entry to each confined space.
- Entry to a confined space shall only be allowed after written approval, in the form of a permit, has been issued by a Competent Person who is authorised to issue such permits.
- The confined space entry permit shall be displayed at the point of entry and shall include:
  - Location of the confined space and task details
  - Confined space risk assessment reference;
  - Isolation requirements for contaminants and energy sources;
  - Atmospheric testing requirements;

  - Requirements for ventilation, cleaning and purging of the atmosphere;
  - The requirement for breathing apparatus where required;
  - Reference to additional permits e.g. hot work;
  - Sign in and sign out of persons entering the confined space;
  - Appointment of competent standby person;
  - Appropriate emergency response and rescue plan, including required equipment;
  - Communication requirements; and
  - Task completion process.
- Where Confined Space Entry is performed on a site, there shall be a system in place to prepare and test appropriate emergency response procedures.
- Where Confined Space Entry is to be performed by persons not trained under GFG Alliance Australia systems, there shall be a process in place for those persons to meet the requirements for confined space entry.

3.0 CRANES AND LIFTING OPERATIONS

3.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from the use of cranes and the performance of related lifting operations.

The aim is to prevent harm to persons resulting from:

- Being struck by a falling load;
- Being struck by a moving load; and
- Being struck by failed lifting equipment.

3.2 Critical Elements

- Operators and Doggers will be trained and have current authorisation for the tasks or cranes being operated.
- Pre-start checklist is completed each shift prior to operating the crane.
- Use registered lifting gear with a current test tag and check condition before use and remove from service if damaged.
- Operate cranes within the specified lifting rating.
- Engage loads properly on hooks with hook latch in lock position where fitted.
- Keep clear of the line of fire of the load. Do not place any part of the body under the crane load.
- Crane Operators or Doggers shall keep their load in sight and maintain a travel path clear of people and obstacles.
- Crane Operators using remote operation shall keep their load in front of them.
- Enter crane exclusion zone only after gaining permission from Crane Operator.

3.3 Minimum Requirements

3.3.1 People

- There shall be a system in place to verify the qualifications and authorisations of Crane Operators and Doggers.
- The competency of Crane Operators shall be determined by a Competent Person. Assessment of competency shall be conducted every five years as a minimum or following 18 months of crane operation inactivity.
- During the induction process, employees, contractors and visitors shall receive awareness training appropriate to the nature of the hazards on the site, work environment, and activities, including:
  - The need to keep clear of the line of fire of the load;
  - The requirement not to place any part of the body under the load or in a position where it may be struck in the event of lifting equipment failure or packaging integrity failure;
  - The need to gain eye contact and receive acknowledgement from the crane operator prior to entering the path of a crane or to enter the crane exclusion zone;
  - The use of designated walkways and pedestrian access points when entering or exiting buildings; and
  - The requirement to wear high visibility clothing when within a crane operating area.

- Crane Operators and Doggers shall receive awareness training in the nature of exclusion zones, site walkways and equipment pre-start requirements, including:
  - The requirement to gain eye contact, signal their intentions and receive acknowledgement from pedestrians in and around crane operating areas;
  - The need to cease operations if there are persons within the exclusion zone or direct Line of Fire of the load.
- There shall be a system in place to confirm the qualifications of inspectors performing lifting equipment inspections.

3.3.2 Plant and Equipment

- Non-positive lifting attachments should be installed with safety features to prevent the load falling.
- There shall be a procedure in place for the inspection, maintenance and approval of lifting gear, including a process that verifies the equipment is able to function to its design and manufacturers' specifications.
- Where a specialised lifting device is manufactured, a Competent Person shall design, register and document a Risk Assessment prior to using the device.

3.3.3 Systems and Procedures

- There shall be documented risk assessment of crane operating areas to establish:
  - Physical separation between people and cranes where possible;
  - Designated walkways and workways; and
  - Access controls.
- Crane Operators shall undertake a crane pre-start inspection checklist on each shift prior to use and this should be kept in a nominated location. The requirements of the checklist shall be determined by a Competent Person through a Risk Assessment process.
- Lifting equipment shall be checked for a current test tag and visually inspected prior to use.
- There shall be a process in place to remove cranes and lifting equipment from service when they are found to be damaged.
- Where a crane is required to be used outside the design intent in an emergency situation, approval and suitable risk controls shall be implemented. After use the crane shall be reviewed by a Competent Person to check that the use has not damaged the crane.
- When operating Hiab or Mobile Cranes, there shall be a system in place to maintain the correct positioning for stability of the equipment and appropriate distance from live conductors including overhead powerlines.
- There shall be a procedure in place for the lifting of non-routine loads, including:
  - Selection of secure lifting points;
  - Use of a Competent Person;
  - Check on load integrity;
  - Load swing exclusion zones; and
  - Suitable lifting equipment such as spreader bars, chains, hoists and slings available.
  - Additional safety measures or equipment as determined by a risk assessment

4.0 CRANE INTEGRITY AND SAFE ACCESS

4.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from failure of cranes / supporting structures and the access on or around cranes. Mobile and vehicle mounted cranes are excluded from the scope of this document and where requirements of this code relate to specific types of cranes this is stated. All other cranes are covered by this Code of Practice.

The aim is to prevent harm to persons resulting from;

- Hazards associated with access to or maintenance of cranes
- Being struck by falling equipment
- Being struck by falling structure
- Being struck by falling materials
- Being struck by moving crane or load.

4.2 Critical Elements

- Crane maintenance strategies to provide for the integrity and safety of all cranes shall be in place and monitored for compliance.
- Cranes and crane supporting structures shall be regularly checked for structural integrity at a minimum of every 5 years.
- The GFG Alliance Australia Crane Anti-Derailment Standard shall be followed for Bridge and Gantry cranes to prevent derailment.
- Cranes, access walkways/platforms and support structures shall be clear of objects which have the potential to fall.
- Barriers or processes shall be in place to prevent inadvertent access to areas in the 'line-of-fire' of the crane.
- Isolation or mechanical barriers shall be in place before work is carried out on cranes or in crane travel paths, particularly involving mobile equipment or temporary plant.
- Modifications shall be made to cranes or crane structures only with the approval of a Competent Engineer.

4.3 Minimum Requirements

4.3.1 People

- Code specific role definitions

A) Competent Engineer
An engineer that has been approved by a GFG Alliance Australia Approved Crane Engineer that is either

- A Charted Professional Engineer (CPEng or equivalent) or,
- A person that can provide satisfactory evidence to a responsible authority that they have the qualifications and experience to be competent to independently perform the required tasks.

B) GFG Alliance Australia Approved Crane Engineer:
A person approved by the General Manager Engineering as having sufficient knowledge, qualifications and experience to approve Competent Engineers as defined by this Code and advises the business on aspects of crane integrity, reliability and safety.

- Each business should have a nominated responsible person who is charged with monitoring legislation and the performance and condition of business unit cranes.

4.3.2 Plant and Equipment

- A register of cranes, hoists, lifting attachments and lifting slings shall be established and maintained by the business.
- New cranes and lifting equipment shall be identified with:
  - A unique Identification number;
  - The manufacturer and model number or name;
  - Maximum rated capacity (MRC) or international equivalent for cranes.
  - Working load limit (WLL) or international equivalent for lifting equipment.
- Crane Requirements:
  - New Bridge and Gantry cranes shall have load limiting devices and an approved data logger installed. It is recommended that the data logger incorporate the load limiter. For existing Bridge and Gantry cranes an assessment of the risk shall be completed to determine the priority of fitting load limiters to those cranes that require load limiters and a plan developed for fitting them.
  - It is recommended that existing Bridge and Gantry cranes be fitted with an approved data logger to accurately calculate the working life [termed Design Working Period (DWP) in Australia] in order for the maximum life of the crane to be achieved. If cranes are not fitted with a data logger there shall be process in place to calculate crane usage.
  - Cranes shall have a power supply isolation point capable of being isolated and locked.
  - The GFG Alliance Australia Crane Anti-Derailment Standard shall be followed to prevent derailment and provide safe wheel guidance and rail condition for Bridge and Gantry cranes.
  - Magnet cranes should be installed with an emergency power supply or safety features to prevent the load falling from the magnet.
  - Anti-collision mechanisms shall be in place where there is more than one Bridge or Gantry crane on a shared runway.
  - New Bridge and Gantry cranes, shall have ‘slow down to stop’ limits fitted on the Long Travel and Cross Travel operations. For existing Bridge and Gantry cranes an assessment of the risk shall be completed to determine the priority of installing 'slow down to stop' limits particularly taking into consideration the age of the crane relative to the design working life and other relevant factors and a plan developed for fitting them where required.
  - Where crane cabins are exposed to molten steel or molten iron, the requirements of the Molten Material Code of Practice shall be met.
- Crane stops or other mechanical barriers shall be approved by a Competent Engineer before use.

