



APPLICATION FOR AN ELECTRICITY GENERATION LICENCE

in terms of section 8 of the Electricity Regulations Act, 2006 (Act 4 of 2006)

APPLICANT

COMMERCIAL ENERGY SA (Pty) Ltd SOLAR AFRICA

EMBEDDED GENERATION FACILITY

1.48 MW (ac)

PHOTOVOLTAIC ROOF-TOP SOLAR

INSTALLED & EVACUATED TO

**ZIBO CONTAINERS (Pty) Ltd
CLAYVILLE - OLIFANTSFONTEIN**



APPLICATION FOR AN ELECTRICITY GENERATION LICENCE
in terms of section 8 of the Electricity Regulations Act, 2006 (Act 4 of 2006)

PARTICULARS FOR LICENCE APPLICATION

TRADING NAME OF APPLICANT	COMMERCIAL ENERGY SA (Pty) Ltd Trading as SOLAR AFRICA
BUSINESS REGISTRATION No.	2017/053523/07
Postal Address of Applicant	25 Victoria Link Route 21 Corporate Park Irene, Gauteng
Contact Person of Applicant	Mr Charl Alheit
Contact Telephone Numbers	+27 870950553
Contact person, Email Address	charl@solarafrica.com
Contact Details of Applicant's Transaction Advisor (To be point of communication with NERSA in terms of this Application)	Derek Batte Tel: 0741012938 Email: derek@dlbms.co.za

REQUEST for particulars pertaining to the SUBMISSION OF APPLICATION DATA, ELECTRICITY GENERATION LICENCE in terms of section 8 of the Electricity Regulations Act, 2006 (Act 4 of 2006) which will be used to compile and submit the aforesaid application to the NATIONAL ENERGY REGULATOR OF SOUTH AFRICA, for and on behalf of the client.

Notice / Instructions

- ⚠ Please complete **ALL** Fields below in as much detail as possible.
- ⚠ Reference the answers to the Information Pack to be supplied as annexures to the Licence application
- ⚠ Do not refer to an answer denoted in another part of the document, write out the answer in the section required, even at the cost of repetition.



SECTION A

PARTICULARS OF APPLICANT

Number	Question	SUBMISSION OF APPLICANT
A1	Full name of applicant (business name) and business registration number	COMMERCIAL ENERGY SA (Pty) Ltd Trading as SOLAR AFRICA 2017/053523/07
A2	Address of applicant,	25 Victoria Link Route 21 Corporate Park Irene, Gauteng
A3	Telephone number of applicants	+27 870950553
A4	Fax number of applicant	
A5	Email address of applicant	charl@solarafrica.com
A6	Contact person	Mr Charl Alheit
A7	Designation	DIRECTOR
A8	Legal form of applicant	Limited Liability Company
A9	Contact Details of Applicant's Transaction Advisor (To be point of communication with NERSA in terms of this Application)	Derek Batte Tel: 0741012938 Email: derek@dlbms.co.za

SECTION B

COMMERCIAL OPERATION

Number	Question	SUBMISSION OF APPLICANT
B1	Desired date from which the licence (if granted) is to take effect	1st December 2020
B2	Anticipated Commercial Operation Date	1st December 2020

COMMERCIAL READINESS

B	OPERATIONAL DATES	
B.3	The anticipated date for Construction and EPC activities to commence on site?	Dependant of the issuing of Licence from NERSA the Applicant is intent on commencing EPC Construction during 1st October 2020
B.4	The anticipated date of Operational Readiness for the Generation Facility?	Operational Readiness is anticipated 8 weeks from EPC activities commencing, which equates to 30th NOVEMBER 2020
B.5	The anticipated date for testing, verifying and commissioning the metering installation and data up-link?	Dependant of the issuing of Licence from NERSA the Applicant is intent on commissioning tests to commence in 15th NOVEMBER 2020 and verification before the 30th NOVEMBER 2020
B.6	The anticipated date for the Point of Coupling (POC) to be energised and grid tie effective?	The Generation Facility is Embedded Generation, to be coupled to the internal LV reticulation owned and operated by Zibo Containers (Pty) Ltd. The anticipated operational date for the facility is the 1st December 2020 .
B.7	The anticipated date for the complete installation Certificate of Compliance (COC) and all commissioning inspections to be complete?	The Generation Asset is to be owned and operated by Solar Africa installed on the roof structure of Zibo Containers (Pty) Ltd and commercially transacted between parties as per a Power Purchase Agreement. The anticipated date for the complete installation Certificate of Compliance (COC) and all commissioning inspections to be complete and all final inspection and verification of compliance is 30th NOVEMBER 2020

