Overhead Mains Electrical Construction

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1. SCOPE

This Work Category Specification (WCS) documents the *Service* requirements for the construction and maintenance of overhead mains (240 V to 33 kV) and supporting infrastructure.

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 of doubt, a breach of a general standard or condition contained in WCS133, and the requirements and conditions of WCS31 is a breach of WCS25.

1.2 APPLICATION

(a) The application of *Services* includes (but is not limited to) the following functions:

- (i) *Worksite* preparation and reinstatement.
- (ii) Overhead infrastructure preparation and installation of overhead plant, overhead conductors and supporting infrastructure.
- (iii) Overhead infrastructure maintenance.
- (iv) Recovery of overhead infrastructure.
- (v) Installation of overhead conductors, spacers, bridges, connections and pole mounted plant.
- (vi) Recording of data related to the *Worksite* and *Services*.

(b) WCS25 does not include the construction and maintenance of overhead transmission lines at voltages greater than 33 kV phase to phase.

2. AMENDMENT RECORD

Version	Change
15	▪ x. ▪ Clause x.x – x. ▪

3. AIMS / OBJECTIVES

The aims / 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) Overhead mains and associated infrastructure is constructed consistent with Energex *Construction Standards* and maintenance criteria.

4. COMPETENCIES, TRAINING AND QUALIFICATIONS

(a) *Service Providers* / *Operators* / 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 ENERGEX COMPETENCIES

Table 1 specifies the Energex Competencies / *Authorisations* (or combincation thereof) that are Energex requirements to be held by *Operators*.

Table 1- Operator Competencies

CAMS Code	Competency Description	Operator
Operators hold the following competencies:		
A A4SR	Application for Switching – Recloser Block	AR
A CONN	Testing Connections to LV Distribution Network	R
A IWG	Individual Work Group	R
A LLGS	Live Work Glove and Barrier / Stick combined 33 kV	AR
A LVSO	Low Voltage Switching Operator	MO (Note 2)
A OILS	Oil Spill Management (Note 1)	MO
A SOIL	Sediment Control Awareness (Note 1)	MO
A SR	Switching Recipient	MO
A VIRO	Gen. Environment Awareness (Note 1)	MO
A WEED	Declared Plants Management Awareness (Note 1)	MO
A XR	Restricted Operator (Note 3)	AR
U BBI	Broadband Infrastructure Awareness	AR
U EO	Electricity Officer	R
U GCI	Generic Contractor Induction	R

U OHAW	Overhead Safety Awareness	R
	Authorised Person (as defined in Electricity Safety Regulation 2013)	R

Legend:

R Required.

AR As required.

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

Note 1: *Service Provider*s with their own environmental training system equivalent as a minimum to the Energex environmental training system may train and assess their own *Operator*s as competent.

Note 2: Minimum requirement is one *Operator* with A LVSO *Authorisation* assisted at all times by a competent assistant as defined in Manual 00301.

Note 3: Restricted to the operation of Auto Reclose on non-telemetered Pole Mounted Reclosers (PMR).

5. VEHICLES AND PLANT

For vehicles and plant requirements, refer to WCS133, Section 5 – Vehicles and Plant.

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
Motor fuels, lubricants, hacksaw blades, solvents, abrasives, paint etc. as required	*Service Provider*
Ratchet spanner suitable for use on IPC connectors (six sided hexagonal head)	*Service Provider*
Torque wrench (six sided hexagonal head) (Note 1)	*Service Provider*
Digital Low Impedance Volt Meters *	*Service Provider*
Phase Rotation Meters *	*Service Provider*
Loop Impedance Meters *	*Service Provider*
Low Voltage Proximity Testers *	*Service Provider*
High Voltage Live Work Tools and Equipment (Note 2)	*Service Provider*

Description	Supplier
Minor Vegetation Clearing Tools	*Service Provider*
Silicone Compound (waterproof and non-acidic)	*Service Provider*

*WP1202 Specification

Note 1: Torque Wrench has a suitable range for the work performed, with an accuracy of ± 5%, lockable and have an insulated handle.