4.3.3 Systems and Procedures

- People in the potential flight path of cranes and their loads or on or near runways need to be protected from being struck by the crane or its load. This includes:
  - Isolation or mechanical barriers shall be in place before work (eg maintenance or cleaning) is carried out on cranes or in the travel path of the cranes, eg runways or access platforms. Mechanical barriers include approved rail stops or adjacent isolated cranes at a safe distance from the crane being worked upon. The use of 'stop limits' as an alternative to isolation must be risk assessed and be approved by the Business Head of Safety and the appropriate General Manager or Regional Manager as per the Isolation Code of Practice.
  - Isolation or mechanical barriers shall be in place before work is carried out using mobile equipment (eg mobile cranes, elevated work platforms) or temporary plant (such as scaffold) that presents a risk of collision from being within the travel path of the crane or load.
  - For other work within the potential travel path of the crane load, other systems such as barricading will be used in conjunction with the responsibility of the driver / dogger to control the safety of the lifting operation as per the Cranes and Safe Lifting Code of Practice.
  - Safe access routes or systems shall be in place to allow safe access by crane drivers to cabin cranes and for crane maintainers to access the crane for both planned and breakdown maintenance.
  - Barriers or processes shall be in place to prevent inadvertent access to areas in the line-of-fire of the crane including, but not limited to, areas such as crane runways, maintenance platforms and access platforms. Any barriers shall be maintained in a 'fit for use' condition.

- Purchase and disposal of cranes shall be controlled by:
  - The GFG Alliance Australia Crane Approval Process shall be followed for crane suppliers and maintainers. Only Approved Suppliers should be used for the design, supply, installation, removal and maintenance of cranes. Excluded suppliers shall not be used. The approval process should also have systems for confirming competency of internal and external crane maintainers/designers.
  - Systems shall be in place for the procurement, sale, handover, lease, demobilisation of cranes for continued safe operation.
- The maintenance of cranes and supporting structures shall be conducted as follows:
  - A Competent Person shall develop, document and implement maintenance strategies for cranes and supporting structures. Maintenance strategies should consider the operation, environment, condition and age of the crane, and include frequency of inspections. Structural inspection of both cranes and supporting structures shall be included in the strategies at a frequency of at least every 5 years. A system of review shall be in place to evaluate the effectiveness of the maintenance strategies and particularly to identify and manage chronic reliability or performance problems.
  - There shall be a system where the crane service reports are reviewed between the maintenance service provider and the Competent Person responsible for the implementation of the maintenance strategies (or their nominated delegate) to determine required action and priorities.
  - A GFG Alliance Australia Approved Crane Engineer shall determine the requirements for major inspections and end of life assessments for continued operation of each crane.

  - Cranes, access walkways/platforms and support structures shall be clear of objects which can fall and quarterly routine inspections shall include checks for loose, damaged or unrestrained equipment.

- Modifications to cranes shall follow standard Modification Control procedures as per the Management of Change Code of Practice however approval of the modification must be made by a Competent Engineer. Modifications include changes to the equipment responsible for the motions and braking of the crane hoists, trolleys and structure, safety systems, lifting equipment including ropes and blocks, control systems, structural components of the crane (including any welding to the structure) and power connections systems such as collector rails and catenary systems.
- In the event of incidents or emergency situations the following requirements exist:
  - There shall be a procedure in place so that in the event of an incident which may affect the structural integrity of a crane or lifting device, a Competent Engineer shall assess the structural integrity of the crane or lifting device prior to further use of the equipment. Additionally following any High Potential Incident (HPI) that involves the integrity or equipment aspects of the crane a Competent Engineer shall conduct a review.
  - Where a crane is required to be used outside the design intent in an emergency situation, approval and suitable risk controls shall be implemented. After such a use, the crane shall be reviewed by a Competent Person to check that the use has not damaged the crane.
  - There shall be a process in place to remove cranes and lifting devices from service when they are found to be damaged.
- It is important that uncontrolled movement is prevented:
  - Systems shall be in place to prevent the uncontrolled descent of Bridge hot metal cranes.
  - Systems shall be in place to prevent uncontrolled movement due to wind, particularly for outdoor cranes.
  - Where radio remote controlled cranes are used, there shall be a system to prevent inadvertent operation due to interference from other sources.

5.0 ELECTRICAL SAFETY

5.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from persons coming into contact with, or working around electricity.

The aim is to prevent harm to persons resulting from:

- Arc blast or arc flash;
- Electric shock or electrocution;
- Arcing, overheating or electrical leakage causing fire or explosion; and
- Electro-magnetic fields and radiation.

5.2 Critical Elements

- All electrical work is to be undertaken by suitably qualified and authorised personnel.
- Report all electric shocks to your leader immediately.
- Always 'Test before you touch'. Assume that electrical equipment is live until proven otherwise.
- Work is not to be conducted within 500mm of exposed live conductors.
- Equipment working near overhead power lines shall maintain a minimum safe working distance of 6.4 metres.
- Do not use portable electrical appliances unless connected to an earth leakage protected circuit.
- Only use welding machines fitted with voltage reduction devices. (VRD)
- Electrical panels, motor control centres and substations will be appropriately locked.

5.3 Minimum Requirements

5.3.1 People

There shall be a system in place to verify the qualifications of persons involved in electrical work.

- Personnel who undertake electrical work, or are required to enter Switchrooms, High Voltage Switchyards and Transformer Bays, shall have valid and in date CPR training.
- During the induction process, employees and contractors shall receive awareness training appropriate to the nature of the electrical hazards on the site, including:
  - The requirement to report electric shocks to the supervisor/leader/project controller;
  - The requirement for personnel who have received an electric shock to be medically assessed, including the requirement for an ECG as determined by the medical professional;
  - The need for specialised skills and training to undertake electrical work;
  - That electrical equipment shall be considered live, until proven otherwise;
  - The requirement to keep clear of exposed bare electrical conductors;
  - The requirement for authorisation prior to entry into Switchrooms, Motor Control Centres, Substations, High Voltage Switchyards, and Transformer Bays;
  - The requirement to use portable electrical appliances with earth leakage protection;
  - The requirement to check that portable electrical tools, extension leads, portable Residual Current Devices (RCDs) and power boards have an inspection tag with a current valid date and have no obvious signs of damage prior to use;
  - Information on the hazards associated with water and electricity; and

  - The requirement to use appropriate electrical equipment and understand the conditions specific to the work area.
- Employees and contractors using electric arc welding sets shall receive awareness training appropriate to the nature of the electrical hazards associated with electric arc welding, including:
  - The requirement to inspect the welding set and power leads before use and damage identified shall be repaired before use;
  - The requirement to make sure that the return cable is rated correctly and securely connected to the item being welded, as close to the work as practicable;
  - The requirement not to use parts of a building structure as the return conductor or return clamp; and
  - Information relating to the hazards associated with welding in a wet environment.
- There shall be a system in place for the training and authorisation for employees and contractors to:
  - Enter Switchrooms, Motor Control Centres, Substations, High Voltage Switchyards and Transformer Bays;
  - Supervise apprentices and other relevant electrical personnel;
  - Perform the role of Switching Officer; and/or
  - Act as a Competent Safety Observer for electrical work.

5.3.2 Plant and Equipment

- Electrical equipment selection should be suitable for the environment in which it is used.
- Electrical panels, enclosures, control centres, substations and equipment shall be appropriately guarded, labelled, and made inaccessible to unauthorised personnel.
- Electrical safety devices such as earth leakage and overload protection shall be installed on final distribution circuits.
- Electrical equipment, grounding continuity and electrical safety devices shall be inspected and/or tested on a suitable schedule. The inspection records shall be maintained.
- Manual Metal Arc Welding Machines shall be fitted with a Voltage Reduction Device (VRD).
- Power boards shall be fitted with overload protection and outlets individually switched.
- Power boards shall be appropriate to the environment in which they are used.

5.3.3 Systems and Procedures

Equipment:

- Installation of new electrical equipment or systems, and modification to existing electrical equipment shall be subject to modification control.
- There shall be a system for maintaining an up-to-date set of single line diagrams.
- Electrical equipment shall be isolated in accordance with the site isolation process.
- There shall be a procedure in place to mitigate the hazards associated with working in close proximity to overhead and underground powerlines to prevent contact by personnel or equipment.
  - Where work is required to be performed within 6.4m of an overhead power line the requirements set out in local regulations shall be met.
- There shall be a work procedure developed and implemented for demolition, dismantling and removal of electrical equipment and redundant electrical cables.
- There shall be a system in place for removing electrical equipment that is not fit for purpose.

Access Controls:

- Where it is necessary for untrained personnel including visitors to enter Switchrooms, High Voltage Switchyards, Motor Control Centres, Substations and Transformer Bays, there shall be a system in place for communicating the hazards and for escorting them.
- There shall be a system in place to issue a Permit to Work for Contractors performing electrical work or working in Switchrooms, High Voltage Switchyards, Motor Control Centres, Substations and Transformer Bays.
- Risk Assessments shall be conducted to establish access controls around electrical devices that generate a significant electromagnetic field.

High Voltage Work:

- Where work is performed on high voltage equipment (>1000V AC and > 1500V DC), a system for managing High Voltage work shall be developed, implemented and maintained.
- Access shall be prohibited to electrical cabinets or other enclosures with exposed energised terminals in excess of 1,000 volts.
- Where work on high voltage equipment is performed on a site, Emergency Procedures, equipment and training shall be established for rescuing personnel from energised High Voltage Equipment.

