

[INSERT BUSINESS NAME]

NETWORK FATAL RISK CONTROL STANDARDS



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REQUIREMENTS

The Network Fatal Risk Control Standards outlined in this document define a set of mandatory standards and minimum performance requirements in the nine Network Fatal Risk categories under three operational areas: system and procedures; plant and equipment; and people. These standards apply to the duty holders, workers inclusive of contractors and subcontractors, and visitors of [INSERT BUSINESS NAME] when they are involved in controlled activities to which a Health and Safety Management System [or as appropriate to the relevant Network business – please insert] applies.

CONTEXT AND APPLICATION

Application of the Network Fatal Risk Control Standards is mandatory at [insert business name] business and operations. These standards should be read and applied in conjunction with the requirements of the *Work Health and Safety (WHS) Act 2011, NSW WHS Regulation 2011, the Electrical Supply Act 1995, Electricity Supply (Safety and Network Management) Regulation 2014, Codes of Practice, Energy Networks Association Guidelines, Australian/New Zealand Standards and Electrical Safety Rules.*

Where legislation prescribes requirements less than the requirements of these Fatal Risk Control Standards, the requirements of this Standards document shall take precedence.

In this document the term 'must' or 'shall' defines a legislative or NNSW requirement and is mandatory.

RISK MANAGEMENT

[INSERT BUSINESS NAME]'s approach to the management of risk is outlined in the Risk Management Framework. The Network Fatal Risk Controls are an element of that Framework and are underpinned by the Company Risk Management Policy and Procedure and established risk-based processes within [INSERT BUSINESS NAME].

[INSERT BUSINESS NAME]'s risk management objective is to eliminate risk. If it is not reasonably practicable to eliminate the risk, then it should be minimised to as low as reasonably practicable (**ALARP**) (in accordance with the hierarchy of controls). ALARP is the level of risk that is tolerable and cannot be reduced further without the expenditure of cost, time and / or effort that is disproportionate to the benefit gained or where the solution is impractical to implement.

The Network Fatal Risk Control Standards are not intended to replace established risk-based processes used to assess site or task specific health, safety and environmental risks and impacts.

NINE NETWORK FATAL RISKS

The Network Fatal Risks do not represent comprehensive coverage of all Network risks but focus on the risks that have either resulted in, or have the potential to, result in a fatality or permanent injury within the electricity supply industry.

The nine Network Fatal Risks form a component of [INSERT BUSINESS NAME] *Business Risk Category BR 1 Safety – Fatality / Serious Injury of Employee or Member of the Public.* The Network Fatal Risks are listed below in *Table 1: Network Fatal Risks.* All other risks will be managed and reduced systematically.

NETWORK FATAL RISKS	
NFR 1.1	Exposure to unintended discharge of electricity
NFR 1.2	Exposure to hazardous chemicals/materials
NFR 1.3	Fall from height
NFR 1.4	Motor vehicle accident
NFR 1.5	Unintended contact with Mobile Plant
NFR 1.6	Struck by falling or moving object
NFR 1.7	Incident while undertaking lifting operations
NFR 1.8	Uncontrolled collapse of excavation work
NFR 1.9	Breach of a controlled worksite when working near or around traffic

Table 1: Network Fatal Risks

NETWORK FATAL RISK CONTROL STANDARDS

The risk controls outlined in this document have been developed from systemic investigations of fatal and near fatal incidents, learnings from Work Health and Safety prosecutions, and consultation with operational, technical specialists, and subject matter experts across Ausgrid, Endeavour Energy and Essential Energy via nine risk management workshops.

Systems shall be implemented in [INSERT BUSINESS NAME]'s business to identify new and emerging risks as part of the continuous improvement and risk management process conducted annually. In addition, Health, Safety and Environment Audit and Assurance Plans will schedule audit and review of the nine Network Fatal Risk Controls to validate and verify compliance and control effectiveness on an annual basis.

VARIATION TO IMPLEMENTATION REQUIREMENTS

In circumstances where the implementation of the requirements is not reasonably practicable, any deviation from these standards must be formally approved through the submission of a detailed risk assessment using the following exemption process:

1. An outline of the implementation issue and exemption being sought;
2. A detailed risk assessment of the situation and proposed alternative control measures; and
3. Receipt of written approval from the Network Business Chief Operating Officer (COO) or authorised delegate that the level of risk as a result of the alternative control measures is as low as reasonably practicable (ALARP).

STRUCTURE OF THIS DOCUMENT STANDARD

In this document, the Network Fatal Risk Control Standards are detailed for each Network Fatal Risk and are classified in three categories as shown in *Table 2: Risk Control Categories* below:

Risk Control Categories		
1: System and Procedural	2: Plant and Equipment	3: People
Management system and procedural adequacy and currency.	Fitness for purpose of equipment and plant.	People's actions and capabilities, and management approaches and actions

Table 2: Risk Control Categories

IDENTIFICATION WITHIN THE STANDARD

Each control is assigned a unique identifier using the following numbering scheme:

- X.Y.Z, where:
 - X: Corresponds to the NFR number (1-9);
 - Y: Corresponds to the risk control category (1-system and procedural, 2-plant and equipment, 3-people); and
 - Z: Item number for the control within the NFR and risk control category.

NETWORK FATAL RISK CONTROL STANDARDS

The following sections contain the Network Fatal Risk Control Standards, in order of:

- I. Network Fatal Risk (Definition and Intent);
- II. NFR Definitions;
- III. Minimum Risk Control Requirements:
 1. System and Procedural;
 2. Plant and Equipment;
 3. People.

NFR1: EXPOSURE TO UNINTENDED DISCHARGE OF ELECTRICITY

ISSUE

25 MAR 2015

Definition: An incident involving an unintended discharge of electricity on or near the network that could result in a fatality or permanent disability to a worker, visitor or member of the public.

Intent: To eliminate or minimise the risk of fatality and permanent disability arising from the unintended discharge of electricity.

Due to the technical nature and multiple legislative requirements of NRF 1, the definitions have been established following review and recommendation by electrical safety subject matter experts from Ausgrid, Endeavour Energy and Essential Energy to incorporate the requirements of ENA DOC001-2008 National Electricity Network Safety Code, WHS Act 2011 and Regulations, and Codes of Practice including the Construction Work Code of Practice November 2013, Electrical Guidance Material Safe Work Australia, and How to Manage Work Health and Safety Risks December 2011.

NFR1 DEFINITIONS

Access Authority: any form of authorisation which allows access to, work on or near, or testing of electrical apparatus

Approved: having appropriate organisational endorsement in writing for a specific function.

Authorised Person: a person with technical knowledge or sufficient experience who has been approved, or has the delegated authority to act on behalf of the Network Operator, to perform the duty concerned.

Cable: an insulated conductor, or two or more such conductors, laid together, whether with or without fillings, reinforcements or protective coverings.

Competent: having the skills, knowledge and attributes a person needs to complete a task.

Conductor: a wire, cable or form of metal designed for carrying electric current.

Contractor: an entity engaged by a Network Operator to carry out work on the electricity network.

Control Measures refer Hierarchy of Control definition.

Danger Tag: an approved tag that has the words 'Danger - Do Not Operate' clearly printed and can be affixed to a device as an instruction against the operation of the device.

De-Energised: not connected to any source of electrical supply but not necessarily Isolated.

Earthed: directly electrically connected to the general mass of earth, so as to ensure and maintain the effective dissipation of electrical energy.

Electrical Apparatus: any electrical equipment, including overhead lines and underground cables, the conductors of which are live or can be made live.

Energised: connected to a source of electrical supply.

Exposed Conductor: an electrical conductor, approach to which is not prevented by a barrier of rigid material or by insulation which is adequate under a relevant Australian Standard specification for the voltage concerned.

Hierarchy of Controls (HoC): Elimination of a hazard is the most effective control and if this is not reasonably practicable to achieve, implementation of additional controls should be considered based upon their degree of effectiveness. This order is referred to as the hierarchy of controls and comprises elimination, substitution, isolation, engineering controls, administrative controls and finally use of personal protective equipment.

High Voltage (HV): a nominal voltage exceeding 1000 Volts alternating current or exceeding 1500 Volts direct current.

Insulated: separated from adjoining conducting material by a non-conducting substance which provides resistance to the passage of current, or to disruptive discharges through or over the surface of

the substance at the operating voltage, and to mitigate the danger of shock or injurious leakage of current.

Isolated: disconnected from all possible sources of electricity supply by means which will prevent unintentional energisation of the apparatus and which is assessed as a suitable step in the process of making safe for access purposes.

Live: energised or subject to hazardous induced or capacitive voltages.

Live Work: all work performed on components of electrical apparatus not isolated, proved de-energised and earthed in accordance with procedures approved by the network operator.

Low Voltage (LV): a nominal voltage exceeding 50 volts alternating current or 120 volts direct current, but not exceeding 1000 volts alternating current or 1500 volts direct current.

Near: a situation where there is a reasonable possibility of a person, either directly or through any conducting medium, coming within the relevant safe approach distances.

Network Operator: the owner, controller or operator of an electricity network.

Nominal Voltage: the a.c. (phase to phase r.m.s.) or d.c. voltage by which a system of supply is designated.

Overhead Line: any aerial conductor or

conductors with associated supports, insulators and other apparatus erected, or in the course of erection, for the purpose of the conveyance of electrical energy.

Personal Protective Equipment (PPE): protective clothing, equipment, or a combination thereof, that is worn by a person for protection against electrical hazards.

Procedure: the documentation of a systematic series of actions (or activities) directed to achieve a desired result.

Risk Assessment: the overall process of risk identification, risk analysis and risk evaluation. (*INSERT DOCUMENT NO. Risk Management*)

Risk Management: the management of risk in accordance with *AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines*.

Safe Approach Distance: the minimum separation in air from an exposed conductor that shall be maintained by a person, or any object (other than insulated objects designed for contact with live conductors) held by or in contact with that person.

Supply: the supply of electricity.

Switch: a device designed and used for the making and breaking of an electric circuit

Voltage; potential difference between conductors or between conductors and the general mass of earth.

MINIMUM RISK CONTROL REQUIREMENTS

1. SYSTEMS AND PROCEDURES RISK CONTROLS

Planning and Procedures

Processes for conducting work on or near the network - live and de-energised conditions.

1.1.1 Documented processes must be implemented and complied with to verify relevant workers work in accordance with approved Electrical Safety Rules:

- No-one is permitted to conduct work activities requiring an Access Authority without using the appropriate sign-on / sign-off mechanisms;
- Regular audits of the Access Authority and isolation processes must be conducted;

- Processes to apply insulation or screening to live exposed conductors within reach must be in place.

1.1.2 Safe working / approach distances must always be maintained from live exposed conductors.

1.1.3 All LV exposed conductors and apparatus must be treated as live until isolated from all sources of supply and proved de-energised. Where the isolated LV apparatus is connected to possible alternate supplies, approved control measures must be implemented to address the risk of inadvertent embedded generation back feed.

NETWORK FATAL RISK CONTROL STANDARDS

1.1.4 Processes must be implemented for confirming correct polarity, including neutral identification, prior to connecting or reconnecting low voltage mains and services.

Processes for safely conducting high voltage live work.

1.1.5 Documented safety precautions and task-specific procedures must be documented for approved HV live work tasks, based on the requirements of *AS/NZS 5804 High-voltage live working series of standards*.

1.1.6 HV live work must only be carried out by workers trained, assessed as competent, and authorised.

1.1.7 Authorised HV live line workers must undergo annual refresher training and reassessment in the HV live work process.

Isolation of high voltage electrical apparatus - working de-energised.

1.1.8 All HV exposed conductors must be treated as live until they are isolated from all sources of electrical supply, proved de-energised, earthed and short-circuited (by approved means), and personnel have signed on to the Access Authority issued by an authorised worker.

1.1.9 Safe isolation procedures should be developed in consultation with relevant workers.

1.1.10 Procedures must include details of the required level of authorisation to establish isolations, earthing, and issuing and receiving Access Authorities.

1.1.11 Isolation points must provide appropriate separation for the voltage of the apparatus, and be identified using a Danger Tag.

1.1.12 Permanent switches must be clearly labelled or be 'uniquely identifiable' at all times.

1.1.13 The Access Authority must record the reason for the isolation, as well as isolation, and earthing point identification details.

1.1.14 Danger Tags used to secure the isolation must be highly visible to prevent inadvertent operation.

1.1.15 The Access Authority must have a unique identifying number.

1.1.16 Access Authority procedures must include requirements for managing changes associated with the isolation and task(s).

2. PLANT AND EQUIPMENT RISK CONTROLS

Hazard identification, risk assessment and control

Electrical protection systems.

1.2.1 Electrical protection systems must be designed, installed, and maintained, to detect hazardous network fault conditions at the designed fault settings and de-energise the faulted section of the network.

Pre-commissioning, commissioning and de-commissioning checks of network assets.

1.2.2 Checks in accordance with [INSERT BUSINESS NAME]'s risk management procedure must be conducted prior to and after commissioning, as well as de-commissioning, network assets.

