

Public Lighting Rate 2 Design

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1. SCOPE

This Work Category Specification (WCS) documents the *Service* requirements for designing *Rate 2 Public Lighting* installations.

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 WCS47.3.

1.2 APPLICATION

- (a) The application of *Services* includes, but is not limited to, the following design functions:
 - (i) Completion of a Development Application Condition for commercial developments.
 - (ii) A lighting scheme for *Public Body* initiated works.
- (b) The applications excluded from *Services* being provided, are:
 - (i) Project management of the construction of the installation.
 - (ii) Where the design requires an alteration or extension to Energex's distribution network to establish point of supply for the *Rate 2 Public Lighting* installations.
 - (iii) *Rate 2 Public Lighting* installations that are associated with a Development Application Condition for a "Subdivision of Land".

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) Design conditions for *Rate 2 Public Lighting* installation infrastructure are achieved.

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- (iii) Preparation of designs that prevent against damage, structural weakening or overloading of any existing Energex assets.
- (iv) *Rate 2 Public Lighting* designs that are electrically safe, and conform to the *Laws* and Australian Standards including relevant *Design Standards*.
- (v) Designs which can be installed, constructed and maintained safely without incurring additional costs to Energex that are outside the standard tariff.
- (vi) The process followed is clear and efficient and the responsibilities of parties involved in such works are clearly defined and understood.
- (vii) Reliability of public lighting, electricity supply and security of the network is maintained.

4. **COMPETENCIES, TRAINING AND QUALIFICATIONS**

- (a) *Consultants / 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*, Public Road Lighting and Electricity Supply Industry requirements for lighting and 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 Public Road Lighting and Electrical Concept Plans and Lighting Engineering Drawings that is satisfactory to the Public Road Lighting and 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*.

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 |
| | Qualifications in Illumination Engineering which allow entry into the Illumination Engineering Society of Australia and NZ as a member. | R |

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| CAMS Code | Competency Description | Operator Requirements |
|--|--|-----------------------|
| | 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 D02A | ESD02A – Site Inspection and Measurement (Note 3) | R |
| U D05B | ESD05B - Minor OH Distribution Design (Note 3) | R |
| U D06A | ESD06A - Minor UG Distribution Design (Note 3) | R |
| U D07A | ESD07A – Street Lighting Installation Design (Note 3) | R |
| U D07B | ESD07B – Public Lighting Codes & Designs (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 public lighting and electrical designs).

Note 3 To demonstrate proficiency in Underground and Overhead Reticulation and Public Road Lighting 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.

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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 <i>Works Plans</i> , 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 <i>Works Plans</i> in PDF format (without compromising the readability of the <i>Works Plan</i> with all details clearly discernible) | <i>Consultant</i> |
| Field Environment [on or in close proximity to Energex plant and conductors (lines)] | |
| Cable Locator (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 Lifters</i>) | <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.

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- (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 WCS47.3 – Public Lighting Rate 2 Design.
 - (iv) Work Category Specification WCS133 – General Standards and Conditions.
 - (v) Energex Manual 00297 – Network Labelling and Signage Manual.
 - (vi) Energex Manual 00305 – Underground Distribution Construction Manual.
 - (vii) Energex Manual 00367 – Resource Estimation Guide.
 - (viii) Energex Standard 00576 – Public Lighting – Standard Conditions for Public Lighting Services.
 - (ix) Energex Manual 00767 – Public Lighting Design Manual.
 - (x) Energex Manual 00796 – JW Public Lighting Construction Manual.
 - (xi) Energex Standard00991 – Works Plan Standard – Electricity.
 - (xii) Energex Overhead Construction Manual, Doc. No. 4920-A4.
 - (xiii) Compatible Unit Listing – Overhead (Excel).
 - (xiv) Compatible Unit Listing – Underground (Excel).
 - (xv) Compatible Unit Listing – Street Lighting (Excel).
 - (xvi) Rate 2 Public Lighting Design Parameters.

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- (xvii) Energex Form 1604 – Design Audit Checklist.
- (xviii) Energex Form 2020 – Approved Product List.
- (xix) AS/NZS 1158 Set: 2010 - Lighting for roads and public spaces Set.
- (xx) Current plans detailing existing underground essential services infrastructure in the immediate area and surrounding the *Worksite* (where *Rate 2 Public Lighting* installation will be constructed).
- (xxi) *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) *Public Body*.
 - (iv) *Other Consultants*.
 - (v) *Energex Accredited Service Providers*.
 - (vi) *Authorities*.
 - (vii) 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 1327.
 - (ii) Comply with specific conditions and requirements listed in the *Energex Rate 2 Public Lighting Design Parameters*.
 - (iii) Follow Sound Engineering Practices and principles.
 - (iv) Ensure design(s) is constructible.

