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1. SCOPE

This Work Category Specification (WCS) documents the *Service* requirements for the design of *Large Customer Connections* including the development of concept plans and engineering planning and design of electrical infrastructure to be provided for the construction of *Substation*, overhead and underground electrical reticulation infrastructure that is to be incorporated into the Energex distribution network.

1.1 GENERAL

- (a) As part of and in conjunction with this WCS, read WCS133 for the general standards and conditions that are relevant to, and are incorporated into this category of work.
- (b) As part of and in conjunction with this WCS, read WCS31 for the requirements to *Commission*, operate and access the network.
- (c) For the avoidance or doubt, a breach of a general standard or condition contained in WCS133 is a breach of WCS47.6.
- (d) Identified requirements for the individual planning and design of electrical reticulation projects provided in the parameters issued by Energex for electrical reticulation infrastructure to be planned and designed for construction.

2. AMENDMENT RECORD

Version	Change
4	<ul style="list-style-type: none">▪ Removal of general standard and conditions clauses now in WCS133.▪ Reference to WCS133 added.▪ Table 1 – Operator Competencies amended.

3. AIMS / OBJECTIVES

The aims and objectives of this WCS is to ensure:

- (a) The overall aims and objectives detailed in WCS133, Section 3 - Aims and Objectives, are met by the application of procedures herein.
- (b) The additional category of work specific aims and objectives for the development and provision of concept plans, engineering planning and designs of infrastructure at *Large Customer Connections*, ensure the below are met:
 - (i) Compliance with Energex policies and planning, design and construction criteria.
 - (ii) Commercial and industrial planning and design conditions, for overhead and underground electrical infrastructure are achieved.
 - (iii) Preparation of *Substation* layout and designs that prevent against damage, structural weakening or overloading of any existing or new assets and building infrastructure.
 - (iv) Electrical designs that are electrically safe, and conform to the *Laws*, Australian Standards and *Authorisations* including relevant *Design Standards*.
 - (v) Designs which can be installed or constructed and maintained safely.
 - (vi) The process followed is clear and efficient and the responsibilities of parties involved in such works are clearly defined and understood.

4. COMPETENCIES, TRAINING AND QUALIFICATIONS

- (a) *Consultants/ Planners / Designers / Subcontractors* performing *Services* are suitable licensed and trained in accordance with WCS133, Section 4 - Competencies, Training and Qualifications.
- (b) For competencies, training and qualification requirements specific to this category of work refer to the below included references and clauses.

4.1 CONSULTANT REGISTRATION

- (a) The *Consultant* holds, or nominates the holder of a current registration as a Registered Professional Engineer Queensland (RPEQ), Electrical Division Queensland and ensures Design Paraprofessionals (*Planners / Designers / Subcontractors* and persons performing associated functions) are appropriately licensed and authorised in accordance with the *Laws* and Electricity Supply Industry requirements for electrical infrastructure planning and design activities they are undertaking.
- (b) *Planners / Designers / Subcontractors* and persons performing associated functions have experience in the production and presentation of Electrical Concept Plans and Engineering Drawings that is satisfactory to the Electricity Supply Industry and Energex, and undertake practical assessment as deemed necessary.

4.2 ENERGEX COMPETENCIES

[Table 1](#) specifies the Energex Competencies / *Authorisations* (or combination thereof) that are Energex requirements to be held by *Planners / Designers / Subcontractors*.

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Large Customer Connection Design