1.2.3 Records of commissioning checks must be systematically maintained.

1.2.4 The Network Operator must be informed of changes to the status of the electricity network.

1.2.5 Network assets must be specified and designed to be 'fit-for-purpose' in accordance with relevant Australian or international standards.

1.2.6 Designs must also comply with the safety in design requirements of the *WHS Act 2011* and *NSW WHS Regulation 2011*.

Use of appropriate plant and equipment - working on or near the network.

1.2.7 A risk assessment in accordance with [INSERT BUSINESS NAME]'s risk management procedure must be conducted on plant and equipment prior to use, after receipt or installation.

Testing and Inspection

Pre-inspection of Personal Protection Equipment (PPE).

1.2.8 Safety equipment inspection procedures must be followed and physical barriers such as insulating gloves, guards, temporary insulating mats and covered tools

must be in good working order, prior to the commencement of any work.

1.2.9 PPE for electrical work, testing and fault finding, must be suitable for the work, properly tested and maintained in good working order. Exposure to electrical arc events must be taken into account in the specification of PPE.

1.2.10 Insulated tools, plant and equipment must be electrically tested where required, and inspected before use, to confirm they are in an acceptable condition.

1.2.11 Instruction must be provided in how to select and fit the correct type of PPE, as well as the use and care of the PPE so that it works effectively.

1.2.12 Depending on the type of work and the risks involved, PPE must be used in accordance with the requirements of relevant standards, codes and guidelines:

- Clothing: use clothing made of non-fusible material, in accordance with the requirements of *ENA NENS 09*.

3. PEOPLE RISK CONTROLS

Training, Authorisation, and Competency

1.3.1 A systematic, risk-based process must be undertaken for the regular identification of induction, training, learning and development needs in relation to electrical safety.

1.3.2 A competency-based training system must be in place that includes specific electrical industry requirements for workers conducting work on or near the network. All authorised workers must undergo annual reassessment in the areas of Electrical Safety Rules, as well as rescue and first aid techniques applicable to their work.

1.3.3 An evaluation process to continuously improve any training, learning and / or development must be undertaken on a scheduled basis.

1.3.4 Regular behaviour-based observations must be conducted for work activities associated with working on or near the network.

Review, Audit, and Monitor

Risk review of contractors

1.3.5 A formal risk-based selection and acceptance process must be in place for all new contractors.

- Gloves: when carrying out work on or near live electrical apparatus insulated gloves rated to the highest potential voltage expected for the work being undertaken must be used. Protective outer gloves must be worn over low voltage insulating gloves.
- Footwear: use non-conductive protective footwear complying with *AS/NZS 2210.1:2010 Safety, protective and occupational footwear – Guide to selection, care and use*.
- Eye Protection: use business-approved eye protection in accordance with *AS/NZS 1336:2014 Eye and face protection - Guidelines* and *AS/NZS 1337:2010-2012 series - Personal Eye Protection*.

1.2.13 Damaged or defective safety equipment or PPE must not be used.

1.3.6 Provide to any potential contractor clear safety and operational outcomes, and the contractor must demonstrate that it has systems in place to meet these outcomes.

1.3.7 There must be a contractor and sub-contractor prequalification process implemented and complied with that incorporates clear requirements for the contractor to demonstrate appropriate competencies, licenses, permits and authorisation.

Community Awareness Programs

1.3.8 Community awareness programs must be developed on risk-based data.

- Consultation with the intended audience must be undertaken to verify that any proposed program meets their needs and requirements.
- An evaluation process must be undertaken to identify the effectiveness of any program implemented.

Fitness for Work

1.3.9 A Fitness for Work policy must be implemented incorporating the clearly defined maximum level of drugs and alcohol allowed in the system of those working on or near the electrical network.

NETWORK FATAL RISK CONTROL STANDARDS

1.3.10 A Fitness for Work program must be implemented and complied with to verify those working on or near the electrical network are fit to perform the inherent requirements of the role.

NFR2: EXPOSURE TO HAZARDOUS CHEMICALS / MATERIALS

ISSUE

25 MAR 2015

Definition: An incident involving exposure to hazardous chemicals / materials that could result in a fatality or permanent disability to a worker, visitor or member of the public. The event may have resulted from an incident involving loss of control, or in normal controlled activities (e.g. storage, handling, production, transport, recycling and disposal).

Intent: To eliminate or minimise the risk of fatality, and permanent disability arising from the storage, handling, transport, recycling and disposal of exposure to hazardous chemicals / materials.

NFR2 DEFINITIONS

ADG Code: the *Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th edition*, approved by the Australian Transport Council.

Competent Worker: means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

Hazard classification: indication of the intrinsic hazardous properties of substances and mixtures. It involves:

- identification of relevant data regarding the hazards of a substance or mixture;
- subsequent review of those data to ascertain the hazards associated with the substance or mixture; and
- a decision on whether the substance or mixture will be classified as a hazardous substance or mixture and the degree of hazard, where appropriate, by comparison of the data with agreed hazard classification criteria.

Hazardous Chemical (HCM): means any substance, mixture or article that satisfies the criteria for a hazard class in the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including a classification referred to in Schedule 6 of the WHS Regulations, but does not include a substance, mixture or article that satisfies the criteria solely for one of the following hazard classes:

- Acute toxicity - oral - Category 5
- Acute toxicity - dermal - Category 5
- Acute toxicity - inhalation - Category 5
- Skin corrosion/irritation - Category 3
- Serious eye damage/eye irritation - Category 2B

- Aspiration hazard - Category 2
- Flammable gas - Category 2
- Acute hazard to the aquatic environment – Category 1, 2 or 3
- Chronic hazard to the aquatic environment - Categories 1, 2, 3 or 4, or
- Hazardous to the ozone layer.

Note - Refer to the GHS for a full listing of all hazard classes.

Hazardous substance: means a substance or mixture that meets the criteria specified in the *Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)] (the Approved Criteria)*.

Health hazards: these are properties of a chemical that have the potential to cause adverse health effects. Exposure usually occurs through inhalation, skin contact or ingestion. Adverse health effects can be acute (short term) or chronic (long term).

Health monitoring: the monitoring of a worker to identify any changes in their health as a result of exposure to hazardous chemicals and/or materials.

Hierarchy of Controls (HoC): Elimination of a hazard is the most effective control and if this is not reasonably practicable to achieve, implementation of additional controls should be considered based upon their degree of effectiveness. This order is referred to as the hierarchy of controls and comprises elimination, substitution, isolation, engineering controls, administrative controls and finally use of personal protective equipment.

Personal Protective Equipment (PPE): protective clothing, equipment, or a combination thereof, that is worn by a person for protection against electrical

hazards.

Prohibited and restricted hazardous chemicals: restricted carcinogens and restricted hazardous chemicals, as specified in the WHS Regulations (Schedule 10) and Regulations 340 and 380–384.

Risk Assessment: the overall process of risk identification, risk analysis and risk evaluation. (*INSERT DOCUMENT NO. Risk Management*)

Safety Data Sheet (SDS): the SDS contains information on the identity of the product and

any hazardous ingredients, potential health effects, toxicological properties, physical hazards, safe use, handling and storage, emergency procedures, and disposal requirements specific to the chemical.

Substance: means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of that product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

MINIMUM RISK CONTROL REQUIREMENTS

1. SYSTEMS AND PROCEDURES RISK CONTROLS

Planning and Procedures

Managing the risk of equipment, plant or products containing hazardous chemicals / materials (HCM) to as low as reasonably practicable.

Preventing the use of prohibited carcinogens, and managing the risk of restricted carcinogens and restricted hazardous chemicals.

2.1.1 Prior to procurement a Risk Assessment must be conducted to verify that chemicals / materials are fit for purpose and exposure risks are controlled to a level as low as reasonably practicable:

- The Risk Assessment must consider whether any activities, systems of work, structures and / or equipment not directly involved with the use, storage and handling of hazardous chemicals in the workplace, may also create a risk;
- The procurement process must also follow business purchasing policy and procedural requirements as well as the relevant Australian Standards and WHS legislation;
- There must be a hazardous chemicals / materials procurement audit and inspection process conducted cyclically by the Network business.

Asbestos and Hazardous chemicals and / or Materials Register.

In accordance with the NSW WHS Regulation 2011 Part 8.3 clause 425 the Network businesses must ensure an asbestos register is prepared, kept at the relevant workplace, is up to date and

reviewed in accordance with the WHS Legislation.

2.1.2 Network businesses must ensure an asbestos register is place in accordance with in accordance with the NSW WHS Regulation 2011 regulations 425, 426, 427 and 428.

2.1.3 A list of hazardous chemicals and / or materials must be maintained on each site in a legislatively compliant Hazardous Chemicals/Materials Register.

2.1.4 The Hazardous Chemicals / Materials Register must be accessible to all workers involved in transporting, using, handling or storing chemicals / materials and to anyone else who is likely to be affected by the chemicals / materials.

2.1.5 A system must be implemented and complied with so that the Hazardous Chemicals / Materials Register is updated to reflect the introduction of new chemicals / materials and the disposal of any hazardous chemicals / materials.

2.1.6 Appropriate emergency response procedures, fire extinguishers, first aid treatment facilities and spill kits must be readily available in areas where hazardous chemicals / materials are used, transported, handled, stored or disposed of.

Safety Data Sheets (SDS)

2.1.7 A compliant SDS must be obtained from the manufacturer, supplier or distributor of each hazardous chemical prior to use.

2.1.8 SDSs must be stored (in paper and / or electronic form) as close as practicable to the place where work is being conducted and made easily accessible to all workers.

2.1.9 An SDS Register must be maintained and periodically checked for currency. No SDS can be older than five years.

2.1.10 In accordance with legislation, a system must be implemented and complied with and procedures documented so that hazardous chemicals / materials are transported safely and workers, communities and the environment are protected.

2.1.11 A hazardous chemicals and / or hazardous materials transportation manifest must be completed and shipped with hazardous chemicals / materials, along with any other supporting documentation.

2.1.12 Workers, including contractors and subcontractors must comply with company procedures detailing responsibilities for safety, security, release prevention, training and emergency response.

2.1.13 Contracts must include a requirement for contractor and subcontractor compliance with company procedures.

2.1.14 Company procedures must detail clear lines of responsibility for safety, security, release prevention, training and emergency response.

2.1.15 A system must be implemented and complied with so that hazardous chemicals / materials are correctly labelled and that labels are legible. Unlabelled or poorly labelled materials including those that have been decanted must either be re-labelled or quarantined from use.

2. PLANT AND EQUIPMENT RISK CONTROLS

Hazard identification, risk assessment and control

Venting, drainage and containment of hazardous chemicals / materials.

2.2.1 A documented process must be implemented and complied with to securely transport, store, contain and use HCMs within plant and equipment.

2.2.2 Documented processes must be implemented and complied with for the safe venting, drainage and containment of hazardous chemicals / materials used in plant and equipment.

Hazard identification, risk assessment and control

Risk assessment of hazardous chemicals / materials and the Hierarchy of Controls.

2.1.16 Risk Assessments must be conducted prior to and if conditions change during each activity, for those risks associated with hazardous chemicals / materials.

- Suitable risk controls are to be selected to either eliminate the risk associated with hazardous chemicals / materials or if it is not reasonably practicable to eliminate the risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls).

2.1.17 A documented system must be implemented to ensure that no person at the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the relevant exposure standard for the substance or mixture in accordance with regulation 49 of the NSW WHS Regulation 2011

Hazardous atmospheres and ignition sources.

2.1.18 There must be procedures in place to identify the sources of fuel in the workplace that could contribute to fire and explosion risks.

2.1.19 Procedures and assessments for off-site risks, risks from corrosive substances, compressed gases, asphyxiation hazards and compressed air must be in place detailing adequate and effective controls.

2.2.3 Security, access control systems and hardware must be in place, appropriate to the risk, to manage access to hazardous chemicals / materials stores.

Testing and Inspection

Hazardous chemicals / materials storage – security systems and access.

2.2.4 Gas cylinders must be tested periodically in accordance with Australian Standards and manufacturer requirements.

2.2.5 Preventative maintenance and integrity testing of storage devices for hazardous chemicals and / or materials must

be conducted according to manufacturer's specifications and site licence requirements.

3. PEOPLE RISK CONTROLS

Training and Competency

2.3.1 Workers at risk of exposure to hazardous chemicals / materials must be identified and must be suitably trained and assessed as competent to manage the risks associated with HCMs to fulfil their required duties, including the management of public risk.

2.3.2 The competency based training system must include any specific electrical industry requirements for all workers conducting work involving hazardous chemicals and / or materials in the workplace.

2.3.3 Training must include the identification of hazardous chemicals / materials, hazards, assessed risk level and required controls and emergency response procedures.

2.3.4 Workers to be trained and assessed as competent in HCM and PPE prior to undertaking works.

2.3.5 Any need for additional and specific re-training must incorporate the results of observations and audits.

Review, Audit, and Monitor

2.3.6 Regular behaviour-based observations must be conducted for work activities involving working with hazardous and / or chemicals / materials.

2.3.7 Scheduled, including cyclic, site audits must be conducted for work activities involving working with hazardous chemicals and / or / materials.

