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1. **SCOPE**

This Work Category Specification (WCS) documents the *Service* requirements for the designing the electrical distribution network for residential, commercial and industrial estates by *Consultants*.

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 WCS47.1.

1.2 **APPLICATION**

- (a) The application of *Services* includes, but is not limited to, the following design functions:
 - (i) Designs for overhead and underground electrical infrastructure that is to be incorporated into the Energex distribution network.
 - (ii) Designs for *Rate 2 Public Lighting* Installations (associated with a Development Application Condition for a "Subdivision of Land").
- (b) The applications excluded from *Services* being provided, are:
 - (i) Project management of the construction of the installation.
 - (ii) *Rate 2 Public Lighting* works required as part of a Development Application Condition for a commercial development, or for *Public Body* initiated works.

2. **AMENDMENT RECORD**

Version	Change
10	<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 below are met:
 - (i) Compliance with Energex policies and planning, design and construction criteria.
 - (ii) Residential, commercial and industrial planning and design conditions; for overhead and underground electrical infrastructure are achieved.
 - (iii) Preparation of Designs that prevent against damage, structural weakening or overloading of any existing Energex assets.

- (iv) Electrical designs that are electrically safe, and conform to the *Laws* 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 *Consultants/ Planners / Designers / Subcontractors*.

Table 1 – Operator Competencies

CAMS Code	Competency Description	Operator Requirements
<i>Operators</i> hold the following competencies:		
	Registered Professional Engineer Queensland (RPEQ) – Electrical Division (Note 2)	R
	A Certificate IV in Power Systems Design (or equivalent distribution design capability acceptable to Energex).	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 D07A	ESD07A - Street Lighting Installation Design (Note 3)	R

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Subdivision Design



CAMS Code	Competency Description	Operator Requirements
U D06A	ESD06A - Minor UG Distribution Design (Note 3)	R
<i>Operators hold the following competencies:</i>		
U D07B	ESD07B - Public Lighting Codes & Designs (Note 3)	R
U D01C	ESD01C - Network & Design Standards (Note 3)	R
<i>Operators hold the following competencies for field work.</i>		
A VIRO	Gen. 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 Energex 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 designs).
- Note 3** To demonstrate proficiency in Underground and Overhead Reticulation and or Sub-transmission Design, all *Designers* have undertaken this training module / unit, or the equivalent, as a minimum.
- Note 4** All *Operators* 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 works plan with all details 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 (such as Pillar Spanners and Pit Lifters)	<i>Consultant</i>
Appropriate Line Profiling Equipment	<i>Consultant</i>
Appropriate barriers for around open Energex Plant (e.g. Pillars, Pits 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 Padmounted Transformers, Ground Transformers and associated equipment with hinged door access to attach cable locating tong clip.
 - (ii) Measuring heights of conductors both *High Voltage (HV)* and *Low Voltage (LV)*.
 - (iii) *Designers* working on roadways.
 - (iv) Accessing electricity supply pillars for visual inspection by design staff.
 - (v) 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 WCS31 – Commissioning, Operating and Accessing the Network.
 - (ii) Work Category Specification WCS37 – Public Lighting Installations.
 - (iii) Work Category Specification WCS47.1 – Subdivision Design.
 - (iv) Work Category Specification WCS47.3 – Public Lighting Rate 2 Design.
 - (v) Work Category Specification WCS133 – General Standards and Conditions.
 - (vi) Energex Manual 00294 – Queensland Electricity Connection and Metering Manual.
 - (vii) Energex Manual 00295 - Supply and Planning Manual.
 - (viii) Energex Manual 00297 – Network Labelling and Signage Manual.
 - (ix) Energex Manual 00302 – Overhead Design Manual.
 - (x) Energex Manual 00502 – Lines Defect Classification Manual.
 - (xi) Energex Manual 00305 – Underground Distribution Construction Manual.
 - (xii) Energex Manual 00366 - Underground Distribution Construction Policy Manual.
 - (xiii) Energex Manual 00367 – Resource Estimation Guide.
 - (xiv) Energex Standard 00576 – Public Lighting – Standard Conditions for Public Lighting Services.
 - (xv) Energex Manual 00767 – Public Lighting Design Manual.
 - (xvi) Energex Manual 00796 – JW Public Lighting Construction Manual.
 - (xvii) Energex Standard 00982 – Subdivision Standards – Developer Design and Construct Estates.
 - (xviii) Energex Standard 00991 – Works Plan Standard – Electricity.
 - (xix) Energex Overhead Construction Manual, Doc. No. 4920-A4.
 - (xx) Compatible Unit Listing – Overhead (Excel).
 - (xxi) Compatible Unit Listing – Underground (Excel).
 - (xxii) Compatible Unit Listing – Distribution Substations (Excel).
 - (xxiii) Compatible Unit Listing – Street Lighting (Excel).
 - (xxiv) *Rate 2 Public Lighting* Design Parameters.
 - (xxv) Energex Form 1049 – Subdivision Electricity Supply Agreement (Developer Design and Construct).
 - (xxvi) Energex Form 1599 – Design Audit Checklist.
 - (xxvii) Energex Form 2020 – Approved Product List.
 - (xxviii) Energex Form 8110 - Code of Conduct - A Guide to the Conduct of Employees of Energex.
 - (xxix) Current plans detailing existing underground essential services infrastructure in the immediate area and surrounding the *Worksite*.
 - (xxx) *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) Other Consultants.
 - (iv) *Energex Accredited Service Providers*.

