



Cowell Electric

"Taking Power beyond the horizon!"

Cowell Electric Supply Pty Ltd
ACN 095 517 490
ABN 15 095 517 490

Service & Technical Installation Rules

**Iron Knob
Innamincka
Pimba
Woomera
Remote Areas &
APY Lands**



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1. ABOUT THIS DOCUMENT

This document outlines the technical requirements and other relevant information for customers, contractors, electrical workers wishing to work on or connect to the Cowell Electric Electrical Distribution Systems of Iron Knob, Innamincka, Aboriginal Communities and States Sites.

This document is copyright to Cowell Electric.

The document also references copyrighted documents owned by SA Power Networks.

The document is to be read in conjunction with relevant Australian Standards including, AS/NZ3000, and AS3008. Other standards may also be applicable under a given circumstance.

These Rules incorporate the “Technical Installation Rules” referred to in regulation 76 of the Electricity (General) Regulations 2012 under the Electricity Act 1996.

In accordance with regulation 76 of the Electricity (General) Regulations 2012, the Technical Installation Rules have been prepared by Cowell Electric, and approved by the Technical Regulator.

These rules include parts which are not part of the Technical Installation Rules. The Technical Installation Rules within this document are denoted by the symbol [TIR] adjacent to the relevant clause.

2. ABOUT COWELL ELECTRIC

Cowell Electric is the sole distributor and retailer for the townships of Iron Knob, Innamincka, Pimba, Aboriginal Community and State Sites and sole distributor to the township of Woomera.

3. MANAGEMENT

The Cowell Electric Managing Director is responsible for all Cowell Electric operations.

Cowell Electric is under the direct control of:

- **Sue Chase - Managing Director**
Overall control of all Cowell Electric operations
- **Cameron Thompson – Chief Executive**
Overall control of day to day operations, budgeting, works programs, regulation and licensing, street lighting, distribution and retail operations, metering and system auditing. Control of contractors, maintenance works, works programs and meter installation, metering and installation inspection
- **Ann-Marie Wiseman – Electricity Distribution & Retail Coordinator**
Control of accounting, billing, payments, records, certificates of compliance and customer service

As a combined business, other less specific general administration and customer service is undertaken by various Cowell Electric staff and officers.

4. CONTACTING COWELL ELECTRIC

Head Office is located at the Cowell Electric Office at 78 Schumann Road, Cowell, SA 5602

Postal Address: PO Box 70 Cowell SA 5602

Phone: (08) 8629 2136

Fax: (08) 8629 2115

Email: cowellelectric@cowellelectric.com.au

Website: www.cowellelectric.com.au

5. EMERGENCY SERVICE

For power failure and faults please call the Cowell Office on 08 86292136. This number is diverted after hours to an on call officer.

6. POWER OUTAGES

Cowell Electric will notify if a pre-arranged outage is to occur.

Iron Knob - will be advertised on the Iron Knob Post Office Notice Board.

Innamincka and Pimba – the relevant Progress Association will be notified.

Woomera – Outages are co-ordinated through Defence and their contractor, Broad Spectrum.

Aboriginal Community & State Sites – Interested parties are notified via email.

Our office staff are aware of these and will advise if your outage is pre-arranged. If not, they will assess the extent of the outage and advise the Cowell Electric On-Call Manager, who will follow up the outage.

Please be aware that most Iron Knob township outages are a result of failure on the feeder line from Onesteel. Cowell Electric has no control over these outages and often cannot advise their duration until OneSteel advise us. You must allow time for them to investigate and assess the outage, and then update Cowell Electric.

7. INFORMATION AVAILABLE ON OUR WEBSITE

- Application for Supply of Electricity
- Payment Options
- Connection, Sale & Supply Contract
- Centrepay Deductions
- Electricity Distribution/ Retail License
- Electricity Tariff's and fees for Iron knob & Pimba
- Customer dispute resolution procedure

8. THE COWELL ELECTRIC POWER SYSTEM OVERVIEW

Cowell Electric is currently the licensed distributor to 6 different locations each with its own sources.

1. Iron Knob Township

The Iron Knob Township is supplied from Onesteel's 33kV powerline via a 33/3.3kV substation located on the outskirts of town.

A number of 3.3kV/433V transformers and ultimately a Low Voltage network provide the connection point for consumers.

2. Innamincka Township

The Innamincka Township is supplied from Geodynamic's Power Station via an 11kV powerline. A number of 11kV/433V transformers supply a small Low Voltage network providing the connection point for consumers. **Due to technical reasons**

Geodynamic's Power Station is not functional at the present time and this network is offline.