B.8	What is the actual or anticipated Date of Commercial Operation?	The Generation Facility is Embedded Generation, to be coupled to the internal low voltage reticulation of Zibo Containers. The anticipated operational date for the facility is the 1st DECEMBER 2020
B.9	What is the envisaged Decommission date of the Facility?	The facility and installation has an expected life span of 25 years, giving an envisaged decommissioning date of OCTOBER 2045.

SECTION C

PARTICULARS OF GENERATION FACILITY

Number	Question	Answer
<p><i>Preamble:</i> The Generation Asset is to be owned and operated by Solar Africa and installed on the roof structure of Zibo Containers (Pty) Ltd at their premises situated at 9 Purlin Street North in Clayville Olifantsfontein and the energy produced will be sold to Zibo Containers (Pty) Ltd under the terms of a specific Power Purchase Agreement.</p>		
C1	Name of Generation Facility	The Assets and Generation Facility shall be owned by Commercial Energy SA, Trading as Solar Africa and shall be constructed and established on the roof structure of the Facilities at the Zibo Container’s premises situated at 9 Purlin Street North in Clayville Olifantsfontein and the energy produced will be sold to Zibo Containers (Pty) Ltd under the terms of a specific Power Purchase Agreement. The Generation Facility shall be known as ZIBO CLAYVILLE
C2	Geographical location of Generation Facility	The Generation facility shall be located on the property of Zibo Container’s, situated at 9 Purlin Street North in Clayville Olifantsfontein in the Ekurhuleni Metropolitan Municipality.
C3	Address of Generation Facility	The physical address of the Generation facility is 9 Purlin Street North in Clayville Olifantsfontein in the Ekurhuleni Metropolitan Municipality.
	GPS Co-ordinates of Generation Facility	The GPS Coordinates of the Generation Facility situated at 9 Purlin Street North in Clayville

		<p>Olifantsfontein in the Ekurhuleni Metropolitan Municipality, Gauteng Province is</p> <p>-25° 57' 46.58 S 28° 15' 11.30 E</p>
C4	Contact person & contact details for person at the generation facility and Application consultants	<p>The contact person information is as follows:-</p> <p>For Commercial Energy SA SOLAR AFRICA</p> <p>Mr Jason Crawford – [Designation]</p> <p>Mr Charl Alheit – DIRECTOR Tel: 0780950553 Email: charl@solarafrica.com</p> <p>The Transaction Advisor acting for the Applicant in terms of this application is Mr Derek Batte of DLB Management Services Tel: 074 101 2938 Email: derek@dlbms.co.za</p> <p>Technical Consultant Mr Wimpie van Niekerk of Viridis Ipsum (Pty) Ltd. Tel: 081 249 0625 Email: wvn@viridisipsum.co.za</p>
C5	Type of generation facility thermal, hydro, pumped storage, gas turbine, diesel generator or Roof top PV, Ground Mount PV, wind, biomass	The generation facility is a roof-mounted 1.74 MW solar photo voltaic system for Embedded Generation use, connected into the LV reticulation of Zibo Containers premises situated at 9 Purlin Street North in Clayville Olifantsfontein in the Ekurhuleni Metropolitan Municipality
C6	Expected commissioning date for proposed generation facility or at which the current facility was commissioned (if an existing plant)	The proposed commissioning date of the Facility is 1 st DECEMBER 2020
C7	The installed capacity (existing and or planned) of which unit within the generation facility (MW)	<p>The total installed capacity, Kwh / Kw Peak is</p> <p>1.74 MWp dc</p> <p>1.48 MWp ac</p> <p>2.755 Gwh per annum</p>

