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**LICENSEE PROPOSED MODIFICATION OF  
GENERATION LICENSE**

**OF**

**HELIOS POWER (PRIVATE) LIMITED**

**50 MW SOLAR POWER PROJECT  
AT GOTH GARAWARA, TALUKA, SALEH PAT, DISTRICT  
SUKKUR,, SINDH PAKISTAN**

**27<sup>TH</sup> JANUARY 2021**

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Registrar  
National Electric Power Regulatory Authority  
NEPRA Tower, G-5/2, Islamabad

**Subject: Application for Modification of generation license of HNDS Energy (Private) Limited (the "Company")**

Dear Sir

The Company was granted Generation License No. SPGL/21/2017 dated 16<sup>th</sup> August 2017 (the "Generation License") by NEPRA, pursuant to Section 15 of Regulation of Generation, Transmission and Distribution of Electric Power Act 1997, for its solar power plant located in Deh Gargwara, Taluka Saleh Pat, district Sukkur, Sindh, Pakistan (the "Project").

The NEPRA was please to award the tariff of to the Project vide Determination NO NEPRA/TRF-480/MEPL-2019) dated 21.02.2020 (the "Tariff Determination") based on bifacial modules technology which was different than mentioned and approved in the Generation License. The Tariff Determination also required the Project to amend the Generation License with the new technology chosen.

Therefore, the Company hereby submits the application for modification of our Generation License, pursuant to Regulation 10(2) of National Electric Power Regulatory Authority (Application and Modification Procedure) Regulations, 1999 (the "Regulations").

We certify that the documents-in-support attached with this application are prepared and submitted in conformity with the provisions of the Regulations and undertake to abide by the terms and provisions of the above-said regulations. I further undertake and confirm that the information provided in the documents-in-support is true and correct to the best of my knowledge and belief.

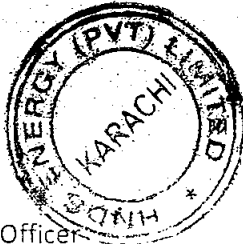
A bank draft in sum of PKR 395,380 (Three Hundred Ninety Five Thousand Three Hundred & Eighty only), being the nonrefundable license application fee calculated in accordance with the Schedule II to Regulations, is also attached herewith.

The application is filed in triplicate with all annexures appended with each set.

Sincerely,

A handwritten signature in black ink, appearing to read "Usman Ahmed", written over a white background.

Usman Ahmed  
Chief Executive Officer  
HNDS Energy (Private) Limited





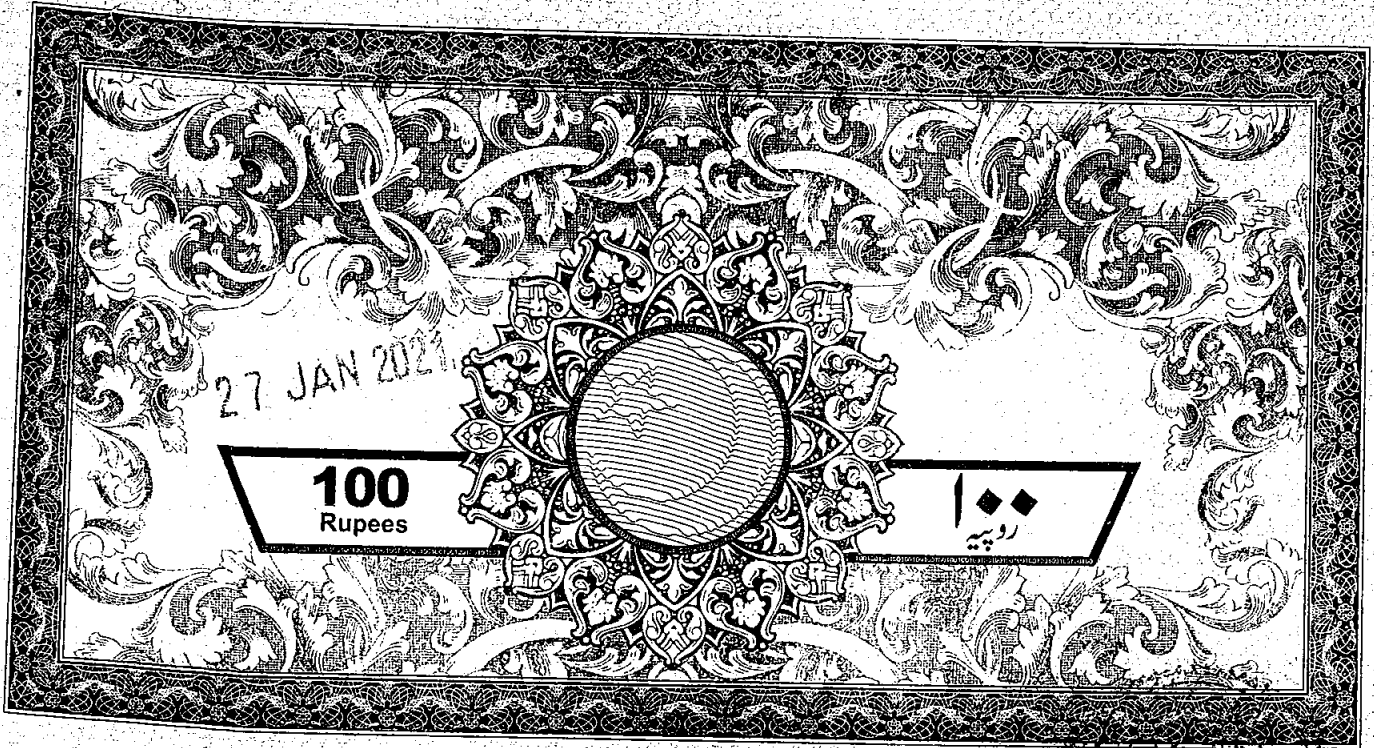
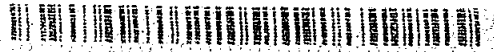
EXTRACT OF MINUTES OF MEETING OF BOARD OF DIRECTORS OF HNDS ENERGY (PRIVATE) LIMITED  
(THE "COMPANY") HELD ON 25 JANUARY 2021 AT THE HEAD OFFICE OF THE COMPANY