2.3.8 Scheduled, including cyclic, contractor audits must occur to verify suitable management procedures are in place.

Hazardous chemicals and / or materials worker exposure – records.

2.3.9 Appropriate health monitoring records must be maintained and systematically reviewed to identify exposure trend ensuring that exposure risks are maintained at a level as low as reasonably practicable.

Health Monitoring

2.3.10 A system must be in place to monitor the health of any person exposed to a hazardous chemical and / or material, in accordance with *Chapter 7* (for hazardous chemicals) and *Chapter 8* (for asbestos) of the *NSW WHS Regulation 2011*.

Fitness for Work

2.3.11 A Fitness for Work policy must be implemented incorporating the clearly defined maximum level of drugs and alcohol allowed in the system of those working near or around the hazardous chemicals and / or materials.

NFR3: FALL FROM HEIGHT	ISSUE 25 MAR 2015
Definition: An incident involving a fall from one level to another that could result in a fatality or permanent disability to a worker, visitor or member of the public.	
Intent: To eliminate or minimise the risk of fatality and permanent disability arising from working at height (two meters or more, or where a fall could result in a significant incident).	

Working at height is a high consequence operational activity within each Network business. Falls from height has the potential to result in permanent disability or fatality.

This Control applies wherever there is potential for any person to fall two meters or more, or to gain access to within two meters of an open edge from where there is the potential to fall two meters or more, including working from various forms of portable and moveable elevated work platforms, baskets, ladders, scaffolding, or where a risk assessment has identified high potential fall hazards when working at heights of less than two meters. It also applies where a significant injury could result from a fall.

NFR3 DEFINITIONS

Anchorage: means a secure point for attaching a Lanyard, lifeline or other component of a travel restraint system or fall-arrest system. Anchorages require specific load and impact capacities for their intended use.

As Low As reasonably Practicable (ALARP): Core to this concept is ‘reasonably practicable’. The objective is to eliminate risk. If it is not reasonably practicable to eliminate a risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls). ALARP is the level of risk that is tolerable and cannot be reduced further without the expenditure of cost, time and/or effort that is disproportionate to the benefit gained or where the solution is impractical to implement.

Barricade: means any object or structure that creates a barrier obstacle to control, block passage or force the flow of traffic in the desired direction.

Competent Worker: means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

Demarcation: the determining and marking off of the boundaries of a segregated geographic area.

Exclusion Zones: a zone established to prohibit specific activities within a specific geographic area. The exclusion zone may

be defined by bollards, cones, tape, fence, walls, screens or similar.

Fall Arrest System: means plant or material designed to arrest a fall. For example, an industrial safety net, a catch platform, a safety harness system (other than a system that relies entirely on a restraint technique system).

Hierarchy of Control (HoC): Elimination of a hazard is the most effective control and if this is not reasonably practicable to achieve, implementation of additional controls should be considered based upon their degree of effectiveness. This order is referred to as the hierarchy of controls and comprises elimination, substitution, isolation, engineering controls, administrative controls and finally use of personal protective equipment.

High Voltage (HV): a nominal voltage exceeding 1000 Volts alternating current or exceeding 1500 Volts direct current.

Industrial Rope Access Systems: industrial rope access systems are used for gaining access to and working at a workface, usually by means of vertically suspended ropes. Although fall-arrest components are used in the industrial rope access system, the main purpose of the system is to gain access to a work area rather than to provide backup fall protection.

Inertia reel: a type 2 or 3 fall-arrest device that arrests a fall by locking onto a line and at the same time allows freedom of

NETWORK FATAL RISK CONTROL STANDARDS

movement (also known as a self-retracting Lanyard or fall-arrest block).

Karabiner: these are metal types of connectors that can be attached to anchorage points. They come in a variety of sizes, shapes and locking mechanisms to suit various applications. They should be self-closing and self- or manual-locking and capable of being opened only by at least two consecutive deliberate manual actions.

Lanyard: an assembly consisting of a line and components which will enable connection between a harness and an anchorage point and will absorb energy in the event of a fall as per *AS NZ 1891.1: 2007 Industrial fall-arrest systems and devices - Harnesses and ancillary equipment*

Mobile Elevating Work Platforms (MEWPs): includes scissor lifts, cherry pickers, boom lifts and travel towers. There are battery powered and internal combustion engine types.

Perimeter guard rails: guard rails may be used to provide effective fall prevention:

- At the edges of roofs;
- At the edges of mezzanine floors, walkways, stairways, ramps and landings;
- On top of plant and structures where access is required;
- Around openings in floor and roof structures;
- At the edges of shafts, pits and other excavations.

Personal Protective Equipment (PPE): protective clothing, equipment, or a combination thereof, that is worn by a person for protection.

Reportable Falls Height: in line with *ISSC 34: Guide for Height Safety within the NSW Electricity Supply Industry*, Personal Protection Equipment (PPE) fall prevention systems are not required where the distance measured from the feet of the worker to the ground is less than two meters and no additional hazard, which may increase the

consequences of a fall, exists where it is likely that the worker could fall.

In those circumstances where the risk assessment identifies that additional hazards exist which may increase the consequence of a fall e.g. close edge work, the height regulation of 1.2 meters applies and fall prevention systems must be used.

Restraint line: is the line securing workers to a point of anchorage and is used to prevent a person from reaching a point from which he / she could fall.

Risk Assessment: the overall process of risk identification, risk analysis and risk evaluation. (*INSERT DOCUMENT NO. Risk Management*)

Safety Equipment: Equipment that has a mandatory design requirement for the control of a hazard associated with a network fatal risk. Includes but is not limited to: PPE, protective workwear, barriers (physical, heat and tape), temporary insulation, ladders, pole platforms, gas detectors, operating sticks, portable earthing, low voltage shorts, height safety equipment and all equipment contained in safety/rescue kits.

Does not include: uninsulated/covered tools, fleet and associated plant and equipment, or equipment that will form a permanent part of the electricity network.

Safety Observer: a worker assessed as competent to observe the task and specifically assigned the duty of actively observing and warning against unsafe approach to live exposed conductors or other unsafe conditions.

SWMS: Safe Work Method Statement

Substation: a switch yard, terminal station or place at which high voltage supply is switched, converted or transformed.

Total Fall Distance: the total distance a worker is likely to fall during both the free and restrained parts of a fall and includes the maximum dynamic extension of all supporting components.

MINIMUM RISK CONTROL REQUIREMENTS

1. SYSTEMS AND PROCEDURES RISK CONTROLS

Planning and Procedures

At all times the NSW WHS Regulations 2011, including Part 4.4 and Part 3.2, Division 10 must be followed. The Managing the Risk of Falls at Workplaces Code of Practice 2012 (WorkCover NSW) should also be followed. Industry reference with the guidance requirements of ISSC 34: Guide for Height Safety within the NSW Electricity Supply Industry Revised 2013 (Electricity Industry Safety Steering Committee)

Planning commencement of working at height.

3.1.1 A documented Risk Assessment must be conducted and communicated before the commencement of work. The Risk Assessment as a minimum should include, but not be limited to:

- An assessment of all fall from height hazards and suitable risk controls selected to either eliminate the risk or if it is not reasonably practicable to eliminate the risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls);
- An assessment of how working conditions may be affected by other work crew or environmental conditions;
- A control system in place to prevent or mitigate the risk of tools, materials and other objects from falling from height; and
- Selection of appropriate equipment.

3.1.2 All controls must be reviewed and updated if the scope of work changes or the risk of a fall increases.

3.1.3 A Safe Work Method Statement (SWMS) must be documented and implemented using a risk assessment and the Hierarchy of Controls (HoC) as a foundation.

3.1.4 The Risk Assessment must specifically identify fall specific hazards such as:

- Selection of anchor and tie-off points;
- Condition of supporting structures such as roofs;
- Substation civil works, underground and substation basement access;

- Selection of appropriate Barricading and / or Demarcation;
- Free Fall clearances and safety margins should be calculated; and
- Emergency Response and Suspension Intolerance.

Minimisation of the need to work at height.

3.1.5 Work tasks must be planned to minimise the need to work at height.

3.1.6 Consideration should be given to using the most appropriate plant to minimise the risk of working at height.

Working alone.

3.1.7 A worker must not work alone at heights unless the worker has conducted a risk assessment, suitable risk controls have been selected to either eliminate the risk or if it is not reasonably practicable (in accordance with the hierarchy of controls) and there is a suitable emergency notification system in place for use by the worker.

3.1.8 A worker relying on self-rescue, that is no other rescue option provided, must be using a system that is considered in its development the risk of incapacitation / disabling of the worker is eliminated and the system is designed so that they can climb down.

Mobile Elevated Work Platforms.

3.1.9 Mobile Elevated Work Platforms must only be used if a safety observer is utilised as either an Exclusion Zone observer, live work or HV live line work safety observer.

3.1.10 Mobile Elevated Work Platforms must only be used as working platforms and not as a means of entering and exiting a work area unless the conditions set out in AS 2550.10 *Cranes, hoists and winches - Safe use - Mobile elevating work platforms* are met.

3.1.11 Unless designed for rough terrain, the platforms must only be used only on a solid level surface or inclined / unlevelled surfaces in accordance with the manufacturer's instruction for use.

3.1.12 The surface area must be checked to make sure that there are no penetrations or any potential for the surface to collapse

or obstructions that could cause uncontrolled movement or overturning of the platform.

3.1.13 The manufacturer's or supplier's instructions must be followed for information on safe operation.

3.1.14 Workers working in travel towers, boom lifts or Mobile EWPs ("cherry pickers") must wear a properly anchored safety harness.

Emergency procedures and facilities.

3.1.15 Emergency procedures and facilities must be in place to manage the injuries resulting from falls including unconsciousness and occluded airway, impalement, serious head or abdominal injuries, and fractures.

3.1.16 Emergency response plan(s) should be available for the rapid retrieval of workers in the event of a fall resulting in suspension within a body harness. Response time is critical if a worker is to avoid suspension trauma and first aid procedures should be in line with the *Australian Resuscitation Councils Guideline 9.1.5: Harness Suspension Trauma – First Aid Management*.

3.1.17 Site work at heights emergency response plans should be documented, communicated to all workers working on site, and tested at least annually.

Hazard identification, risk assessment and control

NB: To be read in conjunction with ISSC 34: Guide for Height Safety within the NSW Electricity Supply Industry; s5.

Pre-climb inspection.

3.1.18 A system must be implemented and complied with so that workers inspect the

work area prior to climbing work commencing to assess where and how falls from height could occur during planned work activities.

3.1.19 The pre-climb inspection must be followed by a formal Risk Assessment. Suitable risk controls are to be selected to either eliminate the risk or if it is not reasonably practicable to eliminate the risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls).

3.1.20 Where a pole needs to be climbed, there must be a pole structural inspection conducted and precautions for climbing and working on poles should be adhered to as per *ISSC 34: Guide for Height Safety within the NSW Electricity Supply Industry*.

Work in the vicinity of an unprotected edge.

3.1.21 When working in the vicinity of an unprotected edge where a fall from height hazard exists, the risk must be managed in accordance with *ISSC 34: Guide for Height Safety within the NSW Electricity Supply Industry; s5*. Suitable risk controls are to be selected to either eliminate the risk or if it is not reasonably practicable to eliminate the risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls).

3.1.22 Risk assessments shall consider the hazards atop the landing area e.g. slips / trips.

Work outside two meters of an unprotected edge.

3.1.23 Appropriate controls must be implemented to maintain a two meter set back.

2. PLANT AND EQUIPMENT RISK CONTROLS

Hazard identification, risk assessment and control

Demarcation and Barricading.

3.2.1 A system must be implemented and complied with so that appropriate Barricading and / or Demarcation and warning signage is installed around open excavation areas when workers are not on site.

3.2.2 A system must be implemented and complied with so that appropriate

Demarcation, signage and Barricades are in place when workers are on site and that these do not add additional uncontrolled risk to the work being performed.

3.2.3 Demarcation (Exclusion Zones) and warning signage for lower levels should be in place where workers or objects have the potential to fall. Refer to NFR 6.

Design risk - plant and structures.

3.2.4 Consideration of the potential risk of falls must be undertaken when designing

plant or structures. Suitable risk controls are to be selected to either eliminate the risk or if it is not reasonably practicable to eliminate the risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls). Consideration is to be given to appropriate controls including integrating Fall Arrest Systems into the design.

3.2.5 New plant and equipment must be designed to eliminate or minimise the need to work at height.

Mobile elevating work platforms (MEWPs).

3.2.6 The manufacturer's or supplier's instructions must be consulted for information on safe operation and conformance to this standard, *AS/NZS 2550.10 Cranes, hoists and winches - Safe use - Mobile elevating work platforms* and the requirements set out in *ISSC 34: Guide for Height Safety within the NSW Electricity Supply Industry*.

3.2.7 Workers in a suspended work-basket must wear a correctly fitted harness attached by a Lanyard to a suitable certified Anchorage point in the basket.

Ropes and anchors.

3.2.8 Where an Industrial Rope Access System is required to gain access to a work area it must meet the requirements of *AS/NZS 4488.1:1997 Industrial rope access systems – Specifications* and the following.

