ELECTRICAL, INSTRUMENTATION AND CONTROL TECHNICAL GUIDELINE

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1 Purpose

The purpose of this Electrical, Instrumentation and Control Technical Guideline is to provide guidance to Mid West Ports Authority (**MWPA**) Workers and Service Providers of MWPA general and specific E, I+C equipment and installation requirements, working methodologies, procedures, responsibilities, and site conditions.

2 Introduction

This Electrical, Instrumentation and Control Technical Guideline (**EICTG**) is not intended by MWPA to replace bespoke project basis of design, design criteria or specifications, but is intended to provide developers, designers and contractors with a benchmark which their development must meet on a technical basis. This document will be used as a basis for identifying any shortcomings in the technical content and ultimately accepting or rejecting a proposed development.

With the rapid advancement in E, I and C technology, this Guideline may not represent current state-of-the-art equipment and methodology. Providers of equipment and services to MWPA are encouraged to advise of such developments that they have experience of, and which are suitable for applications within the Geraldton Port, especially if they offer cost, efficiency, and reliability benefits.

Similarly, where new and updated Regulations, Standards, Codes of Practice and Guidelines applicable to equipment and services provided to MWPA are available, suppliers will be required to apply these.

It is a MWPA mandatory requirement that no work associated with Electrical, Instrumentation and Control installations is commenced on MWPA premises without the formal written approval from the MWPA Electrical Superintendent, who controls the areas on which the work is to be undertaken. The approval will include a review of the following.

- Workers' qualifications, certifications, experience and competence.
- Supervision responsibility and work methodology, (including JSEAs).
- Completion of regulatory and MWPA notifications.
- Validity of MWPA permits to carry out work on site.
- Work schedules and working hours.
- Knowledge of MWPA WHS requirements and MWPA Operational and Safety Procedures.

Upon arrival on site, the Electrical Superintendent is to be contacted to confirm that it is in order for work to proceed, and all necessary certifications, licences and permits related to the work to be done and the workers to be utilised are made available to the Electrical Superintendent.

A formal written instruction issued by the Electrical Superintendent, with regard to MWPA equipment specifications and working practices, takes priority over the requirements in the MWPA Electrical Technical Guideline.

Where an offer is made to the MWPA of suitable alternatives to equipment selections and/or working procedures to the requirements in this Guideline that provides the MWPA with safety, cost, functionality and/or reliability benefits, this will require formal approval from the MWPA Representative and the Electrical Superintendent before it may be implemented.

3 Scope

This Guideline describes the MWPA site conditions and requirements for work to be carried out at the Geraldton Port.

This Guideline is intended to provide relevant design, construction and installation information to ensure the fitness for purpose of works for materials handling, storage and shiploading facilities at the Geraldton Port.

Note: This Guideline includes the various meteorological and geographical parameters of the Geraldton Port site.

This document shall be read in conjunction with the Scope of Work documents, Specifications and supporting reference information schedules provided for works at the Geraldton Port.

This document defines the minimum basis for design and technical requirements for the following works.

- Electrical installations.
- Instrumentation installations.
- Control, including Supervision, and Data Acquisition installations.

Where documents are referred to in this Guideline, the reference shall be taken to mean the most recent revision, unless noted otherwise.

Where particular aspects are not covered in this Guideline, or where conflict between documents exists, the following precedence for standards shall apply.

- This Guideline or the Electrical Superintendent Instruction
- Standards Specifications
- Statutory Regulations
- Design Codes and Guidelines
- References

Where a list is presented and there is a conflict between documents, the reference highest on the list will take precedence, unless noted otherwise.

4 Definitions

Wherever the terms MWPA, Company, Purchaser or Buyer are used, they shall mean the MWPA.

Wherever, the words Contractor, Service Provider or Supplier are used, they shall mean the person so named in the Contract or Agreement, and its successors and permitted assigns.

Wherever the words MWPA Representative, Company Representative, Purchaser Representative or Buyer Representative are used, they shall mean the person so named in the Contract or Agreement, and its successors and permitted assigns.

As well as the abbreviations and definitions referenced in this EICTG, the reference glossary listed in other relevant MWPA Guidelines shall form part of this Technical Guideline and shall be the basis of any contractual agreement.

Table 1: Technical Documentation Definitions

Term	Definition
Authorities	Any statutory, public, municipal, governmental or administrative department, commission, authority, agency or entity with jurisdiction in connection with the WUC.
Contract or Agreement	The agreement between MWPA or the Company and the Contractor to which this Scope of Work pertains.
Data Sheet	Project specific data sheet(s), specifying equipment criteria.
Equipment	Means the goods to be supplied or supplied by the Supplier.
Execution Date	Means the date on which the Formal Instrument of Agreement is signed by MWPA or the Company.
MWPA or Company Project Requirements	Has the meaning ascribed to it in the Contract or Agreement.
MWPA or Company Representative Nominee	Means an individual appointed in writing by the MWPA or Company Representative under the Contract.
Port Site	Geraldton Port unless otherwise specified.
Specification	Means this specification for Site Conditions.

For the purposes of this MWPA EICTG, the following particular abbreviations apply.

Table 2: Abbreviations

Abbreviation	Meaning
AS	Australian Standard
AS/NZS	Australian/New Zealand Standards
BoD	Basis of Design
CDRL	Contractor Data and Document Requirements List
MWPA	Mid West Ports Authority
PMC	Project Management Contracting

For the purposes of the technical documentation of this MWPA EICTG, the following particular definitions apply.

Table 3: Technical Documentation Definitions

Term	Definition
ANSI	American National Standards Institute
AS	Australian Standard
AS/NZS	Australian/New Zealand Standards
Authorities	Any statutory, public, municipal, governmental or administrative department, commission, authority, agency or entity with jurisdiction in connection with the WUC.
BoD	Basis of Design
Contract	The agreement between MWPA or the Company and the Contractor to which this Scope of Work pertains.
Equipment	Means the goods to be supplied or supplied by the Supplier.
Execution Date	Means the date on which the Formal Instrument of Agreement is signed by the MWPA or Company.
FAT	Factory Acceptance Testing
FEED	Front End Engineering Design
HAZOP	Hazard and Operability Review
HME	Heavy Mining Equipment
HSEC	Health, Safety, Environment and Community
HV	High Voltage
IEC	International Electro-technical Commission
IFC	Issued for Construction
ISO	International Standards Organisation
kW	Kilowatt

Term	Definition
LV	Low Voltage
MCC	Motor Control Centre
MTOs	Material Take Offs
MV	Medium Voltage
MWPA	Mid West Ports Authority
MWPA or Company Representative Nominee	Means an individual appointed in writing by MWPA or the Company Representative under the Contract.
P+IDs	Piping and Instrumentation Diagrams
PCS	Process Control System
PEP	Project Execution Plan
PFDs	Process Flow Diagrams
PLC	Programmable Logic Controller
PMC	Project Management Contractor
Port Site	Geraldton Port unless otherwise specified
SCADA	System Control and Data Acquisition
SoW	Scope of Work
Specification	Means this Specification
Supplementary Requirements	Specifications, standards, regulations and codes of practice
SWIN	South West Interconnected Networks
Wet Commissioning	Commissioning when product is moving through the plant at typical operational rates and quantities.
Work	Includes the supply of equipment
WUC	The whole of the works to be carried out under the Contract.

