NASDA

(A Company of SOORTY Group, Pakistan)

October 28, 2019

The Registrar,
National Electric Power Regulatory Authority,
NEPRA Tower, Attaturk Avenue (East),
Sector G-5/1,
Islamabad, Pakistan

— DRO I / ADG-I
— SA (Tech) — SAT-II
— DG (M&E) — ADG (L)
— LA (MIP) — MF
30-10-19
e: Chairman
VC
M(T) — M(DT)
— M(L)

Subject: **MODIFICATION PETITION IN RESPECT OF THE TARIFF DETERMINATION DATED NOVEMBER 19, 2018 BEARING REFERENCE NO. REF NO: NEPRA/TRF-432/NGEPL-2018/18028/18030**

Dear Sirs:

Pursuant to the applicable laws of Pakistan, including the '*Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997*', as amended from time to time (the **NEPRA Act**) and the rules and regulations made thereunder (including rule 3 of the *NEPRA Tariff Standard and Procedure Rules, 1998*', as amended from time to time, **NASDA GREEN ENERGY (PVT.) LIMITED** (a company duly established and existing under the laws of Pakistan with its registered office located at 26-A, S.M.C.H.S, Off: Shahrah-e-Faisal, Karachi, Pakistan) (the **Company**), submits to the **NATIONAL ELECTRIC POWER REGULATORY AUTHORITY** (the **Authority**), for the Authority's kind consideration and approval, the petition (together with the information and annexures attached thereto) to request modifications to the Authority's decision dated November 19, 2018 (Ref No. NEPRA/TRF-432/NGEPL-2018/18028/18030) issued to the Company, based on the grounds set out in the modification petition (the **Modification Petition**).

2. The Modification Petition (including its annexures A,B,C & D) are submitted in triplicate, together with:

(a) a Bank Draft No. 01604848 dated October 17, 2019 amounting to PKR 716,128/- (Pakistani Rupees seven hundred sixteen thousand one hundred twenty eight only) drawn in favour of the Authority, as the application fee for the Modification Petition;

(b) board resolution of the Company; and

(c) affidavit.

3. In light of the submissions set out in the Modification Petition and the information attached to the same, the Authority is kindly requested to process the Modification Petition at the earliest, thereby enabling the Company to proceed further with meeting the objectives, as set out in the Modification Petition, critically dependent on the submissions set out in the Modification Petition.

Respectfully submitted,

FOR AND ON BEHALF OF:
NASDA GREEN ENERGY (PVT.) LIMITED

SHEIKH MUHAMMAD ABDULLAH
COMPANY SECRETARY

NASDA GREEN ENERGY (PRIVATE) LIMITED
Karachi

REGISTRAR
Dy. No. 18718
Dated: 30-10-19

NASDA GREEN ENERGY (PVT) LIMITED.
26-A, S.M.C.H.S. Off. Shahrah-e-Faisal, Karachi, 74400 Pakistan.
UAN: +92 21 111 111 735 T: +92 21 34315191 (4 Lines) F: +92 21 34315129
Email: muhammad.abdullah@soorty.com

Account Payee only

HABIB METROPOLITAN BANK LTD.

Sindhi Muslim Society(Sub SQB)
Branch Code : 7

D.D No. 01604848

Stationery/Ref. No. 01604847

Date : 17 01 19

TEAR OFF HERE

On Demand Pay NATIONAL ELECTRIC POWER REGULATORY AUTHORITY Or Order

PKR ***716,128.00***

Rupees seven hundred and sixteen thousand one hundred and twenty eight only

Drawee Bank/Branch
Habib Metropolitan Bank Ltd.
Islamabad Branch (10)
Islamabad

Signatory Attorney No.
Ghayas Ahmed Qureshi
P.A # B-1195

Signatory Attorney No.
MALIHA IMTIAZ
P.A. # 516

Please do not write below this line

⑈01604848⑈06400 10⑆000000000 114 7477⑈010⑈0000716 12800⑈

Annex-A

BEFORE
THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY (NEPRA)

MODIFICATION PETITION

PURSUANT TO SECTION 31 OF REGULATION OF GENERATION, TRANSMISSION AND DISTRIBUTION OF ELECTRIC POWER ACT, 1997
READ WITH RULE 3 OF
NEPRA (TARIFF STANDARD AND PROCEDURE) RULES, 1998

BY

NASDA GREEN ENERGY (PRIVATE) LIMITED

BEFORE **NEPRA** IN THE MATTER OF TARIFF DETERMINATION FOR
NASDA GREEN ENERGY (PRIVATE) LIMITED

A POWER PROJECT OF 50 MW

AT

DISTRICT THATTA, SINDH, PAKISTAN

DATED: October 28, 2019

NASDA GREEN ENERGY (PRIVATE) LIMITED

ADDRESS:	26-A, Sindhi Muslim Cooperative Housing Society Off Sahrah-e-Faisal, Karachi
PHONE #:	021-34315191-4
FAX #:	021-34315129

NASDA GREEN ENERGY (PRIVATE) LIMITED Karachi

COPY OF BOARD RESOLUTION

NASDA GREEN ENERGY (PRIVATE) LIMITED
Karachi

NASDA

(A Company of SOORTY Group, Pakistan)

EXTRACTS OF THE RESOLUTION PASSED BY THE BOARD OF DIRECTORS OF NASDA GREEN ENERGY PRIVATE LIMITED ON 01 OCTOBER 2019 AT 26-A, SINDHI MUSLIM COOPERATIVE HOUSING SOCIETY, OFF SHAHRAH-E-FAISAL, KARACHI

IT WAS RESOLVED THAT:

Documents signing authorities for correspondence with Government Department / Authorities, Legal Councils, Insurance Brokers, Lenders, Technical Advisors, Financial & Tax Advisors, Auditors etc including but not limited to:

- National Electric Power Regulatory Authority (NEPRA)
- Alternative Energy Development Board (AEDB)
- Central Power Purchasing Agency (Guarantee) Limited (CPPA-G)
- National Transmission and Dispatch Company Limited (NTDCL)
- Energy Department, Government of Sindh (ED GoS)
- Land Utilization Department, Government of Sindh (LUD GoS)
- Taxation Authorities

will be as per following categories:

- Category – A: All members of Category A are authorized to sign all correspondence with above mentioned parties including but not limited to contracts, agreements, letters, deeds, applications and any other relevant document SINGLY.

- Category – B: - Both the members from category B are authorized to sign all the documents, contracts, agreements, letters, deeds, applications and any other relevant document JOINTLY.

Categories		
Category A		
S. No.	Name	CNIC Number
1	Shahid Rashid Soorty – Director	42301-0911370-7
2	Nargis Rashid Soorty- Director	42301-7850250-7
3	Asad Shahid Soorty – Executive Director	42301-8541495-4

For Nasda Green Energy (Pvt) Limited

CERTIFY TRUE COPY

Company Secretary

NASDA GREEN ENERGY (PVT) LIMITED.
26-A, S.M.C.H.S. Off. Shahrah-e-Faisal, Karachi, 74400 Pakistan.
UAN: +92 21 111 111 735 T: +92 21 34315191 (4 Lines) F: +92 21 34315129
Email: muhammad.abdullah@soorty.com

Categories		
Category A		
S. No.	Name	CNIC Number
4	Abdul Aziz Panjwani	42201-0300853-9
5	Sheikh Muhammad Abdullah	42401-7631806-1
Category B		
1	Syed Ali Rizwan	42000-5084956-1
2	Waqas Ahmed	42101-2065600-9

NASDA GREEN ENERGY (PRIVATE) LIMITED ★ Karachi

CERTIFY TRUE COPY

SHAHID RASHID SOORTY
DIRECTOR

For Nasda Green Energy (Pvt) Limited

Company Secretary

COPY OF AFFIDAVIT

NASDA GREEN ENERGY (PRIVATE) LIMITED
Karachi

100 Rupees ۱۰۰ روپیہ

GHULAM SADIQ STAMP VENDOR
Lic # 79, Shop # 113, New Ruby Centre,
Talpur Road, Boulton Market, Karachi. S.No. 14399 Date.
19 JUL 2019
(RUPEES ONE HUNDRED ONLY)
Issue to with Address MR MUHAMMAD YAQOOB
Through with Address MR Advocate L.No.1459
Purpose:
Value Rs: Attatched
Stamp Vendors Signature
(NOT USE FOR FREE WILL & DIVORCE PURPOSE)
Vendor Not Responsible for Fake Documents

Take Effect in All Continents Out of Pakistan Under International Law

F|A-3

BEFORE
NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

AFFIDAVIT

AFFIDAVIT of SHEIKH MUHAMMAD ABDULLAH, COMPANY SECRETARY and authorized representative of M/s. NASDA Green Energy (Private) Limited, with its registered office located at 26-A Sindhi Muslim Cooperative Housing Society, off Shahrah-e-Faisal, Karachi, Sindh, Pakistan (the "Company").

I, the above-named Deponent, do hereby solemnly affirm and declare that:

1. I am the Company Secretary of the Company.
2. The contents of the accompanying application/petition for modification, by the full strength of the Authority under Rule 3(1) of the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998, including all supporting documents are true and correct to the best of my knowledge and belief, and nothing material or relevant thereto has been concealed or withheld therefrom.
3. I also affirm that all further documentation and information to be provided by the Company in connection with the aforesaid application/petition for modification shall be true and correct to the best of my knowledge and belief.

NASDA GREEN ENERGY (PRIVATE) LIMITED Karachi

SHEIKH MUHAMMAD ABDULLAH
Company Secretary
NASDA Green Energy (Private) Limited
26 October 2019
(Deponent)

VERIFICATION

It is hereby verified on solemn affirmation at Karachi on 26 October 2019, that the contents of the above Affidavit are true and correct to the best of my knowledge and belief, and that nothing material or relevant thereto has been concealed or withheld therefrom.

SYED NASIR HUSSAIN ADV. NOTARY PUBLIC KARACHI, PAKISTAN

ATTESTED
S. NASIR HUSSAIN
Advocate & Notary Public
Karachi-Pakistan

COMMISSIONER OFFICIAL SEAL KARACHI PAKISTAN

SWORN BEFORE ME
SYED NASIR HUSSAIN
ADVOCATE & OATH COMMISSIONER
KARACHI, PAKISTAN
26 OCT 2019

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NASDA GREEN ENERGY (PRIVATE) LIMITED
Karachi

1. DETAILS OF THE PETITIONER

NAME AND ADDRESS

NASDA GREEN ENERGY (PRIVATE) LIMITED

ADDRESS: 26-A, Sindhi Muslim Cooperative Housing Society
Off Sahrah-e-Faisal, Karachi
PHONE #: 021-34315191-4
FAX #: 021-34315129

REPRESENTATIVES OF NASDA GREEN ENERGY (PRIVATE) LIMITED

SHEIKH MUHAMMAD ABDULLAH
COMPANY SECRETARY

DETAILS OF THE PETITIONER

NASDA GREEN ENERGY (PRIVATE) LIMITED (THE "**PETITIONER**") HEREBY APPLIES UNDER SECTION 31 OF REGULATION OF GENERATION, TRANSMISSION AND DISTRIBUTION OF ELECTRIC POWER ACT, 1997 READ WITH RULE 3 OF NEPRA TARIFF STANDARD AND PROCEDURE RULES, 1998 AND ALL APPLICABLE PROVISIONS OF OTHER NEPRA LAWS FOR THE MODIFICATION PETITION FOR THE AUTHORITY'S DECISION DATED 19TH NOVEMBER 2018 (REF NO: NEPRA/TRF-432/NGEPL-2018/18028/18030) (THE "**TARIFF DETERMINATION**") IN RESPECT OF ITS 50 MW WIND POWER PROJECT LOCATED AT DISTRICT THATTA, SINDH, PAKISTAN (THE "**PROJECT**").

NASDA GREEN ENERGY (PRIVATE) LIMITED
Karachi

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2. GROUNDS FOR MODIFICATION PETITION

Background Information

NASDA GREEN ENERGY (PRIVATE) LIMITED ("**NGEPL**" or the "**Project Company**"), vide its letter dated 30 December 2017 submitted its Application for Cost Plus Tariff Determination before the National Electric Power Regulatory Authority (the "**Authority**").

The Tariff Determination was announced by the Authority on 19 November 2018.

The Tariff Determination by the Authority is based on certain assumptions which the Petitioner requests the Authority to reconsider, modify and update in light of the prevailing circumstances, as detailed in the following paras.

This Modification Petition is being filed by Sheikh Muhammad Abdullah, Company Secretary of NGEPL for an on behalf of NGEPL , who is well conversant with the facts of the case and is duly authorized by the Board of Directors of NGEPL (the "**Board**") to submit the same before the Authority. Certified true copy of the resolution of the Board authorizing Sheikh Muhammad Abdullah to *inter alia* submit this application is attached hereto along with an affidavit.

NASDA GREEN ENERGY (PRIVATE) LIMITED ★ Karachi

GROUNDS FOR MODIFICATION PETITION

(A) Debt Financing Mix and Repayment Term

The Authority in the Tariff Determination determined the tariff based on 100% financing under the Revised SBP Financing Scheme for Renewable Energy (IH&SMEFD Circular No. 03 of 2016) dated June 20, 2016 (the **"SBP Scheme 2016"**) at a fixed rate of 6%. The Authority also provided in its determination that in case the Petitioner is not able to secure financing under SBP Scheme 2016, then conventional debt with 13 years repayment term will be allowed at rate of 3 Month LIBOR plus 4.25% for foreign debt and 3 Month KIBOR plus 2.25% for local debt.