- Anchors used for connection of industrial fall arrest systems must be compliant with *AS/NZS 5532:2013 Manufacturing requirements for single-point anchor device used for harness-based work at height* ;

Fall Arrest Equipment.

3.2.9 Fall arrest equipment must be selected, used and maintained in accordance with *ISSC 14: Guide to Electrical Workers' Safety Equipment 2010 (Electricity Industry Safety Steering Committee)* and *ISSC 34: Guide for Height Safety within the NSW Electricity Supply Industry*.

Ladders.

3.2.10 Ladders:

- Three points of contact must be maintained with a ladder (refer to *ISSC 34: Guide for Height Safety within the NSW Electricity Supply Industry Revised*

2013 (Electricity Industry Safety Steering Committee);

- Ladders must not be used "on or near" power lines unless the worker is appropriately trained and authorised;
- No metal ladders, wire reinforced ladders, steel tapes, metal reinforced tapes or metal rulers will be used near live exposed conductors in accordance with the Network business Electrical Safety Rules;
- Consideration should be given to whether an elevating work platform or scaffolding would be safer than a ladder.

3.2.11 Fixed Ladders:

- Fixed Ladders must be designed, constructed and used in accordance with the requirements of *AS/NZS 1657 Fixed platforms, walkways, stairways and ladders - Design, construction and installation*.
- Systems must be in place to maintain a fixed ladder register identifying fixed ladders of sufficient height or fall risk to require the use of fall-arrest equipment and must comply with *AS/NZS 1657 Fixed platforms, walkways, stairways and ladders - Design, construction and installation*.

3.2.12 Portable ladders:

- Portable ladders must be designed to *AS/NZS 1892.1-.3,5: 1992-2000 Portable ladders series of standards* and conform to *ISSC 14: Guide to Electrical Workers' Safety Equipment*;
- Ladders should be regularly inspected by a Competent Worker in accordance with the manufacturer's recommendations.

Safety helmets.

3.2.13 Workers working at height must wear approved and maintained safety helmets safely secured to prevent them from falling off when working at height.

Equipment used to provide a secure work environment.

3.2.14 Flooring must be securely fastened into place to prevent fall through.

Scaffolds

3.2.15 All scaffolds must be erected, used and inspected in compliance with *AS/NZS 1576 (Scaffolding)* and *AS/NZS 4576*

(Guidelines for Scaffolding) and the requirements set out in *ISSC 34: Guide for Height Safety within the NSW Electricity Supply Industry*.

3.2.16 Portable and movable elevated work platforms, and suspended work baskets are to be properly constructed and certified. Scaffolds must conform to design standards and manufacturers' specifications.

3.2.17 Light duty suspended scaffolds incorporating a suspended platform that can be raised or lowered during use must meet the requirements of *AS/NZS 1576.4 (Scaffolding – Suspended Scaffolding)*.

3.2.18 A worker with management or control of a scaffold must not allow the use of a scaffold from which a worker or object could fall more than four meters unless a Competent Worker provides written confirmation that the scaffold has been correctly erected.

3.2.19 The scaffold and its supporting structure must be inspected by a Competent Worker before use, after any incident that could affect its stability (such as a severe storm), after any repairs, and at least every 30 days.

3.2.20 Unauthorised access must be prevented on scaffolding that is incomplete and left unattended (e.g. by attaching Danger Tags and warning signs at appropriate locations).

Shock Absorbers.

When designing a height safety system in which the total fall distance is critical, the likely length of any extension due to deployment of the personal energy absorber must be ascertained and documented.

3.2.21 When using a wire rope Lanyard for fall arrest, an approved personal shock absorber must be incorporated as part of the

Personal Fall Prevention system in order to keep the arrest force at a safe level.

3.2.22 All Systems that may have to provide Personal Fall Protection must include an energy absorber or some other design limiting feature so that no more than 6kN of force is transferred to a worker's body during a fall.

Fall restraint.

3.2.23 Workers using fall protection systems for working at height that rely on fall arrest safety equipment must keep the fall restraint or arrest equipment attached at all times as instructed in the respective working at height competency training program/s.

3.2.24 When working at height and a secure working area is not available, workers must wear an appropriate full body harness including a shock-absorbing Lanyard or Inertia Reel.

3.2.25 The use of body belts for fall-arrest is not permitted.

Testing and Inspection

Fit for Purpose.

3.2.26 All Plant and equipment used for protection, climbing or elevation, must be fit for purpose and undergo pre-use checks and a minimum of six monthly documented inspections by a competent, authorised worker.

3.2.27 An equipment register and tagging system must be implemented to reflect compliance and scheduled inspection programs.

3.2.28 Testing and tagging must be conducted in accordance with recognised standards.

3. PEOPLE RISK CONTROLS

Training and Competency

3.3.1 Workers must be Registered Training Organisation (RTO) trained and authorised to conduct the task they are completing at height including training in the care, inspection and correct use methods of Personal Fall Prevention Systems.

3.3.2 Workers involved in working at height must be RTO trained in accordance

with the relevant Industry Skills Council competency units or equivalent.

3.3.3 Site procedures must be documented, implemented, communicated and complied with so that workers including contractors and subcontractors are fit and competent to work at height.

Emergency Response and Rescue System Requirements.

3.3.4 The working at height competency training program must include training in the provision of an immediate emergency response to a worker suspended in a harness.

Rescue System Requirements are to be in accordance with *ISSC 14: Guide to Electrical Workers' Safety Equipment s12.*

Elevated work platforms or suspended workbaskets.

3.3.5 Workers operating elevated work platforms and baskets should be RTO trained and certified for the specific equipment they are using in accordance with the relevant Industry Skills Council competency unit or equivalent.

3.3.6 Workers operating the platform must be trained, instructed and supervised in safe operating procedures for the particular brand and type of equipment, as well as the safe use of all fall arrest equipment and emergency rescue procedures.

Review, Audit and Monitor

Audit Schedule.

3.3.7 Scheduled audits must be conducted and include auditing of working at height processes, procedures, practices and

systems, and Plant and equipment compliance with requirements.

3.3.8 A documented process must be implemented and complied with for the regular checking of Lanyards and a tag out system for unserviceable equipment.

3.3.9 A system must be implemented and complied with to review the effectiveness of the pole inspection program.

Risk-based observations and audits.

3.3.10 Scheduled and cyclic risk-based audits and behaviour-based observations must cover activities and tasks associated with working at height and adequate supervision.

3.3.11 Corrective actions identified from risk-based audits and behaviour-based observations for additional, specific re-training must be planned, implemented and supervised.

Fitness for Work

3.3.12 A Fitness for Work policy must be implemented incorporating the clearly defined maximum level of drugs and alcohol allowed in the system of those working at heights.

3.3.13 A Fitness for Work program must be implemented and complied with to verify those working at heights are fit to perform the inherent requirements of the role.

NFR4: MOTOR VEHICLE ACCIDENT	ISSUE 25 MAR 2015
<p>Definition: An incident involving a motor vehicle accident (in the course of work related duties) that could result in a fatality or permanent disability to a worker, visitor or member of the public. This excludes work related accidents involving Mobile Plant.</p>	
<p>Intent: To eliminate or minimise the risk of fatality and permanent disability arising from the use of road going vehicles.</p>	

NFR4 DEFINITIONS

(Sourced from the 'Traffic Control at Worksites Manual Version 4 (2010) (NSW Transport Roads and Maritime Services))

AFM: Advanced Fatigue Management as per definition detailed in *Heavy Vehicle National Law (HVNL) Section 458*.

BFM: Basic Fatigue Management as per definition detailed in *Heavy Vehicle National Law (HVNL) Section 458*.

Chain of Responsibility (CoR): the Chain of Responsibility is a policy concept used in Australian transport legislation to place legal obligations on parties in the transportation chain of goods by road. Every person is held accountable for conduct that affects compliance in a transport operation.

Competent Worker: means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

Fatigue: As per the *Heavy Vehicle National Law (HVNL) Section 223 definition*, Fatigue includes (but is not limited to):

- a. feeling sleepy; and
- b. feeling physically or mentally tired, weary or drowsy; and
- c. feeling exhausted or lacking energy; and
- d. behaving in a way consistent with paragraph (a), (b) or (c).

HV: Heavy vehicle.

Journey Management Plan: a documented process to manage risks / hazards associated with any journey being undertaken.

SPV: Special purpose vehicle.

Risk Assessment: the overall process of risk identification, risk analysis and risk evaluation. (INSERT DOCUMENT NO. Risk Management).

MINIMUM RISK CONTROL REQUIREMENTS

1. SYSTEMS AND PROCEDURES RISK CONTROLS

Planning and Procedures

Motor vehicle accident prevention (MVAP).

4.1.1 A MVAP system or similar must be in place to encompass the following minimum requirements:

- Workplace Road Safety Policy (*including assessing fitness to drive standard, refer 4.3.10*);
- Road Safety Induction Programs for workers;
- The procurement of industry recognised safer vehicles;
- Safe driver education programs;
- Incident monitoring (e.g. telemetry) and driver reporting (near misses, environmental conditions, etc.);
- Fatigue / Driving hours management e.g. worker hours, BFM, and AFM must be in line with company policy and procedure;
- Planning must take place and documented safe work procedures must be implemented, communicated and complied with in order to provide for the event of vehicle incidents or breakdowns including provision of immediate workplace assistance;
- Collision investigation management (including analysis of data collection) to

NETWORK FATAL RISK CONTROL STANDARDS

identify risk / cause / mitigation / and training needs;

- Post incident education and learnings.

4.1.2 Systems and procedures when operating motor vehicles must recognise and implement legislative obligations under Chain of Responsibility laws (where applicable).

4.1.3 A system must be implemented and monitored (including a Licence Register) to verify that drivers hold a valid driving licence of the correct class(es) for the vehicle(s) being driven. Formal licensing requirements should be checked and applicants advised of their responsibility to advise of any changes that may affect their eligibility to drive.

4.1.4. The system will monitor work related driving traffic infringements to identify repeat offenders to action appropriate individual consequence management if required.

4.1.5 Documented processes must be implemented and complied with to monitor and undertake regular maintenance / inspection of vehicles in line with manufacturers' or industry guidelines.

4.1.6 Inspection and maintenance activities must include manufacturers' or workshop manual, Heavy Vehicle National Law (HVNL) and Regulation.

2. PLANT AND EQUIPMENT RISK CONTROLS

Hazard identification, risk assessment and control

Risk assessment - vehicle selection.

4.2.1 A Risk Assessment for vehicle selection must include the type of work and the environment in which the vehicle will have to operate.

4.2.2 The range of environmental conditions in which the vehicle will be operating. Adverse conditions, driving on rough or unsealed roads or on roads subject to extreme conditions, such as snow, ice, fog or bushfires present an increased risk exposure etc.

Passenger vehicle safety rating.

4.2.3 At a minimum vehicle ratings are to be a 4-Star ANCAP safety rating.

Site based (includes depots) Traffic Management Plans.

4.1.7 A site-based review of pedestrian interaction, road design and layouts (including entrance and exit points, intersections and other potential points of interaction between vehicles and other mobile equipment) must be conducted.

4.1.8 Site-based Traffic Management Plans must include:

- Appropriate speed limits for vehicle types, road surfaces and environmental conditions;
- Overtaking rules;
- Use of warning equipment and running lights;
- Processes for vehicles entering restricted areas.

4.1.9 Traffic segregation should be used to separate pedestrians, vehicles and other mobile equipment.

4.1.10 When changes to layouts are required the Traffic Management Plan must be updated to address:

- Minimum safe separation distances for vehicles;
- Communication methods;
- Parking requirements; and
- Pedestrian management methods.

4.2.4 All vehicles used for carrying cargo loads must be fitted with cargo barriers and load restraints.

4.2.5 Heavy vehicles and those used for remote work must be acquired or fitted with an approved fire extinguisher, a minimum of two high visibility jackets, a device fitted to the vehicle or personal locator beacon in the event of an emergency, wheel chocks and an appropriate first aid kit.

4.2.6 For any trip each vehicle must contain:

- Emergency contact details;
- A vehicle instruction manual.

4.2.7 Consideration should be given to:

- The use of daytime running lights to provide constant headlight illumination

and increase the ability of drivers to see cars in daytime;

- Factory window tinting only;
- The installation of alert systems to warn drivers of excessive speed.

4.2.8 Consideration should be given to fitting a GPS device in vehicles that operate in remote areas or areas that are off main roads.

4.2.9 A change management process must be in place if vehicle modifications are undertaken (including Risk Assessment) or the use of the vehicle changes.

Seatbelts.

4.2.10 Passenger vehicles must have retractable, three-point sash style seatbelts with pre-tensioner technology for the driver

3. PEOPLE RISK CONTROLS

Training and Competency

Driver training course – Induction.

4.3.1 Dependent on the volume, type of driving tasks and individual driver record with company vehicles, if assessed as required, the following driver training should be undertaken:

- Light and heavy commercial vehicle (including fatigue related); and
- Gravel road familiarisation.

4.3.2 New staff whose duties will involve considerable time behind the wheel must be paired up initially with an experienced and qualified Competent Worker in the form of 'buddy' system.