3. Pimba Township

The Pimba Township is supplied from the Woomera West Substation via an 11kV powerline. A number of 11kV/433V transformers supply a small Low Voltage network providing the connection point for consumers.

4. Woomera Township

The Woomera Township is supplied from the Woomera West Substation via an 11kV powerline. A number of 11kV/433V transformers supply a Low Voltage network providing the connection point for consumers.

Consumer connections are either by Overhead or Underground cables and can be either single or three phase. The supply is protected by fuses or by circuit breakers.

Cowell Electric provides the meters and meter isolation at every installation, and maintains the street lighting systems at Iron Knob and Pimba only.

5. Aboriginal Community Sites System

The Central Power House (CPH) is located approximately 2 km west of Umuwa and is the principal Power Station supplying electricity to communities across the eastern part the APY Lands. The generation system is comprised of diesel generators producing electricity and distributing the power by pole mounted overhead reticulation.

The CPH supplies Electricity communities via three 33kV Feeders:-

Feeder 1 – Umuwa, Ernabella and Kenmore Park plus a number of small homelands.

Feeder 2 – Amata, Watinuma and Officer Creek

Feeder 3 – Fregon, Mimili and Indulkana plus a number of small homelands.

The Amata community is supplied via a 100km 33kV Overhead Powerline from the CPH. It is stepped down from 33kV to 415V via a 1MVA 33kV/415V Padmount Transformer which supplies a local distribution switchboard.

There is local standby generation at the Amata Power Station. Generators are automatically controlled using a ComAp control system when there is a Distribution System failure.

The Ernabella community is supplied via a 40km 33kV Overhead Powerline from the CPH. It is stepped down from 33kV to 415V via a 1MVA 33kV/415V Padmount Transformer which supplies a local distribution switchboard.

The Fregon community is supplied via a 40km 33kV Overhead Powerline from the CPH. It is stepped down from 33kV to 415V via a 1MVA 33kV/415V Padmount Transformer which supplies a local distribution switchboard.

The Indulkana community is supplied via a 180km 33kV Overhead Powerline from the CPH. It is stepped down from 33kV to 415V via a 1MVA 33kV/415V Padmount Transformer which supplies a local distribution switchboard.

The Kenmore Park community is supplied via a 80km 33kV Overhead Powerline from the CPH. It is stepped down from 33kV to 415V via a 150kVA 33kV/11kV Pole Mounted Transformer which supplies a local 11kV distribution system.

The Mimili community is supplied via a 120km 33kV Overhead Powerline from the CPH. It is stepped down from 33kV to 415V via a 1MVA 33kV/415V Padmount Transformer which supplies a local distribution switchboard.

The Umuwa community is supplied via a 5km 33kV Overhead Powerline from the CPH. It is stepped down from 33kV to 11kV which supplies a local 11kV distribution system.

The Watinuma community is supplied via a 33kV Overhead Powerline from the CPH. It is stepped down from 33kV to 415kV which supplies a local low voltage distribution system.

The Murputja Power Station uses three diesel generators. The three generators at Murputja are automatically controlled using a ComAp control system; each individual generator is governed by a ComAp IG-CU unit, with an additional unit controlling the system as a whole. The community is supplied via an 11kV distribution system from the powerhouse.

The Nyapari community is supplied via a 4km 11kV Overhead Powerline from the Murputja powerhouse.

The Kanpi community is supplied via a 6km 11kV Overhead Powerline from the Murputja powerhouse.

The Power Station at Pipalyatjara uses three diesel generators. The three generators at Pipalyatjara are automatically controlled using a ComAp control system; each individual generator is governed by a ComAp IGCU unit, with an additional unit controlling the system as a whole. The community is supplied via an 11kV distribution system from the powerhouse.

The Kalka community is supplied via a 20km 11kV Overhead Powerline from the Pipalyatjara powerhouse.

The Oak Valley Power Station uses three diesel generators. The three generators at Oak Valley are automatically controlled using a ComAp control system. The community is supplied via an 11kV distribution system from the powerhouse.

The Power Station at Yalata uses three diesel generators. The three generators at Pipalyatjara are automatically controlled using a ComAp control system; each individual generator is governed by a ComAp IGCU unit, with an additional unit controlling the system as a whole. The community is supplied via an 11kV distribution system from the powerhouse.

6. State Sites

The Blinman Power Station utilises three diesel generating sets; two located within a shipping container onsite and a third in an acoustic canopy. The three units are controlled via a ComAp system with individual unit controllers governed by a main site controller. The community is supplied via a Low Voltage and 19kV distribution system from the powerhouse.

The distribution system at Cockburn is supplied via a single phase 22kV Overhead Powerline from Broken Hill that is owned and operated by Essential Energy. The community is supplied via a Low Voltage distribution system from the powerhouse.