In the tariff petition, the Petitioner requested for a tariff determination based on mix of local and foreign debt. However, the reference tariff in the Tariff Determination is based on the assumption that the Project Company will avail 100% local financing under the concessionary rates offered in the SBP Scheme 2016. The Tariff Determination recognizes that there may be circumstances where the Project Company is unable to obtain 100% of its debt requirement under the SBP Scheme 2016 and in such case, provides for an adjustment of the reference tariff on conventional local/foreign financing at the time of Commercial Operations Date ("**COD**"), subject to submission of evidence to the Authority that the Project Company has exhausted the option of availing financing under the SBP Scheme 2016 before taking on partial or full conventional loans.

The SBP Scheme 2016 could be availed for 100% of the debt financing requirement of renewable energy projects, subject to a cap of PKR 6 Billion per project, achieving financial close on or before 30 June 2019. It is highlighted that the SBP Scheme 2016 expired on June 30, 2019, however the same has been renewed/extended by the SBP through IH&SMEFD Circular No. 10 of 2019 dated July 26, 2019 (the "**SBP Scheme 2019**"). However, under the SBP Scheme 2019, projects falling under Category I of the SBP Scheme 2019 are only permitted to refinance up to fifty percent (50%) of their debt. In this regard, relevant parts of the SBP Scheme 2019 (*i.e.*, Section 7(a)(iii) of Annexure-I of SBP Scheme 2019) are reproduced below for your reference:

"The refinance under this Scheme shall be up-to 100% of total financing (debt) of an eligible RE project of up to 20 MW and up-to 50% of financing (debt) of an eligible RE Project of more than 20 MW, subject to adherence of other rules & regulations. However, maximum refinance allowed under the Scheme cannot be more than Rs. 6 billion for a single renewable energy project."

For your ready reference, the SBP Scheme 2019 and Annexure-I thereof are attached herewith as **Annexure A** (*SBP Scheme 2019*) to this petition.

In view of the above and as allowed under the Tariff Determination, since NGEPL is only permitted to avail 50% refinance under the SBP Scheme 2019, NGEPL has arranged the balance debt component of the Project in foreign currency. Term sheet from the financiers is attached herewith as **Annexure B** (*Term Sheet*) to this petition.

GREEN ENERGY (PRIVATE) LIMITED Karachi NASDA

Accordingly, since the remaining debt component of the Project is being financed by foreign lenders , NGEPL seeks adjustment of the Tariff Determination from the Authority before financial close, to the extent of the points above, acknowledging and reflecting the financing structure based on a mix of foreign financing and concessionary financing SBP Scheme 2019 in the reference tariff determination. NGEPL requests the Authority to consider the same and issue a duly updated tariff determination with adjusted debt components and related changes to project costs to account for the aforesaid mix financing structure.

Furthermore, the SBP Scheme 2019 allows the repayment period of not more than 10 years, whereas for alternative financing (foreign or local), the Authority in its decision has directed that the repayment period should not be less than 13 years. The lenders require that the reference tariff table should reflect the repayment schedule and respective tariff components of both financing (i.e., local and foreign) separately with their applicable repayment term.

Based on the above, the Authority is requested to revise its Tariff Determination and reference tariff table to reflect the financing 50:50 mix of local and foreign financing being availed by NGEPL instead of 100% financing under the SBP Scheme 2019 in the following manner:

(a) Local Debt	**(50% of the total debt requirement)**
Financing Rate	**6% Fixed under Revised SBP Scheme**
Repayment Term	**10 years after COD on quarterly basis**
(b) Foreign Debt	**(50% of the total debt requirement)**
Financing Rate	**3 Month LIBOR plus 4.25%**
Repayment Term	**13 years after COD on quarterly basis**

(B) Reference Exchange Rate

The Tariff Determination and the reference tariff table is based on the USD/PKR exchange rate of PKR 120. The Authority would appreciate that the current prevailing exchange rate is PKR 160 to USD 1 and is further expected to increase by the time the Project achieves COD.

We would like to emphasize that due to: (a) the unprecedented devaluation of the PKR, (b) the extremely competitive tariff awarded to the Project, (c) the high debt to equity ratio (only 20% equity which does not permit the equity component to bridge the funding gap caused by devaluation), and (d) payment delays from the power purchaser, NGEPL will face extreme hardship in payment of its USD financing obligations immediately upon achievement of COD, until the tariff true-up determination is issued by the Authority, which as per precedent is expected to take considerable time.

As the Authority would be aware the invoices are made in PKR as per the tariff determination.

GREEN ENERGY (PRIVATE) LIMITED NASDA Karachi

The Authority is requested to modify the Tariff Determination and the tariff table based on most recent exchange rate of USD conversion to PKR (PKR 160 to USD 1).

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PRAYER

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In light of the foregoing, it is respectfully prayed that the Tariff Determination and the Order provided therein may please be modified to reflect the changes in tariff assumptions pertaining to Revised SBP Scheme, foreign financing and exchange rate.

The revised debt servicing schedules (SBP Facility and Foreign Debt) and tariff table are annexed at Annexure C (*Proposed Tariff Table*), a statement of comparison under Rule 3(2)(d) of NEPRA (Tariff Standards and Procedure) Rules, 1998 is attached as Annexure D (*Comparison*).

It is respectfully prayed that the learned Authority may declare and notify the changes necessitated in the Tariff Determination upon acceptance of the proposals specified herein above.

NGEPL further reserves its right to adduce further and additional information.

For and on behalf of
NASDA Green Energy (Private) Limited

NASDA GREEN ENERGY (PRIVATE) LIMITED ★ Karachi

…………………………………
Mr. Sheikh Muhammad Abdullah
Authorized Representative

Dated: 28 October, 2019

NASDA GREEN ENERGY (PRIVATE) LIMITED ★ Karachi

ANNEXURE A

NASDA GREEN ENERGY (PRIVATE) LIMITED ★ Karachi

SBP Financing Scheme for Renewable Energy

1. Background

The Green Banking initiative of State Bank of Pakistan is designed to inculcate environmental considerations in banking products, services and operations. As part of this initiative, State Bank has issued Revised SBP Financing Scheme for Renewable Energy on June 20, 2016 with a view to promote renewable energy projects in the country. The Scheme has generated interest among banks and DFIs as well as sponsors of renewable energy projects.

The SBP Financing Scheme for Renewable Energy has been further revised with a view to streamline features and incentives and expand scope of the Scheme to make it more attractive to borrowers and financing banks/DFIs.

2. Objective

Pakistan's economy is facing the dual challenge of energy shortage and climate change. The inadequate supply of energy has severely impacted the growth of industries/businesses and the welfare of public in general. Similarly, the effects of climate change have been observed in the form of devastating floods, droughts, heat waves and changing weather patterns. These changes essentially inhibit our ability to develop sustainably.

In order to support in overcoming these challenges, SBP decided to promote green banking i.e. use of indigenous resources especially renewable energy in order to ensure sustainable banking and development. For this purpose, the scheme has been amended based on the feedback received from various stakeholders. The scheme will provide concessionary financing for large renewable energy power projects as well as for small scale renewable energy solutions. The Scheme also facilitates installation of renewable energy based solutions/ projects under net metering system introduced by National Electric Power Regulatory Authority (NEPRA).

3. Scope

The scheme shall be available for power generation using alternative / renewable energy sources (i.e. solar, wind, hydro, biogas, bio-fuels, bagasse cogeneration, and geothermal as fuel). Scheme is available under three categories, as given below:

I. Prospective sponsors, desirous of setting up renewable energy power projects with a capacity ranging from more than 1 MW and up-to 50 MW.

II. Prospective sponsors, desirous of installing renewable energy based solutions for generation of electricity up-to 1 MW.

III. Vendors and suppliers certified under AEDB Certification Regulation 2018 for installation of wind and solar systems on lease basis or selling of electricity.

NASDA GREEN ENERGY (PRIVATE) LIMITED
Karachi

4. Grant of Refinance

i. The State Bank shall provide refinance to each bank/DFI on service charges (mark-up) basis in terms of Section 17 (2) (d) read with Section 22 of State Bank of Pakistan Act 1956.

ii. Refinance shall be allowed to the banks/DFIs by the concerned office(s) of SBP BSC (Bank) on submission of documents as may be required by State Bank of Pakistan. The documents required are attached.

5. Participating Financial Institutions (PFIs)

Financing under this Scheme shall be provided through all commercial banks and Development Finance Institutions (DFIs).

6. Bank/DFI-wise Refinance Limits

i. Yearly limits shall be allocated to individual banks/DFIs under the Scheme.

ii. The limits shall be allocated for each fiscal year from 1st July to 30th June.

iii. Applications for sanction of limits for each fiscal year (July-June basis) shall be sent by the interested banks/ DFIs to the Director, Infrastructure, Housing & SME Finance Department, latest by 15th May each year. For the current year, the request for sanction of limits may be submitted within 30 days from the date of issuance of the Circular.

iv. Applications for sanction of limits under the Scheme alongwith a requisition form detailing projects in pipeline with financing requirements expected to be disbursed during the year. The requisition form is attached.

v. SBP shall review the utilization of limits by the banks/DFIs periodically and may cancel the unutilized limit for reallocation to other banks/DFIs. No bank/DFI shall be authorized to sanction financing with a view to merely utilize the limit under the Scheme.

vi. The disbursements of banks/DFIs in the absence of valid refinance limit at the time of such disbursements shall not be considered for refinance under the Scheme.

7. Category I of the Scheme

The provisions under this Section (Section 7) are only applicable for Category I of the Scheme.

a. Eligibility Criteria:

i. Financing shall be available to the prospective sponsors who intend to set up renewable energy power projects with a capacity ranging from more than 1 MW to 50 MW for their own use, selling of electricity to the national grid (including distribution companies) or combination of both.

ii. The prospective sponsors shall be required to have completed applicable requirements of Alternative Energy Development Board (AEDB), National Electric Power Regulatory Authority

NASDA GREEN ENERGY (PRIVATE) LIMITED
Karachi

(NEPRA) and other relevant Government Departments / Authority (Federal or Provincial), in compliance with the prevalent Renewable Energy Policy of the Government of Pakistan.

iii. The refinance under this Scheme shall be up-to 100% of total financing (debt) of an eligible RE project of upto 20 MW and up-to 50% of financing (debt) of an eligible RE Project of more than 20 MW, subject to adherence of other rules & regulations. However, maximum refinance allowed under the Scheme cannot be more than Rs. 6 billion for a single renewable energy project.

b. Rates of Service Charges / Mark up:

i. The rate of service charges at which SBP will provide refinance to the banks/ DFIs shall be fixed for the entire duration of the loan, provided the borrowers continue to repay on due dates as per repayment schedule.

ii. Service charges and rates for end users have been fixed as per the following:-

Rate of Refinance	Maximum bank/ DFI's Spread	Maximum End User Rate
3.00%	3.00%	6.00%

c. Terms of Financing:

i. Financing under Category I of the Scheme shall be available for a maximum period of twelve (12) years including a maximum grace period of two (02) years from the date of first disbursement. The grace period may vary depending upon the type of renewable energy source. Therefore, banks/DFIs shall clearly mention the "grace period" in the repayment schedule to be submitted to the concerned office of SBP-BSC (Bank) at the time of availing refinance.

ii. Principal amount of loans shall be repayable in quarterly or half yearly installments after prescribed grace period, if any.

iii. Mark-up shall be paid on quarterly basis.

d. Other Terms & Conditions:

i. For financing requirements within the maximum limit of Rs. 6 billion, financing banks/DFIs may enter into consortium arrangements.

ii. The financing bank/DFI may ensure that firm commitments for the portion of funding not to be financed by SBP (in the form equity, conventional bank finance etc.) are available for the project being financed by them under the Scheme, so that the project does not eventually suffer due to any funding gap. Firm equity commitment from the sponsors may be made in the form which is satisfactory for the financing bank/DFI. The State Bank of Pakistan would, however, not insist on fulfillment of this condition by a specified mode but would let the bank/DFI to satisfy itself in this regard.

NASDA GREEN ENERGY (PRIVATE) LIMITED ★ Karachi

iii. Captive power projects which have already availed financing facilities under any of SBP's long-term refinance facilities shall not be eligible for financing under this Scheme.

iv. The banks/DFIs shall ensure that disbursements by banks/DFIs are not made to the borrowers directly; instead payments are made to the manufacturers / suppliers / contractors in line with underlying contracts and construction milestones.

v. Banks/DFIs shall ensure that contracts/agreements between sponsors and suppliers/contractors etc are made on arms length basis in order to avoid any conflict of interest.

vi. Advance payment to the extent of 20% of the C&F value / ex-factory price/ EPC contract can be made from the financing availed under the Scheme in terms of related underlying agreement. Any advance payment extended by banks/DFIs in excess of 20% shall be eligible for refinance along with last scheduled payment to the supplier/ contractor.

vii. The banks/DFIs shall not take more than three months in evaluating an application for financing under this Category of the Scheme from the date of receipt of complete information from the borrower.