- (v) Authorities.
- (vi) Owners of other essential (utility) services, for example 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 Subdivision Department.

9.3 DESIGN MANAGEMENT

9.3.1 Work Procedure Guidelines

Details to ensure the smooth flow of interaction between Energex and the *Consultant* are provided in Appendix A – Work Procedure Guidelines.

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.
- (c) Designs are to:
 - (i) Comply with specific conditions and requirements listed in the General Conditions of Form 1049.
 - (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 to acceptance by Energex.
- (d) 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 and maintenance of the overhead and underground electrical reticulation infrastructure.
- (e) Design Public Lighting infrastructure in accordance with the requirements of:
 - (i) Energex Manual 00576.
 - (ii) Energex Manual 00796.
 - (iii) *Authority* (e.g. Local Council or Department of Main Roads) requirements.
 - (iv) All the design requirements of WCS47.3.

- (f) Determine the most appropriate method of commissioning the estate to minimise *Customer* outages. Detail the commissioning requirements in accordance with WCS31.
- (g) Designs are to state that for residential and commercial / industrial estates; 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) If the *Consultant* believes a standard is inappropriate or not applicable, provide notification in writing to Energex Subdivisions Department seeking a variation to the standards for the infrastructure planning / design project with a suitable alternative proposal.

9.3.3 Materials

- (a) Specify only materials complying with the Form 2020, which is available from the Energex website, for the construction of installations / infrastructure being designed.
- (b) Provide a listing of the material and resource estimation Compatible Units required for the construction of installations / infrastructure being designed in accordance with the Energex requirements and the listing is to be included on the provided Works Plan and supplied as a separate A4 summary document refer to clause 9.3.2.

9.3.4 Materials Lists for Subdivision Supply Agreements

The list of materials to be included for the formulation of Subdivision Electricity *Supply Agreement*. Costs and charges are required to be sectioned into the following categories and supplied as a separate A4 sheet.

- (a) **Energex Supplied Materials Underground (ESM-UG)** – Underground major plant to be funded and supplied by Energex Subdivisions Department. This will include padmounted transformers, Ring Main Units and Underground Cables other than those used for Public Lighting.
- (b) **Energex Supplied Materials Overhead (ESM-OH)** – All Overhead materials to be funded and supplied by Energex Subdivisions Department. This includes all materials, which are above the ground including pole terminations and associated materials.
- (c) **Underground Developer - UGD** – Underground major plant supplied by the *Developer*. This will include padmounted transformers, Ring Main Units and Underground Cables other than those used for Public Lighting.
- (d) **Overhead Developer - OHD** – This includes all overhead materials, which are above the ground including pole terminations and associated materials.
- (e) **Total Trench Length** – Total length of trench in metres that is to be excavated for the project.

