

|                 |                     |
|-----------------|---------------------|
| 1. DG (L&E)     | 2. DG (Adm. & Fin.) |
| 3. DG (M&E)     | 4. DG (CAD)         |
| 5. ADG (Trt.)   | 6. Dir. (Fin.)      |
| 7. Dir. (Tech.) | 8. Consultant       |
| 9. LA           | 10. Addl. Dir. (IT) |

For kind information please:

1. Chairman

3. M (Lic.)

5. M (Law)

2. M (Tech.)

4. M (Trt. &amp; Fin.)

Letter No: KOAK-231-2023

Date: March 3, 2023

The Registrar  
National Electric Power Regulatory Authority (NEPRA)  
NEPRA Tower, Ataturk Avenue (East), G-5/1  
Islamabad, 44000, Pakistan

**Subject: Feasibility Stage Tariff Petition of 229 MW Asrit Kedam Hydropower Project by  
KOAK Power Limited (the "Company")**

**Reference:** Our letter # KOAK-560-2022 dated June 30, 2022  
Your Letter # NEPRA/R/TRF-100/20101 dated 18.10.2022.

Dear Sir

For over two decades, the Authority has consistently recognized that its regulatory regime enables the generation facilities to concurrently apply to NEPRA for the grant of generation license and tariff – which are processed under well-defined and distinct legislative framework. This well settled statutory position has enabled hundreds of applicants to file generation license applications and tariff petitions and obtain approvals and determinations thereof, which are abundantly placed on NEPRA website. With that the Company submitted its Feasibility Stage Tariff Petition on June 30, 2022.

Notwithstanding the above, however, in complete departure from its settled and well-established past practice, the tariff application of the Company was returned purportedly on the grounds that the Authority has 'decided in principle' to only entertain tariff petitions of applicants "who hold valid generation licenses from NEPRA". It is pertinent to highlight that this decision of NEPRA was neither made public nor issued in pursuance of Section 6 of the NEPRA Act 1997. Consequently, for the reason that the Company has not satisfied the above precondition, since its duly admitted generation license petition is under NEPRA's adjudication, the tariff petition of the Company was deemed premature and accordingly returned (in original) without any action on October 18, 2022.

It is respectfully submitted that the aforesaid position of Authority is legally unsustainable and violates the statutory rights of the Company. The NEPRA legal regime is unambiguous and does not permit the Authority to return the tariff petition and abdicate from discharging its mandate vested under the Act of Parliament.

Additionally, as a background, we would like to apprise the Authority that the Company with the support of PPIB managed to get the income tax exemption (as mentioned in clause 132 of Part I of Second Schedule of Income Tax Ordinance 2001 for electric power projects) extended up to June 30, 2023 for the projects who holds the valid letter of support by that date. The Company was fully confident that the LOS for the Project shall be issued prior to June 30, 2023, however inordinate delay of IGCEP 2022-31 resulted in the delay in issuance of Generation License and the Feasibility Stage Tariff Determination. We have been given to understand by PPIB that determination of tariff is one of the preconditions of the issuance of LOS.

REGISTRAR OFFICE

Diary No: 2525

Date: 06/3/23

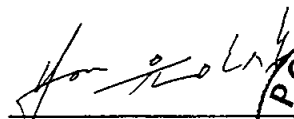
From the aforesaid, it is evident that the Company has completed all of its actions on time (including the submission of application for Generation License on June 8, 2022 followed by Feasibility Stage Tariff Petition on June 30, 2022) however, the issuance of LOS is delayed due to the inaction of governmental entities particularly the delay in issuance of IGCEP 2022-31. Please note that any imposition of income tax shall make this project unviable and uncompetitive resulting in putting this much needed FDI in jeopardy.

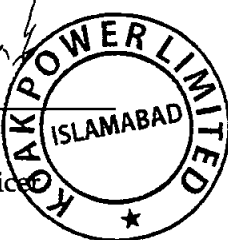
Through this letter and accompanying attachments, the Company resubmits its tariff petition with a specific request that the same may kindly be processed under the applicable Tariff Rules. This may enable the company to get the LOS before 30<sup>th</sup> June 2023 to avail the income tax exemption and to meet the deadline of COD provided in IGCEP.

**Request for Hearing:**

It is specifically requested that in the event the Authority is not amenable to the Company's request, the matter may kindly be fixed for an urgent hearing and a due-process opportunity may be afforded to the Company to present its submission.

Thanking You,

  
Yoon An Sang  
Chief Executive Officer





OFFICE OF THE  
REGISTRAR

**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY**

ISLAMIC REPUBLIC OF PAKISTAN

NEPRA Tower, Ataturk Avenue (East) G-5/1, Islamabad

Phone: 9206500, Fax: 2600026

Website: [www.nepra.org.pk](http://www.nepra.org.pk), Email: [info@nepra.org.pk](mailto:info@nepra.org.pk)

No. NEPRA/R/TRF-100/20/0/

October 18, 2022

**Mr. Yoon An Sang**  
Chief Executive Officer  
Koak Power Limited  
1st Floor, 12-A, CBC Building,  
G-8 Markaz, Islamabad

**Subject: FEASIBILITY STAGE TARIFF PETITION OF 229MW ASRIT KEDAM  
HYDROPOWER PROJECT BY KOAK POWER LIMITED**

This is with reference to the subject tariff petition filed by Koak Power Limited (Koak Power) for its 229 MW Asrit-Kedam Hydropower Project at District Swat, Khyber Pakhtunkhwa. Please note that the Authority has decided in principle that only tariff petitions of those petitioner will be entertained who hold valid generation licenses from NEPRA. As such Koak Power does not hold Generation License for the above said hydropower project; therefore, subject Tariff Petition of Koak Power being non-maintainable, is returned herewith.

**Encl: As above**

  
(Iftikhar Ali Khan)  
Addl. Director General

18/X/22

**1<sup>st</sup> Floor, 12-A CBC Building,  
G-8 Markaz, Islamabad, Pakistan  
Tel: 051-8735923, 051-8735924**

Letter No: KOAK-560-2022

Date: June 30, 2022

## The Registrar

National Electric Power Regulatory Authority (NEPRA)  
NEPRA Tower Ataturk Avenue (East)  
Sector G-5/1,  
Islamabad.

REGISTRAR  
6638  
1-7-2022

**SUBJECT: Feasibility Stage Tariff Petition of 229MW Asrit Kedam Hydropower Project by KOAK Power Limited**

We, KOAK Power Limited ("Company") herewith submit the Feasibility Stage Tariff Petition along with the Fee as determined by the National Electric Power Regulatory Authority ("NEPRA" or the "Authority") for kind consideration and determination in accordance with, inter alia, section-31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with Rule 3 of the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998 and other applicable provisions of NEPRA law.

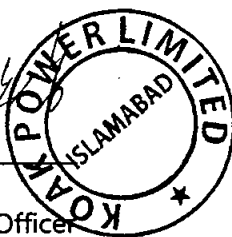
- i. The Tariff Petition (including its appendices & annexures) are submitted in triplicate, together with:
  - a. A Pay Order No. 15421669 dated 28<sup>th</sup> June 2022 drawn at Habib Metropolitan Bank Ltd amounting to PKR 1,869,444/- as requisite fee for the Tariff Petition.
  - b. True extract of Board of Directors resolution of KOAK POWER LIMITED; and
  - c. Statement of Authorized Representative of KOAK Power Limited, Mr. Yoon An Sang.
- ii. Considering the submissions set out in the Tariff Petition and the information attached to the same, NEPRA is kindly requested to process the Tariff Petition at the earliest, thereby enabling the Company to proceed further with the development of the Project.

Respectfully submitted for and on behalf of KOAK Power Limited

Warm Regards

You go

**Yoon An Sang**  
Chief Executive Officer  
KOAK Power Limited



with cheque of Rs. 1868/4/4/-

F/A-1

# HABIB METROPOLITAN BANK LTD.

Islamic Bkg.-Islamabad

Branch Code : 2

P.O No. 15421669

Stationery/Ref. No. 15421669

Date : 28/06/22

PKR \*\*\*1,869,444.00\*\*\*

Pay to NATIONAL ELECTRIC POWER REGULATORY AUTHORITY or Order

Rupees one million eight hundred and sixty nine thousand four  
hundred and forty four only



Please do not write below this line

Signatory  
Attorney No.

Signatory  
Attorney No.

154216690640220100000000001609739020

# **FEASIBILITY STAGE TARIFF PETITION**

## **229 MW ASRIT KEDAM HYDROPOWER PROJECT**



BEFORE: NATIONAL ELECTRIC POWER REGULATORY AUTHORITY (NEPRA)

ON BEHALF OF: KOAK POWER LIMITED

## APPENDICES

The Tariff Petition (including the following Appendices) is submitted together with the following:

| Appendix | Description                                                                                                                                                        |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I.       | Letter of Intent issued by Pakhtunkhwa Energy Development Organization (PEDO) in favour of project sponsors                                                        |
| II.      | Approval Letter of the Feasibility Study by PEDO                                                                                                                   |
| III.     | Grid Interconnection Study submitted to National Transmission & Despatch Company Limited                                                                           |
| IV.      | Environmental & Social Impact Assessment ("ESIA") Approval issued by the Directorate of Environmental Protection Agency, Peshawar Government of Khyber Pakhtunkhwa |
| V.       | Reference Tariff Table                                                                                                                                             |
| VI.      | Debt Repayment Schedule                                                                                                                                            |
| VII.     | Summary of Cost Estimates                                                                                                                                          |
| VIII.    | Board Resolution of KOAK Power Limited                                                                                                                             |
| IX.      | Affidavit of Mr Yoon An Sang, CEO                                                                                                                                  |
| X.       | Copies of Bank Draft for Tariff Determination Fee                                                                                                                  |
| XI.      | Certified Company Incorporation Certificate                                                                                                                        |
| XII.     | Certified True Copy of Article of Association of the Company                                                                                                       |
| XIII.    | Certified True Copy of Memorandum of Association of the Company                                                                                                    |
| XIV.     | Generation License Awarded by the NEPRA to KOAK Power Limited                                                                                                      |
| XV.      | Approved Feasibility Study of the Project                                                                                                                          |
| XVI.     | Previous Feasibility Approval Letter by POE of PPIB                                                                                                                |
| XVII.    | Rejection Letter for FS stage tariff petition from NEPRA                                                                                                           |
| XVIII.   | Termination Notice of LOI by PPIB to YBG                                                                                                                           |
| XIX.     | Bills of Quantities as per Approved Feasibility Study                                                                                                              |
| XX.      | Quotation for Project Insurance                                                                                                                                    |
| XXI.     | Feasibility Rights Purchase Agreement                                                                                                                              |

