Shahtaj Sugar Mills Limited

Head Office : 72/C-1, M. M. Alam Road, Gulberg III, Lahore - 54660 (Pakistan)
Phones : + 92-42-35710482-84 Fax : +92-42-35711904 E-mail : mail@shahtajsugar.com

OUR REF: SSM/RD/135 **DATED:** July 10, 2021

For info & n.a. pl
- Addl Dir-I (R.O)

Copy to
- ADG (T)
- LA (LP)
- M.R

12/7/21
cc:
- Chairman
- V.C/M (M&E)
- M (CA/T)
- M (Lic)

The Registrar,
National Electric Power Regulatory Authority (NEPRA),
NEPRA Tower, Sector G-5/1, Ata-Turk Avenue (East),
<u>ISLAMABAD.</u>

Sub: **<u>APPLICATION FOR REVIEW OF GENERATION TARIFF DATED JANUARY 02, 2017 NOTIFIED VIDE SRO NO.453(I)/2017 DATED JUNE 07, 2017 BEFORE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY (NEPRA) IN RESPECT OF SSML 32 MW BAGASSE BASED CO-GENERATION POWERPROJECT:</u>**

Dear Sir:

I, Abdul Waheed Qureshi, Resident Director, Shahtaj Sugar Mills Limited being authorized representative hereby submit this application to National Electrical Power Regulatory Authority ("NEPRA").

I, certify and undertake that the information provided in the attached application and documents in support thereof are true and correct to the best of my knowledge and belief.This application is being submitted by SSML for kind consideration and approval of the Authority.

This application including its annexures issubmitted in triplicate together with:

a) A Corporate Banker's Cheque No. 00879809 dated July 08, 2021 of United Bank Limited amounting to **<u>PKR: 747,776/-</u>** (Pakistani Rupees Seven hundred forty seven thousand seven hundred seventy six only) in favor of NEPRA, Islamabad as the applicable fee; and

b) Board Resolution of Shahtaj Sugar Mills Limited Power Project.

c) Affidavit.

REGISTRAR
Dy. No.: 1238
Date: 12-7-2021

Tariff Division Record
Dy No. 4269
Dated 13-7-21

Registered Office : 19, DOCKYARD ROAD, WEST WHARF, KARACHI - 74000 (Pakistan)
Phones : +92 - 21 - 3231 3934 - 38, 3231 3834 Fax: +92 - 21 - 3231 0623 E-mail : registeredoffice@shahtajsugar.com
Mills : MANDI BAHAUDDIN - 50400, Phones : +92 - 456 - 501147 - 49, 508047 - 48 Fax: +92 - 546 - 501768 E-mail: mills@shahtajsugar.com

Before

National Electric Power Regulatory Authority

Petition for Tariff Review

by

Shahtaj Sugar Mills Limited

For

Bagasse Based Co-Gen Power Project 32 MW

At

District, Mandi Bahauddin, Punjab Province.

Head Office:

72-C-1, M.M.Alam Road,
Gulberg III, Lahore.
Ph: 042 – 35710482~84.

Production Facility:

Khutialan Syedan,
Mandi Bahauddin.
Ph: 0546 – 501147~49

Shahtaj Sugar Mills Limited

Head Office : 72/C-1, M. M. Alam Road, Gulberg III, Lahore - 54660 (Pakistan)
Phones : + 92-42-35710482-84 Fax : +92-42-35711904 E-mail : mail@shahtajsugar.com

OUR REF:SSM/RD/135 **DATED:**July 10, 2021

The Registrar
National Electric Power Regulatory Authority (NEPRA)
NEPRA Tower, Sector G-5/1, Ata-Turk Avenue (East)
ISLAMABAD.

Sub: APPLICATION FOR REVIEW OF GENERATION TARIFF DATED JANUARY 02, 2017IN RESPECT OF SHAHTAJ SUGAR MILLS LIMTED FOR COMPLIANCE OF DECISION DATED FEBRUARY 27, 2019 OF THE CABINET COMMITTEE ON ENERGY IN CASE NUMBER CCE-12/04/2019 DULY RATIFIED BY THE COUNCIL OF COMMON INTERESTS DECISION DATED AUGUST 06, 2020.

A. BACKGROUND AND BASIS OF APPLICATION:

1. We, M/s Shahtaj Sugar Mills Limited (the "SSML") located at Mandi Bahauddin pursuant to the policy framework approved by the Federal Government vide Renewable Energy Policy (the "2006 RE Policy"), decided to establish a bagassebasedCo-generation PowerProject of 32MW (the "Project") and were granted a generation license bearing No. IGSPL/72/2016 on November 11, 2016 under Section 15 of the NEPRA ACT. Subsequently, on SSML's application, the Authority also determined the generation tariff on January 02, 2017 vide case No. NEPRA/ TRF-372/SSML-2016. It is pertinent to mention that the Federal Government also notified the said tariff vide SRO 453(I)/2017 dated June 09, 2017. In this regard,all the requisite milestones were successfully achieved up to the approval of the Energy Purchase Agreement (the "EPA") by NEPRA on December 26, 2017 (**ANNEX-A**).

2. The EPA could not be executed on account ofthe decision of the Cabinet Committee on Energy (the "CCoE"), taken in case No. CCE-42/10/2017 and conveyed to CPPA-G vide letter dated January 05, 2018,that only those projects shall be implemented where either the Implementation Agreement (the "IA") or EPA has been signed (**ANNEX-B**).

3. As SSML had already spent almost 61 % of the project cost, therefore, in view of the circumstances in Para 2 aboveSSML was left with no other option but to invoke the constitutional jurisdiction of court through the filing of writ petition bearing No. 2994 of 2018 before the Honorable Islamabad High Court, Islamabad, which is still pending adjudication. In one of the dates of hearing, the Honourable Islamabad High Court was pleased to refer the matter to the Federal Minister (Energy) for decision.

4. During the pendency of said writ petition, the following further policy and regulatory developments have taken place:

Registered Office : 19, DOCKYARD ROAD, WEST WHARF, KARACHI - 74000 (Pakistan)
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Mills : MANDI BAHAUDDIN - 50400, Phones : +92 - 456 - 501147 - 49, 508047 - 48 Fax: +92 - 546 - 501768 E-mail: mills@shahtajsugar.com

a) Modification of earlier decision of CCoE (in case No. CCE-42/10/2017), that *'only those projects shall be implemented where either the Implementation Agreement (the "IA") or EPA has been signed'*, subsequently by the CCoE vide decision taken in case No. CCE-12/04/2019 dated February 27, 2019, and issued vide Power Division letter dated April 04, 2019 (**ANNEX-C**) whereby it was, inter-alia, decided that *all those projects which have been granted LOS by AEDB will be permitted to proceed towards the achievement of their requisite milestones as per RE Policy, 2006. However, if more than one year has elapsed since determination of tariff by NEPRA, the said tariffs would be reviewed by NEPRA and that NEPRA will review the same to make it consistent with the current market environment/conditions/consumer interest and such review will include appropriate time extensions to reach financial closing.*

b) Ratification of the above decision of CCoE by the Council of Common Interest (the "CCI") vide its decision dated August 06, 2020 (**ANNEX-D**) as reflected in the duly notified Alternative & Renewable Energy Policy, 2019 (the "2019 RE Policy") (**ANNEX-E**) whereby it has been settled that notwithstanding the expiry of the RE Policy 2006, the projects granted Letters of Intent/ Letters of Support under the RE Policy 2006 before its expiry shall continue to be governed by the Cabinet Committee on Energy's (CCOE) decision in case number CCE-12/04/2019(V) (as amended from time to time) and shall be dealt with accordingly.

c) Recently, NEPRA has reviewed and modified, vide its determinations datedApril 09, 2021(**ANNEX-F**),the tariffs of other Bagasse based Co-generation Independent Power Producers, who had also adopted the notified 2013 upfront tariff, in the light of their Memorandum of Understanding with CPPA-G to comply with the decision of the Federal Government regarding reduction in the rate of certain tariff component in the interest of consumer current market environment/conditions.

d) On May 25, 2021 the decision of Federal Minister (Energy), stating the policy of the Federal Government regarding reopening of window, pursuant to CCoE decision of 2019, for the projects that were farther along in development and recommending levelized tariff of Rs. 10.72/kWh, applicability of 70% of exchange risk, extension of six (6) months time for Financial Closure etc., was filed/submitted before the Honourable Islamabad High Court, Islamabad.

5. SSML is filing the instant application being a Generation Licensee of NEPRA for the kind consideration and review of the learned Authority in the light of decision of the CCoE taken in case No. CCE-12/04/2019 dated February 27, 2019 which has also been duly ratified by the CCI vide its decision dated August 06, 2020 reflected in the duly notified Alternative & Renewable Energy Policy, 2019.

B. GROUNDS AND FACTS FORMING THE BASIS OF APPLICATION:

6. The Project of SSML was halted pursuant to a decision of the CCoEtakenin case No.CCE-42/10/2017and conveyed to CPPA-G vide letter dated January 05, 2018, that *'only those projects shall be implemented where either the Implementation Agreement (the "**IA**") or EPA has been signed'* as at the time of this decision neither the IA nor EPA was signed.

7. Subsequently, this decisionwas modified by the CCoE vide decision taken in case No. CCE-12/04/2019 dated February 27, 2019,and issued vide Power Division letter dated April 04, 2019 (**ANNEX-C**) whereby it was, inter-alia, decided that *all those projects which have been granted LOS by AEDB will be permitted to proceed towards the achievement of their requisite milestones as per RE Policy, 2006. However, if more than one year has elapsed since determination of tariff by NEPRA, the said tariffs would be reviewed by NEPRA and that NEPRA will review the same to make it consistent with the current market environment/conditions/consumer interest and such review will include appropriate time extensions to reach financial closing*.

8. The CCI also ratified the decision dated February 27, 2019 of the CCoE vide its decision dated August 06, 2020 (**ANNEX-D**), whichisreflected in the duly notified Alternative & Renewable Energy Policy, 2019 (**ANNEX-E**) whereby it has been settled that notwithstanding the expiry of the RE Policy 2006, the projects granted Letters of Intent/ Letters of Support under the RE Policy 2006 before its expiry shall continue to be governed by the CCoE's decision in case number CCE-12/04/2019(V) (as amended from time to time) and shall be dealt with accordingly.

9. As the Project of SSML is duly covered under the decisions of CCoE and CCI dated February 27, 2019 and August 06, 2020 respectively, hence, it is permitted to proceed towards achievement of project milestones. However, since more than one year has elapsed since determination of SSML's tariff by NEPRA therefore, in compliance of these decisions, NEPRA has to review the same to make it consistent with the current market environment/conditions etc.

10. Theexisting and proposed schedule of the tariff,already determined and notified, of SSML is attached as (**ANNEX-G**).

C. SUMMARY OF EVIDENCE IN SUPPORT OF THE APPLICATION:

11. The documents attached as (**ANNEX-A** to **ANNEX-G**)with the Application arereferred here.

The Applicant reserves the right to take additional grounds and evidence at the time of the hearing, for which the Applicant requests for the opportunity to present its case with supporting documentation, justification, and related evidence.

This Application is submitted together with aCorporate Banker's Cheque No. 00879809 dated July 08, 2021 of United Bank Limited in favor of the National Electric Power Regulatory Authority amounting to PKR 747,776 /- (Pakistani Rupees Seven hundred forty seven thousand seven hundred seventy six only) as the requisite fee for the Application.

This Application is being filed as a motion for leave to review before the Authority pursuant to Rule 16(6) of the NEPRA (Tariff Standards and Procedure) Rules, 1998 (the "Rules") read together with Regulation 3(2) of the NEPRA (Review Procedure) Regulations, 2009 (the "Regulations") and all other enabling provisions of NEPRA Act, 1997.

The facts and circumstances along with the grounds set out herein constitute sufficient reasons for the Authority to grant the instant Application under Regulation 3(2) of the Regulations. Furthermore, we request the Authority to relax / condone the condition pertaining to time limitation for the motion for review for the instant Application under Rule 16(10) of the Rules and Regulation 3(3) of the Regulations.

D. RELIEF / DETERMINATION SOUGHT:

In view of the foregoing, the Authority is humbly requested to kindly: (i) admit the Application; (ii) decide the instant Application of the Licensee/SSML in the light of decisions dated February 27, 2019 and August 06, 2020 respectively of the CCoE and CCI; and (iii) entertain the request of the Petitioner to consider the grounds, fresh facts and evidence mentioned herein.

Respectfully submitted on behalf of the Company.

For and on behalf of
SHAHTAJ SUGAR MILLS LIMITED

ABDUL WAHEED QURESHI
Resident Director

Encl: a.a.

Shahtaj Sugar Mills Limited
Head Office : 72/C-1, M. M. Alam Road, Gulberg III, Lahore - 54660 (Pakistan)
Phones : + 92-42-35710482-84 Fax : +92-42-35711904 E-mail : mail@shahtajsugar.com

RESOLUTION PASSED BY CIRCULAR BY THE BOARD OF DIRECTORS OF SHAHTAJ SUGAR MILLS LIMITED ON JULY 08, 2021.

"**RESOLVED THAT** Shahtaj Sugar Mills Limited (a company incorporated under the laws of Pakistan) with its Head office located at 72-C/1, M.M.Alam Road, Gulberg-III, Lahore (the Company) be and is hereby authorized to file an application for review / modification / revalidation of generation tariff notified vide SRO No.453(I)/2017 dated June 07, 2017 before National Electric Power Regulatory Authority (NEPRA) in respect of its 32 MW High Pressure Bagasse based power generation project at District Mandi Bahauddin, Province of Punjab, Pakistan. (the Project) and in relation thereto, enter into execute all required documents, make all filings and pay all applicable fees, of any nature whatsoever as required."

"**FURTHER RESOLVED THAT** in respect of filing an application for review / modification / revalidation of generation tariff with National Electric Power Regulatory Authority, Mr. Abdul Waheed Qureshi, Resident Director be and is hereby empowered and authorized for and on behalf of the Company to;

(i) Execute, submit and deliver the application and related documentation required by National Electric Power Regulatory Authority, including any contracts, documents, power of attorney, affidavits, statements, letters, forms, applications, deeds, guarantees, undertakings, approvals, memoranda, amendments, letters, communications, notices, certificates, requests, statements and any other instruments of any nature whatsoever;

(ii) Sign and execute necessary documentation, pay the necessary fees, appear before the National Electric Power Regulatory Authority as needed, and do all acts necessary for completion and processing of the tariff application (including any review and any motion for leave for review);

(iii) Do all such acts, matters and things as may be necessary for carrying out the purposes after said and giving full effect to the above resolutions/resolution'.

"**AND FURTHETR RESOLOVED THAT** Mr. Abdul Waheed Qureshi, Resident Director is hereby authorized to delegate all or any of the above powers in respect of the foregoing to any other officials of the Company as deemed appropriate."

Certified True Copy
For **SHAHTAJ SUGAR MILLS LIMITED**

Shahtaj Sugar Mills Limited 72-C-1 M.M. Alam Road Gulberg-III PH: 5710482-84 LAHORE

(MUNEER NAWAZ)
Director

A

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/SAT-I/PAR-164 | 20816 December 26, 2017

Dy. General Manager (Tech)-II
Central Power Purchasing Agency (G) Ltd.
Ground Floor, ENERCON Building
Sector G-5/2
Islamabad

Subject: **Approval of Energy Purchase Agreement between CPPA (G) and Shahtaj Sugar Mills Limited for 32 MW (Gross) Bagasse Based Cogeneration Power Project**

Reference is made to your letter No. Tech/DGMT-II/MT-IV/SSML/35589-92 dated 12th October 2017 for approval of the subject Energy Purchase Agreement (EPA).

2. The Authority has approved the Energy Purchase Agreement between CPPA (G) and Shahtaj Sugar Mills Limited subject to following conditions:

i. The "One Time Adjustment" provision given in NEPRA's Tariff Determination is not reflected in the EPA and may be incorporated.

ii. In future all draft EPAs/PPAs submitted for NEPRA's approval should carry the initials of both parties (the Seller and the Purchaser) indicating their agreement on the text.

-sd-
(Iftikhar Ali Khan)
Director
Registrar Office

No. NEPRA/C(Hydro)/PAR-164 | 20817 December 26, 2017

Forwarded for information and further necessary action, please.

26/12/
Director

Consultant (Hydro)
Master File (w.r.t. CM D No. 6102 dated 26.12.2017)
[Rm17-715]

CC:

1. Chairman
2. Vice Chairman / Member (M&E)
3. Member (Tariff)
4. Member (CA & Licensing)

Government of Pakistan
Alternative Energy Development Board
Ministry of Water & Power
2nd Floor, OPF Building, Sector G-5/2, Islamabad
Tel: 051-9222360, Fax: 051-9222364

AEDB

Ref: B/3/21/2013/Biomass/SSM

January 30, 2017

Mr. Abdul Waheed Qureshi
Resident Director,
M/s Shahtaj Sugar Mills Limited,
72/C-1, M.M. Alam Road, Gulberg-III,
Lahore.
Ph: 042-5710482-84
Fax: 042-5711904

Subject: **LETTER OF SUPPORT (LOS) TO M/S SHAHTAJ SUGAR MILLS LIMITED FOR ESTABLISHMENT OF 32MW (GROSS) BAGASSE BASED HIGH PRESSURE CO-GENERATION POWER PROJECT AT SHAHTAJ SUGAR MILLS LIMITED MANDI BAHAUDDIN, PUNJAB UNDER THE PROVISION OF FRAMEWORK FOR POWER COGENERATION 2013 (BAGASSE /BIOMASS)**

This refers to your letter No. 'SSM/RD/135' dated January 02, 2017 on the subject cited above.

2. Enclosed please find two original sets of Letter of Support (LoS) document signed by the CEO, AEDB for (a) your initials on every page and (b) signatures on page 07 of the LoS documents.

3. This LoS shall come into effect only when one original set is received by AEDB and duly acknowledged. Nevertheless, this LoS shall lapse if the countersigned copy is not received at AEDB within 07 days of its issuance.

Regards

Muhammad Yaseen
Deputy Director (Bioenergy)

Cc:

i. Director (Policy), AEDB.
ii. PS to CEO, AEDB (for kind information of the CEO, AEDB please).