Environment:

- PPE requirements for performing electrical work including the use of insulating gloves shall be established via Risk Assessment and shall be documented and maintained.
- Classification of hazardous areas, in which an explosive atmosphere is or may be present, shall be carried out to determine the requirement for certified electrical equipment to be installed.

6.0 EXCAVATION AND PUNCTURE OF SURFACE

6.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from the hazards associated with concealed services or potential structural failure during excavation and puncture of surface activities.

The aim is to prevent harm to persons resulting from:

- Hazards associated with Electrical cables:
- Hazards associated with piping, including high pressure fluids such as steam;
- Hazards associated with hazardous substances;
- Collapse of a structural support;
- Falling into an open excavation; and
- Engulfment from cave in of excavations and or placement of spoil created by excavation.

6.2 Critical Elements

- Follow an approved GFG Alliance Australia Excavation / Puncture of Surface Clearance Permit when penetrating into walls, floors, ceilings or ground.
- Testing equipment will be used before work commences to scan the zone to be penetrated to identify services.
- Manual digging is to occur if services are in the excavation zone.
- A Standby Person is to be used when excavation equipment is being used.

6.3 Minimum Requirements

6.3.1 People

- There shall be a system in place to authorise persons to issue excavation and puncture of surface permits.
- Employees and contractors shall receive appropriate awareness training on the hazards associated with excavation and puncture of surface work.
- All persons required to work on an excavation site shall be appropriately inducted onto the excavation site and the task. Inductions shall include the requirement that excavation work shall cease if the following occurs:
  - The work has reached the boundary of the approved permit;
  - A nominated service on the permit is not found in the specified location;
  - A service not on the permit is located; and/or
  - The work cannot be finished prior to the expiration date on the Excavation / Puncture of Surface Clearance Permit.

6.3.2 Plant and Equipment

- Where mechanical excavators are to be used, they should be sized appropriately.
- Hand tools used for digging shall have non-conductive handles.
- Excavated areas shall be clearly delineated and access shall be controlled with appropriate barriers and lights.
- A scanning device shall be used over the excavation zone prior to mechanical excavations.
- A scanning device shall be used prior to puncturing a surface.

6.3.3 Systems and Procedures

- There shall be a system in place to record the location and depth of new concealed services.
- There shall be a system in place to maintain and administer Excavation and Puncture of Surface Clearance Permits, including:

For Excavations

  - The requirement to inspect the location of work when preparing a clearance permit;
  - The requirement for licensed persons to undertake the required tasks;
  - The criteria under which a Permit requires additional authorisation by a Civil or Structural Engineer or notification to a regulatory authority;
  - The requirement to mark boundaries of an excavation clearly;
  - The process for assessment of the depth and position of known services within and adjacent to the boundary of the excavation area;
  - The requirement for an Isolation plan for known services including the process to verify the removal of energy;
  - A process for the puncture of surfaces for material containing asbestos;
  - A process to identify known land contamination including chemicals, radioactive substances or asbestos and the required controls;
  - The requirement to use testing equipment to scan the zone to be penetrated to identify services;
  - The process to be followed should a service be found that is not on the Clearance Permit; and
  - Inspection requirements prior to hand back of the area.

For Puncture of Surface

  - The requirement to inspect the location of work when preparing a clearance permit;
  - The requirement for licensed persons to undertake the required tasks;
  - The requirement for an Isolation plan for known services including the process to verify the removal of energy;
  - A process for the puncture of surfaces for material containing asbestos;
  - The requirement to use testing equipment to scan the zone to be penetrated to identify services;
  - The process to be followed should a service be found that is not on the Clearance Permit; and
  - Inspection requirements prior to hand back of the area.

- Where there are known or suspected concealed services in a designated excavation or puncture of surface area, where the exact location of the services cannot be confirmed, a preliminary excavation shall be undertaken. The requirements for a preliminary excavation include:
  - Development of a work procedure for the preliminary excavation, as determined by a person authorised to issue Clearance Permits;
  - Establishing an exclusion zone in the area to be excavated;
  - Use of a Standby person for excavations;
  - Authorisation from a Competent Person before utilising mechanical excavation equipment; and
  - Concrete saws and core drills shall not be used for preliminary excavations.

- Where excavations are required, a Risk Assessment shall be conducted before the commencement of work to determine the risks arising from fall hazards. The Risk Assessment shall include:
  - Access and Egress considerations;
  - Requirement for shoring to maintain the integrity of the excavation;
  - Installation of barriers to prevent personnel falling in; and
  - Additional hazards such as confined space requirements.

- Where operational activities have the potential to penetrate or excavate the surface (e.g. mining or scrap operations) a Clearance Permit exclusion zone may be established provided:
  - An assessment of concealed services is made by a Competent Person;
  - Identified concealed services are outside of the exclusion zone;
  - The boundary of the exclusion zone is clearly marked; and
  - The exclusion zone is authorised by a Responsible Manager.

7.0 ISOLATION

7.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from the uncontrolled release of energy or hazardous materials.

The standard applies to the isolation of all sources of energy, including electrical, mechanical, chemical, gravitational, pneumatic, kinetic and stored. This standard applies to GFG Alliance Australia employees, contractors and visitors.

The aim is to prevent harm to persons resulting from:

- The uncontrolled release of energy; and/or
- The uncontrolled release of a hazardous material.

The fundamental principles of isolation are:
PLAN – The energy sources need to be identified, ways of isolating the energy sources identified, verification that the energy sources have been made safe.
IDENTIFY & ISOLATE – The correct equipment and the correct means of isolating the energy source safely need to be identified (which valve, switch etc) and then the energy source isolated, locked out and where necessary the energy source has been dissipated.
VERIFY – Once the energy source has been isolated, there must be an identified process for checking that the isolation is effective (if using a try step, it must be effective and have all interlocks and process conditions accounted for).
LOCK – Once the above steps have been confirmed, an individual applies their personal lock for their protection.

7.2 Critical Elements

- Isolation Planners, Isolating Persons and Protected Persons all to be trained and have current authorisation for the specific areas of operation.
- Understand and be able to demonstrate the 'verification step' for all isolations.
- Understand and demonstrate controls for stored energy and associated isolation requirements, e.g. hydraulics, pneumatics, suspended loads, etc.
- Apply personal red lock to isolator/group board before working on isolated plant or equipment.
- Contractors have had the attachment of their red locks supervised by an authorised person.

7.3 Minimum Requirements

7.3.1 People

- A competency based training system shall be in place to assess and approve personnel before they are issued with personal lockout devices and conduct isolation processes for specific areas. The training process shall include a method to verify the employee's understanding of the training.
- Personnel who perform work on the plant, equipment or system, shall first apply a personal red lock in accordance with the isolation principles.
- The Business shall have in place a responsible person who shall:
  - Confirm that isolation operations are carried out in accordance with the isolation procedures;
  - Appoint Isolation Planners and Isolation Persons;

  - Appoint an authorised person, for example an Isolating Person, to supervise the attachment of red locks by contractors;
  - Confirm that authorised Isolating Persons, Isolation Planners and Protected Persons remain competent to carry out their duties;
  - Review isolation procedures and/or plans as part of equipment and/or process modifications; and
  - Conduct verification exercises, such as safety observations, to confirm that isolation procedures are adhered to.
- Assessment of isolation competency shall be conducted every three years as a minimum.

7.3.2 Plant and Equipment

- Isolations should provide for total removal of energy sources, verification and be secured by the use of locking devices.
- Isolators shall be uniquely and permanently labelled to identify the circuit or system over which they have direct control.
- Personal locks (Red Locks) shall:
  - Be uniquely keyed and identified with personal details;
  - Not be combination locks;
  - Not have an unauthorised second party master key; and
  - Be kept under the control of the owning individual, and keys shall not be transferred to another person for lock placement or removal.
- Sets of equipment locks (Yellow Locks) shall:
  - Not be combination locks;
  - Not have an unauthorised second party master key; and
  - Have keys locked in the isolation board while a group isolation is in place.
- Group locks (Green locks) shall:
  - Be uniquely keyed;
  - Not be combination locks;
  - Not have an unauthorised second party master key; and
  - Be kept under the control of the Isolating Person responsible for the isolation
- New or modified equipment shall be fitted with lockable isolators that can only accommodate one lock or one multi-lock device.
- Isolation boards, lockout stations, multi-lock devices, identification tags, hasps, chains, covers and warning tags shall be provided where required.
- Where an Operational Access System is implemented due to the frequency and duration of a task and total isolation is not reasonably practicable, work shall be carried out in accordance with a written procedure/plan specific to the task and include the requirements to:
  - Conduct a Risk Assessment applying the principles outlined in AS4024.1 Parts 1501 and 1601 (equivalent to ISO13849.1 and ISO14120) for the selection of interlock categories;
  - Use an isolation matrix or operational access system where appropriate;
  - Complete a verification step; and
  - Have a documented formal approval from the Business Head of Safety and the appropriate General Manager or Regional Manager.
- Operational Access controls shall not be utilised for maintenance activities.