4.3.3 Workers who are driving must be appropriately licenced to operate the class(es) of vehicle being operated.

Safe Vehicle Operation.

4.3.4 As a minimum, training, information, instruction and supervision should include:

- Behavioural-based defensive driving principles;
- Vehicle familiarisation, taking into account vehicle handling dynamics and aspects such as:
 - Loading and restraining principles;
 - Education and awareness of driving and travel risks that may be encountered within the environment

seat and all passenger seats. *Seat belts must be used in all cases by all occupants.*

Mobile Phones.

4.2.11 Communication channels must be available at all times whilst workers are travelling in remote areas. These communication channels can include smart vehicle technology solutions, regional mobile network equipment, satellite phones and personal locator beacons.

4.2.12 Hand held mobile phone use is illegal and should not be considered under any circumstances while driving. Texting or reading texts or caller ID should not be done at any time whilst driving. It is recommended that hands-free mobile phone use is kept to a minimum.

- where the vehicle may be operated or driven;
- Emergency incident and breakdown procedures;
- Basic mechanical principles, including tyre changing and how to adequately perform a pre-operation check.

Review, Audit and Monitor

4.3.5 Behavioural based observations shall include the operation of motor vehicles. Any need for additional re-training shall incorporate the results of these observations.

4.3.6 Workers who are driving motor vehicles must be made aware of their duty obligations to inform management of the currency and validity of their licences or otherwise.

Driving Behaviour Requirements

4.3.7 Workers driving motor vehicles must know and comply with relevant State Road Rules and workplace Traffic Management Plans.

4.3.8 Seatbelts must be worn by all motor vehicle occupants whenever the vehicle is being operated (*refer 4.2.10*).

Fitness for Work

4.3.9 Fitness to drive must be assessed using the standard (*Austroads - 'assessing fitness to drive for commercial and private*

NETWORK FATAL RISK CONTROL STANDARDS

vehicles drivers: medical standards and clinical management guidelines'), and the requirements for SPV and HV competencies at recruitment, selection, position transfer and movement of workers.

4.3.10 A Fitness for Work policy must be implemented incorporating the clearly defined maximum level of drugs and alcohol allowed in the system of workers driving motor vehicles.

4.3.11 A System must be in place to manage driver fatigue and other relevant health issues which may affect safe driver operations.

NFR5: UNINTENDED CONTACT WITH MOBILE PLANT	ISSUE 25 MAR 2015
Description: An incident involving unintended contact with Mobile Plant that could result in a fatality or permanent disability to a worker, visitor or member of the public. This includes an event where Mobile Plant collides / contacts with other Mobile Plant or a fixed object or worker.	
Intent: To eliminate or minimise the risk of fatality or permanent disability arising from the use of Mobile Plant.	

NFR5 DEFINITIONS

Competent Worker: means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

Control Measures: refer Hierarchy of Control definition.

Fatigue: As per the 'Guide for managing the risk of fatigue at work' November 2013 Safe Work Australia definition: In a work context, fatigue is a state of mental and / or physical exhaustion which reduces a person's ability to perform work safely and effectively.

Hierarchy of Controls (HoC): Elimination of a hazard is the most effective control and if this is not reasonably practicable to achieve, implementation of additional controls should be considered based upon their degree of effectiveness. This order is referred to as the hierarchy of controls and comprises elimination, substitution, isolation, engineering controls, administrative controls and finally use of personal protective equipment.

Mobile Elevating Work Platforms (MEWPs): includes scissor lifts, cherry pickers, boom lifts and travel towers. There are battery powered and internal combustion engine types.

Mobile Plant: powered Mobile Plant is defined by the *NSW WHS Regulation 2011* to mean any plant that is provided with some form of self-propulsion that is ordinarily under the direct control of an operator, and includes: earthmoving machinery (e.g. rollers, graders, scrapers, and bobcats), excavators, and cranes, hoists, elevating work platforms, concrete placement booms, reach stackers and forklifts.

Pedestrian Movement Plan (PMP): A diagram showing the allocated travel paths for workers or pedestrians around or through a work site. The plan shall show all associated signs and devices used to guide the workers or pedestrians. A PMP may be combined with or superimposed on a TCP

Personal Protective Equipment (PPE): protective clothing, equipment, or a combination thereof, that is worn by a person for protection.

Risk Assessment: the overall process of risk identification, risk analysis and risk evaluation. (*INSERT DOCUMENT NO.* Risk Management).

Traffic Control Plan (TCP): A diagram showing signs and devices arranged to warn traffic and guide it around, past or, if necessary through a work site or temporary hazard. The TCP shall detail the location, spacing and sizes of all signs and devices, the location and lengths of tapers, all pavement markings and delineators, any containment or safety fencing, flashing arrow signs, portable traffic signals, variable message signs, roadwork speed zones and , if necessary, pedestrian routes.

Traffic controller: A trained person whose duty it is to control traffic at a work site. This control is normally exercised by the use of STOP / SLOW bats, but may be by manual control of traffic signals or other devices.

Traffic Management Plan (TMP): A plan detailing work to be undertaken and describing its impact on the general area, especially its impact on public transport and passengers, cyclists, pedestrians, motorists and commercial operations. It also described how these impacts are being addressed. May also contain TCPs and Vehicle Movement Plans.

Vehicle Movement Plan (VMP): A diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing through the traffic stream. A VMP should also show

travel paths for vehicles at key points on routes remote from the work site such as places to turn around, accesses, ramps and side roads. A VMP may be combined with or superimposed on a TCP.

MINIMUM RISK CONTROL REQUIREMENTS

1. SYSTEMS AND PROCEDURES RISK CONTROLS

Planning and Procedures

Control of Mobile Plant and worker interaction.

5.1.1 Documented system and works start up procedures detailing control processes must be implemented and complied with to enable safe interaction between Mobile Plant, workers on foot, other Mobile Plant and pedestrians.

5.1.2 Workers are to be made aware of and acknowledge they understand the control measures in place for delineation and separation.

Security and Immobilisation.

5.1.3 Suitable isolation and plant security procedures must be in place, communicated and complied with that detail how Mobile Plant is to be:

- Shutdown and isolated (locked-out);
- Tested and tagged when necessary;
- Secured when not in use; and
- Safely parked and stored.

Inspection and 'Lock Out Tag Out'.

5.1.4 A system must be implemented and complied with for workers to inspect and test all Mobile Plant prior to each use. Identified defects must be tagged out and removed from service until repaired and certification takes place.

5.1.5 If reasonably practicable eliminate the need for reversing by using multi-directional mobile plant or rotating cabins. Where this is not possible consider:

- Using devices like reversing sensors, reversing cameras, mirrors, rotating lights or audible reversing alarms;
- Using a person to direct the reversing vehicle if they cannot see clearly behind—this person should be in visible contact with the driver at all times and wear high-visibility clothing;

- Providing designated clearly marked, signposted and well lit reversing areas; and
- Excluding non-essential workers from the area.

Hazard identification, risk assessment and control

5.1.6 Identify the traffic hazards. This must be done in consultation with workers and workers operating Mobile Plant, and must identify where Mobile Plant might interact with workers on foot, other Mobile Plant and / or pedestrians.

5.1.7 Suitable risk controls are to be selected to either eliminate the risk or if it is not reasonably practicable to eliminate the risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls). These risk controls could include:

- Designing the workplace layout so that vehicles and pedestrians are separated;
- Scheduling work so that vehicles and pedestrians are not operating simultaneously in the one area.

5.1.8 If the opportunity to eliminate the risk is not available, a documented Traffic Management Plan, Traffic Control Plan, Pedestrian Movement Plan and or Vehicle Movement Plan must be developed and training, information and instructions must be provided to affected workers and visitors. Control measures within the aforementioned plans should include, but are not limited to:

- Substituting Mobile Plant with other plant that has less risk (e.g. replacing a forklift truck with a pallet jack, if appropriate for the loads and site layout);
- Using bollards, barriers, safety rails, Exclusion Zones, etc. to separate pedestrians from moving plant and vehicles;

NETWORK FATAL RISK CONTROL STANDARDS

- Using audible and visible alarms to identify moving plant (e.g. reversing alarm, reversing cameras, flashing lights);
- Planning the site's layout to minimise plant movement;
- Establishing traffic flow patterns, developing right of way procedures, providing signage and implementing speed limits;
- Using spotters or dedicated traffic controllers;
- Restricting access to essential personnel only;
- Using high-visibility garments.

5.1.9 At most sites, a combination of control measures is required to effectively manage the risks associated with Mobile Plant.

5.1.10 Maintain and review control measures. If the workplace changes, a formal change management process designed to ensure effective control measures remain in place is to be complied with.

2. PLANT AND EQUIPMENT RISK CONTROLS

Hazard identification, risk assessment and control

Risk-based selection and acceptance - new, hired or modified Mobile Plant.

5.2.1 A register of all Mobile Plant must be maintained and include identification numbers, inspection dates and results, certifications, maintenance details, and modification and test history.

5.2.2 A Risk Assessment must be conducted prior to the introduction of any new, hired, modified or replacement Mobile Plant.

Equipment

5.2.3 Where fitted, seatbelts must be worn by all Mobile Plant occupants whenever the vehicle is being operated.

Communication.

5.2.4 Clear and effective systems of communication are to be in place to eliminate or control the risk of Mobile Plant collision or impact with workers on foot and / or pedestrians.

5.1.11 Mobile Plant hazards from purchase to disposal must be identified and risk assessed as part of the formal Risk Assessment process for each job. This must also include hired equipment.

Mobile phones.

5.1.12 Unless needed for essential communications between workers conducting work tasks and plant operators, mobile phones are not to be used when working near or around mobile plant.

5.1.13 Hand held mobile phone use is prohibited and should not be considered under any circumstances whilst operating Mobile Plant. Texting or reading texts or caller ID should not be done at any time whilst operating Mobile Plant.

High visibility clothing.

5.1.14 Workers must wear approved high visibility clothing and other required Personal Protection Equipment (PPE) in accordance with documented PPE procedures and PPE signage in the work area where Mobile Plant will be operated.

5.2.5 Effective communication must be maintained between the following interfaces to coordinate safe interaction:

- Workers on foot and workers operating Mobile Plant;
- Workers operating Mobile Plant and workers operating Mobile Plant;
- Site co-ordination of suppliers, contractors and workers operating Mobile Plant.

Testing and Inspection

Preventative maintenance.

5.2.6 A maintenance schedule must be developed and complied with for each piece of Mobile Plant and equipment in accordance with the manufacturers' and / or regulatory guidelines.

5.2.7 Maintenance records must be systematically maintained and details entered into the Mobile Plant Register that is available to all workers and must be kept in accordance with relevant document control and storage procedures.

3. PEOPLE RISK CONTROLS

Training and Competency

5.3.1 A system must be implemented and monitored including the maintenance of a licence and ticket Competency Register to verify that workers operating Mobile Plant hold valid certifications for the Mobile Plant being operated and have been assessed as competent.

5.3.2. Workers operating Mobile Plant, supervisors and maintenance workers involved with Mobile Plant must be familiar with all safety critical systems, and trained and assessed as competent to perform the task.

Review, Audit and Monitor

Behavioural observations and site audits.

5.3.3 Site audits and behavioural observations of Mobile Plant operations should be scheduled and conducted.

5.3.4 Corrective and preventive actions identified from site audits and behavioural observations must be closed out in a timely manner relevant to the level of risk exposure.

Roles and responsibilities of workers

5.3.5 Roles and responsibilities of workers to safely manage and operate Mobile Plant must be clearly defined, communicated and understood.

Fitness for Work

5.3.6 A Fitness for Work policy must be implemented incorporating the clearly defined maximum level of drugs and alcohol allowed in the system of workers operating Mobile Plant.

5.3.7 A system must be in place to manage and continuously monitor worker fatigue and other relevant health issues which may impair safe operation of Mobile Plant.

NFR6: STRUCK BY FALLING OR MOVING OBJECT**ISSUE****25 MAR 2015**

Definition: An incident involving an object falling from height or moving in an uncontrolled manner and that could result in a fatality or permanent disability to a worker, visitor or member of the public.

Intent: To eliminate or minimise the risk of fatality and permanent disability where and when there is the potential for human interaction with falling or moving objects.

NFR6 DEFINITIONS

As Low As reasonably Practicable (ALARP): Core to this concept is 'reasonably practicable'. The objective is to eliminate risk. If it is not reasonably practicable to eliminate a risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls). ALARP is the level of risk that is tolerable and cannot be reduced further without the expenditure of cost, time and/or effort that is disproportionate to the benefit gained or where the solution is impractical to implement.

Competent Worker: means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

Dogging work: means

- a) the application of slinging techniques, including the selection and inspection of lifting gear, to safely sling a load; or
- b) the directing of a plant operator in the movement of a load when the load is out of the operator's view.

Drop Zone: a defined area at the base of a structure identified as where items could fall and potentially cause injury or damage. This area should be clearly marked.

Hierarchy of Control (HoC): Elimination of a hazard is the most effective control and if this is not reasonably practicable to achieve, implementation of additional controls should be considered based upon their degree of effectiveness. This order is referred to as the hierarchy of controls and comprises elimination, substitution, isolation, engineering controls, administrative controls and finally use of personal protective equipment.