5 Complementary Requirements

The Supplier or Contractor shall adhere to the following complementary requirements when undertaking WUC. Adherence to the following complementary requirements is notwithstanding Supplier or Contractor satisfaction of all legislative requirements under the Contract.

The equipment shall comply with all national, international, and MWPA project specifications referenced in this Guideline and documents listed herein.

All work covered by this Guideline shall comply with relevant state and national legislation.

The equipment shall be suitable for operation under the conditions as detailed in the project Basis of Design or this EICTG, together with the requirements contained in the relevant data sheet(s). The Supplier or Contractor shall take these factors into account when selecting the design and size of the required equipment.

The Supplier or Contractor standard specifications shall be complementary to all referenced specifications, subject to approval by the MWPA Representative. Should the Supplier or Contractor utilise design codes other than those specifically referenced in this EICTG, such design codes shall be specifically listed in the Supplier or Contractor deliverable documents.

The latest revision of the Complementary Requirements at the Contract Execution Date shall apply.

Any deviation from the Contract requirements will only be permitted in accordance with the Conditions of Contract.

Where the Supplier or Contractor finds conflict between the various Complementary Requirements, the dispute shall be referred to the MWPA Representative, in writing, for resolution in accordance with the Conditions of Contract.

5.1 STATUTORY REQUIREMENTS

The works shall comply with the following current statutory requirements with amendments, relevant current Australian Standards and related documents as applicable.

- *Dangerous Goods Safety Act (2004)*
- *Electricity Act (1945)*
- *Electricity (Licensing) Regulations (1991)*
- *Environmental Protection Act (1986)*
- *Environmental Protection Regulations (1987)*
- *Maritime Transport and Offshore Facilities Security Act, (MTOFSA), (2003)*
- *Port Authorities Act (1999)*
- Western Australian Distribution and Connections Manual, (WADCM)
- Western Australian Electrical Requirements, (WAER)
- *Western Australian Marine, (Certificates of Competency and Safety Manning), Regulations (1983)*
- *Work, Health and Safety Act (2020)*
- *Work, Health and Safety (General) Regulations (2022)*
- All other relevant statutory requirements
- All relevant Australian Standards
- Where Australian Standards, Codes and Regulations do not exist, those of the International Organisation for Standardisation, (ISO), or other relevant standards, (for example, IEC), shall apply.

A list of current referenced Australian Standards and other standards is included in the Appendices of relevant Australian Standards, (for example, AS 3000, AS 2067 and AS 3008).

5.2 DOCUMENT PARTS

This EICTG should be read in conjunction with other relevant parts of the MWPA Port Development Guidelines, including sections 6.3.3 Minimum Criteria for Digital Spatial Data and 6.3.4 MWPA Technical Guidelines and Additional References.

Approval from, or liaison with, the following organisations may be required, depending on the nature, size and complexity of the works being undertaken.

- Western Power Corporation
- National Construction Code, (NCC/Building Code of Australia – BCA)
- Australian Communications Authority
- Local Building Authority
- WorkSafe Western Australia
- Department of Fire and Emergency Services, (DFES)

If any discrepancy exists between the requirements of this EICTG and the requirements of Standards or Authority regulations, the more stringent requirement shall apply. In each case, however, obtain prior instruction from the MWPA Representative.

5.3 STANDARDS

The latest version of the Australian and International Standards, and other relevant Standards, Codes and Guidelines applicable to the works contained within this document shall be adopted for works covered by this EICTG.

Table 4: Australian Standards

Standard	Title
AS 1033.2	High voltage fuses (for rated voltages exceeding 1000 V) – Current-limiting (powder-filled) type
AS 1049	Telecommunications cables – Insulation, sheath and jacket materials
AS 1111	ISO metric hexagon bolts and screws
AS 1214	Hot-dipped galvanised coatings on threaded fasteners (ISO metric coarse thread series) (ISO 10684:2004, MOD)
AS 1275	Metric Screw Threads for Fasteners
AS 1319	Safety signs for the occupational environment
AS 1359	Rotating electrical machines
AS 1580	Paints and related materials – Methods of test – Introduction and list of methods
AS 1627	Metal finishing – Preparation and pre-treatment of surfaces
AS 1767	Insulating liquids
AS 1768	Lightning Protection
AS 1798	Lighting poles and bracket arms – Recommended dimensions
AS 1824.2	Insulation coordination: Part 1 – Definitions, principles and rules
AS 1882	Earth and bonding clamps
AS 1883	Guide to maintenance and supervision of insulating oils in service
AS 1931.1	High-voltage test techniques – General definitions and test requirements

Standard	Title
AS 1931.2	High-voltage test techniques – Measuring Systems
AS 2024	High voltage AC switchgear and control gear – Switch–fuse combinations
AS 2053	Conduits and Fittings for Electrical Installations
AS 2067	Substations and High Voltage Installations exceeding 1kV AC
AS 2293 (Set)	Emergency escape lighting and exit signs for buildings
AS 2312	Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings
AS 2373	Electrical cables – Twisted pair for control and protection circuits
AS 2374	Power Transformers
AS 2380	Electrical equipment for explosive atmospheres
AS 2467	Maintenance of electrical switchgear
AS 2558	Transformers for use on single-wire earth-return distribution systems
AS 2629	Separable insulated connectors for power distribution systems above 1 kV
AS 2650	Common specifications for high-voltage switchgear and control gear standards
AS 2700	Colour standards for general purposes
AS 2756	Low-voltage switchgear and control gear – Mounting rails for mechanical support of electrical equipment
AS 2791	High-voltage switchgear and control gear – Use and handling of Sulphur Hexafluoride (SF6) in high-voltage switchgear and control gear
AS 2802	Electric cables – Reeling and trailing for mining and general use, (other than underground coal mining)
AS 2834	Computer accommodation
AS 3756	Paints for steel structures (including all relevant parts)
AS 3953	Loading guide for dry-type power transformers
AS 3996	Access covers and grates
AS 4024	Conveyors – Safety Requirements
AS 4282	Control of the obtrusive effects of outdoor lighting
AS 4325.1	Compression and mechanical connectors for power cables with copper or aluminium conductors – Test methods and requirements
AS 4436	Guide for the selection of insulators in respect of polluted condition
AS 4506	Metal finishing – Thermoset powder coatings
AS 4680	Hot dip Galvanised, (zinc), coatings on fabricated ferrous articles
AS 60038	Standard voltages