7.3.3 Systems and Procedures

- An isolation information system shall be in place to warrant that equipment is made safe prior to commencing work, including:
  - Individual isolation procedures, isolation plans and isolation matrices;
  - Appointment of Isolating Persons and Isolation Planners for specific areas of operation or plant; and
  - Appointment of authorised persons to supervise attachment of Contractor's red locks.
- The isolation system shall apply to activities on site including commissioning, operation, maintenance, modification or demolition of equipment.
- Individual Isolation Procedures and Isolation Plans for complex isolations shall be controlled documents and shall be developed by an Isolation Planner. The plans shall include:
  - Identification of the energy sources or hazardous materials directly and indirectly associated with the work to be performed;
  - Assessment of the hazards;
  - Identification of the method and sequence of isolating the hazard;
  - A procedure for stopping the machine;
  - Identification of isolation points, and the safe position;
  - A method for securing the isolator;
  - A method for restraining or dissipating stored or residual energy;
  - A method for verifying the isolation;
  - A procedure for returning to service, including the sequence of de-isolation;
  - Details of the necessary hardware required to complete the isolation;
  - Provision for inclusion of name of Isolating Person; and
  - A process for handover and hand back.
- Group Isolations, Individual Isolations and Working Alone Isolations shall only be performed by an authorised Isolating Person.
- Working Alone Isolations are only to be used when the authorised Isolating Person is the only person required to secure the isolator for personal protection. Some sites do not permit working alone isolations due to the level of risk on the site.
- Where isolation requires the use of non-positive isolators, for example control circuit switching, push buttons, emergency buttons or stops, and selector switches, such work shall be carried out in accordance with a written procedure/plan. The written procedure/plan shall:
  - Include a documented and detailed Risk Assessment of the situation and proposed alternative control measures, including reference to line diagrams where appropriate;
  - Be reviewed by an Isolation Planner to confirm the effectiveness of the isolators;
  - Require a documented formal approval from the Business Head of Safety and the appropriate General Manager or Regional Manager
- Where it is necessary to work on live equipment for the purpose of commissioning, testing, sampling and adjustments, such work shall be carried out in accordance with a written procedure. The written procedure shall:
  - Include a documented and detailed Risk Assessment of the situation and proposed alternative control measures;
  - Be reviewed by an authorised Isolation Planner to confirm the effectiveness of the controls associated with the live work area; and
  - Require a documented formal approval from the Business Head of Safety and the appropriate General Manager or Regional Manager.

- There shall be a system in place for the investigation, approval and removal of personal locks by an authorised person other than the protected person who placed the lock. This shall include confirmation that:
  - Hazardous areas have been inspected;
  - The equipment is safe to operate;
  - The Protected Person has definitely left the site;
  - The Protected Person cannot return to work and be endangered by equipment;
  - Isolation points that are common to other isolation plans will not be affected; and
  - The most senior site leader shall give final authorisation prior to removal and in communication with the site manager.
- Emergency isolations in the case of external emergency response personnel may not necessarily follow this isolation system.

8.0 MOBILE EQUIPMENT SAFETY

8.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from the operation of forklifts and other mobile equipment, including the interactions with pedestrians. The definition of mobile equipment excludes rolling stock, light vehicles and heavy mining equipment.

The aim is to prevent harm to persons resulting from:

- Being struck by a moving load,
- Being struck by mobile equipment;
- Loss of load containment;
- Being involved with unstable equipment or ground; and/or
- Being involved in a collision with mobile equipment.

8.2 Critical Elements

The focus of the critical elements is on the operation of forklifts. Businesses shall consider the application of these requirements to other mobile equipment where appropriate:

- People must be trained, assessed as competent and authorized to operate mobile equipment.
- Pre-start checklist is completed each shift prior to operating the mobile equipment.
- Wear seat belt where fitted on the mobile equipment.
- Obey speed limit in area.
- Adjust driving practice to meet the stability, equipment compliance specifications, and road and weather conditions.
- Keep clear of the 'Line of Fire' and do not enter exclusion zone or cross the path of mobile equipment without gaining permission from the equipment operator.

8.3 Minimum Requirements

8.3.1 People

- A system shall be in place to verify the qualifications and competency of persons who operate mobile equipment.
- During the induction process, employees and contractors shall receive awareness training appropriate to the nature of the mobile equipment hazards on the site, including:
  - The requirement to wear high visibility clothing when within a mobile equipment operating area;
  - The need to check for vehicles before using a pedestrian crossing;
  - The use of designated walkways and pedestrian access points when entering or exiting buildings;
  - The requirement for exclusion zones to be in place when mobile equipment is being operated;
  - The need to gain eye contact, signal their intentions and receive acknowledgement from the mobile equipment operator in and around mobile equipment operating areas; and

- The need to wait for the operator to halt the mobile equipment, apply the handbrake, lower the implement (if fitted) and grant permission before entering within 3 metres of the mobile equipment or the load on the mobile equipment.

- Mobile equipment operators shall receive awareness training in the nature of exclusion zones, site walkways and equipment pre-start requirements, including:
  - Mobile Equipment shall not be driven on designated walkways, unless the area has been isolated;
  - Mobile equipment shall only be parked clear of walkways, pedestrian access points, refuelling sites and first aid stations, and on level surfaces;
  - Mobile equipment operators shall make eye contact, signal their intentions and receive acknowledgement from pedestrians in and around mobile equipment operating areas;
  - Mobile equipment operators shall only carry loads within the lifting capacity of the mobile equipment and attachments;
  - Mobile equipment operators shall only use approved and registered attachments;
  - Passengers shall not be carried on mobile equipment unless there is an approved seat and seatbelt fitted and used;
  - Mobile equipment implements shall be lowered to the ground, handbrake applied, machine turned off and keys shall be removed when leaving the mobile equipment unattended; and
  - Mobile equipment operators shall follow the 'three-points-of-contact' principle when getting on and off mobile equipment.
- Forklift operators shall receive appropriate training in the operation of a forklift, including the requirement to;
  - Evenly balance the load before movement, keep the load as close to the ground as possible, position the load firmly against the carriage or backrest;
  - Tilt the mast back to prevent the load from slipping or rolling; and
  - Face the mast end uphill on inclines and declines.

8.3.2 Plant and Equipment

- A formal risk-based equipment selection process shall be in place.
- Forklifts and attachments shall meet minimum GFG Alliance Australia standards as listed below:

Fall on protection	Rear vision mirror
Grab handles	Fire extinguisher fitted to fork
Roll over protection	Steps fitted with non-slip material
High visibility seat belt	Lockable isolation switch
Reverse monitor alarm	Windscreen
High visibility paint	Full compliance plate
Contrasting mast – with contrasting stripes on side	Pre-start condition checklist book
Contrasting reflective tape on front of mast and counterweight	Clearview mast in operating conditions
Flashing light/s: strobing or blinking clearly visible in daylight orange or blue	Forklift speed limiters, or speedo and highly visual over-speed warning device for forklifts with authorised max speed 8km/h
Working lights: 2 on cabin toward load 2 on mast 2 interlocked reversing lights	Forklift attachments shall have: letter of conformance engineering certificate compliance plate

- Mobile equipment shall meet minimum GFG Alliance Australia standards as listed below:

Fall on protection	Rear vision mirror
Grab handles	Fire extinguisher fitted
Roll over protection, where applicable	Steps fitted with non-slip material
High visibility seat belt	Lockable isolation switch
Reverse monitor alarm	Pre-start condition checklist book
High visibility paint	Full compliance plate
Flashing light/s: strobing or blinking clearly visible in daylight orange or blue	Working lights: 2 on cabin, where applicable, toward load 2 interlocked reversing lights

- Introduction of new or replacement equipment to a site shall be subject to modification control.
- There shall be a system in place to document and implement an inspection and maintenance program for mobile equipment.
- A pre-start inspection system shall be in place for mobile equipment. Pre-start inspections shall be maintained, located on the machine and audited. A process shall be in place to rectify issues identified through the pre-start inspection.

8.3.3 Systems and Procedures

- Site walkways and workways shall be clearly established to:
  - Physically separate people and mobile equipment where possible; and
  - Minimise and control interactions between people and mobile equipment.
- A site based traffic management plan shall be in place:
  - Detailing appropriate speed limits, traffic flow, traffic controls and pedestrian controls. The recommended speed limit is 8 km/hr in forklift operating areas. Speed limits of up to 15 km/hr may be implemented where this has been established via a Risk Assessment process.
  - Specifying that mobile equipment only operate on sufficiently stable surfaces and on gradients that are within the limits of safe operation.
- Changes to traffic movements or pedestrian walkways shall be subject to Modification Control.
- There shall be a system in place to remove mobile equipment that is not fit for purpose from service.

9.0 MOLTEN MATERIAL

9.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from the handling and processing of molten materials.

The aim is to prevent harm to persons resulting from:

- Contact with, or exposure to, hot material;
- Explosion due to interaction between water and molten material;
- Exposure to process gasses;
- heat stress; and/or
- UV and infrared radiation.

9.2 Critical Elements

- Vehicle cabs and operating positions exposed to splashes will be protected with appropriate screens.
- There will be a system in place to prevent closed gas or liquid containers being charged into furnaces.
- The level of moisture and other materials must be controlled to prevent explosions or violent reactions.
- Follow specific work instructions or procedures relating to molten material.
- Obey access controls to molten material zones.
- Do not walk under molten material flight paths.
- Wear appropriate PPE and keep it in good order.
- The integrity of the furnaces, ladles, etc will be inspected on a regular basis to ensure equipment integrity (including surface temperature monitoring and visual checks).

