

Engineering Site Standard

GPC-GSS-007

Packaging, Transport and Delivery of Goods

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Brief description

This standard outlines the requirements of packaging, transport and delivery of goods for works being carried out at GPC.

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Document Version Control

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1. Scope

The purpose of this Standard is to ensure the transportation of goods and services from point of despatch to arrival on site. This Standard aims to minimise the impact on the community and the site operations and to ensure that hazards are identified and managed to prevent any injury or incident from occurring.

The Contractor shall take all additional measures, beyond those specified herein, considered necessary in its experience to safeguard its particular equipment. The Contractor shall also advise and obtain the approval of GPC's representative of any variation to this Specification considered necessary to suit the particular equipment.

2. Definitions and Abbreviations

The Site	The total of GPC and particular areas affected by the delivery
The Work	The work onsite undertaken by GPC
The Contractor	The company engaged in performing a portion of the scope that requires bringing a workforce, equipment and materials to site to carry out supervised work.
The Procedure	The Contractors Mobilisation to Site Procedure
The Plan	The Transport Management Plan to Site.
HSEMP	The Project Health, Safety and Environment Plan
Construction Workforce	GPC, Contractors, sub-contractors, vendors and suppliers associated with the Project and working on the Site.

3. Codes and Standards

The services shall be in accordance with relevant Statutory Regulations and Codes including, but not necessarily limited to the following:

- Workplace Health and Safety Act, 2011
- Workplace Health and Safety Regulation, 2011
- Workers Compensation and Rehabilitation Act 2015
- Queensland Road Rules
- ISO 14001 and ISO 14004 -Environmental Management Systems
- GPC Procedures & Engineering Site Standards
- Local Government Regulations

4. Packaging of Goods

The Contractor shall properly and carefully pack and protect all goods ready for despatch in accordance with the best practices having regard to its method of carriage and handling and to the climatic conditions through which it will pass whilst being transported to its final destination.

The Contractor should submit a proforma packing list to GPC at a sufficiently early stage before packing commences to allow review of packing and shipping procedures.

The Contractor shall provide packing which shall be sufficient to withstand:

- The rigours of the ocean voyage, rough handling during transitory stages of loading and discharge, rail and road transport to remote mine construction site.
- Exposure to harsh environmental conditions, including extreme temperatures, high humidity, rain, dust, mud, dirt, salt air and spray.
- Outdoor storage for periods of up to eight (6) months at the Site, before start up.

4.1. Pre-Delivery Inspection

The Contractor shall advise GPC's representative at least five working days prior to commencement of packing that goods will be packed. GPC's representative may inspect the goods and the packing.

4.2. Conditions Applicable to all Packed Goods

Any colour banding shall be to colours nominated in the Specification or Drawings.

The contents of each case shall be completely weather and dust-proofed by the use of non-permeable film, of suitable strength, (such as 'Polythene' sheet or asphalt laminated paper or approved equivalent), sealed with waterproof adhesive.

To prevent damage or ingress of dirt, terminating flanges shall be protected by bolting timber or metal blanks to the flange; thermo wells and threaded end connections shall also be capped or plugged.

1.1.1 Shipping Marks

Each package shall be marked or have labels, placards or tags attached on two sides so that one mark is visible at all times. On containers one set of markings shall be on the doors.

The marking paint shall be durable, waterproof, fade resistant and able to withstand prolonged storage in bright sunlight and harsh conditions. The colour shall be in sharp contrast to the background on which it is painted (e.g. white or yellow on dark background).

Labels shall be printed on durable weather resistant material using waterproof ink. Labels shall be affixed to the shipping unit by waterproof glue. Labels shall not be fixed directly to the equipment.

Placards shall be constructed of galvanized sheet metal with a minimum thickness of 2 mm. Placards shall be securely attached with stainless steel or other non-corrosive fasteners. If wire is used for affixing, a minimum of two (2) wires shall be used. Minimum acceptable wire diameter shall be 2 mm.

Tags shall be stainless steel, non-rusting ferrous alloy, brass, copper or durable plastic, with a minimum thickness of 2 mm. Tags shall be legibly embossed or metal stamped with characters no

smaller than 10 mm in height. Tags shall be attached in the same manner and with the same materials as placards.

Each crate and box shall be marked in the English language in at least two places with the following information:

- Name of GPC representative
- The destination e.g. APT, BPT, RGT etc.
- Order number/contract number
- Mass (gross and net) expressed in kilograms
- Crate dimensions expressed in millimetres.
- Description of contents, e.g. equipment number, item number.
- Crate number of total consignment, e.g. Pack 1 of 6.
- Lifting points and handling requirements.
- Suppliers name.

Drums shall be colour banded with a continuous band around a centre line.

In addition to the markings specified above, the following special marking to aid in handling shall be applied. Easily damaged material shall be marked 'FRAGILE' and also, when required, 'HANDLE WITH CARE', 'COOL STORAGE', and/or 'USE NO HOOKS' as per the international handling symbols. Material such as machinery, motors, engines, etc that must be kept upright to prevent damage shall be marked 'THIS SIDE UP' with arrows on all sides of the crate pointing to top.