Electricity at the Glendambo Power Station is generated by diesel/gas generator sets, with diesel fuel priority in place at the present time. The Power Station has three generator sets which supply the community via a Low Voltage, 11kV and 19kV distribution.

Electricity at Kingoonya Power Station is generated by three diesel generator sets. The three generator sets supply the community via Low Voltage and 19kV distribution system from the powerhouse.

Electricity at Mannahill Power Station is generated by diesel/gas generator sets, with diesel fuel priority in place at the present time. The Power Station has three generator sets which supply the community via a Low Voltage and 19kV distribution system from the powerhouse.

Electricity at Marla Power Station is generated by diesel/gas generator sets, with diesel fuel priority in place at the present time. The site has class-B gas compliance. The Power Station has three generator sets which supply the community via a Low Voltage, 11kV and 19kV distribution system from the powerhouse.

Electricity at Marree Power Station is generated by diesel/gas generator sets, with diesel fuel priority in place at the present time. The Power Station has three generator which supplies the community via a Low Voltage, 11kV and 19kV distribution system from the powerhouse.

Electricity at Nundroo Power Station is generated by three diesel generator sets. The three generator sets supply the community via a Low Voltage, 11kV and 19kV distribution system from the powerhouse.

Electricity at Oonadatta Power Station is generated by diesel/gas generator sets, with diesel fuel priority in place at the present time; the site has Type-B gas compliance. The Power Station has three generator sets which supply the community via a Low Voltage, 11kV and 19kV distribution system from the powerhouse.

Parachilna power, unlike other RAES sites, is generated via a solar/diesel hybrid power system. It includes a:

- 120 mono-crystalline panels each producing up to 175 W of electricity
- 50 kVA bi-directional inverter which interfaces with the diesel generator controls and the battery array.

The system operates automatically to displace diesel generation with solar generation when available. The inverter control system can be remotely monitored from Adelaide and provides detailed information on the generation and distribution of electricity in Parachilna.

9. ACCESS TO HIGH VOLTAGE PLANT AND EQUIPMENT [TIR]

At times, Contractors may need to access overhead lines and transformers. At times isolation may be required. No contractor is to access or operate our High Voltage equipment without:

- a. Expressed permission from Cowell Electric.
- b. Having an approved Access and Approval to Work Permit issued by Cowell Electric, and
- c. Where isolation of supply is required, an authorised system switching procedure.

Please contact Cowell Electric's Chief Executive for further details.

10. CUSTOMER AUGMENTATIONS [TIR]

Where a customer wishes to install new or additional HV Equipment, full development plans, system and plant specifications, and proposed load data must be provided by accredited engineers prior to commencement of work. All new equipment must meet our requirements, so we state all new equipment is to be approved by us before purchase. We will not be responsible if unsuitable plant is procured prior to approval.

Please contact Cowell Electric's Chief Executive for further details

11. GENERAL SERVICE AND INSTALLATION RULES

Cowell Electric uses SA Power Networks document "Service & Installation Rules" as the general basis for its own Service & Installation requirements.

In using these rules we hope to provide standardisation between other areas of the state and ourselves. Contractors will understand these same rules apply here as anywhere else. We do have some local alterations, and these are listed further down in this document.

We thank SA Power Networks for allowing us to utilise and link to their documents.

This link will take you to SA Power Networks web site and you may download a copy from that site. This will always be the latest version.

http://www.sapowernetworks.com.au/centric/industry/contractors_and_designers/service_and_installation_rules.jsp

Customers should note that Cowell Electric is an independent distributor and retailer, and not affiliated with SA Power Networks in any way.

In applying any of the rules or making enquiries in relation to issues within the Iron Knob, Pimba, Woomera Townships, Aboriginal Community Sites and States Sites,

Customers and Contractors should contact Cowell Electric and not SA Power Networks, using the contact details herein.

12. COWELL ELECTRIC SPECIFIC SERVICE REQUIREMENTS FOR SINGLE AND THREE PHASE INSTALLATIONS

Cowell Electric does have some specific requirements that vary slightly from the SA Power Networks requirements.

The following information contains Cowell Electric's general requirements for consumer's mains and temporary supply and permanent supply information. SA Power Networks Service and Installation Rules also apply, (copies are available from SA Power Networks web site.) except where varied in the items below. Where there is a contradiction, then the Cowell Electric Rules prevail.