Standard	Title
AS 60044.1	Instrument transformers Part 1: Current transformers, (IEC 60044-1 Ed.1.2 (2003) MOD)
AS 60044.2	Instrument transformers Part 2: Inductive voltage transformers, (IEC 60044-2:Ed.1.2 (2003) MOD)
AS 60146	Semi-conductor convertors
AS 60214	Tap-changers, (including all relevant parts)
AS 60265	High Voltage Switches
AS 60270	High-voltage test techniques – Partial discharge measurements
AS 60529	Degrees of protection provided by enclosures, (IP code)
AS 61800	Adjustable speed electric power drive systems
AS 62271.1	High-voltage switchgear and control gear – Common specifications
AS 62271.100	High-voltage switchgear and control gear – High-voltage alternating-current circuit-breakers (IEC 62271-100, Ed. 1.2 (2006) MOD)
AS 62271.102	High voltage switchgear and control gear – Alternating current disconnectors and earthing switches, (IEC 62271-102, Ed.1.0(2003) MOD)
AS 62271.200	High-voltage switchgear and control gear Part 200: AC. metal-enclosed switchgear and control gear for rated voltages above 1 kV and up to and including 52 kV (IEC 62271-200, Ed. 1 (2003) MOD)
AS 62271.201	High-voltage switchgear and control gear Part 201: AC. insulation-enclosed switchgear and control gear for rated voltages above 1 kV and up to and including 52 kV
AS 62271.202	High-voltage switchgear and control gear Part 202: High-voltage/low-voltage prefabricated substation
AS 62271.203	High-voltage switchgear and control gear – Gas-insulated metal- enclosed switchgear for rated voltages above 52 kV
AS 62271.301	High voltage switchgear and control gear Part 301: Dimensional standardisation of terminals
AS/CA S008	Requirements for Customer Cabling Products (Telecommunications)
AS/CA S009	Installation Requirements for Customer Cabling (Wiring Rules) (Telecommunications)
AS/NZS 1102	Graphical symbols for electro-technical documentation
AS/NZS 1111	ISO Metric Hexagon Bolts and Screws
AS/NZS 1125	Conductors in Insulated Electric Cables and Flexible Cords
AS/NZS 1158 (Set)	Lighting for roads and public spaces
AS/NZS 1275	Metric Screw Threads for Fasteners
AS/NZS 1429.1	Electric cables—Polymeric insulated Part 1: For working voltages 1.9/3.3 (3.6) kV up to and Including 19/33 (36) kV

Standard	Title
AS/NZS 1554	Structural steel welding
AS/NZS 1660	Test methods for electric cables, cords and conductors
AS/NZS 1680 (Set)	Interior lighting
AS/NZS 1747	Reeling, trailing and feeder cables used for mining – Repair, testing and fitting of accessories
AS/NZS 1768	Lightning Protection
AS/NZS 2053	Conduits and fittings for electrical installations
AS/NZS 2067	Substations and high voltage installations exceeding 1kV AC
AS/NZS 2081	Electrical protection devices for mines and quarries
AS/NZS 2293	Emergency Escape Lighting and Exit Signs
AS/NZS 2211.1	Safety of laser products – Equipment classification, requirements and user's guide
AS/NZS 2211.2	Laser safety – Safety of optical fibre communication systems
AS/NZS 2312	Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings (including all relevant parts)
AS/NZS 2381	Lighting System Performance (Set)
AS/NZS 2857	Timber drums for insulated electric cables and bare conductors
AS/NZS 2978	Insulating mats for electrical purposes
AS/NZS 3000 and referenced standards	Electrical installations, (known as the Australian/New Zealand Wiring Rules), and the referenced standards in AS 3000 Appendix A
AS/NZS 3007	Electrical equipment in mines and quarries – Surface installations and associated processing plant
AS/NZS 3008	Electrical installations – Selection of cables Part 1 – Cables for alternating voltages up to and including 0.6/1 kV
AS/NZS 3012	Electrical installations – Construction and demolition sites
AS/NZS 3017	Electrical installations – Verification guidelines
AS/NZS 3080	Information technology – Generic cabling for customer premises
AS/NZS 3084	Telecommunications Installations – Telecommunications Pathways
AS/NZS 3085	Telecommunications installations
AS/NZS 3111	Approval and test specification – Miniature overcurrent circuit-breakers
AS/NZS 3439	Low-voltage switchgear and control-gear assemblies (Standard superseded by AS/NZS 61349 series. Standards to be phased out by 2021)
AS/NZS 3599.2	Electric cables — Aerial bundled — Polymeric insulated — Voltages 6.35/11(12) kV and 12.7/22(24) kV – Part 2: Non-metallic screened