When required due to length or unbalanced weight, crates or boxes shall have a centre of balance indicated by a painted or stencilled black stripe 30mm wide on each side extending upwards from the lower side of sheathing; the words 'CENTRE OF BALANCE' shall appear in letters at least 30mm high adjacent to stripes.

1.1.2 Fixing of Components

All fixing and hold down bolts shall be fitted with 'Shakeproof' or 'Spring' washers or lock-nuts, or prevented from unscrewing by the use of 'Nyloc' nuts or approved equivalent. Where this is not possible, 'Araldite' or 'Loctite' or approved equivalent may be applied to the threads.

Particular attention shall be paid to the fixing of door hinges and locks, etc. which shall be securely held in place using fibreglass reinforced PVC tape, Sellotape No. 450 or equivalent. Doors shall be locked and the keys separately labelled and securely taped to the door handles. Keys shall not be left in locks during transport.

In addition to any temporary bracing, panels carrying heavy and/or delicate equipment need special attention and care in removal and separate packing may be required.

Protruding threads (or connections to services) shall be protected with proprietary caps or plugs.

1.1.3 Removal of Components

All instruments, protection relays or other fragile parts shall be removed, placed in sealed plastic bags and packed in expanded polystyrene or similar approved shock absorbing material in timber boxes. The protection relays, if withdraw able, shall be left in their cases and packed as a whole. All removed components' shall be securely supported to prevent damage in transit and shall be packed in separate

crates and not with heavy items. All removed components shall be marked with their function and location in addition to the requirements of Clause 3.2.3.

Large equipment requiring dismantling before shipment shall be clearly match marked prior to disassembly to facilitate reassembly on site.

1.1.4 Lifting Points

All necessary lifting and handling devices including eye bolts shall be fitted to all equipment to facilitate in-transit lifting and handling and onsite installation after removal from the packing case.

Each item shall be provided with lifting and sling points that will distribute the load equally and keep the item in a stable, horizontal position when lifted by one hook.

Each item shall be provided with adequate lashing points to secure the load during handling and transport.

All surface areas of the item which may come in contact with the slings during lifting shall be covered with timber boards or similar materials that will prevent scratches, dents and other damage.

1.1.5 Delivery Dockets

At least one packing list, in a waterproof envelope, shall be attached to each package describing its contents. In sealed packages (cases / cartons) with waterproof linings, a second packing list shall be taped to the outside of the lining, so that it is not necessary to disturb the lining when the list is removed for examination.

Where it has been approved by GPC's representative to forward equipment (i.e. switchboards etc.) without certain minor items, the dockets shall show those items which are to be supplied at a later date to complete the Goods.

The third copy shall be supplied to the GPC'S representative. Under no circumstances shall Goods be despatched without the two delivery dockets attached and the third docket sent to the GPC'S representative. GPC's representative shall be advised of despatch of Goods to the nominated delivery point and the time of expected arrival.

Any single package or unit which exceeds 15m in length, 3m in width, 3m in height or 30t in mass shall be notified to GPC and approval received before such item shall be accepted for shipment.

4.3. Packing and Material Protection

All packing (e.g. protectors and moisture inhibitors) shall be sound and undamaged after export packing.

The Contractor shall ensure finished and coated surfaces are protected from abrasion.

Within each pack, weight should be evenly distributed with lighter Items on top and all Items in the same pack shall be prevented from damaging each other.

The Contractor shall include for suitable protection and packing of machinery and equipment to prevent damage and/or corrosion during ocean freight. In particular, all machined surfaces, bearings (anti-friction and/or solid) and electrical components shall be protected against the Ingress of salt air, sea water and other corrosive substances. Bearings shall also be protected against "locking" by suitable blocking of shafts etc.

Heavy equipment, including pulleys, screens, pumps, rollers, machine heads, electrical switchboards, doors and panels carrying heavy components, and any other moveable parts, shall be blocked and braced to prevent movement. Clear warnings shall be indicated to remove any blocking or bracing devices before start-up. Accessories such as electrical current and power transformers, block contractors and plug-in components, including relays and electronic cards, which cannot be locked or blocked, shall be removed and packed as separate items.

Electrical contractors, whether attached or packed separately, shall have their pole faces, anvils and armatures tied to prevent movement.

Special attention shall be given to fragile items, including the internals of electrical switchboards, by pre-packing in foam, plastic cushioning or some equally efficient cushioning material. Note: shredded newsprint, popcorn or excelsior shall not be used.

Securing devices applied to articles packed shall not abrade or otherwise damage the equipment and/or materials.

Components or crates requiring heating or air conditioning shall be clearly marked. They shall also have suitable connections on the outside to allow energising without opening the package / box / crate. All instructions and data for the required connecting and energising shall be clearly listed on the outside of the package / box / crate.

1.1.6 Moisture Control

Waterproof case liners (in bag form, or an overwrap, constructed of asphalt laminated craft paper and sealed in with waterproof adhesive) shall be used if the goods are susceptible to damage from moisture. Equipment such as detectors, sensors and other instruments, PLC's, busbar compartments, etc. shall be packed in an interior moisture-vapour proof barrier with silica gel, or a comparable desiccant to absorb moisture within the package.

