Operational Instruction

Energy Management for Electrical Assets
AMENDMENT RECORD

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Manager, Traffic and Access Standards Section
18 / 12 / 2013

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For information regarding the interpretation of this document please contact:
Statewide Traffic Engineering and Emergency Management
Telephone: (08) 8343 2168

For additional copies or to confirm the current status of this document please contact:
Traffic and Access Standards Section, Department of Planning, Transport and Infrastructure
Telephone: (08) 8343 2849
Email: david.widdrington@sa.gov.au
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1. Scope

This document has been prepared to assist the Department of Planning, Transport and Infrastructure (DPTI) employees who are working on Electrical Assets, to apply for service points and energy correctly.

2. Background

Some of the Traffic Signal and Intelligent Transport Systems (ITS) assets are installed without their own service points. Their energy supplies are taken from existing traffic signal controllers and road lighting switch boards. The energy consumption for these and other standalone electrical infrastructure is not always correctly reflected in the Register of Intelligent Transport Systems (RITS) database for billing each month. This has resulted in incorrect consumption of energy being recorded.

This may be due to:

- Attachment of additional electrical assets such as red light cameras, point to point cameras, variable message signs, pan tilt zoom cameras etc.

- Unauthorised connections to traffic signal and road lighting facilities (assets).

- Not updating electrical load tables in RITS to reflect actual usage rates.

DPTI send a load table to SA Power Networks (SAPN) on a monthly basis that should reflect actual agreed consumption.

3. Service Connections

The following service connections generally apply.

3.1 Traffic Signals

Traffic signals shall have an unmetered supply and be recorded on the RITS load table ready for billing.

3.2 Road Lighting

Road Lighting will be an unmetered supply, registered through a tariff letter to SAPN and recorded on the Electrical Assets Road Lighting System (EARLS) database for load recording as agreed in a tariff letter to SAPN.

This may not apply where new technology has been used and a tariff does not exist on the Australian Energy Marker Operator (AEMO) energy load table. In this case, an energy only tariff may be decided on, but formal agreement must come from SAPN.
3.3 Intelligent Transport Systems

ITS will be metered unless otherwise agreed by a departmental representative.

3.4 Other Equipment

Any equipment to be attached to unmetered supplies should be on the AEMO load table. Consultation should be carried out with SAPN to see if they are going to put it on their Network Tariff and Negotiated Service load table. If they decide they will not allow an unmetered supply, then a metered supply is the second option.

4. Completing an Application Form for a Basic Metered Supply Point

An example of a correct application form for a Service Point/Power Supply is shown in Appendix A.

Section 1: Installation Details
Location details of where the New Electricity Supply is to be installed.

Section 2: Customer Details
Departmental details including DPTI contact person details.

Section 3: Electrician
Normally, the electrician should fill in the application for a 'New Service Point'. Electrician details, including and most importantly, their license number go here.

Section 4: Load Details

Section 5: Service
The ‘New or Upgraded Service’ should be entered into Section 5, with the number of phases required. This information is obtained from the road lighting plan drawings under ‘Circuit Details’.

The ‘Service Type’ has to be indicated in Section 5. This may be an over to under (stobie pole mounted fuse box), a fused or an unfused SAPN pit. This will be indicated on the plan drawing at service point XXX.

Section 6: Metering
Section 6 shows the ‘Types of Metering’. In the case of a Basic Metered Supply Point, it should be reflect the following:

- Type of Metering: Basic (Type 6)
- Meter Sub Types: 2 Rate or 2R

This needs to be accurately completed as it affects the off peak charge rate. By filling this incorrectly, DPTI incurs additional charges.

In the case of a Basic Metered Supply Point, the meter required is dependent on the number of phases shown on the drawing circuit detail. The last section of Section 6 is straight forward.
5. Filling an Application Form for an Unmetered Supply Point (New)

An example of a correct application form for an Unmetered Supply Point (New) is shown in Appendix B.