Note 2: All specialist High Voltage Live Work tools and equipment as stipulated in the Energex High Voltage Live Work Manual (Doc. No.10608-A4); are to be carried on the High Voltage Live Work Crew's vehicle.

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) Standing of poles (tilt-up construction work).
- (ii) Handling and disposal of Fibre Optic Cable glass fibres.
- (iii) Lifting and standing poles.

8. ENVIRONMENT

For environmental requirements, refer to WCS133, Section 8 - Environment.

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) Energex Work Category Specification WCS1.6 – Vegetation Management Plan.
- (ii) Energex Work Category Specification WCS1.7 – Vegetation Control Near Powerlines.
- (iii) Energex Work Category Specification WCS1.8 – Vegetation Clearing and Associated Civil Works.
- (iv) Energex Work Category Specification WCS25 – Overhead Mains Electrical Construction.
- (v) Energex Work Category Specification WCS31 – Commissioning, Operating and Accessing the Network.
- (vi) Energex Work Category Specification WCS34 – Earthing Systems.
- (vii) Energex Work Category Specification WCS37 – Public Lighting Installations.

(viii) Work Category Specification WCS133 – General Standards and Conditions.

(ix) Energex Manual 00297 – Network Labelling and Signage Manual.

(x) Energex Manual 00301 – Operating Practices Manual.

(xi) Energex Manual 00502 – Lines Defect Classification Manual.

(xii) Energex Standard 00576 - Public Lighting - Standard Conditions for Public Lighting Services.

(xiii) Energex Manual 00796 – JW Public Lighting Construction Manual.

(xiv) Energex Overhead Construction Manual, Doc. No. 4920-A4.

(xv) Energex High Voltage Live Work Manual, Doc. No.10608-A4

(xvi) Energex Work Practice WP1202 – Low Voltage Connections.

(xvii) Energex Technical Instruction – TSD0012 – Application of Overhead Line Spacers.

(xviii) Energex Form 0150 – Corrective Maintenance Data Requirements - Mains Assets.

(xix) Energex Form 1022 – Recovered Cable Sheet and Calculator.

(xx) Energex Form 1028 – Request for Pole Collection.

(xxi) Energex Form 1149 – Pole Delivery Summary Sheet.

(xxii) Energex Form 1175 – HV Apparatus Commissioning and Maintenance Sheet.

(xxiii) Energex Form 2225 – Advice of Call.

(xxiv) Energex approved *Work Plan*, construction drawings and associated drawings and instructions. (Worksite specific and current amendment may be provided as part of the Work Order).

(xxv) Current plans detailing existing underground essential services infrastructure in the immediate area and surrounding the *Worksite*.

(xxvi) Queensland Electricity Entity Procedures for Safe Access to High Voltage Electrical Apparatus (SAHV).

(xxvii) *Service Provider*s safe system of work.

9.2 ISSUE AND COMPLETION OF WORKS

(a) Provide a signed, “As Constructed *Work Plan*(s)” (if required) of augmented infrastructure, associated Energex forms, for example earth test results, street lighting test results, Installation / Inspection / Maintenance – OH Services in accordance with Energex As Constructed Drawing Standard to the *Energex Officer* within 5 *Business Days* of completion of works.

Note: For minor remedial works; provide alternative “As Constructed” applicable to the *Worksite* and service data in another manner as directed by the *Energex Officer*.

(b) Documentation includes the recorded details and signature of person authorising any constructions which differ from the approved Energex *Work Plan*(s). Obtain signed acceptance of proposed alterative construction from the *Energex Officer* prior to application.

(c) Where work is performed in an emergency situation, record collected data on a Form 0150, and returned to the *Energex Officer* within 3 *Business Days* after emergency situation ceases to exist.