All equipment shipped utilising dehydrating materials shall be labelled or tagged with an easily observed weatherproof red sign, reading "CAUTION - DESSICANT MATERIALS ARE ENCLOSED WITHIN THIS EQUIPMENT". Calcium chloride shall not be used as a desiccant.

Openings in electrical equipment which may be susceptible to ingress of dirt, dust or moisture, shall be sealed with waterproof tape or in an equally efficient manner.

Machined steel or iron surfaces shall be protected by the application of suitable rust preventative oil (either light film or hard drying) provided removal of the oil with a petroleum based solvent is applicable.

Gearboxes and drives, where applicable, shall have breathers removed and replaced by air tight bungs and filled with special corrosion inhibiting oil effective for preservation for periods from six (6) to eighteen (18) months.

Breathers shall be packed separately and clearly marked as to their correct fitting.

4.4. Electrical

1.1.7 Switchboards, Motor Control Centres and Similar Electrical Equipment

All switchboards, motor control centres and similar electrical equipment shall be packed in cases with a substantial base adequate for lifting by fork-lift vehicle. The equipment shall be bolted through the

case on to solid bearers with a minimum of 100mm x 50mm section to enable ready lifting by fork-lift truck.

All equipment likely to come loose in transit, in particular heavy items such as transformers, circuit breakers and block resistors shall be removed and separately packed to prevent them vibrating loose in transit resulting in damage to themselves and/or other components. If removal is not feasible, they shall be securely supported by bracing of such design to effectively prevent their movement during transit.

Contactors shall have their pole faces packed, and anvils and armatures tied to prevent movement. All plug-in equipment such as relays and electronic cards shall be unplugged and separately packed.

All protection relays and switchboard instruments shall be packed separately, marked with their function and/or location and a packing slip included in the case. Where relays and instruments are in one case, special care shall be taken to ensure that individual items cannot move during transport. Each case shall be marked as per Clause 3.2.3.

To avoid moisture contamination, vapour phase inhibitors shall be provided.

All thumb screws and door handles shall be securely held in place with PVC backed masking tape similar to 'Scotch' pressure sensitive tape.

A box containing at least six each of the common fixing screws, bolts, nuts, spring washers etc. used in the switchboard and for mounting equipment on it shall be packed with the other separate items.

Circuit breaker trucks or carriages shall be packed separately to their associated switchboards. The trucks shall be transported without oil. The circuit breaker shall be packed in the 'open' position and the moving contacts chocked or clamped to prevent movement in transit. High voltage fuses shall also be packed separately.

1.1.8 Transformers

In general, transformers are to be transported fully assembled ready for immediate service after unpacking.

Each transformer shall be dried out at the manufacturer's works and shall be suitable for service without further drying out on site. Each transformer shall be filled with oil at the manufacturer's works and shall be crated to suit transport to the delivery place by sea, road or rail as applicable. Special precautions to minimise vibration and damage as applicable must be taken by the manufacturer.

Transformers with outdoor bushings are to have these covered with a substantial thickness of foam or rubber to prevent chipping of the insulators.

Temperature gauges and other instruments are to be protected in a similar manner.

In general, batteries are to be shipped dry and uncharged. The electrolyte solution shall be shipped in strong containers which can be easily decanted.

1.1.9 Electric Motors

All motors shall be packed in cases on two cross bearers with a minimum cross section of 100mm x 75mm. Holding down bolts are to be located through the feet of the motor, the cross bearer and the base of the case.

The bolts shall be fitted with flat washers and locknuts.

Special attention shall be paid to restraining the rotor to prevent damage to the motor bearings during transit.

The Contractor shall advise GPC's representative of details of precautions taken to prevent brinnelling.

1.1.10 Cables

The Contractor shall pack all cables for transport by sea or road to Site unless otherwise specified or directed by GPC's representative. All cables shall be wound on drums to give adequate protection to the cables.

The drums shall be of strong export quality, of metal or timber and shall have continuous solid timber cleats nailed across the perimeter of all drums to prevent damage to the cable. The timber cleats shall also be held in place by two steel bands, each fixed at the ends of cleats. Both ends of the cable shall be secured to the drum to prevent movement of the cable on the drums during transit.

The Inner end of the cable shall be protected by a steel cover such that the end of the cable cannot be damaged while the cable is being removed. The cable drum shall have an axle hole in its centre to facilitate the removal of cable. This hole is to be reinforced with steel plate on both sides of the drum so that the drum cannot be damaged during handling.

Both ends of cables shall be waterproofed to prevent moisture penetration.

All drums shall be stencilled with the following information in block letters having a minimum height of 300mm.

- Name of GPC representative
- The destination
- The contract/order number and item number
- Mass (gross and net) of the drum expressed in kilograms
- Dimensions of drum (diameter and width) expressed in millimetres
- Cable size, type, voltage, phase colour (If single phase) and length in metres
- Drum number of total consignment, e.g. Drum 1 of 6.

The drum numbers will be provided in a drum allocation schedule issued by GPC's representative.

1.1.11 Insulators

Each Insulator shall be individually wrapped in two layers of corrugated board or bubble-pack and stowed in layers between a suitable shock absorbent materials such as shredded paper. Particular care must be taken to ensure that the insulators cannot contact each other or the case timbers due to compaction of packing caused by continuous vibration while travelling.