Table 1 – Operator Competencies

CAMS Code	Competency Description	Operator Requirements
Registrations and Competencies for Planning and Design		
	Registered Professional Engineer Queensland (RPEQ) – Electrical Division (Note 2).	R
	Advanced Diploma (electrical) [which allow entry into the Institution of Engineers Australia as an Engineering Officer].	AR
	A Certificate IV in Power Systems Design (or sub-transmission design) [or equivalent distribution design capability acceptable to Energenx].	AR
	Computer Aided Drafting (demonstrated proficiency in use of facility).	R
U DO1A	ESD01A - Network Components & Design Principles (Note 3).	R
U D01B	ESD01B - Maps, Drawings & Plans (Note 3).	R
U D01C	ESD01C - Network & Design Standards (Note 3).	R
U D05C	ESD05C – Major OH Distribution Design (Note 3).	R
U D06B	ESD06B - Major UG Distribution Design (Note 3).	R
U D02A	ESD02A – Site Inspection and Measurement (Note 3).	R
U D05A	ESD05A - Pole Replacement & OH LV Services (Note 3).	R
U D05B	ESD05B - Minor OH Distribution Design (Note 3).	R
U D06A	ESD06A - Minor UG Distribution Design (Note 3).	R
U D08	ESD08 – Distribution Substation Layout (Note 3).	R
<i>Planners / Designers / Subcontractors hold the following competencies for field work.</i>		
A VIRO	General Environment Awareness (Note 1)	AR*
A WEED	Declared Plants Management Awareness (Note 1)	AR*
U OHAW	Overhead Safety Awareness	AR*
U SSAW	Substation Safety Awareness (Note 4).	AR*
U UGAW	Underground Awareness	AR*
	Authorised Person (as defined in the Electrical Safety Regulation 2013)	AR*

Legend:

R Required.

AR As required.

AR* As Required (Competency can be obtained on irregular basis by the engagement of an appropriately qualified *Designer* / *Safety Observer*(s) to complete the field works).

MO A minimum of one person on *Worksite* holds this competency.

Note 1: *Consultants* with their own environmental training system equivalent as a minimum to the Energenx environmental training system, may train and assess their own *Operators* as competent.

Note 2: The *Consultant* either has an RPEQ on staff, or provides documentary evidence of the nominated RPEQ for approvals (certifying electrical concept plans and engineering planning and designs).

Note 3: To demonstrate proficiency in Underground and Overhead Reticulation and or Sub-transmission Design, and distribution *Substation* layout, all *Designers* have undertaken this training module / unit, or the equivalent, as a minimum.

Note 4: All *Designers* / *Subcontractors* opening, entering and / or working inside any *Substations* require the *Substation Awareness* competency.

5. VEHICLES AND PLANT

There are no Energex specific requirements associated with providing *Services* for this category of work.

6. MATERIALS, TOOLS AND EQUIPMENT

- (a) For materials, tools, equipment requirements, refer to WCS133, Section 6 – Materials Tools and Equipment.
- (b) For materials, tools, equipment requirements specific to this category of work refer to the below included references and clauses.

6.1 NOMINATED TOOLS AND EQUIPMENT

[Table 2](#) specifies the nominated materials, tools and equipment required when providing *Services* for this category of work.

Table 2 – Materials, Tools and Equipment

Description	Supplier
Engineering Design and Drawing Facilities	
Computer based mains design packages capable of producing designs complying with Energex standards.	<i>Consultant</i>
CAD facility able to produce works plans, which can be incorporated into Energex’s Sub-Systems	<i>Consultant</i>
LVDROP Program (minimum level requirement – Version 7.0).	<i>Consultant</i>
Computer software capable of producing works plans in PDF format (without compromising the readability of the <i>Works Plan</i> with all detail clearly discernible).	<i>Consultant</i>
Field Environment (on or in close proximity to Energex plant and conductors [lines])	
Cable Locater (as required)	<i>Consultant</i>
Vertical and Horizontal Measuring Devices	<i>Consultant</i>
<i>System Keys</i> (as required)	Energex
Appropriate Tools for Accessing Energex Plant (e.g. Pillar Spanners and <i>Pit</i> Lifters).	<i>Consultant</i>
Appropriate Line Profiling Equipment	<i>Consultant</i>
Appropriate barriers for around open Energex Plant (e.g. Pillars, <i>Pits</i> and Transformers).	<i>Consultant</i>
Digital still camera (High Resolution).	<i>Consultant</i>

7. SAFETY

- (a) For safety requirements, refer to WCS133, Section 7 – Safety.
- (b) For safety requirements specific to this category of work refer to the below included references and clauses.
- (c) Implement control measures to eliminate and / or reduce the following (but not limited to) risk exposures:
 - (i) Accessing Commercial and Industrial (C&I) *Substations*.
 - (ii) Accessing Padmounted Transformers, Ground Transformers and associated equipment with hinged door access to attach cable locating tong clip.
 - (iii) Measuring heights of conductors both *High Voltage (HV)* and *Low Voltage (LV)*.
 - (iv) *Designers* working on roadways.
 - (v) Accessing electricity supply pillars for visual inspection by design staff.
 - (vi) Hand excavation near underground electricity cables and essential services.

