

Electrical Specification Change January 2020

Relevant Specification	New Version	Section	Description of changes
UON-ESS-101 General Electrical Specification	Version 1.3	8.1	If electrical equipment is replaced, changed or moved any surface that was previously obscured by that electrical equipment shall be repaired, painted and finished to match the surrounding surfaces.
UON-ESS-101 General Electrical Specification	Version 1.3	6.8	All Non-Conductive services whether in conduit, duct or direct buried shall include a tracer wire to enable future service location. Drawings shall be supplied showing the exact location for all underground and "in slab" electrical wiring or ducting. All empty conduits installed in the ground for future use shall include a tracer wire.
UON-ESS-101 General Electrical Specification	Version 1.3	8.1	All control wiring installed at UoN will include wire numbering at the origin and destination of each wire. A corresponding drawing, to UoN drafting specification, shall be supplied with all control wiring.
UON-ESS-101 General Electrical Specification	Version 1.3	8.6.2	If a floor box is installed to supply power to a table or other equipment that can be moved, the installation shall include a tether between the floor and the underside of the table/equipment, that is shorter than the electrical supply and restrict the movement of the table/equipment. This tether shall prevent the table/equipment being moved in such a way that it would "shock load" or otherwise place stress on the electrical supply cable.
UON-ESS-101 General Electrical Specification	Version 1.3	8.6.1	Wall mounted GPO's shall be mounted at a minimum height of 200mm from the floor to prevent mechanical damage. Any cable supplying a GPO shall drop below the GPO and loop up to terminate into the GPO
UON-ESS-101 General Electrical Specification	Version 1.3	18	The word "Engraved" was placed in front of adhesive. The previous wording could have been interpreted that if you use adhesive labels they do not need to be engraved.
UON-ESS-101 General Electrical Specification	Version 1.3	8.7	Emergency stop circuits will be arranged in such a way that the power is restored when the emergency stop pushbutton is restored to its normal position, no reset or other intervention is required. All estop shall be shrouded to reduce the risk of accidental activation.
UON-ESS-101 General Electrical Specification	Version 1.3	3.1	The specs below have been added <ul style="list-style-type: none"> • UON-ESS-113 High Voltage Substations • UON-ESS-109 Supply and Installation of Photo Voltaic array • UON-DSS-001 CAD Drafting Standards
UON-ESS-101 General Electrical Specification	Version 1.3	8.1	When any electrical infrastructure is upgraded or replaced, all redundant electrical equipment, infrastructure and cabling, associated with that infrastructure shall be removed. If the cost or complexity of removing this redundant infrastructure is prohibitive, permission should be sort from the UoN to leave the redundant equipment in place.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.5	Unless covered by an upstream current limiting device, fault Loop Impedance calculations shall be completed to establish the required fault rating for any circuit breaker installed a distribution board. All interlocks that restrict the opening of a door or enclosure while a circuit breaker is closed shall have an interlock override that requires a tool to operate.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.9	All communications equipment shall be located in an area/enclosure separate to the main distribution board enclosure to allow access by personnel not holding an electrical licence. This communications area shall have no exposed voltages above 50 Volts.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.2	All distribution board outer doors shall have, mounted behind the door, a clear plastic holder to take an A4-sized typed circuit schedule and a drawing holder that will contain a laminated A3 copy of the drawings listed in Section 7 of this document.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.7	All adjustable circuit breakers settings shall be documented and handed over with the handover documentation.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.9	All communications equipment shall be located in an area/enclosure separate to the main distribution board enclosure to allow access by personnel not holding an electrical licence.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.9	As part of the handover documentation, screenshots of Voltages, Currents, Power Factor, kW across all three phases shall be provided. A kWh screenshot shall be provide showing kWh after a minimum of three days of operation. The kWh photo shall be indicate the date the photo was taken. Any anomalies in metering shall be rectified by the installation contractor.