Encl:

- Two original sets of Letter of Support (LOS)

CC
ED..
DF.
GM(PP).

Government of Pakistan
Alternative Energy Development Board
Ministry of Water & Power
2nd Floor, OPF Building, Sector G-5/2, Islamabad
Tel: 051-9222360, Fax: 051-9222364

AEDB

Ref:B/3/21/2013/Biomass/SSM January , 2017

Mr. Abdul Waheed Qureshi
Resident Director,
M/s Shahtaj Sugar Mills Limited,
72/C-1, M.M. Alam Road, Gulberg-III,
Lahore.
Ph: 042-5710482-84
Fax: 042-5711904

Subject: **LETTER OF SUPPORT FOR ESTABLISHMENT OF 32MW (GROSS) BAGASSE BASED HIGH PRESSURE CO-GENERATION POWER PROJECT AT SHAHTAJ SUGAR MILLS LIMITED MANDI BAHAUDDIN, PUNJAB UNDER THE PROVISION OF FRAMEWORK FOR POWER COGENERATION 2013 (BAGASSE /BIOMASS)**

Dear Sir,

A. REFERENCE

M/s Shahtaj Sugar Mills Limited, a company incorporated under the Companies Act, VII of 1913 (Section II, Sub-Section (5)), the Company Certificate No. 1774 of 1964-65 (the "Project Company")

(i) having received the Letter of Intent dated November 28, 2014 from Alternative Energy Development Board ("**AEDB**") whereby AEDB has confirmed its interest in the Project, as defined herein and, where applicable, the successful submission of a feasibility study; and

(ii) having received from NEPRA a Tariff Determination No. NEPRA/TRF-372/SSML-2016/02-04 dated January 02, 2017 on the terms and conditions set out therein as amended from time to time (the "**Tariff Determination**" and, the tariff determined pursuant thereto, the "**Tariff**"),; and

(iii) having received from NEPRA an electricity Generation Licence No. IGSPL/72/2016 dated November 10, 2016 (the "**Generation Licence**") for the generation of electric power on the terms and conditions set out therein,

is now issued this Letter of Support (the "**LOS**"), on the terms and conditions set out herein, by AEDB for the development, design, engineering, manufacture, procurement, financing, construction, completion, testing and commissioning, insurance, ownership, operation and maintenance of 32MW (Gross) power generation facility (the "**Complex**") to be located at Mandi Bahauddin, Province of Punjab, Pakistan and all activities incidental thereto (the "**Project**").

The Complex shall be an alternative energy generation facility utilizing bagasse/biomass as the alternative energy resource for generation of electricity.

Shahtaj Sugar Mills Ltd. 72-C-1 M.M. Alam Road Gulberg-III Lahore

The Project Company has posted in favour of AEDB an irrevocable, unconditional, on demand, without recourse, bank guarantee on terms acceptable to AEDB dated January 16, 2017 issued by MCB Bank Limited having registered office at MCB House, 15-Main Jail Road, Lahore Pakistan (the "**Performance Guarantee**") in the amount of US Dollars US$ 80,000/-. The Performance Guarantee secures the Project Company's obligations to execute the Project Agreements (*reference paragraph B(1)*), to achieve Financial Closing (*reference paragraph B(2)*), to pay the Termination Amount (*reference paragraph B(6)*) under and in accordance with the terms of this LOS. The Performance Guarantee shall remain valid and in full force till the expiry of three (3) months beyond the Required Financial Closing Date (*as specified in paragraph B(2)*); provided however, in the event that the Financial Closing is achieved on or prior to the Required Financial Closing Date, the Performance Guarantee shall be returned to the Project Company on the date of its achievement of Financial Closing. The Performance Guarantee shall be encashable in accordance with the terms of this LOS at any time prior to Financial Closing, on call at any time during the period of its validity by AEDB. The Project Company hereby agrees that it shall have no claim against AEDB, the Government of Pakistan (the "**GOP**"), the Government of (Punjab) (the "**GOPb**") or any agency or instrumentality or component thereof on any grounds whatsoever, if AEDB acting in its sole discretion shall make any call upon or encash the Performance Guarantee; provided that such call or encashment is made in accordance with the terms of this LOS, and the Project Company hereby waives, to the fullest extent permissible by law, any such claim. It is agreed that the amounts encashed under the Performance Guarantee in accordance with the terms of this LOS are reasonable and constitute liquidated damages to the GOP and AEDB for the Project Company's failure to (as applicable): (a) execute the Project Agreements (*reference paragraph B(1)*); (b) timely achieve Financial Closing (*reference paragraph B(2)*); and (c) pay the Termination Amount (*reference paragraph B(5)*), in each case, in accordance with the terms of this LOS, and it is understood and agreed that the encashment in full of the Performance Guarantee by the AEDB is in lieu of actual damages for such occurrence and the collection of such sums pursuant to such Performance Guarantee pursuant to this LOS is the sole remedy of the GOP and AEDB for such events.

Until Financial Closing (as defined hereinafter), this LOS and the provisions of the Project Agreements (as defined hereunder) that become effective immediately upon signing of the Project Agreements shall govern the implementation of the Project and shall supersede all other documents and agreements. In the event of any conflict between this LOS and the provisions of the Project Agreements that become effective upon signing, this LOS shall govern and prevail. Effective on the date Financial Closing is achieved by the Project Company, the Project Agreements shall supersede the LOS. AEDB shall cancel and return the Performance Guarantee to the Project Company on the date Financial Closing is achieved.

B. AUTHORIZATION

AEDB hereby conveys its permission to the Project Company to implement the Project in accordance with the terms of this LOS and, when the Project Agreements become effective, in accordance with the Project Agreements. Electricity produced by the Complex shall be sold to the Central Power Purchasing Agency (the "**Purchaser**") in accordance with the Generation License, Tariff Determination and the provisions of the Energy Purchase Agreement ("**EPA**") entered into or to be entered into between the Project Company and the Purchaser. The Project Company shall be responsible for performing and causing the performance of all activities necessary and incidental to its obligations under this LOS, including the following:

1. The Project Company shall, on or prior to the Required Financial Closing Date or (if applicable in terms of this LOS) the Extended Required Financial Closing Date, negotiate and sign an Implementation Agreement ("**IA**") with the President of the Islamic Republic of Pakistan and an EPA with the Purchaser, failing which the Performance Guarantee shall be encashed for the full amount thereof by AEDB provided that if the delay is caused by the actions of the GOP, AEDB or the Purchaser, then, the Project Company shall not be penalized.

   The IA and EPA are collectively referred to in this LOS as the "**Project Agreements**".

2. Unless Financial Closing is delayed or not achieved on account of any Consents (as defined in the IA) not being issued to the Project Company despite its compliance with its obligations under the IA relating thereto by the Required Financial Closing Date or the Extended Financial Closing Date, the Project Company shall achieve Financial Closing no later than January 29, 2018 (the "**Required Financial Closing Date**", failing which the Performance Guarantee shall be encashed in the full amount thereof by AEDB, provided that if the delay is caused by actions of the GOP, AEDB or the Purchaser, then, the Project Company shall not be penalized. In addition to any other consequences set out in the Project Agreements, if AEDB determines that any delay by the Project Company in achieving Financial Closing by the Required Financial Closing Date is due to events beyond the reasonable control of the Project Company or that Financial Closing can be achieved shortly, AEDB shall be entitled (acting on an application in writing made to it by the Project Company at least thirty (30) days before the Required Financial Closing Date to grant in writing to the Project Company a one time extension of up to a maximum period of six (6) months beyond the Required Financial Closing Date (such extended date being hereinafter referred to as the "**Extended Required Financial Closing Date**" and this LOS shall stand correspondingly extended on the same terms and conditions for such additional period. No claim for an extension to the Required Financial Closing Date and the period of validity of this LOS shall be accommodated or considered by AEDB unless the following actions are

taken by the Project Company to the satisfaction of AEDB (i) the Project Company extends the period of validity of the Performance Guarantee so that the Performance Guarantee is valid on the same terms and conditions up till three (3) months beyond the Extended Required Financial Closing Date; and (ii) the maximum amount in which the Performance Guarantee can be called is doubled. Following any extension as aforesaid, the Project Company shall submit monthly reports that set out in adequate detail the additional efforts made by the Project Company to achieve Financial Closing no later than the Extended Required Financial Closing Date and the progress achieved in that regard. In the event the Performance Guarantee is extended in accordance with the terms of this LOS up till three (3) months beyond the Extended Required Financial Closing Date, such Performance Guarantee shall expire and shall be returned to the Project Company on the date falling on the earlier of: (i) the date on which Financial Closing is achieved by the Project Company; (b) the date falling three (3) months after the Extended Required Financial Closing Date.

For the purposes of this LOS, "Financial Closing" means:-

(a) where the project is developed through a separate company which is established solely for the purpose and is financed through loans obtained from financial institutions, (i) the execution and delivery of the Financing Documents (as defined in the IA) that together with equity commitments evidence sufficient financing for the construction, testing, completion, and commissioning of the Complex (following the resolution of any objections raised by AEDB to a term sheet or debt repayment schedule that sets out a principal repayment schedule and the other principal terms of the transaction between the Project Company and the Lenders (as defined in the IA) if cost plus tariff is opted by the Project Company) and the evidence of commitments for such equity as is required by the Project Company to satisfy the requirements of the Lenders and this LOS and the satisfaction, waiver or deferral of all conditions precedent for the initial availability of funds under the Financing Documents, and (ii) the delivery of the Seller Letter of Credit (as defined in the EPA) to the Purchaser; and

(b) where the project is developed by an existing company, being a sugar mill or high-pressure co-generation project utilising bagasse/biomass, and is funded through equity and debt capital of the Project Company, (i) the Construction Start Date as defined in the IA, (ii) a confirmation from the financial institutions or, where an agent is appointed, from such agent, that the required funding has been arranged by the Project Company for the development of the Project, if cost plus tariff is opted by the Project Company) and (iii) the delivery of the Seller Letter of Credit (as defined in the EPA) to the Purchaser.

In no event shall Financial Closing be deemed to have occurred unless the Project Company has paid all amounts then due and owing to AEDB under this LOS.

Shahtaj Sugar Mills Limited LAHORE

3. The Project Company shall pay AEDB the processing fee of US $ 50,000 within one (01) month of issuance of this LOS.

4. The Project Company shall also be responsible for performing and causing any and all other activities necessary and incidentals to its obligations under this LOS.

5. The Project Company will have the option (to be exercised in writing only) to terminate this LOS and all (and only all) of the Project Agreements executed by the counterparties thereto at any time before the Required Financial Closing Date. Such termination option may only be exercised upon payment by the Project Company to AEDB of an amount ("**Termination Amount**") equal to (i) the maximum amount in which the Performance Guarantee can be encashed multiplied by the number of months from the date of issuance of this LOS to the date of receipt by AEDB of the Termination Amount (rounded up to the next whole number) divided by the total number of months from the date of issuance of the LOS to the Required Financial Closing Date, and (ii) the receipt by AEDB in full of the processing fee. In the event of termination of this LOS and/or the Project Agreements by the Project Company without payment of the Termination Amount, AEDB shall be entitled to encash the Performance Guarantee. For the avoidance of any doubt, in the event that the Project Company exercises the termination option during the additional period provided for achieving Financial Closing, the entire doubled amount of the Performance Guarantee shall be encashable on call by AEDB and the "Termination Amount" shall be construed accordingly.

C. PROJECT COMPANY

The rights and obligations of the Project Company hereunder shall be performed by the Project Company, provided always that, the Main Sponsor (*as defined in paragraph D*) shall remain primarily responsible for all acts and omissions of the Project Company.

D. EQUITY CONTRIBUTION

Messrs Shahtaj Sugar Mills Limited and its majority shareholders (the "**Main Sponsor**") will be required to hold at least twenty (20) percent of the equity (being the issued and subscribed share capital from time to time) in the Project Company during the "lock-in period" which will be from the date this LOS becomes effective until the sixth (6th) anniversary of the Commercial Operations Date (as defined in the EPA). The Initial Shareholders (as defined in the IA) shall together hold not less than fifty one (51) percent of the equity (being the issued and subscribed share capital from time to time) in the Project Company from the date this LOS becomes effective until the sixth (6th) anniversary of the Commercial Operations Date (as defined in the EPA).

Shahtaj Sugar Mills Limited LAHORE

E. TERMINATION OF THE LETTER OF SUPPORT

This LOS will automatically terminate, without notice on the earlier of (i) Financial Closing, and (ii) the *date* which is seven (7) days after: (a) the Required Financial Closing Date or (b) the Extended Required Financial Closing Date, unless terminated earlier as provided herein above or unless extended in writing by AEDB in accordance with the terms hereof. Neither of the Main Sponsor, the Initial Shareholders or the Project Company shall have any claim against AEDB, the GOP, the GOPb or any of their components, organizations, institutions, agencies or instrumentalities on any ground(s) whatsoever arising from the expiration or termination of this LOS as aforesaid. In the event of termination of this LOS for failure of the Project Company to achieve Financial Closing by: (a) the Required Financial Closing Date; or (b) the Extended Required Financial Closing Date, each of the Project Agreements will automatically terminate.

F. GENERAL

1. The Project Company shall be responsible for the performance of its obligations hereunder jointly and severally with the Main Sponsor.

2. Any notice or communication by or to the Project Company under this LOS shall be deemed a notice or communication to or by the Main Sponsor and the Initial Shareholders.

3. The Project Company represents and warrants to AEDB that it is duly authorized to accept, agree, enter into, deliver and perform this LOS in accordance with its terms on behalf of itself, the Main Sponsor and the Initial Shareholders.

4. This LOS shall be governed by and construed in accordance with the laws of Pakistan and the Courts of Pakistan at Islamabad shall have exclusive jurisdiction in relation to any dispute or matter arising out of or in connection herewith.

5. This LOS shall become effective on the later to occur of (i) submission of the Performance Guarantee, or (ii) the date on which a copy of this LOS signed by the Project Company is received by AEDB.

6. This LOS and the rights and obligations hereunder of the Project Company, the Main Sponsor and the Initial Shareholders shall not be assigned, transferred, sold, mortgaged or encumbered without the prior consent in writing of AEDB.

7. Capitalized terms shall bear the meanings ascribed to them in the pertinent paragraphs herein.

8. The provisions of paragraphs C, D, E, G1, G2, G3 and G6 in this LOS to the extent that they relate to the obligations of the Main Sponsor and Initial

Shareholders shall only apply, if the Project is developed through a separate entity.

Kindly sign the attached copy of this LOS at the place indicated and return the same to us.

With regards,

Yours sincerely,

Amjad A. Awan
Chief Executive Officer
Alternative Energy Development Board.

Received, Agreed and Accepted by

Abdul Waheed Qureshi
Resident Director
M/s Shahtaj Sugar Mills Limited.
Duly authorized representative of the Project Company

On January , 2017

Cc:

i. The Secretary, Ministry of Water & Power, Islamabad.
ii. The Secretary, Energy Department, Government of Punjab, Lahore.
iii. Managing Director, National Transmission & Dispatch Company Limited, Lahore.
iv. The Chief Executive Officer, Central Power Purchasing Agency (Guarantee) Limited, Islamabad.
v. The Chief Executive Officer, Gujranwala Electric Power Company, Gujranwala.

Secret/
Most Immediate/

No. IPPs-6(10)/2017-C
Government of Pakistan
Ministry of Energy
(Power Division)

1/2/2018

Islamabad 5th January, 2018

Subject: **AMENDMENTS TO THE RENEWABLE ENERGY POLICY 2006 (FRAMEWORK 2013).**

I am directed to refer to CCE decision Case No. CCE-41/10/2017 dated 12th December, 2017 which is reproduced as under:-

Case No. CCE-42/10/2017
Dated: 12th December, 2017

"The CCE further decided that:

a) *Only those projects shall be implemented out of the current list where either IA or EPA has been signed already,*

b) *all projects based on wind solar, small hydel and bagasse energy will be awarded through competitive bidding. Risks of hydrology, wind speed and solar radiation will be borne by the seller,*

c) *the balance 600 MW projects space available in Quaid-e-Azam Solar Park in Punjab for solar based power projects should be selected through competitive bidding without exception*

d) *the space available in the current evacuation scheme in the wind corridors will be awarded through competitive bidding without exception,*

e) *all future bagasse based power plants should be awarded through competitive bidding and there shall be no-front tariff,*

f) *the indication of all new small hydel power projects will be through competitive bidding and,*

g) *all contracts arising out of competitive bidding should be for a term of 15 years."*

2. The above decision is communicated for information and implementation.

(Muhammad Saulat Ali)
Section Officer (IPPs)
Tel: 9223090

Distribution:-

1. The Chief Executive Officer, AEDB, Islamabad.
2. The Managing Director, PPIB, Islamabad.
3. The Chief Executive Officer CPPA-G, Islamabad.
4. The Managing Director, NTDC, Lahore.
5. The Chairman, NEPRA, Islamabad

Cc:

i. PSO to Secretary, Ministry of Energy, Power Division, Islamabad.
ii. PS to Joint Secretary (PF), M/o Energy, Power Division, Islamabad.

C

F-No.Tariff /RE POLICY-2019
Government of Pakistan
Ministry of Energy
Power Division
****

Islamabad, the April 04, 2019

Managing Director,
NTDC Wapda House,
Lahore.

Chief Executive Officer,
AEDB, Islamabad.

Chief Executive Officer,
CPPA-G Islamabad.

Managing Director,
PPIB, Islamabad.

Chairman NEPRA,
Islamabad.

Subject: - <u>AMENDMENT IN DECISIONS OF THE CABINET COMMITTEE ON ENERGY HELD ON 17TH DECEMBER 2017 AND FEBRUARY 2018</u>

I am directed to refer to this Division letter No.Tariff /RE POLICY-2019 dated the 01st April, 2019 on the above subject and to state that the letter is hereby withdrawn ab initio.