9.3 Minimum Requirements

9.3.1 People

- Employees and contractors shall receive awareness training appropriate to the nature of the molten material hazards on the site, work environment, and activities being undertaken during the induction process, including:
  - General knowledge of the nature of molten material;
  - Access control systems;
  - Exclusion zones, and
  - Emergency response procedures in place on the site.
- Employees and contractors shall be trained to understand the potentially hazardous effects on their health due to working conditions and the exposure to materials handled, including exposure controls.
- There shall be a system in place for health surveillance monitoring including the requirements of relevant legislation, dependent on the nature of the exposure.

9.3.2 Plant and Equipment

- Molten Material equipment shall be designed to prevent the likelihood and implications of spill, breakout, foaming or splashing of molten material.
- Furnaces, ladles, and other Molten Material equipment shall be inspected on a regular basis to maintain equipment integrity.
- Refractory used for Molten Material containment shall be designed, installed, monitored and maintained using materials, processes and people such that the risks associated with Molten Material containment are minimised.
- Hazardous fumes and gaseous products shall be captured and rendered safe.
- Water cooled casting equipment and water cooled furnaces shall have a fail safe water supply in the event of a power failure, equipment breakdown or other emergency. The length of time the emergency water is available shall be known and referenced in operating procedures.
- Fuel Combustion systems shall be designed to prevent the potential to produce explosive gas or gas / solid mixtures. Emergency shut down of fuel sources shall be installed.
- Molten Material process control systems shall be installed, maintained and monitored, including:
  - Temperature indication;
  - Alarm monitoring and management;
  - Fuel gas systems;
  - Burner management systems;
  - Waste Gas Fans and ductwork;
  - Product waste gases; and
  - Dust control systems.
- Control systems shall be fail-safe in the event of power loss.
- Supply services, including electrical and control systems, fuel and oxygen systems should, where practicable, be located in areas where contact with molten material is not possible. Where this is not practicable, heat resistant barriers or diversions shall be installed.
- Water sumps, drains and piping and potential water accumulation points should, as far as practicable, be located in areas where contact with molten materials is not possible. Where this is not practicable, heat resistant barriers or diversions shall be installed.
- Where cranes are exposed to molten steel or ironmaking, the following will apply:
  - Use appropriate shielding material;
  - Use Hoogovens Glass High Temp Shock Absorbing Multi Layer as the crane cabin glass. The thickness of the glass is to be 33.3mm
  - There shall be a system in place which documents and implements safe operating limits and maintenance requirements for molten material lifting equipment.
- Appropriate screens shall be provided that protect vehicle cabs and operating positions exposed to splashes.
- Tools and equipment used in molten material processes shall be stored so as to keep them dry, and to prevent contact with hot surfaces.

9.3.3 Systems and Procedures

- There shall be a system in place to assess and control the risks of associated hazards in the molten material processing and handling activities, including:
  - Access control requirements in areas and for tasks where there is the potential for spillage, emission of molten material, flame or gases, or explosion;
  - Uncontrolled reactions;

  - Molten materials transfer processes;
  - Vehicle interactions;
  - Control of the level of moisture and other materials such that it does not lead to an explosion or violent reaction;
  - Foreign materials not being immersed in molten material;
  - Refractory failure; and
  - Sealed containers not being charged into furnaces.
- There shall be procedures in place for the specification, purchase, inspection and storage of materials used to charge furnaces, including scrap.
  - There shall be a system in place to develop, document and implement safe operating procedures, including:
  - Charging furnaces;
  - Maintenance and cleaning;
  - Normal operations and emergency operations;
  - Sampling; and
  - Inspection and testing.
- The structural elements of furnaces shall be kept within their operating temperature design limits. There shall be a system in place so that these temperatures are known and monitored.
- There shall be a system in place to manage heat stress.
- Emergency operations shall be tested at regular intervals. Emergency shutdown procedures and systems shall be reviewed at least once two yearly.
- Risk Assessments shall be carried out to determine personal protective equipment requirements in areas and for tasks where there is the potential for spillage, emission of molten material, flame, gases or explosion.

10.0 PREVENTION OF FALLS (WORKING AT HEIGHTS)

10.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from working at heights.

The aim is to prevent harm to persons resulting from:

- Falling from heights, including top of truck;
- Being struck by a falling object;
- Suspension trauma; and
- Unstable work platforms or mobile elevated work equipment.

10.2 Critical Elements

- Follow the safe system of work where there is a potential fall, especially when greater than 1.8m.
- Apply fall prevention hierarchy of control. Note: Fall arrest systems are the last resort.
- Where fall arresters are used there shall be a recovery/rescue plan in place with the aim of recovery within 5 minutes.
- Do not go within 2m of an unprotected edge, where there is a potential fall of greater than 1.8m, without fall prevention.
- Position warning barricades a distance of at least 1.5m from an opening or unprotected edge of an opening.
- Check exclusion zones are in place below to protect people from falling objects.
- Verify scaffolding meets required standards including handrail standards (e.g. valid Scaff Tag, two railings and kick plate).

10.3 Minimum Requirements

10.3.1 People

- There shall be a system in place to select employees that are fit to work at heights, including consideration of medical conditions, such as vertigo, as well as the weight of the person using the harness. Note: many harness systems have a maximum weight limit of 136kg.
- Employees and contractors shall receive appropriate awareness training on the nature of the working at heights hazards on the site, work environment, and activities being undertaken during the induction process, including:
  - Hazards when working at heights; and
  - The need for specialised training and equipment and fall prevention systems to perform work where a person could fall more than 1.8m
- Employees and contractors required to perform work which could result in a person or object falling shall have training in:
  - Safe procedures for work at heights;
  - The correct wearing and use of personal fall arrest and fall restraint equipment where this equipment is to be used;
  - The correct wearing of hard hats with chin straps for all personnel working at height, including on the back of trucks or train wagons.
  - Recognising hazards associated with using non-compatible or non-compliant equipment;

  - The process to check working at heights equipment prior to use; and
  - The emergency response procedures.
- Mobile Elevated Work Platforms shall be operated by competent personnel.
- Personnel shall wear fall arrest equipment with an appropriately anchored lanyard when using a boom type Mobile Elevated Work Platform.

10.3.2 Plant and Equipment

- Working at heights equipment shall comply and be used in accordance with relevant approved design standards and manufacturers' specifications.
- Working at heights equipment, including harnesses, ladders, work boxes, elevated work platforms shall be fit for purpose and undergo pre-use checks and routine and documented inspections by a competent authorised person. An equipment register and tagging system shall be in place to indicate compliance with this inspection. Testing shall be completed in accordance with recognised standards.
- Single person anchor points shall be capable of withstanding 15kN. Where it is not practicable to install dedicated anchor points, anchor points capable of withstanding 15kN shall be identified through a Risk Assessment process and shall be approved by a Competent Person prior to commencement of work.
- Where personnel are required to work within 2 metres of an unprotected edge, with the potential to fall more than 1.8 metres, they shall use a personal fall restraint system, such as a fixed lanyard and safety harness as a minimum, which will prevent them from falling over the edge.
- Where it is not practical to use fall restraint and there is a potential to fall more than 1.8 metres, personnel shall wear appropriate personal fall arrest equipment. The use of a full body harness, including shock absorbing lanyard is mandatory.
- Scaffolding shall be erected and dismantled without exposure to risk of falling by competent personnel according to relevant guidelines. Where a person could fall 4 metres or more, a certificate of competency is required to erect scaffolding.
- Scaffolds shall have complete floors, two railings, a kick plate and a valid Scafftag. A safe access and egress shall be provided.
- Portable ladders shall comply with relevant standards and are to be rated to 150kg. Trestle ladders and platforms shall not be used. Access to and availability of portable ladders shall be controlled.
- Fixed ladders shall incorporate a protective cage if greater than 6 metres high and be built to relevant standards.

10.3.3 Systems and Procedures

- Where reasonably practicable, the risk of fall should be controlled through the hierarchy of controls.
- Conduct a Risk Assessment before the commencement of work at heights to determine the risks arising from fall hazards. The Risk Assessments should include:
  - People or things that could fall;
  - Selection of appropriate control measures using the hierarchy of controls;
  - Hazardous features of the work site (e.g. live crane rails, chemicals, flammable substances, gas);
  - Environmental conditions (e.g. rain, wind, lightning, dust, heat);
  - Selection of appropriate equipment;
  - Selection of anchor and tie off points;

  - Condition of supporting structures, such as roofs, pipes and beams;
  - Selection of appropriate barricading or demarcation;
  - Competency and fitness for work of personnel;
  - Access and egress; and
  - Emergency response and rescue plan.
- Fall arrest systems, where they have to be used because fall restraint is not possible, shall:
  - Be designed and installed to avoid the pendulum effect;
  - Have a total calculated length of the fall arrest system (including greater than 1 metre safety margin) such that it is clear of obstructions;
  - Include a requirement that an employee shall not work alone; and
  - Have a recovery/rescue plan in place with the aim of recovery within 5 minutes.
- Where warning barricades are used to prevent approach to the edge of an opening, they shall be positioned at least 1.5 metres from the opening.
- Where overhead work is being conducted, barricades and signage shall be erected around the work area to protect others below from falling objects or suitable overhead protection barriers provided.
- There shall be a system in place to prevent tools and other objects falling from height.
- Where the work method requires a person to detach and re-attach at height, including when entering or exiting a bucket or platform, a dual lanyard system shall be used to confirm that at least one connection point is maintained at all times.
- There shall be a system in place for preparing and testing emergency response procedures.
- Where work is performed inside a vessel or other structure that has installed suspended refractory material, controls shall be in place to prevent material falling.
- There shall be a system in place to remove fall protection equipment from service when they are found to be damaged.