8. ENVIRONMENT

- (a) For environmental requirements, refer to WCS133, Section 8 - Environment.
- (b) For environmental requirements specific to this category of work refer to the below included references and clauses.
- (c) Maintain and leave the *Worksite* in a condition assuring no potential for environmental nuisance or harm can occur following completion of field works on or in close proximity to Energex's distribution and *Sub-transmission Network* infrastructure.

9. EXTENT OF WORK

9.1 GENERAL

- (a) For extent of work requirements, refer to WCS133, Section 9 – Extent of Work.
- (b) For extent of work requirements specific to this category of work refer to the below included references and clauses.
- (c) Provide *Services* in accordance with (but not limited to):
 - (i) Work Category Specification WCS1.6 – Vegetation Management Plans.
 - (ii) Work Category Specification WCS31 – Commissioning, Operating and Accessing the Network.
 - (iii) Work Category Specification WCS47.6 – Large Customer Connection Design.
 - (iv) Work Category Specification WCS133 – General Standards and Conditions.
 - (v) Energex Manual 00293 – Commercial and Industrial Substation Manual.
 - (vi) Energex Manual 00294 – Queensland Electricity Connection and Metering Manual.
 - (vii) Energex Manual 00295 - Supply & Planning Manual.
 - (viii) Energex Manual 00297 – Network Labelling and Signage Manual.
 - (ix) Energex Manual 00302 – Overhead Design Manual.
 - (x) Energex Manual 00305 – Underground Distribution Construction Manual.
 - (xi) Energex Manual 00367 - Resource Estimation Guide.
 - (xii) Energex Manual 00768 – Large Customer Connections Manual.
 - (xiii) Energex Standard 00991 – Works Plan Standard – Electricity.
 - (xiv) Energex Standard 01037 – As Constructed Drawing Standard.
 - (xv) Energex Overhead Construction Manual, Doc. No. 4920-A4.
 - (xvi) Energex Form 1593 – Large Customer Connection Enquiry Form.
 - (xvii) Energex Form 2020 – Approved Product List.
 - (xviii) Energex Form 2981 – WCS47.6 Design Audit Checklist.
 - (xix) Energex Form 3015 – Network Customer Connection Application Large Customer Connection.
 - (xx) Compatible Unit Listing – Overhead (Excel).
 - (xxi) Compatible Unit Listing – Underground (Excel).
 - (xxii) Compatible Unit Listing – Distribution Substations (Excel).
 - (xxiii) Current plans detailing existing overhead and underground, and essential services infrastructure in the immediate area and surrounding the *Worksite*.
 - (xxiv) Appropriate Energex GIS Network Maps.
 - (xxv) *Consultant's* own safe system of work.
- (d) Parties involved in the design process include but are not limited to:

- (i) Energex.
 - (ii) *Developer*.
 - (iii) Builder.
 - (iv) Other Consultants.
 - (v) *Energex Accredited Service Providers*.
 - (vi) *Authorities*.
 - (vii) Owners of other essential (utility) services (e.g. but not limited to gas and telecommunications).
- (e) Follow clear and efficient processes while providing *Services* under this WCS. The responsibilities of all parties involved in providing these *Services* are clearly defined, and understood by the parties.

9.2 ENERGEX CONTACT

The appropriate Energex contact for *Consultants* and their staff during the planning and design phase is the Energex assigned Connections Planning Technical Officer.

9.3 DESIGN MANAGEMENT

9.3.1 Work Procedure Guidelines

Details to ensure the smooth flow of interaction between Energex and the *Consultant* can be found on the Energex *Large Customer Connections Website*.