4.5. Mechanical / Structural / Reinforcing Bar

1.1.12 Mechanical Equipment

All hydraulic power packs and hydraulic consoles shall have special attention paid to unsupported pipe work, instruments, hanging motors and pumps. These shall be braced with felt-covered bracing of minimum section of 100mm x 50mm which is fixed to the body of the crate.

Vibrating screens shall be supported by two universal beam cross members which can be chained to the transporting truck or wagon, the screen support springs shall be match-marked, removed for transport and substitute blocks inserted and bolted to the universal beam members.

After testing, crushers shall be match-marked if necessary and dismantled into main components and assemblies for transport to the delivery place.

Special care shall be taken to prevent brinnelling of bearings and to protect all machined surfaces. Shafts shall be blocked on centering brackets or false bearings used to relieve bearings of load during transportation.

Vertically mounted motors in equipment shall be specially supported for transport to prevent damage to the rotor and stator end plates.

Where gearboxes are transported to the delivery place without normal oil fill, vapour phase inhibitors such as Shell VPI powder or approved equivalent shall be used to protect internal surfaces. This shall be noted on despatch documents and on a metal tag attached to the gearbox detailing type of inhibitors etc.

Where required, fabricated steel lifting and supporting frames shall be supplied.

1.1.13 Structural Steelwork

Steelwork dismantled for transport shall be marked to facilitate reassembly on Site.

Each section of steel shall have a 75mm wide colour band all around the section and positioned, in case of sections up to 6m in length, 150mm in from one end. For sections greater than 6m in length, the colour band shall be placed at both ends of the section. Adjacent to the colour band, the drawing and part numbers of each member are to be stamped in 10mm numerals and the stamping is to be painted over with white waterproof paint. Adjacent to the stamping, the drawing and part numbers shall be painted in white 50mm numerals.

Prepared and/or painted surfaces shall be fully protected by the use of a suitable packaging material such as felt, etc. between lifting tackle and the work whilst loading is being carried out, to minimise damage to both the surface and the protective finish. All machined surfaces are to be protected by Shell Ensic SDC or approved equivalent and hessian and/or timber sheeting.

Projections from steelwork such as lugs and splice plates which may suffer damage during transport are required to be reinforced with timber packing pieces.

The Contractor shall ensure that the carrier supplies adequate dunnage and packing to prevent damage to surfaces and/or finish of the material whilst in transit. Particular attention shall be paid to protection of material subject to damage by ropes and/or chains.

All fixing devices such as nuts and bolts shall be safely packed in steel drums or solid timber packing cases.

Light slender members shall be bundled securely. The bundles shall have stamped metal tags attached which shall contain the relevant drawing and part numbers. The bundles shall be painted with the relevant colour band. Small parts shall be placed in sealed drums or cases.

1.1.14 Reinforcing Bar

Reinforcing bars shall be securely strapped into logical bundles suitable for movement with a folk-lift. The cross-sectional ends of bars shall be painted with their identification colours while a metal tag of dimension 180mm x 120mm firmly tied to the bundle shall contain hand stamped markings, the painting and markings all In accordance with the specifications and drawings.

1.1.15 Pipeline Materials

Scalloped cradles or bolsters shall be provided between each and every layer of pipes. These cradles or bolsters shall be lined with high density felt or rubber on scallops which are of sufficient size to bear on the full contact area with the pipe. End protection shall be provided.

End hooks shall be used with lifting equipment, and the Contractor shall ensure such methods do not cause damage to the pipe, its lining, or external coating.

The Contractor shall unload and stack, if necessary, all pipes and pipe specials at delivery points in the proper order relevant to the type and size of the goods and the Information provided by GPC's representative.

If pipes are to be stockpiled at the delivery place, the Contractor shall provide sufficient dunnage or gluts at the destination to ensure that the pipes are stacked clear of the ground and provide bearers between each layer of pipes. Wedges shall be used to prevent movement of stacked pipes. All dunnage and wedges shall be so treated to prevent white ant infestation on the delivery place. The height and/or layers of stockpiled pipe, to avoid undue pressure on bottom layers, shall be as approved by GPC's representative. Identification of piping shall be in accordance with the specification.

4.6. Furniture

Furniture and office equipment shall be transported in covered furniture vans designed for the purpose.

Furniture incorporating readily detachable components shall be disassembled for packing and transportation where such disassembly is clearly necessary to minimise damage in transit. Upholstery shall be adequately covered and otherwise protected to prevent scoring, tearing or permanent compression in transit.

Household furniture shall be despatched in complete 'house lots' only. Mirrors and glass shall be separately packed in solid timber cases adequately protected against entry of moisture. No more than six 'house lots' of glass/mirror shall be packed in anyone case.

4.7. Export Packing

Wherever practical, the Contractor shall place purchased items into ISO sea containers. No item shall be placed into containers as the sale form of packing. The conditions of this specification shall apply to all items prior to containerisation.

The standard dry cargo twenty foot (TEU), forty foot (FEU), open tops and bolsters average internal dimensions are as stated below.

- TEU | 5900 mm x 2340 mm x 2395 mm
- FEU | 12030 mm x 2345 mm x 2395 mm

Door opening width is 2335 mm and the height is in the range 2270 2280mm.