8. Category II of the Scheme

The provisions under this Section (Section 8) are only applicable for Category II of the Scheme.

a. Eligibility Criteria:

i. Financing shall be available to domestic, agricultural, commercial and industrial borrowers who are desirous of installing renewable energy based projects/ solutions of up-to 1 MW for generation of electricity. A borrower may install more than one renewable energy source based projects/ solutions of up-to 1 MW each with the condition that such projects must not be located contiguously.

ii. The energy generated from these projects may be for own use or for supply to the distribution company as per the rules set by NEPRA under their Net Metering Regulations (as amended from time to time).

iii. Refinance may be provided for 100% of financing provided by banks/DFIs to the eligible borrowers subject to adherence of other rules & regulations.

b. Maximum amount of Refinance:

The consolidated borrowing of a single borrower under this Category shall not exceed Rs. 400 million.

c. Rates of Service Charges / Mark up:

i. The rate of service charges at which SBP will provide refinance to the banks/ DFIs shall be fixed for the entire duration of the loan, provided the borrowers continue to repay on due dates as per repayment schedule.

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ii. Service charges and rates for end users have been fixed as per the following:-

Rate of Refinance	Maximum bank/ DFI's Spread	Maximum End User Rate
2.00%	4.00%	6.00%

d. Terms of Financing:

i. Financing under the Scheme shall be available for upto a maximum period of ten (10) years, including maximum grace period of three (03) months.

ii. Principal amount of loans shall be repayable in monthly, quarterly or half yearly installments.

iii. Mark-up shall be paid on monthly or quarterly basis.

e. Other Terms & Conditions:

i. Disbursements by banks/DFIs shall not be made to the borrowers directly; instead payments shall be made to the manufacturers / suppliers / contractors in line with underlying contracts and construction milestones.

ii. Banks/DFIs shall ensure that contracts/agreements between sponsors and suppliers/contractors etc are made on arms length basis in order to avoid any conflict of interest.

iii. Advance payment to the extent of 20% of the C&F value / ex-factory price/ EPC contract can be made from the financing availed under the Scheme in terms of related underlying agreement. Any advance payment extended by banks/DFIs in excess of 20% shall be eligible for refinance upon completion of the project.

iv. The banks/DFIs shall not take more than one month in evaluating an application for financing under this Category of the Scheme from the date of receipt of complete information from the borrower.

9. Category III of the Scheme

The provisions under this Section (Section 09) are only applicable for Category III of the Scheme.

a. Eligibility Criteria:

i. The financing under this Category is available to vendors / suppliers of renewable energy equipment certified under AEDB Certification Regulation 2018.

ii. Moreover, the certified vendors/ suppliers shall also be required to obtain all applicable approvals of AEDB, NEPRA and other relevant government departments/ agencies (including distribution companies).

NASDA GREEN ENERGY (PRIVATE) LIMITED * Karachi

iii. The financing shall be utilized by vendors/suppliers for onward leasing of renewable energy equipment or sale of electricity to ultimate owners/users. The capacity of a single renewable energy project/ solution shall not be more than 1 MW. The ultimate owners/users may be individuals/ entities who, being clients, are the counterparties of vendors/ suppliers in their transactions of leasing out renewable energy equipment or selling of electricity. In case of leasing, the ultimate owners/users may be installing the RE equipment for their own use and/or supply to the Distribution Company under NEPRA's Net Metering Regulations.

iv. A vendor may lease and/or install more than one renewable energy source based projects/ solutions of up-to 1 MW each for a single ultimate owner/user. However, any two or more of such projects/ solutions for a single ultimate owner/user must not be located contiguously.

v. Refinance may be provided for 100% of financing provided by banks/DFIs to the eligible borrowers subject to adherence of other rules & regulations.

b. Maximum amount of Refinance:

The consolidated borrowing of a single vendor/ supplier under this Category shall not exceed Rs. 1 billion. For financing requirements within this limit, financing banks/DFIs may enter into consortium arrangements.

c. Disbursement of Financing:

i. The vendor/ supplier shall avail the facility separately for each client, being the ultimate owner/user of installed RE equipment.

ii. The disbursement shall be made to the vendor/supplier, within consolidated borrowing limit of that vendor/supplier, subject to completion of pre-disbursement formalities as laid down hereinafter.

iii. The financing bank/DFI shall convey the cushion available within consolidated borrowing limit with each refinance disbursement request for a vendor/ supplier to the relevant SBP BSC. Any disbursement in excess of consolidated borrowing limit of that vendor/ supplier shall be subject to immediate recovery from financing bank/DFI and may also attract penalty as per the rates specified by State Bank of Pakistan.

iv. To avail the facility, the lending bank/DFI shall submit disbursement request to the relevant SBP BSC office along with following documents (in addition to documents specified under Section 4(ii) above):

a. Agreement of lease or sale of energy between vendor / supplier and the ultimate owner/user along with schedule of payment of lease rentals or energy bills.
b. Schedule for repayment of finance to SBP BSC.
c. In case of leasing, proof of vendor/ supplier to have received upfront payment of not less than 20% of total installation price from the ultimate owner/user.
d. In case of energy sale agreement, security deposit by ultimate owner/user equivalent to expected average three months electricity bill in a remunerative account in the financing bank/DFI.

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e. Undertaking of ultimate owner/user to route his payments of lease rentals / energy bills through the bank/DFI.

f. Tripartite agreement creating lien of bank/DFI on the RE equipment installed.

g. Approvals of all relevant government departments / agencies, including issuance of license by NEPRA, approval / no objection of relevant distribution company etc.

v. The banks/DFIs shall ensure that contracts/agreements between vendors/ suppliers and ultimate owners/users as well as those of vendors/ suppliers with their suppliers / manufacturers etc are made on arms length basis in order to avoid any conflict of interest.

d. Rates of Service Charges / Mark up:

i. The rate of service charge at which SBP will provide refinance to the banks/ DFIs shall be fixed for the entire duration of the loan, provided the borrowers continue to repay on due dates as per repayment schedule.

ii. Service charges and rates for end users have been fixed as per the following:-

Rate of Refinance	Maximum bank/ DFI's Spread	Maximum End User Rate
3.00%	3.00%	6.00%

e. Terms of financing:

i. The disbursements to the vendor/ supplier for a single client (ultimate owner/user) shall constitute a separate loan facility with its own repayment schedule not exceeding ten (10) years from the date of first disbursement to vendor/ supplier for that particular client.

ii. The vendor/ supplier, being the borrower, shall remain liable for repayment of loan amount to the lending bank/DFI, irrespective of whether the ultimate owner/user makes rental/energy bills payments or not.

iii. Principal amount of loans shall be repayable in monthly, quarterly or half yearly installments.

iv. Mark-up shall be paid on monthly or quarterly basis.

f. Other Terms & Conditions:

i. The vendors/ suppliers shall, on quarterly basis, submit Asset Health Report to the financing bank/DFI.

ii. The banks/DFIs shall not take more than one month in evaluating an application for financing under this Category of the Scheme from the date of receipt of complete information from the borrower.

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iii. In case of government entities/ departments being ultimate owners/ users as clients of vendors/suppliers, SBP may examine requests for relaxing maximum limit of 1 MW for a single project/ solution.

10. Repayment of Financing

i. If a borrower repays the loan amount or its installment, in part or in full, before the due date(s), the banks/DFIs shall be under obligation to repay the amount(s) so received within three working days to the concerned office of SBP-BSC (Bank) failing which fine for late adjustment of loan will be recovered from the concerned bank/DFI, at the rate specified by the State Bank.

ii. The refinance granted by SBP-BSC offices to the banks/DFIs shall be recovered on the due dates as reported in the original repayment schedule from the account of the banks/DFIs maintained with the respective office of the SBP BSC (Bank). In case a borrower fails to make repayment of the amount of installment as per the original repayment schedule(s), the bank/DFI will be entitled to charge normal rate of mark up on such overdue principal amount besides taking other actions to recover the same as are incidental to such defaults.

iii. In no case, the liability of banks/DFIs to pay/repay to SBP BSC the principal amount of refinance, or mark up or any other charges or penalty thereon shall be dependent upon the recovery from the borrowers nor shall such liability be affected by any default on the part of the borrowers.

11. General Terms & Conditions

i. Financing under the Scheme shall be subject to compliance with all rules and regulations including Prudential Regulations. Further, compliance with the instructions related to foreign exchange regulations/ policy must be ensured, for which Exchange Policy Department of SBP may be contacted separately.

ii. The financing bank/DFI shall approach relevant SBP BSC for refinance at the earliest, not later than four (04) weeks after disbursement of financing to the borrower.

iii. Financing banks/DFIs shall ensure fulfillment of requisite pre-disbursement formalities by the borrower through due diligence as per their own internal arrangements to avoid malpractices and mis-utilization of funds under the Scheme.

iv. Besides applying due diligence process as per their lending policies, standard / appropriate procedures in such types of financing, banks/DFIs may also impose any specific condition(s), considered appropriate by them in such type of transactions, while sanctioning loan under the Scheme to protect their interests.

v. Where an application for financing under the Scheme is declined, the bank/DFI will explicitly apprise the reasons for rejecting the application to the prospective borrower.

vi. Refinance shall be provided on the basis of certification by the Internal Audit of financing bank/DFI with regard to confirmation that the loan is within the terms and conditions laid down in the Scheme. A copy of the said Internal Audit Certificate shall be submitted to the concerned office of SBP BSC (Bank) at the time of availing refinance for the first time for a borrower while copies of

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Karachi

certificates in respect of subsequent disbursements may be submitted at the time of availing last refinance for the same borrower/project.

vii. Second-hand equipment/machinery shall not be eligible under the Scheme.

viii. Acquisition of land shall not be eligible for financing under the Scheme.

ix. For a borrower under any Category of the Scheme, the financing bank/DFI may structure loan as per own terms & conditions for any amount exceeding the limit specified under that Category.

x. Financing under the Scheme shall be checked/verified by SBP's Banking Inspection Department (BID) during inspection of the banks/DFIs to ensure that the same has been allowed as per the terms and conditions of the Scheme.

xi. Where a bank/DFI considers the requests of their borrowers for rescheduling of loans granted under the Scheme, the principal amount of refinance shall only be rescheduled in a way that total tenor of refinancing under the Scheme does not exceed maximum period as prescribed under each Category from the date of first disbursement made by the banks/DFIs. Further, the borrower shall be liable to make payment of mark-up at the rate applicable on the date of such rescheduling or the original rate, whichever is higher.

12. Fines

i. In case of violation of the terms & conditions of the Scheme, the SBP shall reserve the right to recover the amount of refinance granted to the bank/DFI along-with fine at the rate of Paisa 60 per day per Rs 1000/- or part thereof.

ii. In case, a borrower makes early repayment(s) of the amount of loan/installment(s) and bank/DFI fails to repay the same to concerned office of SBP-BSC within three working days as mentioned above, late adjustment fine will be charged from the concerned bank/DFI at the rate of Paisa 60 per day per Rs 1,000/- or part thereof.

13. Period of Scheme

Financing under this Scheme shall be available for projects under Category I achieving financial closure and new sanctions under Category II or III after date of issuance of this Circular and up-to June 30, 2022 only.

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ANNEXURE B

NASDA GREEN ENERGY (PRIVATE) LIMITED
Karachi

October 25, 2019

To: Registrar
National Electric and Power Regulatory Authority
NEPRA Tower Attaturk Avenue (East),
Sector G-5/1
Islamabad - 44000

Subject: Tariff Petition - Financing Term Sheet

Dear Sirs,
We, Meezan Bank Limited (the "**MLAA**"), are acting as the senior local and foreign currency facility arranger in order to provide financing for the Project along with a consortium of certain local and international financial institutions (the "**Financiers**").

We, as the MLAA, herewith attach (on behalf of the Financiers) a term sheet reflecting the proposed material terms of the financing, including a principal payment schedule, for the Project. We would like to bring to your attention that the tariff awarded to the Project vide reference no. NEPRA/TRF-432/NGEPL-2018, dated November 19, 2018 in its letter bearing reference no. NEPRA/TRF-432/NGEPL-2018/18028-18030, dated November 19, 2018 (the "**Tariff**") issued by National Electric Power Regulatory Authority ("**NEPRA**") is based on 100% local currency financing through the SBP Refinance Scheme for Renewable Energy launched through IH&SMEFD Circular No. 03 dated June 20, 2016 ("**Original Refinance Scheme**"). The Original Refinance Scheme, which expired on June 30, 2019, could be availed for 100% of the financing requirement of renewable energy projects. A similar refinance scheme was issued for Islamic Banking Institutions ("**IBI**") through IH&SMEFD Circular No. 1 dated February 22, 2019 and later replaced through a revised scheme issued via IH&SMEFD Circular No. 12 dated August 21, 2019 ("**Revised Refinance Scheme**"). Under the Revised Refinance Scheme, projects can finance up to 50% of their finance requirements through the Revised Refinance Scheme.