9.3.2 General

- (a) The *Consultant* has responsibility for all safety in the design process.
- (b) All designs of infrastructure are to comply with:
 - (i) The *Laws*.
 - (ii) Relevant Australian Standards and Codes of Practice.
 - (iii) Energex's requirements (referenced documents) outlined in this WCS.
 - (iv) Energex Manual 00768 – Large Customer Connections Manual, Section 6 –Network Planning and Design Criteria.
- (c) The *Consultant* is to work with Energex to mediate any issues that arise between Energex, *Developers*, Builders and *Accredited Service Providers*.
- (d) Designs are to:
 - (i) Comply with specific conditions and requirements listed in Manual 00768.
 - (ii) Follow Sound Engineering Practices and principles.
 - (iii) Include all relevant calculations, including pole load calculations and line profiles.
 - (iv) Include the most appropriate method of infrastructure construction and *Commissioning* to minimise *Customer* inconvenience and reduce network outages.
 - (v) Provide detailed list / estimate of materials and resource requirements.
 - (vi) Make optimum use of all installed materials and existing assets.
 - (vii) Where works are undertaken on an Energex asset, the asset is to be bought up to current Energex standards.
 - (viii) Ensure all design(s) are constructible.
 - (ix) Result in minimum ongoing maintenance requirements.
 - (x) Provide support to the appointed *Energex Accredited Service Provider* where required throughout the project until the construction and assets are accepted by Energex.

- (e) Consider all aspects of the potential for safety hazards and environmental nuisance or harm that may be introduced into designs throughout the planning and design process for the construction of *Substations* and the overhead and underground electrical reticulation infrastructure.
- (f) Determine the most appropriate method of *Commissioning* the construction of *Substations* and the overhead and underground electrical reticulation infrastructure to minimise *Customer* outages. Detail the *Commissioning* requirements in accordance with WCS31.
- (g) Designs are to state that the construction of the overhead and underground electrical reticulation infrastructure only uses Energex approved materials, installation equipment and installation techniques.
- (h) The *Consultant* will be required to document on the "As Issued" Copy of the Master *Works Plan* submitted to Energex, the signature, name and registration number of the RPEQ.
- (i) Produce all designs submitted to Energex as an electronic PDF copy. Provide a hard copy or CAD copy if requested by Energex.
- (j) Designs submitted that do not comply with this WCS will not be accepted by Energex unless written approval to vary the *Design Standards* has been obtained from Energex before final submission of the designs.
- (k) *Substation* layouts and designs submitted that do not comply with this WCS will not be accepted by Energex unless written approval to vary the *Design Standards* has been obtained from Energex before final submission of the *Substation* layouts or design.
- (l) If the *Consultant* believes a standard is inappropriate or not applicable, provide notification in writing to Connections Planning Technical Officer seeking a variation to the standards for the infrastructure planning / design project with a suitable alternative proposal.

9.3.3 Materials

In accordance with Manual 00768, only specify materials complying with the Form 2020, which is available from the Energex website, for the construction of installations / infrastructure being designed.

9.3.4 Easement Requirements

- (a) Where an easement is required to protect connection assets installed within freehold or state controlled land, Energex will require the *Consultant* to submit all the required documentation to allow the easement to be registered.
- (b) For additional requirements, refer to Manual 00768, Appendix 2 – Easement Requirements.

9.3.5 Substation and Switchgear

Ensure *Substation* Layouts and designs of all *Substations* and switchgear including buildings and enclosures in accordance with the requirements of Manual 00293 to:

- (a) House the plant and equipment.
- (b) Provide sufficient access, space and ventilation to ensure safety of Operators.
- (c) Provide adequate access for installation, change overs and maintenance activities.
- (d) Be constructed safely.
- (e) Equipment manufacturer's instructions for installation.

9.3.6 Preparation of Vegetation Management Plans

A Vegetation Management Plan for a proposed route of overhead conductors (power lines) or underground cables and supporting infrastructure complies with WCS1.6 and include the following (but not limited to) requirements:

- (a) A survey of route to identify location of Vegetation which requires control, or will be required to be controlled on public roads, footpaths, private property and other nominated areas.
- (b) The identification of Vegetation species and the number of each species.
- (c) Identifying and proposing the Vegetation management control measures appropriate for each location.
- (d) Negotiating and obtaining written agreement of stakeholders to proposed control measures.
- (e) The preparation and submission of a number of reports to relevant *Authorities*, detailing proposed Vegetation management control measures and obtaining agreement of *Authorities* to the proposals.