11.0 ROAD TRANSPORT SAFETY

11.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from the loading, unloading, restraining and delivery of GFG Alliance Australia products.

The aim is to prevent harm to persons resulting from:

- Being struck by Forklifts or Cranes or other loading equipment during loading and unloading operations;
- Being struck by product during loading and unloading operations;
- Falling from the deck of trucks and trailers;
- Vehicle incidents due to driver fatigue, speeding violations, inappropriate load mass and dimension; and
- Being struck by product due to ineffective load restraint or product packaging during transport.

11.2 Critical Elements

- People trained, authorised and apply the GFG Alliance Australia Load Restraint Guidelines.
- "Can't See, Cant Load' – Loader shall not load if they cannot see the driver or any other person who may be in the loading area.
- Resolve unusual/unstable loading/unloading risks using documented risk assessments.
- Contain the load during the loading and unloading process to prevent the load from falling from the vehicle.
- Set up temporary exclusion zones when loading/unloading.
- Do not enter loading/unloading exclusion zones without permission of Loader/Unloader, and not before loading/unloading has ceased.

11.3 Minimum Requirements

11.3.1 People

- There shall be a system in place to verify the qualifications of persons involved in road transport operations.
- There shall be a system in place to identify responsibilities and training needs of persons involved in road transport operations.
- Employees, carriers and contractors, who have access to loading and unloading areas, shall receive appropriate awareness training on the nature of the road transport operations on site during the induction process, including:
  - Line of Fire Principles:
  - Operation of the exclusion zone; and
  - Role of the Forklift, Crane or other loading equipment Operator.
- Employees, carriers and contractors involved in road transport operations shall also have appropriate load restraint training, including:
  - The key principles of load restraint, load containment and packaging integrity;
  - The role of friction in load restraint;
  - Common failures in load restraint;
  - Load restraint equipment; and
  - Specific load restraint guidelines applicable to the operation.

- Employees, carriers and contractors involved in the transport chain, including consignors and consignees, shall have training in:
  - Chain of Responsibility; and
  - Fatigue Management and Speed Management requirements related to their role.
- The additional training required for roles involved in transport planning and scheduling process shall be documented, including:
  - Mass and dimension;
  - Container Weight Declarations;
  - Fatigue Management; and
  - Speed Management.

11.3.2 Plant and Equipment

- Sites shall have either permanently marked exclusion zones, or provide sufficient equipment to enable temporary exclusion zones to be established during loading and unloading activities.

11.3.3 Systems and Procedures

- There shall be a system in place to:
  - Document standards for packaging and load restraint requirements for commonly despatched products. These standards shall be displayed in the loading areas;
  - Manage the load restraint requirements for the situation when partial load restraint is employed on a GFG Alliance Australia site;
  - Manage the risks involved with working from heights while on back of truck or trailer;
  - Manage the load restraint requirements for mixed loads, including consideration of unloading of mixed loads such that load restraint obligations are able to be met for the balance of the journey;
  - Consider the condition of all trucks prior to loading or unloading. Vehicles which clearly do not meet roadworthy standards shall not be loaded; and
  - Consider the driver's fitness for duty prior to loading or despatch.
- There shall be procedures for establishing exclusion zones during loading and unloading activities, including consideration of load containment,
- Systems for planning and scheduling road transport activities shall consider:
  - For vehicle with a GVM of greater than 4.5 tonne, a system shall be established to verify that the mass and dimension of freight to be loaded is compliant with relevant guidelines and does not exceed vehicle dimension, mass or axle limits.
  - For trips which require the driver to travel more than 100km from the point of collection, a journey plan shall be developed, including consideration of fatigue management, and
  - Speed Management
- Introduction of new loading or unloading practices to the site shall be subject to modification control.
- There shall be a system in place which documents and implements an audit program for road transport activities. A minimum of 5% of loads despatched shall be audited in relation to;
  - Driver training, qualifications, competencies and appropriate induction requirements;
  - Vehicle condition;
  - Vehicle mass and dimension;
  - Container weight declarations issued to the driver where appropriate;
  - Fatigue Management – including journey plans; and
  - Compliance with load restraint guidelines.

- There shall be a system in place to:
  - Notify carriers of GFG Alliance Australia road transport requirements including for load restraint and fitness for work;
  - Communicate GFG Alliance Australia requirements to carriers when cross-docking arrangements are used; and
  - Communicate GFG Alliance Australia requirements to customers before they collect product from a GFG Alliance Australia location or when product is delivered or returned to a GFG Alliance Australia location.

12.0 TRAIN AND RAIL SAFETY

12.1 Intent

To eliminate or minimise the risk of fatalities and serious injuries arising from rail operations, including the interactions with pedestrians and other vehicles.

The aim is to prevent harm to persons resulting from:

- Interaction with trains and rolling stock;
- Interaction between trains and other vehicles;
- Train collision; and
- Uncontrolled train or rolling stock movement.

12.2 Critical Elements

- Clear traffic management rules to be in place for the separation of trains, vehicles and pedestrians.
- A safe working procedure or work permit to be in place for any work within 2 metres of the rail track.
- Shunter and Train Driver to be in direct line of sight or in communication during train movements.
- All train movements to stop prior to the Shunter entering, and until the Shunter leaves the 2 Metre Zone (excludes coupling and uncoupling operations only).
- When coupling/uncoupling, the body torso to remain outside the rolling stock outline unless safe systems of work are in place to allow for work within that area.
- Rolling stock to be prevented from uncontrolled movement.
- Trains Have Right of Way (THROW).

12.3 Minimum Requirements

12.3.1 People

- There shall be a system in place to verify the qualification of employees and contractors involved in rail operations.
- At sites where rail operations are undertaken, employees and contractors who may interact with rail operations shall receive training in the hazards associated with rail operations, including:
  - The need for specialised training and skills to undertake rail safety work;
  - The need to stay 2 metres from the rail track of any stationary train or wagon
  - The need to stay 3 metres away from the front and rear of any stationary train or wagon;
  - The requirement of not attempting to climb over stationary rail wagons in order to get to the other side of the track;
  - That boarding and disembarking from trains and traction devices is only permitted when they are stationary; and
  - The need to use designated pedestrian and road crossings where available to cross rail tracks.
- Employees and contractors involved in rail loading and unloading activities shall be appropriately trained.
- There shall be a system in place so that selected employees and contractors involved in rail operations are fit to perform rail work, including fatigue management and drug and alcohol assessment in accordance with the requirements of the local Rail Safety Regulator.

12.3.2 Plant and Equipment

- There shall be a suitable means of securing rolling stock when left unattended, including handbrakes, wheel chocks or other approved means, to prevent an uncontrolled movement.
- Risk Assessments that include visibility and speed of the train shall be conducted for each level crossing, and appropriate controls established.
- There shall be a system in place for the inspection, testing and maintenance of infrastructure, rolling stock and equipment, including communications equipment and level crossing warning devices.

12.3.3 Systems and Procedures

- Where train and rail operations are managed by a site, there shall be a train and rail safety system in place to establish and communicate clear traffic management rules for the separation of trains, vehicles and people.
- There shall be a system in place to manage train operations, including:
  - Documented procedures and communication protocols in place for shunting, coupling and uncoupling, loading and unloading of rolling stock;
  - Definitions on where and how train crews can safely ride, drive or pilot moving trains;
  - Defining how boarding and disembarking from trains and traction devices are permitted and only whilst they are stationary;
  - Separation and isolation of loading/unloading sidings and shunting yards from main and operational running lines and access protocols to these locations by train crews;
  - Documented procedures for the transfer of responsibility for the train between the Loading Operator and the Train Crew, including the prevention of train movements during loading and unloading;
  - Documented procedures to control access to loading and unloading areas by vehicles, rolling stock or people at each site; and
  - Documented clearance and authority protocols for safe entry of trains into work areas and structures.
- There shall be documented procedures or permits in place to manage work required to be carried out within 2 metres of train tracks, including:
  - Risk assessment of the task;
  - Isolation requirements, including equipment and verification process. Note: As Trains Permit (ATP) may be considered where appropriate;
  - Communication protocols;
  - PPE requirements; and
  - Lighting and illumination requirements where work is conducted at night or visibility is limited.
- There shall be documented isolation procedures for trains, rail tracks and other energy services.
- Emergency response procedures relating to rail operations shall be documented, implemented and routinely tested.
- There shall be a system in place to address the Legislative Requirements of the local Rail Safety Regulator.