Standard	Title
AS/NZS 3760	In-service Safety Inspection and testing of electrical equipment
AS/NZS 3808	Insulating and sheathing materials for electrical cables
AS/NZS 3820	Essential safety requirements for electrical equipment
AS/NZS 3983	Metal drums for insulated electric cables and bare conductors
AS/NZS 4024.3610	Safety of Machinery – Conveyors – General Requirements
AS/NZS 4024.3611	Safety of Machinery – Conveyors – Belt Conveyors for Bulk Materials Handling
AS/NZS 4117	Surge Protective Devices for Telecommunication Applications
AS/NZS 4325	Compression and mechanical connectors for power cables with copper or aluminium conductors
AS/NZS 4437	Solderless crimped connections – General requirements, test methods and practical guidance
AS/NZS 4680	Hot dip galvanised (zinc) coatings on fabricated ferrous articles
AS/NZS 4805	Accessories for electrical cables
AS/NZS 4847 (Set)	Self-ballasted lamps for general lighting services
AS/NZS 5000	Electric cables – Polymeric insulated – For working voltages up to and including 0.6/1 (1.2) kV
AS/NZS 60076.1	Power transformers – General
AS/NZS 60076.2	Power transformers – Temperature rise for liquid-immersed transformers
AS/NZS 60076.3	Power transformers – Insulation levels, dielectric tests and external clearances in air
AS/NZS 60076.4	Power transformers – Guide to the lightning impulse and switching impulse testing – Power transformers and reactors
AS/NZS 60076.5	Power transformers – Ability to withstand short circuit
AS/NZS 60076.7	Power transformers – Loading guide for oil-immersed power transformers
AS/NZS 60076.10	Power transformers – Determination of sound levels
AS/NZS 60076.10.1	Power transformers – Determination of sound levels – Application guide
AS/NZS 60076.11	Power Transformers – Dry-type transformers
AS/NZS 60137	Insulated bushings for alternating voltages above 1000 V (IEC 60137, Ed. 5.0 (2003) MOD)
AS/NZS 60265.1	High-voltage switches – Switches for rated voltages above 1 kV and less than 52 kV
AS/NZS 60598	Luminaires (Set)
AS/NZS IEC 60898	Electrical Accessories – Circuit breakers for overcurrent protection for household and similar installations (Set)
AS/NZS 60947 (Set)	Low-Voltage Switchgear and Control-Gear (Set)
AS/NZS IEC 60947.4	Low-voltage switch and control gear – Contactors and motor starters

Standard	Title
AS/NZS 60950	Information technology equipment – Safety
AS/NZS 60950.1	Information Technology Equipment – Safety – General Requirements.
AS/NZS 60968	Self-ballasted lamps for general lighting services – Safety requirements
AS/NZS 61000 (Set)	Electromagnetic Compatibility (EMC)
AS/NZS 61347.1.13	Lamp control gear – Particular requirements for DC or AC. supplied electronic control gear for LED modules
AS/NZS 61439	Low-voltage switchgear and control gear assemblies (Set)
AS/NZS IEC 61935	Testing of balanced communications cabling in accordance with ISO/IEC 11801
AS/NZS IEC 62560	Self-ballasted LED-lamps for general lighting services by voltage > 50 V – Safety specifications
SAA HB 29	Communications cabling manual – Module 2: Communications cabling handbook
SAA HB 243	Communications cabling manual – Module 1: Australian regulatory arrangements

Table 5: International Standards

Standard	Title
IEC 60050 (Series)	International Electrotechnical Vocabulary
IEC 60183	Guide to the selection of high-voltage cables
IEC 60229	Tests on cable over-sheaths which have a protective function and are applied by extrusion
IEC 60230	Impulse tests on cables and their accessories
IEC 60255	Electrical Relays
IEC 60269	Low Voltage Fuses
IEC 60282-1	High-voltage fuses – Part 1: Current-limiting fuses
IEC 60287	Calculation of continuous current rating of cables (100% LF)
IEC 60364.5	Low-voltage Electrical Installations – Selection and Erection of Electrical Equipment
IEC 60376	Specification and acceptance of new Sulphur hexafluoride
IEC 60480	Guidelines for the checking and treatment of Sulphur hexafluoride taken from electrical equipment and specification for its re-use
IEC 60811	Common test methods for insulating and sheathing materials of electric cables
IEC 60947-2	Circuit breakers for distribution circuits, (up to and including 1000V AC and 1200V DC), (Current ratings 63 amperes and above)
IEC 62271.105	High-voltage switchgear and control gear – Alternating current switch-fuse combinations for rated voltages above 1 kV up to and including 52 kV
IEEE 32	Requirements, Terminology and Test Procedures for Neutral Grounding Devices

Standard	Title
IEEE 802.3 af/at	Ethernet – Power Over Ethernet (PoE) and (PoE+)
ISO/IEC 11801	Information Technology – Generic cabling for customer premises
ENA Doc 007	Specification for Pole-mounting distribution Transformers
ENA EG1	Substation Earthing Guide
TIA 569	Telecommunications pathways and spaces
TIA 607	Generic telecommunications bonding and grounding (Earthing) for customer premises
TIA/EIA 455-104A	Fibre optic cable cyclic flexing test
TIA/EIA 568	Commercial building telecommunications cabling standard set
TIA/EIA 606	Administration standard for telecommunications infrastructure
TIA/EIA 862	Building automation systems cabling standards
TIA/EIA/TR 42.1	Commercial building telecommunications cabling

Note: Appendix A provides a listing of the referenced documents in AS 3000 for ease of reference.

5.4 GENERAL DESIGN CODES AND STANDARDS

Table 6: General Design Codes and Standards

Number	Title
AS/NZS 1170.0	Structural design actions – General principles
AS/NZS 1170.1	Structural design actions – Permanent, imposed and other actions
AS/NS 1170.2	Structural design actions – Wind actions

In addition, the following relevant guidance may be adopted for electrical installations.

Table 7 – Relevant Electrical Installations Guidance

Title
Energy Safety WA: Electrical Requirements
Energy Networks Association: Guidelines for Design and Maintenance of Overhead Distribution
Western Power Corporation: Substation Installation Requirements
Western Power Corporation: General Conditions for Individual Customers
NCC (Building Code of Australia)
Western Power: Underground Development Schemes

5.5 REFERENCES

Table 8: Additional References

Number	Reference
1.	www.transport.wa.gov.au
2.	www.midwestports.com.au
3.	www.westernpower.com.au

6 Technical Requirements

6.1 SAFETY IN DESIGN

Designs shall include safety of construction, installation, maintenance, operation, decommissioning and disposal stages of the project, and shall be in accordance with the MWPA HSE and Quality Policies and Procedures. It is the responsibility of all parties involved in the works, including the Client and Designer, to identify and communicate design features that are considered to be inherently unsafe for prompt resolution.

Note: As a minimum, MWPA requires that, in accordance with Section 26 of the WHS Act and Regulation 295 of the WHS Regulations, Construction Industry – Consultation and Hazard and Safety Management, the Designer has identified the hazards as part of the design process and has taken the potential risk of injury and accident damage into account by specifying equipment and methods to minimise the risks to persons and property at the construction site that will be involved in the construction process and to operators of the installed equipment.

6.1.1 Safe Access/Egress

Refer to MWPA Worker and Port User Handbook, (on MWPA website).