2. The CCoE decision on case No. CCE-12/04/2019 (V) conveyed by above referred letter be read as under:-

42294
08-04-19

CEO OFFICE
DIARY No. 47263
DATE 5-4-19

I. *All future RE investments will have to be dealt with under RE Policy 2019 which will clearly enunciate a framework in consistent with current international market norms and greater consumer benefits;*

II. *Any resource risk that is linked with RE projects being considered as pipeline projects under the RE Policy 2006 which conform to NEPRA's decisions taken in various tariff determinations of such projects(resource risk for wind, solar and hydel), would be henceforth borne by the seller;*

III. *All processing of the above projects would be linked with the date of grid interconnectivity as provided and confirmed by NTDCL;*

IV. *All those projects which have been granted LOS by AEDB will be permitted to proceed towards the achievement of their requisite milestones as per RE Policy 2006. However, if more than one year has elapsed since determination of tariff by NEPRA, the said tariffs will be reviewed by NEPRA to bring them in line with the prevailing market conditions and rationalization of cost keeping in view consumer interest as well as subsequent determinations on the same technologies given by NEPRA. Such review shall include appropriate time extension to reach financial closing.*

V. *All projects that have been issued LOIs and have been granted determination of tariff by NEPRA and issued a generation license would be allowed to proceed ahead towards the achievement of their requisite milestones as per the RE Policy 2006. However, if the tariff determination has been done since more than one year or if the tariff validity period has elapsed, NEPRA would be requested for review of the same to make it consistent with the current market environment/conditions and consumer interest. Such review shall include appropriate time extension to reach financial closing;*

VI. *In all these projects, grid connectivity date will have to be approved by NTDC and the COD will be subject to the same.*

VII. *In case of wind projects that fall in the above categories and are situated in the wind corridor of Jhimpir, Sindh, the NTDC and the Sindh Government will work on the proposal of the Sindh Government for construction of evacuation facilities from the said corridor by the Sindh Government and will be reflected in a firm agreement between the two.*

VIII. *Based on NTDC's confirmation of evacuation and the timeline decided for completion of the projects, the CPPA-G will consider granting of consent.*

IX. *Projects that have been issued LOI prior to the expiry of RE Policy, 2006 on March 08, 2018 but have not received a tariff from NEPRA, may be allowed to proceed ahead subject to becoming successful in the competitive bidding process to be undertaken by AEDB specifically designed for each technology under this category based on the quantum ascertained for each technology by Indicative Generation Capacity Expansion Plan (IGCEP) by NTDCL. Once IGCEP by NTDCL determines how much additional power it needs to induct in the system by June 2023 as approved by the regulator and NTDCL confirms its interconnection including the completion of pre-requisites for issuance of Power Acquisition Request, AEDB will conduct competitive bidding, one for each technology, for the capacity to be procured under each technology, with resource risk being borne by the Project. The determination of size of each block will be done by NTDCL within 60 days of the approval of IGCEP and accordingly the capacity of wind, solar and bagasse power to be inducted through competitive bidding shall be intimated to AEDB. Thereafter, AEDB will develop the bidding documents based on the parameters determined by NEPRA. For projects which are regarded successful in the bidding process, an LOS shall be issued subsequently allowing the projects to achieve Financial Closing as per the time period allowed in the LOS. All other LOIs which are not successful in the bidding process shall stand lapsed and bank guarantees provided against the LOI will be returned in full.*

X. *The sponsors willing to proceed with the development of their respective projects under this mechanism will be required to provide an undertaking to withdraw all lawsuits against Federal/Provincial Governments.*

XI. *Projects that are going back for review of tariff, will be asked to submit their applications on the basis of latest technology and technology related factors.*

3. The list of projects (145) as approved by the Cabinet is enclosed for necessary action pl.

4. This issues with the approval of Secretary of Energy, Power Division.

(Syed Mateen Ahmed)
Section Officer (Tariff)

C.C:

1. PSO, to Minister for Energy, Power Division, Islamabad.
2. SPS, to Secretary, Power Division, Islamabad.
3. SPs, to Addl. Secretary, Power Division, Islamabad.
4. PS to Joint Secretary (PF), Power Division, Islamabad.

i. Projects at LOS Stage

There are 19 projects in this category totalling 531.02 MW, with 15 projects of a total of 489.5 MW of bagasse and 4 projects of a total of 41.52 MW of solar power projects. List of project under this category is given below:

Sr#	Name of Project	LOI Issued By	Type	Capacity (MW)	Date of Tariff Award	Tariff (US cents /kWh)	Generation License
1	Access Solar (Pvt.) Ltd.	AEDB	Solar	11.52	11-Oct-18	5.9374	22 Aug, 2013
2	Access Electric (Pvt.) Ltd.	AEDB	Solar	10	11-Oct-18	5.9374	26 Jun, 2014
3	Bukhsh Solar (Pvt.) Ltd.	AEDB	Solar	10	29-Feb-16	14.4096	26 Jun, 2014
4	Safe Solar Power Pvt. Ltd	AEDB	Solar	10	29-Feb-16	14.4096	12 Sep, 2014
5	Shahtaj Sugar Mills Ltd at, Mandi Bahauddin, Punjab	AEDB	Bagasse	32	Jan 02, 2017	10.6202	10 Nov, 2016
6	Hunza Power (Pvt.) Ltd, District Jhang, Punjab;	AEDB	Bagasse	49.8	Feb 22, 2017	10.6202	20 Mar, 2017
7	Ittefaq Power (Pvt.) Ltd, District Bahawalpur, Punjab	AEDB	Bagasse	31.2	May 25, 2017	10.6202	04 May, 2017
8	Kashmir Power Private Ltd, District Jhang, Punjab	AEDB	Bagasse	40	April 26, 2017	10.6202	30 May, 2017
9	Indus Energy Limited, District Rajanpur, Punjab	AEDB	Bagasse	31	April 26, 2017	10.6202	13 June, 2017
10	Bahawalpur Energy Ltd, District Jhang, Punjab	AEDB	Bagasse	31.2	April 26, 2017	10.6202	02 May, 2017
11	Alliance Sugar Mills Ltd, Ubauro, District Ghotki, Sindh	AEDB	Bagasse	30	Sep 11, 2017	10.6202	02 Oct, 2014
12	RYK Energy Limited, Rahim Yar Khan, Punjab	AEDB	Bagasse	25	Sep 11, 2017	10.6202	30 May, 2017
13	Two Star Industries Pvt Ltd,	AEDB	Bagasse	49.8	Sep 11, 2017	10.6202	25 Sep, 2017
14	TAY Powergen Company, Tando Allahyar, Sindh	AEDB	Bagasse	30	Sep 11, 2017	10.6202	20 Mar, 2015
15	Faran Power Ltd, District Tando Muhammad Khan, Sindh	AEDB	Bagasse	26.5	Sep 11, 2017	10.6202	13 June, 2017
16	Hamza Sugar Mill Limited (Unit-II), Rahim Yar Khan, Punjab	AEDB	Bagasse	30	Sep 11, 2017	10.6202	10 Oct, 2017
17	Sheikhoo Power Ltd, District Muzafargarh, Punjab	AEDB	Bagasse	30	Sep 11, 2017	10.6202	20 Sep, 2017

18	Mehran Energy Ltd, District Tando Allahyar, Sindh	AEDB	Bagasse	26.5	Sep 11, 2017	10.6202	26 Sep, 2017
19	Habib Sugar Mills Ltd, Shaheed Banazir Abad, Sindh	AEDB	Bagasse	26.5	Sep 11, 2017	10.6202	16 Oct, 2017
				531.02			

ii. **Projects with LOI and Tariff Determination but no LOS**

There are 22 projects in this category totalling 1199.3 MW, with 2 projects of a total of 90 MW of bagasse, 5 projects of a total of 350 MW of solar and 15 projects of a total of 759.3 MW of wind power projects. List of project under this category is given below:

Sr#	Name of Project	LOI Issued By	Type	Capacity (MW)	Date of Tariff Award	Tariff (US cents /kWh)	Generation License
1	Lakeside Energy Pvt. Ltd	GoS	Wind	50	19-Nov-18	4.7154	27 Nov 2017
2	Artistic Wind Power Pvt. Ltd.	GoS	Wind	50	19-Nov-18	4.7212	28 Mar 2017
3	Liberty Wind Power 1 Pvt. Ltd	GoS	Wind	50	19-Nov-18	4.7824	01 Feb 2017
4	Indus Wind Energy Ltd	GoS	Wind	50	19-Nov-18	4.7931	13 Jun 2017
5	Master Green Energy Ltd	GoS	Wind	50	20-Aug-18	4.1302	27 Nov 2017
6	ACT2 Wind Pvt. Ltd	GoS	Wind	50	19-Nov-18	4.7212	04 Apr 2017
7	Liberty Wind Power 2 Pvt. Ltd	GoS	Wind	50	19-Nov-18	4.7824	01 Aug 2017
8	Metro Wind Power Ltd.	GoS	Wind	60	19-Nov-18	4.6360	02 Aug 2017
9	Nasda Green Energy Pvt. Ltd	GoS	Wind	50	19-Nov-18	4.7190	03 Aug 2017
10	DIN Energy Ltd	GoS	Wind	50	19-Nov-18	4.7824	01 Feb 2017
11	Gul Ahmed Electric Ltd	GoS	Wind	50	19-Nov-18	4.7212	01 Aug 2017
12	Tricom Wind Power Pvt. Ltd	GoS	Wind	50	19-Nov-18	4.7824	08 Aug 2017
13	Western Energy Pvt. Ltd (CPEC PROJECT)	AEDB	Wind	50	20-Aug-18	4.3467	05 Jan 2017
14	Shaheen Renewable Energy Pvt. Ltd	AEDB	Wind	51	20-Aug-18	4.4154	07 Jan 2017
15	Trans Antlatic Energy Pvt. Ltd.	AEDB	Wind	48.3	20-Nov-18	4.3464	18 Apr 2017
16	Zorlu Solar Pakistan (Pvt.) Ltd.	GoPb	Solar	100	25-Jan-18	5.3086	18 Aug 2017
17	Helios Power (Pvt.) Ltd.	GoS	Solar	50	25-Jan-18	5.2622	16 Aug 2017
18	HNDS Energy (Pvt.) Ltd.	GoS	Solar	50	25-Jan-18	5.2622	16 Aug 2017

19	Meridian Energy (Pvt.) Ltd.	GoS	Solar	50	25-Jan-18	5.2622	16 Aug 2017
20	Zhenfa Pakistan New Energy Company (Pvt.) Ltd.	GoS	Solar	100	13-Aug-18	4.7746	10 Jul 2017
21	M/s Sadiqabad Power Pvt Ltd, Rahim Yar Khan, Punjab	AEDB	Bagasse	45	Sep 11, 2017	10.6202	17 Jul 2018
22	M/s Gotki Power Pvt Ltd, Ghotki, Sindh	AEDB	Bagasse	45	Sep 11, 2017	10.6202	27 Nov 2017
				1199.3			

iii. Projects At LOI Stage

There are 104 projects in this category totalling 6,547 MW, with 31 projects of a total of 2139 MW of wind, 65 projects of a total of 4143.5 MW of solar, 07 projects of a total of 224.5 MW of bagasse and 01 project of 40 MW of Waste-to-Energy (Municipal Solid Waste). List of projects under this category is given below:

Sr#	Name of Project	Capacity (MW)	Type	LOI Issued By	LOI Issuance Date
1	Burj Wind Energy Pvt. Limited	14	Wind	AEDB	10 Oct 2012
2	DHA City Karachi (DCK)	50	Wind	GOS	20 Oct 2014
3	Cacho Wind Energy (Pvt) Ltd *(CPEC Project)*	50	Wind	GOS	28 Nov 2014
4	Harvey Energy (Pvt) Ltd	50	Wind	GOS	28 Nov 2014
5	Finergy (Pvt) limited	50	Wind	GOS	13 Feb 2015
6	New Generation Power Pvt Ltd	100	Wind	GOS	17 Apr 2015
7	Norinco International Corporation Ltd	50	Wind	GOS	20 Apr 2015
8	Norinco International Corporation Ltd	50	Wind	GOS	20 Apr 2015
9	Power China Chengdu Engineering Corporation Ltd	150	Wind	GOS	3 Jul 2015
10	Harbin Electric International –II	250	Wind	GOS	19 Aug 2015
11	Jamsheed wind Energy (Pvt) Ltd	50	Wind	GOS	1 Oct 2015
12	Unicol Energy Limited	50	Wind	GOS	16 Oct 2015
13	Power China Houdang Engg Corporation	50	Wind	GOS	4 Feb 2016
14	Wuwei Aerospace New energy Investment Co Ltd	100	Wind	GOS	29 Feb 2016
15	Wuwei Aerospace New energy Investment Co Ltd	100	Wind	GOS	29 Feb 2016
16	Gul Ahmed Textile Mills Ltd	50	Wind	GOS	1 Mar 2016
17	Gul Ahmed Textile Mills Ltd	50	Wind	GOS	1 Mar 2016
18	Yunus Wind power Ltd (Y.B. Holdings)	50	Wind	GOS	1 Mar 2016
19	Lucky Wind power Ltd (Y.B. Holdings)	50	Wind	GOS	1 Mar 2016
20	Moro Power Company (Pvt) Ltd	25	Wind	GOS	1 Mar 2016
21	Western Energy (Pvt) Ltd(Sino well pvt ltd)	50	Wind	GOS	1 Mar 2016
22	Shafi Energy (Pvt) Ltd	50	Wind	GOS	2 Mar 2016

23	Orient Energy Systems (Pvt) Ltd	50	Wind	GOS	7 Mar 2016
24	Lootah Energy Ltd	50	Wind	GOS	7 Mar 2016
25	Lootah Energy Ltd	50	Wind	GOS	7 Mar 2016
26	Iran-Pak Wind Power (Pvt.) Ltd.	50	Wind	GOS	8 Mar 2016
27	Novatex limited	50	Wind	GOS	8 Mar 2016
28	Mustaqim Dyeing & Printing Industries	50	Wind	GOS	8 Mar 2016
29	Sindh Renewable Energy Company Pvt. Ltd	50	Wind	GOS	11 Sep 2017
30	Sindh Renewable Energy Company Pvt. Ltd	50	Wind	GOS	11 Sep 2017
31	Vestas Asia Pacific Wind Technology (Pvt) Ltd	250	Wind	GOPb	6 Mar 2016
		2139			
32	IPS Solar Park – IPS 22 (Pvt.) Ltd.	50	Solar	AEDB	3 Jul 2013
33	IPS Solar Park – JA 23 (Pvt.) Ltd.	50	Solar	AEDB	3 Jul 2013
34	IPS Solar Park – SB 24 (Pvt.) Ltd.	50	Solar	AEDB	3 Jul 2013
35	R.E. Solar I Pvt. Ltd.	20	Solar	AEDB	21 Apr 2014
36	R.E. Solar II Pvt. Ltd.	20	Solar	AEDB	21 Apr 2014
37	Janpur Energy Limited SPV: Jan Solar (Pvt.) Ltd.	12	Solar	AEDB	27 May 2014
38	Janpur Energy Limited	12	Solar	AEDB	27 May 2014
39	Siddiqsons Energy Karachi	50	Solar	AEDB	5 Dec 2014
40	ET Solar (Pvt.) Ltd.	50	Solar	AEDB	22 Apr 2015
41	ET Solar (Pvt.) Ltd.	25	Solar	AEDB	22 Apr 2015
42	ACT Solar (Pvt.) Ltd.	50	Solar	AEDB	6 Jul 2015
43	Asia Petrolium Limited	30	Solar	AEDB	3 Aug 2015
44	New Generation	200	Solar	GOS	17 Apr 2015
45	Meridian Energy Pvt Ltd	50	Solar	GOS	30 Apr 2015
46	HNDS Energy Pvt Ltd	50	Solar	GOS	30 Apr 2015
47	Helious Power Pvt Ltd.	50	Solar	GOS	30 Apr 2015
48	Metro solar power Ltd	50	Solar	GOS	4 May 2015
49	Technomen Kinetics/ZTE	20	Solar	GOS	22 May 2015
50	MI Solar	20	Solar	GOS	25 May 2015
51	Sukkur solar park Pvt Ltd	20	Solar	GOS	2 Jun 2015
52	Thatta Solar Park Pvt ltd	20	Solar	GOS	2 Jun 2015
53	Al Tariq & Laguardia	20	Solar	GOS	30 Jun 2015
54	Gul Ahmed Energy Ltd	50	Solar	GOS	10 Jul 2015
55	National power & water company Pvt Ltd	50	Solar	GOS	3 Aug 2015
56	MCC New Energy Company(PK) Pvt Ltd	100	Solar	GOS	20 Aug 2015
57	Tricom solar power Pvt Ltd	50	Solar	GOS	28 Aug 2015
58	Siachen energy Ltd I	100	Solar	GOS	28 Aug 2015