9.3.7 Authority and Final Approvals

The *Consultant* ensures all agreements and approvals have been received from the relevant *Authorities* prior to final submission of the *Substation* layouts or design to Energex.

9.3.8 Completion of Designs

- (a) Forward the *Substation* Layouts and / or Design Package to Energex upon completion to obtain acceptance of the *Substation* Layouts and / or design by Energex.
- (b) Construction of *HV* electrical infrastructure or the ordering or purchase of *HV* electrical equipment is not commence until design drawings have been accepted by Energex.
- (c) Any design changes by the *Consultant* following acceptance by Energex, additional design changes are to be again accepted by Energex and may incur additional design check fees.

9.4 FIELD WORKS

9.4.1 Consultants Responsibilities

- (a) The field component of *Services* (in close proximity to the existing Energex network infrastructure) are performed such that only minimum of disruption will be caused to the:
 - (i) Business community.
 - (ii) General public.
 - (iii) *Customer* (residents).
 - (iv) Persons occupying land adjacent to or in the vicinity of the *Worksite*.
 - (v) Vehicular and pedestrian traffic.
- (b) Gain the required approvals from *Authorities* to obtain access to the *Sites* including:
 - (i) Roadways (including traffic control permits).
 - (ii) Restricted areas, for example mine sites, railway property or indigenous lands.
- (c) Ensure the field component of *Services* provided do not materially interfere with the performance of works being undertaken by Energex or any other *Energex Accredited Service Providers* on the *Worksite*.
- (d) Work with Energex to mediate issues between Energex, *Developers* and *Service Providers*.
- (e) Immediately notify (or as soon as is practicable after the occurrence) to the Energex assigned Connections Planning Technical Officer during the field component of *Services* in the event of the following:
 - (i) Receipt of a complaint.
 - (ii) Any significant disruption to program of *Services* being provided.
 - (iii) Any damage to Energex or other parties' property or essential services.
 - (iv) Unplanned outage of network due to *Services* being provided.
 - (v) Any unserviceable network infrastructure identified at the *Worksite*.

- (vi) Any requirement to amend the scope of *Services* being provided, such as due to presence of additional previously unidentified cables in allocated host conduit for new cable and need to renew additional components and/or constructions.
- (f) Report all serious / significant incidents to the Energex assigned Connections Planning Technical Officer, and provide a written incident report within 2 full *Business Days*. The Energex emergency contact phone number is 13 19 62.
- (g) Investigate and resolve to the reasonable satisfaction of Energex, any complaint about the way in which the *Consultant / Planner / Designer / Subcontractors* performs any element of the *Services*.
- (h) When entering private property, advise occupier where practicable prior to commencement of the field component of *Services*, ensuring that the occupiers are not inconvenienced by the *Services* being performed
- (i) Notify all *Authorities* of *Services* being performed.
- (j) No variations, changes or modifications to the *Services* being provided are to be made without the prior approval of the Energex assigned Connections Planning Technical Officer.

9.4.2 Maintenance of Barricades and Environmental Controls

When accessing Energex's underground infrastructure (e.g. *Pit* chambers) barricade all openings to the requirements of the *Laws* and *Regulations*.

9.4.3 Pit Access Covers

- (a) Before removal, consider the varying types of *Pit* access covers in use including but not limited to:
 - (i) Single, double or multi cover access.
 - (ii) Cover support systems (e.g. beams, frames).
 - (iii) Sliding / pulling directions.
 - (iv) Shape of the lifting keys / holes (e.g. old City Electric Light company or more modern Energex shape / pattern).
- (b) When removing and re-installing *Pit* access covers:
 - (i) Use appropriate lifting devices and processes for cover type.
 - (ii) At removal, make suitable footpath space available.
 - (iii) Employ 2 persons lifting (lifting via adjacent keys / holes for maximum control).
 - (iv) Clear surrounds / rebates of debris before re-installing.
 - (v) After re-installing; cover(s) sit flush in relation to surrounding surface (e.g. footpath level).
- (c) Report damaged *Pits* discovered to Energex. Damage to *Pits* caused by the *Consultant* will be repaired by Energex at the *Consultant's* cost.

9.4.4 Accessing Existing Substation

Undertake all *Substation* access in accordance with WCS133, Clause 9.7 – Substations.