9.3 TREE TRIMMING

(a) Trim tree branches < 80 mm ø which are in contact with or where there is evidence of rubbing against overhead mains in wind conditions in accordance with:

(i) WCS1.6 – Vegetation Management Plan.

(ii) WCS1.7 – Vegetation Control Near Powerlines.

(iii) WCS1.8 – Vegetation Clearing and Associated Civil Works.

(b) Cleanly cut branches using appropriate tools such as, secateurs or saw; leave trimmed branches in a safe manner, remove from *Worksite* on the day of trimming and dispose of as soon as practical.

(c) In situations where branches > 80 mm ø require trimming and clearing, work is provided by Vegetation *Service Providers* in accordance with WCS1.7, and WCS1.8.

9.4 HIGH VOLTAGE LIVE WORK

Conduct High Voltage Live Work tasks in accordance with the requirements as specified in the *Laws* and in accordance with Energex High Voltage Live Work Manual (Doc. No.10608-A4).

9.5 POLES

9.5.1 Delivery

(a) Pole deliveries are requested by completing Form 1149. Form and all associated paperwork, is to be received by 4 pm, 7 *Business Days* prior to the pole delivery date. Shorter notice may be negotiated with the respective Energex Pole Services Officer subject to approval and availability of stock.

(b) All poles or materials left unattended (at any time) where pedestrians or vehicles could contact them are to be marked / identified / protected by the *Work Group* on the *Worksite*.

(c) The following time restraints apply to poles left on footpaths of road reserves:

(i) Central Business District - 0 Days, for example poles are to be stood on the same day as delivery, and recovered the same day they are removed.

(ii) Rural or Urban Areas - 1 Month:

- Provided appropriate controls are in place to minimise disruption to vehicular and pedestrian movement and adequate notification to the public of the changed conditions.
- If work is postponed, consider having poles recovered where high public exposure exists, for example highly frequented areas such as schools, shopping precincts, recreational grounds, community centres etc.

9.5.2 Positions

Pole positions will be pegged to indicate the centre point of the pole to be installed. Any *Site* specific instructions for the pole installation will be noted on the *Work Plans*.

9.5.3 Foundations

(a) Excavate Pole foundations (drill hole) on the peg point to the minimum depth specified on *Work Plan*.

(b) Measure the depth of the excavation from the side with the lowest ground surface level.

(c) Backfill the foundation with the prescribed foundation material in such a manner that the amount of disturbed earth surrounding the pole after standing is minimised. The top 500 mm of backfill material is to be natural earth with no rock > 75 mm.

(d) When the pole location ground line is unclear and cutting or filling of the surrounding ground surface could affect the pole foundation depth, contact the *Energex Officer* to review the pole excavation depth.

(e) Where practical; lift poles into excavated holes on the same day. Where there is known rock substructure and / or underground infrastructure, excavate foundation hole prior to work commencing.

(f) Ensure all excavated pole holes and other excavations associated with the works do not become filled with water as a result of rain or surface water run-off.

9.5.4 Preparation

(a) Fit off pole constructions in the correct orientation so that the natural bend of the pole is in the same direction (plain) as the centre line of conductors when the pole is stood in the pole foundation.

(b) Scarfing of poles is not permitted.

9.5.5 Drilling

Seal all drilled holes which are not used with waterproof and non-acidic silicone compound.

9.5.6 Standing

(a) Stand wood and concrete poles as a single unit.

(b) Lift poles with components fitted (dressed) into place using an appropriately rated crane and slings. The crane maintains full control of the pole until the installation and foundation works have been completed.

(c) When lifting is in close proximity to energised mains and other structures, tie insulator strings to the pole to reduce the risk of contact and subsequent electrical or mechanical damage.

9.5.7 Recovery

(a) Remove poles from foundations. Pole butts may be left in the ground if specified or approved by the *Energex Officer.* Remaining pole butts are to be rammed > 300 mm below ground level. Reinstate all recovered pole *Sites* to match the surrounding surface conditions and as specified in the work schedule.