59	Siachen energy Ltd –II	100	Solar	GOS	28 Aug 2015
60	China National Power Ltd	100	Solar	GOS	28 Oct 2015
61	Zhongxing Telecom pakistan Pvt Ltd(ZTE)	100	Solar	GOS	28 Oct 2015
62	Technomen Kinetics pvt Ltd	100	Solar	GOS	25 Nov 2015
63	Act 2 Solar Pvt Ltd	50	Solar	GOS	8 Feb 2016
64	Greenewable solar Pvt Ltd.	50	Solar	GOS	8 Mar 2016
65	IDC Pvt Ltd	50	Solar	GOS	1 Mar 2016
66	Siddiq Sons Limited	50	Solar	GOS	1 Mar 2016
67	Artistic Milliners Pvt Ltd	50	Solar	GOS	13 Apr 2016
68	Sindh Renewable Energy Company Pvt. Ltd	50	Solar	GOS	14 Jul 2017
69	Zonergy Company Ltd. (CPEC Project)	100	Solar	GOPb	3 Apr 2015
70	Zonergy Company Ltd. (CPEC Project)	100	Solar	GOPb	3 Apr 2015
71	Zonergy Company Ltd. (CPEC Project)	100	Solar	GOPb	3 Apr 2015
72	Zonergy Company Ltd. (CPEC Project)	100	Solar	GOPb	3 Apr 2015
73	Zonergy Company Ltd. (CPEC Project)	100	Solar	GOPb	3 Apr 2015
74	Zonergy Company Ltd. (CPEC Project)	100	Solar	GOPb	3 Apr 2015
75	Zorlu Solar Pakistan Pvt. Ltd.	100	Solar	GOPb	17 Jan 2017
76	Zorlu Renewable Pakistan Pvt. Ltd.	100	Solar	GOPb	10 Jul 2017
77	Zorlu Sun Power Pvt. Ltd.	100	Solar	GOPb	10 Jul 2017
78	Zhenfa Pakistan New Energy Co. Ltd.	100	Solar	GOPb	19 Mar 2015
79	Solution De Energy	100	Solar	GOPb	12 May 2015
80	TBEA Xingiang (SPV - HUAGUANG Energy Pvt. Ltd.)	100	Solar	GOPb	4 Apr 2016
81	CWE &Welt Konnect (Pvt) Ltd. (Joint Venture)	50	Solar	GOPb	30 Apr 2015
82	Vogt Solar Ltd	15	Solar	GOPb	9 Jan 2018
83	Roshan Power (Pvt.) Ltd.	10	Solar	GOPb	23 May 2011
84	CK Solar, Korea	300	Solar	GOB	-
85	Enertech Holding Company	50	Solar	GOB	26 Oct 2016
86	Enertech Holding Company	50	Solar	GOB	26 Oct 2016
87	Nizam & Sons	50	Solar	GOB	28 Oct 2016
88	Nizam & Sons	50	Solar	GOB	3 Jul 2018
89	Canadian Commercial Company	50	Solar	GOB	-
90	EL-Passo Technology	50	Solar	GOB	26 Dec 2017
91	EL-Passo Technology	50	Solar	GOB	26 Dec 2017
92	Siddiqsons	50	Solar	GOKPK	28 Dec 2015
93	Siddiqsons	50	Solar	GOKPK	28 Dec 2015
94	Assal Solar Power	49.5	Solar	GOKPK	21 Jul 2016
95	FAS Energy	50	Solar	GOKPK	22 Sep 2016

96	Target Energy	50	Solar	GOKPK	20 Oct 2016
		4143.5			
97	Safina Sugar Mills Ltd.	20	Bagasse	AEDB	9 May 2014
98	Alman Seyyam (Pvt.) Ltd.	34.5	Bagasse	AEDB	25 Jan 2017
99	Al-Mughni Industries (Pvt.) Ltd	40	Bagasse	AEDB	5 May 2017
100	Digri Gen Ltd.	25	Bagasse	AEDB	26 Apr 2017
101	Ranipur Energy (Pvt.) Ltd	60	Bagasse	AEDB	24 May 2017
102	Popular Energy Pvt. Ltd.	30	Bagasse	AEDB	15 Aug 2017
103	Hamza Sugar Mills (Unit-III)	15	Bagasse	AEDB	21 Jul 2017
		224.5			
104	Lahore Xingzhong Renewable Energy Co. Ltd.	40	MSW	GOPb	19 Oct 2016
	Total	6547			

D

TO BE PUBLISHED IN THE GAZETTE

(PART-II) GOVERNMENT OF PAKISTAN

PART II

Islamabad, the October 02, 2020

PART II

Statutory Notification (S.R.O)

GOVERNMENT OF PAKISTAN

MINISTRY OF ENERGY
(POWER DIVISION)

S. R. O- In pursuance of the decision of Council of Common Interests (the Council) held on **6th August 2020**, regarding approval of Alternative & Renewable Energy Policy, 2019, subsequently finalized in consultation with all provincial representatives during the meeting of the Inter Provincial Coordination Committee (**IPCC**), the Alternative & Renewable Energy Policy, 2019 is hereby notified.

E

TO BE PUBLISHED IN THE GAZETTE

(PART-II) GOVERNMENT OF PAKISTAN

PART II

Islamabad, the October 02, 2020

PART II

Statutory Notification (S.R.O)

GOVERNMENT OF PAKISTAN

MINISTRY OF ENERGY
(POWER DIVISION)

S. R. O- In pursuance of the decision of Council of Common Interests (the Council) held on **6th August 2020**, regarding approval of Alternative & Renewable Energy Policy, 2019, subsequently finalized in consultation with all provincial representatives during the meeting of the Inter Provincial Coordination Committee (**IPCC**), the Alternative & Renewable Energy Policy, 2019 is hereby notified.

POWER POLICY

ALTERNATIVE and RENEWABLE ENERGY

A policy in the portfolio of policies comprising the
National Electricity Policy

GOVERNMENT OF PAKISTAN

2019

Table of Contents

FOREWORD

Nature has blessed Pakistan with enormous renewable energy potential which can be utilized for power generation and to meet energy needs of the country. The Government of Pakistan (GOP) initiated development of Alternative and Renewable Energy (ARE) Sector under a phased, evolutionary approach constituting a strategic policy implementation roadmap under Policy for Development of Renewable Energy for Power Generation, 2006 (RE Policy 2006) to increase the deployment of ARE technologies (ARETs) in Pakistan. ARE promises a higher proportion of the national energy supply mix and helps ensure universal and affordable access to electricity in all regions of the country.

The GOP's strategic objectives of energy security, affordability of electricity, availability for all, environmental protection, sustainable development, social equity and mitigation of climate change are further harnessed under the ARE Policy 2019, developed by the Ministry of Energy (Power Division) in consultation with key stakeholders. ARE Policy 2019 aims to create a conducive environment for the sustainable growth of ARE sector in Pakistan.

AREs have seen significant growth in different parts of the world in the last decade in terms of deployment, technological advancements and cost competitiveness. Experience under RE Policy 2006 coupled with international best practices provides the basis for a more comprehensive framework for ARE Policy 2019. It has an expanded scope encompassing all major alternative and renewable energy sources, competitive procurement and also addresses areas like distributed generation systems, off-grid solutions, B2B methodologies, and rural energy services. It carries forward most of the liberal and attractive incentives of RE Policy 2006 to maintain the investors' confidence, and places greater emphasis on aggressive growth of grid-connected ARET applications as well as a programmatic development of distributed ARE power generation market on more competitive terms.

It has been decided that rather than inducting RE projects on a reactive basis, a new policy direction is being set whereby Pakistan intends to have at least 20% of its generation capacity as ARE technologies by 2025 and 30% by 2030 (20X25 and 30X30 target). It is estimated that such targets can be achieved but will require upgradation of the transmission infrastructure; this exercise will be undertaken in parallel and, where necessary, as a pre-requisite. This target, together with over 30% hydel, will result in one of the most environmentally friendly and affordable electricity mix compared to the heavily dominated mix of imported fossil fuels in the past.

Salient features of the ARE Policy 2019 include variety of investment options for tapping different ARE resources for on-grid and off-grid applications as well as encouraging consumer driven applications and initiatives. Attractive policy instruments supplement GOP's open door initiatives for private investment in ARE sector in Pakistan as it is envisaged to contribute its share in strengthening and improving the power supply position of the country and help fueling rapid and environmentally sustainable economic growth.

The measures introduced in the ARE Policy 2019 are expected to set the requisite processes in place so that ARE is fully mainstreamed and integrated within the country's energy planning as well as the country's economic and social development for the eventual benefit of the people of Pakistan.

GOP is determined to pursue the stated policy objectives and strategies with the participation and collaboration of the private sector. The goal is to continue the envisaged sustained transition towards greater use of indigenous, clean and abundant ARE resources, which must be tapped in a meaningful and timely fashion and utilized towards the social and economic advancement to assist the country's overall development strategy.

GLOSSARY

AEDB	the Alternative Energy Development Board
AEDB Act	the Alternative Energy Development Board Act, 2010
ARE	alternative and renewable energy
ARE Policy 2019 or this Policy	this Alternative and Renewable Energy Policy 2019
AREP	a project for electricity generation using ARETs
ARET	alternative and renewable energy technology
B2B	business-to-business
CYREPP	current fiscal year RE procurement plan (1st July to 30th June)
DISCOs	the ten (10) Federally owned distribution companies
EDB	Engineering Development Board
EPA	energy purchase agreement
FBR	Federal Board of Revenue
FPUs	Federally-owned public power utilities
GOP	the Federal Government of the Islamic Republic of Pakistan
IA	implementation agreement
IGCEP	the Indicative Generation Capacity Expansion Plan
IPPs	independent power producers
IRN	Interconnection Ready Nodes, being the nodes on the transmission system where the NGC confirms its readiness to deploy the required transmission capacity and interconnection within the timeframes envisaged for commercial operations of AREPs in the upcoming auctions
K Electric	K-Electric limited
LESs	localized energy systems

LMM	locally manufactured machinery
Market Operator	the company licensed as a 'market operator' by NEPRA, currently being the Central Power Purchasing Agency (Guarantee) Limited (CPPA-G)
Mature technology	an ARET for which such number of AREPs are under construction or operation in the country as determined by AEDB on recommendation of the Steering Committee
MG	mini / micro grid
NEP	National Electricity Policy
NEPRA	National Electric Power Regulatory Authority
New technology	an ARET other than mature technology. For the avoidance of doubt, new technology does not include a hybrid AREP of mature technologies.
NGC	The national grid company licensed by NEPRA, currently being the National Transmission & Dispatch Company Limited (NTDC)
PSP	Power system planning, a licensed function carried out by NGC
RE	for the purposes of this Policy, electricity generated using ARETs
REPA	Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997
REPA Amendment 2018	Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act, 2018
RE Policy 2006	Policy for Development of Renewable Energy for Power Generation, 2006
RFP	request for proposals (bids)
SECP	the Securities and Exchange Commission of Pakistan
SO	System Operator, a licensed function under REPA
Steering Committee	the ARE steering committee constituted under paragraph 2.8 of this Policy

1 INTRODUCTION

1.1 BACKGROUND

Power generation in Pakistan is sourced through a mix of thermal, hydel, renewables and nuclear power plants, with thermal power generation comprising the bulk, followed by hydel, renewable and nuclear. The initial Policy for Development of Renewable Energy for Power Generation, 2006 (the "RE Policy 2006") expired in March 2018 after having successfully launched the development of ARE projects in the country. Initially, GOP introduced strong economic incentives in order to attract investment, remove barriers to project implementation and hand-hold pioneering projects. The Policy for Alternative and Renewable Energy, 2019 (the "ARE Policy 2019") provides the roadmap for further realizing the full potential of ARE in Pakistan yet promoting competitive pricing.

This ARE Policy 2019 is one amongst the portfolio of policies together comprising the National Electricity Policy (NEP).[i]

The legislative mandate for this Policy arises out of section14A of REPA that stipulates "*special provisions for ensuring the development of a sustainable renewable energy market with a dedicated and gradually increasing share in the electricity power sector*".

This Policy is primarily oriented towards the use of ARETs identified herein for power systems; separate policies may be made for other applications of ARETs.

1.2 POLICY OBJECTIVES

The long-term integrated energy plan of Pakistan envisages four guiding principles: sustainability, affordability, responsibility (of use) and availability. The ARE Policy 2019, as a component of the overall plan, has the vision of the development of an efficient, sustainable, secure, affordable, competitive and environment friendly power market while promoting indigenization of technology and the development of skilled human resource and local manufacturing capabilities in ARET.

The main objectives of the ARE Policy 2019 are:

- protect the environment by increasing the share of green energy in the overall energy mix
- least cost on-grid power generation
- fast track and transparent procurement of AREPs through auctions
- develop and open up the power market
- develop ARET local manufacturing, skilled human resource and technology transfer

- enable private sector investment and participation in on-grid and off-grid AREPs and innovative supply solutions, and
- ease pressure on the public purse for investments in power system expansion.

1.3 POLICY SCOPE

1.3.1 *Technologies*

The following ARETs are covered under this Policy:

- biogas using any organic material
- biomass (including but not limited to bagasse, agricultural waste, and other waste)[ii]
- energy from waste (including but not limited to municipal waste, industrial waste, sewage, refuse derived fuel)
- geothermal
- hydrogen
- synthetic gas (made from any source except fossil fuels)
- ocean/tidal wave energy
- solar (PV or thermal, or any technology that uses heat and/or light of the sun to make electricity)
- storage technologies (including but not limited to battery systems, cells of all types, compressed gas)
- wind (on-shore and off-shore), and
- hybrids of any of the above technologies.

The Policy also extends to projects entailing retrofitting of existing bagasse, solar and wind projects to convert them into hybrid units.

Any technology not identified above but determined by AEDB from time to time to be an ARET for the purposes of this Policy shall also be included.

Small hydro projects (less than 50 MW) are not covered under this Policy. A separate policy is under consideration for small hydro.

1.3.2 *Application*

This Policy extends to both on-grid and off-grid AREPs, as well as net-metering, subject to the specific conditions applicable to each in the respective sections of this Policy.

While the Policy in on-grid scenario is oriented primarily towards the system owned and operated by NTDC/DISCOs, the incentive regime will also apply to AREPs inducted in K-Electric Limited (KE) and in any other utility privatized in the future, with the caveat that the GOP will not assume any contractual obligations under the contracts between the AREPs and KE or the privatized utilities.

This Policy binds all public sector entities in the exercise of their functions falling within the scope of this Policy.

1.4 SALIENT POLICY MEASURES

1.4.1 *20 x 25 and 30 x 30 Target*

The on-grid generation capacity will be at least 20% by 2025 and at least 30% by 2030.

For the purposes of this Policy, the GOP has set the target of at least 20% on-grid RE generation by capacity by the year 2025 and at least 30% by 2030 (20x25 and 30x30 target). For the purposes of the aforesaid target, the expression "on-grid" includes mini/micro grids (MGs). In order to achieve these targets, a larger percentage of new capacity additions and retiring plant replacements will be AREPs, keeping in view the constraints of base load, reactive power support, spinning reserve requirements and transmission system constraints, while keeping also in view the technological solutions to address these constraints such as RE forecasting capabilities, hybrid AREP solutions and distributed generation.

1.4.2 *Competitive Bidding*

Procurement of AREPs will be done through auctions, preferably on annual basis.

Procurement of new RE capacity, displacement energy capacity, and replacement capacity (for retiring plants) will be done through auctions. The Market Operator (and to the extent the purchaser is a DISCO contracting directly, such DISCO) and the NGC's consents for the capacity addition will therefore be available before the auction.

Steady annual procurement of manageable volumes of capacity is preferred over procurement of large volumes after years of inaction.

1.4.3 *IGCEP's Primacy in Procurement Decisions*

IGCEP outputs will form the basis of all on-grid capacity procurements (except net-metering).

Power system planning (PSP) and procurement of capacity for system generation expansion are distinct but synergetic functions. PSP is a function of the NGC under law and will be carried out by NGC using state-of-the art system planning tools, updating IGCEP on annual basis.[iii] The procurement decisions to respond to IGCEP will be made in accordance with this Policy with the objective to give visibility for expected auctions for the next two years.

The IGCEP is a regulatory obligation of NGC arising under the Grid Code, as a subset of the PSP function of NGC. The current IGCEP was prepared in February 2019 for the period 2018 to 2040.

State-of-the art software tools for IGCEP will be used that recognize ARETs [iv]. A revised IGCEP will be in place by year-end 2019 keeping in view the on-grid ARE targets in this Policy.

1.4.4 *Displacement of Expensive Energy*

AREPs' induction in the system will also be driven by the objective of displacement of more expensive electricity of thermal plants where such displacement enables lowering the average system generation cost, as determined by the IGCEP outputs.

In addition to generation capacity expansion, AREPs shall also be solicited for displacement of expensive electricity generated using fossil fuels (thermal plants). This is a major directional change from the past, stemming from the twin advantages of AREPs, namely, a significant drop in the AREP deployment prices over the past few years and that the AREP tariffs do not include capacity payments. Henceforth, displacement of fossil fuels enabling lowering of average system generation cost becomes one of the drivers for AREP procurements along with new capacity additions and replacements of retiring plant.

The AREPs shall be added (i) where there is a demonstrable lowering of the average basket cost of generation for the system, (ii) where they rank higher in merit order dispatch over the to-be-displaced thermal plants, and (iii) keeping in view any contractual commitments for thermal plants signed by the GOP or the Market Operator (or any DISCO) and guaranteed by the GOP.

A demonstrable lowering of the average basket cost of generation for the system will be shown to exist where the levelised tariff for the mandatory purchase period (see paragraph 2.4) of the AREP is lower than the energy purchase price of the thermal plant at the forecast fuel prices for the calendar quarter of the target commercial operations date of the AREP.

Each annual iteration of the IGCEP will include a section on the displacement options to be fed into the annual auctions for capacity additions. The prices in the modelling for displacement options will be the ones fetched in the last auction for the respective ARETs preceding the modelling; pending the first auction, the last tariff for the relevant ARET awarded by NEPRA will be used. The displacement option will be modelled for the timeframes when the displacement AREP capacity is targeted to achieve commercial operations.

1.4.5 *Tariffs*

Tariffs will be denominated in Rupees. Upfront or cost-plus tariffs for mature technologies will be discontinued.

Tariffs will be denominated in Pakistan Rupees. Consistent with the current practice, the tariff for AREPs will comprise energy purchase price only (no capacity payments), coupled with a 'mandatory-purchase obligation' for the duration determined in accordance with paragraph 2.4.

For mature technologies, public utility procurement of AREPs will be through competitive bidding only and not on upfront or cost-plus tariffs.

In order to promote new technologies, NEPRA may allow upfront or cost plus tariffs for new technologies if it deems appropriate.

1.4.6 *Indigenisation and Local Content*

AEDB will move the FBR and the EDB to withdraw the import duty exemptions on ARET based consumer items which the local industry is capable of manufacturing or undertakes to manufacture, and such exemptions will be withdrawn on the conditions specified in this Policy being met. AEDB will engage with the Chambers of Commerce and Industry to pursue this end on an ongoing basis.

Plant and machinery imported by an existing or new industrial concern shall be free of import duties where the plant and machinery is imported for manufacture of AREPs or components thereof or ARET consumer items or components thereof.

The exemption from the 'locally manufactured' condition for duty free import for AREPs above 25MW will be abolished for items that the local industry is capable of supplying to the required specifications and, where applicable, with the requisite certification.

AEDB will maintain proactive ongoing oversight over taxation anomalies that discriminate against the local industry, and will make interventions with the Federal Government to remove the anomalies.

1.4.7 *Simplification of Regulatory and Contract Frameworks*

The legacy contract structures will be reviewed to remove overlap with subjects covered by regulation in order to avoid overlap with regulation.