C8	Maximum generation capacity (MW) expected to be available from the generation Facility and energy to be produced (MWh) over the next 5 years of operation. These estimates should be based on modelling of how the power Facility will fit into the demand profile of its customers, taking into account the least cost energy purchase consideration and demand management options of customers	<p>Projected output for 1.48 MW capacity over next 5 years.</p> <p>Year 1 – 1.48 MWac, 2571 MWh</p> <p>Year 2 – 1.48 MWac, 2552 MWh</p> <p>Year 3 – 1.48 MWac, 2534 MWh</p> <p>Year 4 – 1.48 MWac, 2517 MWh</p> <p>Year 5 – 1.48 MWp, 2499 MWh</p>
C9	Estimate of the energy conversion efficiency of the generation Facility	<p>The estimated energy conversion factors for the 1.48 Mw are as follows:-</p> <p>Performance Ratio = 78.1%</p> <p>kWh/kWp = 1,586.3</p>
C10	Expected future life of the generation Facility	The proposed Generation Facility is designed for a 25 Year life of plant.

PARTICULARS OF LAND PARCEL

C	LAND PARCEL	SUBMISSION
C11	Ownership of land parcel	The property is owned by Zibo Containers (Pty) Ltd a company duly registered in the Republic of South Africa in terms of Registration 1999/017219/07 for their core business of Manufacturing of Containers.
C12	Arrangements of Land Use Lease Agreement or Property tenure.	This is not applicable as the property is owned and operated by Zibo Containers (Pty) Ltd.
C13	Status of Land Claims and disputes lodged or pending over the site or land parcel.	The Property secured under title deed to the owners of Zibo Containers (Pty) Ltd and the entire land parcel and developed site is free from land claims and any disputes.
C14	Land Parcel Zoning and Town Planning Amendments?	The current Land Use Zoning is industrial, and therefore no special zoning conditions extra over the current use is required as this generation facility is a solar PV rooftop installation on existing structures.

PARTICULARS OF ENVIRONMENTAL CONSIDERATIONS

C	ENVIRONMENTAL MANAGEMENT	SUBMISSION
C15	EIA approval process?	EIA Consultants were not commissioned to review the site nor issue opinion with regard to a full EIA or scoping report as the site is existing industrial and the installation is roof mounted.
C16	EIA Scoping report?	It is the opinion of the site owner and operator that no special EIA Scoping Report is required.
C17	Overall EIA Status	<p>As per C 15, no specific EIA is required for the generation facility.</p> <p>The entire site development for the core business of Zibo Containers (Pty) Ltd was commissioned many years ago and all environmental issues were addressed during that development phase of the entire land parcel.</p>
C18	ROD Status	<p>NOT APPLICABLE</p> <p>As per C15 no EIA is required and thus no EIA has been submitted to the Department of Environmental Affairs and so No Record of Decision is pending.</p>
C19	Special Conditions of ROD	As no EIA has been submitted to the Department of Environmental Affairs, No Record of Decision special conditions will be applied.
C20	Other Permits and special Conditions?	<p>As the installation for the Generation Facility is roof-top PV the following institutions of Government or civic authorities have been notified of intent to construct.</p> <p>Civil Aviation Authority – SACAA Application Form CA 139-27 Submitted and Pending ROD</p>
C21	Particulars of the appointed EIA Consultant	Not applicable

SECTION D

PARTICULARS OF FEEDSTOCK AND LOGISTICAL ARRANGEMENTS

PRIMARY ENERGY SUPPLIERS

Number	Question	SUBMISSION
D1	Name of primary energy supplier/s (mining houses, colliery or other fuel supplier)	<p>The Renewable Energy Portion will be supplied from the SPV installation to augment the current Energy supply from the Ekurhuleni Metropolitan Municipality.</p> <p>The provision of energy to the site of Zibo Containers at 9 Purlin Street North in Clayville Olifantsfontein in the Ekurhuleni Metropolitan Municipality</p> <p>Grid connection is via an 11KV feeder 156 under an LPU Tariff at Type D</p>
D2	Particulars of the contractual arrangements with primary energy supplier	<p>The Customer / Consumer is Zibo Containers (Pty) Ltd who have a standard Connection and consumer agreement with the Ekurhuleni Metropolitan Municipality.</p> <p>Tarif Type: D</p> <p>Customer Account No. 1707439645</p> <p>The secondary Energy Supplier is SOLAR AFRICA who will generate energy from Solar PV installed on the roof of the Consumers premises and traded via a Power Purchase Agreement.</p>