## PETITIONER'S DETAILS

|                           |                                                                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Project Name              | 229 MW Asrit Kedam Hydropower Project<br>(the "Project")                                                                             |
| Project Company           | KOAK Power Limited                                                                                                                   |
| Address:                  | 12-A, 1 <sup>st</sup> Floor, CBC, G-8 Markaz, Islamabad<br>Phone: +92 51 8735923<br>Fax: +92 51 8735924<br>Email: info@koakpower.com |
| Authorized Representative | Mr. Yoon An Sang, CEO                                                                                                                |

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## Abbreviation & Acronyms

|                 |                                                                     |
|-----------------|---------------------------------------------------------------------|
| ADB             | Asian Development Bank                                              |
| COD             | Commercial Operation Date                                           |
| Company         | KOAK Power Limited                                                  |
| CPI             | Consumer Price Index                                                |
| CPPA-G          | Central Power Purchasing Agency                                     |
| E&M             | Electrical and Mechanical                                           |
| EPC             | Engineering, Procurement & Construction                             |
| EPP             | Energy Purchase Price                                               |
| ESIA            | Environmental & Social Impact Assessment                            |
| EPA             | Environmental Protection Agency                                     |
| FC              | Financial Close                                                     |
| FY              | Fiscal Year of GOP beginning 1st July to 30th June                  |
| GLOF            | Glacial Lake Outburst Flood                                         |
| GOP             | Government of Pakistan                                              |
| GOKPK           | Government of Khyber Pakhtunkhwa Province                           |
| GTZ             | German Technical Cooperation                                        |
| GWh             | Giga Watt hour (1,000,000 KWh)                                      |
| IDC             | Interest During Construction                                        |
| IFC             | International Finance Corporation                                   |
| IPP             | Independent Power Producer                                          |
| IRR             | Internal Rate of Return                                             |
| K-Exim          | The Export-Import Bank of Korea                                     |
| KPK             | Khyber Pakhtunkhwa                                                  |
| KIBOR           | Karachi Interbank Offered Rate                                      |
| KOEN            | Korea South-East Power Company                                      |
| kWh             | Kilowatt-hour                                                       |
| LIBOR           | London Interbank Offer Rate                                         |
| LOI             | Letter of Interest                                                  |
| LOS             | Letter of Support                                                   |
| Mechanism       | NEPRA Mechanism for Determination of Tariff for Hydropower Projects |
| MRS             | Market Rates System                                                 |
| MW              | Mega Watt (1,000 kilowatts)                                         |
| NEPRA/Authority | National Electric Power Regulatory Authority                        |

|                   |                                                                   |
|-------------------|-------------------------------------------------------------------|
| NTDC              | National Transmission & Despatch Company Limited                  |
| OE                | Owner's Engineer                                                  |
| O&M               | Operation & Maintenance                                           |
| Pakistan          | The Islamic Republic of Pakistan                                  |
| PEDO              | Pakhtunkhwa Energy Development Organization                       |
| PKR/Rupees/Rs.    | Pak Rupees, the lawful currency of Pakistan                       |
| POE               | The panel of Experts by PEDO & PPIB                               |
| Power Policy 2015 | The GOP's Power Generation Policy, 2015                           |
| Power Policy 2016 | GoKPK Hydropower Policy 2016                                      |
| PPA               | Power Purchase Agreement                                          |
| PPIB              | Private Power & Infrastructure Board                              |
| RFP               | Request for Proposal                                              |
| ROE               | Return on Equity                                                  |
| ROEDC             | Return on Equity during Construction                              |
| ROEDD/ SROE       | Return on Equity during Development (30 months before FC)         |
| RTT               | Reference Tariff Table                                            |
| SECP              | Securities & Exchange Commission of Pakistan                      |
| SBP               | State Bank of Pakistan, the central banking authority of Pakistan |
| SOFR              | The Secured Overnight Financing Rate                              |
| USD/\$            | United States Dollars                                             |
| US CPI            | United States Consumer Price Index                                |
| WAPDA             | Pakistan Water & Power Development Authority                      |
| WPI               | Wholesale Price Index                                             |
| World Bank        | International Bank for Reconstruction and Development             |
| WUC               | Water Use Charges                                                 |

## 1. GROUNDS FOR PETITION

This Tariff Petition ("Petition") is made under section 31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, read with Rule 3 of the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998 and other applicable provisions of NEPRA laws.

To cater to the unique nature of hydropower plants, wherein cost uncertainty due to a long gestation period is neither in the control of the Petitioner nor the Power Purchaser, NEPRA developed a Mechanism<sup>1</sup> for the Determination of Tariffs for Hydropower Projects in the year 2008 (the "Mechanism"). The Mechanism provides for determining tariffs and subsequent adjustments at distinct stages of the development of hydropower projects. In this respect, three distinct stages have been identified in the Mechanism:

- i) Feasibility stage,
- ii) EPC stage; and
- iii) COD stage (after Commercial Operations Date).

The Petition intends to provide a basis for NEPRA to render a tariff determination applicable to the Feasibility stage. Subsequent tariff determinations shall be made per the Mechanism at a future date.

### 1.1 INTRODUCTION

The Company obtained a Letter of Intent ("LOI") from the Pakhtunkhwa Energy Development Organization ("PEDO"), Government of Khyber Pakhtunkhwa on June 23, 2021, for 215 MW Hydropower Generation Project at Swat River in Kalam, District Swat, Province of Khyber Pakhtunkhwa ("Project") [LOI attached as Appendix I].

As per the terms of the LOI, a Panel of Experts appointed by PEDO (the "POE") conducted five (5) detailed meetings and three (3) site visits to observe, investigate and discuss the progress, proposed design and layout, environmental concerns, neighbouring facilities, hydrological calculations, geology, e-flows, transmission, BOQs, Project costs and other essential aspects of the Project. Input and advice from the POE were duly incorporated in the Updated Feasibility Study, and rationalizations were provided in other cases. POE appreciated the professional work of the Project team and consultants and approved the Feasibility Study on May 31, 2022

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<sup>1</sup> [https://ppib.gov.pk/policies/NEPRA\\_Mechanism\\_for\\_tariff.pdf](https://ppib.gov.pk/policies/NEPRA_Mechanism_for_tariff.pdf)

with the Project capacity optimized to 229.4 MW. [Approval Letter of Feasibility Study by POE is attached as Appendix-II]

The Project is being implemented through KOAK Power Limited ("Company"); a special-purpose company registered under the Companies Act 2017. Certified true copies of the Incorporation Certificate, Articles of Association, and Memorandum of Association are attached as Appendix XI, XII & XIII, respectively. The Company is a wholly owned subsidiary of Korea South-East Power Co., Ltd. ("KOEN"). KOEN is a premier state-owned generation company, of the Republic of Korea, with a cumulative generation capacity of 10,376 MW worldwide and an asset base of \$9.9 Billion. KOEN has successfully developed the 102 MW Gulpur Hydropower Project in the district Kotli of Azad Jammu & Kashmir, which achieved its commercial operations in March 2020.

The LOI milestones require the Company to get (i) a Generation License and (ii) a Feasibility Stage Tariff from NEPRA within the stipulated timeline followed by the issuance of a tripartite Letter of Support ("LOS") by the Private Power & Infrastructure Board ("PPIB") pursuant to the Federal Government's Power Generation Policy 2015.

## **1.2 PURPOSE OF THE PETITION**

The purpose of this Petition is to present the proposed tariff of the Project, as calculated in the approved Feasibility Study along with detailed costs and assumptions made thereto, before NEPRA for its processing, approval, and notification in the official gazette.

Details of layout, design, environmental studies, major structures, and costs with necessary calculation methodology and data tables, where necessary, have been provided in this Petition enabling NEPRA to have an in-depth review of the resultant levelized tariff of the Project [Approved Feasibility Study of the Project is attached as Appendix XV] for verification and cross-references during due diligence, of the statements made and data presented in this Petition, by NEPRA. Any other document, reference, information, or calculation as may be required by NEPRA for the purposes of the tariff determination shall be promptly provided by the Company.

## **1.3 DETERMINATION SOUGHT**

Pursuant to the relevant provisions of the NEPRA Act, read with the provisions of the Rules and Regulations made thereunder and in accordance with Power Policy 2016 and the Power Policy 2015 (the "Applicable Policy"), the Company submits herewith before NEPRA, for its approval, this Petition. NEPRA is kindly requested to process the Petition at the earliest and determine and notify the tariff as requested by the Company so as to enable the Company to expeditiously proceed further with the development process.

## 2. PROJECT OVERVIEW

### 2.1 BACKGROUND

GTZ first identified the Project during a hydropower potential study conducted between 1990 and 1995 under a Program of Pakistan-German Cooperation. In June 2006, Mirza Associates Engineering services (PVT) Ltd. submitted a cascade study on developing the hydropower potential in the Swat River. The consultant in this study identified four potential sites. One of the identified sites was Asrit Kedam hydropower, with a potential of 209 MW estimated by the consultant.

The Project was advertised by PPIB in 2007 as a raw site and was awarded to Younas Brothers Group ("YBG") on a BOOT (Build-Own-Operate-Transfer) basis. The Project's feasibility study was performed by RSW International (RSWI) of Montreal, Canada, and it was published in November 2008. The estimated potential of the site was increased to 215 MW in that feasibility study. The PPIB cancelled the LOI issued to YBG for several reasons, and the Project was later handed over to GoKPK for development as an IPP.

