

APPLICATION FOR INVERTER BASED GRID TIED PV INSTALLATION

PAGE 1

Return Completed Form To:

Energy Management Department
City Power Johannesburg
P O Box 38766
Booyens

Telephone : (011) 490-7687
Facsimile : (011) 490-3727
distributedgeneration@citypower.co.za

T/ship Name

ERF No

Notification no

Account No

BP no

Premise

**Applicant
Contact & Personal details**

Name	<input type="text"/>
------	----------------------

Telephone Number	<input type="text"/>
------------------	----------------------

Facsimile Number	<input type="text"/>
------------------	----------------------

E-Mail	<input type="text"/>
--------	----------------------

**Property/Account Owner
Contact & Personal details:**

Name	<input type="text"/>
------	----------------------

Telephone Number	<input type="text"/>
------------------	----------------------

Facsimile Number	<input type="text"/>
------------------	----------------------

E-Mail	<input type="text"/>
--------	----------------------

**Rating and capacity
Service connection:**
Tick appropriate box

Less than 17kVA single phase 60/80A	<input type="checkbox"/>
-------------------------------------	--------------------------

Less than 55kVA three phase 60/80A	<input type="checkbox"/>
------------------------------------	--------------------------

Less than 100kVA but three phase 150A connection	<input type="checkbox"/>
--	--------------------------

Greater than 100kVA and less than 1000kVA Specify circuit breaker rating (A) _____	<input type="checkbox"/>
---	--------------------------

Land Type

Residential	<input type="checkbox"/>
Business	<input type="checkbox"/>
Commercial/Industrial	<input type="checkbox"/>

APPLICATION FOR INVERTER BASED GRID TIED PV INSTALLATION

PAGE 2

Site Plan

Address	
GPS coordinates	
For Business/Commercial/Industrial only (show detailed site plan/layout with equipment and grid connection locations)	

Total Capacity of PV (kVA and PF)

--

Grid Connected Mode of PV:

Tick appropriate box

Energy from PV to be used solely within a consumer's electricity network and no excess power to be exported to City Power's Electricity distribution network at any time	
--	--

Energy from PV to be used within a consumer's electricity network and excess power to be exported to City Power's Electricity distribution network	
---	--

Energy from PV to be used solely for exporting to City Power's Electricity distribution network	
--	--

Any of the above with Energy Storage	
--------------------------------------	--

Planned Construction Schedule

Projected Construction Start date	
Projected in-service date of PV installation	

Type of Energy Storage (if any)

Battery, UPS etc.
(Details to be attached)

--

APPLICATION FOR INVERTER BASED GRID TIED PV INSTALLATION

PAGE 3

Inverter Type:

Manufacturer	
Model	
Phase (Single / Three)	
Number of inverters	
Inverter Rating	

Inverter Size and Connection details

Tick appropriate box

Inverter less than 4kVA single phase 60/80A connection	
Inverter less than 15kVA three phase 60/80A connection	
Inverter greater than 15kVA but less than 100kVA three phase connection	
Inverter greater than 100kVA but less than 950kVA three phase connection	
Any other (Please specify)	

New or additional Generation

(Specify details if existing Generation exist)

Any existing generation at site	Yes/No	
Existing Generation (Specify details)		

PV panel details:

Manufacturer	
Type	
Number of panels	
Power output per panel	
Output voltage	
String output	

Preliminary Design
(to be attached)

Design overview and documentation including but not limited to Single Line Diagram, major components, proposed point of common coupling, isolating and interfacing devices, with City Power's electrical network, inverter type test certificates (as applicable), protection schemes, consumer network, metering arrangement and operating Characteristics.

Earthing arrangements .i.e. TN-C-S	
------------------------------------	--

Network Connection Point:

Isolation point to be used to Connect/disconnect embedded generation from the distribution network. **Show in Single Line diagram**

--

Electrical Protection Details:

(Attach details as Applicable)

Method of grid synchronization:
(Auto/Manual, make and Type of relay etc)

--

Method of anti-islanding:
(Details of scheme, relays to be used etc)

--

Any other protection to be applied
(O/C,E/F, over/under Voltage over/under frequency, reverse power, back-up impedance, generator transformer back-up earth fault, HV breaker fail, HV breaker pole disagreement etc.)

--

APPLICATION FOR INVERTER BASED GRID TIED PV INSTALLATION

PAGE 5

**Current Average Monthly
Energy Consumption:**

WINTER

kWh

SUMMER

kWh

**Proposed Total Monthly
Energy Generation:**

TOTAL (Own plus Export)

kWh

EXPORT

kWh

Proposed / Expected Export
(kWh as per day and time of use)

Weekday	
Saturday	
Sunday	

Attachments

(Tick appropriate box or mark not applicable)

Inverter Type Test Certificate	
Single Line Diagram	
Design / Drawings	
Site Plan/Layout	
Energy storage component details (if any)	

Other attachments
(Please specify)

Supplier / Installer Details

Installing Company	
Responsible Person	
Accreditation / Qualification	
ECSA Professional Registration Category and Reg No.	
Address	
Telephone no (office)	
Telephone no (mobile)	
Facsimile	
Email	