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- (v) Make optimum use of all installed materials and existing assets.
- (vi) Include all relevant calculations, including fault loop impedance calculations and line profiles.
- (vii) Provide summary list / estimate of materials requirements.
- (viii) 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 ongoing maintenance of the *Rate 2 Public Lighting* installations infrastructure.
- (e) Design *Rate 2 Public Lighting* installations infrastructure in accordance with the requirements of:
 - (i) Clause 9.1 (c) – General, of this WCS.
 - (ii) Clause 9.1 (a) – General, of WCS133.
 - (iii) Energex Manual 00576.
 - (iv) Energex Manual 00796.
 - (v) *Authority's* and / or *Public Body's* (e.g. Local Council or Department of Main Roads) requirements.
 - (vi) All the design requirements of this WCS.
- (f) Designs are to state that for the construction of the overhead and underground electrical supply to *Rate 2 Public Lighting* installations infrastructure, only Energex approved materials, installation equipment and installation techniques are used.
- (g) 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.
- (h) Provide documentary evidence of the installation against the relevant *Authority / Public Body* to:
 - (i) Demonstrate acceptance of the installation against the relevant *Authority's / Public Body's* Streetlight Account.
 - (ii) Acknowledgement that the levels of lighting provided by the amenity have been accepted by the relevant *Authority / Public Body*.
- (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 issued parameters for the infrastructure planning / design project with a suitable alternative proposal.

9.3.3 Application for Point(s) of Supply

- (a) Establish and nominate the point(s) of electricity supply, which will be detailed on the Design Documentation provided.
- (b) Connection of a *Rate 2 Public Lighting* installation to the Energex Distribution Network without written approval from Energex is not permitted.
- (c) When an Energex electricity network extension or modification is required to connect the *Rate 2 Public Lighting* installation to the Energex Distribution Network, *Energex Accredited Service Providers* are to lodge a Supply Availability request with Energex to complete the works.

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9.3.4 Materials

Specify only materials complying with the Form 2020, which is available from the Energex website, for the construction of installations / infrastructure being designed.

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 Allocation of Site Identity (ID) Numbers

Energex allocates *Site* identification numbers for proposed new *Rate 2 Public Lighting* installation infrastructure, when requested by the *Consultant* and numbers are included on the design drawings detailing the infrastructure design.

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

- (a) The *Consultant* ensures all agreements and approvals have been received from the relevant *Authority's/ Public Body's* prior to entering into an agreement with Energex.
- (b) The *Consultant* is to ensure that the Energex accredited WCS47.2 Project Manager has been appointed to the project. This is to be provided to Energex prior to entering into an 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 nominate the name of the WCS47.2 Accredited Project Manager engaged by the *Developer* to manage the project construction.
- (c) The design *Consultant* is in receipt of a Form 1266 issued by Energex prior to notifying the Project Manager engaged to project manage the construction, that construction work on *Site* may commence.
- (d) The design *Consultant* is to issue a copy of the Form 1266 to the Project Manager engaged to manage the construction.
- (e) Only *Energex Accredited Service Providers* who are rated to WCS37 are to connect *Rate 2 Public Lighting Works*.

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9.4 FIELD WORKS

9.4.1 Customer Relations

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

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- (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.

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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.
 - Fault loop impedance calculations.
 - 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.
 - Correspondence.
 - Instructions.
 - Internal quality audit reports.
 - Electronic records.
 - *Site* photos.
 - Hazard management measures carried out as part of the field component of the *Services* being provided.
 - 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 all documentation, records and completed forms established as part of the *Services* provided are accurate, well ordered and available to Energex.
- (e) 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 1604.
- (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 1604. In these instances, a completed Form 1604 will need to be submitted to Energex.

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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 |
|--|--|
| Certificate of Acceptance | Refers to Form 1382, which is to be completed by Energex at the transfer of <i>Rate 2 Public Lighting</i> assets to Energex at completion of the <i>Rate 2 Public Lighting</i> construction and connection to the satisfaction of Energex. |
| Consultant | <i>Energex Accredited Service Provider</i> , engaged by the <i>Developer / Authority</i> and / or <i>Public Body</i> to design the <i>Rate 2 Public Lighting</i> installations infrastructure for connection to Energex distribution network. |
| Developer | Any person, organisation or company, which enters into an agreement with Energex for connection of <i>Rate 2 Public Lighting</i> installations to Energex distribution network 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 <i>Rate 2 Public Lighting</i> installations infrastructure for connection to Energex distribution network as described within the relevant category of work WCSs. |
| High Voltage (HV) | Voltages greater than 1000 Volts AC RMS phase to phase. |
| 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. |
| 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> , e.g. a Local Council or Government Department (or their Agents), undertaking <i>Public Lighting</i> design and / or construction for connection to Energex distribution network. |
| Rate 2 Public Lighting | <i>Public Lighting</i> installations that are designed, supplied and installed at the cost of the <i>Authority, Public Body</i> or <i>Developer</i> , using equipment which conforms to Energex <i>Design Standards</i> and requirements. Energex supplies electricity to the installations at the relevant tariff and assumes responsibility for subsequent maintenance costs of the installations. |
| Site | Place on or at which the field component of the <i>Services</i> and designed <i>Rate 2 Public Lighting</i> installation will be built are to be performed under this WCS. (WCS133 definition does not apply for this WCS). |

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| Term | Definition |
|-------------------------|--|
| Supply Agreement | A signed agreement between a <i>Developer, Authority or Public Body</i> and Energex for the construction of and connection to Energex's distribution network of <i>Rate 2 Public Lighting</i> installations. Such an agreement will normally be drawn up on Form 1327. |

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 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.