The licensing framework for non-utility procurement will be simplified and rationalized to minimize regulatory fee, compliance costs and timeframes.

1.4.8 *Proactive AEDB*

AEDB's role will be transformed from a passive responder to unsolicited projects to an active promoter for ARET and AREP penetration, buttressed by interventions for progressive indigenization.

1.4.9 *Renewable Energy Training and Skill Development*

AEDB will set up an Institute of Renewable Energy Technologies under the aegis of academic or institutional frameworks, with the flexibility to set up sub-campuses of the institute across the country.

The aims of the institute will extend to imparting academic qualifications and practical/marketable skills, undertaking research, testing and certifications. These activities and the research output will also be used for commercial applications in order to make this institute a financially self-sustaining body. The institute can be co-sponsored by the industry for needs-based trainings and job-creation.

2 Public Utility Procurement

2.1 Federally Owned Public Power Utilities

The national power system is owned and operated by the NGC and 10 distribution companies that are owned by the Federal Government and are referred to in this Policy as Federally-owned Public Power Utilities (FPUs). K-Electric, though connected to the national grid, is not included in FPUs.

Procurement of AREPs by FPUs will be done primarily through competitive bidding, using IGCEP outputs for

- new capacity additions (including retrofitting of existing AREPs)
- dispacement of expensive fossil-fuel based generation, and
- replacement of retiring capacity,

keeping in view the policy objectives and targets set under ARE Policy 2019.

Listed below are the three modes for procurement of RE by FPUs.

2.2 Modes of Procurement

2.2.1 *Competitive Bidding – Mode One*

The first mode, and the one expected to be the most commonly used, is open and transparent competitive bidding, that will entail the following broad steps:

a) AEDB will announce the auction volumes annually based on IGCEP outputs, with the purchase and interconnection commitments from FPUs in place before bidding

b) the interconnection commitments by FPUs for the purposes of auction will be in view of regulatory prescription from time to time for FPUs to provide interconnection for AREPs within prescribed distances (the RFP may solicit subsidiary bids for constructing interconnection facilities by the AREP in appropriate cases)

c) the auctions shall correspond to locations or "interconnection ready nodes" (IRNs) confirmed in advance by NGC keeping in view the targets under this Policy and the target commercial operations dates of the AREPs

d) the locations will be geographically spread based on multiple considerations, including resources mapping, load centers, interconnection availability at affordable cost, technical reasons and distribution to support balanced development footprint across the country; a minimum share for each province would be ensured through setting up a benchmark by the Steering

Committee before the deliberations are started by the Steering Committee

e) intermittency of variable AREPs will be kept in view, requiring conformance to the grid code for grid stability

f) tenders may be for single or multiple technologies

g) bid guarantees and performance guarantees will be furnished by the bidders according to the bid documents

h) feasibility studies are not required (though some sites may have feasibility studies carried out by public sector entities)

i) the bid evaluation method will be stated in the bid documents, with the lowest evaluated tariff being the primary method

j) annual auctions will be conducted based on the IGCEP outputs

k) auction schedules will be available online at AEDB's website, with the objective to give visibility for expected auctions for the next two years

l) all equipment deployed in the AREP shall be new, unused and compliant with international standards

m) the variability/availability risk of underlying renewable energy resources shall be borne exclusively by the AREP, and

n) other details relating to auctions including but not limited to the qualification criteria, tariff preference if any for use of locally manufactured items and share of local sourcing will be part of the bid documents.

The RFP and the associated contract package will be prepared by the Steering Committee and approved by the Board of AEDB. Requisite approvals of NEPRA and other competent forums will be obtained. The Provincial Energy Departments will then conduct the bidding using the RFP and the contract package approved as afore-said. One represenative of AEDB will be associated with the bidding process conducted by the Provincial Energy Departments. The outcome of the bidding will be processed by the Provincial Energy Departments with NEPRA for approval and award of tariff to the successful bidders.

Thereafter, the GOP acting through AEDB will award the concessions to the successful bidders, who will then be required to sign the contract package and furnish performance guarantees within the timeframes stated in the bid documents.

If the NGC due to technical or financial limitation is not in a position to commit to requisite timelines for evacuation of power from approved projects, then the Provincial grid company and / or project sponsors shall be allowed the option of undertaking such interconnection / evacuation subject to conformity to the Grid Code. NEPRA will determine tariff for such interconnection investment on cost plus basis, if such interconnection component is not part of the project auction, with the same return on equity/IRR as it grants to NGC for such interconnection. The contractual and financial obligations associated with the interconnection and evacuation of power shall be assumed exclusively by the Provincial grid company and/or project sponsor against indemnity to NGC and the relevant DISCO.

NEPRA has made regulations on competitive bidding[v]. To the extent required, NEPRA will revisit its regulations to make the approval process aligned with the key auction parameters and steps outlined in this Policy.

2.2.2 *Government To Government (G2G) - Mode Two*

In certain cases, the GOP may find it strategically important to execute projects under Government to Government (G2G) frameworks for underdeveloped areas of the country. Such commitments will result after negotiations with the foreign governments under applicable framework agreements, where such procurement is commercially viable based on the national priorities and is in accordance with the laws of Pakistan, and where it does not result in a preferential award of a project that may have been the subject of competitive procurement. To qualify as a G2G project, the resultant tariff must be below the tariff that would have been achieved on a commercial basis and must be below the average basket price of generation. Limited exceptions to the requirement of the G2G projects' tariff remaining below the average basket price of generation may be made for such new technologies which confer substantial environmental benefits (such as waste-to-energy), provided, the tariff shall remain subject to approval of NEPRA.

Such proposals will be brought to AEDB for implementation under the same process as was followed for unsolicited projects in the RE Policy 2006 that, for the purposes of G2G projects, is hereby incorporated by reference as if set out herein, with such modifications as may be approved by the Federal Government. AEDB will list the process steps for G2G projects on its website.

2.2.3 *Unsolicited Projects - Mode Three*

Projects for new technology shall require a feasibility study and shall be allowed on a cost-plus method, if approved by AEDB as qualifying and shall be treated as unsolicited project. An unsolicited AREP's tariff must be below the average basket price of generation.

Unsolicited AREPs may be proposed to AEDB by the Provinces or by private sponsors for interconnection with the national grid and power off-take by FPUs only for new technologies. Such proposals will be brought to AEDB for processing and, if approved, for implementation under the same process as was followed for unsolicited projects in the RE Policy 2006 that, to the extent of unsolicited AREPs based on new technologies, is hereby incorporated by reference as if set out herein, with such modifications as may be approved by a resolution of the Board of AEDB. AEDB will list the process steps for unsolicited AREPs on its website.

2.3 TARIFF

For all modes, the tariff shall be denominated in Pakistan Rupees.

For competitive bidding mode:

- NEPRA will determine the indexations allowed for any round of competitive bidding in consultation with GOP, that will be specified in the bid documents. While NEPRA retains the jurisdiction in this regard, it is expected that it will continue to follow its precedent to maintain, to the extent it considers practicable, the tariff value in real terms for the AREPs.
- Foreign bidders may bid with indexation to a foreign currency (USD, GBP, JPY, CNY, or Euro) in respect of tariff components specified for this purpose by NEPRA. The evaluation methodology in such cases will impose a factor on the bid price, adjusting for a notional devaluation of PKR against the bid currency using a devaluation factor specified in the bid documents. The evaluation will however be done in USD using cross-currency rates of the same reference date to set the base rate for indexation to the bid currency if other than USD. The reference benchmark currency rate will be the interbank rate for USD and, where applicable, the foreign bid currency, in each case prevailing 30 days prior to the date of bid submission.
- Indexation of tariff components will be automatic, based on predetermined formulae and reference parameters specified in the bid documents; AREPs will not have to approach NEPRA periodically for tariff indexation.

2.4 CONTRACTUAL FRAMEWORK

The current contractual structure comprising an Implementation Agreement (IA) with the GOP, an Energy Purchase Agreement (EPA) with the Market Operator (as agent for DISCOs), and a GOP guarantee for payment obligations of the Market Operator (together, the **concession package**) will continue to be followed.

The factor of rapid obsolescence of ARETs (with technology efficiency and output increasing every few years with concomitant reduction in deployment costs) militates against long-term EPAs. The concession package in vogue stipulates a 25 year term for the EPA on a take-or-pay basis. On the other hand, bid prices will likely be higher for shorter term EPAs. Balancing the two, this Policy proposes that the bid documents solicit bids for such term as may be decided by the Board of AEDB on recommendation of the Steering Committee, with (i) a "must-purchase obligation" for a duration not less than the debt-repayment period and not more than the period stated in the RFP from time to time, and (ii) the balance term being on a take-and-pay basis at the option of the power purchaser; provided, the AREP will continue to be dispatched on merit order dispatch criteria for the balance term of the EPA after the expiry of the must-purchase obligation period.

Subject to the proposed 'trim-down' of the concession package discussed in the next paragraph, the rights and obligations profile in the current standard concession package will continue to be followed by-and-large.

The current standard concession package is founded on the legacy package developed about two decades ago, when the regulatory framework under REPA was not in place. The IPPs were then regulated through contract. With a prolific primary and secondary regulatory legislation in place, such as NEPRA's licensing rules, the grid and distribution codes, the performance standards, the market operator rules, the commercial code, and others, it is time to revisit the concession package to remove the overlap with the regulatory instruments so as to have leaner contracts that incorporate the regulatory framework by reference. This will be an ongoing exercise to be initiated expeditiously. The revised concession package approved by the Federal Cabinet or its designated committee will be included in the RFP. The concession package in vogue shall continue to be used pending the introduction of the revised concession package.

For projects procured through competitive bidding, the sponsors' lock-in period shall be up to the commissioning of the AREP during which they shall not exit the project.

2.5 FISCAL INCENTIVES

The fiscal incentives under the laws of Pakistan prevalent on the date of this Policy for AREPs will continue to apply. Any future modification or withdrawal of such incentives in the exercise of its sovereign rights by the GOP shall be without prejudice to the change-in-tax protection clauses in the signed contracts or in the bids submitted with this assumption stated.

2.6 CARBON CREDITS

Pakistan is a signatory to Kyoto Protocol and Paris Agreement that allows accessing global carbon crediting markets, environment and climate funds and other global financing options for projects under mitigation, adaptation and a combination thereof. These financing options can be accessed by the public and private sector entities. GOP encourages the ARE project developers to apply for procuring carbon credits through various carbon crediting mechanisms including Carbon Crediting Mechanism (CDM) under compliance market, financing options under voluntary markets and mitigation & adaptation actions under Nationally Approve Mitigation Actions (NAMAs). The GOP mandates AEDB to facilitate, coordinate and assist the ARE project developers and the Designated National Authority (DNA) / National Designated Authority (NDA) of Pakistan under United Nations Framework Convention under Climate Change (UNFCCC) in reconciling the most effective approach in procuring carbon credits. AEDB may also facilitate the ARE project developers in trading the carbon credits in international carbon market and help DNA/NDA in creating national carbon credits trading scheme.

The AEDB will assist in the development of local capacities and creating awareness regarding various carbon crediting mechanisms available under UNFCCC.

Considering that efforts are on way to put in place new international climate treaties, GOP is committed to revising incentives for procuring benefits consistent therewith. AEDB is empowered to effect requisite facilitation in the event of any new international regime or protocol applicable to Pakistan.

2.7 PROVINCES' ROLE

Article 157 of the Constitution of Pakistan allows the Provinces to develop their own power generation projects, lay transmission lines, distribute electricity, and even set their own tariffs, if the power generated is for use within the boundary of the relevant Province and the AREP is not connected to the national grid. Recognizing these constitutional rights, the Provinces are free to institute their own policies for projects where neither the power off-take is by a Federal entity nor the interconnection is provided by NTDC/DISCO. The contracts in such cases shall be directly between the AREPs and the Provincial Government or its agencies, without financial or contractual commitment of the Federal Government or any of its entities.

The Provincial participation in the competitive procurement by FPUs will be through (i) their membership of the AEDB Board, (ii) their membership of the Steering Committee, (iii) making land available and extending other facilitation for the bidding process on terms that incentivize location of the AREPs in their respective territories (such as right of way, commitments to construct allied infrastructure, supply of water, etc.), (v) ensuring security and other matters related to Provincial or municipal agencies, and (iv) conducting bidding for the AREPs based on the RFP and contract package approved by AEDB.

2.8 STEERING COMMITTEE

The major directional changes in this Policy require a high level of proactive steering and coordination amongst the key players including the Provinces.

Keeping this imperative in view, this Policy announces an *ARE Steering Committee* (the Steering Committee) comprising:

i) an additional secretary of Ministry of Energy (Power Division),

ii) a joint secretary of Ministry of Energy (Power Division),

iii) the CEO of AEDB,

iii) Provincial Energy Secretaries,

iv) Managing Director, NGC (non-voting member),

v) the CEO, Market Operator (non-voting member),

vi) if and when a separate legal entity is licensed as a system operator (SO) with the system generation capacity planning function, then the CEO of such SO (non-voting member) (see end-note ii), and

vii) if this Policy becomes applicable to/adopted by Azad Jammu and Kashmir and Gilgit-Baltistan, their respective Energy Secretaries as non-voting members.

The Steering Committee shall be formed as a sub-committee of the Board of AEDB by resolution at its first meeting immediately following the promulgation of this Policy. The decisions of the Steering Committee shall be by consensus.

The Steering Committee shall, inter alia:

a) formulate its operating procedures consistent with this Policy,

b) based on the IGCEP outputs and timely availability of functional IRNs / locations confirmed by NGC by April of each calendar year as per the Grid Code, liaise with the Provinces to identify land parcels and other facilities (such as access roads) the Provinces are willing to offer to the AREPs,

c) prepare a provisional *Current Year RE Procurement Plan* (CYREPP) for the immediately following fiscal year (1st July to 30th June) by 30th September of such year, and submit it to the Board of AEDB for approval, and

d) make such revisions to the CYREPP as may be required by the Board consistent with this Policy, so as to enable the Board of AEDB to approve the CYREPP latest by 31st December for the auction to be conducted before the fiscal year end.

For mature technologies that are already deployed in the country, the mode of procurement shall be by bidding only with the sites for auction determined based on the IRNs / locations.

2.9 PROCUREMENT BY K-ELECTRIC AND PRIVATISED DISCOS

This Policy recognizes that competitive procurement has the potential to secure lower tariffs than negotiated tariffs or cost-plus tariffs awarded through a rate hearing process. To the maximum extent permitted by law and the licensing instruments, NEPRA will require that all procurements of AREPs by K Electric and the public utilities that may be privatized in the future will be done through competitive bidding, except only where a demonstrable case is made out to the satisfaction of NEPRA that competitive bidding will yield higher than directly negotiated or cost-plus tariffs set by NEPRA.

3 NON-UTILITY PROCUREMENT

3.1 INTRODUCTION

The GOP recognizes the tremendous potential mini/micro grid (MGs), off-grid, localized energy systems (LESs) and Business to Business (B2B) solutions offer to combat power scarcity. Given the constraints on the investment capacity of the public sector, it would be shortsighted not to harness the full potential of such solutions.

Policy formulation at the national level has remained largely focused on IPP-type procurement for accretions to the national generation capacity. Within the last decade or so, the revolution in AREs deployment capabilities coupled with the drastic reduction in prices makes a strong case for the FPUs to see off-grid, MGs, LES and B2B solutions as synergetic to their universal service obligation and concomitant investment needs. With the exclusivity of DISCOs gone under the REPA Amendment 2018, and with the bulk power consumers able to migrate from host DISCO's supply on one year's notice, the time has arrived for the national utilities to reorient their operations hitherto modelled on the erstwhile exclusive supply rights in their territory. The spectre of cherry-picking of lucrative consumers of the national utilities by alternative supply solutions remains a threat (that has been one of the reasons for a wheeling market not to have developed), potentially leaving the FPUs with surplus long-term power purchase obligations, but this threat requires a market-based response and can no longer be contained by fiat alone. For one, it can be argued that one of the causes of the utilities being saddled with surplus long-term power purchase obligations is the sole-purchaser-and-supplier role they continue to hold on to, without exploring the possibilities with good lead times of a part of the load requirements being served by private initiatives.

This Policy does not seek to circumscribe the multiple forms MGs, off-grid, LES and B2B solutions can take, leaving this task to the market and the ingenuity of entrepreneurs. The Policy only seeks to stipulate measures where, despite previous policy and regulatory support, such solutions have not marched in lock-step with their potential.

NTDC/DISCOs shall ensure the provision of their transmission / distribution facility for B2B sale of electricity, net metering, wheeling and distributed generation of electric power services. In case of any dispute matter will be referred to NEPRA for its redressal under its applicable laws.

3.2 SIMPLER, LOW COST AND TIMELY REGULATION

The REPA Amendment 2018 has substantially modified the regulatory landscape that prevailed since REPA was promulgated in 1997. Expressly recognizing electric power markets, REPA after amendment introduces new licenses of electricity suppliers and electricity traders, introduces the market operator and system operator and stipulates abolition of generation licensing by 2023. The erstwhile three (3) year notice period for bulk consumers to migrate from their host DISCO supply stands reduced to one (1) year. The current licensing rules of NEPRA were designed two decades ago, and were written with large utilities in view long before the renewable energy revolution made self and distributed generation ubiquitous. As of today, the distribution and generation licensing rules for a small LES are the same as for large public utilities and IPPs. With self-generation without any regulatory oversight always an option, the market for off-grid, MGs, LES and B2B solutions faces a disproportionately onerous licensing, fee and tariff regime.

It is time for NEPRA to lay down a unified or modular licensing regime, that is simple to apply for at affordable cost for non-utility procurement of AREPs, and does not require the protracted and expensive steps of a public hearing, detailed technical description of the plant specifications and a "unit-generated and/or transported" based regulatory fee, along with a consumer specific "second-tier supply authorization" each time a business consumer exits or is added to the private network. While such close oversight is justified for business-to-consumer transactions and utility scale regulation, it appears disproportionate and can constitute a barrier to entry for non-utility procurement cases, especially in B2B transactions where the contracting parties are expected to be mindful of their commercial interests.