(b) Pole steps can be cut off but all other material is to be removed including foundation material.

(c) Energex will collect poles from the *Worksite* when they are ≥ 8 m in length. Chock poles and clearly identify adequately to notify vehicle and pedestrian traffic of the changed conditions.

(d) The *Service Provider* is to dispose of recovered poles < 8 m in length. Do not cut recovered serviceable poles > 8 m in length unless required by construction practices and approved by the *Energex Officer*.

(e) Complete Form 1028, with information on the recovered poles within 5 *Business Days* of the recovery.

(f) Burnt CCA, chemically treated and creosote treated poles are to be handled and disposed of in accordance with environmental procedures for Hazardous Substances Management.

(g) Creosote treated poles are to be recovered on the same day as removal in locations where there is potential for livestock to graze. When recovery of a removed pole is not practical on the same day, the pole is to be relocated outside the grazing property.

9.6 CROSSARMS AND FITTING

(a) Store and transport composite fibre crossarms such that they are not subject to damage of the protective coating.

(b) The drilling of composite fibre crossarms is not permitted.

(c) Do not fit additional load bearing equipment to composite fibre crossarms that may cause crushing or failure for example, crossarm gin or AU bracket or extension arm.

(d) Crossarms will normally be supplied from Energex cut to size and pre-drilled. In special circumstances; the cutting and drilling of non-composite crossarms may be required.

(e) Fit crossarms such that the deviation at the end of the crossarm from a line at 90° to the centre line of the pole taken through the kingbolt does not exceed:

  (i) 25 mm for nominally level crossarms.

  (ii) 50 mm for offset crossarms.

(f) Seal all holes which are not used with silicone compound (waterproof and non-acidic).

9.7 KINGBOLTS

For any installed kingbolt, the thread is not to protrude more than 50 mm beyond the securing kingbolt nut.

9.8 HELICAL LINE FITTINGS

Store and transport helical line fittings; such that they are not subject to damage or prolonged UV light exposure prior to use.

9.9 STEEL WORK

All structural steel components supplied by Energex are normally hot dip galvanised. Where the galvanising has been damaged, apply suitable cold galvanised paint or replace significantly damaged components.

9.10 STAYS

(a) Install taut stay wires prior to the application of the load. Stay wires are not to be tied to the stay guard (horse rail) prior to overhead mains tensioning.

(b) Recover all components and cable of the stay installation to a depth of 300 mm below ground level and return recovered material to the nominated Energex Store.

9.11 INSULATORS

(a) Clean all insulators with particular attention given to the cleaning of the underside of the sheds.

(b) Ensure insulators are not chipped or damaged.

9.12 CONDUCTORS

9.12.1 Stringing

(a) String conductors using methods that prevent damage to conductors, plant and equipment.

(b) Use tension stringing in some cases; when specified.

(c) Other methods to run out the conductors may be allowed, provided that measures acceptable to the *Energex Officer* are taken to ensure conductors will not be damaged.

(d) The *Work Group* is to endeavour to make the most efficient use of conductor to keep the number of joints and wastage to a minimum.

(e) Erect cables and conductors with suitable tools and in a manner preventing bird-caging, over tensioning of individual wires, or other deformation or damage to the conductor from occurring.

9.12.2 Sagging

Sag conductors equally to within a tolerance of ± 5% of the sags nominated on the *Work Plan*. Existing conductors are to be suitably re-tensioned to ensure even tension across all conductor spans and statutory clearances and profiles are maintained.

9.12.3 Recovery

Recovered conductor is to be returned to the nominated Energex Store onto a drum with a completed Form 1022. Other methods for recycling conductor may be approved by the *Energex Officer*.

9.12.4 Cable Drums

(a) Manage cable drums so that:

- (i) The drum axle is horizontal.
- (ii) Stored in a manner to prevent damage.
- (iii) Not dropped while being handled.
- (iv) Lifted by means of lifting equipment, for example a crane or cable jinker using a suitable drum spindle and conforming slings or chains.