13.2.1 Energex Documents

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 WCS31 | Commissioning, Operating and Accessing the Network. |
| Work Category Specification WCS34 | Earthing Systems |
| Work Category Specification WCS37 | Public Lighting Installations. |
| Work Category Specification WCS47.1 | Subdivision Design. |
| 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. |

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| Document Reference | Detail / Description |
|------------------------------------|--|
| Work Category Specification WCS133 | General Standards and Conditions. |
| Energex Manual 00294 | Queensland Electricity Connection and Metering Manual. |
| Energex Manual 00295 | Supply and Planning Manual. |
| Energex Manual 00302 | Overhead Design Manual. |
| 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 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 1415 | Public Lighting Supply Agreement – Developer Design and Construct. |
| Energex Form 1604 | WCS47.3 Design Audit Checklist. |
| 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

Public Lighting Rate 2 Design

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. <p><i>Response Time – 5 Business Days</i></p> |
| 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"> Location of transformers and whether or not a transformer is required for that particular project. 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>. | <ul style="list-style-type: none"> Evaluate and respond. <p><i>Response Time – 5 Business Days</i></p> |
| Design documentation received <i>"B" and "C" Rated Consultants only.</i> | <p>Submit the following documentation:</p> <ul style="list-style-type: none"> Form 1383. 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). <i>Commissioning</i> Plan. | <p>Design Lodgement Fee processed.</p> <ul style="list-style-type: none"> Design assessed (refer Form 1604 for criteria). Any alterations required marked-up and returned. When design is accepted – acceptance correspondence together with result of assessment forwarded. <p><i>Response Time – 10 Business Days</i></p> |
| Obtain <i>Rate 2 Public Lighting Supply Agreement</i> | <p>Submit:</p> <ul style="list-style-type: none"> Final copy of master <i>Works Plan</i> to Energex requirements RPEQ Certification of the Public Lighting Design. Relevant Local Authority / MRD approvals (construction and lighting). Confirmation of the appointed WCS47.2 rated Project Manager. Form 1383. Schedule of works and materials (if not previously provided) Voltage Drop Calculations (if required). Overhead Line Profile (if required). <i>Commissioning</i> Program. | <ul style="list-style-type: none"> Changes / alterations to <i>Works Plan</i> verified (B and C Rated <i>Consultants</i> only). Energex financial approval obtained. Issue Form 1327, or Form 1415, <i>Public Lighting Supply Agreement</i>. <p><i>Response Time</i> <i>Local Approval 10 Business Days</i> <i>Executive Approval 15 Business Days.</i></p> |

Work Category Specification WCS47.3



Version: 5 | Released: 10/03/2015

Public Lighting Rate 2 Design

| Task | Consultant / Operator | Energex |
|--|--|--|
| Obtain Certificate of Supply – Public Lighting Construction. | <p>Submit:</p> <ul style="list-style-type: none"> Executed Form 1327 <i>Rate 2 Public Lighting Supply Agreement (Public Body)</i>. Executed Form 1415 <i>Rate 2 Public Lighting Supply Agreement (Developer)</i>. Required payments | <ul style="list-style-type: none"> Finalised Form 1327 or Form 1415, <i>Public Lighting Supply Agreement</i>. Monies and agreement received and processed. Prepare and issue Form 1117- <i>Certificate of Supply</i>, to the <i>Design Consultant</i>. <p><i>Response Time – 3 Business Days</i></p> |
| Work issued for construction | Master <i>Works Plan</i> issued for construction to the nominated WCS47.2 <i>Service Provider</i> . | <ul style="list-style-type: none"> Issue Form 3329 - <i>Energex Approval to Construct</i>, to the WCS47.1 <i>Design Consultant</i> and the WCS47.2 <i>Service Provider</i>. Master <i>Works Plan</i> forwarded NDS, <i>Contracts Officer</i> and saved in Master <i>Projects</i> electronic folder Prepare and forward Form 1382 to <i>Contracts Officer</i>. |
| <i>Certificate of Acceptance</i> Issued | <ul style="list-style-type: none"> Any outstanding payments finalised. All property matters finalised. | <ul style="list-style-type: none"> <i>Certificate of Acceptance</i> Form 1382 completed and forwarded to both WCS47.1 <i>Design Consultant</i>, and WCS47.2 <i>Service Provider</i>. <p><i>Response Time – 5 Business Days from completion of Final Product Audit.</i></p> |
| Project Finalised | | <ul style="list-style-type: none"> Accounting, Network records and project management data updated. |

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