3.3 MUNICIPAL AUTHORITIES EMPOWERMENT

Municipal authorities can work with the private sector for a variety of AREPs, such as solar parking lots (also useable for electric vehicle charging), municipal lighting, waste-to-energy projects, mosques and school lighting (which is currently offered at subsidized rates by FOPUs), and the like, under public-private partnership mode that can address civic and environmental issues in parallel. The key obstacles to such initiatives is a lack of capacity and issues of transparency.

AEDB is tasked under this Policy to develop a framework package for competitive procurement that can be adopted by municipal entities. Such projects may be identified by civic bodies and AEDB may provide support for project structuring and contracting support if required. It is up to the civic bodies to ensure conformity with their parent legislation, though AEDB will extend advice where sought.

The regulatory licensing framework will continue to apply. NEPRA's proactive role for a simplified licensing regime will also be welcome.

3.4 OFF-GRID SOLUTIONS

Consumer solar power remains the most popular form of off-grid solutions. Such initiatives constitute self-generation, which is unregulated.

Approximately 2500 MW of Solar PV (costing around USD 2 Billion) has been imported in the country over the last 5 years out of which only 430 MW was at utility scale.[vi]

MGs / LESs can operate independently or in tandem with utility grids. They are intended to cater primarily to a cluster of consumers, and ease the load on the utilities. A wide variety of configurations is possible, and this Policy does not intend to be prescriptive of the commercial or technical configurations of such systems. The Policy objective is to create an enabling environment for MGs / LESs. The market players and customers are now fairly sophisticated to structure ARE based MGs / LESs, enabling a wide array of solutions by forward-thinking technology manufacturers and entrepreneurs.

For the avoidance of doubt, any MG/LES initiates involving public sector funds or contribution in kind (such as land) will require competitive bidding.

The key concern for MG/LES is safety and security of MGs, that can be addressed by appropriate safety certifications monitored by AEDB through its approved installers.

3.5 CAPTIVE POWER

Captive power is understood to be self-generation by businesses and factories. Captive power is already unregulated. This has led to a rising trend for factories and businesses to set up ARET captive generation. Captive generation remains an option for bulk power consumers of FPUs, though most captive generators maintain back-up supply with the host DISCOs.

There are no special incentives offered nor required for captive power under this Policy.

3.6 WHEELING

As noted above, loss of high-value bulk consumers is the primary reason for resistance to wheeling by FPUs, despite NEPRA's regulation being in place for quite some time. The regulatory and contractual framework is already in place. Offers of some industrial concerns to privately finance system augmentation for wheeling have not been successful either. Another reason is the ease at which off-grid and localised solutions, especially solar, can now be deployed by the bulk consumers without the utility's involvement.

Open access now being expressly recognized in REPA after the 2018 Amendment, it is a Policy expectation that the regulator will take a more proactive approach for wheeling transactions, and will take a closer look at the reasons given by the utilities for not readily extending open access to their networks, especially where private financing for system augmentation is being offered.

It is the expectation of the GOP that NEPRA will balance the legitimate concerns of the DISCOs with the need to open up the market.

3.7 NET METERING - A SPECIAL CASE

The debate whether net-metering is on or off-grid is sterile. Net-metering is a special case, and there is no need to pigeon hole it in either category, given that a specific regulatory framework is applicable to net-metering that has functioned well since its introduction in September 2015 leading to approximately 33 MW net-metering capacity connected so far. Net-metering is not meant to be a business per se. The current 1.5x load limitation with 1 MW ceiling is considered adequate for the time being.

AEDB has and will continue to play its proactive role in net-metering, by its net-metering approved installers certification and rating services. AEDB is working towards enabling on-line net-metering application processing, integrating NEPRA and the host DISCO clearance processes.

3.8 FISCAL INCENTIVES

The fiscal incentives under the laws of Pakistan prevalent on the date of this Policy for AREPs not selling to FPUs will continue to apply, until revoked or modified by the GOP in exercise of its sovereign rights but without prejudice to accrued rights. To the extent the availing of such incentives is contingent on acknowledgment by AEDB, such AREPs will register with AEDB with prescribed particulars and AEDB will issue the acknowledgment. Such registration shall not be in the nature of approval, but rather the basis on which the AREP may ask AEDB for acknowledgment to avail the incentives if needed. This registration will require a simple filing of a proforma describing the proposed project and submitting it to AEDB.

3.9 AEDB'S ROLE

AEDB will deepen its coordination, information creation and sharing, regulatory intervention and contracting support functions for off-grid, MG, LES, wheeling, B2B and net-metering solutions for AREPs, municipal bodies, prosumers and entrepreneurs.

AEDB will engage with the regulator as early as possible for a simpler unified or modular licensing and regulatory framework with minimal cost for off-grid, MG, LES and B2B solutions not entailing financial outlays by FPUs. NEPRA will modify its regulatory framework accordingly within six months of the promulgation of this Policy.

AEDB will prepare framework packages for municipal authorities and will handhold initiatives for small scale municipal level AREPs.

The Policy objective is for AEDB to play a proactive coordination role in facilitating non-utility procurement of AREPs. Such support will consist of, but not be limited to:

- product and services market portal
- off-the-shelf contractual and bidding frameworks with templates (that will be periodically updated with experience)
- alternative/crowd/community/owner-funding structures (in conjunction with SECP and microfinance institutions)
- safety certification of MGs/LESs supplying to retail consumers (other than B2B networks) through approved and rated installers, renewed on annual basis on a cost-recovery basis, and
- AEDB may charge a reasonable fee for its support and facilitation services on cost of service basis.

4 INDIGENIZATION AND LOCAL CONTENT

Deployment of local content is import substitution with multiple benefits including foreign exchange savings, local manufacturing and human resource development, job creation, and the like. With appropriate incentives, the local industry is capable of manufacturing consumer items and parts of AREPs.

4.1 LOCAL VS FOREIGN – A FALSE DISCHOTOMY

It is not correct to see local manufacturing as a foreign versus local dichotomy. Pakistan has a significant number of joint ventures between local and foreign industries for manufacturing in Pakistan. The expression 'local manufacturing' is not to be weighed as an entire value chain proposition, but at any and all levels of the value chain leading to a finished AREP.

Given some anomalies in the prevalent import tariff structure that disincentivize local manufacturing, the incentive remains mute for local industries to invest in ARET manufacturing and for foreign ARET manufacturers to move to Pakistan, alone or in joint ventures with local companies. These anomalies are to be addressed if the local industry is to march in lock-step with the ARET revolution the country and the world is experiencing.

4.2 WITHRAWAL OF DUTY EXEMPTION ON IMPORT OF ARET CONSUMER ITEMS

A significant number of consumer items based on ARET continues to be importable free of duties[vii]. While it served the market demand for some time, this continuing exemption has not helped the nascent local industry. It is time to level the playing field between local and foreign manufacturing of such items by withdrawing the exemptions in a phased manner.

Local industry in collaboration with foreign manufacturers has the capacity to respond swiftly to like incentives. A successful example is declaring LED lights as locally manufactured items in 2017[viii], that led to some foreign manufacturers setting up manufacturing of LEDs in Pakistan in a short time frame.

AEDB will therefore move the FBR and the EDB to withdraw the import duty exemptions on ARET based consumer items which the local industry is capable of manufacturing or undertakes to manufacture and such exemptions will be withdrawn. To ascertain this, AEDB will engage with the respective Chambers of Commerce and Industry. It may be kept in view that, this being the NEP, to the extent the items under consideration do not relate to sub-components of RE generation facilities, the matter may require a parallel initiative with the Ministry of Industries and Production/EDB, in which case AEDB's intervention would be undertaken under the AEDB Act and not under this Policy.

4.3 DUTY FREE IMPORT OF PLANT TO MANUFACTURE ARET EQUIPMENT

Machinery and equipment imported by an "industrial concern" is subject to 3%, 11% and 15% customs duty[ix] with concomitant sales tax and advance income tax, when the import of the finished ARET items in several cases is exempt from duties. Solar PV cell manufacturing is the only exception where there is no duty on the manufacturing equipment. This discriminates against the manufacture of AREPs or ARET end-consumer items or components thereof.

This Policy therefore stipulates that plant and machinery imported by an existing or new industrial concern shall be free of import duties and taxes where the plant and machinery is imported for manufacture of AREPs or ARET end-consumer items or components thereof.

4.4 LOCALLY MANUFACTURED EQUIPMENT FOR AREPS ABOVE 25MW

The general rule is that there shall be no exemption from import duties on import of plant, machinery and equipment that is also locally manufactured in Pakistan (the "LMM condition"). The LMM condition currently stands waived for AREPs above 25MW[x]. This waiver was set to cater primarily for the reasons that (i) there was no centralized data base available for the LMM items that could readily be substituted for imported items, and (ii) there were no '*fit for use*' assurances of locally manufactured sub-components with the rest of the imported systems.

This waiver did make sense when it was first introduced, but with many years now passed with several projects of mature technologies in the country, it is time to phase out this exemption and to work proactively to redress the following roadblocks:

standardization/ certification	for major components, local manufacture has to meet standardization/certification requirements for interoperability with foreign equipment.
scale	components not requiring standardization may nonetheless require a minimum scale of orders with required specifications justifying investment in design and fabrication.

This Policy stipulates that:

a) AEDB will engage with the Chambers of Commerce and Industry, EDB and other organizations to prepare a user-friendly database of LMM and AREP and ARET products or parts thereof together with the quantitative demand the local industry can meet from time to time

b) this database will be available online on AEDB's web-site

c) the database will be differentiated between 'items requiring certification' and 'items not requiring certification'. For the latter category, interoperability or 'fitness for use' with foreign equipment will be identified (e.g. casings or hoist poles for solar panels may not require international certification, but will need to conform to specifications for 'plug and play' capability)

d) to the extent such LMM items start becoming available in the country, the import of such items will have to satisfy the LMM condition to avail exemption from import duties, regardless of the scale of the AREP, unless the local manufacturing capacity is insufficient to meet the required demand, in which case only the excess demand may be imported duty free for above 25MW AREPs. The AREPs will have to furnish certification to this effect, that can be facilitated by AEDB by notifying the demand on its portal and contacting the manufacturers listed on its database, and

e) AEDB will update its databases periodically as and when the local industry acquires further manufacturing capabilities.

The foregoing process being followed, the exemption from the LMM condition for duty free import for AREPs above 25MW will be abolished for items that the local industry is capable of supplying to the required specifications and, where applicable, with the requisite certification.

4.5 ONGOING OVERSIGHT

AEDB will maintain ongoing oversight of import duty regime and will take swift interventions with the Federal Government and the competent authorities where the local manufacturing industry is placed at a disadvantage vis-à-vis imports, noting always the balance to be struck between the lead times the local industry would require to respond to the demand and the imperative for rolling capacity additions of ARETs in the national energy mix to meet the targets set in this Policy.

It is expected that the RE targets in this Policy will yield positive outcomes for progressive capabilities of the local manufacturing industry.

5 MISCELLANEOUS

5.1 **POLICY DIRECTIVES**

This Policy also serves as a policy directive to AEDB for the purposes of section 16 of the AEDB Act to the extent of the activities assigned for performance by AEDB.

5.2 **INDUSTRY STRUCTURE**

Information on the FPUs and other key public and private sector players in the electric power sector is available on the Ministry of Energy's (Power Division) web site http://mowp.gov.pk/, and on NEPRA's web site https://www.nepra.org.pk/.

5.3 **FEES AND CHARGES**

AEDB may prescribe and revise from time to time fees and charges for processing and providing facilitation under the ARE Policy 2019.

5.4 **SAVINGS**

Notwithstanding the expiry of the RE Policy 2006, the projects granted letters of intent/letters of support under the RE Policy 2006 before its expiry shall continue to be governed by the Cabinet Committee on Energy's (CCOE) decision in case number CCE-12/04/2019(V) (as amended from time to time) and shall be dealt with accordingly. The first bidding round shall be for the category-III projects holding valid letters of intent per the aforesaid CCOE's decision, and the subsequent rounds of bidding shall be open and per ARE Policy 2019.

5.5 **REMOVAL OF DIFFICULTIES**

The Federal Government may from time to time issue directives not inconsistent with the express terms of this Policy as may be required for clarification or removal of difficulties in the implementation of this Policy. However, any amendment to this Policy or change in the implementation process laid out herein shall not be made by any agency or body except with the approval of the Council of Common Interests.

Incentives for AREPs

- Exemption from corporate income tax
- Exemption from import duties[1]
- Repatriation of dividends and disinvestment proceeds[2]
- 100% foreign equity permitted
- Foreign currency accounts permitted
- Protection against change in law
- Robust market-tested contractual framework
- Protection against expropriation
- International dispute resolution
- Project land made available by the Provinces

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[i] Section 14A of NEPRA does not confine the NEP to a single policy instrument. The express use of the plural 'policies' at several places in section 14A supports this position. There does not appear a legislative intent in section 14A to confine the Government to a monolithic, all-encompassing policy instrument given the breadth of the subjects the REPA covers that can take years to formulate and perhaps go out of date in material respects by the time of its completion, requiring a never ending reiteration. Section 14 does however entail that the Federal Government designate the 'policies' from time to time as its NEP in relation to the subjects covered by such policies, and in that case the *NEP on those subjects shall be as laid down in the designated policies*. The Federal Government may make other policies too on such subjects (e.g. a policy to convert all parking lots of Federal offices in a locality to solar parks servicing the offices), but such a policy in and of itself would not qualify automatically to be a part of the NEP unless the Federally Government expressly so designates, the oversight over such designation being under the aegis of the Council of Common Interests.

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[1] subject to applicable conditions
[2] on registration with the SBP

[ii] Biomass is not variable RE fuel but useable as a RE base load fuel as long as such fuel is available. This distinction results in various operational differences compared to typical variable RE projects. Recognizing such differences, the GOP may develop a separate framework for implementation of such projects if deemed expedient.

[iii] The REPA Amendment 2018 stipulates a System Operator License, to come into force in April 2023. 'System planning' is included in the functions of the SO under section 23G(e) of REPA. At the same time, under section 32(4) of REPA, the NGC and the DISCOs are required to have their investment and power acquisition programmes approved by NEPRA to enter into long term contracts for power purchase. The NGC for the time being also acts as the SO. All references in this Policy to the current role of NGC in the context of the responsibility for system generation capacity planning are to be read subject to the evolution of the regulatory framework and, if carved out by the regulator for performance by a separate entity licensed as SO, are to be read as references to such SO.

[iv] As and when it becomes reasonably quantifiable, a carbon-pricing factor will be added in the IGCEP outputs for capacity procurement decisions.

[v] NEPRA Competitive Bidding Tariff (Approval Procedure) Regulations, 2017

[vi] CPPA-G figures.

[vii] Customs Act, 1969, 5th Schedule

[viii] Item 1096, PCT heading 9405.1090, CGO 02/2017, 19 April 2017

[ix] Item 16, Customs Act, 1969, 5th Schedule

[x] Para 1, Customs Act, 1969, 5th Schedule

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National Electric Power Regulatory Authority

Islamic Republic of Pakistan

Registrar

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No. NEPRA/R/ADG(Trf)/TRF-370/CEL-2016/19210-19212
April 9, 2021

Subject: **Decision of the Authority in the matter of Application filed by Central Power Purchasing Agency Guarantee Ltd. (CPPA-G) for Adjustment in Components of Tariff pursuant to Signing of Master Agreement with Chanar Energy Ltd. (CEL)** (Case No. NEPRA/TRF-370/CEL-2016)

Dear Sir,

Please find enclosed herewith the subject decision of the Authority (06 Pages) in Case No. NEPRA/TRF-370/CEL-2016.

2. The decision 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 of the Authority's Decision is to be notified in the official Gazette.

Enclosure: As above

9/4/21
(Iftikhar Ali Khan)

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

CC:

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

DECISION OF THE AUTHORITY IN THE MATTER OF APPLICATION FILED BY CENTRAL POWER PURCHASING AGENCY FOR ADJUSTMENT IN COMPONENTS OF TARIFF PURSUANT TO SIGNING OF MASTER AGREEMENT WITH CHANAR ENERGY LIMITED

1. Introduction

1.1. The Committee for Negotiations, notified by the Government of Pakistan through notification number F.No.IPPs- 1(12)/2019-20 dated 3rd June 2020, following successive rounds of discussions with the Independent Power Producers (IPPs) and other power sector stakeholders, signed Memorandum of Understanding (MOUs) with 47 IPPs.

1.2. Government of Pakistan through notification number F.No.IPPs-1(12)/2020 (Vol-II) dated October 07, 2020 constituted the Implementation Committee, inter-alia, to convert the MOUs into a binding agreement between the Parties.

1.3. The report of the Implementation Committee along with the payment mechanism and initialed agreements was considered by Economic Coordination Committee of the Cabinet in case No. ECC 45/05/2021 dated February 08, 2021 and approved the same.

1.4. Central Power Purchasing Agency (Guarantee) Limited (CPPAGL) and Chanar Energy Limited (CEL) signed Master Agreement on February 12, 2021. As per clause 2.1 of the agreement, the parties have jointly developed a tariff adjustment application to be submitted to NEPRA as a necessary condition for bringing into effect the agreed contractual amendments.

1.5. CEL is a 22 MW bagasse cogeneration power plant that was awarded upfront tariff by the Authority on December 07, 2016. Upon achievement of Commercial Operations Date (COD) on February 15, 2019, CEL's tariff was adjusted vide decision of the Authority dated April 18, 2019 (COD tariff decision).

2. Filing of Application

2.1. Pursuant to the Master Agreement, CPPAGL vide letter No. CPPA/CEO/2021/8201 dated February 17, 2021, filed application for adjustment in components of tariff of CEL, approved vide COD tariff decision.

2.2. The application was filed by CPPAGL as motion for leave for review, pursuant to rule 16(6) of the NEPRA (Tariff Standards and Procedure) Rules, 1998, read together with Regulation 3(2) of the NEPRA (Review Procedure) Regulations, 2009 and Section 31 of the NEPRA Act, while requesting for the following:

a. Reduce the Return on Equity (ROE) component from 17% (USD based) per annum to 12%, from the date of signing of the Master Agreement for the next 5 years, on the NEPRA approved equity at COD.