Most of the form is similar to the above, however:

Section 6: Metering
Section 6 shows the ‘Types of Metering’. In the case of an Unmetered Supply Point (New), it should be reflect the following:

- Type of Metering: Un Metered (Type 7)
- Meter Sub Types: Blank

If in doubt contact the Unit Manager Electrical Assets Section (EAS).

6. Tariffs and Tariff Letters

With a ‘Type 7 Unmetered Supply Point’ for road lighting, tariff letters are required as per the service connections above. Refer to Appendix C, D and E.

The first sample of the tariff is the request from DPTI (Appendix C). The second is the answer from SAPN with the tariff and customer charges if applicable (Appendix D) and the third is the acceptance for the costs from DPTI (Appendix E).

Tariffs for luminaries are paid for the whole of life of the luminaire by the EAS monthly, not paid for upfront. Brackets that hold the luminaire and other customer charges are paid for up front as part of the project. Refer to SAPN ‘Network Tariff and Negotiated Services’ website released on 1 July each year. http://www.sapowernetworks.com.au/centric/industry/our_network/network_tariffs.jsp
Appendix A  Service Point/Power Supply Application Form

Form A: Please send this form to your retailer

NOTE: SA Power Networks fees may apply for connection work requested
Visit the Negotiating Framework page at www.sapowernetworks.com.au

New Electricity Supply ☒ Alteration of Service / Meter ☐
PV Metering Installation ☐ Abolishment of Electricity Supply ☐ Public/CLER Lighting (Connect Only) ☐

Installation Type:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Lot</th>
<th>St. No.</th>
<th>Rural</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Domestic</th>
<th>Temp Supply</th>
</tr>
</thead>
</table>

Street Name

Transformer No.

Feeder No.

Nominated Retailer

Meter Number (if existing installation)

Section Number

National Market Identifier (MMI Number if known)

Customer signature:

By signing this application, you agree to be bound by the
Connection and Supply Contract, as last published in the
South Australian Gazette (subject to alterations)

Customer Service Telephone

GPO BOX 1533

Email Address

carol.marston@sa.gov.au

Mobile Telephone

29/11/2012

Date of application

The following sections must be completed for New Electricity Supply and Alteration of Service/Meter applications

Section 3: Electrical

<table>
<thead>
<tr>
<th>Electrical Contractors Licence Number</th>
<th>Contact Name</th>
<th>Electrician's Business Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGE 245806</td>
<td>Michael Villes</td>
<td>Mailand Contracting Electrical Services</td>
</tr>
</tbody>
</table>

Business Hours Telephone

(08) 8290 1707

Mobile Telephone

0409 088 444

Email Address

michael@mailandcontracting.com.au

Note: A mobile telephone number and/or email address must be provided.

Off-Peak Loads:

1. Off Peak KW
2. Space heating
3. Underfloor heating
4. Other (see comments)

Maximum Demand of Installation in accordance with Australian Standard AS/NZS 3000

20 AMPS Per Phase

New or Upgraded Service? Yes ☒ No ☐ Part of a Community/Strata Installation? Yes ☐ No ☒

Service Phasing

1. ☒ 2. ☒ 3. ☒

New or Upgraded Meter(s)? Yes ☒ No ☐ Use Existing Meter(s) Yes ☐ No ☒

Type of Metering:

1. Basic (Type 6) ☒ Interval (Type 5) ☐ Interval (Type 1-4) ☐ Un Metrized (Type 7) ☐

Meter Sub Type(s): Import/Export 2 Rate ☐ Off Peak ☐ Current Transformer ☐

PV SEG Approval Reference No.

Is SA Power Networks the meter provider? Yes ☒ No ☐ Name of meter provider:

Is the meter position to be altered? Yes ☐ No ☐

Are customer mains being replaced? Yes ☒ No ☒

If SA Power Networks has done prior work to supply a connection point, please provide job number:

Comments

This is the application for the metered supply for the ITS on Beach Road as part of the Duplications of the Southern Expressway Project

SA Power Networks, ABN 12 382 319 790, a partnership of Spark Infrastructure SA (No. 1) Pty Ltd ABN 54 921 342 280, Spark Infrastructure SA (No. 2) Pty Ltd ABN 17 075 143 010, Spark Infrastructure SA (No. 3) Pty Ltd ABN 54 921 142 392, each incorporated in Australia, and Utilities Development Ltd ABN 65 050 718 880, PVI Utilities Development Ltd ABN 52 410 718 935, each incorporated in the Bahamas.