LOGISTICAL PARTNERS

Number	Question	SUBMISSION
D3	Name of primary LOGISTICS providers	<p>The intended Generation Facility is roof-top PV, owned and operated by Solar Africa and conveyed to Zibo Containers on site as embedded generation and coupled at two separate supply points connected to the LV Electrical Reticulation system.</p> <p>The EPCM appointee is SOLAR AFRICA</p> <p>The EPC appointee is REN Energy</p>
D4	Particulars of the contractual arrangements with primary logistics supplier	<p>The Consumer, Zibo Containers (Pty) Ltd have a existing standard Connection and consumer agreement with the Ekurhuleni Metropolitan Municipality.</p> <p>The Consumer, Zibo Containers (Pty) Ltd has concluded a Power Purchase Agreement with the secondary Energy Supplier SOLAR AFRICA who will generate energy from Solar PV installed on the roof.</p> <p>Solar Africa has appointed REN Energy as the nominated EPC</p>

SECTION E

PARTICULARS OF OPERATION AND MAINTENANCE

Number	Question	SUBMISSION
E1	Details of any proposed major maintenance programmes, including the expected cost and duration thereof, covering the next six years. Project proposals to state the expected availability, planned outage rate and forced outage rate of the plant over the first five years of operation	<p>Under the provisions of the Power Purchase Agreement, Solar Africa will maintain and operate the Generation Facility</p> <p>Ref DETAILS FROM O&M CONTRACT</p> <p>The planned maintenance regime for the PV installation is envisaged to cover period washing of the panels, general electrical maintenance, and visual inspection of the plant by the technical department on site.</p> <p>Due to the generation profile, all maintenance regimes will be planned and conducted during non-generation periods, and therefore no loss of generation production is anticipated.</p>
E2	Details of any major decommissioning costs expected during the life span of the power Facility and provided for in the project feasibility study.	<p>The expected life of Plant is 25Yrs, and envisaged to continue for the Life of the business of SOLAR AFRICA(Pty) Ltd and Zibo Containers.</p> <p>Therefore, it is the submission of the Applicant that while there will be panel replacement and technology innovation and upgrade, there is no plan to have the plant decommissioned.</p> <p>Under the provisions of the Supply Agreement between Solar Africa and Zibo Containers, a buy-out clause exists that enables Zibo Containers to acquire the assets and redeem ownership.</p>
E3	Details of major generation Facility expansion and modifications planned for in the feasibility study (dates, costs in Rands (state year) and description)	<p>This application covers the entire usable PV Roof-Top capability of two main structures on site.</p> <p>Further development cycles will be scoped</p> <p>Therefore, the total installed capacity, Kwh / Kw Peak is anticipated to be 1.48 MWp ac</p>

PARTICULARS OF OPERATIONAL PARAMETERS

E	OPERATIONAL PARAMETERS	SUBMISSION
E4	Stated Capacity Factor of the Facility?	<p>The Capacity factor of the Generation Facility at 1.48 Mw is Calculated</p> <p>21.25%</p>
E5	Stated down time per year for maintenance?	<p>The anticipated down Time for maintained is expected to be minimal as all maintenance and panel washing is to be conducted outside the specified generation periods.</p> <p>Maintenance regimes are envisaged over a 1 day period per calendar cycle for planned and the same period for unplanned.</p>
E6	Operational period in Months per calendar year?	<p>The Generation Facility is designed to operate continually, for all 12 months of the year, save the 1 day maintenance cycle.</p>
E7	Planned life expectancy of the Facility?	<p>The Generation Facility is designed for a 25 Year Life of Plant, with periodic panel replacement and technology innovation and upgrade.</p> <p>There is no plan to have the plant decommissioned.</p>
E8	Duration of Off-Take and Power Purchase Agreement?	<p>The Consumer, Zibo Containers (Pty) Ltd has concluded a Power Purchase Agreement with the Energy Supplier SOLAR AFRICA who will generate energy from Solar PV installed on the roof.</p> <p>Initial Contracted Price Point for energy as per the PPA is R 0.8616/kWh with an escalation approx. CPIX @ 7%</p> <p>The term of the PPA is an initial 20 Years with an early buy-out clause to enact early transfer of asset.</p>
E9	Staff employment at facility?	<p>The Generation facility will employ an estimated 15 temporary construction jobs during the build phase, and 3 operational staff during the operational phase.</p> <p>Technical management and oversight will be maintained via Solar Africa in conjunction with the electrical staff on site at Zibo Containers.</p>