Mobile Elevating Work Platforms (MEWPs): includes scissor lifts, cherry pickers, boom lifts and travel towers. There are battery powered and internal combustion engine types.

Mobile Plant: powered Mobile Plant is defined by the *NSW WHS Regulation 2011* to mean any plant that is provided with some form of self-propulsion that is ordinarily under the direct control of an operator, and includes: earthmoving machinery (e.g. rollers, graders, scrapers, and bobcats), excavators, cranes, hoists, elevating work platforms, concrete placement booms, reach stackers and forklifts.

No-go Zone: means the area around overhead power lines into which no part of a worker or material or cranes or vehicles or items of Mobile Plant may encroach without the approval of the network operator.

Personal Protective Equipment (PPE): protective clothing, equipment, or a combination thereof, that is worn by a person for protection.

Plant: includes any machinery, equipment or appliance.

Rigging work:

- a. the use of mechanical load shifting equipment and associated gear to move, place or secure a load using plant, equipment or members of a structure to verify the stability of those members; or
- b. the setting up or dismantling of cranes or hoists.

Risk Assessment: the overall process of risk identification, risk analysis and risk evaluation. (*INSERT DOCUMENT NO.* Risk Management).

MINIMUM RISK CONTROL REQUIREMENTS

1. SYSTEMS AND PROCEDURES RISK CONTROLS

Planning and Procedures

6.1.1 Documented system and works start up procedures detailing processes for preventing objects from falling on and moving plant or object colliding with people must be implemented, communicated and complied with.

6.1.2 Drop Zone and No-go Zone management activities must be undertaken in accordance with the relevant sections of the lifting operations risk control standard in this document and appropriateness to the site, activity and the use of multiple mobile elevating work platforms (**MEWPs**).

6.1.3 Workers must comply with relevant procedures (e.g. Dogging) detailing requirements for moving tools, equipment and Mobile Plant to prevent objects falling and colliding with workers, visitors or members of the public.

Hazard identification, risk assessment and control

6.1.4 Falling object and moving plant and traffic management hazards must be identified and risk assessed as part of the formal risk assessment process for each job and suitable risk controls selected to either eliminate the risk or if it is not reasonably practicable to eliminate the risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls).

6.1.5 Risk Assessments must also take into account environmental conditions (e.g. wind, rain) that could affect visibility, unexpected movement of loose objects and the competence or familiarity of workers (e.g. apprentices, new workers, workers returning from long periods of absence).

6.1.6 Physical barriers such as toe boards are in place on scaffolds, work platforms or walkways where there is a potential for pedestrian traffic or workers working underneath.

Working at Height.

6.1.7 Examples of controls for working at heights to manage the risk of falling object should be considered and include:

- Provision of controlled Drop Hazard Zone (Exclusion Zone);
- Keeping large equipment at ground level;
- Good housekeeping e.g. keeping the work area tidy and ensuring materials, debris, tools and equipment that are not being used are out of the way;
- Providing a secure physical barrier at the edge of the elevated area, such as toe boards or infill panels that form part of a guardrail system;
- Tethering or otherwise securing tools and materials to prevent them falling on people below;
- Keeping tools or other materials away from edges and off railings or sills.

2. PLANT AND EQUIPMENT RISK CONTROLS

Hazard identification, risk assessment and control

6.2.1 Loose objects must be secured when being used at height and transported in a tool belt or similar when being brought down to ground or taken up to a work area.

6.2.2 Mobile Plant and equipment must be switched off and secured when not in use to prevent uncontrolled or unauthorised movement.

Testing and Inspection

6.2.3 Lifting plant and equipment inspection processes must be conducted in accordance with the relevant sections of the lifting operations risk control standard in this document.

6.2.4 Processes must be implemented and maintained to clearly identify and / or quarantine damaged or out of service lifting equipment.

3. PEOPLE RISK CONTROLS

Training and Competency

6.3.1 Workers must be trained in their roles and responsibilities and relevant procedures for the appropriate use of devices to manage the movement of tools and equipment. Workers also must be trained in working at height and lifting safety requirements as indicated in other risk control standards contained in this document.

6.3.2 A Competency Register must be maintained that clearly shows the tasks workers are competent to perform including the use of devices to manage the movement of tools and equipment.

Review, Audit and Monitor

6.3.3 Workers must routinely inspect their workspaces to verify that no loose tools and equipment are left behind.

6.3.4 Behavioural observations must be carried out where there is the potential for people to be struck by falling or moving objects.

6.3.5 Site audits of operations must be carried out where there is the potential for workers, visitors and members of the public to be struck by falling or moving objects and must be scheduled and conducted according to the level of risk present.

6.3.6 Corrective and preventive actions identified from behavioural observations and audits must be closed out in a timely manner relevant to the level of risk exposure.

Roles and responsibilities

6.3.7 Roles and responsibilities of workers to prevent objects falling and collisions with Mobile Plant or objects must be clearly defined in relevant procedures and be clearly communicated.

6.3.8 In accordance with Personal Protection Equipment (PPE) procedures, white cards and site signage, workers must wear appropriate PPE where there is a danger of impact with Mobile Plant / object or falling objects.

Fitness for Work

6.3.9 A Fitness for Work policy must be implemented incorporating the clearly defined maximum level of drugs and alcohol allowed in the system of those working near or around the electrical network.

6.3.10 A Fitness for Work program must be implemented and complied with to verify those working near or around the electrical network are fit to perform the inherent requirements of the role.

NFR7: INCIDENT WHILE UNDERTAKING LIFTING OPERATIONS

ISSUE

25 MAR 2015

Definition: An incident involving mechanical lifting operations that could result in a fatality or permanent disability to a worker, visitor or member of the public.

Intent: To eliminate or minimise the risk of fatality and permanent disability arising from the performance of lifting operations.

NFR7 DEFINITIONS

Competent Worker: means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

Control Measures refer Hierarchy of Control definition.

Dogging work: means

- (a) the application of slinging techniques, including the selection and inspection of lifting gear, to safely sling a load; or
- (b) the directing of a plant operator in the movement of a load when the load is out of the operator's view.

Drop Zone: a defined area at the base of a structure identified as where items could fall and potentially cause injury or damage. This area should be clearly marked.

External Rated Capacity Lighting: refers to clearly visible green, amber and red lights mounted externally to the Crane, green to indicate safe operating range, amber when approaching maximum rated capacity and red when maximum rated capacity has been exceeded.

Hierarchy of Controls (HoC): Elimination of a hazard is the most effective control and if this is not reasonably practicable to achieve, implementation of additional controls should be considered based upon their degree of effectiveness. This order is referred to as the hierarchy of controls and comprises elimination, substitution, isolation, engineering controls, administrative controls and finally use of personal protective equipment.

High Risk Work: means any work set out in Schedule 3 as being within the scope of a high risk work licence.

Safe Working Load (SWL): the maximum load that the equipment can lift safely or the lifting capacity of items such as hooks, slings and shackles etc.

High Risk Work Licence: means any of the licences listed in Schedule 3.

Lift truck: a small truck or a hand or power operated dolly equipped (as with a forklift or platform) for lifting and transporting loads.

Lifting Equipment: work equipment for lifting or lowering loads and includes its attachments used for anchoring, fixing or supporting it.

Lifting Operations: an operation concerned with the lifting or lowering of a load.

Mobile Crane: a crane capable of travelling over a supporting surface without the need for fixed runways (including railway tracks) and relying only on gravity for stability

Mobile Elevating Work Platforms (MEWPs): includes scissor lifts, cherry pickers, boom lifts and travel towers. There are battery powered and internal combustion engine types.

OEM: Original Equipment Manufacturer.

Personal Protective Equipment (PPE): protective clothing, equipment, or a combination thereof, that is worn by a person for protection.

Rigging work:

- (a) the use of mechanical load shifting equipment and associated gear to move, place or secure a load using plant, equipment or members of a structure to verify the stability of those members; or
- (b) the setting up or dismantling of cranes or hoists.

Risk Assessment: the overall process of risk identification, risk analysis and risk evaluation. (*INSERT DOCUMENT NO.* Risk Management)

SWMS: Safe Work Method Statement

Worker Crane: an appliance intended for raising or lowering a load and moving it horizontally, and includes the supporting structure of the crane and its foundations, but does not include industrial lift trucks, earth moving machinery, amusement devices, tractors, industrial robots, conveyors, building maintenance equipment, suspended scaffolds or lifts.

Working Load Limit (WLL): the maximum mass or force which a product is authorised to support in general service when the pull is applied in-line. Sometimes called the maximum safe working load or the maximum rated load.

MINIMUM RISK CONTROL REQUIREMENTS

1. SYSTEMS AND PROCEDURES RISK CONTROLS

Planning and Procedures

7.1.1 Load charts must be available for use in all Mobile Cranes.

7.1.2 The Safe Working Load (**SWL**), Maximum Mass Load (**MML**) or Working Load Limit (**WLL**) must be clearly identified and marked on all lifting equipment.

7.1.3 Safe Working Load (SWL), Maximum Mass Load (MML) or Working Load Limits (WLL) must not be exceeded under any circumstances.

7.1.4 Workers operating plant / equipment must have easy access to relevant manufacturer operating manuals / instructions and load charts that can be easily understood.

7.1.5 Personal Protection Equipment (PPE) requirements for lifting operations must include but are not limited to: approved safety helmets, gloves, eye protection, safety vests and steel capped boots.

Drop zones.

7.1.6 Unless it is assessed as unavoidable, no work is to take place under or in a Drop Zone.

7.1.7 Risk controls must be applied where work under or in the Drop Zone is unavoidable.

Control of lifting operations and suspended loads.

7.1.8 Risk controls for securing, lifting, moving and suspending loads must include:

- Storage:

- Stacking items so they cannot slide, fall or collapse when they are stored above ground level;
- Using appropriate storage systems to keep items in place when they are stored above ground level so they cannot fall easily if they are disturbed;
- Following the safe load limit of the storage system when storing items;
- Ensuring Shelving systems, barriers and other fittings are properly secured and well maintained;
- Inspecting pallets each time before use to make sure they are in a safe condition;
- Loading pallets correctly to effect load stability;
- Movement:
 - Following Safe Working Load (SWL), Maximum Mass Load (MML) or Working Load Limit (WLL);
 - Load cells and load movement indicators must be used on all cranes. External Rated Capacity Lighting must be used on Mobile Cranes.
 - No Mobile Crane or equipment must perform a lift if its outriggers and or stabilisers are not fully deployed and locked.
- Suspension
 - Establishing 'no go' zones and erecting suitable barriers to entry.

Hazard identification, risk assessment and control

7.1.9 A hazard identification and Risk Assessment must be conducted to eliminate and / or effectively control risk exposure, prior to the commencement of any lifting operations. A lift plan must be developed in advance of any significant lifting work for large and difficult to control lifts involving thoroughfare and members of the public, and shall consider:

- Appropriate sizing / selection of the lifting device for the planned loads.
- Measures to eliminate unnecessary personnel/vehicles from the lift zone.
- Environmental factors, such as overhead power lines, underground

2. PLANT AND EQUIPMENT RISK CONTROLS

Management of Change (MOC)

7.2.1 If any modification must be done on lifting equipment, a formal change management process designed to ensure effective control measures remain in place is to be complied with. The modification must also be approved by the Original Equipment Manufacturer (OEM) of the equipment.

Hazard identification, risk assessment and control

Risk-based selection and acceptance process - new, hired or modified lifting plant and / or equipment.

7.2.2 A register of all lifting equipment must be maintained and include identification numbers, load capacity, inspection dates and results, certifications, maintenance details and modification and test history. (For guidance refer to the list of plant requiring registration of design in *Schedule 5, Part 1 and Part 2, of the NSW WHS Regulation 2011*).

7.2.3 The register must detail the dates lifting plant and equipment is removed from service, and when it is re-inspected and re-introduced.

7.2.4 Documented procedures that detail requirements for selecting, accepting and introducing new, hired or replacement lifting plant and equipment into operations must be implemented and complied with (including training, induction and safety specifications).

culverts, utilities, drains and other structures in the vicinity.

Examples of significant lifting work may include; zone substation transformer, and concrete, steel or transmission poles.

7.1.10 Prior to raising or lowering lifting plant or equipment or moving / lifting a load the following risk factors must be assessed (e.g. ground stability):

- Operator worker competency;
- Fitness for purpose of the lifting plant / equipment;
- Safe working load limits;
- Stability of ground conditions; and
- Wind and other weather / environmental conditions.

7.2.5 A Risk Assessment must be conducted prior to the introduction of any new, hired, modified or replacement lifting plant or equipment.

Testing and Inspection

7.2.6 A safe operating procedure must be in place for workers to inspect and test all lifting plant and equipment prior to each use. Visual observations must be made by workers assessed as competent to assess and test the condition and correct operation of lifting plant and equipment including limit switches, shutdowns, load indicators (capacity lighting), alarms and other safety devices. Specific attention must be paid to the integrity of stability monitoring devices.

7.2.7 A documented process must be implemented and complied with to determine whether inspection or visual observation reveals a piece of lifting plant or equipment is defective and not fit for purpose.