9.3.5 Easement Requirements

Where an easement is required to protect connection assets installed within freehold or state controlled land, Energex will require the Design *Consultant* to submit all the required documentation to allow the easement to be registered.

9.3.6 Supply to a Residential Premise

Provide supply to residential *Premises* in accordance with the General Conditions of Form 1049, and with the applicable clauses of overhead and underground *Construction Standards*.

9.3.7 Radio Frequency Radiation

Ensure *Planners / Designers* are aware of the possible presence of Radio Frequency Radiation (RFR) emanating from energised telecommunications antenna(s) located on existing *Energex Sites* or other adjacent sites and the hazard this poses to persons working in front of these antennas. Ensure *Planners / Designers* have sufficient skills to identify antenna sites and are aware of RFR avoidance procedures, and include references on Design drawings provided, warning of hazards as and when required.

9.3.8 Final Agreement Submission

The *Consultant* ensures all agreements and approvals have been received from the relevant Authorities prior to requesting a Subdivision Electricity *Supply Agreement* with Energex.

9.3.9 Commencement of Site Works

- (a) The design *Consultant* is to ensure all appropriate fees are paid, agreements and approvals have been received from Energex and the relevant Authorities.
- (b) The design *Consultant* is to be in receipt of an “Energex Approval to Construct” (Form 3329), issued by Energex prior to notifying the Project Manager engaged to project manage the construction, that construction work on *Site* may commence.
- (c) The design *Consultant* is to issue a copy of the Form 3329 to the Project Manager engaged to manage the construction.
- (d) Only *Energex Accredited Service Providers* who are rated to WCS37 are to construct and or connect *Rate 2 Public Lighting Works*.

9.4 FIELD WORKS

9.4.1 Customer Relations

Consultants, their employees and sub-contractors are to comply with Form 8110, while performing *Services*.

9.4.2 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.

9.4.3 Consultant 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 Provider's*.
- (e) Immediately notify (or as soon as is practicable after the occurrence) to the Energex Subdivision Department 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, for example due to presence of additional previously unidentified cables in allocated host conduit for new cable and need to renew additional components and/or constructions.
 - (vii) Report all serious / significant incidents to the Energex Subdivision Department, and provide a written incident report within 2 full *Business Days*. The Energex emergency contact phone number is 13 19 62.
 - (viii) Investigate and resolve to the reasonable satisfaction of Energex, any complaint about the way in which the *Consultant / Planner / Designer* performs any element of the *Services*.
 - (ix) 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.
 - (x) Notify all *Authorities* of *Services* being performed.
 - (xi) No variations, changes or modifications to the *Services* being provided are to be made without the prior approval of the Energex Subdivision Department.

9.4.4 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*.

9.4.5 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.

9.4.6 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.

9.5 COMPLETION OF WORKS

The *Consultant*; is responsible for providing the 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:
 - Design package.
 - Design drawings.
 - *Commissioning* plan.
 - Current readings.
 - Load contingency calculations.
 - Voltage drop calculations.
 - Pole load calculations.
 - Pole inspection results.
 - Line profiles.
 - Approvals.
 - List of compatible units and quantities.
 - Details of survey results.
 - Hazard management measures identified and / or incorporated into designs.
 - *Site* photos.
 - Hazard management measures carried out as part of the field component of the *Services* being provided.

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- Any complaints and environmental incidents that occurred while providing the field component of *Services*.
- (d) Ensure *Planners / Designers* 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 1599.
- (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 1599. In these instances, a completed Form 1599 will need to be submitted to Energex.