On the date of fifth anniversary of the date of execution of Master Agreement, the ROE shall be changed to 17% (PKR based) on NEPRA approved equity at COD calculated at PKR 168/USD, with no future USD indexation throughout the remaining Term.

b. Reduce the Operation and Maintenance component by 10%.

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c. Reduce Insurance cost during operations to 0.7% of EPC cost, provided that other terms and conditions of the insurance adjustment mechanism shall remain the same.

d. Approval of Tariff Adjustment to become effective as provided in clause 2.2, clause 2.3 and Annex-B of the Master Agreement and notified accordingly.

e. In pursuance to clause 3.1.2 of the Energy Purchase Agreement (EPA) Amendment, if the company operates above the annual 45% plant factor, (the Average PF) in an Agreement Year, CPPAGL shall pay 100% of Variable Energy Purchase Price and 30% of Fixed Energy Purchase Price for energy produced beyond 45% plant factor.

   If the company operates below the Average PF in an Agreement Year (Actual PF), the difference between the Average PF and Actual PF shall be treated as "shortfall energy" and carried forward to following years. In case the company operates above the Average PF in subsequent years, CPPAGL shall pay:

   - 100% of Variable Energy Purchase Price, and
   - to the extent of energy delivered beyond the Average PF to the extent of "shortfall energy" occurring in the preceding year:
     - 30% of the Fixed Energy Purchase Price excluding Debt Service Component; and
     - 100% of Debt Service Component.

   Both the above arrangements shall remain effective for every 5-year period, starting from COD, after which a fresh reset shall be done to restart the new 5-year period.

3. Admission of the Application

3.1 The Authority admitted the subject application on February 25, 2021 and decided to hold hearing in the matter on March 03, 2021. Accordingly, Notice of Admission/Hearing was published in the national newspapers on February 26, 2021, inviting comments from the stakeholders. Individual notices were issued on February 26, 2021. Hearing was held on March 03, 2021 through video link on Zoom and was attended by representatives of CPPAGL and IPPs.

3.2 Post hearing, CPPAGL vide letter dated March 16, 2021 submitted, inter alia, to also include following clause in the "Grounds of Tariff Adjustment" of CEL:

<u>Pursuant to Master Agreement, CPPAGL and CEL have agreed to coordinate with its lenders and make all efforts in order to give effect to (i) the debt tenor shall be extended by a period of 5 years, (ii) the existing spread shall be reduced by 75 basis points over the LIBOR, as applicable, and by 125 basis points over KIBOR, as applicable; provided that the entire savings arising out of debt negotiations shall be passed on to the consumers.</u>

4. Analysis and Decision of the Authority

4.1 The discussion with respect to each parameter/component of tariff, as requested by CPPAGL for revision and decision of the Authority is as follows:

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i. Return on Equity

The Authority, in the COD tariff decision of CEL, approved reference ROE component of Rs. 1.0346/kWh, including Return on Equity during Construction (ROEDC) component of Rs. 0.0966/kWh. The said component was worked out on the basis of rate of return of 17% (USD based). CPPAGL has requested to revise the equity return downward to 12%, to be applicable for five years starting from the date of signing of Master Agreement. Further, CPPAGL has requested to approve ROE component at 17% while fixing the exchange rate parity at Rs. 168/USD, which would be applicable post expiry of aforementioned five years period. During the proceedings of the subject Application, CPPAGL through letter dated March 16, 2021 clarified that the mechanics used to compute the ROEDC component in the tariff application of thermal power projects be also used for CEL. Accordingly, with the negotiated rate of 12%, the revised reference ROE component of CEL works out to be Rs. 0.7325/kWh, including ROEDC of Rs. 0.0703/kWh. Additionally, the ROE component at 17% (Rs. 168/USD), to be applicable after five years from the signing of Master Agreement, comes out to be Rs. 1.7078/kWh. The Authority has decided to approve the aforesaid revised ROE components.

ii. Operations & Maintenance Cost

The Authority, in the COD tariff decision of CEL, approved Variable O&M-Local, Variable O&M-Foreign and Fixed O&M-Local of Rs. 0.1197/kWh, Rs. 0.3393/kWh and Rs. 0.3194/kWh, respectively. In the subject Application and through letter dated March 16, 2021, CPPAGL has requested to revise downward all the aforesaid O&M cost components by 10%. Accordingly, the revised Variable O&M-Local, Variable O&M-Foreign and Fixed O&M-Local components work out to be Rs. 0.1078/kWh, Rs. 0.3054/kWh and Rs. 0.2875/kWh, respectively, which are hereby approved.

iii. Insurance during Operations

The Authority, in the COD tariff decision of CEL, approved the insurance cost component of Rs. 0.2204/kWh, which was calculated at 1% of EPC cost. In the subject Application, CPPAGL has requested to revise the said component while calculating the same at 0.7% of the EPC cost of CEL. Through its letter dated March 16, 2021, CPPAGL clarified that the revised insurance cost component shall remain fixed. Accordingly, the revised fixed insurance component of CEL works out to be Rs. 0.1543/kWh, which is hereby approved.

iv. Effective Date

The Authority noted that Clause 2.2 of the Master Agreement signed with CEL provides that the revised tariff shall be effective on the date when the last instalment under the Payment Mechanism has been paid to the Company. Further, Clause 2.3 of the Master Agreement provides that, subject to the terms of this Agreement, after the determination of the revised tariff in line with the Tariff Adjustment Application and payment of the first instalment under the Payment Mechanism, and till Revised Tariff Effective Date, the parties agree that the Company shall commence giving discount in invoices consistent with the notified tariff and this Agreement. From and after the Revised Tariff Effective Date, billing

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and invoicing shall be as per the revised tariff. The Authority has considered the said clauses and decided to approve the same through this Decision.

v. Tariff Sharing and Shortfall Energy Mechanism

It is noted that the tariff of CEL was computed on net annual plant factor of 45%. In the subject application, CPPAGL has requested that 100% of the variable component (fuel + variable O&M) along with 30% of the fixed component (Fixed O&M, ROE, Insurance, Working Capital & Debt Servicing, as applicable) shall be paid to CEL in respect of annual energy beyond 45%.

Further, a mechanism of payment of shortfall energy has also been requested whereby it is prescribed that if CEL, within the brackets of 5 years starting from the COD, produces less than 45% in any year and in subsequent year(s) if it produces more than 45%, then it will be compensated with debt servicing component, along with variable cost, for energy beyond 45%, to the extent of shortfall energy of previous year(s).

A discrepancy was noted with respect to the payment of shortfall energy as stated in the subject application by CPPAGL and as finalized in the Amended EPA with CEL. CPPAGL requested for the payment of debt servicing as well as 30% of the remaining fixed cost on the shortfall energy whereas the Amended EPA states for payment of debt servicing only. It is noted that there is no mention of mechanism for tariff sharing and shortfall energy in the Master Agreement. The Authority has considered this matter and decided to approve the payment of debt servicing only, excluding 30% of remaining fixed cost, for shortfall energy, as finalized in the Amended EPA.

vi. Debt Renegotiations

The Authority, in the COD tariff decision of CEL, worked out the approved tariff based on debt to equity ratio of 80:20. 100% local loan was used at KIBOR + 3%, to be serviced in 10 years from COD, on equal annuity basis. The Authority noted that following has been decided in Master Agreement with CEL:

CEL, subject to approval by the lenders, shall negotiate to give effect to (i) the debt tenor shall be extended by a period of 5 years, (ii) the existing spread shall be reduced by 100-125 basis points over the KIBOR, as applicable; provided that CEL agrees that any and all savings arising out of these changes to its debt shall be passed on to the Purchaser.

The Parties agree that CPPAGL shall support and assist the Government of Pakistan (GoP) in approaching the State Bank of Pakistan (SBP) to swap the JDWSML's existing long term domestic debt with the SBP's refinancing facility of renewable projects to the maximum possible extent of the existing long term debt as committed by SBP, and CEL shall fully support CPPAGL and GoP in giving effect to swapping of its existing long term domestic debt with the SBP's refinancing facility for renewable projects.

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The Authority has considered the above and decided to approve the provision of debt renegotiation vide this Decision. The Authority also directs CPPAGL to continuously pursue with CEL on this matter.

5. ORDER

The Authority hereby reviews the COD tariff Decision of Chanar Energy Limited, issued on April 18, 2019, to the extent of following:

- ROE Component of Rs. 1.0346/kWh has been revised to Rs. 0.7325/kWh, to be applicable for 5 years from the date of signing of Master Agreement. Subsequently, ROE component of Rs. 1.7078/kWh shall be applicable.
- Variable O&M-local component of Rs. 0.1197/kWh has been revised to Rs. 0.1078/kWh.
- Variable O&M-Foreign component of Rs. 0.3393/kWh has been revised to Rs. 0.3054/kWh.
- Fixed O&M-local component of Rs. 0.3194/kWh has been revised to Rs. 0.2875/kWh.
- Insurance cost component of Rs. 0.2204/kWh has been revised to Rs. 0.1543/kWh.
- The mechanism of tariff sharing and shortfall energy, as decided in the Amended EPA, is hereby approved
- CEL is directed to make all efforts for debt renegotiations on the terms, as agreed in the Master Agreement. Once achieved, the tariff of CEL shall be adjusted to reflect the negotiated terms. CPPAGL is directed to continuously pursue with CEL on this matter.
- All the revised tariff components of this Decision shall be adjusted as per the mechanism prescribed in the COD tariff decision of CEL. ROE component of Rs. 1.7078/kWh, to be applicable after 5 years of signing of Master Agreement, shall remain fixed and shall not be indexed throughout the remaining term of EPA.
- The above revisions, in the COD tariff decision, shall apply in accordance with the timelines as agreed in the Master Agreement.

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6. The Order of the Authority is intimated to the Federal Government for notification in the Official Gazette in terms of Section 31(7) of the Regulations of Generation, Transmission and Distribution of Electric Power Act, 1997.

AUTHORITY

28/4/21

Rehmatullah Baloch
Member

Engr. Rafique Ahmed Shaikh
Member

Tauseef H. Farooqi
Chairman

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

9/4/21

9

National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

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Ph: +92-51-9206500, Fax: +92-51-2600026
Web: www.nepra.org.pk, E-mail: registrar@nepra.org.pk

No. NEPRA/TRF-372/SSML-2016/02-04
January 2, 2017

Subject: **Decision of the Authority in the Matter of Application for Unconditional Acceptance of Bagasse Upfront Tariff filed by Shahtaj Sugar Mills Limited (SSML) for its 32 MW (Gross Capacity) New Bagasse Based Cogeneration Power Plant in District Mandi Bahauddin, Punjab** (Case No. NEPRA/ TRF-372/SSML-2016)

Dear Sir,

Please find enclosed herewith the subject Decision of the Authority along with Annexure-I & II (12 pages) in Case No. NEPRA/TRF-372/SSML-2016.

2. The subject decision is being intimated to the Federal Government for the purpose of notification in the official gazette pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997).

3. Order of the Authority at para 3 of the Decision needs to be notified in the official Gazette.

Enclosure: As above

02.12.17

(Syed Safeer Hussain)

Secretary
Ministry of Water & Power
'A' Block, Pak Secretariat
Islamabad

CC:

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

DECISION OF THE AUTHORITY IN THE MATTER OF APPLICATION FOR UNCONDITIONAL ACCEPTANCE OF BAGASSE UPFRONT TARIFF FILED BY SHAHTAJ SUGAR MILLS LIMITED (SSML) FOR ITS 32 MW (GROSS CAPACITY) NEW BAGASSE BASED COGENERATION POWER PLANT IN DISTRICT MANDI BAHAUDDIN, PUNJAB.

The National Electric Power Regulatory Authority (hereinafter referred to as the "Authority") vide its determination dated May 29, 2013, had approved Upfront Tariff for New Bagasse Based Co-Generation Power Projects (hereinafter referred to as the "upfront tariff") based on high pressure boilers (60 bars and above) with the terms and conditions mentioned therein, which were modified through the Authority's subsequent decisions dated August 28, 2013, June 19, 2014 and June 17, 2015. Shahtaj Sugar Mills Limited (hereinafter referred to as the "applicant" or "SSML" or the "company") submitted application on November 10, 2016 for unconditional acceptance of the upfront tariff for its 32 MW (Gross capacity) high-pressure cogeneration power plant (hereinafter referred to as the "project") located adjacent to Shahtaj Sugar Mills at Khewa Mohabbatpur Road near Kuthiala Syedan in District Mandi Bahauddin, Punjab. In this regard, the Central Power Purchasing Agency (Guarantee) Limited (CPPA-G) has indicated its consent to evacuate power from the project vide letter No. CPPAGL/DGM-II/MT-IV/SSML/9152-55 dated October 31, 2016. The said application was scrutinized and found to be in compliance with the Terms and Conditions stipulated in the aforementioned decisions of the Authority and the requirements prescribed in Regulation 4 of the National Electric Power Regulatory Authority Upfront Tariff (Approval & Procedure) Regulations, 2011.

2. In view of the above, the Authority has decided to accept this application and has decided to grant upfront tariff to the applicant as follows:

3. ORDER

Pursuant to Rule 6 of the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000 read with Regulation 4(7) of NEPRA Upfront Tariff (Approval & Procedure) Regulations, 2011 and section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, the applicant is allowed to charge the following approved tariff for delivery of electricity to the power purchaser:

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Tariff components	1-10 years (Rs/kWh)	11-30 years (Rs./kWh)	Indexations
Fuel Cost	5.7702	5.7702	Fuel price
Variable O&M Local	0.1074	0.1074	Local CPI
Variable O&M Foreign	0.3223	0.3223	PKR/US$, US CPI
Fixed O&M Local	0.2865	0.2865	Local CPI
Insurance	0.2204	0.2204	-
Working Capital	0.1924	0.1924	KIBOR
Debt Service	3.8249	-	KIBOR
Return on Equity	1.0155	1.0155	PKR/US$
Total	**11.7396**	**7.9147**	

i) The above reference tariff is applicable for 30 years from commencement of commercial operation date (COD).

ii) The above tariff has been worked out on the basis of reference PKR/US$ rate of Rs. 98.0.

iii) The reference component wise Upfront Tariff table is attached herewith as Annex-I

iv) The reference Debt Service schedule is attached herewith as Annex-II.

I. Pass-Through Items

If 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 up to the commencement of its commercial operations for import of its plant, machinery and equipment, the exact amount paid by the company on these accounts shall be reimbursed by the power purchaser on production of original receipts. This payment should be considered as a pass-through payment spread over a twelve months period. Furthermore, in such a scenario, the company shall also submit to the power purchaser details of any tax savings and the power purchaser shall deduct the amount of these savings from its payment to the company on account of taxation.

The adjustment for duties and/or taxes will be restricted only to the extent of duties and/or taxes directly imposed on the company. No adjustment for duties and/or taxes imposed on third parties such as contractors, suppliers, consultants, etc., excluding adjustment for taxes imposed on dividend as stated below, will be allowed.

Withholding tax on dividends will also be allowed as a pass through item just like other taxes. The power purchaser shall make payment on account of withholding tax at the

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time of actual payment of dividend, on production of original receipts, subject to maximum of 7.5% of return on equity. In case the company does not declare a dividend in a particular year or only declares a partial dividend, then the difference in the withholding tax amount (between what is paid in that year and the total entitlement as per the net return on equity) would be carried forward and accumulated so that the company is able to recover the same as a pass through from the power purchaser in future on the basis of the total dividend payout. Adjustment for variation in tax rate on dividend from 7.5% shall also be allowed as a pass through item by the power purchaser, after satisfying itself that tax rates have actually varied. The company shall also submit to the power purchaser details of any tax savings and the power purchaser shall deduct the amount of these savings from its payment to the company on account of taxation.

II. <u>One-Time Adjustment</u>

The reference Upfront Tariff will be adjusted at the reference date of May 31, 2015, to account for cost variations during the project construction period, and this adjustment will be applicable to the project upon achievement of commercial operations. The following adjustment in the reference Upfront tariff will be allowed.

i) The 40% of the approved total project cost has been assumed in foreign currency (USD) which shall be adjusted with respect to PKR/US$ exchange rate variation to be worked out on quarterly basis as per the assumed schedule of debt and equity injections spread over 20 months of project construction period starting from October 01, 2013 as given hereunder.

Debt & Equity Injections	Qtr.1	Qtr. 2	Qtr.3	Qtr. 4	Qtr.5	Qtr.6	2 months (after Qtr.6)	Total
% of total project cost	20%	20%	15%	15%	10%	10%	10%	100%

ii) The debt service component of reference Upfront Tariff will be adjusted on account of variation in quarterly KIBOR over the reference KIBOR of 9.50% plus spread on KIBOR at 3%.

iii) The return on equity component (ROE) including return on equity during construction component (ROEDC) of reference Upfront Tariff will be revised on

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account of variation in PKR/US$ exchange rate over the reference PKR/US$ exchange rate of Rs. 98.

III. **Indexation/adjustment**

The following indexation shall be applicable to the reference tariff after one-time adjustment:

a) Fuel Cost Component

Fuel cost component of tariff will be adjusted on account of variation in price of fuel (bagasse) on yearly basis in advance (w.e.f. 1st of October of each applicable year) as per the formula given hereunder.

$$FCC_{(Rev)} = FCC_{(Ref)} \times BFP_{(Rev)} / BFP_{(Ref)}$$

Where;

$FCC_{(Rev)}$	=	Revised fuel cost component of tariff for the applicable year.
$FCC_{(Ref)}$	=	Reference fuel cost component of tariff at the time of determination.
$BFP_{(Rev)}$	=	Revised price of bagasse in Rs/ton as determined in accordance with mechanism set out below.
$BFP_{(Ref)}$	=	Reference price of bagasse for the relevant year. Current reference price is Rs. 2861.12/ton
$BFP_{(Rev)}$	=	$CPCIF_{(Rev)} \times 6905/23810$

Where;

$CPCIF_{(Rev)}$	=	$\{CPFOB_{(Rev)} + MF_{(Rev)} + MI_{(Rev)}\} \times ER_{(Rev)}$

Where;

$CPCIF_{(Rev)}$	=	Revised CIF price of coal in Rs/ton for the applicable year.

