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ETHEKWINI MUNICIPALITY

Trading Services
Electricity Unit

GUIDELINES: APPLICATION FOR CONNECTION OF EMBEDDED GENERATION

The purpose of this document is to provide a guideline for completing the “APPLICATION FOR CONNECTION OF EMBEDDED GENERATION”

The application form consists of 8 sections categorized into 3 parts as follows:

- Part A: Particulars of Owner and Site Details
- Part B: Connection / Embedded Generation Details
- Part C: Compliance / Signature and Approval

The application form must be completed in the electronic pdf version. No hand written application forms will be accepted. You may however provide a neat hand drawn sketch for the single line diagram required in section 6.

Please complete the form in **BLOCK LETTERS** and ensure that all fields are completed. Where a field is irrelevant, mark that field as “not applicable” or “n/a”. Do not leave blank.

Where a block has to be marked, you may use a “tick” (✓) against your relevant option.

Once the form has been completed, print out and obtain the relevant signatures. You may then scan and email the document together with the relevant supporting documents. All documents should be in pdf format.



APPLICATION FOR THE CONNECTION OF EMBEDDED GENERATION RESIDENTIAL SMALL SCALE

REFERENCE NUMBER : E

Note: This reference number will be generated once your application has been captured



The Reference "E" number will be generated once your application has been captured. Leave this field blank when you are populating the application form. Upon successful capturing of the form, the customer service consultant will provide you with the relevant "E" number. This will be provided to you either via SMS or email.

You should receive your "E" within 1 to 7 days after lodging your COMPLETED application. This will be dependent on the current workload of the department.

PART A – SECTION 1 & 2

1. OWNER DETAILS

Title	First Name	Surname	ID Number
Physical Address		Landline	
Postal Address		Cellphone	
Email Address		Fax No.	

2. SITE DETAILS

Floor No.	Unit No.	Street No.	Lot No.	ERF Number / Property Key
Street Name			Post Code	
Suburb		Town		
GPS Co-ordinates Latitude:		GPS Co-ordinates Longitude:	Rates Account Number	

Use decimal degree format e.g. Latitude: -29.847538, Longitude: 31.025368

Page 1

Section 1 requires the basic details of the owner of the property. Ensure that all the information is completed. Please double check contact details as this will be the channel of communication regarding your application.

Section 2 requires the details of the site. "Site" refers to the property concerned for this particular application. Ensure that all the information is completed so that the property is easily identified on our system.

PART A – SECTION 3

3. APPLICATION DETAILS

Indicate in this section, the purpose of this application

Preferred Meter Type

Bi-Directional



This will allow for the metering of power in the forward and reverse direction

Existing Meter Number to be replaced

Embedded Generation

Embedded Generation



This indicates that your generation system will be synchronised with the grid

Preferred Tariff Type

Scale 15



This will allow for the off-set of power in line with the tariff terms and conditions

Existing Account Number

Note : Your account number will not change as a result of this tariff change

Existing Connection Number

Note : This can be found on your electricity account

Section 3 is where you apply for the services required. A mark in the appropriate block confirms your application for that particular service.

The existing meter number can be obtained from your electricity account or can be read off from your meter onsite.

Your account number and your existing connection number can be found on your electricity account.

PART B– SECTION 4

PART B - CONNECTION / EMBEDDED GENERATION DETAILS

4. CONNECTION DETAILS

Provide the information regarding your existing and proposed connection requirements

DETAILS OF MAIN SWITCH

	Voltage	Current	Fault Rating	Protective Device
Existing Entire Site	v	A	kA	
Proposed Entire Site	v	A	kA	
Existing For this application	v	A	kA	
Proposed for this application	v	A	kA	

This section requires some technical information regarding your main switch. This application is for the connection of your generator to the grid, a bidirectional meter and a tariff change to Scale 15 so there will be no changes to this section. Provide the information as per your existing connection onsite. You may include information of any additional protective devices that will be connected as a result of your generation system.

** We recommend an electrician assist in populating this information.

PART B– SECTION 5

5. EMBEDDED GENERATION

Embedded Generation Details ◀ Note: Maximum generation capacity of 4.6 kVA single phase and 13.8 kVA three phase is allowed for residential connections (solar, wind, gas etc)

Does the premises have existing embedded generation? Yes No ▶ If yes Rated Output kW Type: _____

Are you upgrading an existing or installing a new embedded generating unit? Upgrade New Installation

Type of Generation Solar PV Wind Hydro Other Specify _____

Generation Location Rooftop Carport Outdoor yard Other Specify _____

Size of Proposed Generation (kVA) Power Factor of operation

Number of Inverter / generator Units

Is the Inverter or generator single or three phase Single Three

Number of PV Panels Power rating per panel (W)

Number of Battery Units Power rating per unit (Ah)

Energy Generation Details
▶ Provide estimate values per annum

Indicate total kWh's expected to be generated kWh

Indicate total kWh's to be self consumed kWh

Indicate total kWh's to be exported to the grid kWh

This information is specific to your SSEG. Populate this section based on your design. When populating the energy generating details, ensure that the information is formatted and calculated on a per annum basis.

