a world class African city

APPLICATION FOR INVERTER BASED GRID TIED PHOTOVOLTAIC INSTALLATION FORM

Return Completed Form To:

Renewable Energy Department
City Power Johannesburg
P O Box 38766
Booysens, 2016

Telephone : (011) 490-7211
Facsimile : (011) 490-3727
jozipvpower@citypower.co.za

T/ship Name	BLAIRGOWRIE	**ERF No**	REDACTED
Notification no	70020170841	**Account No**	REDACTED
BP no	6001311508	**Premise**	830115
Council Meter No	12345678		

Applicant Contact & Personal details

Name	REDACTED
Telephone Number	REDACTED
Facsimile Number	
E-Mail	

Property/Account Owner Contact & Personal details:

Name	
Telephone Number	
Facsimile Number	
E-Mail	

Rating and capacity Service connection:
Tick appropriate box

Less than 17kVA single phase 60/80A	✓
Less than 55kVA three phase 60/80A	
Less than 100kVA but three phase 150A connection	
Greater than 100kVA and less than 1000kVA Specify circuit breaker rating (A) _____	

Land Type

Residential	✓
Business	
Commercial/Industrial	

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Site Plan

Address	Redacted BLAIRGOWRIE, 2194
GPS coordinates	Redacted
For Business/Commercial/Industrial only(Show detailed site plan/layout with equipment and grid connection locations)	N/A

Total Capacity of PV (KVA and PF)

TOTAL CAPACITY- 4.6kVA, PF = 0.8 LEADING- 0.8 LAGGING

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	ALREADY INSTALLED
Projected in-service date of PV installation	ALREADY INSTALLED

Type of Energy Storage **(**Battery, UPS etc. Details to be attached)

Does the Embedded Generation (EG) include storage capabilities? (✓ appropriate):				
No_ Storage		**Yes_ Storage**		✓
		Only as standby power – cannot operate in parallel and feed onto the grid		✓
		Connected in parallel to EG – can feed onto the grid		
Storage Manufacturer	FREEDOM WON			
Storage Type	LITHIUM ION PHOSPHATE			
Capacity of storage (kWh)	10kWh	C-rating	1C	
If connected in parallel - Specify anti-islanding arrangements	N/A			

Inverter Type:

Manufacturer	GOODWE
Model	GW5048D-ES
Phase(Single/Three)	SINGLE
Number of inverters	1
Inverter Rating	4.6kVA

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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)
Inverter 4.6kVA single phase 50A connection

New or additional Generation
(Specify details if existing Generation exist**)**

Any existing generation at site	**Yes/No**	NO

Existing Generation (Specify details)
N/A

PV panel details:

Manufacturer	RISEN
Type	POLYCRYSTALLINE
Number of panels	12
Power output per panel	335W
Output voltage	Panel Open Circuit Voltage- 45.9V
String Output	String Open Circuit Voltage- 275.4V

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, invertor type test certificates (as applicable), protection schemes, consumer network, metering arrangement and operating Characteristics.

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

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Network Connection Point MV/LV?
Isolation point to be used to Connect/disconnect Embedded Generation (EG) from the distribution network. Show in Single Line Diagram

LV- PGC Indicated on SLD

Electrical Protection Details:
(Attach details as Applicable)

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

Auto- inbuilt inside inverter

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

Inbuilt inside inverter

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.)

DC Reverse Polarity Protection
Ground Fault Monitoring
Arc Fault Circuit Protection

Current Average Monthly Energy Consumption:

WINTER		SUMMER	
500	kWh	400	kWh

Proposed Total Monthly Energy Generation:

TOTAL (Own plus Export)		EXPORT	
550	kWh	0	kWh

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

Weekday	0kWh
Saturday	0kWh
Sunday	0kWh

Attachments
(Tick appropriate box or mark not applicable)

Inverter Type Test Certificate	✓
Single Line Diagram	✓
Operational philosophy and maintence procedure	✓
Design / Drawings	✓
Site Plan/Layout	
Energy storage component details (if any)	✓

Other attachments
(Please specify)

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Supplier / Installer Details

Installing Company	Installer name goes here
Responsible Person	Redacted
Accreditation / Qualification	REGISTERED ELECTRICAL CONTRACTOR
ECSA Professional Registration Category and Reg No.	REG NO. (REDACTED
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	✓

NERSA license

Does the system require a license from NERSA? (tick)	No	✓
	Yes	

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

APPLICANT:

Signature	Proxy signature redacted
Responsible Person	Proxy name redacted
ECSA Category	CANDIDATE ELECTRICAL ENGINEERING TECHNOLOGIST
ECSA Registration No.	Redacted
Date	29-01-2024

PROPERTY OWNER:

Signed	Owner's signature redacted
Date	29-01-2024

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DECLERATION 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: Redacted	Date: 29-01-2024	Signature: Redacted
Company Name: Redacted	Reg. No. 2023/513425/07	

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FOR OFFICE USE

Date Application Received:		**Application Reference No:**	
Acknowledgement Provided:	YES / NO	**Date Received:**	
Further Information Required:	YES / NO	**Date Received:**	
Copy to Metering:	YES / NO	**Date Complete**	
Copy to System Control:	YES / NO	**Date Complete**	

Site investigation details(To be completed by Technology, Planning and Asset Management Departments)

Primary Substation											**Size of MV cable**	
Name of Distributor												
Maximum Demand												
Size of Mini Sub (kVA) or Dx. transformer	200		300		315		500		630		1000	
Type of Mini Sub A/B												
Primary voltage (kV)	11										6.6	
LV protection @Mini Sub	Fuses										MCCB	
Current Rating	Fuses										MCCB	
LV distributor	Underground										Overhead	

Overhead:

Type and size of conductor

No. of customers connected