A Letter of Intent ("LOI") was issued to KOEN by GoKPK through PEDO in June 2021. PEDO is the one window facilitation agency for private sector investment in energy in KPK. Before the issuance of the LOI, KOEN conducted the technical due diligence of the feasibility study. Technical due diligence and site investigations were conducted by SAMAN engineering of Korea ("SAMAN") & were reviewed by Mott MacDonald.

The Company was incorporated as a public limited company under the applicable laws of the government of Pakistan ("GoP"). The Updated Feasibility Study of the Project was approved on May 31, 2022, after rigorous deliberation of POE. The POE comprised representatives from PPIB, National Transmission & Despatch Company ("NTDC"), PEDO, KPK Environmental Protection Agency ("KPK EPA"), Irrigation Department Khyber Pakhtunkhwa, and Peshawar Electric Supply Company ("PESCO"). The potential installed capacity of the Project was increased to 229.4 MW in the Updated Feasibility Study, with the approval of the POE.

### 2.2 SALIENT FEATURES

|                              |                                                                                      |
|------------------------------|--------------------------------------------------------------------------------------|
| Project Size (gross)         | 229.4 MW                                                                             |
| Project Site                 | Between Asrit and the Kedam Villages at Kalam, Swat River, Swat, Khyber Pakhtunkhwa. |
| Implementing Agency/Agencies | PEDO and PPIB                                                                        |

|                           |                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------|
| Construction Period       | 60 Months                                                                            |
| Plant Factor              | 47.48%                                                                               |
| Gross Energy              | 970.7 GWh                                                                            |
| Net Energy                | 944.66 GWh                                                                           |
| Auxiliary Consumption     | 1%                                                                                   |
| Capital Structure         | 80:20 [Debt: Equity]                                                                 |
| Proposed Levelized Tariff | US ¢ 7.1058/ KWh                                                                     |
| Total Project Cost        | \$ 491,298,783                                                                       |
| Reference Exchange Rate   | PKR. 175/ US\$                                                                       |
| Applicable Policies       | Khyber Pakhtunkhwa Hydropower<br>Policy, 2016<br>And<br>Power Generation Policy 2015 |

## 2.3 LOCATION & CLIMATE

The Project is in the Khyber Pakhtunkhwa Province on the Swat River in the reach between the Asrit and the Kedam Villages. The junction of the Gabral and the Ushu Rivers at the Kalam forms the Swat River. The river flows southward and then flows westward until joined by the Panjkora River. After the confluence, the river enters the Peshawar Valley and meets with the Kabul River.

The total length of the Swat River is about 225 km, and its catchment basin at the Project's intake site covers an area of 2,213 km<sup>2</sup>. A hydrometric station, around 12 km upstream of the Project's intake, has been operating since 1960 at the Kalam. The average annual flow at the Project's intake site is estimated to be about 96.4 m<sup>3</sup>/s.

The project area falls in the sub-humid and sub-tropical zone of district swat with moderate summer and extremely chilly winter. The hottest month is June, with mean maximum and

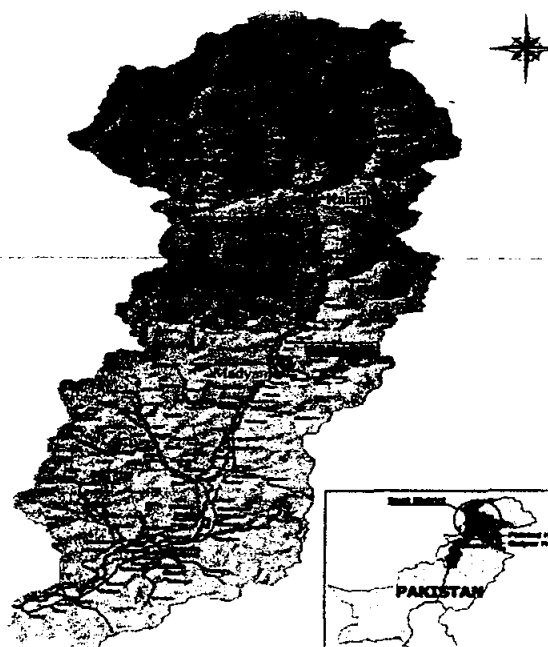


FIGURE 2-1: PROJECT LOCATION MAP

minimum temperatures of 33°C and 16°C respectively, and the coldest month is January, with mean maximum and minimum temperatures of 11°C and -2°C, while the annual precipitation averages 866 mm (34.1 in).

Air temperature is decreased by 0.6°C ~ 1.0°C per every 100 m increase in the elevation. Snowfall occurs from EL. 5,000. Considering the elevation of the catchment area and temperature, it is concluded that snow accumulation plays a significant role in the hydrological cycle. Major precipitation events are concentrated from January to May, and the maximum precipitation is in March and April.

## 2.4 PROJECT: MAJOR COMPONENTS

The Project is located on the Swat Cascade between the Kalam-Asrit Hydropower Project and Madian Hydropower Project. The project boundary level range between EL. 1,719.7 m at the upstream and EL. 1,494.0 m at downstream. The dam is located at the Asrit Village, where the height of the dam is 28.5 m, the length is 71.4 m.

Underground Cavern Powerhouse was considered in the Kedam Village of Swat area for the Project. The comparison of the surface and underground powerhouse was considered before the finalization of the cavern powerhouse.



FIGURE 2-3: AERIAL VIEW OF THE WEIR SITE

The Weir and Powerhouse are approximately 10 km apart from each other. The headrace tunnel was considered at the right bank of the swat river after analysis and comparison of both the left and right banks for the headrace tunnel.



FIGURE 2-4: AERIAL VIEW OF THE POWERHOUSE SITE

### 2.4.1 WEIR

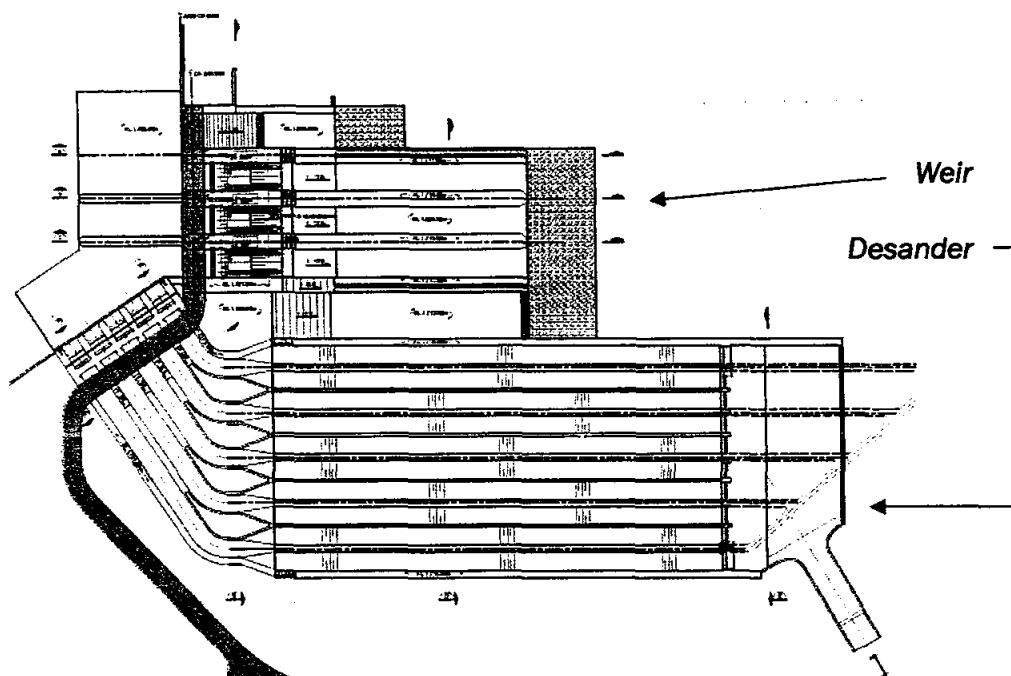


FIGURE 2-5: DAM & DESANDER LAYOUT

At the weir, part of the river flow is diverted to the power waterway system at the right bank of the power intake. Some 10 km further downstream, there is the powerhouse where the water is returned to the Swat River. To maintain the power intake free of sediments of bed load that may accumulate upstream of the cofferdam, a flushing structure (Desander) is arranged in the right part of the weir structure close to the power intake.

The floating type was selected considering satisfactory foundation conditions, minimum environmental disruptions, and structural stability. The height and length of the dam are planned as 28.5 m and 71.37 m, respectively. On top of the weir structure, a road is planned to provide access to the intake and control structures.

TABLE 2-1: FEATURES OF PROJECT WEIR

|                              |                      |
|------------------------------|----------------------|
| Weir Type                    | Concrete Gravity Dam |
| Normal Operating Water Level | El. 1,717 m          |
| Length                       | 71.4 m               |
| Width                        | 24 m                 |
| Height                       | 28.5 m               |

### 2.4.2 DESANDER

The Desander comprises five water passages designed to convey the rated flow of 130 m<sup>3</sup>/s. The crest of the water passages is at EL 1,721 m. Each passage is provided with a vertical sliding gate which is 5.2 m wide and 4.8 m high. Each chamber is 12 m wide and 130 m long. The chambers have a rectangular cross-section in their upper section, narrowing downward to a triangular section with a 1:1 side slope to form a space for storing deposited sediments.