E10	Technical Capability to operate?	Technical management and oversight will be carried out in-house by Solar Africa
E11	Technical Report	<p>Solar Africa and independent Engineering Consultants Viridis Ipsum have concluded a Technical Feasibility Report and have concluded that the Generation Facility is viable as there is sufficient roof coverage, and the technical design is within the accepted parameters.</p> <p>The detailed technical report is incorporated under this application Annexure K 6</p>
E12	Initial Design Report	<p>The preferred EPC REN ENERGY have concluded the initial Design and are pursuant to the Generation Facility being Technically sound.</p> <p>The Initial Design report is incorporated under this application Annexure K 6</p>
E13	Structural Report	The detailed Structural report prepared by MRH Consulting Engineers is incorporated under this application Annexure K 6 and indicates that a weight loading of 14.7kg/m ² for the panels is acceptable.

GRID CONNECTION DETAILS

E	GRID CONNECTION DETAILS	
E11	Grid connection Systems Operator	<p>The electrical grid connection and Point of Supply is an 11KV Off-take point on the Ekurhuleni Municipality reticulation system.</p> <p>However, the Generation Facility is embedded generation behind the Customer Point of Supply.</p> <p>The Generation Facility will therefore Connect at 400 v to the Low Voltage internal reticulation at various points in the system.</p>
E12	What is the Proximity to the Grid where a Grid Tie is Planned?	The Points of Coupling of the Generation Facility is planned to be downstream at DB 1 and DB 2 Respectively within the internal reticulation and

		<p>is approx. 120 m away from the main Customer Point of supply.</p> <p>The Single Line Diagram for the reticulation and Municipal Point of Coupling as attached for ease of reference. Annexure K 6</p>
E13	What is the closest Powerline pole reference number?	The Generation Facility Point of Coupling (POC) into the Zibo internal 400v reticulation system will be DB 1 and DB 2
E14	What is the intended Grid Tie Voltage at Point of Connections?	The internal Grid Tie voltage will be 400v to synchronise with the internal reticulation LV voltages.
E15	What is the Load Capacity of the intended Tie Line	The Generation facility Tie Line to DB 1 and DB 2 at 1.48 Mw will be 2500 kVA
E16	Up-stream Load profile to S/S	The up-stream load profile at the Feeder Sub Station estimated at 4. 00 MVA.
E17	Down-stream Load profile to N/O point of line stop	The Load is diversified on the internal LV reticulation and will absorb all the generation capacity.
E18	Which is the nearest sub station on that Line?	<p>The Generation Facility Point of Coupling (POC) into the internal 400 v LV reticulation system.</p> <p>The Zibo Point of Supply to the Ekurhuleni 11kv is demarcated as 156 which is an 11KV switch.</p>
E20	What is the Load Capacity of the Sub Station	The Ekurhuleni Point of Supply load capacity is 12 MVA
E21	What is the Transformer Step up / Step Down Ratio at that Sub Station?	The internal Grid voltage and step-down transformation equipment is 11000/400v
E22	Has a Grid Tie Facility Application been lodged?	<p>The Generation Facility is tied to the internal reticulation owned and operated by the customer, Zibo Containers (Pty) Ltd and therefore no 3rd party Grid connection and use of systems agreement is required.</p> <p>The Municipality have approved the generation of SSEG within the reticulation system operated by Solar Africa.</p>