UON-ESS-102 Distribution Board Specification	Version 1.2	7	As part of the handover documentation, screenshots of Voltages, Currents, Power Factor, kW across all three phases shall be provided. A kWh screenshot shall be provide showing kWh after a minimum of three days of operation. The kWh photo shall be indicate the date the photo was taken.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.2	All distribution board outer doors shall have, mounted behind the door, a clear plastic holder to take an A4-sized typed circuit schedule and a drawing holder that will contain a laminated A3 copy of the drawings listed in Section 7 of this document.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.13	Any distribution board upgrade/installation that is connecting to existing GPO's or lighting shall include, as part of the installation, the replacement or installation of labelling on all equipment connected to the upgraded/installed board.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.14	The external final coat shall be Orange No. X15 to AS 2700. Internal pans and escutcheons shall be Gloss White.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.1	When a distribution board is being replaced or upgraded, it is the responsibility of the contractor completing the installation to verify any control circuitry within the existing distribution board is still in use and required and should be reproduced in the new/upgraded board. Circuitry that is still in use and required shall be incorporated into the new distribution board as part of the upgrade/replacement project. Circuitry that is no longer in use or required in the existing distribution board must not be present in the new/upgraded board.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.2	All distribution board doors shall have hinged, lift-off doors
UON-ESS-102 Distribution Board Specification	Version 1.2	4.5	Unless covered by an upstream current limiting device, fault Loop Impedance calculations shall be completed to establish the required fault rating for any circuit breaker installed a distribution board.
UON-ESS-102 Distribution Board Specification	Version 1.2	4.5	All interlocks that restrict the opening of a door or enclosure while a circuit breaker is closed shall have an interlock override that requires a tool to operate.
UON-ESS-102 Distribution Board Specification	Version 1.2	9	The Defect Liability Period for the project shall be twelve months. During this time all maintenance, including statutory maintenance is the responsibility of the contractor.
UON-ESS-103 External Lighting Specification	Version 1.1	3.4	Bolts protruding above the base late shall be wrapped in "Denzo" tape or equivalent.
UON-ESS-103 External Lighting Specification	Version 1.1	3.5	Poles shall be hot dipped Galvanised unless otherwise request by UoN to fit in with proposed or existing landscape/architecture.
UON-ESS-103 External Lighting Specification	Version 1.1	3.5	The pole shall have a nameplate stating as a minimum, type of pole, name of manufacturer and date of manufacture.
UON-ESS-103 External Lighting Specification	Version 1.1	3.5	Any control gear, overcurrent protection or termination shall be mounted at the base of the pole behind an inspection plate. This inspection plate shall require the use of a tool for removal.
UON-ESS-103 External Lighting Specification	Version 1.1	4	All Light fitting shall be approved by the UON prior to installations. All light fitting shall be covered by a 5+5 year on site warrantee that covers all costs associated with the repair of the light fitting, including but not limited to, the cost of all material, travel, access, lifting equipment and labour.
UON-ESS-103 External Lighting Specification	Version 1.1	3.2	No lighting supply cable is to be run under a path, road, building or any other man made surface or structure without the express permission of the UoN.
UON-ESS-105 Electrical Preferred Equipment List	Version 1.3		Power meter gateway was ETG100 now the Schneider Link 150
UON-ESS-105 Electrical Preferred Equipment List	Version 1.3		Clipsal iconic Pro.
UON-ESS-105 Electrical Preferred Equipment List	Version 1.3		All lights to be LED with 5 year on site parts and labour warrantee
UON-ESS-106 Generators and Emergency Power Supplies	Version 1.2	4	The electrical design should take into account any local Solar PV installation and the effect the generator installation may have on the Solar PV anti-islanding function.
UON-ESS-106 Generators and Emergency Power Supplies	Version 1.2	5	All openable access doors shall be lockable using a UON SK key in a barrel internal to the door. An SK padlock is not acceptable. All door hinges shall be 316 stainless steel.
UON-ESS-106 Generators and Emergency Power Supplies	Version 1.2	9	As built drawings added.