Flat racks and bolsters allow a marginal Increase in width and for an increase in height of contents. Open tops allow an increase in height only. However, over width and over height contents may commit the container to on deck stowage.

1.1.16 Safety Standards

The Contractor shall ensure that all containers carry a current Container Safety Compliance {CSC} plate to ensure that their structural Integrity meets the standards laid down by the International Institute of Container Lessors. Contractors providing second-hand containers as part of their equipment package shall have the containers examined by a surveyor and repaired as necessary to Standard ICL 4 to confirm its structural and weather tight integrity.

1.1.17 Inspection of Containers

All containers, whether owned or leased, shall be inspected both inside and out before it is packed by the Contractor. The inside of containers shall be checked for cleanliness and light tightness. If a container appears to be damaged or unclean, a replacement shall be used.

If there are any doubts as to a container's condition, it shall be verified by a surveyor or the shipping or leasing company's technical representative.

1.1.18 Dimension Limits

The Contractor shall advise GPC of any over width or over height items intended to be stowed in open top containers or on flat racks or bolsters. Cargo exceeding the ISO dimensions shall be separately notified / accepted by the shipping companies.

1.1.19 Owned or Supplied Containers

Containers supplied as part of the equipment package shall be delivered direct to the delivery place, where they will be stored until required.

Space shall be left in such containers to permit entry for inspection by customs officers at the discharge port where practical.

1.1.20 Shipping Company or Leased Containers

Shipping company or leased containers may have to be stripped at the discharge port and their contents conveyed by road or rail transport to the project site.

Whilst these containers should be packed to capacity, the standard of packaging shall be adequate to withstand the additional rigours of the secondary transportation system and storage at site in exposed conditions.

The Contractor shall confirm the container arrangements for the goods with GPC.

1.1.21 Packaging and Securing

The Contractor shall ensure that all cargo in the container is secure against movement from any reasonable cause; therefore, all cargo shall be blacked tightly against adjacent goods or surfaces.

Where necessary, cargo shall be separated using adequate dunnage.

Heavy goods shall not be placed on top of lighter goods.

Cargo compatibilities shall be verified to eliminate damage from contamination or prejudicial characteristics. If necessary, no compatible cargo shall be segregated and separated by a physical barrier to limit risk of damage.

Damaged goods shall not be loaded into a container unless the contents are checked and the packages are repaired, or the packaging recovered when necessary to prevent further damage.

Weight in the container shall be evenly distributed over the horizontal, longitudinal, and transverse planes of the container. The centre of gravity of the container when loaded should be lower than the mid height of the container whenever possible.

When packing of the container is completed, steps shall be taken to ensure that the cargo will not fall out when the doors are opened. Wooden bracings or a proprietary dunnage system shall be applied, where necessary.

1.1.22 Container Packing List

One copy of the container manifest inside waterproof envelopes shall be attached onto the internal right hand wall of the container near the door, and a second copy to the outside of right hand access door. Contents of the container shall match the container manifest and the container serial number and door seal number shall appear on the manifest copies.

4.8. Break Bulk Cargo

1.1.23 Intermediate and Heavy Lifts

These items shall be shipped as a single unit with limited surface packing.

1.1.24 Cradles

The Contractor shall be responsible for designing transportation cradles and design considerations shall take account of stability, weight distribution and compatibility with proposed transportation equipment and provide clearance for self-loading or jacking if required.

Cradled equipment shall have adequate clearance during all phases of handling and shall take account of any inclination of the horizontal axis of the lift to ensure that it remains clear of the ground in the lifting movement.

The cradle construction shall consist of a minimum of two supports and be capable of not only supporting the weight of the item, but take account of the dynamic forces imposed during handling and transit.

The unit shall be secured to the cradle by bolting or strapping or in a manner consistent with good engineering practice.

The method of proposed handling shall be confirmed with GPC to ensure that there are adequate lifting lugs or jacking points.

The cradle shall be constructed in hardwood or semi-hardwood. Dry Oregon may be used except for rubbing strips.

Rubbing strips shall be fitted to prevent direct contact and to provide a minimum clearance of 100 mm between metal surfaces and the deck.

1.1.25 Lifting

Items will generally be lifted by seel slings or fork lift trucks and each item shall have suitable lifting and Slings points to provide a stable horizontal lift.

If special lifting equipment is required, which does not form part of the Contract; the Contractor shall notify GPC.

1.1.26 Component Parts

Loose component parts (especially if fragile, susceptible to atmospheric damage or pilferage) shall be boxed and, if possible, secured with the main item (e.g. Tools, gaskets, wing mirrors, safety valves).

Fixed component parts, if fragile, susceptible to atmospheric damage or pilferage, shall be securely protected (e.g. Instrument panels, loose cable ends, control boxes).

When the component parts require additional securing for transit, the transit bolts, clamps, brackets etc. shall be clearly marked for easy removal prior to installation.

4.9. Skids, Crates, Boxes and Pallets

All timber materials used in the construction of skids, crates, boxes and pallets shall be new, sound and well-seasoned. Knots shall be sound and shall not exceed one-third of the width of the board or cause any nailing interference.