Compliance to Regulatory Approvals and Normative references:

(Tick appropriate box or mark not applicable)

Electricity Regulation Act, Act 4 of 2006 and Electricity Regulation Amendment Act, Act 28 of 2007	
Occupational Health & Safety Act, No. 85 of 1993 as amended	
South African Distribution Code (all parts)	
South African Grid Code (all parts) for Embedded Generation	
South African Renewable Power Plants Grid Code	
Municipality Electricity Supply By-Law	
SANS 10142 – Parts 1 to 3: The wiring of premises (as amended and published)	
NRS 048: Electricity Supply – Quality of Supply	
NRS 097-1: Code of Practice for the interconnection of embedded generation to electricity distribution networks: Part 1 MV and HV	
NRS 097-2: Grid interconnection of embedded generation: Part 2: Small scale embedded generation	

I hereby declare that all the information contained in this application is true and correct.

APPLICANT:

Signature

Responsible Person

ECSA Category

ECSA Registration No.

Date

PROPERTY OWNER:

Signed

Date

DECLARATION FORM

The applicant hereby acknowledges

The applicant shall be liable to pay any network study charges and/or once-off connection charges (as incurred by City Power)		
The regulator's (NERSA) determinations with regards to tariffs are binding on all parties that use the distribution network for supply, load balancing and Grid back-up.		
City Power reserves the right to apply and recover all tariff charges from the effective date as approved by NERSA		
City Power reserves the right to alter the tariff in the event the Grid is purely used as a power supply backup option as approved by NERSA		
Name:	Date:	Signature:
Company Name:	Reg. No.	

APPLICATION FOR INVERTER BASE EMBEDDED GENERATION

PAGE 9

FOR OFFICE USE

**Date Application
Received:**

**Application
Reference No:**

**Acknowledgement
Provided:**

**Date
Received:**

**Further Information
Required:**

**Date
Received:**

**Additional detailed
studies required:**
(Load flow Analysis, Fault
Level, protection grading,
Voltage rise, unbalance
Flicker, harmonics etc)

**Date
Complete:**

Approved in Principle

**Date Applicant
Notified**

Copy to Metering:

**Date
Complete**

**Copy to Energy
Management:**

**Date
Complete**

**Copy to System
Control:**

**Date
Complete**

APPLICATION FOR INVERTER BASED GRID TIED PV INSTALLATION

PAGE 10

Site investigation details (To be completed by City Power Infrastructure Planning – Network & Services)

Primary Substation	<input type="text"/>	Size of MV cable	<input type="text"/>												
Name of Distributor	<input type="text"/>														
Maximum Demand	<input type="text"/>														
Size of Mini Sub (kVA) or Dx. transformer	<table border="1"> <tr> <td>200</td> <td></td> <td>300</td> <td></td> <td>315</td> <td></td> <td>500</td> <td></td> <td>630</td> <td></td> <td>1000</td> <td></td> </tr> </table>	200		300		315		500		630		1000			
200		300		315		500		630		1000					
Type of Mini Sub A/B	<input type="text"/>														
Primary voltage (kV)	<table border="1"> <tr> <td>11</td> <td></td> </tr> </table>	11		<table border="1"> <tr> <td>6.6</td> <td></td> </tr> </table>	6.6										
11															
6.6															
LV protection @Mini Sub	<table border="1"> <tr> <td>Fuses</td> <td></td> </tr> </table>	Fuses		<table border="1"> <tr> <td>MCCB</td> <td></td> </tr> </table>	MCCB										
Fuses															
MCCB															
Current Rating	<table border="1"> <tr> <td>Fuses</td> <td></td> </tr> </table>	Fuses		<table border="1"> <tr> <td>MCCB</td> <td></td> </tr> </table>	MCCB										
Fuses															
MCCB															
LV distributor	<table border="1"> <tr> <td>Underground</td> <td></td> </tr> </table>	Underground		<table border="1"> <tr> <td>Overhead</td> <td></td> </tr> </table>	Overhead										
Underground															
Overhead															
OVERHEAD:															
Type and size of conductor	<input type="text" value="0.1/0.2 X 1C Cu"/>														
	<input type="text" value="95/120 X 5C Al ABC"/>														
No. of spans for overhead mains	<input type="text"/>	No. of customers/ feeder or span	<input type="text"/>												
UNDERGROUND:															
Type and size of cable	<input type="text" value="95/185 X 4C Al"/>														
	<input type="text" value="70/120/185 X 4C Cu"/>														
SDB/CMK (No. of ways)	<table border="1"> <tr> <td>2</td> <td></td> <td>4</td> <td></td> <td>6</td> <td></td> <td>9</td> <td></td> <td>18</td> <td></td> </tr> </table>	2		4		6		9		18					
2		4		6		9		18							
No. of SDB or CMK / distributor	<input type="text"/>	No. of customers / SDB or CMK	<input type="text"/>												

ATTACHMENTS:

1. Site plan of LV network

2. Footprint capture on GIS

3. Operating diagram
(for connection >100kVA)