(b) Returned cable drums to the Energex nominated location specified by the *Energex Officer*.

9.13 INSTALLATION OF OVERHEAD LINE SPACERS AND SPREADERS

Install overhead line spacers and spreaders in accordance with Technical Instruction,TSD0012.

9.13.1 HV Conductor Spreaders

(a) HV spreaders are to be used only on existing spans where conductor clashing has occurred.

(b) Do not fit spreaders to new lines.

(c) Fit HV conductor spreaders in accordance with the HV Live Work Manual Section 8.2.11 - Install / Remove Conductor Spreaders.

9.13.2 Low Voltage Spacers

(a) Low Voltage spacers are to be applied on an ‘opportunity basis’, when performing maintenance on open wire low voltage network or in any of the following situations:

- (i) Where there is routine continual tree-looping due to vegetation growth at the mains.
- (ii) Where there is vegetation growth above the mains and a consequential risk of branches falling onto the lines.

(iii) Where there is existing vegetation growth or likely growth through the mains and a consequential risk of mains clashing or burning down creating a safety hazard.

(iv) Where there is a difference in the sags of the individual conductors in the open wire mains and it is impractical to re-tension.

(v) Where there is a mixture of copper and aluminium conductors in the mains.

(vi) Bushfire risk areas.

(b) For spans up to 40 m, one LV spacer is to be installed in the approximate middle of the span. For spans between 40 - 80 m, two LV spacers should be installed at approximately 1/3 span intervals.

(c) Assembly and Installation:

(i) Assembly of spacers with spring clips which suit conductors up to 16 mm diameter, are first fitted to the spacer rod at the required conductor spacings whilst still on the ground. The two legs of the clip are hand sprung towards each other to enlarge the opening, slid along the spacer rod into position and released.

(ii) To install the spacers, the assembled spacer rod is laid across the conductors at the appropriate location. The non-ring leg of the spring is first hooked under the conductor, followed by the ring leg. The ring leg of the clip is large enough to place a gloved finger or a suitable standard hot stick tool through it, to allow easy installation.

9.14 EARTHING

(a) Install, test and maintain earthing system in accordance with:

(i) Overhead Construction Manual.

(ii) WCS34 – Earthing Systems.

(b) Record and provide earthing systems test results to Energex.

9.15 ELECTRICAL CONNECTIONS

(a) Install all electrical connections in accordance with the Overhead Construction Manual and or manufacturer's installation instructions.

(b) Prepare all conductors for connection by approved methods such as, scratch brushing, removal of insulation and water blocking material and the application of an appropriate grease for the various conductor types.

(c) Prior to connecting electrical equipment, ensure it is appropriately tested and electrically safe.

(d) Make all Low Voltage electrical connections in accordance with WP1202; and the manufacturer's instructions when required.

9.15.1 Insulating Piercing Connectors (IPC)

"Depth Check" (where possible) prior to termination and "Tug Test" the cable, immediately after termination of conductors into IPC (Insulation Piercing Connectors).

9.15.2 Existing Connections

(a) Visually inspect all clamps on low voltage mains and LV overhead service lines whenever a pole is ascended to undertake works. Should the connectors appear corroded, evidence of heating or the termination is unsecured, maintain the connectors ensuring serviceability or replace.

(b) Replace all claw type clamps.

9.15.3 Bridging Connections

Where required, in accordance with the WP1202; test the bridging in of new low voltage mains or reconnecting augmented sections of the LV network, to confirm correct connections and phase rotation.

9.15.4 Terminations, Joints and Repair Sleeve

Ensure that the correct fittings, and matched application tools (e.g. compression dies), are correctly sized for the conductor. Fittings are to be used only once under tension conditions.

9.16 STREET LIGHTING

Construct all overhead street lighting in accordance with:

(a) Energex Standard 00796.