13.0 Codes of Practice – Definitions

2 Metre Zone – Train and Rail
The area within 2 metres of the nearest rail line of a rail track. This distance is measured horizontally, and applies on private sidings within GFG Alliance Australia sites.

ATP (As Trains Permit)
Working in the 2 metre zone between train movements, where a risk assessment shows workers can remove themselves and tools immediately from the 2 metre zone.

Work under ATP uses Track-Watchers and is an alternative to rail track isolation. ATP can only be used for inspection of track; applying lubrication; and application of point locking devices.

Attachment - Crane
A device attached to the hoisting mechanism for load handling (e.g. cage, jib, drum lifter).

Attachment - Forklift
An engineered device other than a fork arm that is designed for a load handling requirement (e.g. scrap bin, cage, jib, drum lifter, spears).

Audit Program
A planned, systematic and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the criteria are fulfilled.

Authorised
Permission granted in writing by the Responsible Manager.

Authorised Person
A competent person tested and appointed in writing by the Responsible Manger to perform specific duties.

Awareness Training
Task specific training which is intended to build hazard awareness. This training may include formal induction training, and competency assessment, familiarisation with work permits, standard operating procedures, risk assessments, Job Safety Analysis or similar. The training may also include a process to confirm prior learning.

Boom-Type MEWP
A telescoping device, hinged device, or articulated device or any combination of these used to support a platform on which personnel, equipment and materials may be elevated to perform work.

Business
Area under the Responsibility and Authority of a General Manager.

Can't See Can't Load
The principle that if the vehicle driver and/or the loading assistant are in the loading area and the loading equipment operator can't see or control the vehicle driver and/or the loading assistant in a safe zone, they are to stop loading the vehicle. Note where a vehicle driver has been sent to a safe zone which is remote from the loading area, such as a Driver Fatigue Rest Room, crib room or similar, they are not considered to be in the loading area.

Carrier
A person or business who transports freight for GFG Alliance Australia by means of a heavy vehicle. 'Carrier' encompasses head carriers, self-employed carriers and customer pick ups.

Chain of Responsibility (CoR)
The allocation of responsibility along the supply chain.

Clear View Mast
A clear view mast is one where the lifting cylinder (or other obstruction) is not in the centre of the mast. Newer forklifts have two lifting cylinders placed in line with the mast structure, resulting in a thinner mast structure.

Competent Person
A person who has the combination of knowledge, skills, attitudes and practical experience necessary to be able to perform a particular task or duty in a safe and correct manner.

Competence
A combination of attributes such as knowledge, skills and attitudes that demonstrate the ability to perform tasks and duties in a safe and correct manner.

Competent Observer – Electrical
Live work safety observer shall meet the following requirements:

- be competent to help the person performing the electrical work.
- be competent to:
- rescue the person performing the electrical work, and
- provide resuscitation (assessed in the last six months)

Complex Isolation
A complex isolation is when more than three isolators or more than two energy sources are involved.

Confined Space
Where local legislative definitions are not provided, a Confined Space shall be defined as an enclosed or partially enclosed space that:

- is not designed or intended primarily to be occupied or entered by a person; and
- has a restricted means of entry and exit; and
- is, or is designed or intended to be, at normal atmospheric pressure while any person is in the space; and
- presents a risk to health and safety from:
- An atmosphere that does not have a safe oxygen level, or Contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion, or Harmful concentrations of any airborne contaminants, or Engulfment.

Consignor
A person who engages another person, either directly or indirectly or through an agent or other intermediary, to transport goods by road.

Contractor
Person(s) contracted to carry out work for and on behalf of GFG Alliance Australia or its businesses, including sub-contractors, labour hire personnel and self-employed persons, for the period of time defined by the contract.

Contractors employing sub-contractors to perform all or part of the work are deemed the principal contractor.

Crane
A crane is an appliance intended for raising or lowering a load and moving it horizontally. This does not include lift trucks, earth moving equipment, or conveyors.

Crane Chaser
A competent person whose function is to sling the load and to direct the Crane Operator as to the movement required of the crane to safely hoist, transport and position the load with the load usually in full view of the Crane Operator. *See also Dogger

Cross-docking
Where product is unloaded at an interim depot, and reloaded for delivery to customer.

Customer
An individual, company or other legal entity that receives either goods or services from GFG Alliance Australia.

Within the Recycling Businesses the term customer also refers to a supplier of scrap to GFG Alliance Australia.

Dogger
An accredited and competent person who applies slinging techniques, including the selection and inspection of lifting gear, and the directing of a Crane/Hoist Operator in the movement of a load.

Earth Leakage
Unwanted electric current flow to ground due to a fault.

Electrical Work
The physical work of installing, repairing, altering, maintaining, removing or adding to an electrical installation.

Electro-magnetic field
A physical field produced by electrically charged objects. The interaction of electric and magnetic forces gives rise to a condition in space known as an electromagnetic field.

Energy
Types of potentially hazardous energy including: electricity, heat, gas, pressurised fluids, steam, and chemicals. It may also be kinetic or potential energy, toxic, biological substances or radiation.

Equipment Lock (Yellow)
A yellow lock used to secure equipment in the isolated condition or to secure isolators prior to verification.

Excavation / Puncture of Surface (POS)
Any operation (excluding mining activities) which disturbs ground, walls, floors or ceilings which may conceal services or provide structural support; it includes such operations as spiking, driving of poles, piles and pipes, drilling, chasing and excavations.

Exclusion Zone
The area defined to exclude interaction between people and mobile equipment, trains, trucks, cranes and/ or their loads during loading, unloading and transport activities.

Exposed Live Conductor
An unprotected or uninsulated electrical conductor or component that is connected to a source of electrical supply. This includes hazardous capacitive or inductive sources of electrical energy. This excludes overhead power lines.

Fail Safe
A safe position that a device or item of plant will go to if power (electrical or mechanical motive force, including hydraulic and pneumatic force) is lost.

Fall Arrest System
An assembly of interconnected components comprising a harness connected to an anchorage point or anchorage system either directly or by means of a lanyard, lanyard assembly or pole strap, and whose purpose is to arrest a fall. All fall arrest systems must include an energy absorbing device.

Fall Clearance
The adequate distance under a person or persons who are using a fall arrest system so that in the event of a fall the user of the system will not strike the ground, floor or any other obstacle, item or thing beneath the system.

This comprises of the Length of lanyard + tear-out distance + height of user + safety margin.

Fall Restraint System
A control on a person's movement by means of a combination of a belt or harness, a line and a line anchorage which will physically prevent the person from reaching a position at which there is a risk of a free or limited free fall.

Fall on Protection
A suitably engineered barrier that protects the mobile equipment Operator from risks present in the area, commensurate with the area the mobile equipment is working.

Flammable Liquid
A liquid with flash point of not more than 60.5°C (141°F), or any material in a liquid phase with a flash point at or above 37.8°C (100°F).

Forklift
A forklift is a powered industrial truck equipped with a mast and an elevating load carriage with a pair of forklift arms or other load holding devices attached. This includes any type of load carrying counterbalance truck including ram trucks, fork hoists, fork loaders, side loaders and traditional forklifts.

Gantry Crane or Overhead Travelling Crane
A crane comprising a bridge beam or beams mounted to end carriages at each end, capable of travelling along elevated runways and having one or more hoisting mechanisms arranged across the bridge.

Gross Vehicle Mass (GVM)
The maximum allowable loaded mass of the vehicle as specified by the manufacturer or by the regulatory authority in the State in which it is travelling.

Group Isolation
An isolation in which Protected Persons attach their red personal locks to secure the key(s) to yellow equipment locks in an isolation board rather than individual isolators.

Used when the number of isolators or Protected Persons suggests it is appropriate.

Group Lock (Green)
A green lock that secures the key(s) of all yellow equipment locks and the isolation checklists after the respective isolations have been verified.

Hasp
A slotted hinged metal plate that forms part of a fastening for a door or lid and is fitted over a metal loop and secured by a pin or padlock.

Hazardous Material
Substances that have the potential to pose a significant risk to the health and safety of people or the environment.

Height
An elevation above the surrounding recognised safe floor, platform, grade or excavation level.

High Visibility Clothes
Clothing with fluorescent or other contrasting colours, which will make the user stand out visually against the background of the working environment. Not suitable for use at night and in low light areas,.e.g. D Class AS4602

High Voltage Equipment
Any equipment that operates above 1000 Volts AC or 1500 Volts DC

Hoist
An appliance intended for raising or lowering a load vertically without moving horizontally, (e.g. materials hoist, scaffolding hoist and serial hoist).

Identification Tag - Isolation
A purple and white tag labelled 'IDENTIFICATION TAG' used to identify locks which are not permanently identified.

Individual Isolation
An isolation in which isolators are secured with a multi-lock device then with a yellow equipment lock attached, followed by red personal locks of Protected Persons.

Isolating Person
A person authorised by a Responsible Manager to perform and verify isolations.

Isolation
Energy is blocked and residual energy is removed by the use of a device that positively separates or blocks the energy sources. Isolation also includes a verification process to check the effectiveness of the Isolation.