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$CPFOB_{(Rev)}$	=	Revised FOB price of coal expressed in US$/ton based on monthly average of prices published in the Argus McCloskey's API4 index for the relevant year.
$MF_{(Rev)}$	=	Revised marine freight of coal per ton as worked out below.
$MF_{(Rev)}$	=	US$ 19.19 x $BIX_{(Rev)}$ / $BIX_{(Ref)}$

Where;

$BIX_{(Rev)}$	=	Revised monthly average of the daily Bunker Index price for 380-CST published by the Bunker Index for the relevant year.
$BIX_{(Ref)}$	=	Reference monthly average of the daily Bunker Index price of 380-CST published by the Bunker Index. Current reference for the month of April 2013 is US$ 641.8219/ton.
$MI_{(Rev)}$	=	$CPFOB_{(Rev)}$ x 0.1%
$ER_{(Rev)}$	=	Revised monthly average PKR/US$ exchange rate for the relevant month.

The constants such as 6905, 23810 and US$ 19.19 are fixed values representing LHV value of Bagasse in Btu/kg, LHV value of coal in Btu/kg and fixed value of marine freight charges per ton of coal respectively.

Note:

1. Applicable year means, the year for which adjustment/indexation of fuel cost component is required starting from 1st of July and ending on 30th of June.
2. Relevant year means the year immediately preceding the applicable year for adjustment/indexation of fuel cost component.

b) <u>O&M Cost Component</u>

The local O&M component will be adjusted on account of local Inflation and foreign O&M component will be adjusted on account of variation in Rupee/Dollar exchange rate and US CPI. Quarterly adjustments for inflation and exchange rate variation will be made on 1st July, 1st October, 1st January & 1st April respectively on the basis of the latest available information with respect to Pakistan CPI (general), US CPI (notified by

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US bureau of labor statistics) and revised TT&OD Selling rate of US Dollar (notified by the National Bank of Pakistan). The mode of indexation will be as under:

i) Fixed O&M Local

$F\ O\&M_{(REV)} = F\ O\&M_{(REF)} * CPI_{(REV)} / CPI_{(REF)}$

Where:

$F\ O\&M_{(REV)}$ = The revised applicable Fixed O&M local component of tariff indexed with Pakistan CPI.

$F\ O\&M_{(REF)}$ = The reference fixed O&M local component of tariff for the relevant period.

$CPI_{(REV)}$ = The Revised Consumer Price Index (General) for the relevant month.

$CPI_{(REF)}$ = The Consumer Price Index (General) of April 2013 notified by the Federal Bureau of Statistics, i.e. 177.74.

ii. Variable O&M

$V\ O\&M_{(LREV)} = V\ O\&M_{(LREF)} * CPI_{(REV)} / CPI_{(REF)}$

$V\ O\&M_{(FREV)} = V\ O\&M_{(FREF)} * USCPI_{(REV)} / US\ CPI_{(REF)} * ER_{(REV)}/98$

Where:

$V\ O\&M_{(LREV)}$ = The revised applicable Variable O&M local component of tariff indexed with CPI.

$V\ O\&M_{(FREV)}$ = The revised applicable Variable O&M foreign component of tariff indexed with US CPI and exchange rate variation.

$V\ O\&M_{(LREF)}$ = The reference variable O&M local component of tariff for the relevant period.

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$V\ O\&M_{(FREF)}$ = The reference variable O&M foreign component of tariff for the relevant period.

$CPI_{(REV)}$ = The Revised Consumer Price Index (General) for the relevant month.

$CPI_{(REF)}$ = The Consumer Price Index (General) of April 2013 notified by the Federal Bureau of Statistics, i.e. 177.74.

$US\ CPI_{(REV)}$ = The Revised US Consumer Price Index (All Urban Consumers) notified by the US Bureau of Labor Statistics.

$US\ CPI_{(REF)}$ = Reference US CPI (All Urban Consumers) notified by the Bureau of Labor Statistics for the month of April 2013, i.e. 232.531.

$ER_{(REV)}$ = The revised TT&OD selling rate of US dollar as notified by the National Bank of Pakistan.

c) Adjustment of working capital cost

The cost of working capital shall be adjusted on account of variation in 3-month KIBOR over the reference KIBOR of 9.50% while premium over KIBOR, 2% remaining the same for the entire tariff control period.

d) Adjustment of debt servicing component

This fixed charge component after one-time adjustment will remain unchanged throughout the tariff control period except for the adjustment due to variation in KIBOR. The debt servicing component of tariff will be adjusted accordingly on quarterly basis.

e) Return on Equity

Return on equity (ROE) as well as Return on Equity during Construction (ROEDC) component of tariff shall be adjusted for variation in PKR/US$ exchange rate according to the following formula:

$$ROE_{(REV)} = ROE_{(REF)} * ER_{(REV)}/ER_{(REF)}$$

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$ROEDC_{(REV)} = ROEDC_{(REF)} * ER_{(REV)} / ER_{(REF)}$

Where;

$ROE_{(REV)}$	=	Revised Return on Equity component of tariff expressed in Rs/kWh adjusted with exchange rate variation.
$ROEDC_{(REV)}$	=	Revised Return on Equity during Construction component of tariff in Rs/kWh adjusted with exchange rate variation.
$ROE_{(REF)}$	=	Reference Return on Equity component of tariff expressed in Rs/kWh for the relevant period.
$ROEDC_{(REF)}$	=	Reference Return on Equity during Construction component of tariff expressed in Rs/kWh for the relevant period.
$ER_{(REV)}$	=	Revised TT and OD selling rate of US dollar as notified by the National Bank of Pakistan.
$ER_{(REF)}$	=	Reference TT and OD selling rate of US dollar.

IV. Terms and conditions of Upfront Tariff

i) The Upfront tariff is applicable for power generation using bagasse.

ii) The Upfront Tariff will be applicable and become effective after Commercial Operation Date (COD) of the project.

iii) The decision of the applicant to opt for upfront tariff is irrevocable.

iv) The applicant is required to achieve COD within two years from date of issuance of this order.

v) All energy offered for sale by the project shall be taken by the power purchaser on priority.

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vi) The applicant shall have the option to offer energy to the respective Distribution Company (DISCO) at 11 KV or 132 KV, or to the CPPA/NTDC at 132 KV, provided that the cost of interconnection, grid station upgrades etc. for power evacuation shall be incurred by the respective DISCO/NTDC.

vii) This tariff will be applicable for a period of thirty years (30) from the commencement of commercial operations.

viii) In the Upfront 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 company in accordance with the Policy for Development of Renewable Energy for Power Generation 2006, as amended from time to time.

ix) The project is allowed the use of other biomass fuel such as rice husk, cotton stalk etc. in combination with Bagasse or separately. However use of coal imported or local is not allowed.

x) Pre COD sale of electricity is allowed to the applicant, subject to the terms and conditions of PPA, at the applicable tariff excluding principal repayment of debt component and interest component.

xi) To safeguard interest of consumers, the Authority may review the fuel pricing mechanism stipulated above in accordance with NEPRA applicable law, after due consultation with the affected/interested parties, if it is deemed that there is exorbitant/unreasonable increase in international coal prices. Similarly, to mitigate risk to the power producer and to encourage the investors to put up bagasse based(indigenous fuel) cogeneration projects, the reference CIF coal price of US$ 100.67/ton used at the time of this determination shall be considered the floor/minimum price for the purpose of the Fuel cost Component.

xii) The adjustment/indexation of upfront tariff will be made on the basis of benchmarks assumed by the Authority for Upfront Tariff in accordance with the

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indexation mechanism stipulated hereinabove. No project specific adjustments shall be taken into account.

4. The EPA/PPA executed shall be consistent with all applicable documents including Generation License and NEPRA's Tariff determination for the power producer. Any provision of PPA/EPA which is inconsistent with NEPRA's Tariff Determination shall be void to that extent and its financial impact shall not be passed on to the end consumer.

5. The order at paragraph 3 is recommended for notification by the Federal Government in the official gazette in accordance with Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

AUTHORITY

23.12.16
(Himayat Ullah Khan)
Member

23/12
(Syed Masood ul Hassan Naqvi)
Member

28/12/16
(Major (Rtd.) Haroon Rasheed)
Member

(Tariq Saddozai)
Chairman

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
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02.01.17

Annex-I

Reference Upfront Tariff for 32 MW SSML Co-generation Power Project

Year	Fuel cost component	Variable O&M Local	Variable O&M Foreign	Fixed O&M Local	Insurance	Working capital cost	Return on Equity	ROE During Construction	Loan Repayment	Interest Charges	Total Tariff
	Rs./kWh	Rs./kWh	Rs./kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs./kWh	Rs. / kWh
1	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948	1.1705	2.6544	11.7396
2	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948	1.3238	2.5011	11.7396
3	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948	1.4972	2.3277	11.7396
4	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948	1.6933	2.1316	11.7396
5	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948	1.9150	1.9098	11.7396
6	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948	2.1659	1.6589	11.7396
7	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948	2.4496	1.3752	11.7396
8	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948	2.7704	1.0544	11.7396
9	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948	3.1333	0.6915	11.7396
10	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948	3.5437	0.2811	11.7396
11	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
12	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
13	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
14	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
15	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
16	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
17	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
18	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
19	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
20	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
21	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
22	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
23	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
24	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
25	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
26	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
27	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
28	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
29	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
30	5.7702	0.1074	0.3223	0.2865	0.2204	0.1924	0.9207	0.0948			7.9147
Levelized Tariff	**5.7702**	**0.1074**	**0.3223**	**0.2865**	**0.2204**	**0.1924**	**0.9207**	**0.0948**	**1.2831**	**1.2100**	**10.4078**

Levelized Tariff (1-30 years) discounted at 10% per annum = US Cents 10.6202/kWh at reference exchange rate of 1US$=Rupees 98.00.

Annex-II

Reference Upfront Tariff for 32 MW SSML Co-generation Power Project
Debt Servicing Schedule

Period	Local Debt					Local Debt					Annual Principal Repayment Rs./kWh	Annual Interest Rs./kWh	Annual Debt Service Rs./kWh
	Principal Million $	Repayment Million $	Mark-Up Million $	Balance Million $	Debt Service Million $	Principal Million Rupees	Repayment Million Rupees	Mark-Up Million Rupees	Balance Million Rupees	Debt Service Million Rupees			
	0.7973	0.0103	0.0249	0.7870	0.0352	78.1353	1.0072	2.4417	77.1281	3.4490	0.2792	0.6770	0.9562
	0.7870	0.0106	0.0246	0.7764	0.0352	77.1281	1.0387	2.4103	76.0893	3.4490	0.2880	0.6682	0.9562
	0.7764	0.0109	0.0243	0.7655	0.0352	76.0893	1.0712	2.3778	75.0182	3.4490	0.2970	0.6592	0.9562
	0.7655	0.0113	0.0239	0.7542	0.0352	75.0182	1.1046	2.3443	73.9135	3.4490	0.3063	0.6499	0.9562
1	0.7973	0.0431	0.0977	0.7542	0.1408	78.1353	4.2218	9.5741	73.9135	13.7958	1.1705	2.6544	3.8248
	0.7542	0.0116	0.0236	0.7426	0.0352	73.9135	1.1392	2.3098	72.7744	3.4490	0.3158	0.6404	0.9562
	0.7426	0.0120	0.0232	0.7306	0.0352	72.7744	1.1749	2.2742	71.5996	3.4490	0.3257	0.6305	0.9562
	0.7306	0.0124	0.0228	0.7182	0.0352	71.5996	1.2115	2.2375	70.3881	3.4490	0.3359	0.6203	0.9562
	0.7182	0.0127	0.0224	0.7055	0.0352	70.3881	1.2493	2.1996	69.1388	3.4490	0.3464	0.6098	0.9562
2	0.7542	0.0487	0.0921	0.7055	0.1408	73.9135	4.7747	9.0211	69.1388	13.7958	1.3238	2.5011	3.8248
	0.7055	0.0131	0.0220	0.6924	0.0352	69.1388	1.2884	2.1606	67.8504	3.4490	0.3572	0.5990	0.9562
	0.6924	0.0136	0.0216	0.6788	0.0352	67.8504	1.3286	2.1203	66.5218	3.4490	0.3684	0.5878	0.9562
	0.6788	0.0140	0.0212	0.6648	0.0352	66.5218	1.3702	2.0788	65.1516	3.4490	0.3799	0.5763	0.9562
	0.6648	0.0144	0.0208	0.6504	0.0352	65.1516	1.4130	2.0360	63.7387	3.4490	0.3917	0.5645	0.9562
3	0.7055	0.0551	0.0857	0.6504	0.1408	69.1388	5.4001	8.3957	63.7387	13.7958	1.4972	2.3277	3.8248
	0.6504	0.0149	0.0203	0.6355	0.0352	63.7387	1.4571	1.9918	62.2816	3.4490	0.4040	0.5522	0.9562
	0.6355	0.0153	0.0199	0.6202	0.0352	62.2815	1.5027	1.9463	60.7789	3.4490	0.4166	0.5396	0.9562
	0.6202	0.0158	0.0194	0.6044	0.0352	60.7789	1.5496	1.8993	59.2293	3.4490	0.4296	0.5266	0.9562
	0.6044	0.0163	0.0189	0.5881	0.0352	59.2293	1.5980	1.8509	57.6312	3.4490	0.4430	0.5132	0.9562
4	0.6504	0.0623	0.0785	0.5881	0.1408	63.7387	6.1075	7.6884	57.6312	13.7958	1.6933	2.1316	3.8248
	0.5881	0.0168	0.0184	0.5713	0.0352	57.6312	1.6480	1.8010	55.9832	3.4490	0.4569	0.4993	0.9562
	0.5713	0.0173	0.0179	0.5539	0.0352	55.9832	1.6995	1.7495	54.2838	3.4490	0.4712	0.4850	0.9562
	0.5539	0.0179	0.0173	0.5360	0.0352	54.2838	1.7526	1.6964	52.5312	3.4490	0.4859	0.4703	0.9562
	0.5360	0.0184	0.0168	0.5176	0.0352	52.5312	1.8074	1.6416	50.7238	3.4490	0.5011	0.4551	0.9562
5	0.5881	0.0705	0.0703	0.5176	0.1408	57.6312	6.9074	6.8884	50.7238	13.7958	1.9150	1.9098	3.8248
	0.5176	0.0190	0.0162	0.4986	0.0352	50.7238	1.8638	1.5851	48.8600	3.4490	0.5167	0.4395	0.9562
	0.4986	0.0196	0.0156	0.4790	0.0352	48.8600	1.9221	1.5269	46.9379	3.4490	0.5329	0.4233	0.9562
	0.4790	0.0202	0.0150	0.4587	0.0352	46.9379	1.9822	1.4668	44.9557	3.4490	0.5495	0.4067	0.9562
	0.4587	0.0208	0.0143	0.4379	0.0352	44.9557	2.0441	1.4049	42.9116	3.4490	0.5667	0.3895	0.9562
6	0.5176	0.0797	0.0611	0.4379	0.1408	50.7238	7.8122	5.9837	42.9116	13.7958	2.1659	1.6589	3.8248
	0.4379	0.0215	0.0137	0.4164	0.0352	42.9116	2.1080	1.3410	40.8037	3.4490	0.5844	0.3718	0.9562
	0.4164	0.0222	0.0130	0.3942	0.0352	40.8037	2.1738	1.2751	38.6298	3.4490	0.6027	0.3535	0.9562
	0.3942	0.0229	0.0123	0.3713	0.0352	38.6298	2.2418	1.2072	36.3880	3.4490	0.6215	0.3347	0.9562
	0.3713	0.0236	0.0116	0.3477	0.0352	36.3880	2.3118	1.1371	34.0762	3.4490	0.6409	0.3153	0.9562
7	0.4379	0.0902	0.0506	0.3477	0.1408	42.9116	8.8354	4.9604	34.0762	13.7958	2.4496	1.3752	3.8248
	0.3477	0.0243	0.0109	0.3234	0.0352	34.0762	2.3841	1.0649	31.6921	3.4490	0.6610	0.2952	0.9562
	0.3234	0.0251	0.0101	0.2983	0.0352	31.6921	2.4586	0.9904	29.2335	3.4490	0.6816	0.2746	0.9562
	0.2983	0.0259	0.0093	0.2724	0.0352	29.2335	2.5354	0.9135	26.6981	3.4490	0.7029	0.2533	0.9562
	0.2724	0.0267	0.0085	0.2457	0.0352	26.6981	2.6146	0.8343	24.0835	3.4490	0.7249	0.2313	0.9562
8	0.3477	0.1020	0.0388	0.2457	0.1408	34.0762	9.9927	3.8031	24.0835	13.7958	2.7704	1.0544	3.8248
	0.2457	0.0275	0.0077	0.2182	0.0352	24.0835	2.6964	0.7526	21.3871	3.4490	0.7475	0.2087	0.9562
	0.2182	0.0284	0.0068	0.1899	0.0352	21.3871	2.7806	0.6683	18.6065	3.4490	0.7709	0.1853	0.9562
	0.1899	0.0293	0.0059	0.1606	0.0352	18.6065	2.8675	0.5815	15.7390	3.4490	0.7950	0.1612	0.9562
	0.1606	0.0302	0.0050	0.1304	0.0352	15.7390	2.9571	0.4918	12.7819	3.4490	0.8198	0.1364	0.9562
9	0.2457	0.1153	0.0255	0.1304	0.1408	24.0835	11.3016	2.4943	12.7819	13.7958	3.1333	0.6915	3.8248
	0.1304	0.0311	0.0041	0.0993	0.0352	12.7819	3.0495	0.3994	9.7324	3.4490	0.8455	0.1107	0.9562
	0.0993	0.0321	0.0031	0.0672	0.0352	9.7324	3.1448	0.3041	6.5875	3.4490	0.8719	0.0843	0.9562
	0.0672	0.0331	0.0021	0.0341	0.0352	6.5875	3.2431	0.2059	3.3444	3.4490	0.8991	0.0571	0.9562
	0.0341	0.0341	0.0011	(0.0000)	0.0352	3.3444	3.3444	0.1045	0.0000	3.4490	0.9272	0.0290	0.9562
10	0.1304	0.1304	0.0103	(0.0000)	0.1408	12.7819	12.7819	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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