(b) WCS37 – Public Lighting Installations.

9.17 ACCESSING POLES AND STRUCTURES

Prior to climbing poles, or changing the tip load > 1 kN, an evaluation is to be performed to ensure their integrity.

9.18 PRIVATE PROPERTY POLE

9.18.1 Changed Tip Load

(a) Where the work on any first private property pole involves a change in the tip load of any amount; inspection and testing is required to confirm its structural integrity. The type of inspection and testing required is the same as that for poles that are to be climbed. Examples of work that will result in a change in the tip load includes but is not limited to:

  (i) Removing / re-attaching service mains.

  (ii) Spreading or pulling conductors during conductor inspections or other work.

  (iii) Work on adjacent Energex poles that affect conductors attached to a property pole.

(b) Where the work on a private property pole will not affect the pole's tip load; undertake a visual above ground inspection. Examples of this type of work includes but is not limited to:

  (i) Working on a meter box attached to the property pole.

  (ii) Inspection of cross-arms on the property pole (e.g. by EWP) or adjacent Energex pole that will not affect the conductors attached to the property pole.

(c) If any defects are identified (e.g. leaning significantly, obviously unstable, unserviceable condition, failure imminent):

  (i) Advise the *Energex Officer*.

  (ii) Complete and submit a Form 0003 to notify the *Customer* of these defects.

(d) Record detail (e.g. photograph) of as found condition of first private property pole before any inspection and testing commences.

(e) Provide details of first private property pole on the "As Constructed" drawings submitted at completion of work.

9.18.2 Tensioning of Service Connections

(a) Carry out all tensioning or releasing of tension for cables attached to service poles at the Energex mains pole, not at the first private property pole.

(b) If it is not possible to tension a service at the Energex mains pole (e.g. Flying Fox service to a first private property pole); and the property pole is more than 12 months old (or the age cannot clearly be determined), then inspection and testing of the property pole is required. The type of inspection and testing required is the same as that for poles that are to be climbed.

9.19 SERVICE CABLES TO PROPERTY POLES

Carry out all tensioning or releasing of tension for cables attached to service poles at the Energex mains pole, not at the first property pole.

9.20 PRE-COMMISSIONING CHECKS OF ALL POLE MOUNTED PLANT

(a) Carry out pre-*Commissioning Checks* on pole mounted plant prior to lifting into final mounting position and complete Form 1175.

(b) Where a transformer is installed; ensure the wiring configuration of the transformer neutral bridge is in accordance with WP1202.

9.21 SWITCHING AND COMMISSIONING

(a) Carry out all HV and LV network access, switching, *Commissioning* of works and *Customer* notification of interruptions in accordance with WCS31.

(b) Carry out all LV network access that does not require switching, for example planned interruptions to small areas of *Customers* that does not require switching of the electricity network, and the *Customer* notification of interruptions in accordance with WCS31.

9.22 SURGES – LIMITATION OF DAMAGE

Where practical; re-energise installations or portions of installations through isolation switch devices for example, switches or circuit breakers. Links, fused or unfused, are more likely to generate surges which may cause damage to *Customer*'s electrical equipment.

10. RECORDS

For records requirements, refer to WCS133, Section 10 - Records.

11. WORK VERIFICATION

For work verification requirements, refer to WCS133, Section 11 – Work Verification.

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
Clear Business Day	This is a full *Business Day* occurring between the completion of all *Customer* notifications and the commencement of the planned interruption. In this instance, a local *Authority* public holiday is considered to be a *Business Day* should it occur on a Monday to Friday inclusive. (A Queensland state wide statutory holiday is not a *Business Day*).
EPP System	The Energex electrical partners' portal system that records work undertaken and confirms notification obligations are met for individual planned interruptions to *Customers'* electricity supply which are being managed by the Energex *Service Providers*. The system is provided externally via the Internet (web portal).
Responsible Person	An effected *Customer* (resident /tenant) over the age of 18 years.
SANS System	Energex system for the management and recording of planned interruptions to small areas of *Customers* that do not require switching of the electricity network (Small Area Non-Switched). The system is provided externally via the Internet.