Yours sincerely,

MEEZAN BANK LTD. Head Office, Karachi

For and on behalf of
Meezan Bank Limited

SUMMARY OF INDICATIVE TERMS AND CONDITIONS

Obligor	NASDA Green Energy Private Limited, a private company organized and incorporated under the laws of Pakistan (hereinafter "**Project Company**" or "**Borrower**").
Sponsor	Sponsor: Shahid Rashid Soorty – Shareholding 99.33%; Nargis Shahid Soorty – Shareholding 0.67%; **Total** – **100%** The above are collectively referred to as "**Sponsors**".
The Transaction	To partially finance the design, engineering, construction and commissioning of a 50 MW wind power project located at Jhimpir, Thatta, Sindh (hereinafter referred to as the "**Project**").
Project Cost	The total cost of the Project is expected to be up to a maximum of USD 63.906 Million (the "**Total Project Cost**").
Debt Equity Ratio	The Project is being financed on an 80:20 debt equity ratio.
Project Equity	USD 12.781 Million (in equivalent PKR) which shall be injected by the Sponsors in form of Cash and / or Equity SBLCs.
Project Financing	USD 51.125 Million
Project Financing Mix	<u>FCY Facility</u>: Up-to USD 25 Million Total of USD 26.125 Million (in equivalent PKR converted at PKR/USD exchange rate of 180) ("hereinafter referred to as "**LCY Facility Amount**") to be arranged under following modes: <u>LCY Revised Refinance Facility:</u> USD 25.563 Million (in equivalent PKR converted at PKR/USD exchange rate of 180) <u>LCY Commercial Facility:</u> USD 0.562 Million (in equivalent PKR converted at PKR/USD exchange rate of 180) In the event that any project costs are not approved for refinance under the Revised Refinance Scheme or the Revised Refinance Scheme is unavailable for the LCY Revised Refinance Facility (or any portion thereof); such financing shall be extended under commercial KIBOR based facility; i.e. LCY Commercial Facility and the terms and condition in relation to the LCY Commercial Facility would be applicable in relation to such portion of the LCY Revised Refinance Facility. The Tariff awarded to the Project is based on 100% local currency financing through the Original Refinance Scheme. The Original Refinance Scheme, which expired on June 30, 2019, could be availed for 100% of the financing requirement of renewable energy projects. The Original Refinance Scheme has been replaced by the Revised Refinance

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	Scheme for IBI. Under the Revised Refinance Scheme, projects can finance up to 50% of their financing requirements through the Revised Refinance Scheme.
Mandated Lead Advisor and Arranger ("MLAA")	Meezan Bank Limited, acting as the senior local and foreign currency facility arranger. Local Currency Financier – Meezan Bank Limited ("**MBL**") Foreign Currency Financier – Islamic Corporation for the Development of the Private Sector ("**ICD**")
Facility	1. <u>LCY Revised Refinance Facility</u> A long-term financing facility up to Twelve (12) years door-to-door commencing from Financial Close ("**FC**"), arranged by MLAA (on a standalone basis or through a consortium), under the Revised Refinance Scheme to partially finance the Project. The maximum amount of the LCY Revised Refinance Facility to be arranged for the Project will be lower of; (A) The maximum refinance limit of up to 50% total Project Financing; or (B) The total LCY Facility refinanced by SBP under the RE Scheme. 2. <u>LCY Commercial Facility:</u> The tenor for LCY Commercial Facility will be a maximum of up to fifteen (15) years door-to-door commencing from Financial Close ("FC"). The maximum amount of LCY Commercial Facility under this scenario would be up-to USD 26.125 Million (in equivalent PKR) in case the entire portion of LCY Revised Refinance Facility is unavailable. ***The LCY Revised Refinance Facility and LCY Commercial Facility (hereinafter collectively referred as "LCY Facility") to be arranged on a best effort basis and will be subject to internal approval of the LCY Financier.*** 3. <u>FCY Facility</u> A USD denominated long-term project finance facility, to be arranged by the MLAA on a shariah compliant basis, to partially finance the Project. The tenor of the FCY Facility will be of up to fifteen (15) years commencing from the FC. The FCY Facility amount will be capped at a maximum amount of USD 25 Million, subject always to the requirement under the Revised Refinance Scheme to obtain alternate financing beyond 50% of total financing requirement under the Revised Refinance Scheme. ***The FCY Facility to be arranged on a best effort basis and will be subject to internal approval of the FCY Financier.*** Financial Institutions providing the FCY Facility and the LCY Facility shall hereinafter collectively be referred to as "**Financiers**"
Pricing & Computation	1. <u>LCY Revised Refinance Facility</u> **SBP Base Rate of 3% plus bank's spread of 3%.** The LCY Revised Refinance Facility would be priced at **3 Months KIBOR + 2.25%** till such time the LCY Revised Refinance Facility financier receives reimbursement under the RE Scheme. 2. <u>LCY Commercial Facility</u> The LCY Commercial Facility will be priced at **3 Months KIBOR + 2.25%**.

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	3. <u>FCY Facility</u> **3 Month US LIBOR + 4.25% per annum.**
Availability Period/Grace Period	Up to twenty four (24) months from Financial Close until the Commercial Operations Date ("COD") or the RCOD under the EPA, whichever occurs earlier.
Payment of Facilities	***LCY Revised Refinance Facility*** Up to twenty (20) semi-annual installments. ***LCY Commercial Facility*** Up to twenty-six (26) semi-annual installments. ***FCY Facility*** Up to twenty-six (26) semi-annual installments. First payment shall be at the end of the 6 months calendar period from the expiry of Availability Period. The Payments shall be made on the 2nd July and 2nd January or 2nd April and 2nd October based on the achievement of COD.
Financial Close ("FC")	A date not later than November 18, 2019 by which the relevant Conditions Precedent under the Facilities and Finance Documents are satisfied, deferred or waived by the Financiers.
Advisory & Arrangement Fee	To be covered in the Finance Documents.
Financing Documents	<u>The Financing Documents to be executed by the Company and the Financiers for the purpose of availing Project Financing will include, without limitation the following:</u> 1. Common Terms Agreement; 2. Accounts Agreement 3. each separate FCY/LCY Facility Agreement; 4. Security Documents; 5. Intercreditor Agreement; 6. Direct Agreements; 7. Sponsor Support Agreement; Any other customary documents as specified in the Common Terms and Accounts Agreement.
Security Structure	<u>The Security Structure will include, without limitation the following:</u> *<u>Claim on Project Cash flows:</u>* • First-ranking pari-passu assignment and charge over present and future receivables from the CPPA-G and/or any of their successors, due under the EPA. • Lien over and set off rights in respect of all Project Accounts (excluding distribution account and certain other accounts). *<u>Assignments of Rights and Benefits:</u>* • Assignment/mortgage over the Project Company's rights and benefits (including liquidated damages) under all Project Documents, including but not limited to EPA, IA, Operations & Management contract, Offshore Supply Contract, the Construction Contract, (**"Project Documents"**) and any performance guarantees/SBLCs issued thereunder and any amendments thereto in form and substance acceptable to Financiers. In addition, the

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	related parties under the Project Documents will be required to enter into direct agreements with the Financiers. • Assignment/mortgage over all rights and benefits of the Project Company under any and all Project insurances and cut-through agreements (if available) / clauses for reinsurance. *Claims on Project Assets:* • First ranking pari-passu, hypothecation charge over all movable assets (current and future) of Project Company, with a 20% margin; • First pari passu mortgage over the unencumbered Project Company's rights in immovable property on which the Project will be established, with a 20% margin. *Others* • 100% of the Project Company's shares shall be pledged in favor of the financiers.
Sponsor Support	Eligible project costs will be funded on 80:20 debt to equity basis. In addition to the initial equity required to fund the project costs, Sponsors will undertake to provide to the Project Company additional funds on the terms to be agreed.
Financial Covenants	Debt to Equity Ratio: 80:20 Debt Service Coverage Ratio: To be covered in Finance Documents
Condition Precedents	The Conditions Precedents to Financial Close will include, without limitation the following: a) A copy of the constitutional documents of the Company and the Sponsors. b) Audited Financial Statements of the Company for the financial year ending 2018 c) A copy of the board resolutions of the Company and its Sponsors (wherever applicable) approving the execution, delivery and performance of the Finance Documents and the project documents to which it is a party. d) Execution of the Finance Documents and each Finance Agreement has become effective in accordance with respective terms mentioned in such agreement. e) Execution of all Project Documents and the related direct agreements thereto with the Financiers. f) First priority encumbrances have been created over the Project Assets in favour of the Security Trustee for the benefit of the Financiers. g) A copy of the final technical due diligence report, issued by the Financiers' technical advisor in form satisfactory to the Financiers. h) A copy of the final legal due diligence report, issued by the Financiers' legal counsel in form satisfactory to the Financiers. i) The Company has provided the following documents in form and substance satisfactory to the Financiers: • Borrower basic fact sheet and loan/finance application form duly executed by the Company; • Certified true copies of Computerized National Identity Cards of the directors and chief executive officers of the Company and the Sponsors;

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- Certified true copies of Computerized National Identity Cards of the Authorized Signatories of the Company and Sponsors; and
- Certified true copies of Computerized National Identity Cards of the witnesses to the Company and the Sponsors' signatures.

j) The Company has injected equity in the Project and/or has provided the requisite Equity SBLCs to the Financiers.

k) Seller SBLC has been issued in favor of the Power Purchaser,

l) Issuance of a Legal Opinion by the Company's legal counsel confirming inter alia, authorization, execution and enforceability of the documents to which it is a party

Issuance of a Legal Opinion by the Financiers' legal counsel confirming inter alia, the validity and enforceability of the Finance Documents

Signatory for and on behalf of
Meezan Bank Limited

MEEZAN BANK LTD. Head Office, Karachi

Name: Zaigham Iqbal
Designation: VP - Investment Banking

Signatory for and on behalf of
NASDA Green Energy (Private) Limited

NASDA GREEN ENERGY (PRIVATE) LIMITED Karachi

Name: Sheikh Muhammad Abdullah
Designation: Company Secretary

PAYMENT SCHEDULES

Details on the LCY Revised Refinance Facility payment schedule (SBP Refinance)

LCY Revised Refinance Facility Amount	PKR 4,601,340,000 (equivalent to USD 25.563 Million)
Payment Tenor	12 years (inclusive of 2 years grace period)
SBP Base Rate	3%
Spread	3%
Total Pricing	6%

Period	LCY Financing			
	Principal	Profit	Payment	Balance
	Million PKR	Million PKR	Million PKR	Million PKR
0				4,601.34
1	171.24	138.04	309.28	4,430.10
2	176.38	132.90	309.28	4,253.72
3	181.67	127.61	309.28	4,072.05
4	187.12	122.16	309.28	3,884.93
5	192.73	116.55	309.28	3,692.19
6	198.52	110.77	309.28	3,493.68
7	204.47	104.81	309.28	3,289.20
8	210.61	98.68	309.28	3,078.60
9	216.92	92.36	309.28	2,861.67
10	223.43	85.85	309.28	2,638.24
11	230.14	79.15	309.28	2,408.11
12	237.04	72.24	309.28	2,171.07
13	244.15	65.13	309.28	1,926.92
14	251.47	57.81	309.28	1,675.44
15	259.02	50.26	309.28	1,416.42
16	266.79	42.49	309.28	1,149.63
17	274.79	34.49	309.28	874.84
18	283.04	26.25	309.28	591.80
19	291.53	17.75	309.28	300.27
20	300.27	9.01	309.28	-

Note: The above payment schedule is made on an assumed PKR/USD exchange rate of 180. However, it is understood that payment under local facility documents will be made on prevailing exchange rate at the relevant payment date.

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Details on the LCY Commercial Facility payment schedule (KIBOR Facility)

LCY Commercial Facility Amount	PKR 101,160,000 (equivalent to USD 0.562 Million)
Payment Tenor	15 years (inclusive of 2 years grace period)
3 Month KIBOR Assumption	25.00%
Spread	2.25%
Total Pricing	27.25%

Period	LCY Financing			
	Principal	Profit	Payment	Balance
	Million PKR	Million PKR	Million PKR	Million PKR
0				101.16
1	0.52	13.78	14.30	100.64
2	0.59	13.71	14.30	100.06
3	0.67	13.63	14.30	99.39
4	0.76	13.54	14.30	98.63
5	0.86	13.44	14.30	97.77
6	0.98	13.32	14.30	96.79
7	1.11	13.19	14.30	95.68
8	1.26	13.04	14.30	94.42
9	1.43	12.86	14.30	92.98
10	1.63	12.67	14.30	91.35
11	1.85	12.45	14.30	89.50
12	2.10	12.19	14.30	87.40
13	2.39	11.91	14.30	85.01
14	2.72	11.58	14.30	82.29
15	3.09	11.21	14.30	79.20
16	3.51	10.79	14.30	75.69
17	3.99	10.31	14.30	71.71
18	4.53	9.77	14.30	67.18
19	5.15	9.15	14.30	62.03
20	5.85	8.45	14.30	56.18
21	6.64	7.65	14.30	49.54
22	7.55	6.75	14.30	41.99
23	8.58	5.72	14.30	33.41
24	9.75	4.55	14.30	23.66
25	11.08	3.22	14.30	12.58
26	12.58	1.71	14.30	-

Note: The above payment schedule is made on an assumed PKR/USD exchange rate of 180. However, it is understood that payment under local facility documents will be made on prevailing exchange rate at the relevant payment date.