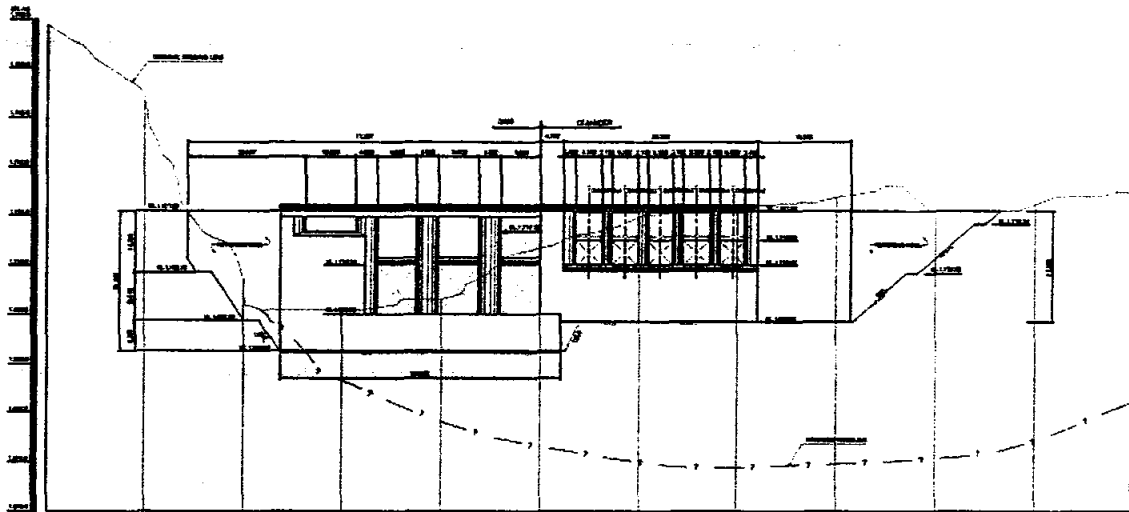


FIGURE 2-6: DAM & DESANDER UPSTREAM ELEVATION

The bottom of the chambers consists of a small canal, with its invert draining downstream at a slope of 2.54%. The slope is sufficient to generate high velocities during flushing operations. The water velocity in the main chambers, at the maximum water level of 1,717.0 m, is 0.186 m/s. A concrete sill controls the water level in the chambers at EL. 1,713.0 m at their downstream extremity.

### 2.4.3 INTAKE

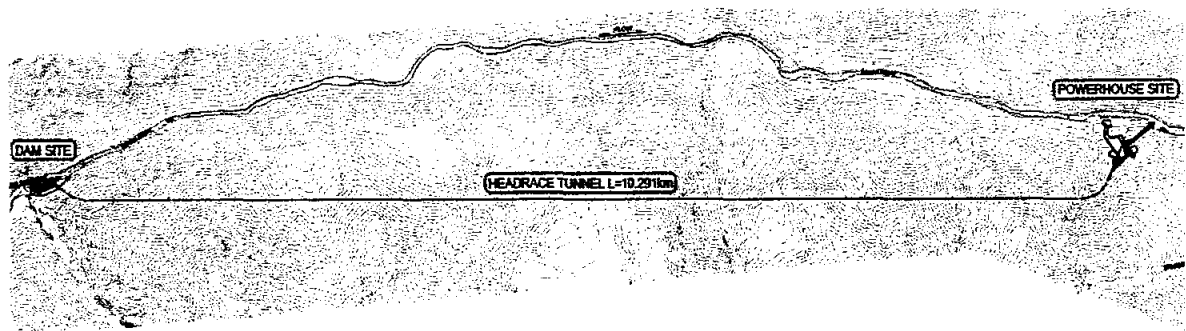
The intake is located between the forebay and the waterway tunnel on the right side of the dam. Considering the arrangement of the desander and waterway tunnel, constructability and O&M during the operation period, the horizontal type of intake is proposed. The entrance is rectangular with gradually varying sides and top to make the inflow uniform, minimize head loss as much as possible, and have a flat bottom for constructability.

The intake bottom is connected to the bottom of the forebay at EL. 1,701 m. The trash rack is installed at the entrance. The transition section is installed between the intake and the waterway tunnel for cross-section changes from rectangular to circular.

For the maintenance of the waterway tunnel, dewatering work shall be carried out by the gates installed at the head regulator and the end of the desander. No gates are required in the intake.

|                |                       |
|----------------|-----------------------|
| Type           | Horizontal bell mouth |
| Sill Elevation | EL. 1,701.0 m         |
| Inlet Size     | 11 m (W) × 12.4 m (H) |
| Trash Rack     | 11 m (W) × 15 m (H)   |

The optimum design of the waterway tunnel was performed through a review of the topographical and geometrical conditions, the location of the surge tank, minimum rock cover and the hydraulic conditions such as minimum head loss, water hammer and surging phenomenon.



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The waterway consists of the power intake, headrace tunnel, vertical pressure tunnel and horizontal steel penstock, and its total length is 10.8 km. The surge tank is located between the headrace tunnel and the vertical pressure tunnel to reduce the hydraulic transient in the pressure tunnel. The steel penstock divides in front of the powerhouse to supply the plant discharge for four turbines.

TABLE 2-3: FEATURES OF WATERWAY TUNNEL

| Items                    |          | Length   | Cross Section | Slope | Remark                                 |
|--------------------------|----------|----------|---------------|-------|----------------------------------------|
| Headrace Tunnel          |          | 10,291 m | 7.4 m         | 0.37% | Circular                               |
| Surge Tank               | Chamber  | 78.3 m   | 14.0 m        | -     | Circular                               |
|                          | Orifice  | -        | 3.0 m         | -     | Circular                               |
| Vertical Pressure Tunnel |          | 119.5 m  | 7.4 m         | -     | Circular                               |
| Steel Penstock           | 1 Line   | 188.8 m  | 5.1 m         | -     | Modified Horseshoe<br>(Inner Circular) |
|                          | Manifold | 127.7 m  | 2.15 ~ 5.1 m  | -     | Steel Lined                            |

#### 2.4.5 SURGE TANK

To control the turbine's output to corresponding load changes of electricity, the stability must be secured during operation when the governor is installed on the turbine. In other words, the governing stability is the recovery characteristic to a steady state from changes in load rejection. Since the governing stability is related to determining the necessity of the surge tank and the power waterway tunnel section, it must be a primary concern when designing the structure's arrangement and size plan.

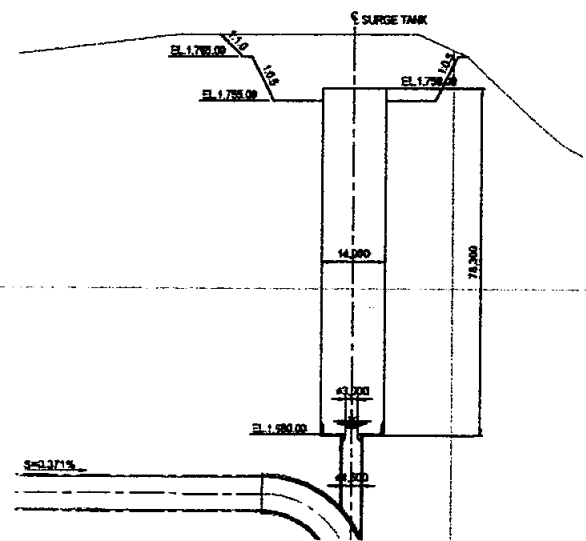


FIGURE 2-9: SURGE TANK LAYOUT

Based on the results of the Runge-Kutter and WANDA Models, the maximum up-surging water level is estimated as EL. 1,754.6 m, and the minimum down-surging water level is estimated as EL. 1,680.8 m with a surge tank diameter of 14 m and an orifice diameter of 3 m.

## 2.4.6 PRESSURE TUNNEL

The vertical pressure tunnel as a high-pressure tunnel is a waterway tunnel connecting the headrace tunnel and the steel penstock. Considering the hydraulic and structural stability and economic efficiency, its type is adopted as a concrete-lined type. The optimal diameter is determined as the diameter of the headrace tunnel.

Tunnel lining design is performed for the required concrete thickness and reinforcing steel bars arrangement per the design criteria.

TABLE 2-4: FEATURES OF PRESSURE TUNNEL

|                           |                                               |
|---------------------------|-----------------------------------------------|
| Type                      | Reinforced Concrete Lined Tunnel (t = 600 mm) |
| Diameter                  | 7.4 m (Circular)                              |
| Length                    | 119.5 m                                       |
| Manning's 'n' coefficient | 0.0135                                        |

## 2.4.7 POWERHOUSE

The powerhouse shall be equipped with three units of 67.4 MW capacity each and a small unit of 27.2 MW capacity. Each turbine shall be equipped with a butterfly valve with a nominal diameter corresponding to the inlet of the spiral case. The valves shall have a self-closing capacity with the help of counterweights. After passing through the turbines, the water is discharged via the draft tube extension into the common tailrace tunnel and from there to the outlet bay.

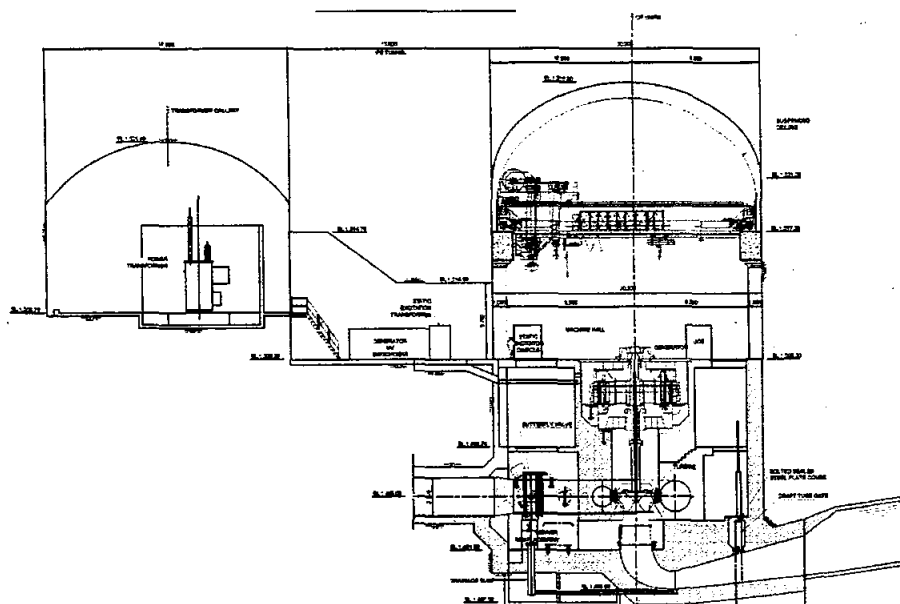


FIGURE 2-10: POWERHOUSE LAYOUT

Each draft tube can be closed by a gate for maintenance or repair of a turbine unit. The distance between the turbine unit centre lines is 12.0 m. As for the underground powerhouse of the Project, it is planned to separate the transformer from the powerhouse 15.0 m upstream of the powerhouse and create a transformer cavern to decrease the size of the main cavern.