Form Effective: 02/10/2012 Version 19
Appendix B  Unmetered Supply Point Application Form

Form A: Please send this form to your retailer

NOTE: SA Power Networks fees may apply for connection work requested
Visit the Negotiating Framework page at www.sapowernetworks.com.au

New Electricity Supply ☐  Alteration of Service / Meter ☐
PV Metering Installation ☐  Abolishment of Electricity Supply ☐  Public/CLER Lighting (Connect Only) ☐

Installation Type:  Rural ☐  Commercial ☐  Industrial ☐  Domestic ☐  Temp Supply ☐
Unit:  Lot ☐  St. No. ☐
Street Name:  Beach Road
Suburb / Town:  Noarlunga Centre
Postcode:  5168

If installation is in a fringe or rural area, please also describe location by ➔
Mammal Retailer:  AGL
Transformer No. ➔
Feeder No. ➔
Section Number:  Hundred of

Customer Details
Surname: ➔
Given Name: ➔
Business Name:  Department of Planning, Transport, and Infrastructure
ABN No.:  02 368 288 135
Postal address for customer correspondence (if different to installation address in Section 1 above):
Unit:  St. No. ➔
Street Name / P.O. Box:  GPO BOX 1533
Suburb / Town:  Adelaide
Postcode:  5001
Business Hours Telephone:  (08) 8282 8224
Email Address:  carol.marston@sa.gov.au
Mobile Telephone: ➔

Date of application:  29 / 11 / 2012
Customer signature: ➔

The following sections must be completed for New Electricity Supply and Alteration of Service/Meter applications ➔

Section 2: Contractors Details
Electrical Contractors Licence Number:  PGE 2450805
Contact Name:  Michael Villics
Electrician's Business Name:  Maitland Contracting Electrical Services
Business Hours Telephone:  (08) 8280 7007
Mobile Telephone:  0409 088 444
Email Address:  michael@maitlandcontracting.com.au

Note: A mobile telephone number and/or email address must be provided.

Section 4: Electrical Details
Please list fixed appliances of 2.5kW or greater (e.g. motors, air conditioners, EV chargers) ➔
kWs

Maximum Demand of installation in accordance with Australian Standard AS/NZS 3000 ➔

Section 5: Service Details
New or Upgraded Service?  Yes ☒ No ☐ Part of a Community/Strata installation?  Yes ☒ No ☐
Service Phasing:  ☐ 1 ☐ 2 ☐ 3 ☒
Service Types:  Overhead ☐ Over/Under ☐ Fused Pit ☐ Unfused Pit ☐ Pole Top Transformer ☐ Ground Level Transformer ☐

New or Upgraded Meter(s)?  Yes ☒ No ☐ Use Existing Meter(s)?  Yes ☒ No ☐
Meter Phasing:  ☐ 1 ☐ 2 ☐ 3 ☒
Type of Metering:  Basic (Type 6) ☐ Interval (Type 5) ☐ Interval (Type 1-4) ☐ Un Metered (Type 7) ☒

Other: ➔

If SA Power Networks is the meter provider?  Yes ☒ No ☐ Name of meter provider: ➔
Is the meter position to be altered?  Yes ☒ No ☐
Are consumer mains being replaced?  Yes ☒ No ☐

Comments:
This is the application for the unmetered supply for the Street Lighting and Traffic Signals at Beach Road as part of the Duplication of the Southern Expressway Project. This is to be done in conjunction with the new supply connection for the ITS switchboard in the same location.