Embedded Generation Details / Datasheets Information Required ◀ Type information in the space provided below. Reference the relevant standards where necessary

Information Required	Typical information that should be provided
Method of synchronizing	Auto / Manual, Make and type of relay etc..
Method of anti-islanding	Details of scheme, relays to be used etc
Protection Details	O/C,E/F, over/under voltage, over/under frequency
Point of common coupling and method of isolation	Show proposed point of coupling, isolating and interfacing devices with eThekwini Electricity electrical network, protection, consumer network, operating characteristic, earthing arrangement, etc
Provide method of isolation in the event of fire	Detail of fireman switch, protection, point of isolation
Provide orientation and inclination for rooftop PV installation	eg. 30° North Facing

Type the relevant information in the grey block on the right hand side of the page. Keep answers brief and to the point, ensuring that the relevant information has been captured.

Typical information required:

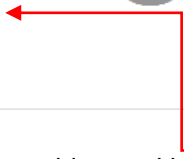
Data Request	Typical Information required
<i>Method of synchronizing</i>	Auto / Manual, Make and type of relay etc.
<i>Method of anti-islanding</i>	Details of scheme, relays to be used etc.
<i>Protection Details</i>	O/C,E/F, over/under voltage, over/under frequency
<i>Point of common coupling and method of isolation</i>	Show proposed point of coupling, isolating and interfacing devices with eThekwini Electricity electrical network, protection, consumer network, operating characteristic, earthing arrangement, etc.
<i>Provide method of isolation in the event of fire</i>	Detail of fireman switch, protection, point of isolation
<i>Provide orientation and inclination for rooftop PV installation</i>	e.g. 30° North Facing Panels

PART B– SECTION 6

6. SINGLE LINE DIAGRAM

Include a single line diagram of the installation and connection to the municipal grid. Clearly show any protective devices between the generation system and the grid. Clearly show the meter connection and the meter number regarding this application. Ensure hand drawn sketches are neat and legible.

Page 2



Exercise your hand drawing skills and provide us with a single line diagram from the inverter to the point of connection to the grid. Include all protection devices as well as the meter and meter number of the connection in the drawing. Be mindful of the size of the drawing and the space available.

PART C– SECTION 7

PART C - COMPLIANCE / SIGNATURE AND APPROVAL

7. COMPLIANCE

Area of compliance

- Is the embedded generation system designed to comply with the South African Renewable Energy Grid Code
- Is the embedded generation system designed to comply to the relevant sections within NRS 097
- Is the embedded generation system designed to comply to the relevant sections within NRS 048

Complied		Certificate Attached	
Yes	No	Yes	No
Yes	No	Yes	No
Yes	No	Yes	No

It is mandatory for the embedded generation system to comply to respective parts of the above mentioned specifications. Non-Compliance to any of the above will result in the non-approval of this application. Attached the necessary certification where applicable.

This section deals with compliance of your proposed SSEG system. Indicate in this section if the SSEG system complies with the relevant standards. It is mandatory to attach a certificate issued by a third party laboratory confirming compliance to the relevant standards.

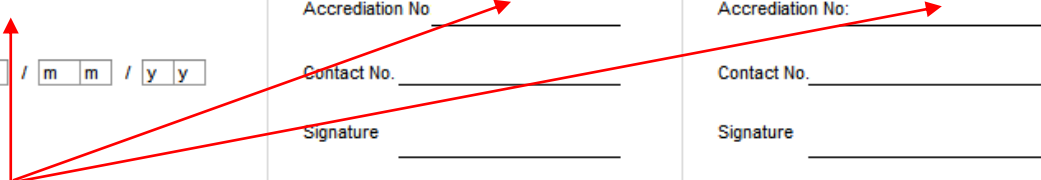
Note: Your application will not be processed if a certificate / test report proving compliance to NRS 097-2-1 is not attached.

PART C– SECTION 8

8. SIGNATURE AND APPROVAL

This is to confirm that the information contained in this application is true and correct. We understand our respective roles and responsibilities in terms of connecting such generation to the grid. We confirm that we are familiar with the relevant regulatory, technical and safety aspects thereof.

Owner Name / Surname _____	Installer Name / Surname _____	Engineer Name / Surname _____
Signature _____	Accrediation: _____	Accrediation: <u>Engineering Council of South Africa (ECSA)</u>
Date <input type="text" value="d"/> <input type="text" value="d"/> / <input type="text" value="m"/> <input type="text" value="m"/> / <input type="text" value="y"/> <input type="text" value="y"/>	Accrediation No. _____	Accrediation No: _____
	Contact No. _____	Contact No. _____
	Signature _____	Signature _____
	Date <input type="text" value="d"/> <input type="text" value="d"/> / <input type="text" value="m"/> <input type="text" value="m"/> / <input type="text" value="y"/> <input type="text" value="y"/>	Da <input type="text" value="d"/> <input type="text" value="d"/> / <input type="text" value="m"/> <input type="text" value="m"/> / <input type="text" value="y"/> <input type="text" value="y"/>



This section must be signed by the Owner, Installer and the Engineer. Ensure all fields are completed and signed. This form will not be processed unless all information is provided and correctly signed off.