TABLE 2-5: FEATURES OF POWERHOUSE

|                           |                        |
|---------------------------|------------------------|
| Length                    | 88 m                   |
| Width                     | 20 m                   |
| Height                    | 39 m                   |
| Transformer size          | 18 w x 13.9 h x 91.5 l |
| Turbine Setting Elevation | 1498.7 m               |

#### 2.4.8 TAILRACE

The tailrace consists of the draft tube and the tailrace tunnel. The draft tube is a steel-lined section, which can be considered a safety section regarding the velocity. On the other hand, the tailrace tunnel is a concrete-lined section, and this is composed of Dia. = 5.5 m × 2 lines. When calculated with the continuity equation, it is judged that below 3.0 m/s is appropriate.

According to the proposed layout in the feasibility study, the angle that the tailwater spills out to the Swat River is 76°. Although this outflow angle shall not be any problem during the monsoon season when there is a large quantity of flow in the Swat River, there may be a concern of scour in the left bank during the dry season when the flow shall be reduced. Hence, scour protection is required based on the left bank's ground condition.

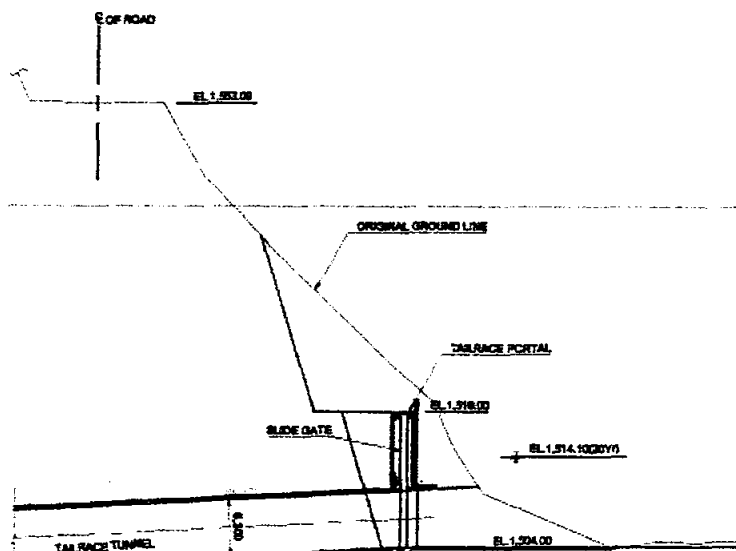


FIGURE 2-11: TAILRACE TUNNEL LAYOUT

### 2.5 ENVIRONMENTAL IMPACT ASSESSMENT

The Project's first detailed Environmental Impact assessment study ("EIA") was conducted by the previous sponsors, pursuant to which the KPK EPA issued an environmental No Objection

Certificate ("NOC") in 2012. KOAK has updated the EIA and resubmitted it to KPK EPA for the issuance of an updated NOC. The updated NOC from EPA was issued to the Company on July 4, 2022 [Attached as Appendix-IV]. The updated EIA process for the Project used major international guidelines (such as those issued and approved by organizations such as the IFC and ADB) as well as national guidelines related to hydropower projects.

The approach for identification of environmental and social impact assessment was based on the Mutually Exclusive, Collectively Exhaustive ("MECE") methodology, which includes a broad range of aspects concerning *inter alia* financing arrangements, regulatory requirements and environmental controls of the lender, details of technology and plant layout.

During the month of August 2022, the Swat River witnessed high to very high floods, washing away at least 24 bridges and 50 hotels. The settlements around the Project area also suffered losses of infrastructure and lives. The Company immediately mobilised its resources to assist the effected community by providing basic food and other items, medical camps and an awareness campaign pertaining to such floods.

As the floods have utterly changed the environmental data of the site, the Company, through competitive bidding, appointed a consultant to update the ESIA of the Project. The ESIA update process has already started and the consultants have completed the first reconnaissance survey of the site.

## **2.5.1 PROJECT E&S BENEFITS**

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### **2.5.1.1 CLIMATE CHANGE**

Generating electricity from hydropower plants produces negligible greenhouse gases, reduces the carbon footprint and can reduce the adverse effects of climate change. Independent research has shown that using hydropower instead of fossil fuel for electricity generation has helped to avoid one hundred billion tons of carbon dioxide in the past 50 years alone. Additionally import of these expensive fuels put huge pressure on availability of foreign exchange reserves and current account.

### **2.5.1.2 RELIANCE ON FOSSIL FUELS**

Development of the Project shall reduce reliance on expensive and finite fossil resources. Taking advantage of an abundant, free energy source means lower energy prices, reduced greenhouse gas emissions and a more robust/ stable energy future. In the current circumstances, furnace oil and LNG procurement are not only expensive, but their availability has become unreliable as well.

### **2.5.1.3 SOCIAL IMPACTS**

The Project shall improve the socioeconomic dynamics of the area through the generation of employment opportunities, sustenance of income, development of infrastructure including education, health facilities and means of access etc. Additionally, the creation of business opportunities and locals' engagement for socio-economic benefits shall increase over time.

### **2.5.1.4 IMPROVED TOURISM**

The Project is expected to enhance the area's tourism sector and plans to provide additional spots to enhance the area's tourism sector. Once the weir is operationalized, several hot spot safe areas around the Project shall be improved for better tourism and employment generation activities

### **2.5.1.5 WATER CONSERVATION**

Generating energy through hydropower does not use all the water diverted through the diversion tunnel and shall be released back into river Swat through the powerhouse tailrace. Traditional energy production methodologies, e.g., coal and thermal power generation, use copious quantities of water for their power production process in the amounts of 2.15768 m<sup>3</sup> <sup>2</sup> per minute for processing and cleaning.

## **2.5.2 ENVIRONMENTAL MITIGATION PLAN**

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For the effective implementation of mitigation measures and management of residual impacts, an Environmental Mitigation Plan ("EMP") has been developed. The EMP provides a delivery mechanism to address potential environmental impacts of the Project, enhance benefits and introduce standards of good practice in all Project-related activities. The EMP has been prepared with the prime objective of:

- i) Defining legislative requirements, guidelines and best industry practices that apply to the Project;
- ii) Defining mitigation measures required for avoiding or minimizing potential impacts assessed by the EIA;
- iii) Defining roles and responsibilities of the Proponent and the execution contractors; and; and
- iv) Defining requirements for monitoring and reporting.

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<sup>2</sup> [https://www.gem.wiki/Water\\_consumption\\_from\\_coal\\_plants](https://www.gem.wiki/Water_consumption_from_coal_plants)

The Company shall be responsible for implementing environmental mitigation measures and the Land Acquisition and Resettlement Plan ("LARP") through its construction contractor and O&M operator in collaboration with government departments.

The Project's proposed construction, installation, operation, and decommissioning has low-intensity adverse impacts, likely to be of short-term duration, moderate local consequences, and insignificant. A vigilant implementation of mitigation measures, a CSR plan and the EMP shall all ensure that any environmental impacts of the Project are managed, minimized and within acceptable limits.

## **2.6 MILESTONES ACHIEVED & WORK IN PROGRESS**

### **2.6.1 LETTER OF INTENT**

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The Company was awarded its LOI in June 2021, with the purpose of conducting the Project's feasibility study in the time stipulated therein. The Company has satisfied the significant requirements of LOI by obtaining the approval of the Updated Feasibility Study by the POE within the requisite timeframe and expects to receive the tripartite LOS from PPIB under Power Policy 2015 once NEPRA has issued and notified the feasibility stage tariff as requested in this Petition.

### **2.6.2 FEASIBILITY STUDY**

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As per terms of the LOI and guidelines therein for preparing a bankable feasibility study of the Project, the Company completed the feasibility study in the timeframe provided for this purpose. The POE has duly approved the feasibility study, and the approval letter is attached as Appendix II of this Proposal.

### **2.6.3 GRID INTERCONNECTION STUDY**

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Grid Interconnection Study (GIS) is already prepared by the Company and submitted to NTDC via letter bearing reference number KOAK-112-2022 dated February 3, 2022 [Attached as Appendix III]. For the full report on GIS, we would request the Authority to review the Approved Feasibility Study Attached herewith as Appendix XIV, Volume 2. The Company has been informed that the GIS shall be approved after PESCO and NTDC finalize the integrated study of the cascade.

Results of the GIS show that there is no constraint for power dispersal from the Project to the national grid via proposed 220 kV transmission line, and the proposed interconnection scheme successfully meets all grid requirements under normal and contingency conditions.

#### **2.6.4 INDICATIVE GENERATION CAPACITY EXPANSION PLAN**

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NEPRA has approved the Indicative Generation Capacity Expansion Plan 2022-2031 on February 01, 2023, and the Project has been included as an “optimized” project with proposed COD in 2029.

#### **2.6.5 TARIFF & FINANCIAL MODEL**

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The Company has already prepared and finalized the tariff and financial model of the Project according to the applicable Policy (ies), approved feasibility study and NEPRA rules and guidelines. An information memorandum of the Project is drafted based on this financial model and shall be finalized after the determination of the tariff by NEPRA.

#### **2.6.6 GENERATION LICENSE**

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The Company has already applied for the grant of Generation Licence on 8<sup>th</sup> June 2022.

#### **2.6.7 PROJECT FINANCING**

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The Company has already started approaching various MDBs, local and international banks and other prospective financing institutions to finance the Project. Based on the current economic situation of Pakistan, prospective lenders and equity sponsors require higher spreads and returns to mitigate the risks inherent in the country's economy.

The Company has received the LOI from K-EXIM, ADB, and IsDB which are attached as Annex-1.

#### **2.6.8 EPC BIDDING PROCESS**

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The Company has already started the EPC bidding process as per NEPRA (Selection of Engineering, Procurement and Construction Contractor by Independent Power Producers) Guidelines, 2017 (“NEPRA EPC Guidelines”). The Company has coordinated with relevant agencies (PEDO and PPIB) for the start of process and appointment of independent consultant as required under NEPRA EPC Guidelines (“Independent Consultant”).