6.2 LEVELS

Refer to MWPA 100 General Technical Guidelines in the MWPA Port Development Guidelines.

6.2.1 Datum

Refer to MWPA 100 General Technical Guidelines in the MWPA Port Development Guidelines.

6.3 CONSTRUCTABILITY, OPERABILITY AND MAINTENANCE

Refer to MWPA 100 General Technical Guidelines in the MWPA Port Development Guidelines.

6.4 DRAWINGS

All Consultants and Contractors are required to meet the MWPA drawing specifications as part of the conditions of engagement to carry out works at the Geraldton Port.

Shop drawings are to be reviewed and certified correct by a senior representative of the Supplier or Contractor, with a signature on each drawing prior to being submitted for examination. Unsigned drawings will be rejected.

As-Constructed drawings, (layouts, general arrangements, SLDs, schematics, block diagrams, equipment and cable schedules, termination and connection diagrams, P and IDs and flow diagrams), are to be submitted in the specified MWPA format, except where the exclusions clause of the Guidelines is valid. (An example of this would be manufacturer standard equipment drawings.)

As-Constructed drawings shall be prepared in CAD format. All CAD drafting shall be to Australian Standards unless otherwise specified. Confirm exact requirements with the MWPA Representative in each case, prior to submission.

All As-Constructed drawings shall incorporate the supplier company and/or supplier company title block. A statement shall be provided on each drawing, to read: As-Constructed by…Company name, telephone number… and signed and dated by a senior representative of the company. The signatory's name and position within the company shall also be provided in block capitals.

Upon completion of commissioning, and in no case more than two weeks following practical completion, final approved drawings shall be submitted to the MWPA Representative. Each drawing shall be signed and verified correct by the Supplier or Contractor. Unsigned drawings will be rejected without further review.

Supply one set of CAD disk(s), electronic copies of As-Constructed drawings in .pdf format and one set of full-size drawing prints for each maintenance manual. In addition, provide one set of CAD disk(s) and electronic copies of As-Constructed drawings in the specified CAD format to the MWPA Representative.

Refer to the MWPA Port Development Guidelines, section 6.3.3 minimum Criteria for Digital Spatial Data and section 6.3.4 MWPA 200 Drafting Guidelines and AutoCAD Standards.

Drawing numbers will be allocated by the MWPA Draftsperson.

It is recommended to discuss these requirements with the MWPA Representative if exemption from these requirements is required.

7 Preliminaries

7.1 EQUIPMENT OR WORK NOT MENTIONED

Notwithstanding any requirement of these Electrical, Instrumentation and Control Technical Guidelines, should any item of equipment or work not be mentioned in the Works SoW and Specification, but is clearly necessary for the satisfactory completion of the work under the Contract, then such equipment or work shall be provided, as if it was specified therein and included in the Contract Price.

7.2 CONTRACTOR AND SUPPLIER RESPONSIBILITY

The Contractor or Supplier shall execute the works in a proper and workmanlike manner, in accordance with the drawings and the provisions of these Electrical, Instrumentation and Control Technical Guidelines and the instructions of the MWPA Representative. All methods or procedures adopted, and all temporary works undertaken, shall be subject to the approval of the MWPA representative.

Works shall not affect shipping and other operations within the Port without prior approval from MWPA.

7.3 INSPECTIONS AND TESTING

The Contractor shall carry out all inspections and testing as required by the relevant standards, statutory regulations and Works specifications. The Contractor shall provide all equipment, personnel and other items necessary to carry out testing. Switching programmes, testing and vicinity permits will be required to be approved by the MWPA Representative prior to testing being carried out.

The Contractor is responsible at all times for performance and inspections to verify the correct completion of the work under the Contract. The Contractor shall provide records of inspections signed by competent persons.

The Contractor shall permit the MWPA Representative free access to the Works at all times for the purpose of inspection, monitoring and testing, and shall afford all necessary facilities for the carrying out of such. Any inspection by the MWPA Representative shall not prevent the ultimate rejection of any portion of the work in which defects are found at any time prior to the completion of the Contract.

All inspections and tests shall be adequately documented, and copies of all test results provided to MWPA.

A Final Certificate of Completion, (in accordance with the WA Electrical Regulations), shall be submitted to the MWPA Representative, (to be forwarded to Western Power Corporation, with a copy to the Department of Industry, Mines and Resources, (DIMRS), Electrical Inspector, if required). The Contractor shall attend to any clarifications / requirements that WPC and the DIMRS Electrical Inspector may request in writing, or during a site visit.

7.4 MATERIALS AND WORKS

7.4.1 Materials and Workmanship

Materials shall be new and of best quality, except where materials are specifically nominated on the drawings for reuse, or otherwise approved for reuse by the MWPA Representative. Workmanship shall be the best of its respective kind and conform to the best practices of the trade.

7.4.2 Ordering of Materials

The Contractor shall order materials and goods as soon as practicable after the signing of the Contract and take all measures to ensure that deliveries of materials and goods will be made at such times as to enable completion of the works within the time allowed.

Confirmation of the placing of orders and acceptance of the orders by the suppliers shall be provided to the MWPA Representative.

Any materials specified, that may be unobtainable at the time of ordering, shall be discussed with the MWPA Representative and any substitution shall only be made with his written approval.

The Contractor shall be deemed to have satisfied itself that its price covers the cost of complying with all obligations under the Contract.

7.4.3 Precautions in Carrying Out Works

In carrying out Works, the Contractor and Subcontractors shall comply with all requirements under Acts, Regulations, Ordinances, by-laws, orders and rules and other special requirements of proper authorities concerning storage, transport and use of materials, plant, equipment, work processes and safety precautions.

Where any current Australian Standards published by the Standards Association of Australia is appropriate to storage, transport and use of materials, plant and equipment, work processes or safety precautions, the provisions of such standards shall be observed, except where they conflict with any statutory or special requirements of proper authority, in which case the latter shall apply.

7.4.4 Works Meetings

Works meetings shall be held weekly, or as agreed with the MWPA Representative. The Contractor representative and such other members of its workers and representatives of Subcontractors and suppliers may be required, or requested, to attend by the MWPA Representative.

Written records of daily toolbox and all safety meetings shall be provided to the MWPA Representative by email or fax within an hour of completion of the meetings.

7.4.5 Authority to Give Instructions

The Contractor shall not accept instructions pertaining to this Contract, other than those issued by the MWPA Representative, or on behalf of the MWPA Representative, by such persons as the MWPA Representative shall nominate in writing.