The Contractor shall ensure that the timber dimensions selected are adequate for the mass and type of materials. Timber sizes indicated are nominal and shall be considered as a minimum.

Fasteners shall be adequate length and quantity and shall be coated (i.e. Hot dip galvanised or chemically etched) type. Where possible, nails shall be driven into the side grain of the timber.

All fixing screws and bolts shall be equipped with "shake proof" washers and lock-nuts. Alternatively, "Nyloc or similar nuts and/or "Loctite" or similar compounds shall be used to prevent unscrewing.

Staples are not permitted, except for securing plywood sheeting.

1.1.27 Skids

The Contractor shall select a design to minimise possible deformation of the skid and load during lifting.

Where strapping, top loading or the use of slings could damage the material, the upper surfaces shall be protected by corner pieces or a top frame.

A minimum of two rubbing strips/skids (minimum height 75mm) shall be positioned so that the bundle can be handled by a folk lift truck and/or slings.

Additional rubbing strips/skids shall be spaced equally, as necessary, to distribute the load and prevent sagging.

Articles shall be nested so as to occupy minimum volume. All Items shall be secured to the skid. Where bolts are practical, heavy Items shall be bolted to the skids through the platform.

Securing shall be done either with unannealed steel strapping (minimum width 32 mm) or by tie-rod connectors between top and bottom skid members (e.g. Steel U-bars).

The tie-rod method shall be used where steel strapping is inadequate to maintain the bundle configuration.

The number of securing points shall be adequate to prevent sagging or deformation of the bundle during handling.

No overhand is allowable.

1.1.28 Wooden Crates

All packing shall be in cases of timber, solid and close jointed, that is, not partially open crate construction, unless otherwise specified or prior approval is given by GPC's representative. The base of all cases shall be constructed for ready lifting by fork-lift truck unless otherwise approved by GPC's representative. Cases shall be clearly marked with slinging positions.

Contents shall fit snugly inside the case and shall be restrained from movement by being properly bolted. If possible to the base and braced by padded battens fixed firmly to the case through framing or uprights. Where metal or prepared paintwork may come into contact with the case timbers, it shall be protected from abrasion by felt pads, foam rubber, plastic or cardboard. All cantilevered or similarly attached portions of equipment shall be supported to resist additional loads imposed during transport.

Crates from overseas shall NOT contain hay or straw packing. They shall be of new, well-seasoned wood, free from bark and treated against siren and other woodborers by fumigation in accordance with Australian regulations. A fumigation certificate issued in the country of origin by a government health authority or an authorised fumigation operator MUST be provided.

End panels shall be framed so that the combined thickness of the cladding and framing will be sufficient to provide a rigid support and nail receptacle for the side panels. Cladding of end panels shall be 20mm minimum and framing 38mm minimum.

Side panels shall be provided with framing or uprights of sufficient thickness and spacing to provide adequate rigidity to the case and be capable of supporting without damage, a normal degree of top loading. Cladding for side panels shall be 20mm minimum, and framing shall range between 38mm to 50mm maximum. Where it is considered that the 50mm framing is less than adequate, extra uprights / framing shall be utilised, in no instance shall the space between the uprights / framing and the end of the case exceed 225mm.

Bottom panel shall be clad with timber of sufficient thickness to adequately support the equipment and shall be supported on cross bearers suitably placed and of sufficient thickness to permit fork-lift handling; cladding shall be at least thick as the cladding used on the side panels.

Top panels shall be constructed of timber at least as thick as that used for cladding the side and end panels and suitably framed using 38mm timber minimum.

Nails shall be either cement coated or 'twist' nails, with a penetration into the container of approximately twice the thickness of the cladding, alternatively nails may be clenched.

1.1.29 Pallets

The preferred pallet is approximately 1150 mm x 1150 mm with two-way entry and a double deck pallets shall be non-returnable and conform with the relevant Australian Standard.

If the material dimensions are such that it cannot be secured to a standard pallet, the dimensions may be increased to a maximum of 1400 x 1600 mm.

The SWL shall be marked on the pallet and the gross mass shall not exceed 2000kgs.

The total package height shall not exceed 2000 mm and the stability of the load such that the centre of gravity is below mid-height.

The load shall be covered with a water resistant sheath and securely strapped using 4 metal straps (minimum 20 mm width). It is preferred that only items impervious to damage from moisture, etc. shall be packed in this manner. The load shall not overhang the pallet.

1.1.30 Sacked Goods

The use of sacks as a packing medium shall be subject to the approval of GPC and the Contractor shall be guided by the manufacturer of such items.

A six ply waterproof sack with one external Hessian cloth sack or equivalent is acceptable. A supply of empty refill sacks equal to 5% of the number of filled packages in the shipment to replace those damaged in transit shall be provided and shall accompany the shipment to destination. All individual sacks shall be tagged or branded with:

- Contract Number
- Purchase Order
- Purchase Order Item Numbers
- Content Details

Sacks shall be stacked on the pallet in altering layers and cross-tied to form a square load.

Prior to stacking the bags or sacks, cardboard sheet with the same width and length as the pallet shall be placed over the pallet top deck boards, which provides an uninterrupted surface area to distribute the weight of the load and prevents any bags or sacks from protruding through the open spaces between the pallet top deck boards.