UON-ESS-111 Interior Lighting and Control	Version 1.2	10	Handover documentation to be provided shall include: <ul style="list-style-type: none"> • Light fitting layout drawings • Light circuit arrangements • Termination diagrams for and lighting automation • GA for automation equipment • Wiring diagram for all lighting automation equipment • Luminaire schedule • Photometric drawing of all installed lighting. All drawing to be as per UON-DSS-001
UON-ESS-111 Interior Lighting and Control	Version 1.2	4	All common areas shall include at least one "Night Light". The night lights in a given area shall generally maintain a light level in that area equivalent to the level required for escape path lighting. There shall be at least one nightlight inside each entrance door to a building and one light in ten in any common area hallway.
UON-ESS-111 Interior Lighting and Control	Version 1.2	3	All architecturally designed, feature or otherwise non-standard fittings of a type that is not commonly available from multiple suppliers shall be Zhaga compatible unless otherwise approved by the UoN. This is to ensure that lighting can be repaired and lighting components can be replaced without affecting the architectural intent.
UON-ESS-111 Interior Lighting and Control	Version 1.2	11	All light fitting shall be covered by a 5 year on site warrantee that covers all costs associated with the repair of the light fitting, including but not limited to, the cost of all material, travel, access, lifting equipment and labour.
UON-ESS-111 Interior Lighting and Control	Version 1.2	3	All Light fitting shall be approved by the UON prior to installations. All light fitting shall be covered by a 5+5 year on site warrantee that covers all costs associated with the repair of the light fitting, including but not limited to, the cost of all material, travel, access, lifting equipment and labour.
UON-ESS-112 Main Switchboard Specification	Version 1.2	4.7	All adjustable circuit breakers settings shall be documented and handed over with the handover documentation.
UON-ESS-112 Main Switchboard Specification	Version 1.2	9	The Defect Liability Period for the project shall be twelve months. During this time all maintenance, including statutory maintenance is the responsibility of the contractor.
UON-ESS-112 Main Switchboard Specification	Version 1.2	4.5	Unless covered by an upstream current limiting device, fault Loop Impedance calculations shall be completed to establish the required fault rating for any circuit breaker installed a distribution board.
UON-ESS-112 Main Switchboard Specification	Version 1.2	7	A copy of the documents below shall be placed in a document holder affixed to the front exterior of the MSB. <ul style="list-style-type: none"> • MSB General Arrangement Drawing • Schematic wiring diagram of control circuitry. • Single Line Diagrams • Power Meter Manuals • Surge protection Manuals • Main CB settings if applicable
UON-ESS-112 Main Switchboard Specification	Version 1.2	4.7	All adjustable circuit breakers settings shall be documented and handed over with the handover documentation.
UON-ESS-112 Main Switchboard Specification	Version 1.2	4.8	All communications equipment shall be mounted, in a separate enclosure if necessary, external the distribution board to allow access by personnel not holding an electrical licence. This communications area shall have no exposed voltages above 50 Volts.
UON-ESS-112 Main Switchboard Specification	Version 1.2	7	As part of the handover documentation, screenshots of Voltages, Currents, Power Factor, kW shall be provided. A kWh screenshot shall be provide showing kWh after a minimum of three days of operation. The kWh photo shall be dated. Any anomalies in metering shall be rectified by the installation contractor.
UON-ESS-112 Main Switchboard Specification	Version 1.2	4.13	The external final coat shall be Orange No. X15 to AS 2700. Internal pans and escutcheons shall be Gloss White.
UON-ESS-113 High Voltage Substation specification	Version 2.1	Section 12	12. Ventilation The substation shall be pressurized. The intake fan shall be controlled by a Variable Speed Drive. Speed shall be controlled base on room temperature. Ventilation fan shall be initiated at 25 and turn off at 20 Degrees. The air intake filter shall be pleated cardboard and disposable. The filter shall be changeable from the exterior of the substation using a ladder on flat even ground. Access to the filter shall be through a hinged door with SK lock, no tools shall be required when changing the filter. The air relief vents shall utilize a pleated cardboard disposable Pre Filter. The filter shall be changeable from the exterior of the substation using a ladder on flat even ground. Access to the filter shall be through a hinged door with SK lock, no tools shall be required when changing the filter. Relief vents shall have manually adjustable louvers. Intumescent fire dampers shall be used.
All Specifications			Update with a list of required electrical drawings