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Details on the FCY Facility payment schedule

FCY Facility Amount	USD 25 Million
Payment Tenor	15 years (inclusive of 2 years grace period)
3 Month LIBOR Assumption	2.20%
Spread	4.25%
Total Pricing	6.45%

Period	FCY Financing			
	Principal	Profit	Payment	Balance
	Million USD	Million USD	Million USD	Million USD
0				25.00
1	0.63	0.81	1.43	24.37
2	0.65	0.79	1.43	23.72
3	0.67	0.77	1.43	23.05
4	0.69	0.74	1.43	22.36
5	0.71	0.72	1.43	21.65
6	0.74	0.70	1.43	20.91
7	0.76	0.67	1.43	20.15
8	0.79	0.65	1.43	19.36
9	0.81	0.62	1.43	18.55
10	0.84	0.60	1.43	17.72
11	0.86	0.57	1.43	16.85
12	0.89	0.54	1.43	15.96
13	0.92	0.51	1.43	15.04
14	0.95	0.49	1.43	14.09
15	0.98	0.45	1.43	13.11
16	1.01	0.42	1.43	12.10
17	1.04	0.39	1.43	11.06
18	1.08	0.36	1.43	9.98
19	1.11	0.32	1.43	8.86
20	1.15	0.29	1.43	7.72
21	1.19	0.25	1.43	6.53
22	1.22	0.21	1.43	5.31
23	1.26	0.17	1.43	4.04
24	1.30	0.13	1.43	2.74
25	1.35	0.09	1.43	1.39
26	1.39	0.04	1.43	-

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ANNEXURE C

NASDA GREEN ENERGY (PRIVATE) LIMITED
Karachi

NASDA

NASDA Green Energy (Pvt.) Limited

FIA-5

Proposed Tariff Table

ANNEXURE C

Tariff Table (Rs/kWh) NEPRA

Year	Foreign O&M	Local O&M	Insurance	ROE	ROEDC	Foreign Interest Payment	Foreign Princpal Payment	Local Interest Payment	Local Princpal Payment	Total Debt Servicing	Total Tariff	Total Tariff (US cents)
1	0.5454	0.5454	0.2198	1.7004	0.1536	1.5386	1.2382	1.4156	1.8296	6.0219	9.1866	5.7416
2	0.5454	0.5454	0.2198	1.7004	0.1536	1.4568	1.3200	1.3033	1.9419	6.0219	9.1866	5.7416
3	0.5454	0.5454	0.2198	1.7004	0.1536	1.3696	1.4072	1.1841	2.0610	6.0219	9.1866	5.7416
4	0.5454	0.5454	0.2198	1.7004	0.1536	1.2766	1.5002	1.0577	2.1875	6.0219	9.1866	5.7416
5	0.5454	0.5454	0.2198	1.7004	0.1536	1.1775	1.5993	0.9234	2.3217	6.0219	9.1866	5.7416
6	0.5454	0.5454	0.2198	1.7004	0.1536	1.0718	1.7050	0.7810	2.4642	6.0219	9.1866	5.7416
7	0.5454	0.5454	0.2198	1.7004	0.1536	0.9591	1.8176	0.6298	2.6154	6.0219	9.1866	5.7416
8	0.5454	0.5454	0.2198	1.7004	0.1536	0.8390	1.9377	0.4693	2.7759	6.0219	9.1866	5.7416
9	0.5454	0.5454	0.2198	1.7004	0.1536	0.7110	2.0658	0.2989	2.9462	6.0219	9.1866	5.7416
10	0.5454	0.5454	0.2198	1.7004	0.1536	0.5745	2.2023	0.1181	3.1270	6.0219	9.1866	5.7416
11	0.5454	0.5454	0.2198	1.7004	0.1536	0.4290	2.3478	-	-	2.7768	5.9414	3.7134
12	0.5454	0.5454	0.2198	1.7004	0.1536	0.2738	2.5029	-	-	2.7768	5.9414	3.7134
13	0.5454	0.5454	0.2198	1.7004	0.1536	0.1084	2.6683	-	-	2.7768	5.9414	3.7134
14	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
15	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
16	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
17	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
18	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
19	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
20	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
21	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
22	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
23	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
24	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
25	0.5454	0.5454	0.2198	1.7004	0.1536	-	-	-	-	-	3.1647	1.9779
	0.5454	**0.5454**	**0.2198**	**1.7004**	**0.1536**	**0.8279**	**1.3450**	**0.6285**	**1.5683**	**4.3697**	**7.5344**	**4.7090**

Note:
For computation of Interest During Construction (IDC), Return on Equity During Construction (ROEDC) we have used the same disbursement percentages and computation mehanism as used in the original Tariff Determination.owever, IDC and ROEDC shall be adjusted at the time of COD tariff adjustment on the basis of actual disburements of debt and equity.

ANNEXURE D

NASDA GREEN ENERGY (PRIVATE) LIMITED
Karachi

NASDA

NASDA Green Energy (Pvt.) Limited

Tariff Comparison Schedule (under Rule 3(2)(d) of NEPRA (Tariff Standards and Procedure) Rules, 1998

ANNEXURE D

		Original Tariff Determination	Modification Petition
i)	Levelized ariff (US Cents / KWh)	4.7192	4.7090
ii)	**Project Cost (in US $ Million)**		
	Project Cost other than IDC	61.945	61.945
	IDC	1.961	2.0756
	Total Project Cost	63.906	64.021
iii)	Debt : Equity	80 : 20	80 : 20
iv)	Projet Debt Mix (for reference tariff calculation)		
	SBP Financing	100%	50%
	Foreign Debbt	0%	50%
v)	Reference Exchange Rate	120	160
vi)	Debt Repayment Period (years)		
	SBP financing	10	10
	Foreign Debt	N/A	13

NASDA GREEN ENERGY (PRIVATE) LIMITED Karachi

National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

NEPRA Tower, Attaturk Avenue (East), G-5/1, Islamabad.
Ph: +92-51-9206500, Fax: +92-51-2600026
Web: www.nepra.org.pk, E-mail: registrar@nepra.org.pk

No. NEPRA/TRF-432/NGEPL-2018/18028-18030
November 19, 2018

Subject: **Determination of the National Electric Power Regulatory Authority in the matter of Tariff Petition filed by NASDA Green Energy (Pvt.) Limited for Determination of Reference Generation Tariff in respect of 50 MW Wind Power Project** [Case # NEPRA/TRF-432/NGEPL-2018]

Dear Sir,

Please find enclosed herewith the subject Determination of the Authority along with Annexure-I & II (27 pages) in Case No. NEPRA/TRF-432/NGEPL-2018.

2. The Determination is being intimated to the Federal Government for the purpose of notification in the official gazette pursuant to Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

3. The Order part along with Annexure-I & II of the Authority's Determination are to be notified in the official Gazette.

Enclosure: As above

19.11.18
(Syed Safeer Hussain)

Secretary
Ministry of Energy (Power Division)
'A' Block, Pak Secretariat
Islamabad

CC:

1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.

DETERMINATION OF THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY IN THE MATTER OF TARIFF PETITION FILED BY NASDA GREEN ENERGY (PVT) LIMITED FOR DETERMINATION OF REFERENCE GENERATION TARIFF IN RESPECT OF 50 MW WIND POWER PROJECT

1. NASDA Green Energy (Pvt.) Limited ("NGEPL" or "the petitioner" or " the company/ project company") vide its letter dated December 27, 2017 filed a tariff petition before National Electric Power Regulatory Authority ("NEPRA" or the Authority") under the Regulation of Generation, Transmission and Distribution of Electric Power Act 1997 ("NEPRA Act") and NEPRA (Tariff Standards & Procedure) Rules, 1998 for determination of reference generation tariff in respect of its 50 MW wind power project ("the project") envisaged to be set up at Jhimpir, District Thatta, Sindh. The petitioner has requested for the approval of levelized tariff of US Cents 6.9056/kWh (Rs. 7.2509/kWh) over the tariff control period of 25 years.

SUBMISSIONS OF THE PETITIONER

2. The petitioner submitted that it is a company registered under the laws of Pakistan. Letter of Intent ("LOI") has been issued by Directorate of Alternative Energy, Government of Sindh ("GOS") on July 30, 2015 for establishing a 50 MW wind power generation project. On January 15, 2018, the validity of the said LOI was extended by GOS up to August 18, 2018.

3. NGEPL also submitted the minutes of the meeting of Panel of Experts ("POE") of GOS dated November 7, 2017 which was conducted to review the feasibility study submitted by NGEPL. In that meeting POE approved the feasibility study of the project and advised the project company for further perusal of tariff and generation license. The generation license was issued by NEPRA to NGEPL on August 3, 2017.

4. Summary of the key information provided by the petitioner is as follows:

Project company	:	NASDA Green Energy (Pvt.) Ltd
Sponsors	:	Soorty Enterprises (Pvt.) Ltd. and Individuals of Soorty Family
Capacity	:	50 MW
Project location	:	Jhimpir, District Thatta, Sindh

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Land area	:	360 acres (allocated by GOS)	
Concession period	:	25 years from Commercial Operations Date	
Power purchaser	:	Central Power Purchasing Agency Guarantee Ltd.	
Wind Turbine	:	Siemens Gamesa Renewable Energy	
Model	:	G 114-2.0	
Plant capacity factor	:	38%	
Annual energy generation	:	166.440 GWh	
EPC contractor	:	Hydrochina Corporation	
Project cost		**USD in millions**	
EPC cost	:	78.000	
Project Development, Non EPC and Land Cost	:	3.830	
Duties and taxes	:	1.030	
Insurance during construction	:	0.550	
Financial Charges	:	1.760	
Interest during construction	:	2.760	
Total project cost	:	**87.930**	
Financing structure	:	Debt: 80% : Equity: 20%	
Debt composition	:	50% Local and 50% foreign loan	
Interest rate	:	SBP facility - Fixed rate (2%) + 1.75%	
	:	Foreign Loan- 3 month LIBOR (1.81%) + 4.5%	
Debt repayment period	:	Local loan 10 years and foreign loan13 years	
Return on equity	:	15% IRR based	
Operations cost	:	USD 1.90 million per annum	
Insurance cost	:	USD 0.39 million per annum	
		PKR/kWh	**US¢/kWh**
Levelized Tariff	:	7.2509	6.9056
Exchange rate	:	1 USD = PKR 105	

PROCEEDINGS:

5. The Authority considered the tariff petition and admitted the same for further processing. Notice of Admission/Hearing containing salient features of the petition, hearing schedule and issues framed for hearing was published in two national daily newspapers on March 19, 2018. Through

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the said notice, NEPRA invited comments and intervention requests from the interested parties within fourteen (14) days of publication of notice. Tariff petition and Notice of Admission/Hearing were also published on NEPRA's website for information of general public. Individual Notices of hearing were also sent to the stakeholders, considered to be relevant, and the petitioner on March 20, 2018 for participation in the proceedings.

6. The hearing on the subject matter was held on April 10, 2018 (Tuesday) at 11:45 A.M. at NEPRA Tower, Islamabad, which was attended by a large number of participants including the petitioner, representatives of National Transmission & Despatch Co. Ltd. ("NTDCL"), GOS etc.

7. In response to Notice of Admission/Hearing, comments were received from Central Power Purchasing Agency (Guarantee) Limited (CPPA-G) dated March 27, 2018 and Mr. Azhar Azim dated Mar 26, 2018 whereas no intervention request was received from any party. Mr. Azhar Azim in his comments supported the development of the petitioner's project offering lower tariff compared to the average electricity price of Rs.15/kWh (approx.) currently being charged to end electricity consumers. The comments of CPPA-G are discussed in the relevant paragraphs of this determination.

ISSUES FRAMED:

8. Following is the list of issues that were framed by the Authority for the hearing:

   i. Whether the details provided for EPC cost are sufficient and whether the claimed EPC cost is competitive and comparative and based on the firm and final agreement(s)? and
   ii. Whether the NEPRA (Selection of EPC Contractor by IPPs) Guidelines, 2017 have been fully complied with?
   iii. Whether the details provided for Non-EPC cost are sufficient and claimed Non-EPC cost is justified? Also provide justification for land requirement as claimed by the petitioner.
   iv. Whether the claimed annual energy generation and corresponding plant capacity factor are reasonable and justified? And
   v. Whether the petitioner's proposed wind turbine technology satisfies the international standards of quality and operation?

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vi. Whether the claimed O&M costs are justified? Provide rationale of claiming foreign & local O&M cost.

vii. Whether the claimed insurance during operation cost is justified?

viii. Whether the claimed return on equity is justified?

ix. Whether the claimed financing/debt terms are justified?

x. Whether the claimed construction period is justified?

xi. Any other issue with the approval of the Authority.

9. The issue wise submissions of the petitioner and the Authority's findings and decision thereon are as under:

Whether the details provided for EPC cost are sufficient and whether the claimed EPC cost is competitive and comparative and based on the firm and final agreement(s)? And Whether the NEPRA (Selection of EPC Contractor by IPPs) Guidelines, 2017 have been fully complied with?

10. The petitioner has claimed USD 78.000 million on account of Engineering, Procurement and Construction ("EPC") cost in its tariff petition. In this regard the petitioner has submitted copies of EPC contracts signed on December 11, 2017. The breakup of the EPC cost as given in the EPC contract and submitted during the hearing is given hereunder:

EPC cost	USD Million
Offshore contract	67.000
Onshore contract	11.000
Total	**78.000**

11. In its petition, NGEPL submitted that it adopted an effective and efficient bidding process for procuring the services of EPC contractor at the most competitive prices. The petitioner submitted that based on thorough due diligence and following an intense negotiations process with the EPC contractors, the project company shortlisted Hydrochina International Engineering Company Limited with Gamesa as the technology for the project. NEPRA vide letter dated May 11, 2018 directed NGEPL to submit the complete documents related to bidding process followed by the project company for the selection of the EPC contractor. In response, the petitioner submitted the required documents with respect to the bidding process vide letter dated May

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31, 2018. In the said letter the petitioner informed that Request for Proposal ("RFP") was issued to various EPC contractors on April 13, 2016 and the potential bidders were requested to submit their bids by or before May 12, 2016. In response, following EPC contractors submitted their bids:

a) Nordex Acciona Wind Power
b) Hydro China International
c) Sany Heavy Energy Machinery Limited
d) Shandong Swiss Electric Company Limited
e) Orient Energy System

12. The petitioner submitted that the bid evaluation process was conducted by its technical consultant along with project development team of the company. All the received bids were critically evaluated based on various, technical, commercial and financial parameters. According to the evaluation matrix, M/s Hydrochina International was selected as EPC contractor with overall price of USD 84 million. The petitioner further submitted that NEPRA announced benchmark tariff for wind power projects on January 27, 2017. For filing petition under cost plus mode, NGEPL submitted that it renegotiated the EPC price to the level of USD 78 million with the selected EPC contractor to bring that in line with the benchmark tariff. Further, the WTG having hub height of 93m was selected as opposed to previously offered 80m to increase the energy output. In its petition, NGEPL submitted that the Offshore Contract was signed with M/s Power Construction Corporation of China Limited on December 11, 2017 which includes procurement and supply of wind turbine generators, electrical and mechanical equipment outside Pakistan. The Onshore Contract was signed with M/s Hydrochina International Engineering Company Limited on December 11, 2017 which includes civil works, erection, commissioning, testing, etc. The EPC contractor will install 25 x G114-2.0 selected WTGs at 93 meter hub height for the project. The petitioner submitted that since it has already selected EPC contractor for the project in the year 2016, therefore, NEPRA (Selection of Engineering, Procurement and Construction Contractor by Independent Power Producers) Guidelines, 2017 dated May 19, 2017 are not applicable in the instant case.