- If lifting plant or equipment is defective or not fit for purpose, it must be tagged out and removed from service until it is repaired, re-inspected, certified as fit to use and formally placed back into the Lifting Plant and Equipment Register.

7.2.8 Lifting plant and equipment inspections must be scheduled, documented and undertaken by competent workers.

7.2.9 Records of scheduled lifting plant and equipment inspections must be maintained.

Preventative maintenance.

7.2.10 Hazard Risk Assessment identification prior to the use of cranes must include:

- The crane, e.g. structural condition, electrical and hydraulic systems, mechanical power sources, moving parts, load-carrying capacity and worker operating lifting equipment protection;
- Setup location, e.g. for a mobile crane, the environment including rough, muddy, sloping or uneven ground and

the size of the area in which it will operate etc.;

- Crane operation, e.g. the load the crane will lift, other work occurring in the same area etc.

7.2.11 Maintenance records must be systematically maintained and details entered into the Lifting Plant and Equipment Register.

3. PEOPLE RISK CONTROLS

Training and Competency

7.3.1 A system must be implemented and complied with to verify that national high-risk work licences have been issued by the appropriate authority for workers engaged in mechanical lifting operations and to maintain a register of licenses and qualifications. Licenses are required in accordance and as detailed in WorkCover NSW high risk work license requirements.

Review, Audit and Monitor

7.3.2 Behavioural observations and site audits of lifting operations must be scheduled and conducted.

7.3.3 Corrective and preventive actions identified from behavioural observations and audits must be closed out in a timely manner relevant to the level of risk exposure.

7.3.4 Racking inspection and audits must be carried out on an annual basis.

Roles and responsibilities

7.3.5 Roles and responsibilities of workers involved in lifting operations are clearly defined in the lift plan and communicated by an appropriate supervisor.

7.3.6 Workers undertaking lifting operations or working near the area where lifting operations are being undertaken must be made aware of their roles and responsibilities, lifting plant safely

specifications, the lifting Risk Assessment and controls and all relevant instruction documents.

7.3.7 Workers undertaking Dogging, Rigging or scaffolding work must have a national licence to perform high risk work as assessed by a Registered Training Organisation (RTO).

Communication

7.3.8 Doggers must communicate by two-way radio or whistle signals when they are out of earshot and line of sight of the crane driver. Hand signals may also be used when the Dogger is in sight of the driver.

7.3.9 Two-way radio systems must provide clear and immediate signals without interference.

Fitness for Work

7.3.10 A Fitness for Work policy must be implemented incorporating the clearly defined maximum level of drugs and alcohol allowed in the system of those working near or with mechanical lifting operations.

7.3.11 A Fitness for Work program must be implemented and complied with to verify those working near or with mechanical lifting operations are fit to perform the inherent requirements of the role.

NFR8: UNCONTROLLED COLLAPSE OF EXCAVATION WORK	ISSUE 25 MAR 2015
Definition: An incident involving unintended ground / earth movement due to Company works that could result in a fatality or permanent disability to a worker, visitor or member of the public.	
Intent: To eliminate or minimise the risk of fatality and permanent disability arising from the execution of excavation works.	

NFR8 DEFINITIONS

Battering: means to form the face or side or wall of an excavation to an angle, usually less than the natural angle of repose, to prevent earth slippage.

Benching: means the horizontal stepping of the face, side, or wall of an excavation.

Competent Worker: means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

Confined Space: means an enclosed or partially enclosed space that:

- a) is not designed or intended primarily to be occupied by a person; and
- b) is, or is designed or intended to be, at normal atmospheric pressure while any person is in the space; and
- c) is or is likely to be a risk to health and safety from:
 - i) an atmosphere that does not have a safe oxygen level; or
 - ii) contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion; or
 - iii) harmful concentrations of any airborne contaminants; or
 - iv) engulfment;

but does not include a mine shaft or the workings of a mine.

Control Measures refer Hierarchy of Control definition.

Excavation Work: means work to:

- a) make an excavation; or
- b) fill or partly fill an excavation.

Exclusion Zone: a zone established to prohibit specific activities within a specific geographic area. The exclusion zone may be defined by bollards, cones, tape, fence, walls, screens or similar.

Fatigue: As per the *Heavy Vehicle National Law (HVNL) Section 223 definition:* Fatigue includes (but is not limited to) -

- a. feeling sleepy; and
- b. feeling physically or mentally tired, weary or drowsy; and
- c. feeling exhausted or lacking energy; and
- d. behaving in a way consistent with paragraph (a), (b) or (c).

Hierarchy of Control (HoC): Elimination of a hazard is the most effective control and if this is not reasonably practicable to achieve, implementation of additional controls should be considered based upon their degree of effectiveness. This order is referred to as the hierarchy of controls and comprises elimination, substitution, isolation, engineering controls, administrative controls and finally use of personal protective equipment.

High Risk Construction Work: any construction work (including any work connected with an 'excavation') that is carried out in or near:

- A shaft or trench with an excavated depth of greater than 1.5 meters; or
- A tunnel.

Risk Assessment: the overall process of risk identification, risk analysis and risk evaluation. (*INSERT DOCUMENT NO.* Risk Management)

SWMS: Safe Work Method Statement

Shoring: means the use of timber, steel or other structural material to support an excavation in order to prevent collapse so

that construction can proceed.

Trench: means a horizontal or inclined way or opening:

- The length of which is greater than its width and greater than or equal to its depth;
- That commences at and extends below the surface of the ground; and

- That is open to the surface along its length.

Tunnel: an underground passage or opening that is approximately horizontal and commences at the surface of the ground or an excavation.

Zone of Influence: means the volume of soil around the excavation affected by any external load (for example vehicles, plant, excavated material).

MINIMUM RISK CONTROL REQUIREMENTS

1. SYSTEMS AND PROCEDURES RISK CONTROLS

Planning and Procedures

8.1.1 Excavation Work must be carefully planned and should consider construction as well as excavation plans before work starts so works can be carried out safely. Planning as a minimum must involve the following considerations:

- Identifying the hazards;
- Assessing the risks and determining appropriate elimination and or effective control measures in consultation with all relevant workers involved in the work including the principal contractor, excavation contractor, designers and Mobile Plant operators;
- Consulting with structural, civil or geotechnical engineers and other experts where required.

8.1.2 Work procedures must verify that an emergency plan deals with unexpected incidents, such as ground slip, flooding, gas leaks and the rescue of workers from an excavation etc.

8.1.3 Traffic management must be implemented and include separation of people and plant requirements when Mobile Plant is to be used for Excavation Work. Consideration must also be given to potential collision with other Mobile Plant. This must include two-way communication and line of sight requirements.

8.1.4 Fall arrest processes, including Exclusion Zones, must be in place to manage the risk of a fall from one level to another if it is likely to cause a risk of injury to the worker or another worker. *Refer to NFR3.*

8.1.5 A competent, appropriately trained spotter must be appointed to observe and warn against unsafe approaches to

Mobile Plant operation near or around excavation work.

Identification, location and isolation of underground services.

8.1.6 A documented process must be implemented and complied with to develop and communicate emergency / rescue processes and plans in respect of excavation work.

8.1.7 Use of manual potholing or hand digging techniques must be undertaken to accurately locate the underground asset and to support Dial Before You Dig information prior to introducing mechanical equipment to excavate.

Hazard identification, risk assessment and control

8.1.8 A hazard identification and Risk Assessment must be conducted to eliminate and or effectively control risk exposure, prior to the commencement of any excavation operations. Identify specific excavation-related hazards including access and egress, fall or dislodgement of earth or rock; falls from one level to another, falling objects, instability, previous ground disturbances, possible inrush of water or other liquid, hazardous manual tasks, hazardous chemicals and atmosphere, vibration and noise, and overhead essential services.

8.1.9 The position / location of the excavation Mobile Plant must be considered as part of the Risk Assessment process.

8.1.10 The risk of the following potential events must be assessed:

- A worker falling into an excavation;
- A worker being trapped by the collapse of an excavation;

- A worker working in an excavation being struck by a falling or moving object; and
- A worker working in an excavation being exposed to an airborne contaminant.

8.1.11 Controls must be in place to meet the requirements of *Workcover NSW Code of Practice Excavation Work 2014 Reg 306*. A trench excavation of at least 1.5m deep must ensure so far as is reasonably practicable that the work area is secured from unauthorised access (including inadvertent entry). This requirement aims to protect other workers on site who may be at risk by restricting access to the excavation. It also applies so far as is reasonably practicable that the site is secured from unauthorised access from members of the public, for example when the site is near schools, parks, shops or other public places. area.

8.1.12 Mechanical plant, vehicles, storage of materials (including excavated material) or any other heavy loads must not be located in the 'Zone of Influence' of an excavation.

2. PLANT AND EQUIPMENT RISK CONTROLS

Hazard identification, risk assessment and control

8.2.1 Plant and equipment used for excavation work must be fit for purpose and maintained in a safe working condition in accordance with manufacturer's requirements.

8.2.2 Processes must be implemented and complied with that clearly document how plant is to be used and operated by Competent Workers, suitable guarding and protective devices are fitted, that the safe working load is displayed and load measurement devices are regularly calibrated and plant is maintained in accordance with manufacturers' instructions.

8.2.3 Field based Risk Assessments must be used throughout a job to identify any changes to ground movement or environmental conditions and the Risk Assessment and controls reviewed and amended in accordance with the Hierarchy of Controls.

Geological / ground assessments and / or engineering advice

8.1.13 Documented procedures must be implemented and complied with for gaining expert geological and engineering advice regarding a planned excavation to prevent the failure of Trenches and / or open excavations.

8.1.14 Where indicated by the Risk Assessment, implement and comply with processes to appropriately control and prevent ground movement e.g. shoring, battering or benching.

8.1.15 A documented process must be implemented and complied with to determine whether a planned excavation will be classified as a confined space requiring a permit.

8.1.16 Develop and communicate emergency / rescue processes and plans.

8.1.17 For excavation areas large enough for worker(s) to enter, two evacuation (access and egress) routes must be in place for quick exiting of the excavation area.

8.1.18 Safe Work Method Statements (SWMS) must be in place for Excavation Work if it involves High Risk Construction Work.

8.2.4 That in assessing risks associated with earthmoving machinery, the Risk Assessment takes into consideration the failure of systems that are critical to safety. This should include:

- The identification of all safety critical systems on Mobile Plant;
- A review of Original Equipment Manufacturer (OEM) manuals to establish how the machine is intended to operate in a loss-of-power event;
- The development of testing procedures to verify the machine operates in its intended manner;
- A review of SWMS or Site Safety Management Plan documentation to verify that it accurately reflects how the testing is to be performed.

8.2.5 That workers operating equipment, supervising and maintaining Mobile Plant are familiar with all safety critical systems, trained and assessed as competent.

8.2.6 That daily pre-start safety checks are carried out and documented, including determining the proper function of the safety critical systems. For example, when engine power is lost:

- A loader or excavator bucket can still be lowered to the ground;
- Service brakes activate and have designed application capability;
- The emergency / park brake applies;
- Emergency steering operates according to OEM design.

8.2.7 That operators of Mobile Plant must be trained and assessed as competent to identify warning systems that highlight the failure of safety critical systems.

3. PEOPLE RISK CONTROLS

Training and Competency

8.3.1 Excavation Workers, must be assessed as competent at the planning stage and prior to works commencing.

8.3.2 A system must be implemented and complied with to check that required 'close approach' training for workers operating Mobile Plant is in order.

Review, Audit and Monitor

8.3.3 Behavioural observations and site audits of excavation activities must be scheduled and conducted according to the level of risk present.

8.3.4 Corrective and preventive actions identified from behavioural observations and audits must be closed out in a timely manner relevant to the level of risk exposure.

Roles and responsibilities

8.3.5 Roles and responsibilities for workers undertaking excavation work must be documented and clearly communicated.

8.3.6 Workers engaged in excavation works must have been assessed as a competent person as per the requirements of *WorkCover NSW Code of Practice Excavation Work 2014*. A register of competencies is to be maintained.

8.3.7 Workers undertaking Excavation Work must be trained in the requirements of

the job including the risk assessment and controls, policies and procedures, location of relevant records such as Safety Data Sheets (SDSs), SWMSs and the Excavation (or Construction) Plan.

Fitness for work

8.3.8 A Fitness for Work policy must be implemented incorporating the clearly defined maximum level of drugs and alcohol allowed in the system of workers operating, or working near or around excavation equipment.

8.3.9 A system must be in place to manage driver fatigue and other relevant health issues which may impair safe excavations operations.

<p>NFR9: BREACH OF A CONTROLLED WORKSITE WHEN WORKING NEAR OR AROUND TRAFFIC</p>	<p>ISSUE 25 MAR 2015</p>
<p>Definition: An incident involving a breach of a controlled worksite by company vehicles or general traffic that could result in a fatality or permanent disability to a worker or member of the public.</p>	
<p>Intent: To eliminate the risk of fatality and permanent disability arising from the breach of a controlled worksite when working near or around traffic</p>	

NFR9 DEFINITIONS

Competent Worker: means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

Control Measures: refer Hierarchy of Control definition.