7.4.6 Variations

No variation works will be allowed, unless the MWPA Representative has issued a written Variation Order. It is therefore incumbent upon the Contractor to advise the MWPA Representative and obtain approval before proceeding with such work.

7.5 DAMAGES

7.5.1 Interference with the Works

Vandalism and interference with the Works by people who are not employed by the Contractor may occur during the course of the Contract. The Contractor shall allow in the Tender for vandalism and interference which are not a latent condition.

7.5.2 Programme

All works under the Contract shall commence on the Date of Acceptance and be completed by the end of the Contract period, which shall be advised by the MWPA Representative.

The Contractor shall make allowance in its programme for completing the Works without disrupting Port activities and to cooperate with the MWPA Representative to facilitate the timely completion of the Works.

Shutdowns that affect Port User Operations require a minimum of six weeks prior notice to arrange and may be subject to change at short notice.

The Contractor shall, within two weeks from the Date of Acceptance of Tender, prepare and submit for approval to the MWPA Representative a comprehensive Construction Programme for the Works. The Construction Programme shall consist of, but not be limited to, the following.

- All offsite and onsite activities.
- Site management manpower requirements and breakdowns.
- Lead times on materials and equipment.
- Constructional plant requirements to carry out the works.
- Allowance for MWPA Operations.

Port operations and other work for this Project may be proceeding concurrently with this Contract. The Contractor shall allow for liaising with MWPA and other Contractors working on site to coordinate site access where there are conflicts, and to coordinate services shutdowns if required.

Subject to the approval by the MWPA Representative of the Construction Programme, the Contractor shall carry out the Works in accordance with the Construction Programme.

The MWPA Representative and the Contractor shall jointly monitor the progress of the Works against the Construction Programme. If at any stage the Contractor falls behind the Construction Programme for more than one week, the Contractor shall:

- remedy the situation by reorganising its activities, or alternatively allocating more manpower and equipment, so the works are completed in accordance with the programme; and
- inform the MWPA Representative of the plans to correct the Construction Programme delays and/or minimise any adverse effects of the delays.

The Contractor shall, at all times during the construction of the works, inform the MWPA Representative of:

- any necessary programme change required to suit particular construction requirements; and
- any other factors which may, or may not, have a significant effect on the Construction Programme.

7.6 CONSTRUCTION SAFETY

In addition to the normal Commencement and Completion of wiring Works notifications to the Office of Energy, the Contractor shall notify the Construction Safety Branch of WorkSafe Western Australia of all notifiable construction works before commencement of those Works and shall pay all fees and observe all the conditions of the *Work, Health and Safety Act 2021* and any regulations or instructions issued in accordance with this Act.

In accordance with accepted construction practices, the Contractor shall be solely and completely responsible for conditions on the site, including the safety of all persons and property during performance of the Works. The Contractor shall comply with the requirements of the MWPA Worker and Port User Handbook, available from the MWPA website *www.midwestports.com.au*.

Inspection of the Works, or the issue of instructions by the MWPA Representative, is not intended to include an assessment of the safety measures adopted by the Contractor within or off the site.

7.6.1 Work, Health and Safety Act and Regulations 2021, Sections 19, 22 and 26 and Part 6.2, Reg 295 – Construction Industry – Consultation and Hazard and Safety Management

In accordance with Regulation 295 of the *Work, Health and Safety Regulations 2021*, although not an exhaustive listing, the following significant potential hazards have been identified within the Geraldton Port.

- Working in the vicinity of underground HV and LV cables, communications, CCTV and data cables, other services and other electrical equipment.
- Working in the vicinity of pressurised fuel oil pipelines.
- Working in the vicinity of water.
- Working at heights.
- Working with heavy machinery.
- Handling heavy equipment.
- Working in the vicinity of excavations and the soil stabilisation requirements within excavations.
- Working in the vicinity of vehicular traffic.
- Working in an area exposed to unrestricted sunlight.
- Connecting new equipment into existing energised electrical systems.

The potential risk of severe injury and harm to persons at the construction site associated with these hazards is high if proper and accepted safety procedures in the electrical and construction industries are not followed.

Persons responsible for the installation, testing, commissioning and maintenance of the equipment specified in the design are to be suitably qualified, experienced and competent in the installation and operation of Low and High Voltage electrical equipment.

The Designer and Contractor are required to take the potential risk of injury into account by selecting and specifying equipment and methods that will minimise the risk to persons at the construction site who will be involved in the construction process and to operators of the installed equipment.

Where the risks are considered to be well known within the industry, and established procedures are available to manage the risks and ensure the safety of the persons exposed to the risks, the Designer and Contractor are not required to take further actions to reduce those risks, unless a risk assessment proves otherwise.

It is not possible for the Designer and Contractor, Project Manager or MWPA Representative acting on behalf of the MWPA to foresee all construction risks that may present themselves during the course of construction. The identification and assessment of hazards to which a person at the construction site is likely to be exposed is the responsibility of the Contractor as listed in the WHS Regulations.

7.6.2 Protection of Persons and Property

The Contractor shall avoid obstruction or damage to structures, equipment, roadways and footpaths, drains and watercourses and public utilities and other services on, or adjacent to, the site which are visible, or the location of which can be ascertained by the Contractor from the appropriate authority or from the Contract information. The Contractor shall remove any obstruction immediately and make good any damage at the Contractor cost as a debt due to the MWPA by the Contractor under the Contract.

The Contractor shall avoid interference with, or damage to, property on, or adjacent to, the site and shall provide temporary protection. The Contractor shall repair and reinstate all damage caused thereto, either directly or indirectly.

The Contractor shall erect and maintain all necessary barricades and fences, screens, gates, pathways, gangways, gantries, access ways, scaffolding, platforms, temporary enclosures, for protection of the Works, persons and property and to the satisfaction of the MWPA Representative.

The method of working shall be the responsibility of the Contractor in respect to erection and removal of barricades, fences and other temporary works.

In the event of an incident or accident occurring on the construction site, or MWPA property, that involves persons or equipment on the site or property, the MWPA Representative must be informed immediately.

7.6.3 Personal Safety

All vehicles that the Contractor takes onto the site are to comply with all requirements of the relevant traffic and other Acts and Regulations and such other conditions that MWPA may impose.

Parking of personal vehicles is only permitted in the areas designated by MWPA. No movement on foot or by vehicle outside the normal worksite shall be permitted without the express permission of the MWPA Representative.