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
Building	A dwelling or structure to which electricity supply is to be connected, and which is the base unit for calculation of service rebates and audit fees.
Bond	An amount in cash or an irrevocable undertaking executed by a bank or an approved lending authority, which is to be lodged with Energex in accordance with the terms of the Subdivision Electricity <i>Supply Agreement</i> .
Certificate of Acceptance	Refers to Form 1681, which is to be completed by Energex at the transfer of assets, including <i>Rate 2 Public Lighting</i> , to Energex at completion of the reticulation to the satisfaction of Energex.
Community Title Development	A subdivision of land in which individual lots do not necessarily have immediate access to a dedicated road, and which comply with the Body Corporate and Community Management Act (formerly Building Unit and Group Titles Act). These developments may also include retirement villages, townhouse developments and <i>Relocatable Home Parks</i> .
Consultant	<i>Energex Accredited Service Provider</i> ; engaged by the <i>Developer</i> to design the electrical reticulation infrastructure within the estate.
Developer	Any person, organisation or company, which enters into an agreement with Energex for the supply of electricity to an estate 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	See <i>Planner/Designer/Subcontractor</i>
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.

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Term	Definition
Low Voltage (LV)	Voltages greater than extra low voltage (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.
Planner / 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).
Public Body	A competent <i>Authority</i> , for example a Local Council or Government Department (or their Agents), undertaking Public Lighting design and/or construction for connection to Energex distribution network.
Rate 2 Public Lighting	Public Lighting installations are designed, supplied and installed at the cost of the <i>Public Body</i> or <i>Developer</i> , using equipment which conforms to ESI and Energex Standards and requirements. Energex supplies electricity to the installations at the relevant tariff and assumes responsibility for subsequent maintenance costs of the installations.
Relocatable Home Park	Includes any land used for, or intended for use for the location thereon of more than 2 relocatable homes for the purpose of providing residential accommodation. It does not include a caravan park.
Site	Place on or at which the field component of the <i>Services</i> and designed electricity distribution network will be built are to be performed under this WCS. (WCS133 definition does not apply to this WCS).
Supply Agreement	A signed agreement between a <i>Developer</i> and Energex for the supply of electricity to an estate. Such an agreement will normally be drawn up on Form 1049.
System Augmentation	Includes any works, which are not directly associated with normal supply to the estate, and exclude the supply and installation of <i>Conduits</i> . For example, works required to provide an alternative supply to another estate or other part of the network may be classified as <i>System Augmentation</i> .

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 *Planners / 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 and underground *Services* infrastructure in the immediate area and surrounding the *Worksite*.

13.2 RECOMMENDED DOCUMENTS

Refer below for the recommended documents that are of relevance.

13.2.1 Energex Documents

Table 3 – Energex Document

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 WCS31	Commissioning, Operating and Accessing the Network.
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 Manual 00367	Resource Estimation Guide.
Energex Standard 00576	Public Lighting – Standard Conditions for Public Lighting Services.
Energex Procedure 00891	Plan Network Switching.
Energex Standard 01037	As Constructed Drawing Standard.
Energex Form 1049	Subdivision Electricity Supply Agreement (Developer Design and Construct).
Energex Form 1117	Certificate for Electricity Supply.
Energex Form 1266	Certificate for Electricity Supply to Subdividers.
Energex Form 1327	Public Lighting Supply Agreement – Public Body Design and Construct.
Energex Form 1382	Certificate of Acceptance Electrical Reticulation of Rate 2 Public Lighting Constructed by Service Provider.
Energex Form 1383	Public Lighting Details Sheet.
Energex Form 1681	Certificate of Acceptance – Electricity Version (Electrical Reticulation in Subdivisions Constructed by Subdivider).
Energex Form 3329	Energex Approval to Construct form.

13.2.2 Queensland Acts and Regulations

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

13.2.3 Australian Standards and Other Documents

- AS/NZS 1158 Set: 2010 - Lighting for roads and public spaces Set.
- Other relevant Australian Standards.