"RESOLVED THAT an application under Regulation 10(2) of National Electric Power Regulatory Authority (Application and Modification Procedures) Regulations, 1999 shall be filed with National Electric Power Regulatory Authority for necessary modifications in Generation License No SPGL/21/2017 dated 16<sup>th</sup> August 2017.

RESOLVED FUTHER THAT Mr. Usman Ahmed, Chief Executive Officer of the Company be and are hereby singly and severally authorized to sign all/any forms, documents as may be required to be filed with the National Electric Power Regulatory Authority.

Signature and stamp

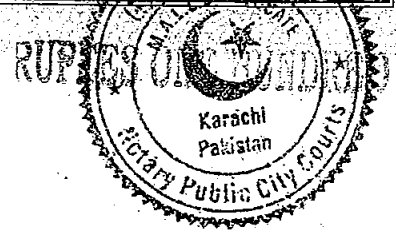
A handwritten signature in black ink is written over a circular stamp. The stamp contains the text "HNDS ENERGY (PVT) LIMITED" around the top inner edge and "KARACHI" in the center. There is a small star symbol at the bottom of the stamp.



JAMIL AKHTER SHAIKH STAMP VENDOR 27-01-21  
Licence # 12, Ghaziabad, Block-M  
Sector 11/388 Orangi Town, Karachi  
S No: 11388

Issued With Address \_\_\_\_\_  
Through With Address \_\_\_\_\_  
Purpose: \_\_\_\_\_  
Value: Rs. 100/- Attached \_\_\_\_\_  
Stamp Vendor's Signature: \_\_\_\_\_  
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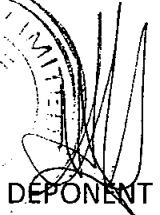
**TAHA SIDDIQUI**  
Advocate



**BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY**

**AFFIDAVIT**

I, Usman Ahmed, CNIC No. 42201-5745466-1, Chief Executive Officer, HNDS Energy (Private) Limited, hereby solemnly affirm and declare on oath that the contents of the accompanying application of HNDS Energy (Private) Limited Solar Limited for the modification of its Generation License No. SPGL/21/2017 dated 16<sup>th</sup> August 2017, including all attached documents-in-support are true and correct to the best of my knowledge and belief and that nothing has been concealed.

  
DEPONENT

Signature  
Name USMAN AHMAD  
Date 27-1-21

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# 1. Background

Under the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of) 1997 (the "NEPRA Act") and the National Electric Power Regulatory Authority Licensing (Generation) Rules 2000, The National Electric Power Regulatory Authority (the "NEPRA") is responsible for and has the authority to, inter alia, grant licenses for the generation of electric power.