All vehicles travelling in the Minerals Handling Areas of the Port are required to switch on headlights and hazard lights at all times and a flashing warning light on the roof of the vehicle.

Port User Operations Vehicles and MWPA vehicles on the Port property have right of way at all times, and their movement shall not be impeded in any way by the construction activities.

All excavations shall be backfilled as soon as possible after approval by the MWPA Representative, and any excavations unattended, or left open overnight shall be protected by barriers erected to the satisfaction of the MWPA Representative. These barriers shall be provided with lights at approximately two metre intervals which shall operate during hours of darkness.

The worksite is a designated Hard Hat Area. The Contractor shall provide all workers MWPA designated PPE, such as protective boots, hard hats, safety glasses, protective attire and aids, all at the Contractor cost. In the Minerals Handling Areas the wearing of Hi-Vis PPE as per the MWPA Worker and Port User Handbook requirements is compulsory by all persons working in these areas. The Contractor shall erect adequate signage onsite advising of required PPE, to the satisfaction of the MWPA Representative.

The Contractor and all persons employed on the site in, or about, the execution of the Works shall conform in all respects with the provision of all Acts of Parliament and all Orders, Regulations and Bylaws made by any competent Authority applicable to the Works and binding upon the Contractor or persons employed as aforesaid and, in particular, such matters that concern the safety, health or welfare or persons working on the site.

The MWPA Representative may require the immediate removal from the site and the works of any person who, in the opinion of the MWPA Representative, fails to properly observe the provisions of this Clause, and such person shall not be again employed upon the Works without the permission of the MWPA Representative.

The provision of this Clause shall apply to, and be binding upon, any Subcontractor employed by the Contractor for any part of the Works on the site and the persons employed by such Subcontractor, and the Contractor shall ensure that proper and adequate provisions to this end are included in the Subcontract.

The Contractor shall be responsible for entirely satisfying the requirements of the relevant statutory regulations. Payment of any prescribed fees shall also be the Contractor responsibility.

7.6.4 MWPA Permits

The Contractor shall obtain and keep updated all necessary work permits, including shutdown permits and permits for floating and diving operations in the Port.

Rail corridor work access permits require authorisation of the MWPA Rail Supervisor and persons working within the rail corridor will require certification from the Rail Authority.

The Contractor should refer to the MWPA website for information on the required permits to allow work to be carried out within the Port.

7.6.5 Regulations

The Contractor shall observe the relevant MWPA and statutory regulations when working in, or adjacent to fuel transfer operations and the like.

7.6.6 First Aid Facilities

The Contractor shall provide and maintain first aid facilities at the work site for their workers and Subcontractors adequate for the anticipated maximum size work force.

7.6.7 Site Accommodation

The Contractor shall be responsible for providing and funding their site offices, workshops, maintenance areas, stores, crib rooms and the like for all workers and those of its Subcontractors. The facilities shall be established within an area on the site agreed with by the MWPA Representative.

The Contractor shall ensure that all facilities provided comply with the requirements of the *Work, Health and Safety Regulations 2021*, the *Local Government Act (1995),* and the *Health Act (1911)*.

7.6.8 Storage of Material

The Contractor shall be responsible for the establishment, control and operation of site storage areas required for constructional plant and materials to be incorporated into the Works. The Contractor shall provide all plant, equipment, labour and material necessary to receive, unload, store, load and dispatch materials.

7.6.9 Measurement of Work

The extent of work to be undertaken shall be agreed between the MWPA Representative and Contractor on site and recorded on two identical sets of records including construction plans.

Both sets of records are to be signed by the MWPA Representative and Contractor following agreement of the work dimensions. One copy of the signed records shall be held by the MWPA Representative and the other by the Contractor.

Agreement on the extent of work shall be reached before any work is undertaken. (Further details will be included in the contract Preamble to the Bill of Quantities where applicable.)

8 Site Conditions

8.1 SITE DATA

8.1.1 Wind Loading

Design wind forces are to be assessed in accordance with AS/NZS 1170.2 and Appendix F of AS/NZS 1170.0:2002.

Table 9: Wind Loading Values

Description	Value
Importance Level	3
Annual probability of exceedance	1/500
Region B	Non-Cyclonic
Terrain Category 1 for operating and serviceability load cases and Terrain Category 2 for cyclonic load cases as defined in the standard.	
Ultimate wind speed	Vu=57m/s (3 sec wind gust)
Maximum Limit State Operating Wind Speed	V=28.2m/s (3 sec wind gust)
(23.2m/s for working stress design)	

Note: Wind loading is not required for fixed equipment located inside the storage sheds.

8.1.2 Earthquake Loading

Design earthquake loads are to be assessed in accordance with AS/NZS 1170.4 and Appendix F of AS/NZS 1170.0:2002.

Table 10: Earthquake Loading Values

Description	Value
Annual probability of exceedance	1/500
Probability factor (kp)	1.0
Acceleration coefficient (a)	0.09
Adjusted Acceleration coefficient (kp) x (a)	0.09
Site Factor	1.0
Importance Factor	1.0

8.1.3 Thermal Loading

Load effects on structures resulting from expansion or contraction of materials due to temperature changes are to be allowed for where appropriate. As a guide to ambient conditions, the following information is provided from the Australian Government Bureau of Meteorology website (for Geraldton Port).

Table 11: Thermal Loading Values

Description	Value
Mean Daily Maximum Temperature	24.7°C
Highest Recorded Temperature	46.4°C
Mean Daily Minimum Temperature	14.5°C
Lowest Recorded Temperature	0.8°C
Relative Humidity December – February (9 am)	60%
Relative Humidity December – February (3 pm)	63%
Relative Humidity June – August (9 am)	71%
Relative Humidity June – August (3 pm)	61%
Mean Rainfall per Annum	455.4 mm

For design, temperature ranges have been calculated in accordance with AS/NZS 5100.2 and are as follows.

Table 12: Temperature Ranges

Description	Temperature
Mean ambient temperature	25°C
Uniform temperature variation	-5°C to 58°C
Positive vertical differential gradient	0°C (bottom surface) to 18ºC (top surface)
Negative vertical differential gradient	-7°C (top surface) to 0°C (bottom surface)

8.2 RATING AND SERVICE CONDITIONS

E, I and C equipment shall be suitable for operation at the specified rating under the following service conditions.