The Company has appointed NESPAK as the Independent Consultant after competitive bidding and presented all the bidding documents (updated feasibility study, feasibility study Review Report by Fichtner, proposed EPC Contract, detailed Project Requirements, the scope of work and RFP) for review and feedback. The feedback of the Independent Consultant was incorporated in the bidding documents.

An advertisement for the prequalification of interested contractors, after the approval of Independent Consultant, was published on August 30, 2022, in international and national

newspapers. The advertisement was also published in multiple international tendering websites and PEDO website as well. The Company also appointed the OE for the review of technical requirements of the bidding documents.

In response to the advertisement, twenty (20) local and international companies expressed their intention to participate in the bidding process. KOAK shared the pre-qualification Documents with interested companies on September 22, 2022. The last date to submit the Statement of Qualification (SOQ) was October 13, 2022.

On due date of the prequalification documents, five companies submitted their statements of qualification. The Independent Consultant has issued the pre-qualification report on November 9, 2022. All the five companies which submitted the pre-qualification documents were shortlisted.

KOAK shared the Request for Proposal with all attachments to the prequalified bidders on November 14, 2022. The Request for Proposal was duly approved by the Independent Consultant and the Company incorporated all the changes/ modifications in evaluation criteria and other sections of the bidding documents on the recommendations of the Independent Consultant. The last date for receipt of the bids by the prequalified bidders was fixed as February 14, 2023. However, due to the delay in NEPRA's approval of IGCEP 2022-31 and the delay in securing TLOS (due to factors outside of the Company's control), the Company has extended the deadline by two months; therefore, the new deadline is set as April 14, 2023.

The Company is a wholly owned subsidiary of KOEN, KOEN is a state-owned company of the Republic of Korea. The Export-Import Bank of Korea (K-Exim) is expected to be one of the major Project lenders therefore, the bidding documents provides a restriction that Korea based EPC Contractor shall has at least 51% share while the remaining 49% shares in the EPC can be taken by any nationality. Additionally, there is no restriction on the nationality of E&M Supplier for the Project.

#### **2.6.9 HIRING OF PROJECT CONSULTANTS**

The Company has already started working on identifying and selecting various consultants for the successful financial close of the Project. RFPs for hiring legal, financial, technical, environmental, insurance and owner engineer are being finalized and shall be floated immediately after the issuance of LOS from PPIB to save time for the Project's further development.

### 3. PROJECT COSTS

This part of the Petition illustrates the costs carefully estimated by the Company and its consultants to carry out the Project's development, construction, and operations. The main cost categories include capital costs, operating costs, and costs of capital. In the following sections, all cost heads are debated in detail.

#### 3.1 CAPITAL COSTS

Capital costs shall be incurred during the development and construction period of the Project and are estimated minimum costs required for the successful commissioning of the Project per the approved design of the feasibility study. The Company and its consultants have utilized their skills, experience, and international best practices in the context of similar hydropower projects in Pakistan to calculate all the cost components of the Project. Following is the summary of the capital costs of the Project.

TABLE 3-1: SUMMARY OF PROJECT COSTS

| Cost Head                            | Amount (US\$) |
|--------------------------------------|---------------|
| Construction Cost (EPC Cost)         | 373,392,630   |
| Non-Construction Cost (Non-EPC Cost) | 80,207,427    |
| Base Project Cost                    | 453,600,057   |
| Interest During Construction         | 37,698,727    |
| Total Project Cost                   | 491,298,783   |

##### 3.1.1 CONSTRUCTION COST

The construction costs are composed of three (3) components, i.e., (i) Civil Works, (ii) E&M cost and (iii) Preliminary Works and other costs. The Civil works costs are estimated for nineteen (19) work packages. E&M cost comprises three (3) work packages, i.e., Electrical, Mechanical Works and Hydro Mechanical Works. Preliminary & other Works are explained in Section 3.1.1 above.

The Civil work packages are shown in Table 3-3. More details about cost breakups are shown in the feasibility study [Attached as Appendix-XV, Chapter 18] and are approved by the POE after rigorous due diligence and optimization. The Project's construction cost shall be finalized after receiving firm bids from local and international EPC contractors through international competitive bidding at a later stage as per guidelines of NEPRA. The EPC Contract shall be awarded based on quality and cost rankings, keeping in view the NEPRA Guidelines.

The basic construction cost of the scheme is divided into the following main parts as per the feasibility study.

TABLE 3-2: SUMMARY OF CONSTRUCTION COST

| Cost Head                       | Amount (US\$)      |
|---------------------------------|--------------------|
| Civil Works                     | 210,552,807        |
| Electrical and Mechanical       | 109,459,449        |
| Preliminary Works & Other Costs | 53,380,374         |
| <b>Total Construction Cost</b>  | <b>373,392,630</b> |

### 3.1.1.1 CIVIL WORKS

The quantity and cost estimate are related to the feasibility design. Plans and sections were prepared for each major plant component, e.g., diversion works, dam and desanders, headrace tunnel, surge shaft, power and transformer caverns, power waterways, access roads, bridges, and disposal areas etc. For each component, the quantities were calculated based on the engineering drawings by work items [attached as Appendix XIX]. Following the cost calculation, a comprehensive unit rate analysis was carried out. For this specific purpose, the services of renowned consultant NESPAK were hired.

The unit rates of major items were established from four (4) Principal components, i.e., the cost of local labour, cost of construction materials, cost of fuel, and the cost of construction equipment (expressed in equipment cost depreciation and consumables).

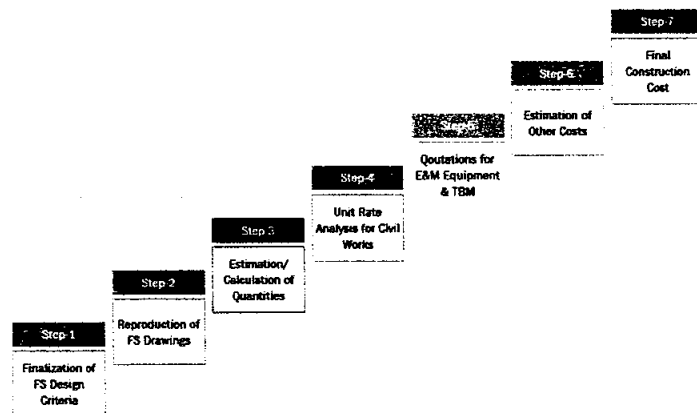


FIGURE 3-1: CONSTRUCTION COST CALCULATION PROCESS

The derivation of unit rates for major items of the civil works was based on the following sources and information:

- i) For estimation of major items of Civil costs, MRS 2022 (HY-1) issued by the government of Punjab in January 2022 is used as a reference. Quantities are calculated from Project's approved design diagrams, and a conservative unit rate analysis is conducted to calculate the cost of each major item.
- ii) For the calculation of tunnelling cost, quotations for TBM are received, and the same has been used in the cost estimation. For the operating costs of the tunnel,

the Consultant's experience of tunnelling rates for similar scale projects in Pakistan and other countries of the world are estimated.

- iii) For minor items of the cost, the following methodology has been used.
  - a. Civil work construction rates currently used for large-scale construction projects in Pakistan.
  - b. Consultant's experience and recent knowledge of the results from international bidding for similar projects
  - c. Consultant's experience and current knowledge of rates for power projects presently being carried out in other countries, for which Consultant is providing detailed design and construction supervision services.

#### **3.1.1.2 ELECTRICAL, MECHANICAL & HYDROMECHANICAL COST**

For estimating Electrical & Mechanical (E&M) costs, the Consultant's database relevant to Pakistani projects was applied and compared with the quotations from potential bidders active in Pakistani hydropower markets. The cost of HSS works and equipment was built up from the estimated weight of each piece and the current manufacturing cost. The lowest of the estimates between those calculated by the consultants and quotations received from prospective suppliers is used in the feasibility study.

The estimated equipment cost involves the following:

- i) Manufacturing, overseas and inland transportation, and installation at the site
- ii) Materials for erection at the site (anchor, steel rod, support, etc.)
- iii) Factory and on-site inspection & testing, including model test, if needed.
- iv) Commissioning and testing of the plant before COD.

#### **3.1.1.3 PRELIMINARY WORKS & OTHER COSTS**

Preliminary & other Works include, inter alia, contractor mobilization, construction camps, construction plant & machinery, design cost, contractor insurance, staff salaries, overheads, and utility expenses.

#### **3.1.1.4 CONTINGENCIES**

A contingency of 5% & 2.5% has been considered for civil construction and electromechanical costs, respectively.

Package-wise detail of construction cost is shown below.