Isolation Board
A board used to house equipment lock keys and a list of isolated equipment. The group isolation board is secured with a group lock.

Isolation Matrix
A document that defines the levels of isolation that are required to perform nominated activities that has been risk assessed and authorised by the Responsible Manager for that site.

Isolation Planner
A person who is appointed by the Responsible Manager and who has successfully completed approved training, has practical experience and technical knowledge of isolation requirements relevant to the equipment. This person develops an isolation plan by identifying energy sources, isolation points, verification methods and isolation sequencing.

Isolator
A device (e.g. a switch, circuit breaker, valve, slip plate) that physically disconnects or directly blocks the supply of energy including stored energy in a positive way (i.e. positive isolator). These devices are not capable of being remotely operated when in the isolated position. They should be capable of being locked in the safe position. Devices such as push buttons, emergency stops, control valves, controllers, rail wedges and stops are not positive isolators.

Lifting Equipment
Includes lifting devices that can be fitted directly or indirectly to the hook or any other coupling device on a crane, hoist or winch without affecting its integrity, or lifting tackle including slings, eye bolts and shackles. This could also include equipment for lifting product such as stems, stillages, scrap bins.

Line of Fire - Transport
The area where a person could be struck by falling/moving material or objects having regard to the height, width and length of the load; any swinging loads; and the speed of the crane/forklift/vehicle.

Line of Fire - Mobile Equipment
The area where a person could be struck or trapped by moving equipment or by falling/moving material or objects, having regard to the height, width and length of the load and the speed and size of the mobile equipment.

Line of Fire - Crane
The area where a person could be struck by falling/moving material or objects having regard to the height, width and length of the load; swinging loads; and the speed of the crane.

Load Limit Device
A device that automatically assesses the load and initiates a control action when the rated capacity of the lifting device is exceeded.

Loader/Unloader
A person who loads/unloads, manages or supervises the loading or unloading of freight or containers for transport by road or rail onto or off a vehicle.

Lockout Station
A board used to house equipment locks, personal locks, multi lock devices, warning tags and identification tags.

Magnet Crane
A crane with a magnet attached to the hoisting mechanism to provide a non-positive lifting mechanism for the load.

Manual Metal Arc Welding Machine (Shielded metal arc welding, stick welding, electric arc welding)
A welding machine that consists of a power source with a welding lead and an electrode holder. Note. Excludes Gas Metal Arc Welding (MIG welding and MAG)

Mobile Elevating Work Platform (MEWP)
A mobile machine (device) that is intended to move persons, tools and material to working positions and consists of at least a work platform with controls, an extending structure and a chassis, but does not include mast climbing work platforms. Includes self-propelled boom lift, scissor lift, vehicle mounted and insulated vehicle mounted.

Mobile Equipment
Mobile equipment is material handling equipment that is designed to move within and outside a facility to transport materials, people and maintenance/service supplies. Excludes trains, light vehicle and mining equipment.

Molten Material
Molten materials such as molten metals and slag, that have a volume greater than $0.01m^3$.

Molten Materials Processes
Molten material processes in the context of this document means any work process in which materials are melted, poured and moulded where the volume is greater than $0.01m^3$

Multi-lock Device
A device that is secured to an isolator, which a number of locks can be attached to. This enables the securing of an isolator by more than one lock, when isolation has been verified.

Non-Positive Lifting Device
Where the lifting mechanism relies on means other than physical connection e.g., magnetic, vacuum or friction lifting attachments

Operational Access
Operational access is related to the day-today operation of machinery. It covers activities such as loading and unloading parts, adjustments, inspection, housekeeping and tool changing (e.g. cutters or die-setting).

Operational Access System
A formal and documented process that includes risk management and documents required to carry out operational access in a safe and controlled manner with the formal approval of an appropriate responsible manager.

Overhead Power Lines
Bare or covered aerial conductors and other associated electrical parts that make up an aerial line for the distribution and transmission of electrical energy.

Pedestrian Crossing
A defined and clearly marked crossing for pedestrians.

Pendulum Effect
If the life line is not anchored vertically over the working place, the worker will swing laterally if a fall occurs. This could result in the person striking the ground or other obstructions during the fall arrest process. The "pendulum effect" requires consideration prior to deciding the location of anchorage points.

Personal Lock (Red)
A red lock used by a Protected Person to secure: an individual isolator in a working alone isolation; a multi-lock device in an individual isolation; or the keys for equipment locks in a group isolation. The lock is to identify the Protected Person.

Plant Isolation System
The system developed within each plant area to specifically manage isolation under the authority of the Responsible Manager.

Procedure
A specified way to carry out an activity or a process. Procedures can be documented or not.

Protected Person
A person protected by the placement of their red personal lock under isolation or operational access.

Reasonably Practicable
The extent to which actions are technically feasible, in view of cost, benefit current knowledge and known best practice.

Refractory
Material that retains its chemical and physical properties at high temperatures.

Residual Current Device (RCD)
A device intended to isolate supply to protected circuits, socket-outlets or electrical equipment in the event of a current flow to earth, which exceeds a predetermined value.

Responsible Manager
The departmental representative accredited by the Department Manager as responsible for the effective implementation and compliance for a Code of Practice.

Rolling Stock
Any vehicle that operates on or uses a railway track (examples include wagons, trains)

Safe Working Procedure
A written instruction outlining the preferred method of performing a task/activity, outlining potential hazards and associated risk control measures to be applied.

Scaffolding
Refers to all structures and platforms, irrespective of height, which are assembled in whole or part from scaffold components. Includes modular scaffolding, tube & coupler scaffolding, suspended scaffolding, swinging stages, and planks placed across structures not engineered to accept planks. Painters trestles, fabricated working platforms, work boxes and motorised platforms are excluded from this definition.

Scafftag
An identifiable tag placed on scaffolding to communicate status, warnings and other conditions.

Shall
Indicates that compliance with the objectives and intent of the standard or procedure is mandatory

Should
Indicates that the primary intent is to comply with the requirement of the standard or procedure. Where local circumstances demonstrate that the requirement is not applicable or an alternate approach is necessary, a formal variation is required.

Shunter
Rail Safety Worker who marshals rail wagons and precedes train movements.

Single Line Diagram
A graphical representation of an electrical circuit, drawn using single line instead of drawing 3 separate lines for three phases.

Standby Person - Confined Space
A person who has, through a combination of training, education and experience, acquired knowledge and skills enabling that person to correctly perform stand-by duties.

Standby Person - Excavation
A person who is trained and authorised to observe excavations and identify any potential services/markers and communicate with the equipment operator and persons carrying out excavations.

Switching Officer
An authorised person who is responsible for switching operations, proving dead, earthing, and the issue and cancellation of permits for high voltage access in a specific area of the high voltage distribution system.

System
A set of arrangements, responsibilities and authorities aimed at the achievement of defined outcomes.

Tare Mass
The unladen mass of a motor vehicle or trailer.

Test Before you Touch
All electrical circuits must be considered energised until tested. Every conductor that is to be touched shall be tested and the following applies:

- Every conductor that is to be touched shall be tested
- PPE is required until testing is complete
- Test instrument must be verified
- Knowledge of equipment is essential
- Test circuit again if job continuity is broken
- Testing must be done at each location where conductors are going to be touched

Three points of contact principle
The use of both feet and at least one hand for access and egress of equipment, or when using stairs or a ladder.

Total Isolation
A state in which all sources of energy to equipment are isolated, locked into the safe position, machinery immobilised, residual energy removed and isolation verified.

Track-Watchers
Keeps watch for rail traffic approaching from any direction and warns workers. The track-watcher does not perform any other work while track-watching.

Variation
A documented deviation from the principles outlined in a Code of Practice.

Verify
To prove to be true or correct

Verification - Isolation
The act of confirming that the isolation has successfully removed the intended source of energy.

Visitor
A person visiting a GFG Alliance Australia site who is not a GFG Alliance Australia employee or contractor at that site.

Voltage
Differences of potential normally existing between conductors and earth as follows:

a) Extra-low voltage: not exceeding 50V AC or 120V ripple-free DC

b) High voltage: exceeding 1000V AC. or 1500V DC.

Walkway
A defined pedestrian pathway that is in a location, minimising interaction with any process hazards or vehicular/mobile equipment traffic.

Warning Tag
A yellow and black tag labelled 'WARNING' used to identify equipment 'out of service', or not to be operated. A warning tag does not provide personal protection

Working Alone Isolation
An isolation conducted by an Isolating Person where they are the only person that requires personal protection.

Working Load Limit (WLL)
The maximum load that can be applied to a device. The working load limit may be rerated for particular conditions of use.

Work Permit
A form completed by approved personnel in conjunction with service providers. Work permits clearly identify the critical hazards and their risks, associated precautions to be taken, and detail authorisations, inductions, and hand-over /safe hand back of plant. This may include other relevant documentation such as JSA, isolations, and other permits. An Authority to Work (ATW) is a Work Permit.

Work Platform
Movable component of an MEWP, other than the chassis, intended for carrying personnel with or without materials (e.g. cages, buckets, baskets).

Workway
A defined pathway that is in a work area, and is used by those working in the area.