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 Section 13 references and clauses below.

13.1 AVAILABLE DOCUMENTS

Make available (at all times) to Infield *Operators*, the relevant documents / forms listed in Table 3 for verifying *Service* requirements.

Table 3 – Available Documents

Document Reference	Detail / Description
Energex Work Category Specification WCS1.6	Vegetation Management Plan.
Energex Work Category Specification WCS25	Overhead Mains Electrical Construction.
Energex Work Category Specification WCS31	Commissioning, Operating and Accessing the Network.
Energex Work Category Specification WCS34	Earthing Systems.
Work Category Specification WCS133	General Standards and Conditions.
Energex Manual 00297	Network Labelling and Signage Manual.
Energex Manual 00301	Operating Practices Manual.
Energex Manual 00369	Pole Inspection Guidelines
Energex Manual 00502	Lines Defect Classification Manual.
Energex Manual 00796	JW Public Lighting Construction Manual.
Energex Standard 01037	As Constructed Drawing Standard.
Energex Document No. 4920-A4	Energex Overhead Construction Manual.
Energex Document No.10608-A4	Energex High Voltage Live Work Manual.
Energex Work Practice WP1202	Low Voltage Connections.
Energex Work Practice WP1205	Worksite Environment and Set-up.
SAHV	Queensland Electricity Entity Procedures for Safe Access to High Voltage Electrical Apparatus.
Energex Technical Instruction TSD0012	Application of Overhead Line Spacers.
Energex Form 0099	Return of Energex Property – Contractor Use Only.
Energex Form 0150	Corrective Maintenance Data Requirements - Mains Assets.
Energex Form 1022	Recovered Cable Sheet and Calculator.
Energex Form 1028	Request for Pole Collection.
Energex Form 1149	Pole Delivery Summary Sheet.
Energex Form 1175	HV Apparatus Commissioning and Maintenance Sheet.
Energex Form 2225	Advice of Call.
	Energex approved *Work Plan*, construction drawings and associated drawings and instructions. (*Worksite* specific and current amendment may be provided as part of the *Work Order*).

Document Reference	Detail / Description
	Current plans detailing existing underground essential services infrastructure in the immediate area and surrounding the *Worksite*.
	*Service Provider*s safe system of work.

13.2 RECOMMENDED DOCUMENTS

Refer below for the recommended documents that are of relevance.

13.2.1 Energex Documents

Table 4 – Energex Documents

Document Reference	Detail / Description
Energex Work Category Specification WCS1.7	Vegetation Control Near Powerlines.
Energex Work Category Specification WCS1.8	Vegetation Clearing and Associated Civil Works.
Energex Work Category Specification WCS12.3	Overhead Low Voltage Service Lines.
Energex Work Category Specification WCS25A	Assessment – Overhead Mains Electrical Construction.
Energex Work Category Specification WCS37	Public Lighting Installations.
Work Category Specification WCS61	Underground Civil Construction.
Work Category Specification WCS84	Mobile Plant Operation.
Energex Manual 00293	Commercial and Industrial Substation Manual.
Energex Manual 00302	Overhead Design Manual.
Energex Manual 00305	Underground Distribution Construction Manual.
Energex Standard 00310	Energex Environmental Management System: Environmental Standard.
Energex Standard 00576	Public Lighting - Standard Conditions for Public Lighting Services.
Energex Procedure 00891	Plan Network Switching.

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

- Australian Standard AS/NZS 1418.10:2011 - Cranes, hoists and winches - Mobile elevating work platforms.
- Other relevant Australian Standards.
- Work Health and Safety Act 2011 – Plant Code of Practice 2005.

Overhead Mains Electrical Construction

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