TABLE 3-3: ITEM WISE BREAKUP OF CONSTRUCTION COST

| CODE       | DESCRIPTION                                  | Total (USD) |
|------------|----------------------------------------------|-------------|
| A          | Civil Works                                  | 200,526,483 |
| 2          | Roads                                        | 5,865,143   |
| 3          | Diversion Works and Cofferdam                | 10,474,047  |
| 4          | Spillway                                     | 22,885,357  |
| 5          | Desander                                     | 34,830,052  |
| 6          | Work Adit to Penstock                        | 1,161,827   |
| 7          | Work Adit to Powerhouse                      | 813,014     |
| 8          | Access Tunnel to TBM                         | 3,122,582   |
| 9          | Access Tunnel to Cavern                      | 6,067,516   |
| 10         | Headrace Tunnel (TBM)                        | 91,451,501  |
| 11         | Headrace Tunnel (NATM), 7.4 M(D), 152 m      | 1,649,076   |
| 12         | Vertical Pressure Tunnel                     | 1,683,928   |
| 13, 14, 15 | Steel Penstock                               | 4,814,791   |
| 16         | Surge Tank D= 4.5 m                          | 143,867     |
| 17         | Surge Tank D=14 m                            | 2,785,950   |
| 18         | Powerhouse (Earth Works)                     | 5,437,320   |
| 19         | Powerhouse (Earth Works) Transformer Gallery | 967,687     |
| 18 & 19    | Powerhouse & Transformer (Support)           | 53,646      |
| 20         | Tailrace Tunnel                              | 6,319,179   |
|            | Total Cost of Civil Works                    | 200,526,483 |
|            | Contingency @5% Of Grand Total Civil Works   | 10,026,324  |
|            | Total Civil Works, Including Contingency     | 210,552,807 |
| B          | Total Cost of E&M Works                      | 107,346,332 |
| C          | Contingency @2.5% Of Total E&M Works         | 2,113,117   |
|            | Total E&M Works, Including Contingency       | 109,459,449 |
| D          | Preliminary Works & Other Costs              | 53,380,374  |

| CODE | DESCRIPTION                    | Total (USD)        |
|------|--------------------------------|--------------------|
|      | <b>Total Construction Cost</b> | <b>373,392,630</b> |

### 3.1.1.5 ASSUMPTIONS OF COST CALCULATION

- i) Exchange Rate of PKR. 175/ US\$ has been used
- ii) Unit rates calculation as per MRS 2022 (HY-1) issued by the government of Punjab in January 2022.
- iii) Quantities are calculated based on feasibility design & may change during basic and detailed design. Quantities shall be updated per the finalized basic design and presented in the EPC stage tariff.
- iv) A sales tax of 1% has been assumed on the EPC package. No other taxes and government charges are assumed in the calculation of the EPC cost of the Project.
- V) All Project costs, taxes, duties, and other calculations are made on the rates available on January 1, 2022. Any change in these parameters shall change the results of the financial model and resultant tariff.
- VI) The cost of interconnection & transmission facilities and the main metering system shall be borne by Power Purchaser and is not included in the Construction cost described above.

### 3.1.1.6 JUSTIFICATION OF CONSTRUCTION COST

- i) The construction costs have been calculated/estimated based on transparent methodology by calculating BOQs based on approved design drawings and detailed unit rate analysis using publicly available data.
- ii) Detailed scrutiny of cost estimates, quantities, drawings, and unit rates was conducted by the POE of PEDO and PPIB during multiple reviews. The Company and the consultants estimated the total construction cost of US\$ 386.37 million, however after a detailed review of the POE of PEDO and PPIB and consequent negotiations, the unit rates of certain items were reduced, resulting in approved construction cost of US\$ 373.39 million. The Company has willingly incorporated the recommendations of the POE to reduce the cost and therefore humbly requests the Authority not to reduce this cost further. The primary reasons for the cost reduction were as follows:
  - a. BOQ for certain items were adjusted
  - b. Unit rates for some items were optimized as per the recommendation of POE.
  - c. The cost of roads was optimized as per the recommendation of POE.

- iii) While BOQ and transparent calculation of unit rates should be sufficient evidence for the veracity of the "Construction Cost," compared with other similar projects, the per megawatt cost of US\$ 1.63 million is very reasonable and justified. Table 3-4 demonstrates the per megawatt cost of hydropower projects.

TABLE 3-4: COMPARISON OF CONSTRUCTION COST WITH OTHER HYDROPOWER PROJECTS

| Project Name       | Capacity (MW) | EPC Cost (US\$ M) | EPC Cost (US\$ M/MW) |
|--------------------|---------------|-------------------|----------------------|
| Kohala             | 1112.76       | 1,792             | 1.61                 |
| Karot              | 712.80        | 1,278             | 1.79                 |
| Suki Kinari        | 861.55        | 1,314             | 1.53                 |
| Azad Pattan        | 693.70        | 1,013             | 1.46                 |
| Gulpur             | 100.98        | 236               | 2.34                 |
| Patrind            | 147.00        | 290               | 1.97                 |
| <b>Asrit Kedam</b> | <b>229.00</b> | <b>373</b>        | <b>1.63</b>          |
| Shigo Kas          | 102.00        | 230               | 2.25                 |
| Arkari Gol         | 99.00         | 150               | 1.52                 |

- iv) In a recent feasibility stage tariff determination of a hydropower project, the Authority curtailed the price increase to 15% at the EPC stage. We believe that in the current situation, this criterion shall not be practicable and tenable. Furthermore, the tariff of the projects at all the stages shall be delt in accordance with Mechanism which does not warrant any cap or prudence check of the EPC Cost as far as the applicant has demonstrated that a transparent and competitive bidding process was adopted to determine the EPC Cost.
- v) The current economy and geopolitical situation have also resulted in an unprecedented hike in the cost of construction materials, and the entire world is facing significantly higher inflation. In this period of high volatility, no contractor can hold the validity of the prices for extended periods. The Company and the consultants expect significant changes in the unit rates at the EPC stage tariff determination. Keeping in view the guidelines provided by the Authority for the selection of the EPC Contractors, any such restriction is unnecessary and highly risky for the Project developers. Therefore, we humbly request the honourable Authority not to impose any such threshold on construction costs.

### 3.1.2 NON-CONSTRUCTION COSTS

Non-construction capital costs comprise all the overheads, already incurred and expected to be incurred during Project development and construction phases, for developing the Project

efficiently and completing it positively in a timely and prudent manner. The development costs include all non-construction costs and have been computed warily by the consultants and Company, keeping in view the experience, international and local best practices. While calculating these costs, NEPRA's tariff guidelines are observed/complied and explanations are provided where required.

Please note that these costs are accumulated total expenses for eight (8) years of Project development and construction period (1 year of LOI, 2 years of LOS and 5 years of construction of the Project). Total Non-Construction cost is only 16.33% of the total cost and 21.48% of the Project's construction cost. On average, the per annum cost is US\$ 10 million, which is reasonably realistic, considering the scope of work, size, location, and complexity of the Project.

All the non-construction costs have been estimated based on detailed workings and analysis, considering the Company's first-hand experience with similar projects. Such detailed analysis and breakdown can be submitted for the consideration of the Authority if required.

Two fundamental points need to be noted regarding the justification of non-construction costs.

- i) While some costs like insurance during construction, financing fees, duties, taxes and other charges, and land acquisition & resettlement costs are dependent on the size/ capacity of the project, all other non-construction costs have no linear relationship with the size or capacity of the project [e.g., Owner's Administration, engineering & supervision, owner's advisors, environment & ecology, O&M mobilization, and lender's advisors etc.]. Therefore, these nonlinear costs should not be assessed concerning the capacity or size of the Project, and instead, an absolute comparison should be made with other projects.
- ii) The percentage of non-construction cost to construction cost is higher for smaller-size projects due to reasons stated in (i) above. Therefore, a simple percentage-based comparison may lead to unrealistic results.

The breakup of the non-Construction cost is as follows.

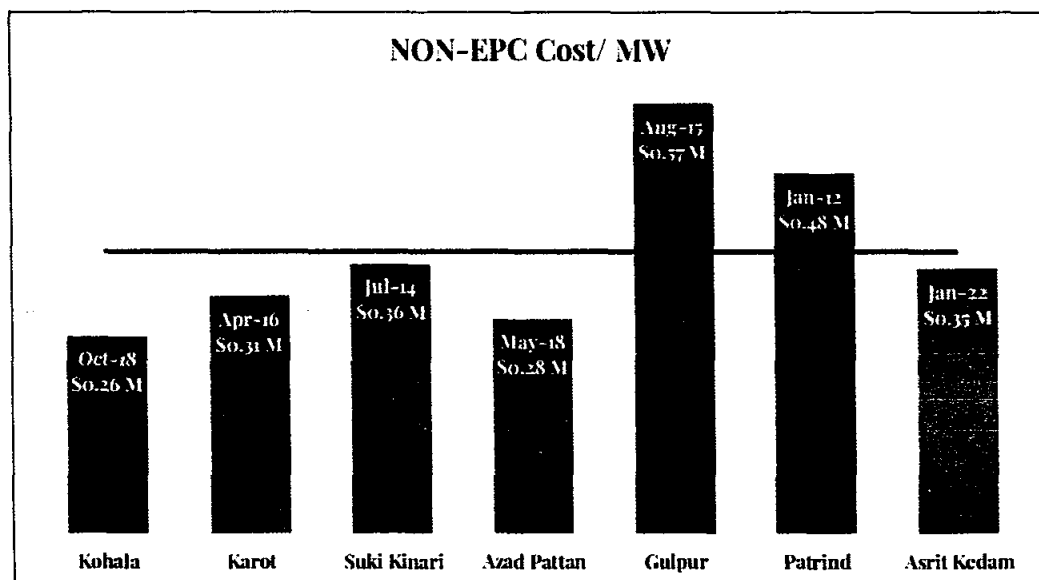
TABLE 3-5: SUMMARY OF NON-CONSTRUCTION COST

| Cost Head                       | Amount (US\$) |
|---------------------------------|---------------|
| Owner Administration/ Overheads | 16,491,642    |
| Engineering and Supervision     | 21,261,429    |
| Insurance during Construction   | 7,467,853     |
| Financing/ Lender Fees          | 8,894,119     |

| Cost Head                         | Amount (US\$)     |
|-----------------------------------|-------------------|
| Duties & Charges                  | 9,551,754         |
| Owner's Advisors                  | 2,165,642         |
| Land Acquisition and Resettlement | 3,614,143         |
| Environment & Ecology             | 2,027,851         |
| O&M Mobilization                  | 2,600,000         |
| Government Fees & Charges         | 1,331,273         |
| Lenders Advisors & Agents         | 4,801,722         |
| <b>Total - Non-EPC</b>            | <b>80,207,427</b> |

These cost estimates are based on prevailing rates and may need revision based on conditions prevailing on the EPC stage tariff of the Project. The Company shall provide the revised costs at the EPC stage tariff petition supported with comprehensive budgets and actual contracts negotiated and executed with consultants and other stakeholders.

FIGURE 3-2: COMPARISON OF NON-EPC COST OF HYDROPOWER PROJECTS



### 3.1.2.1 OWNER ADMINISTRATION/ OVERHEADS

It is estimated that an amount of US\$ 16.49 million would be needed to cover the overheads and other expenditures relevant to the administration of the Project. This cost is 3.36% of the total cost and 4.42% of the EPC Costs of the Project.