SECTION F

PARTICULARS OF OFF-TAKE & CUSTOMER PROFILE

Number	Question	SUBMISSION
F1	Particulars of the person or persons to whom the applicant is providing or intends to provide electricity from the generation Facility	The Generation Facility is EMBEDDED GENERATION tied to the internal reticulation of Zibo Containers, but owned and operated by SOLAR AFRICA(Pty) Ltd and the energy on sold to Zibo Containers for on-site consumption under the provisions of the Power Purchase Agreement.
F2	Network connection detail (connection points, voltages, wheeling arrangement, single line diagram)	<p>The Generation Facility, owned and operated by Solar Africa, is to be connected BEHIND the Municipal Metering Point coupled to the Internal LV Reticulation Network Operated by Zibo Containers.</p> <p>The energy produced in the PV Facility will be evacuated and sold to Zibo Containers for on-site consumption under the provisions of a Power Purchase Agreement.</p> <p>The Point of Coupling of the Generation Facility is designed to connect to the internal reticulation system operated by Zibo Containers and will tie into the internal reticulation LV bus at DB 1 and DB 2 Respectfully.</p>
F3	Provide summary details of power purchase agreements with customer including purchasing price etc. (please attach Power Purchase Agreement)	<p>The Generation Facility, owned and operated by Solar Africa, is to be connected to the internal LV reticulation on site at Zibo Containers and the energy produced sold to Zibo Containers under the terms and conditions of the Power Purchase Agreement.</p> <p>Initial Contracted Price Point for energy as per the PPA is R 0.8616/kWh with an escalation approx. CPIX @ 7%</p> <p>The term of the PPA is an initial 20 Years with an early buy-out clause to enact early transfer of asset.</p>

SECTION G

COMMERCIAL / FINANCIAL INFORMATION

Number	Question	SUBMISSION																														
G1	Submit projections of and current statements of the accounts in respect of the undertaking carried on by the applicant, showing the financial state of affairs of the most recent period, together with copies of the latest audited annual accounts where such have been prepared.	The Audit Annual Financial Statements for the Company SOLAR AFRICA(Pty) Ltd are attached.																														
G2	Submit annual forecasts for the next five years of costs, sales and revenues generated by the project, stating the assumption underlying the figures.	<p>The cash flow Forecast for the Generation Facility is attached.</p> <p>Spread of Net Cash Position</p> <table border="1" data-bbox="775 1014 1385 1429"> <thead> <tr> <th></th> <th>Revenue</th> <th>Ops</th> <th>Other</th> <th>Net</th> </tr> </thead> <tbody> <tr> <td>YEAR 1</td> <td>R 2 280 696</td> <td>R 231 026</td> <td>R 39 431</td> <td>R 2 010 40</td> </tr> <tr> <td>YEAR 2</td> <td>R 2 423 317</td> <td>R 240 267</td> <td>R 41 008</td> <td>R 2 142042</td> </tr> <tr> <td>YEAR 3</td> <td>R 2 574 857</td> <td>R 198 775</td> <td>R 42 648</td> <td>R 2 333434</td> </tr> <tr> <td>YEAR 4</td> <td>R 2 735 873</td> <td>R 206 726</td> <td>R 44 354</td> <td>R 2 484793</td> </tr> <tr> <td>YEAR 5</td> <td>R 2 906 958</td> <td>R 214 995</td> <td>R 46 128</td> <td>R 2 645835</td> </tr> </tbody> </table> <p>Year 1 – R 2 010 240</p> <p>Year 2 – R 2 142 042</p> <p>Year 3 – R 2 333 434</p> <p>Year 4 – R 2 484 793</p> <p>Year 5 – R 2 645 835</p>		Revenue	Ops	Other	Net	YEAR 1	R 2 280 696	R 231 026	R 39 431	R 2 010 40	YEAR 2	R 2 423 317	R 240 267	R 41 008	R 2 142042	YEAR 3	R 2 574 857	R 198 775	R 42 648	R 2 333434	YEAR 4	R 2 735 873	R 206 726	R 44 354	R 2 484793	YEAR 5	R 2 906 958	R 214 995	R 46 128	R 2 645835
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G3	Estimates of net annual cash flows for subsequent periods (5 years, 10 years, 15 years) sufficient to demonstrate the financial security and feasibility of operating the generation Facility.	<p>The Cash flow statement is attached</p> <p>Spread of Net Cash Position</p> <p>Year 1 – R 2 010 240</p> <p>Year 2 – R 2 142 042</p> <p>Year 3 – R 2 333 434</p> <p>Year 4 – R 2 484 793</p> <p>Year 5 – R 2 645 835</p>												
G4	Project financing: who will finance the project, how is funding split between debt and equity, and what is the terms and conditions of the funding arrangements	<p>The Generation Facility will be funded by SOLAR AFRICA(Pty) Ltd as follows:</p> <p>35% Equity by Evolution II Fund</p> <p>65% Senior Debt by Investec</p> <table border="1" data-bbox="777 1182 1390 1599"> <tr> <td>Total Capital Cost</td> <td>R 17 822 674</td> </tr> <tr> <td>Interest (Construction) - IDC</td> <td>R 473 168</td> </tr> <tr> <td>Post Tax IRR</td> <td>10.80%</td> </tr> <tr> <td>Nominal IRR After Tax</td> <td>14.80%</td> </tr> <tr> <td>Debt/Equity Ratio</td> <td>1.86</td> </tr> <tr> <td>Repayment Term</td> <td>7.7 Years</td> </tr> </table>	Total Capital Cost	R 17 822 674	Interest (Construction) - IDC	R 473 168	Post Tax IRR	10.80%	Nominal IRR After Tax	14.80%	Debt/Equity Ratio	1.86	Repayment Term	7.7 Years
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PARTICULARS OF FINANCIAL BUSINESS CASE