9.4.5 Worksite Conditions

During and following completion of field tasks for the *Services*, maintain and leave *Worksite* in a safe hazard free condition at all times, and reinstate and maintain *Worksite* to at least the condition satisfactory to Energex.

9.4.6 Damage

- (a) Prevent damage to Energex assets, essential services, public infrastructure and private property.
- (b) Where damage has occurred; notify Energex using the following numbers:
- | | |
|--------------------------|-----------------|
| Loss of supply | 13 62 62 |
| Emergencies | 13 19 62 |
| General enquiries | 13 12 53 |
- (c) In addition, report damage to the Energex Subdivision Department via subdivisions@energex.com.au immediately after occurrence (or as soon as is practicable) followed by a written incident report within 2 *Business Days*.
- (d) Carry out repairs to the satisfaction of Energex, the property owner and relevant *Authority* at the *Consultant's* cost.

9.5 COMPLETION OF WORKS

The *Consultant* is responsible for providing necessary support to Energex to ensure all projects are accepted by Energex.

10. RECORDS

- (a) For records requirements, refer to WCS133, Section 10 - Records.
- (b) For additional record requirements specific to this category of work refer to the below included references and clauses.
- (c) Maintain full and accurate records, including but not limited to:
- *Substation* layouts.
 - Design drawings.
 - Detailed Pit drawings.
 - *Commissioning* plan.
 - Detailed load / generation calculations.
 - *Authority* approvals.
 - Hazard management measures identified and / or incorporated into project *Substation* layouts and designs.
 - Details of pits for recording on pit cards.
 - Site risk assessments.
 - Overhead line profiles.
 - Design package.
 - Current readings.
 - Load contingency calculations.
 - Voltage drop calculations.
 - Pole load calculations.
 - Pole inspection results.
 - Line profiles.
 - List of compatible units and quantities.
 - Details of survey results.

- *Site* photographs.
 - Any complaints and environmental incidents that occurred while providing the field component of *Services*.
 - Underground service location enquiries made, and the location information provided by *Authority* or road owner.
- (d) Ensure Planners / *Designers* / *Subcontractors* exercise due care in the collection and recording of planning and design data, and the data is available to Energex upon request.

11. WORK VERIFICATION

- (a) The *Consultant* is responsible for continuous auditing of *Services*.
- (b) Energex reserves the right to undertake separate auditing as detailed in Form 2981.
- (c) Progressive assessment of elements of infrastructure planning and design may be undertaken as design works proceed to ensure designs provided comply with standards.
- (d) Energex may require the *Consultant* to undertake an independent compliance assessment of their infrastructure planning and design for project(s) utilising Form 2981. Submit the completed Form 2981 to Energex when required.

12. GLOSSARY

- (a) For standard definition of words, acronyms and abbreviations used in this WCS, refer to WCS133, Section 12 - Glossary.
- (b) For addition definition of words, acronyms and abbreviations specific to this category of work, refer below.

Term	Definition
Consultant	<i>Energex Accredited Service Provider</i> , engaged by the <i>Developer</i> to design the electrical reticulation infrastructure for <i>Large Customer Connections</i> .
Developer	Any person, organisation or company, which enters into an agreement with Energex for the supply of electricity to development project under the terms and conditions of the agreement.
Design Standard	Refers to Energex and other standards to which the <i>Services</i> provided under this WCS comply.
Designer / Subcontractors	A person engaged by the <i>Consultant</i> to perform any part of the <i>Services</i> (with the relevant licences, <i>Authorisations</i> and certifications to undertake the tasks).
Energex Accredited Service Provider	The company or organisation authorised by Energex to construct elements of electrical reticulation infrastructure as described within the relevant category of work specific WCS.
High Voltage (HV)	Voltages greater than 1000 Volts AC RMS phase to phase.
Large Customer Connection	<p>A <i>Customer</i> connection identified as having:</p> <ul style="list-style-type: none"> ▪ An estimated annual electricity consumption greater than 4 GWh per annum, or ▪ An estimated maximum demand greater than 1 MV.A, or ▪ Significant connection assets, or ▪ Embedded generation with capacity greater than 30 kVA <p>This definition complies with Australian Energy Regulator's decision on classification of services outlined in "Final Decision - Framework and Approach Paper - Classification of Services and Control Mechanisms - Energex and Ergon Energy 2010–15 (August 2008)"</p>