13. To evaluate the EPC cost claim of NGEPL, the Authority has considered the latest available EPC cost data in different parts of the world. The information given in the reports published by

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International Renewable Energy Agency ("IRENA"), Bloomberg and other sources has been relied upon for this purpose. Furthermore, the tariff determinations approved by the regulators of countries in different regions have also been studied. The costs allowed by the Authority in previously determined wind power projects were also examined. After analysing all this information, the Authority is of the view that EPC cost of USD 78.000 million as claimed by NGEPL is on the higher side. The process of selection of contractors followed by the petitioner may have been transparent; however, the same has not yielded prices which can be considered competitive and comparative. The considerations of the Authority for the assessment of the EPC costs to be allowed to the petitioner are given in the following paragraph.

14. It was noted that the average wind turbine prices across most of the countries were below USD 1 million per MW in 2017. The most updated reports provide that average global cost of wind turbines for the contracts signed in 1st Half of 2018 have fallen to around USD 0.85 million per MW. Beside turbine cost, the absolute amount and proportion of other components that constitute the total EPC cost as given in the referred reports was also analysed. EPC costs in China and India were also checked and found lowest in the world due to their local manufacturing, low cost of land and labour etc. For instance, there are states in India where the total EPC cost of even less than USD 0.80 million per MW has been currently allowed by their respective regulators. However, the Authority is of the view that the cases of any particular country cannot be made exact reference for Pakistan owing to differences in market conditions, local manufacturing bases, tariff regimes, performance targets and other technological and economic factors. The trend of decrease in EPC prices over last couple of years and reasons thereof were also examined. The competition among WTG suppliers has been reported as the primary factor for the decline in turbine prices and corresponding EPC cost of wind power projects. The variations in the cost of turbine having different hub heights, rotor diameters, nameplate capacity, origin of manufacturing were also analysed. The differences in the civil cost part of the project due to variations in the number and size of the turbines were also considered. The Authority further noted that margins for EPC contractor, transportation costs, level of performance being approved in this determination etc. should also be taken into account to set the EPC cost. After detailed analysis of the available information and factoring in all the aforesaid factors, the Authority has decided to approve the EPC cost of NGEPL as USD 57.940 million.

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15. The allowed EPC cost is the maximum limit on overall basis. Applicable foreign portion of this cost shall be allowed variations at Commercial Operations Date ("COD") due to change in PKR/USD parity during the allowed construction period, on production of authentic documentary evidence to the satisfaction of the Authority.

Whether the details provided for Non-EPC cost are sufficient and claimed Non-EPC cost is justified? Also provide justification for land requirement as claimed by the petitioner.

16. The petitioner has claimed USD 9.930 million on account of non-EPC cost. Detail of non-EPC cost provided by the petitioner is hereunder:

Non-EPC Cost	(USD million)
Project development Cost, Non-EPC & land cost	3.830
Duties and taxes	1.030
Insurance during construction	0.550
Financial fee and charges	1.760
Interest during construction	2.760
Total Non-EPC Cost	**9.930**

Project Development Cost, Non-EPC & Land Cost

17. The petitioner has claimed Project Development Cost ("PDC") of USD 1.740 million. In its petition and during the hearing, the petitioner submitted that this claim includes the cost of feasibility and other studies, project management expenses, fees in relation to advisors of the project and contingencies. Non-EPC cost of USD 1.390 million has been claimed which includes cost of met mast and its O&M, administrative costs, fixed assets and office expenses, funding cost of Sindh Sales Tax etc. Land lease and its development cost of USD 0.7 million has been claimed for 360 acres of land. The petitioner submitted that claimed land development cost includes the expenses of housing colony which shall accommodate approximately 25 employees / personnel of owner's engineer.

18. The petitioner submitted that the land lease for 360 acres has been signed with GOS on June 05, 2017. The petitioner has submitted the agreement of lease as per which it has already paid an amount of Rs. 10.8 million for the first 10 years lease.

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19. The Authority has noted that PDC (inclusive of non-EPC and land cost) of around USD 3.5 million had been allowed in the earlier tariff cases of wind power projects. The Authority also referred the recent tariff cases of solar power projects of comparable size where the maximum PDC to the tune of USD 1.782 million has been allowed. Considering these details while accounting for the difference in construction period between solar and wind power projects, the Authority has decided to allow USD 2.5 million on account of PDC (inclusive of Non EPC and Land cost) to the petitioner. This cost shall be adjusted at actual, up to the maximum allowed cost, based on production of verifiable documents at the time of COD.

Duties and Taxes

20. The petitioner has claimed taxes & duties of USD 1.034 million. The petitioner submitted that Sindh Infrastructure Development Surcharge @ 1.15% of the imports for the project has been assumed. The petitioner further submitted that custom duty, sales tax and advance income tax have not been assumed in the petition and requested to allow/adjust at actual at COD.

21. The Authority noted that it has been allowing only those duties and taxes which are directly imposed on the petitioner and not on the third party, being non-transferable and non-reimbursable nature up to commencement of operation at COD stage on actual upon production of verifiable documentary evidences to the satisfaction of the Authority. The same treatment is allowed for NGEPL also. Doing so, impact of such duties/taxes has not been taken into account in the reference tariff and the same shall be adjusted at the time of COD.

Insurance During Construction

22. The petitioner has claimed USD 0.550 million on account of insurance during construction cost based on 0.70% of EPC cost plus custom duties. Following insurance coverage has been indicated by the petitioner as required by the lenders during the construction period:

   a. Construction all risk insurances (CAR)
   b. CAR delay in start-up insurance
   c. Terrorism insurance
   d. Marine and inland transit insurance
   e. Marine – delay-in start-up insurance

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f. Comprehensive general liability

23. The Authority has analysed the available data with respect to during construction insurance incurred by a number of wind power projects that have achieved COD. It has also been noted that in the recent tariff cases of solar power projects, the Authority has allowed pre-COD insurance at the maximum rate of 0.50% of the approved EPC cost. Based on these considerations, the Authority has decided to allow insurance during construction to the maximum of 0.5% of the approved EPC cost for the project as well which works out to be around USD 0.290 million. Insurance during construction shall be adjusted at actual, subject to allowed amount as maximum limit, at the time of COD on production of authentic documentary evidence to the satisfaction of the Authority.

Financial Fee & Charges

24. The petitioner has claimed USD 1.760 million on account of financial charges and submitted that the claimed amount includes lenders up-front fee, lenders advisors & agents charges, commitment fee, management fee, charges related to various Letter of Credit ("LC") to be established in favour of various contracting parties, fees payable and stamp duty applicable on the financing documents, agency fee, security trustee fee, LC commitment fee/charges for EPC, commitment fee and other financing fees cost and charges. The petitioner submitted that keeping in view the deteriorating country risk profile of the country and prevailing circular debt issue, higher financing cost is required to be incurred for obtaining financing for the project.

25. It was noted that in earlier tariff determinations for wind power projects, the Authority had allowed financial fee & charges at the rate of 3% of the debt portion of capital expenditures (EPC, PDC, pre-COD insurance). In recent cost plus tariff determinations of solar power projects, financial fee & charges at the rate of 2.5% of the debt portion of capital expenditures has been allowed. Considering the recent standards, the Authority has decided to approve financing fee and charges with the cap of 2.5% of the allowed debt portion of the approved capital cost as claimed by NGEPL. Accordingly, the allowed amount under this head works out to be around USD 1.215 million. Financing charges shall be adjusted at actual, subject to allowed amount as maximum limit, at the time of COD on production of authentic documentary evidences to the satisfaction of the Authority.

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Interest During Construction (IDC)

26. The petitioner has claimed interest during construction of USD 2.760 million for 16 month construction period which has been calculated at State Bank of Pakistan ("SBP") financing rate of 2% plus a spread of 1.75% for local financing and at 3-month LIBOR (1.81%) plus a spread of 4.5% for foreign loan. The petitioner submitted that actual IDC, however, shall be subject to change in base rate, funding requirement (drawdowns) of the project during the construction period, changes in project cost including changes due to taxes and duties, and variations in PKR/USD exchange rate. The loan repayment period of ten years for local loan and thirteen years for foreign loan has been claimed by the petitioner. The terms of financing as well as period for construction being approved in this determination are discussed in the ensuing relevant sections. Based on the approved financing terms, construction period, capital cost including financing fee and charges while considering notional drawdowns of 20% in each quarter, the IDC works out to be USD 1.961 million which is hereby approved.

27. Recapitulating the above, the approved project cost under various heads is given hereunder:

Project Cost	(USD million)
EPC Cost	57.940
Project Development Cost	2.500
Insurance during construction	0.290
Financing Fee & Charges	1.215
Interest During Construction	1.961
Total	**63.906**

Whether the claimed annual energy generation and corresponding plant capacity factor are reasonable and justified? And whether the petitioner's proposed wind turbine technology satisfies the international standards of quality and operation?

28. The petitioner submitted the following technical parameters in this regard:

Project capacity	50 MW
Annual power generation	166,440 MWh
Net capacity factor	38%
Hub Height	93m
Rotor Diameter	114m
Name plate capacity (Each Turbine)	2 MW

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29. The petitioner has claimed annual energy production of 166.440 GWh and corresponding net plant capacity factor of 38%. The petitioner submitted Wind Resource and Energy Yield Assessment Report ("Energy Report") conducted by the technical consultant hired by NGEPL. During the hearing, the petitioner submitted that the project has collected wind climate data from a Ground Measuring Station installed at the project site according to international standards. The petitioner further submitted that the selected WTG is type certified by accredited agency namely Det Norske Veritas (DNV) laboratory against the site conditions and EBOP is IEC certified against relevant standards and conforms to NTDC specifications.

30. To assess this parameter of tariff, the Authority has analysed the data of energy yields of currently operational wind power plants in the country. The data of energy yields in different regions of the world and their trend in last couple of years has also been reviewed. It has been noted that worldwide, the capacity factors have improved as new machines are yielding better energy output within a given wind resource regime. These improvements have also been noted while comparing the energy production of old and newly commissioned wind power projects in Jhimpir region. It is found that the primary reason of these better results has been the change in turbine design through improvement in hub height, nameplate capacity and especially the enhancement in rotor diameters. For NGEPL also, it has been found that the mentioned three parameters are better than the turbines installed by the earlier wind power projects which are under operation in the country. Keeping in view these considerations while comprehensively analysing the information with respect to wind resource, location, technology etc. the Authority understands that the net annual plant capacity factor as claimed by the petitioner is quite on the lower side. The Authority is of the view that the energy numbers provided in the Energy Report at each probability level are quite conservative. As per the analysis of the Authority, it is considered that there exists high likelihood that the project can comfortably achieve yield better than given in the Energy Report even when compared with energy numbers at P50 level.

31. The Authority also noted the recent tariffs of three wind power projects were approved based on capacity factor results as assessed by the Authority. However, those project companies filed review motions primarily objecting the capacity factor approved in those determinations. In addition, the financiers such as Asian Development Bank and International Finance Corporation approached the Authority stating that it may not be viable for them to finance wind power

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projects on the basis as adopted by NEPRA to assess capacity factor. They requested the Authority that tariff of wind power projects should be set on a good probability level, preferably as given in their Energy Reports. They further submitted that the tariffs of wind power projects throughout the world are set on energy yield having higher possibility, mainly for financing purpose.

32. In view of these considerations and primarily to ensure the bankability of the project, the Authority has decided to set the tariff of NGEPL at net annual plant capacity factor of 38.51%. However, keeping in view the assessed potential of higher generation, the Authority has decided to approve the following sharing mechanism:

Net annual plant capacity factor	% of prevalent tariff allowed to power producer
Above 38.51% up to 40.51%	5%
Above 40.51% up to 42.51%	10%
Above 42.51% up to 44.51%	20%
Above 44.51% up to 46.51%	40%
Above 46.51% up to 48.51%	80%
Above 48.51%	100%

Whether the claimed O&M costs are justified? Provide rationale of claiming foreign & local O&M cost.

33. The petitioner has claimed O&M cost of USD 1.90 million per annum i.e. USD 38,000 per MW per annum. The petitioner submitted the O&M contract for the initial 2 years (i.e. warranty period) signed with Hydrochina International Engineering Company Ltd. on December 11, 2017. In its petition and during the hearing, NGEL submitted that the claimed O&M includes cost of services rendered by the O&M operator, spare parts and related cost for routine maintenance. It also includes cost of administrative expense, security expenses, human resources, local general stores, utilities, land lease, corporate, audit & advisory fees, etc. The petitioner submitted that local portion of O&M cost is 45.75% and foreign portion is 54.25%.