Table 13 – Environmental Conditions

Parameter	Title
Environment	Tropical, marine environment
Air Temperature	55°C maximum -5°C minimum
Relative Humidity	0% to 100% wet/condensing
Maximum Intensity of Solar Radian	1.1 kW/m^2
Pollution	Dusty atmosphere containing fine abrasive particles
Salt	Salt-laden air, (Class C as per AS/NZS 2312 Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings)
Isokeraunic Levels:	10 to 15 thunder days per year
Rainfall	Heavy Rain, 315 mm average per year
Wind	High winds, (maximum of 150 km/h)

Unless otherwise stated, all components shall be rated to operate continuously under full load conditions in the site weather conditions, with due allowance for the temperatures reached inside any enclosures. All components shall be rated to operate at the temperatures which they will reach under these conditions and installed in such a manner and location to achieve this.

8.3 MATERIALS

Refer also to Sections 11.1 and 11.4.1 of General Guidelines.

Note: All electrical equipment must meet all relevant Australian Standards and proof of certifications of this will be required if any doubt exists. MWPA uses specific equipment from preferred suppliers, and these may change depending on technology development and particular applications. Where equipment that differs from that on the MWPA Preferred Suppliers Listing is offered, approval must be obtained from MWPA Representative prior to delivery.

9 As-Constructed Information

The Contractor shall supply two complete sets of test / report sheets detailing the results of all commissioning works and activities and a digital copy of these.

The Contractor shall supply two sets of complete neatly marked-up, (red-line), As-Constructed drawings showing all details of any As-Constructed changes, for example, distances from fixed points of conduits, cable pits and underground cables, together with a digital copy of these.

The Contractor shall provide two each of electronic and hard copies of Operation and Maintenance Manuals for all the equipment installed and work carried out.

9.1 HIGH VOLTAGE CABLING

The Contractor shall maintain records of all high voltage cable terminations and joints at the time that they are made, at which time it shall also arrange for survey of the cable route and for the records to be verified by the MWPA Representative.

9.2 COMMUNICATIONS AND DATA CABLING

Unless otherwise approved by the MWPA Representative, the installation of the system is to be certified under a 20 Year Applications Warranty Scheme. The Certificate is to be issued with the documentation.

The following As-Built documentation shall be included in hard copy and soft copy format.

- Cable routes shall be marked on final as built schematics defining the exact route.
- A1 size floor plans in CAD Professional format.
- Cabinet layout diagrams.
- Structured Cabling System frame layouts.
- Manufacturer Application Warranty certificates.
- Calibration certificates for all test equipment used.
- Certificate of Compliance with regulations.
- Test results for copper cable.
- Test results for optical fibre cable.
- Soft copy documentation shall be provided in a format to suit MWPA requirements, refer Drafting Guidelines and AutoCAD Standards in Port Development Guidelines 6.3.4, unless otherwise approved by the MWPA Representative.

A cable records management system shall be provided as an integral part of the Structured Cable System.

A full cross connect record book shall be supplied and, as a minimum, it shall comply with Appendix D of AS/NZS 3085 or EIA/TIA 606, as per location.

A record of backbone ties and incoming services shall be included.

The preparation and entering of all site-specific data into the cable records management system up to the point of Practical Completion, that is, initial patching, shall be included.

The MWPA will not consider the work as complete until receipt of a 20 Year Extended Product Warranty, or as otherwise approved by the MWPA Representative, the Applications Assurance certification and complete hand over documentation.

10 E, I and C Installations – General Requirements

10.1 PERFORMANCE

Continuity of MWPA operations is of prime importance, and components shall be chosen primarily for their reliability under the operating and environmental conditions to which they will be subjected.

10.2 LOCATION OF EQUIPMENT

The Supplier or Contractor shall position all equipment to be installed in accordance with the drawings. The location of equipment and devices which are not dimensioned on the drawings are approximate, and it shall be the responsibility of the Supplier or Contractor to establish the exact location of equipment and devices, locate them in accordance with good practices and obtain the approval of the MWPA Representative prior to proceeding with the work of installing the equipment.

Equipment shall be grouped and positioned to facilitate fault-finding and provide ease of access for maintenance and repair, whilst still complying with minimum safety clearances required by relevant standards, regulations and local authorities.

10.3 INSTALLATION

All equipment shall be installed strictly in accordance with the manufacturer's instructions. Where such instructions are not available, details of the proposed installation shall be approved by the MWPA Representative prior to the commencement of the work.

Mounting of electrical equipment on structures shall be subject to the prior approval of the MWPA Representative. The Supplier or Contractor shall employ only qualified and licensed workmen for the performance of the various trade tasks, in particular for instrument fitting and calibration and welding.

All welds shall comply with the Standards Australia Welding Codes and shall be painted with the specified protective paints. All damage and welds to protective coatings shall be cleaned, deburred and coated with an approved galvanised paint.

10.4 INSPECTION

Prior to installation the Supplier or Contractor shall ascertain from the MWPA Representative which parts are to be inspected. Inspection by the MWPA Representative shall not exonerate the Contractor from any equipment warranties.

The Supplier or Contractor shall establish the correctness of all connections made between plant and equipment supplied under this, or any other Contract, before it is put into operation.

10.5 QUALITY

The Supplier shall be responsible for all quality activities necessary to assure that the Work meets project requirements, including the activities of subcontractors and suppliers.

All requirements applicable to the Supplier shall also be applicable to the sub-suppliers engaged by a Supplier.

The Supplier shall establish and maintain a documented Quality Management System, based on Quality Standard ISO 9001 or equivalent, and that addresses the full Scope of Work.

Effective implementation of the Supplier Quality System shall be demonstrated to MWPA, by any of the following means.

- Certification by an accredited third-party organisation.
- Satisfactory audit by a major client within the past three years.
- A proven and active internal audit program and management review that meets the requirements of the nominated standard.

The Quality System shall ensure that an auditable trail of activities associated with carrying out the Work is maintained.

11 Referenced Documents

Australian Standards contain a list of referenced AS and other standards/documents in Appendix A of the respective Australian Standards.

12 Monitoring, Evaluation and Review

This document is required to be reviewed annually from the last scheduled review date.

Minor updates made within this one year period, will not be taken as a full review.

The Document Custodian is responsible for conducting the review in accordance with **Controlled Documents Review and Approval Process Work Instruction**.

13 Administration

Document Custodian:	Electrical Engineer
Document Approver:	Maintenance Services Manager
Approval Date:	12 February 2025
Document Review Period:	1 year