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Large Customer Connection Design



Term	Definition
Low Voltage (LV)	Voltages greater than extra <i>Low Voltage</i> (i.e. voltages of 50 V or less AC RMS or 120 V or less ripple-free DC) but not more than 1000 V AC RMS or 1500 V ripple-free DC.
Safety Observer	A person with the role to observe work undertaken by others, warn the worker or workers of hazards / danger, stop work should a hazardous situation develop, as well as to perform rescue and resuscitation as required. This person complies with all the requirements of the <i>Laws</i> .
Sound Engineering Practice	Practices, methods and acts engaged in or approved of by a person who, in the conduct of undertaking <i>Services</i> similar to the <i>Services</i> , exercises that degree of diligence, prudence and foresight reasonably and ordinarily exercised by skilled experienced persons engaged in the same type of undertaking under the same or similar circumstances and conditions to conduct that undertaking lawfully, reliably and safely.
Substation	An Energex facility which is an enclosure typically located within a secure perimeter fence or a building basement and used to house <i>HV</i> and <i>LV</i> switchgear and plant; including Padmounted Transformers (PMT) which is a secure cabinet used to house <i>HV</i> and <i>LV</i> switchgear and plant.
System Augmentation / Network Augmentation Works	Augmentation works required on network assets to enable a new project to be supplied or the increase in supply for an existing Connection Applicant.

13. REFERENCES

- (a) For reference requirements, refer to WCS133, Section 13 - References.
- (b) For additional reference requirements specific to this category of work refer to the below included references and clauses.

13.1 AVAILABLE DOCUMENTS

Make available (at all times) to *Designers / Subcontractors*, the following documents / forms listed below for verifying *Service* requirements.

- (a) All documents detailed in clause 9.1 (c) of this WCS.
- (b) All documents detailed in clause 9.1 (a) of WCS133.
- (c) Current plans detailing existing overhead, underground and essential services infrastructure in the immediate area and surrounding the *Worksite*.

13.2 RECOMMENDED DOCUMENTS

Refer below for the recommended documents that are of relevance.

Table 3 – Available Documents

Document Reference	Detail / Description
Work Category Specification WCS2	Underground Construction.
Work Category Specification WCS12.3	Overhead Low Voltage Service Lines.
Work Category Specification WCS25	Overhead Mains Electrical Construction.
Work Category Specification WCS34	Earthing Systems.
Work Category Specification WCS37	Public Lighting Installations.
Work Category Specification WCS47.2	Subdivision Project Manager.
Work Category Specification WCS61	Underground Civil Construction.
Work Category Specification WCS61.1	Underground Trenchless Technology.
Work Category Specification WCS61.2	Underground Reinforced Concrete Pits.
Energex Procedure 00248	Pole Inspection for Proposed Loads.
Energex Procedure 00254	Types of Network Data Required by Network Data Management.
Energex Manual 00301	Operating Practices Manual.
Energex Manual 00303	Standard Network Building Blocks.
Energex Standard 00310	Energex Environmental Management System: Environmental Standard.
Energex Manual 00366	Underground Distribution Construction Policy Manual.
Energex Manual 00369	Pole Inspection Guidelines.
Energex Standard 00590	Safety Specification for Contracted Work.
Energex Procedure 00885	Management of Energex System Keys.
Energex Procedure 00891	Plan Network Switching.
Energex Work Practice WP1202	Low Voltage Connections.
Energex Form 8110	Code of Conduct - A Guide to the Conduct of Employees of Energex
SAHV	Queensland Electricity Entity Procedures for Safe Access to High Voltage Electrical Apparatus.

13.2.1 Queensland Acts and Regulations

For Queensland Acts and Regulation requirements, refer to WCS133, Section 13.2.2 – Queensland Acts and Regulations, and additional references below.

- Coastal Protection and Management Act 1995.
- Coastal Protection and Management Regulation 2003.
- Fisheries Act 1994.
- Fisheries Regulation 2008.