34. To evaluate the O&M cost claim of NGEPL, the Authority has considered the latest available O&M cost data in different parts of the world. The information given in the reports published by IRENA, Bloomberg and other sources has been relied upon. Furthermore, the tariff determinations approved by the regulators of countries in different regions have also been

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studied. The costs allowed by the Authority in previously determined wind power projects were also examined. Analysing all this data and particularly the trend of decrease in this cost component, the Authority is of the view that O&M cost of USD 1.9 million as claimed by NGEPL is not reasonable. The considerations made by the Authority for the assessment of the O&M costs to be allowed to the petitioner are given in the following paragraph.

35. The referred reports provide that the O&M cost has decreased sharply over the last couple of years and forecast further decrease in the upcoming years. The O&M cost of as low as USD 15,000 per MW per annum has been found in the referred sources for the initial term contracts. However, these sources qualify that O&M cost increases reasonably with turbines age as component failure becomes more common and manufacturer warranties expire. It has also been found that wind power projects being setup with larger turbines and more sophisticated design will have relatively lower overall O&M cost. The reported impact of size of project and turbines on the annual cost of O&M and differentials with their varying sizes was also analysed. O&M cost in India and China have also been checked and found to be lowest across different countries. Particularly in India, the O&M cost has been found in range of USD 10,000 per MW to USD 14,000 per MW in different states. Nevertheless, the Authority is cognizant of the fact that the costs of India and China cannot be replicated in Pakistan due to advanced development stage of wind industry in those countries and consequent available expertise in terms of manpower and required equipment as well as due to difference in tariff regimes. In addition, the Authority also noted that the level of performance being approved in this determination is relatively higher as compared to what is allowed in India and China which shall require more robust warranties from the O&M contractor that shall also result in comparatively higher O&M cost. Considering all these factors, the Authority has decided to approve O&M cost of USD 23,000 per MW per annum for NGEPL. In view of the claim of the petitioner and other project companies, the Authority has decided to share the approved O&M cost into local and foreign components in the ratio of 50:50.

Whether the claimed insurance during operation cost is justified?

36. The petitioner has claimed USD 0.39 million insurance during operation per annum based on 0.5% of the claimed EPC cost. The petitioner submitted that insurance cost includes all-risk insurance, business interruption insurance for the project. The petitioner submitted that these

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are standard insurances required by all lenders and also set out under the Energy Purchase Agreement ("EPA"). The petitioner submitted that since the Pakistan insurance/re-insurance industry does not have sufficient capacity and expertise to manage such huge risks entirely, therefore, this risk is required to be insured/reinsured internationally. The risk to be covered under these insurance includes machinery breakdown, natural calamities (earthquake, floods, etc.), sabotage and consequential business interruption, etc.

37. The Authority has allowed insurance during operation at the rate of 0.4% of the EPC cost in the most recent determination of solar energy projects. The data of actual insurance of operational wind power projects has also been analysed for this purpose which shows that insurance during operation has been secured at the rate of even less than 0.4%. In view thereof, the Authority has decided to allow insurance during operation at maximum limit of 0.4% of the approved EPC cost to NGEPL. This cost shall be allowed adjustment on annual basis as per the mechanism given in the order part of this determination.

Whether the claimed return on equity is justified?

38. The petitioner claimed return on equity (ROE) and return on equity during construction (ROEDC) of 15% (IRR basis) net of withholding tax. The petitioner has requested that the withholding tax has not been identified as a separate line item in the tariff as the same is assumed to be pas through item under the tariff.

39. It was noted that over the passage of time, the Authority has revised the equity returns downward for a number of generation technologies keeping in view the developments in those sectors. The Authority has noted that nearly 1200 MWs of wind power projects are operational. Further, it has been learnt that wind power projects having capacity of more than 2,000 MWs to be setup in Sindh have obtained LOIs from different facilitating agencies. This makes it quite clear that risk profile for developing wind projects especially in Sindh province has reduced considerably. Moreover, the Authority noted that a number of under process wind power companies have claimed ROE of even less than 14%. In view thereof, the Authority has decided to approve the ROE for the petitioner at the rate of 14%. Regarding the petitioner's claim of withholding tax on dividend, the Authority noted that it has principally decided not to allow this tax as pass through in any of the tariff cases.

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Whether the claimed financing/debt terms are justified?

40. The petitioner has submitted that 50% foreign loan and 50% local loan shall be secured for the project based on debt to equity ratio of 80:20. For foreign financing, the interest rate of LIBOR (1.81%) plus 4.50% with debt repayment period of 13 years has been claimed. For local financing, the petitioner submitted that debt under SBP financing scheme shall be availed with a fixed rate of 2% plus 1.75% with debt repayment period of ten years. The petitioner has submitted indicative term sheet signed with the lenders (Faisal Bank Ltd. and FMO Entrepreneurial Development Bank with United Bank Ltd).

41. The Authority has considered the terms of financing being claimed by the petitioner. The Authority has noted that the SBP has issued concessionary financing scheme in June, 2016. Under the said scheme, renewable energy projects having capacity up to 50 MW can secure loan up to the limit of Rs. 6 billion at the rate of 6% for the debt servicing tenor of ten years. The size of the project being setup by the petitioner is 50 MW which makes it eligible to avail financing under SBP scheme. The Authority has therefore decided to approve the reference tariff of NGEPL on the terms of financing scheme issued by SBP and hereby direct the petitioner to approach SBP for this purpose.

42. In case the petitioner is not able to secure financing under SBP scheme then the tariff of NGEPL shall be adjusted on conventional local/foreign financing, or a mix of both, at the time of its COD. However, the petitioner shall have to prove through documentary evidence issued by SBP/commercial bank that it exhausted the option of availing 100% financing under SBP scheme before availing part/full of conventional local/foreign loan. For conventional full/part of local loan, if any, the tariff of the petitioner shall be approved on applicable KIBOR plus spread of 2.25% and foreign loan on applicable LIBOR plus spread of 4.25%. For conventional loans, the term of debt servicing shall not be lesser than thirteen years. As the reference tariff has been computed using 100% loan under SBP scheme as against the claim of 50% of that loan, therefore, the rate of 6%, as given in the said scheme, has been taken into account. The savings in the cost of the financing (i.e. if the cost is less than 6%), if negotiated/availed by the company, shall be shared in accordance with the mechanism given in the Order part of this determination.

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43. The Authority has decided to approve the tariff of NGEPL on the basis of debt to equity ratio of 80:20 as claimed which shall remain same regardless of any form of financing secured by the petitioner.

Whether the claimed construction period is justified?

44. The petitioner has claimed sixteen months' time for the construction of the project. The Authority has noted that there are a number of under process wind power projects which are claiming construction period of fifteen months. In addition, it has also been seen that there are a number of operational wind projects that have been able to complete construction in fifteen month time. In view thereof, the Authority has decided to approve the construction period of fifteen months for the petitioner as well.

Any other issue with the approval of the Authority.

<u>Comments of CPPA-G</u>

45. CPPA-G submitted that NEPRA should review the proposal in the context of demand vs supply situation coupled with the quantum of renewable energy to be inducted in Grid according to the recommendations of Grid Code Review Panel ("GCRP") duly approved by NEPRA from time to time. CPPA-G also submitted that all the projects based on wind, solar, small hydel and bagasse energy will be awarded through competitive bidding as per Cabinet Committee on Energy ("CCE") decision.

46. Regarding the submission of CPPA-G with respect to demand and supply position, it has been noted that NTDCL vide its letter dated June 23, 2017 submitted tentative demand supply analysis with the report namely Power Balance up to 2025. In that document, NTDCL submitted that it plans to evacuate 600 MW additional power from wind power projects in 2019-20 and further 500MW collectively from wind and solar power projects in 2020-21.

47. Regarding quantum of renewable energy induction in the Grid, the Authority has noted that as per approved Grid Code Addendum No. I (Revision-I) for Grid Integration of Wind Power Plants, the upper limit equal to 5% of the total installed grid-connected power capacity has been set for the integration of wind power plants. The Authority also noted that NTDCL has issued

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certificate of approval of the system studies of the project company on May 05, 2017. NTDCL in its approval letter also certified that the power to be generated by the project company will be evacuated in accordance with the study assumptions and will not have any adverse effect on the national grid as required under the grid code. On the basis of that approval, the Authority has issued generation license to NGEPL on August 03, 2017.

48. Regarding award of tariff of renewable energy projects through competitive bidding, it was noted that vide its decision dated January 27, 2017 in the matter of Wind Power Generation Tariff, the Authority decided to allow induction of wind energy through competitive bidding and directed the relevant agencies to develop RFP for that purpose. Due to non-finalization of RFP by any agency after the lapse of considerable time period, the process of competitive bidding has not taken place. Further, the Authority through decision dated May 30, 2017 passed in the Review Motions of GOS clarified that submission of tariff petitions under the Tariff Rules, 1998 is permissible. Therefore, it may not be considered appropriate to stop entertaining applications under Tariff Rules, 1998 merely on the basis of the decision of CCE.

49. **ORDER**

In pursuance of section 7(3) (a) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with NEPRA (Tariff Standards & Procedure) Rules, 1998, the Authority hereby determines and approves the following generation tariff along with terms and conditions for NASDA Green Energy (Pvt) Limited for its 50 MW wind power project for delivery of electricity to the power purchaser:

Rs./kWh

Tariff Component	**Year 1-10**	**Year 11-25**
Operations and Maintenance Cost	0.8181	0.8181
Insurance during Operation	0.1649	0.1649
Return on Equity	1.3877	1.3877
Debt Servicing	4.8632	-
Total	**7.2340**	**2.3708**

- Levelized tariff works out to be US Cents 4.7190/kWh.
- EPC cost of USD 57.940 million has been considered.

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- PDC cost of USD 2.500 million has been taken into account.
- Insurance during construction at the rate of 0.5% of the EPC cost has been approved.
- Financing charges at the rate of 2.5% of the debt portion of the capital cost has been approved.
- Net Annual Plant Capacity Factor of 38.51% has been approved.
- O&M Cost of USD 23,000 per MW per year has been approved.
- Debt to Equity of 80:20 has been used.
- Debt Repayment period of 10 years has been taken into account.
- The cost of financing of 6% for construction and operation has been used.
- Return on Equity of 14% has been allowed.
- Construction period of fifteen (15) months has been used for the workings of ROEDC and IDC.
- Insurance during Operation has been calculated as 0.4% of the allowed EPC Cost.
- Reference Exchange Rates of 120 PKR/USD has been used.
- The aforementioned tariff is applicable for twenty five (25) years from COD
- Detailed component wise tariff is attached as **Annex-I** of this decision.
- Debt Servicing Schedule is attached as **Annex-II** of this decision.

A. <u>One Time Adjustments at COD</u>

- The EPC cost shall be adjusted at actual considering the approved amount as the maximum limit. Applicable foreign portion of the EPC cost will be adjusted at COD on account of variation in PKR/USD parity, on production of authentic documentary evidence to the satisfaction of the Authority. The adjustment in approved EPC cost shall be made only for the currency fluctuation against the reference parity values.
- PDC, Insurance during construction and Financing Fee and Charges shall be adjusted at actual at the time of COD considering the approved amount as the maximum limit. The amounts allowed on these accounts in USD will be converted in PKR using the reference PKR/USD rate of 120 to calculate the maximum limit of the amount to be allowed at COD.

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- The petitioner has submitted M/s DNV-GL certification No. TC-236603-A-2 date May 29, 2015 about the design, specification and country of origin of various component of the wind turbine to be installed for this project. At the time of COD stage tariff adjustments, the petitioner will have to provide a confirmation from the EPC contractor as to the fullest compliance of the equipment having same design and origin of manufacture as given in the type certificate. Where needed, the bill of lading and other support documents will also have to be submitted.

- Duties and/or taxes, not being of refundable nature, relating to the construction period directly imposed on the company up to COD will be allowed at actual upon production of verifiable documentary evidence to the satisfaction of the Authority.

- IDC will be recomputed at COD on the basis of actual timing of debt draw downs (for the overall debt allowed by the Authority at COD) for the project construction period of fifteen months allowed by the Authority.

- For full/part of conventional local or foreign loans or a mix of both, if availed by the company, the IDC shall also be allowed adjustment for change in applicable KIBOR/LIBOR.

- The tariff has been determined on debt: equity ratio of 80:20. The tariff shall be adjusted on actual debt: equity mix at the time of COD, subject to equity share of not more than 20%. For equity share of more than 20%, allowed IRR shall be neutralized for the additional cost of debt: equity ratio.

- The reference tariff has been worked out on the basis of cost of 6% offered under SBP financing scheme. In case cost negotiated by the company under SBP scheme is less than the said limit of 6%, the savings in that cost shall be shared between the power purchaser and the power producer in the ratio of 60:40 respectively.

- For full or part of local or foreign loan, if any, the savings in the approved spreads shall be shared between the power purchaser and power producer in the ratio of 60:40.

- ROEDC will be adjusted at COD on the basis of actual equity injections (within the overall equity allowed by the Authority at COD) for the project construction period of fifteen months allowed by the Authority.