Pursuant to the Sections 7(2) (a) and 15 of the NEPRA Act read with the other enabling provisions of the NEPRA Act, the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations 1999 (the "Licensing Regulations 1999"), National Electric Power Regulatory Authority Licensing (Generation) Rules 2000, and in accordance with the Policy for Development of Renewable Energy for Power Generation 2006, HNDS Energy (Private) Limited (the "Company" or "Licensee") submitted its application (the "Application for Generation License") on 15<sup>th</sup> September 2016 for grant of generation license to HNDS Energy (Private) Limited for its solar power generation project.

NEPRA in exercise of the powers conferred upon it under the laws of Pakistan granted Generation License No SPGL/21/2017 (the "Generation License") to the Company on 16<sup>th</sup> August 2017.

The Company hereby applies for modification of its Generation License to adopt technological advancements with respect to solar modules and invertors for the Project (as defined below).

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## 2. Licensee Proposed Modification

This application for modification is being filed pursuant to:

- a) Sub-regulation 2 of Regulation 10 of the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 which provides, inter alia, that:

"A licensee may, at any time during the term of a license communicate to the Authority a licensee proposed modification setting out:

- (i) the text of the proposed modification;
- (ii) a statement of reasons in support of the modifications; and
- (iii) a statement of the impact on tariff, quality of service and the performance of the licensee of its obligations under the license."

- b) Further, Sub-regulation 5 of Regulation 10 of the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 enumerates the conditions applicable to such proposed modification.

- c) Article 3.2 of the Generation License No. SPGL/21/2017 dated 16<sup>th</sup> August 2017 states: "

"The net capacity/Net Delivered Energy of the generation facility/Solar Power Plant/Solar Farm of the Licensee is set out in Schedule-II of this license. The Licensee shall provide the final arrangement, technical and financial specifications and other specific details pertaining to its generation facility/Solar Power Plant/Solar Farm before its COD."

### 2.1 Text of proposed modification

Polycrystalline PV Module Type Peak Energy 320W were selected by the Company as solar modules with central inverters for its proposed 50 MW solar power project to be located in Jhimpir, Thatta, Sindh, Pakistan ("Project"), however, the Company has changed its proposed solar modules.

The Company desires to modify its Generation License with respect to following:

#### 2.1.1 Change In Modules

The Company intends to substitute the modules stated in Generation License (i.e. Polycrystalline PV Module) with Bi-facial mono crystalline modules ("**Updated Modules**").

The licensee is applying for a modification to the Generation License with the aim of utilizing the latest technology available for the Project. In its aim to use latest technology for solar power generation the Company selected mono crystalline bi-facial technology for the Project. It is important to note that this selected technology is latest and technically the best of its class available in the market and very well

suited for the environment at site. Please also note that the tariff for the Project was also approved by the NEPRA on the basis of the Updated Modules.

### 2.1.2 Change in Invertors

The Generation License currently provides for central invertors. The Company proposes to use string invertors given they are more technological advanced. The string invertors would ensure efficient operations of the Project.

In relation hereto, please find the proposed modifications to Schedule 1 and Schedule 2 of the Generation License attached herewith as Annexure 1 and Annexure 2 respectively.

### 2.1.3 Change in Validity period

The Generation License to the Project was issued for period until 30 December 2043. However, Article 4.1 of the Generation License states that the Generation License shall become effective from issuance and shall have a term of twenty-five (25) years from the commercial operations date of the Project. According to the tariff determination issued to the Project, the Company has to achieve Financial Close in 1 year, i.e. by or before 21<sup>st</sup> February 2021 and is required to achieve commercial operations within 10 months i.e. by or before 21.12.2021. Therefore, the license's current validity period (i.e., until 30 December 2043) will expire before the expiry of Energy Purchase Agreement which will have a validity of 25 years from the commercial operations date.

In the light of the above, it is requested that the Generation License may also be modified and the validity to be approved to be 25 years from the commercial operation date to synchronize this with EPA.

## 2.2 Statement of reasons in support to modification

The Company is now considering state of the art bifacial technology, which best suits the site conditions. The Project site is located in a desert area and has reflective sandy surface, therefore use of bifacial panels would potentially improve the energy generation of the Project.

The Company has selected this technology considering the best interest of consumers and the solar industry of Pakistan, and to seek innovation and introduction of state of the art technology.