G	FINANCIAL MODELLING	SUBMISSION																														
G5	What is the projected ANNUAL COST FORECAST, SALES AND REVENUES GENERATED	<p>The Generation Facility projected returns</p> <table border="1" data-bbox="775 524 1388 938"> <thead> <tr> <th></th> <th>Revenue</th> <th>Ops</th> <th>Other</th> <th>Net</th> </tr> </thead> <tbody> <tr> <td>YEAR 1</td> <td>R 2 280 696</td> <td>R 231 026</td> <td>R 39 431</td> <td>R 2 010 40</td> </tr> <tr> <td>YEAR 2</td> <td>R 2 423 317</td> <td>R 240 267</td> <td>R 41 008</td> <td>R 2 142 042</td> </tr> <tr> <td>YEAR 3</td> <td>R 2 574 857</td> <td>R 198 775</td> <td>R 42 648</td> <td>R 2 333 434</td> </tr> <tr> <td>YEAR 4</td> <td>R 2 735 873</td> <td>R 206 726</td> <td>R 44 354</td> <td>R 2 484 793</td> </tr> <tr> <td>YEAR 5</td> <td>R 2 906 958</td> <td>R 214 995</td> <td>R 46 128</td> <td>R 2 645 835</td> </tr> </tbody> </table> <p>Year 1 – R 2 010 240</p> <p>Year 2 – R 2 142 042</p> <p>Year 3 – R 2 333 434</p> <p>Year 4 – R 2 484 793</p> <p>Year 5 – R 2 645 835</p>		Revenue	Ops	Other	Net	YEAR 1	R 2 280 696	R 231 026	R 39 431	R 2 010 40	YEAR 2	R 2 423 317	R 240 267	R 41 008	R 2 142 042	YEAR 3	R 2 574 857	R 198 775	R 42 648	R 2 333 434	YEAR 4	R 2 735 873	R 206 726	R 44 354	R 2 484 793	YEAR 5	R 2 906 958	R 214 995	R 46 128	R 2 645 835
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G6	What is the required Selling Price per KWH of Energy?	<p>The production of energy is cost effective as an off-set against the procurement of supply from the Municipality.</p> <p>The levelised Cost of Energy is anticipated at = R 0.8616 /kWh</p>																														
G7	Is there a planned extension phase or increase of generator capacity envisaged?	The initial phase to expand to 1.48 MW and then a further phase to bring the total on-site embedded generation capability to 2.5 MW.																														
G8	What financing Model or instrument has been used, or is intended to fund the facility?	<p>The Generation Facility will be funded by SOLAR AFRICA(Pty) Ltd against</p> <p>35% Equity by Evolution II Fund</p> <p>65% Senior Debt by Investec</p>																														