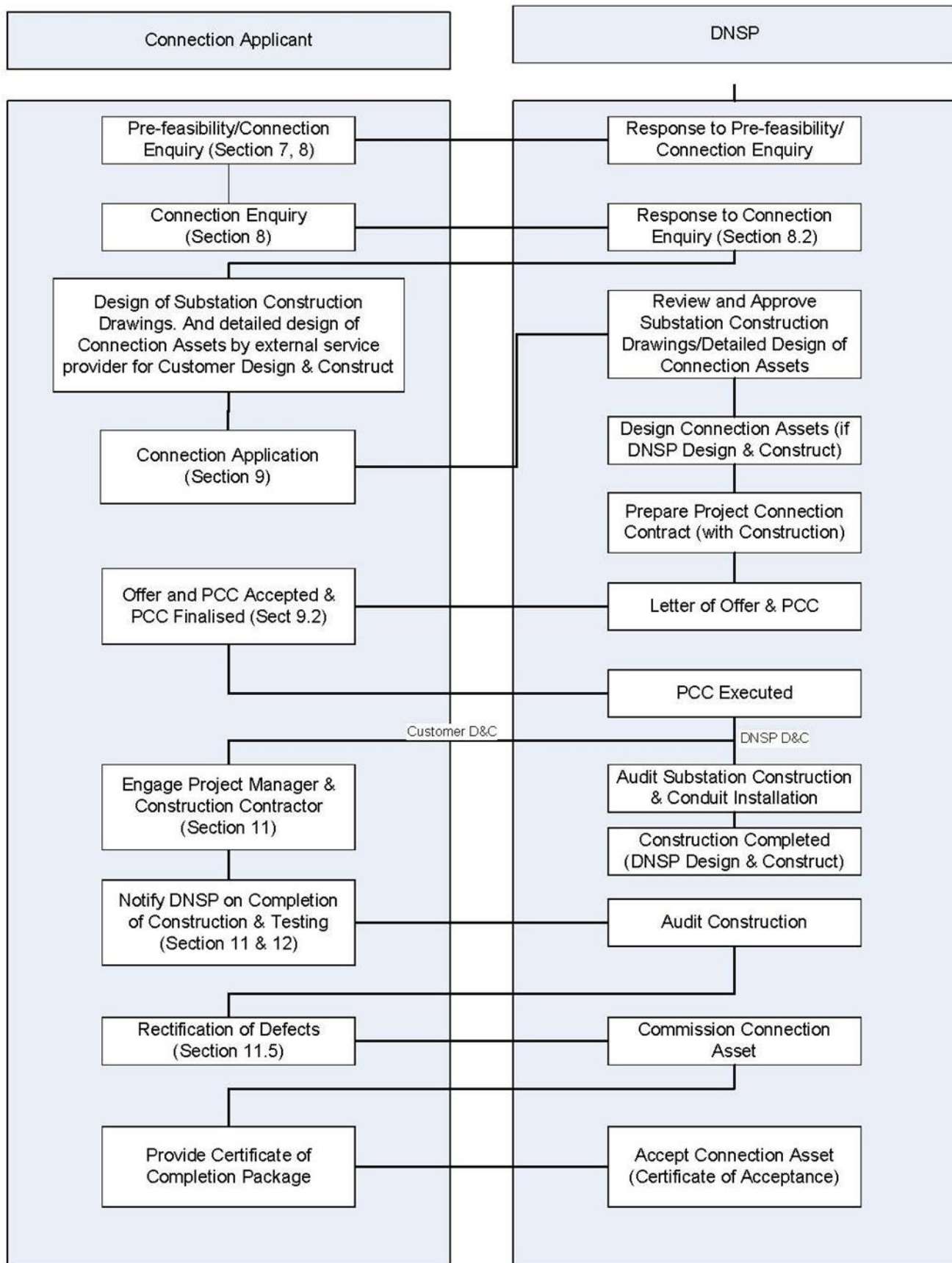
13.2.2 Australian Standards and Other Documents

For Australian Standards and other document requirements, refer to WCS133, Section 13.2.3 – Australian Standards and Other Documents.

14. APPENDICES

Appendix A Work Procedure Overview

Appendix A – Work Procedure Overview



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