13. GENERAL REQUIREMENTS

1. A Certificate of Compliance is to be supplied by the Contractor for installation of temporary supply services and permanent services. If for a temporary supply, e.g. primarily required for the builder prior to the completion of the main house wiring, then a further Certificate of Compliance is required when the house wiring is completed. [TIR]
2. Certificates of Compliance – Supply Authority Copy of COC's are to be presented to Cowell Electric. Documents must be completed fully prior to submission. Documents must be legible and readable. [TIR]
3. A completed Application of Supply (form available from the Cowell Electric) is required before Cowell Electric will connect the supply and fit meters. The OWNER must complete the form.
4. Consumer's mains are to be laid at a depth of 600mm. Electrical trench tape is to be installed 100mm above the service conduit. Other services may be laid in same trench to the respective services specifications. [TIR]
5. Location of the meter box is to comply with SA Power Networks Service and Installation Rules. Copies are available from SA Power Networks web site. **The Owner is to ensure that access to the meter box is not restricted by fences, gates or other obstacles and that the specified clearances are maintained as per the above regulations.**
6. Cowell Electric will connect the Consumers Mains at both ends and supply the power meters.
7. Please advise Cowell Electric of your supply requirements, single or three phases, as soon as possible. Meters and switchgear may need to be ordered.
8. Every Installation with max demand calculation under 80A shall have dedicated 80A Main switch, irrespective of the number of circuit breakers in the distribution board. [TIR]
9. Large 3 Phase Installations (above 100A per phase max demand) shall have an approved suitably sized main switch and a fault current rated and tested switchboard / meter panel. See Cowell Electric for fault current levels. [TIR]

10. It is the responsibility of the consumer to check if they are on the correct tariffs. Check at the Cowell Electric Office for confirmation of available tariffs. Note tariffs names, uses and rates are similar to those used by AGL and other retailers.
11. Cowell Electric will not charge for actual connections of new consumer mains or the fitting of meters to new houses UNLESS;
 - a. There is a requirement by the customer for a 3 phase supply; in such case Cowell Electric will charge a fee of \$450.00 for providing the larger meter and switchgear.
 - b. A calculated maximum demand is required for use in our calculations of system supply suitability to these developments.
 - c. Community Title and Strata Title Developments shall have all metering at a common single point, this can be arranged at a freestanding meter box, or a meter box fixed to one of the dwellings.
12. Cowell Electric will normally only provide one meter at a commercial installation. It is the developer's responsibility to provide any additional metering to any tenants. Cowell Electric will not read and bill metering for tenants in any commercial situation.
13. Cowell Electric can supply a single phase temporary supply for builders. The cost of the rental contract will be \$250.00 for the first 3 months or part thereof. A bond of \$100.00 will also apply. The cost includes installation and removal. Consumption will be charged at Cowell Electric's current standard commercial rate. The contract may be extended at a fee of \$20.00 Month thereafter. The builder will be responsible for ensuring no undue damage is inflicted upon the temporary supply box; damages will be charged out of the bond. Cowell Electric will also deduct any additional usage fees from the bond (eg. additional power and extended monthly rentals). Cowell Electric will remove the supply at the end of 3 months unless the builder makes notification that an extension of use is required.
14. An application for the installation of a Cowell Electric Temporary Supply is available from the Cowell Electric Office.
15. Cowell Electric will allow temporary supply to be installed at the building provided the meter box is installed in its final position on the buildings actual framework. Typically an RCD/MCB and 1 or 2 Din outlets are installed. (Power will be charged at standard commercial rates). A 20Amp Meter isolator will be installed and will be upgraded to full service size ONLY when the installing electrician provides a COC for the completion of the general house/installation wiring. [TIR]
16. Cowell Electric accepts Solar Power Supplies connected to its distribution network. The maximum Solar System size allowable on any installation is 10 kW. For systems above this size specific approval will be required. No solar credits are available; however electricity generated from solar systems that feeds into the grid will reduce the customers consumption by the number of kWh's feed into the grid.
17. Only accredited installers may install Solar Systems. Installers shall provide proof of current accreditation before installing Solar Systems.

18. Solar Power System installers must provide the technical specification of the system to be installed including, make, model and size of the inverter, the make, model, size and quantity of panels to be installed. A COC is required before Cowell Electric allow connection of the Solar System. All systems are to be installed to AS 4777 (all parts) and other applicable standards. [TIR]
19. The owner of the installation where a Solar System is to be installed must apply to Cowell Electric for a new Solar Power connection. An Application for Supply form is available from the Cowell Electric office or from our website.
20. A BOND is payable for new connections. Check with Cowell Electric to see if the bond will apply to your installation.

14. REVISIONS

These Rules apply from 26th April 2013 and will be reviewed periodically.

Revision 1.0 April 2013. - Inaugural Release.

Revision 1.1 May 2013

Revision 1.2 December 2014

Revision 1.3 October 2016