SECTION H

HUMAN CAPITAL DEVELOPMENT

Number	Question	SUBMISSION										
H1	Submit details of the number of staff and employees and their categories in the service of the applicant at the generation Facility and in any support services separate from the generation Facility. Also provide information regarding relevant qualifications and experience in critical areas e.g. professional registration (engineering council of South Africa – ECSA), Government certificate of competency.	<p>The Current Department of Labour “Employment Equity” Return is submitted and attached.</p> <p>The Company, SOLAR AFRICA employs</p> <p>815 Permanent staff</p> <table data-bbox="767 645 1399 952"> <tr> <td>Male</td> <td>Female</td> </tr> <tr> <td>A = 87</td> <td>A = 172</td> </tr> <tr> <td>C = 215</td> <td>C = 294</td> </tr> <tr> <td>I = 3</td> <td>I = 0</td> </tr> <tr> <td>W = 31</td> <td>W = 1</td> </tr> </table>	Male	Female	A = 87	A = 172	C = 215	C = 294	I = 3	I = 0	W = 31	W = 1
Male	Female											
A = 87	A = 172											
C = 215	C = 294											
I = 3	I = 0											
W = 31	W = 1											

SECTION I

PARTICULARS OF PERMITTING & REGULATORY APPROVALS

REGULATORY AUTHORITIES

Number	Question	SUBMISSION
11	<p>What progress has been made to obtain the required permits and approvals for the generation project? Please provide copies of permits issued by the relevant environmental and safety agencies in respect of the operation of the generation Facility.</p>	<p>Civil Aviation Authority Approval</p> <p>Civil Aviation Authority Approval has been applied for in terms of the requirements of Obstacle Clearance practice under Part 139-27.</p> <p>Municipal approval</p> <p>The requisite Small-Scale Embedded Generation Application has been lodged with the Ekurhuleni Metropolitan Municipality</p> <p>OHSA permits</p> <p>OHSA permits will be obtained as prescribed by the minimum safety requirements of Solar Africa and Zibo Containers prior to commencement of construction.</p>

PARTICULARS OF REGULATORY AND LEGISLATIVE FRAMEWORKS

I	PERMISSIONS & APPROVALS	SUBMISSION
12	IRP Deviation requirements	Under the current Legislative requirements, IRP Deviation is not Requires as the build is less than the 10MW threshold.
13	IRP Deviation Submission	In terms of I 2 therefore no IRP deviation Application has been submitted.
14	IPP Generator Application submission?	This Application serves as the official submission to NERSA Electrical Licencing and Compliance for a Generation Licence for this Embedded Generation Facility connected at Low Voltage behind the Municipal Point of Supply.
15	IPP Generation Licence been Granted?	Application Pending
16	Has the Grid Tie Connection Study been compiled	The internal reticulation and POC study has been completed by In-house component, however a detailed Grid Effect Study will be conducted in consultation with the Municipality
17	Have the Grid Code Compliance audit been completed?	Grid tie compliance will be in terms of NRS 097 (part 1 and 2) and NRS 048. This Compliance Audit will be undertaken in two stages. Stage 1 – Compliance of Design Stage 2 – Actual Audit against Construction at Commissioning.
18	Has a connection "Use of Systems" Agreement been concluded with the Network Operator?	The Municipality have been appraised of the Internal Embedded Generation and will be consulted in respect of the Grid Tie Study and NRS 097 and 048 Compliance requirements.

SECTION J

PARTICULARS OF BROAD BASED BLACK ECONOMIC EMPOWERMENT

BEE STATUS

Number	Question	SUBMISSION
J1	Please provide information in this regard	The SANAS BEE Accreditation Certificate is attached. Agency – AQRate Verification Service Certificate Number ZIBO010334-REV2 RESULT Level 8 Final Score 58.74

SECTION L

DECLARATION

On behalf of the Applicant, I hereby declare that:

- (a) the applicant shall at all times comply in every respect with the conditions attached to any licence that may be granted to the applicant.
- (b) the applicant shall at all times comply with lawful directions of the National Energy Regulator of South Africa.
- (c) The information provided by me on behalf of the applicant is accurate and complete in all respects; and
- (d) I am duly authorised to make this declaration on behalf of the applicant.

Signed



DEREK BATTE
Transaction Advisor

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For and Behalf of
SOLAR AFRICA(PTY) LTD