The load shall be covered with a full pallet size water resistant cardboard sheath, or equivalent covering, that encloses the four sides and top and helps to secure the load. Load shift or sag shall be restrained by applying four x 20mm (minimum width) metal straps around the load, two per side, which firmly anchor the load on the pallet. No sharp edges shall be left exposed.

The four sides of the load and the pallet wings shall be completely covered by a UV stabilised shrink wrap cover or stretch wrapping.

1.1.31 Pails (Metal)

Pails shall be stacked on pallets in maximum of 2 layers directly on top of each other to form a square load. Cardboard layer pads or equivalent may be necessary to provide stability between layers.

A 12 mm plywood cap or 25mm thick timber frame of the same outer dimensions as the pallet shall be placed on top of the load.

The load shall be secured by four metal straps, minimum 20 mm two per side.

Total pack height shall not exceed 1100 mm.

Total mass shall not exceed 2000 kg.

1.1.32 Drums (200 litres)

Drums shall be stacked in a square formation in one layer only.

A 12 mm plywood cap or 25 mm thick timber frame of the same outer dimensions as the pallet shall be placed on top of the drums.

The load shall be secured by four 20 mm metal straps with two per side.

1.1.33 Pipes

Straight run pipe shall be bundled and secured to 150 mm minimum height supports, spaced at 5m maximum intervals. The end of the handling bundle shall be boxed to provide bundle bracing and to protect pipe ends. Shop-primed galvanised or other coated straight run pipe bundles shall be wood stripped both ways to provide approximately 6 mm clearance between pipes to prevent abrasion of the pipe coating. The bundle shall be strapped to a section near each end of the bundle and at a 5 m maximum interval.

All openings in pipe spools shall be securely closed and flange faces and threaded connections protected with suitable plugs, flange covers and thread protectors. Small branches and flimsy parts shall be adequately braced or otherwise protected to prevent damage in handling, shipping and storage.

Straight-run fabricated piping shipping bundles or crates shall be limited to 4 tonnes.

1.1.34 Small Loose Parts

Small loose parts shall be packed in separate, sturdy waterproof wooden boxes and shall be marked as a separate package.

For security in shipment it is permissible for such boxes to be shipped attached to the skid or within an open crate of an item of equipment. Such boxes shall be strapped or bolted to the skid or crate. The boxes shall be visible and not be enclosed in boxes where they can only be identified by opening the main box.

Items shipped in this manner shall be drawn to the attention of the company's freight forwarding agents so that they are not overlooked in documentation.

4.10. Hazardous Materials

When materials are defined as hazardous, in directives issued by the Department of Transport (DOT), International Civil Aviation Organisation (ICAO), International Air Transport Association (IATA), Department of Occupational Health and Safety, International Maritime Organisation (IMO), or other industry or government organisations, the supplier shall be in full compliance with those directives, in the treatment of the material.

All hazardous materials shall be identified by proper shipping name, labelled, packaged and packed in full compliance with the directives of the appropriate authority.

Hazardous materials shall be packed separately and should be segregated from other materials. The preferable position in a container is the door end adjacent to the doors to allow quick access for inspection or removal.

4.11. Spare Parts

Spare parts shall be packaged separately from other materials.

Packing lists and invoices shall relate exclusively to the package of spare parts

In addition to the normal markings, all packages of spare parts shall be marked in Blue lettering on three sides with the words "Spare Parts".

If necessary, the background of the package shall be coloured to ensure the Blue lettering is clearly visible.

5. Transport of Goods

Transportation of sourced goods and services to site shall be carried out in accordance with this Standard and **OHS Work Procedure Loading and Unloading Materials**.

Transport by contractors, vendors and suppliers for their own goods and services must comply with this Plan.

The Contractor is responsible for selecting the most appropriate mode of transport to site for Project equipment and services. The mode must consider the size nature and quantity of the delivery and the most appropriate method of moving and handling.

The Contractor is responsible for ensuring that transport to site organised by any vendor or supplier transporting goods or services to the GPC site must be in accordance with this Standard.

5.1. Methods for Transportation

When placing an order for goods or services to be delivered to the Project the most appropriate method of transportation must be considered to improve the safety of the transport operation and reduce potential for damage and the minimise the impacts on the community or third parties. Available for transport to the Project is the following options:

- By road via the Bruce Highway or from Gladstone
- By rail to Gladstone
- By air to Gladstone or Rockhampton
- By sea to the GPC wharf
- By mail bag or couriers.

5.2. Transport Companies

GPC will use, where practical, only approved transport companies. Trucks shall be roadworthy and suitable for transporting the loads.

5.3. Loading and Stacking

Suppliers will be instructed in the Purchase Order and Contract documentation that all loads must be placed on or in the transport vehicle and sent to site with the unloading plan considered. Loads that cannot be unloaded and handled safely on site will be sent off site for re stacking.

Loads must be positioned when loading so that:

- The load can be removed using mechanical means, fork lift or crane.
- The load can be slung from hook attachments that can be accessed from the ground.
- Loads should arrive on site pre-slung where suitable.
- Loads should be in cradles or containers that can be removed from the vehicle using mechanical equipment from the ground.
- Climbing on the backs of trucks is not permitted without a written risk assessment.
- Spreader bars should be used where necessary.
- Loads must be checked before unloading.