Exclusion Zone: a zone established to prohibit specific activities within a specific geographic area. The exclusion zone may be defined by bollards, cones, tape, fence, walls, screens or similar.

Hierarchy of Control (HoC): Elimination of a hazard is the most effective control and if this is not reasonably practicable to achieve, implementation of additional controls should be considered based upon their degree of effectiveness. This order is referred to as the hierarchy of controls and comprises elimination, substitution, isolation, engineering controls, administrative controls and finally use of personal protective equipment.

Intermittent work: Work which is undertaken on travel lanes, in gaps in traffic, without obstructing traffic and without compromising the safety of workers. Intermittent work may be either planned or unplanned.

Pedestrian Movement Plan (PMP): A diagram showing the allocated travel paths for workers or pedestrians around or through a work site. The plan shall show all associated signs and devices used to guide the workers or pedestrians. A PMP may be combined with or superimposed on a TCP.

Risk Assessment: the overall process of risk identification, risk analysis and risk evaluation. (INSERT DOCUMENT NO. Risk Management)

Short Term Work: work requiring traffic control during work taking less than or equal to one work shift and where traffic control is

not required when the work is complete and where road conditions are returned to normal when the shift ends.

Sight distance: the distance between the point at which an approaching driver first sees the whole of an object and the object itself. The desirable sight distance is sufficient to enable a driver to see, perceive, respond and react, and is usually approximately equal to eight to ten seconds of travel or about 2.5D where D is the approach speed in km/h.

Traffic controller: A trained person whose duty it is to control traffic at a work site. This control is normally exercised by the use of STOP/SLOW bats, but may be by manual control of traffic signals or other devices.

Traffic Control Plan (TCP): A diagram showing signs and devices arranged to warn traffic and guide it around, past or, if necessary through a work site or temporary hazard. The TCP shall detail the location, spacing and sizes of all signs and devices, the location and lengths of tapers, all pavement markings and delineators, any containment or safety fencing, flashing arrow signs, portable traffic signals, variable message signs, roadwork speed zones and , if necessary, pedestrian routes.

Traffic Management Plan (TMP): A plan detailing work to be undertaken and describing its impact on the general area, especially its impact on public transport and passengers, cyclists, pedestrians, motorists and commercial operations. It also described how these impacts are being addressed. May also contain Traffic Control Plans and Vehicle Management Plans.

Vehicle Movement Plan (VMP): A diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing through the traffic stream. A VMP should also show travel paths for vehicles at key points on

routes remote from the work site such as places to turn around, accesses, ramps and side roads. A VMP may be combined with or superimposed on a TCP.

Work area: The specific area on the road or bridge or within the road reserve where the

construction or maintenance work is being undertaken.

Work site: An area of road or bridge or road reserve which includes the work area or areas and any additional length of road or bridge required for traffic control such as signs and tapers.

MINIMUM RISK CONTROL REQUIREMENTS

1. SYSTEMS AND PROCEDURES RISK CONTROLS

Planning and Procedures

9.1.1 Work will be arranged so that workers are able to work safely and are separated from road users wherever possible, in compliance with *Roads and Maritime Services Traffic Control at Work Sites, Version 4.0 2010*. Identify all potential traffic related hazards in a Risk Assessment, implement / utilise suitable risk controls to either eliminate the risk or if it is not reasonably practicable to eliminate the risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls); prior to commencement of work. The following information / documentation is to be used:

- Site layout documents;
- Input from workers about potential vehicle / worker interaction points and blind spots;
- Security footage of the area (if available) to identify traffic volumes and vehicle and people movements;
- Keeping workers on foot, visitors, members of the public (pedestrians) and vehicles apart including on site and when vehicles enter and exit the workplace;
- Minimising vehicle movements;
- Eliminating reversing vehicles or minimising the related risks with suitable controls for example the use of reversing cameras with sensors;
- Vehicles and pedestrians are visible to each other ;
- Using traffic signs;
- Developing and implementing a Traffic Management Plan.

9.1.2 Competent Workers must develop, implement and enact Traffic Management

Plans that incorporate suitable risk controls to either eliminate the risk or if it is not reasonably practicable to eliminate the risk, then it should be minimised to as low as reasonably practicable (in accordance with the hierarchy of controls).

9.1.3 Traffic Management Plans designed to prevent risks where traffic, Mobile Plant and pedestrians / workers must include consideration of the following:

- Entry and Exit;
- Separation of workers on foot, visitors, members of the public (pedestrians) and vehicles;
- Expected frequency of expected or potential interaction between pedestrians and vehicles;
- Control measures for each expected or potential interaction including walkways, signs and general warnings;
- Supervision and management responsibilities for complex traffic arrangements;
- Instructions for controlling traffic, including in an emergency;
- Requirement to obtain road access approvals.

9.1.4 Traffic Management Plans must be reviewed at regular intervals and at any time when conditions that may affect traffic movements and safe work arrangements change in the workplace.

9.1.5 The work environment must be designed to minimise potential risks associated with poor lighting and other environmental conditions.

Hazard identification, risk assessment and control

9.1.6 Identify effective risk controls using the hierarchy of controls to eliminate or

minimise breaches of controlled worksite due to unauthorised vehicle access including Mobile Plant and workers on foot, visitors, and members of the public (pedestrians). If the opportunity to eliminate the risk is not available, a documented Traffic Management Plan, Traffic Control Plan, Pedestrian Movement Plan and or Vehicle Movement Plan must be developed and training, information and instructions must be provided to affected workers and visitors.

Risk controls may include:

Elimination: For example, this could be undertaken by not proceeding with the work, through a traffic diversion by means of a detour or side-track, stopping traffic for short periods using portable traffic signals in preference to traffic controllers, etc.

Engineering: For example, this could involve the use of safety barriers, lane closures, portable traffic signals, increased separation, exclusion zones etc.

Administrative: This could involve speed reduction, warning signs, variable message signs, police enforcement, delineation, etc.

9.1.7 Field based Risk Assessments must be used throughout a job to identify any changes to traffic conditions and the Risk Assessments and level of effectiveness of controls reviewed and amended in accordance with the hierarchy of controls.

9.1.8 Changes to local traffic conditions caused by the worksite must consider risks to the public including pedestrians, bicycle traffic and public transport etc. Changes to traffic control plans can only be undertaken by appropriately qualified persons as

described in RMS Manual. When providing or engaging Traffic Management Services we must ensure that those undertaking these activities are qualified as per control 9.3.1

9.1.9 Risk Assessments, effective controls and Traffic Management Plans must be communicated to and understood by all workers on the job / task and site.

9.1.10 Processes are to be implemented and maintained for workers to have adequate means of communication whilst controlling traffic.

9.1.11 Approved communication methods must be used such as:

- Two way communication with an agreed back-up process;
- Line of sight communication e.g. hand signals. The worker receiving the message must acknowledge the message has been received and understood;
- Verbal commands and confirmation of warnings and signals.

9.1.12 Two-way radio systems must provide clear and immediate signals without interference.

9.1.13 Where possible, work vehicles should be parked in locations away from passing traffic. These include: side / service roads, telephone and breakdown bays, before / after / behind guard rails and wire rope fences etc.

2. PLANT AND EQUIPMENT RISK CONTROLS

Hazard identification, risk assessment and control

9.2.1 Appropriate separation distances must be maintained as specified in *Section 3.6 of NSW Roads and Maritime Services Traffic Control at Work Sites Manual*.

9.2.2 Signs and Devices

- Must be placed before work begins and be removed as soon as they are no longer required;
- Must be regularly checked to verify they are still relevant, in good mechanical

condition, clean not faded, and have good night time visibility, if necessary;

- Must be inspected to verify they remain clearly visible to road users and are not obscured by vegetation, vehicles, plant or other signs, and devices are displayed in the correct sequence.

9.2.3 Appropriate traffic control and delineation devices must be selected and used as specified in *Section 3.3 of NSW Roads and Maritime Services Traffic Control at Work Sites Manual*.

9.2.4 Workers working in or adjacent to traffic must wear high visibility garments.

3. PEOPLE RISK CONTROLS

Training and Competency

9.3.1 Workers designing or modifying Traffic Management Plans and / or directing plant and traffic must be assessed as competent, suitably qualified, and have access to the adequate number and type of resources to effectively implement controls. The following traffic management activities must be undertaken by those competent to do so as per Roads and Maritime Services Traffic Control at Work Sites Version 4.1 2010 :-

- Control traffic with a STOP/SLOW bat (Traffic Controller – Blue Card)
- Set up and work with traffic control plans (Apply Traffic Control Plans – Yellow Card)
- Select and make minor modifications to Traffic Management Plans (Select / modify traffic control plans - Red Card)
- Design new Traffic Management Plans or inspect Traffic Management Plans on any site (Design and inspect traffic control plans – Orange Card).

9.3.2 Adequate supervision must be provided throughout the job to check that:

- Risk controls are being implemented and reviewed;
- Traffic related Health Safety and Environment (HSE) procedures, including workers on foot, visitor and members of the public (pedestrian) management procedures are being complied with;

- Unauthorised workers and plant are not on the worksite;
- Workers accessing the worksite are suitably informed and trained in managing relevant risks to their own and other workers' health and safety;
- Any required high-risk work licenses are checked for currency and details entered into the plant operation Competency Register.

Review, Audit and Monitor

9.3.3 Behavioural observations and site audits of work activities around traffic should be scheduled and conducted according to the level of risk present. These must include audits and observations of contractors providing traffic management services.

9.3.4 Corrective and preventive actions identified from behavioural observations and audits should be closed out in a timely manner relevant to the level of risk exposure.

Fitness for Work

9.3.5 A Fitness for Work policy must be implemented incorporating the clearly defined maximum level of drugs and alcohol allowed in the system of those working near or around traffic.

9.3.6. A Fitness for Work program must be implemented and complied with to verify those working near or around traffic are fit to perform the requirements of the role.

DOCUMENT CONTROL

This document represents the initial version of the NNSW Fatal Risk Control Standards as a baseline standard and once implemented across the Network businesses, will be further reviewed in twelve months to incorporate better practice initiatives introduced over this time.

Following this initial review, the document will continue to be reviewed on a two-yearly basis in line with the requirements of the Document Management Procedure, or subject to the occurrence of a significant incident within that time frame.

VERSION HISTORY

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Custodian:		Group HSE Networks NSW	
Approval:			
Authorisation:		Group Manager HSE Networks NSW	
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1.0	Draft – for review	Leading Edge Pty Ltd	28 May 2014
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3.0	Draft – legislative alignment	Group HSE NNSW	3 August 2014
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5.0	Draft – for review	Group HSE NNSW	19 September 2014
6.0	Final Draft	Leading Edge Pty Ltd	26 September 2014
7.0	Final Draft – Post Legal Review	Group HSE NNSW Ausgrid Legal	14 October 2014
8.0	Final Draft - review	Group HSE NNSW	11 November 2014
9.0	Final Draft - review	Group HSE NNSW	26 November 2014
10.0	Final	Group HSE NNSW – Post Legal Review	9 December 2014
11.0	Final	Network Fatal Risk Steering Committee	16 December 2014
12.0	Final	Group HSE NNSW – Post ESC feedback	25 March 2015

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¹ This DRAFT Code has been approved by Safe Work Australia Members and is ready for approval by the Select Council on Workplace Relations (Ministerial Council). This Code will become a model WHS Code of Practice under the Inter- Governmental Agreement for Regulatory and Operational reform in OHS when it is approved by the Ministerial Council.

² Draft document only. Revision of AS/NZS 4389:1996. Liable to alteration – Do not use as a Standard.

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GUIDANCE MATERIAL
Network Standards (NS) 130 Specification for Laying of Underground Cables Up to 22kV 2008 – Amended September 2009 (Ausgrid)
Network Standards (NS) 156 Working Near or Around Underground Cables (2010 – Amended November 2013 (Ausgrid)
Network Standards (NS) 165 Safety Requirements for Non-Electrical Work In and Around Live Substations 2010 – Amended May 2014 (Ausgrid)
Work Near Underground Assets 2007 (WorkCover NSW)
NFR9: BREACH OF A CONTROLLED WORKSITE WHEN WORKING NEAR OR AROUND TRAFFIC

NETWORK FATAL RISK CONTROL STANDARDS

PRIMARY LEGISLATION
Work Health and Safety Regulation 2011 (NSW)
Work Health and Safety Act 2011
CODES OF PRACTICE
How to Manage Work Health and Safety Risks 2011 (WorkCover NSW)
AUSTRALIAN STANDARDS
AS/NZS 1319:1994 Safety Signs for the Occupational Environment
AS/NZS 1742.10-.15:1999-2014 Manual of Uniform Traffic Control Devices Series
AS/NZS 4602:2011 High Visibility Safety Garments
AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines
GUIDANCE MATERIAL
General Guide for Workplace Traffic Management 2014 (Safe Work Australia)
Traffic Control at Worksites Manual Version 4 2010 (NSW Transport Roads and Maritime Services)
WorkCover NSW - Traffic Management in Warehousing – Plan and Checklist 2009 (WorkCover NSW)