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B. Indexations

Adjustment of O&M, return on equity, return on equity during construction shall be made on quarterly basis for the quarters starting from 1st July, 1st October, 1st January and 1st April based on latest available information. Adjustment of Debt Servicing Component (if any) shall be made either quarterly or bi-annually depending upon the final terms approved by the Authority. For bi-annual adjustments, the periods shall start from 1st July and 1st January. Insurance component shall be adjusted on annual basis starting from either 1st January or 1st July. The indexation mechanisms are given hereunder:

i) Operation and Maintenance Costs

O&M components of tariff shall be adjusted based on revised rates of local Inflation (CPI) as notified by Pakistan Bureau of Statistics, foreign inflation (US CPI) as notified by US Bureau of Labour Statistics and TT&OD selling rate of US Dollar as notified by National Bank of Pakistan according to the following formula;

$F.\ O\&M_{(REV)}$	=	$F.\ O\&M_{(REF)} * US\ CPI_{(REV)} / US\ CPI_{(REF)} * ER_{(REV)}/ER_{(REF)}$
$L.\ O\&M_{(REV)}$	=	$L.\ O\&M_{(REF)} * CPI_{(REV)} / CPI_{(REF)}$
Where;		
$F.\ O\&M_{(REV)}$	=	The revised O&M Foreign Component of Tariff
$L.\ O\&M_{(REV)}$	=	The revised O&M Local Component of Tariff
$F.\ O\&M_{(REF)}$	=	The reference O&M Foreign Component of Tariff
$L.\ O\&M_{(REF)}$	=	The reference O&M Local Component of Tariff
$US\ CPI_{(REV)}$	=	The revised US CPI (All Urban Consumers)
$US\ CPI_{(REF)}$	=	The reference US CPI (All Urban Consumers) of 252.146 of August, 2018
$CPI_{(REV)}$	=	The revised CPI (General)
$CPI_{(REF)}$	=	The reference CPI (General) of 229.27 for the month of August, 2018
$ER_{(REV)}$	=	The revised TT & OD selling rate of US dollar
$ER_{(REF)}$	=	The reference TT & OD selling rate of RS. 120/USD

Note: The reference indexes shall be revised after making the required adjustments in tariff components at the time of COD.

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ii) **Insurance during Operation**

The actual insurance cost for the minimum cover required under contractual obligations with the Power Purchaser, not exceeding 0.4% of the approved EPC cost, will be treated as pass through. Insurance component of reference tariff shall be adjusted annually as per actual upon production of authentic documentary evidence according to the following formula:

AIC	=	$Ins_{(Ref)} / P_{(Ref)} * P_{(Act)}$
Where;		
AIC	=	Adjusted insurance component of tariff
$Ins_{(Ref)}$	=	Reference insurance component of tariff
$P_{(Ref)}$	=	Reference premium @ 0.4% of approved EPC Cost at Rs. 120
$P_{(Act)}$	=	Actual premium or 0.4% of the approved EPC Cost converted into Pak Rupees on exchange rate prevailing at the time of insurance premium payment of the insurance coverage period whichever is lower

iii) **Return on Equity**

The total ROE (ROE + ROEDC) component of the tariff will be adjusted on quarterly basis on account of change in USD/PKR parity. The variation relating to these components shall be worked out according to the following formula;

$ROE_{(Rev)}$	=	$ROE_{(Ref)} * ER_{(Rev)} / ER_{(Ref)}$
Where;		
$ROE_{(Rev)}$	=	Revised ROE Component of Tariff
$ROE_{(Ref)}$	=	Reference ROE Component of Tariff
$ER_{(Rev)}$	=	The revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan
$ER_{(Ref)}$	=	The reference TT & OD selling rate of Rs. 120/USD

Note: The reference tariff component shall be revised after making the required adjustments at the time of COD.

iv) **Indexations applicable to debt**

For full or part of conventional foreign debt, if any, respective principle and interest components will be adjusted on quarterly/bi-annual basis, on account of revised TT & OD

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selling rate of US Dollar, as notified by the National Bank of Pakistan as at the last day of the preceding quarter, over the applicable reference exchange rate. The interest part of the foreign loan shall be allowed adjustment with respect to change in the applicable LIBOR. For full or part of conventional local loan, if any, the interest component shall be allowed adjustment with respect to change in applicable KIBOR.

C. Terms and Conditions

The following terms and conditions shall apply to the determined tariff:

- All plant and equipment shall be new and of acceptable standards. The verification of the plant and equipment will be done by the independent engineer at the time of the commissioning of the plant duly appointed by the power purchaser.
- This tariff will be limited to the extent of net annual energy generation supplied to the power purchaser up to 38.51% net annual plant capacity factor. Net annual energy generation supplied to the power purchaser in a year, in excess of 38.51% net annual plant capacity factor will be charged at the following tariffs:

Net annual plant capacity factor	% of prevalent tariff allowed to power producer
Above 38.51% up to 40.51%	5%
Above 40.51% up to 42.51%	10%
Above 42.51% up to 44.51%	20%
Above 44.51% up to 46.51%	40%
Above 46.51% up to 48.51%	80%
Above 48.51%	100%

- The petitioner is required to ensure that all the equipment is installed as per the details/specifications provided in the determination. Any change in the power curve of the turbines as provided in studies along with the petition and the relevant assumptions contained therein shall not be allowed.

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- The petitioner is required to maintain the availability levels as declared in the Tariff Petition and the studies provided therein. Necessary clauses shall be included in the EPA so that the power producer cannot intentionally suppress the capacity factors. NPCC shall conduct detailed monitoring/audit of the operational record/log of all the wind turbines on quarterly basis to verify output/capacity of the power plant.
- The risk of wind resource shall be borne by the power producer.
- In the tabulated above tariff no adjustment for certified emission reductions has been accounted for. However, upon actual realization of carbon credits, the same shall be distributed between the power purchaser and the power producer in accordance with the applicable GOP Policy, amended from time to time.
- The savings in the cost under SBP scheme during the loan tenor shall be shared between the power purchaser and power producer in the ratio of 60:40.
- In case the company shall secure full or part of local conventional loan then the tariff of company shall be adjusted at the time of COD at applicable KIBOR + spread of 2.25%. The savings in the approved spreads during the loan tenor shall be shared between the power purchaser and power producer in the ratio of 60:40. The tenor of the debt servicing shall not be less than thirteen years for this loan.
- In case the company shall secure full or part of foreign conventional loan then the tariff of company shall be adjusted at the time of COD at applicable LIBOR + spread of 4.25%. The savings in the approved spreads during the loan tenor shall be shared between the power purchaser and power producer in the ratio of 60:40. The tenor of the debt servicing shall not be less than thirteen years for this loan.
- In case the company shall secure foreign loan under any credit insurance (Sinosure etc.) then the cost of that insurance shall be allowed to the maximum limit of 0.6% of the yearly outstanding principal and interest amounts. For that purpose, the spread over that full/part of loan shall be considered as 3.5% as the maximum limit. The savings in the spread during the loan tenor shall be shared between the power purchaser and power producer in the ratio of 60:40.

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- The company will have to achieve financial close within one year from the date of issuance of this determination. The tariff granted to the company will no longer remain applicable/valid, if financial close is not achieved by the company in the abovementioned timeline or its generation license is declined/revoked by NEPRA.

- The targeted maximum construction period after financial close is fifteen months. No adjustment will be allowed in this tariff to account for financial impact of any delay in project construction. However, the failure of the company to complete construction within fifteen months will not invalidate the tariff granted to it.

- Pre COD sale of electricity is allowed to the project company, subject to the terms and conditions of Energy Purchase Agreement, at the applicable tariff excluding principal repayment of debt component and interest component. However, pre COD sale will not alter the required commercial operations date stipulated by the Energy Purchase Agreement in any manner.

- In case the company is obligated to pay any tax on its income from generation of electricity, or any duties and/or taxes, not being of refundable nature, are imposed on the company, the exact amount paid by the company on these accounts shall be reimbursed on production of original receipts. This payment shall be considered as a pass-through payment. However, withholding tax on dividend shall not be passed through.

- No provision for the payment of Workers Welfare Fund and Workers Profit Participation has been made in the tariff. In case, the company has to pay any such fund, that will be treated as pass through item in the EPA.

- The approved tariff along with terms & conditions shall be made part of the EPA. General assumptions, which are not covered in this determination, may be dealt with as per the standard terms of the EPA.

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50. The Order part along with two Annexures is recommended for notification by the Federal Government in the official gazette in accordance with Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

AUTHORITY

(Saif Ullah Chattha)
Member
31.10.2018

(Rehmatullah Baloch)
Vice Chairman
31/10/2018

(Brig (R) Tariq Saddozai)
Chairman

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Annex-I

NASDA GREEN ENERGY (PVT.) LIMITED
REFERENCE TARIFF TABLE

Year	Foreign O&M	Local O&M	Insurance	Return on Equity	ROEDC	Loan Repayment	Interest Charges	Tariff
	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh
1	0.4091	0.4091	0.1649	1.2730	0.1147	2.7418	2.1214	7.2340
2	0.4091	0.4091	0.1649	1.2730	0.1147	2.9101	1.9531	7.2340
3	0.4091	0.4091	0.1649	1.2730	0.1147	3.0887	1.7746	7.2340
4	0.4091	0.4091	0.1649	1.2730	0.1147	3.2782	1.5850	7.2340
5	0.4091	0.4091	0.1649	1.2730	0.1147	3.4793	1.3839	7.2340
6	0.4091	0.4091	0.1649	1.2730	0.1147	3.6929	1.1704	7.2340
7	0.4091	0.4091	0.1649	1.2730	0.1147	3.9195	0.9438	7.2340
8	0.4091	0.4091	0.1649	1.2730	0.1147	4.1600	0.7032	7.2340
9	0.4091	0.4091	0.1649	1.2730	0.1147	4.4152	0.4480	7.2340
10	0.4091	0.4091	0.1649	1.2730	0.1147	4.6862	0.1770	7.2340
11	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
12	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
13	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
14	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
15	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
16	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
17	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
18	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
19	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
20	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
21	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
22	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
23	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
24	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
25	0.4091	0.4091	0.1649	1.2730	0.1147	-	-	2.3708
Levelized Tariff	**0.4091**	**0.4091**	**0.1649**	**1.2730**	**0.1147**	**2.3502**	**0.9418**	**5.6628**

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NASDA GREEN ENERGY (PVT.) LIMITED
DEBT SERVCING SCHEDULE

Relevant Quarters	Base amount (USD)	Principal Repayment (USD)	Interest (USD)	Balance Principal (USD)	Total Debt Service (Million USD)	Annual Principal Repayment Rs./kWh	Annual Interest Rs./kWh
1	51,124,729	942,081	766,871	50,182,649	1,708,952	2.7418	2.1214
2	50,182,649	956,212	752,740	49,226,437	1,708,952		
3	49,226,437	970,555	738,397	48,255,882	1,708,952		
4	48,255,882	985,113	723,838	47,270,769	1,708,952		
5	47,270,769	999,890	709,062	46,270,879	1,708,952	2.9101	1.9531
6	46,270,879	1,014,888	694,063	45,255,990	1,708,952		
7	45,255,990	1,030,112	678,840	44,225,879	1,708,952		
8	44,225,879	1,045,563	663,388	43,180,315	1,708,952		
9	43,180,315	1,061,247	647,705	42,119,069	1,708,952	3.0887	1.7746
10	42,119,069	1,077,166	631,786	41,041,903	1,708,952		
11	41,041,903	1,093,323	615,629	39,948,580	1,708,952		
12	39,948,580	1,109,723	599,229	38,838,857	1,708,952		
13	38,838,857	1,126,369	582,583	37,712,489	1,708,952	3.2782	1.5850
14	37,712,489	1,143,264	565,687	36,569,224	1,708,952		
15	36,569,224	1,160,413	548,538	35,408,811	1,708,952		
16	35,408,811	1,177,819	531,132	34,230,992	1,708,952		
17	34,230,992	1,195,487	513,465	33,035,505	1,708,952	3.4793	1.3839
18	33,035,505	1,213,419	495,533	31,822,086	1,708,952		
19	31,822,086	1,231,620	477,331	30,590,466	1,708,952		
20	30,590,466	1,250,095	458,857	29,340,372	1,708,952		
21	29,340,372	1,268,846	440,106	28,071,526	1,708,952	3.6929	1.1704
22	28,071,526	1,287,879	421,073	26,783,647	1,708,952		
23	26,783,647	1,307,197	401,755	25,476,450	1,708,952		
24	25,476,450	1,326,805	382,147	24,149,645	1,708,952		
25	24,149,645	1,346,707	362,245	22,802,938	1,708,952	3.9195	0.9438
26	22,802,938	1,366,907	342,044	21,436,031	1,708,952		
27	21,436,031	1,387,411	321,540	20,048,620	1,708,952		
28	20,048,620	1,408,222	300,729	18,640,398	1,708,952		
29	18,640,398	1,429,346	279,606	17,211,052	1,708,952	4.1600	0.7032
30	17,211,052	1,450,786	258,166	15,760,266	1,708,952		
31	15,760,266	1,472,548	236,404	14,287,719	1,708,952		
32	14,287,719	1,494,636	214,316	12,793,083	1,708,952		
33	12,793,083	1,517,055	191,896	11,276,028	1,708,952	4.4152	0.4480
34	11,276,028	1,539,811	169,140	9,736,217	1,708,952		
35	9,736,217	1,562,908	146,043	8,173,308	1,708,952		
36	8,173,308	1,586,352	122,600	6,586,957	1,708,952		
37	6,586,957	1,610,147	98,804	4,976,809	1,708,952	4.6862	0.1770
38	4,976,809	1,634,299	74,652	3,342,510	1,708,952		
39	3,342,510	1,658,814	50,138	1,683,696	1,708,952		
40	1,683,696	1,683,696	25,255	(0)	1,708,952		

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