5.4. Breakdown or Incident when Travelling to Site

In the event that the goods or services incur a break down or incident when travelling to Site, the transport company must instruct the driver to contact the relevant Contractor's Construction Manager. Details of the incident must be recorded, as necessary, to be available in the event an insurance claim is to be made. Witness statements, Police investigation records, photographs etc. should be sought.

5.5. Transport of Dangerous Goods and Banned Items

Transporting of dangerous good must be the subject of a separate risk assessment and must be carried out to minimise the potential impacts on the community and the site operations. The risk assessment will be carried out by the GPC representative in conjunction with the supplier, contractor and the transport companies and other relevant parties (Gladstone Regional Council, the Department of Main Roads and the Police etc.).

The risk assessment and recommendations must have the approval of GPC before being brought onto site. Transportation of all dangerous and high risk consignments must have an emergency response plan including the relevant MSDS information. Adequate notice must be given to the GPC representative for any non-standard loads delivered to site.

Transport companies and drivers must be aware of banned items on site and must not bring these items through the gate. All drivers will either be fully inducted or have a visitor induction that explains these requirements.

5.6. Use of Public Roads in Residential Areas

Excessive noise or traffic presents a danger to residents and local areas. As such the Contractor will instruct Transport companies delivering to site to only use the main roads to the site from Gladstone and the Bruce Highway. The use of short cuts through residential streets will not be permitted.

5.7. Capacity of Carriers

Before packing the Goods, the Contractor shall obtain from the relevant airlines, road transport or shipping authorities, up-to-date information about weights and sizes of cargo which can be carried to the delivery place and shall design the crates and pack the Goods accordingly.

6. Delivery of Goods

6.1. Delivery Details

Delivery details shall be identified on the goods and services. The project address for the transport and receipt of goods and services is as:

- GPC representative
- The Contracting Company
- Gladstone Ports Corporation
- Bryan Jordan Drive
- Gladstone Queensland 4680

6.2. Site Materials Receipt and Issue

The site receiving hours are:

Monday to Thursday	08:00 – 12:30pm
Friday	No deliveries (unless pre-arranged)

Deliveries arriving outside of these times will be delayed until the next day or over the weekend to unload, unless pre-arranged.

Wherever possible Project goods and services shall be received unloaded and issued directly to the contractor or end user directly on arrival. The contractor or end user is responsible for storage of the goods and services once they have taken delivery.

The Contractor will be responsible for receipting goods for the project and ensuring the quality is as per specifications and all quantities are correct.

6.3. Security

All vehicles entering the Site must report to Security. Vehicle drivers and passengers must report to the Security Officer and state their name, nature of their business coming onto site, what they are delivering and who they are intending to visit.

6.4. Site Driving Rules

All site driving rules relating to vehicle separation distances, speed limits, pedestrian crossing are set out in the **GPC Contractors and Port Users Safety, Environment and Security Standard**.

6.5. Access to Lay Down and Storage Yards

Lay down areas will be identified by the GPC representative prior to delivery. The GPC representative is responsible for allocating lay down areas and authorising vehicle access and visitor escorts, which includes vehicle escorts.

6.6. Escorts and Movement On and Off Site

All trucks and delivery vehicles with oversized loads shall be met by a visitor escort and escorted at all times whilst onsite.

Escorts for offsite movement of goods and services to site and the obtaining of the necessary permits and clearances from Department of Main Roads and the Police etc. are the responsibility of the transport company and contractor.

In certain circumstances for particular loads that require a dedicated Transport to Site plan, (heavy, over width or over height loads) the GPC representative will arrange for this plan to be produced, including liaising with local authorities, Gladstone Regional Council, the Department of Main Roads and the Police. When bringing over-size or over-weight loads to site, the GPC representative will notify the GPC Community Relations.

6.7. Use of GPC Wharf

The use of the GPC wharf and haul road will be subject of a separate risk assessment and procedure. Load limits exist on wharf structures and heavy loads will need to be checked by a suitably qualified engineer and approval given by GPC prior to access.

6.8. Unloading and Storage

Unloading / loading must not commence until a risk assessment and TAKE 5 has been carried out and all hazards have been identified and control measures put in place. This includes the involvement of any plant / crane operator that will be involved in the loading / unloading process.

Hazards associated with the loading and unloading of equipment and materials include;

- Poor or incorrect hazard identification
- Height of truck, utility or load
- Manual handling (weight / height / stretch)
- Operational machinery and plant
- Unqualified operators
- Communications
- Composition and characteristics of the load
- Vehicle, plant and personnel interface
- Lifting equipment
- Defective vehicles and plant
- Access to egress from the vehicle, plant or tray of truck / utility

It is the responsibility of the relevant contractor to ensure each delivery driver completes a GPC induction as per the **GPC Contractors and Port Users Safety, Environment and Security Standard** and briefing with regards to site specific safety requirements.

Contractors must make sure that drivers are required to have the correct PPE when on site.

6.9. Air Shipments

These shall be export packed to acceptable airline industrial standards in such a way as to afford items maximum mechanical protection, ease of handling and the minimisation of total mass of shipping units.