## 2.3 Statement of impact on the tariff, quality of service and the performance by the Licensee of its obligation under the Generation License

### 2.3.1 Impact on Tariff

The tariff of the Project has been issued on the assumption of using bi-facial modules with trackers and capacity factor awarded by NEPRA is based on the same assumption, hence the above change will not have any impact on the tariff.

### 2.3.2 Impact on Services and Performance

The Company has selected the latest technology of modules and inverters for the Project. The performance of the Licensee of its obligation under the Generation License will improve as a result of this selection. Moreover, proposed modification in Generation License shall not have any adverse impact on the quality of service and performance of the Project.

In view of the foregoing, the Company hereby requests NEPRA to approve the proposed modification to the Generation License as such modification would allow the Company to proceed further with the Project and achieve financial close in a timely manner.




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## 3 Prayer

In light of the submissions set out herein and the information attached hereto (together with the Annexures), this Application for Modification of Generation License is submitted for NEPRA's approval of the proposed modifications in the Generation License granted to the Licensee. Given the advanced stage of the Project, NEPRA is kindly requested to process the Application for Modification of Generation License at the earliest, thereby enabling the Licensee to proceed further with the development of the Project.

Respectfully submitted for and on behalf of

  
Usman Ahmed  
HNDS Energy (Private) Limited



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# Annexure 1: Revised Schedule I

The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule.

**Detail of Generation Facility/Power Plant/**  
**Solar Farm**

**(A). General Information**

(i).	Name of Applicant/Company	HNDS Energy (Private) Limited
(ii).	Registered/Business Office	G-30/4, KDA Scheme No. 5, Block 8, Clifton, Karachi, Pakistan
(iii).	Plant Location	Goth Gagrawara, Taluka Saleh Pat, District Sukkur, Sindh
(iv).	Type of Generation Facility	Solar Power

**(B). Solar Farm Capacity & Configuration**

(i).	Panel Type, Make & Model	Bi-Facial Monocrystalline PERC Half-cell (144 cell) Double Glass Shortlisted suppliers: <ul style="list-style-type: none"> <li>• JA Solar</li> <li>• LONGI</li> <li>• Jinko Solar</li> <li>• Canadian Solar</li> </ul> Or equivalent Tier 1 supplier
(ii).	Installed Capacity of Solar Farm (MW)	50 MWp
(iii).	Number of Solar panel /Size of each Unit (kW)	93548 number of modules ( 84112 no x 535Wp & 9436 no x 530Wp modules)

**(C). Solar Panel Details**

(i).	Name of Manufacturer	Shortlisted suppliers: <ul style="list-style-type: none"> <li>• JA Solar</li> <li>• LONGI</li> <li>• Jinko Solar</li> <li>• Canadian Solar</li> <li>• Or equivalent Tier 1 supplier</li> </ul>
(ii).	Type of Panel	Bi-Facial Monocrystalline PERC Half-cell (144 cell) Double Glass
(iii).	Panel Capacity	535Wp ( $\pm 5$ Wp)

**(D). Inverter Details**

(i).	Name of Manufacturer	Huawei
(ii).	Model	Huawei SUN2000-200KTL-H2
(iii)	Input (DC) Maximum PV input voltage Nominal PV input voltage MPP voltage range	500V – 1500V
(iv)	Output (AC) AC output power	800V (3ph)
(v)	Efficiency (Maximum)	99%

**(E). Other Details**

(i).	Project commissioning date (anticipated)	December 2021
(ii).	Expected Life of the Project from Commercial Operation Date (COD)	25 Years

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## Annexure 2: Revised Schedule II

**The Total Installed/Gross ISO Capacity (MW) of the Solar Farm,  
Auxiliary Consumption, Average Availability, Net capacity factor  
and Annual Generation**

**SCHEDULE-II**

(i).	Total Installed Gross ISO Capacity of the Generation Facility /Solar Farm (MW/GWh)	40.00 MWac/50MWdc
(ii).	Auxiliary consumption	+/- 100kVA
(iii).	Average Availability	99%
(iv).	Annual Energy Generation (25 years equivalent Net AEP in GWh)	287.246 GWh
(v).	Net Capacity Factor	23.27%

**Note**

All the above figures are indicative as provided by the Licensee. The net energy available to power purchaser for dispatch will be determined through procedures contained in the energy purchase agreement.