14. APPENDICES

Appendix A Work Procedure Guidelines

Appendix A – Work Procedure Guidelines

Task	Consultant / Operator	Energex
Request for Network Information (Maps)	Email request with map identifying extent of <i>Site</i> location	<ul style="list-style-type: none"> Evaluate and respond. <i>Response Time – 5 Business Days</i>
Concept Plan Reviewed and Energex Requirements Documented	<p>The concept plan is required only to resolve the following:</p> <ul style="list-style-type: none"> 11 kV planning issues such as – future ties, additional <i>Conduits</i>, 11 kV feeder configuration, 11 kV cable sizes and any other planning issues specific to that location. Location of transformers and whether or not a transformer is required for that particular development. Any known environmental issues or potential conflicts. Conflicts with known adjacent subdivisions and possible ramifications to the development. <i>Site</i> specific issues raised by the <i>Designer</i>. TES contributions 	<ul style="list-style-type: none"> Evaluate and respond. <i>Response Time – 5 Business Days</i>
Design Documentation Received <i>"B" and "C" Rated Consultants only.</i>	<p>Submit the following documentation:</p> <ul style="list-style-type: none"> Subdivision Details Sheet Electronic copy (PDF) of the detailed layout construction drawings, schematics, equipment schedules and works plan to Energex standard symbols. Design Lodgement Fee. Voltage Drop Calculations. Overhead Line Profile (if applicable). Commission Plan. 	<ul style="list-style-type: none"> Design Lodgement Fee processed. Design assessed refer Form 1599 for criteria. Any alterations required marked-up and returned. When design is accepted – acceptance correspondence together with result of assessment forwarded. <i>Response Time – 10 Business Days</i>
Obtain Subdividers Electricity Supply Agreement	<p>Submit:</p> <ul style="list-style-type: none"> Final copy of master Works Plan to Energex requirements, including RPEQ Certification of the drawings and the Public Lighting Design. Final Local <i>Authority</i> / MRD construction and lighting approvals as required. Schedule of materials in Energex format. Switching Fee Calculation Sheet. Live Line Fee Calculation Sheet (where applicable). Subdivision Details Sheet Form 1448. Voltage Drop Calculations (if not already supplied). Overhead Line Profile (if applicable and not already supplied). <i>Commissioning</i> Plan. 	<ul style="list-style-type: none"> Changes / alterations to worksplan verified (B and C Rated <i>Consultants</i> only). Form 1448 (Subdivision Details Sheet) information updated in Ellipse. Subdivision Electricity Supply Agreement Form 1049 finalised. <i>Response Time</i> <i>Local Approval 5 Business Days</i> <i>Executive Approval 10 Business Days</i>
Obtain Certificate of Supply	<p>Submit:</p> <ul style="list-style-type: none"> Executed Subdivision Electricity Supply Agreement (Form 1049). <i>Bond</i>. Required payments 	<ul style="list-style-type: none"> Subdivision Electricity Supply Agreement (Form 1049) finalised. Monies and agreement received and processed. Prepare and issue Certificate for Electricity Supply to Subdividers Form 1266. <i>Response Time – 3 Business Days</i>

Work Category Specification WCS47.1

Subdivision Design



Task	Consultant / Operator	Energex
Nominate WCS47.2 <i>Energex Accredited Service Provider</i>	Submit: <ul style="list-style-type: none"> Complete Construction Detail Fax advising WCS47.2 <i>Energex Accredited Service Provider</i>. 	<ul style="list-style-type: none"> Issue approval to construct to WCS47.1 and WCS47.2 <i>Energex Accredited Service Provider's Response Time – 2 Business Days</i>
Final Product Audit	<ul style="list-style-type: none"> Certificate of Completion received from WCS47.2 Contractor Defects Rectification Notice received from WCS47.2 Contractor 	<ul style="list-style-type: none"> Final Product Audit undertaken. WCS47.2 Contractor notified of any defects. <i>Response Time – 10 Business Days</i>
<i>Certificate of Acceptance Issued</i>	Any outstanding payments finalised. <ul style="list-style-type: none"> All property matters finalised by submitting the following: <ol style="list-style-type: none"> Survey Plan for PMT <i>Site(s)</i> and easement(s). Registration Confirmation Statement(s) for easement(s). 	<i>Certificate of Acceptance Form 1382</i> completed and forwarded to both WCS47.1 and WCS47.2 Contractor <i>Bond</i> released to <i>Developer</i> within 30 days of <i>Certificate of Acceptance</i> issue date. <i>Response Time – 10 Business Days from receipt of Certificate of Completion (where there are no defects).</i>
Project Finalised		<ul style="list-style-type: none"> Release <i>Bond</i> <i>Response Time – 10 Business Days from receipt of Certificate of Acceptance</i>

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Subdivision Design



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