SA Power Networks, ABN 55 392 389 249, a partnership of Spark Infrastructure SA (No. 1) Pty Ltd ABN 59 392 389 249, Spark Infrastructure SA (No. 2) Pty Ltd ABN 10 695 149 638, Spark Infrastructure SA (No. 3) Pty Ltd ABN 59 368 142 362, each incorporated in Australia, CML Utilities Development Ltd ABN 65 090 738 096, P E Utilities Development Ltd ABN 82 990 718 959, each incorporated in New Zealand.

Form Effective: 20/03/2013 Version 15
Appendix C  Example Request Tariff Letter

In reply please quote 2008/06963/02
Enquiries to Rick Burt
Telephone 8226 8249

Mr Ron Ritzau
SA Power Networks
CAMS
Public Lighting
GPO Box 77
ADELAIDE SA 5001

Dear Mr Ritzau,

PUBLIC LIGHTING – DUKE HIGHWAY KEITH

The Department of Planning, Transport & Infrastructure (DPTI) advises that new lighting for the above project is to be installed shortly.

Please provide tariffs as per drawing no 5104 sheet 53 for approval by the department and inclusion into your Public Lighting billing database.

Any customer charges to include all installation and trenching costs.

We are looking at having the lighting installed by May 2013.

Should you require any further information, please contact Mr Rick Burt direct on telephone 8226 8249.

Yours sincerely,

Barry Speck
Manager, Electrical Assets

4 March 2013
Appendix D  Example Response Tariff Letter

20th March 2013

The Department of Planning Transport and Infrastructure
Attn: Mr Barry Speck
GPO Box 1533
ADELAIDE SA 5001

Dear Mr Axon

PUBLIC LIGHTING
Dukes Highway Keith
Reference No 10068138
Tariffs Only

I refer to the correspondence dated 20th March 2013, regarding the public lighting works at the above-mentioned location.

We are pleased to make this offer to The Department of Planning Transport and Infrastructure (Customer) to supply certain public lighting work on and subject to this letter.

* Install 1 x 250W High Pressure Sodium Luminaire CLEI

TARIFF AGREEMENT

This proposal will result in an overall increase to The Department of Planning Transport and Infrastructure’s SLUoS (Street Light Use of System) tariff of $27.10 per annum (excluding GST) with an increase of one light, as shown on the following table:

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Tariff</th>
<th>No.</th>
<th>Charge pa</th>
<th>Total pa</th>
</tr>
</thead>
<tbody>
<tr>
<td>250W HPS</td>
<td>CLEI</td>
<td>1</td>
<td>$27.10</td>
<td>$27.10</td>
</tr>
</tbody>
</table>

TOTAL 1 increase $27.10 increase

For details of the energy component of your lighting tariff, please contact your retailer.

The CLEI tariff indicated above applies where the Public Lighting system is installed and owned by the customer, or where the customer uses luminaries and lighting columns other than standard SA Power Networks equipment. SA Power Networks will provide only the service point, distribution of electric energy and lamp replacements. All other maintenance is the responsibility of the customer, including lamp replacements for any luminaries, which are inaccessible to SA Power Networks vehicles. Where non-standard lamps are selected, replacements must be provided by the customer.

Our proposal is based on drawing 5104 Sheet 53.
Appendix E  Example Acceptance Tariff Letter

In reply please quote 2008/06963/02
Enquiries to Rick Burt
Telephone: 8229 9249

Mr Ron Ritzau
Team Leader – Public Lighting
SA Power Networks
GPO Box 77
ADELAIDE SA 5001

Dear Mr Ritzau

PUBLIC LIGHTING: DUDES HIGHWAY KEITH
REFERENCE NO: 100681332

I refer to your correspondence dated 20 March 2013 in relation to the lighting upgrade at the above location as per drawing 5104 sheet 53.

The Department of Planning, Transport & Infrastructure (DPTI) is pleased to accept your proposal and the tariff increase of ($27.10 per annum) to our Public Lighting Account.

Please advise Mr Rick Burt of the expected installation date of this project.

Yours sincerely,

Barry Speck
Manager, Electrical Assets

21 March 2013