The cost under this head is realistic, considering the size, gestation period, and funding requirement, compared to other similar projects and the effort level required to complete this Project. A breakup of the expenses relevant to this head is listed below in Table 3-6.

TABLE 3-6: BREAKUP OF OWNER ADMINISTRATION/ OVERHEADS

| Sub Head                              | Amount (US\$)     |
|---------------------------------------|-------------------|
| Salaries, Wages & Benefits            | 5,754,286         |
| Management Supervision                | 5,521,600         |
| Office Rental                         | 1,176,471         |
| Travelling, Boarding & Lodging        | 920,797           |
| Office Administration Costs           | 2,265,273         |
| Site office Expenses                  | 344,791           |
| Training and Development Fee          | 108,425           |
| Meeting, Conferences & Company Events | 300,000           |
| Office Establishment Cost             | 100,000           |
| <b>Total Cost</b>                     | <b>16,491,642</b> |

This cost is spread over 8 years of development and construction time. On average, an amount of US\$ 2.06 million per annum is estimated. As explained while assessing and approving the “project development cost”, one of the fundamental points to be considered is that such costs have no linear relationship with the size of the project. However, more extended construction periods and the complexity of the projects have some bearing on this cost. The Company has used its best efforts to optimize the cost in every aspect and has claimed a cost of USD 16.49 million, which is very reasonable compared with other projects. A comparison of this cost with other projects, as approved by NEPRA, is provided below.

| Project Name       | Approved Cost (\$ M) | Development Period (yrs.) | Cost/Year (\$ M) | Year of Approval |
|--------------------|----------------------|---------------------------|------------------|------------------|
| Kohala HPP         | 53.80                | 9.50                      | 5.66             | 2018             |
| Karot HPP          | 44.74                | 8.00                      | 5.59             | 2016             |
| Suki Kinari HPP    | 37.43                | 9.00                      | 4.16             | 2014             |
| Azad Pattan HPP    | 44.65                | 8.75                      | 5.10             | 2018             |
| <b>Asrit Kedam</b> | <b>16.49</b>         | <b>8.00</b>               | <b>2.06</b>      | <b>2022</b>      |

The table above clearly demonstrates that the cost claimed by the Company under this head is significantly lower than other competing projects.

Further explanation of subheads is provided below:

#### A. SALARIES, WAGES, BENEFITS AND MANAGEMENT SUPERVISION

The Company has claimed a total cost of USD 11.28 million under this head. This cost includes the salaries, wages and employees' benefits, provident fund and gratuity for 8 years.

This head also includes the cost of Korean expat employees whom the sponsors depute in Pakistan to manage and supervise the project under the management supervision contract. The Company has hired an experienced and reputable project team, and Korean expats also have significant experience in overseas project development of this nature and magnitude. It must be appreciated that a typical IPP project requires a similar number of employees with a similar cost at the SPC level, regardless of the size of the project. In the case of the Kohala Hydropower Project, the honourable Authority has approved a cost of US\$ 27.0 million under this head. The cost claimed by the Company is significantly lower than the available precedents.

#### B. TRAVELLING, BOARDING AND LODGING

This cost relates to travelling, boarding, and lodging both inland and overseas during development. The Company requires international travel to negotiate and finalise Project financing, construction contracts, insurance, and O&M contracts. We want to highlight that no Company employee is authorized to travel in business class to optimize this cost.

#### C. OFFICE ADMINISTRATION COST

This head includes the cost associated with printing and stationary, general office supplies, computers and IT equipment, business and office meals, utilities, communication and repair and maintenance. A total cost of US\$ 2.26 has been estimated under this head.

#### D. SITE OFFICE EXPENSES

A cost of US\$ 344,791 has been claimed under this head to primarily cover the site office's overheads. A site office shall be established on the Project site to perform the activities relating to land acquisition, community relations and complaints, accommodation of consultants and other stakeholders and utilities etc. This cost shall essentially save the hoteling, boarding and lodging expenses.

#### E. TRAINING AND DEVELOPMENT FEE

This cost head relates to the training, development, team building, and workshops for the staff to create a better working environment within the organization.

#### F. MEETINGS, CONFERENCES AND COMPANY EVENTS

This cost relates to various activities like ground-breaking, inauguration ceremonies, participation in conferences, award ceremonies etc.

### 3.1.2.2 ENGINEERING AND SUPERVISION COST

Hydropower projects require extensive design management to make them successful; therefore, all-embracing upfront design undertakings must control the quality and pace of Project development and construction activities. Synchronization of construction and design work with EPCC, PPA requirements and prudent practices is necessary for the success of the Project. Every hydropower project is custom-designed, and the role of the engineering and supervision team remains active throughout the Project development & construction period. The Company has claimed following costs under this head:

TABLE 3-7: BREAKUP OF ENGINEERING AND SUPERVISION COST

| Sub Head                            | Amount (US\$)     |
|-------------------------------------|-------------------|
| Owners Engineer                     | 14,519,643        |
| Feasibility Acquisition Cost        | 5,650,000         |
| Feasibility Update                  | 668,929           |
| PPA Engineer and Re-opener Verifier | 394,286           |
| Independent Consultant for EPC      | 28,571            |
| <b>Total Cost</b>                   | <b>21,261,429</b> |

#### A. OWNERS' ENGINEER

The role of the owners' engineer ("OE") is critical in EPC arrangements. The primary scope of work of OE includes a detailed review of basic design and detailed design, construction supervision, approval of completed milestones, contract compliance and assuring that the Project is constructed as per agreed project requirements, technical specification of the PPA and Grid Code. Most of the design review services are carried out offshore, while construction supervision is carried out on-site with the combination of local and ex-pat staff to ensure the timely completion of the Project. In view of the extensive experience the international consultants take the lead role while local consultants provide support and other services in less critical areas.

KOEN has direct experience working with international OE on the Gulpur hydropower project, where a total cost of US\$ 13.50 million was incurred, even though the construction period for the referred project was 4 years compared to 5 years of this Project.

Secondly, a critical point to mention here is that level of effort required by OE concerning design review is almost similar in all hydropower Projects; however, the construction period of hydropower Projects has a direct bearing on the level of effort and cost of OE because the OE

Staff shall stay longer on site. A comparison of the cost of Owners Engineer with other Projects is provided below:

TABLE 3-8: COMPARISON OF OE COST OF HYDROPOWER PROJECTS

| Project Name | OE Cost (US\$ Million) |
|--------------|------------------------|
| Kohala       | 20.70                  |
| Karot        | 18.00                  |
| Suki Kinari  | 33.38                  |
| Azad Pattan  | 20.70                  |
| Gulpur       | 13.50 <sup>3</sup>     |
| Asrit Kedam  | 14.50                  |

From the above comparison, it can be demonstrated easily that the requested cost of US\$ 14.5 million is justified for the Project, and we would humbly request the honourable Authority to approve this cost.

#### B. FEASIBILITY ACQUISITION COST

The Company has requested a cost of 5.65 million under this head. As a background, it is apprised that the Project was initially awarded to Younas Brothers Group ("YBG") for development in 2007. YBG developed the Project until 2016 and, during this time, conducted a detailed feasibility study. PPIB cancelled the LOI of the Project via letter ref. 1(101) PPIB-2020-04/17/PRJ/0-48785, dated May 4, 2017 [attached as Appendix-XVIII], following which the Project was transferred to GOKPK. The GOKPK awarded this Project to KOEN under Power Policy 2015 and Power Policy 2016. In this respect, a tripartite Feasibility Rights Purchase Agreement [Attached as Appendix XXI] was signed as per applicable policy among YBG, PEDO and KOEN, under which the Company agreed to pay US\$ 5.65 million to YBG for the purchase of the feasibility study.

The Authority had previously allowed this kind of arrangement in the Kohala Hydropower Project case when the feasibility study was purchased from WAPDA at the cost of USD 9 million. Keeping in view the same precedent, the Company requests the approval of US\$ 5.65 million to purchase the feasibility study cost. Clause 14 of Khyber Pakhtunkhwa Hydropower Policy, 2016 also endorses claiming this as an eligible project cost.

<sup>3</sup> The approved cost was US\$ 9 million however, the actual expense incurred is shown here. The construction period of Gulpur hydropower project was four years.

### C. FEASIBILITY UPDATE

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Initially, the Feasibility Study was conducted in 2007 and approved by the PPIB Panel of Experts via letter ref. 1(101) PPIB-2017-01/08/PJR, dated December 29, 2008 [Attached as Appendix XVI]. GOKPK and PEDO required the Company to update the feasibility study under the terms of the LOI issued to Company. The primary reason was that the hydraulic and geotechnical profile of the area was significantly affected by the unprecedented flood of 2010 in the Swat area. Additionally, NEPRA also returned the tariff petition of the Project via letter ref. NEPRA/R/TRF-100/AKHPL/14959, dated November 9, 2016 [Attached as Appendix XVII], based on the same premise that the feasibility study needs to be updated. The Company has claimed a total cost of US\$ 668,929 for the update and review of the feasibility study. The update was carried out by SAMAN Engineering of Korea and reviewed by Fichtner of Germany.

### D. EPC BIDDING DOCUMENTS REVIEW

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As mentioned in Section 2.6.8, the Company has already started the EPC Bidding process and has appointed the OE and Independent Consultant. The OE has reviewed the technical requirements of the Project and the Independent Consultant is playing its role as per NEPRA EPC Guidelines.

The Company has reasonably estimated the cost under this head for the services provided by the OE and Independent Consultant amounting to US\$ 28,571 and requests approval for the exact cost.

### E. INDEPENDENT ENGINEER AND REOPENER VERIFIER

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Under the term of the Power Purchase Agreement, the Company is required to pay for the services of an Independent Engineer (PPA Engineer) and reopener verifier. Both consultants directly report to the Power Purchaser; however, the Company must bear the cost. The role of the PPA engineer is to witness and approve the commissioning test and to certify that COD has been achieved. Additionally, the PPA engineer verifies that the complex's construction is completed in all material respects.

The role of the Reopener Verifier is to monitor and assess the quantum and cost of reopeners, valuating the material cost escalation and tunnel cost variation. The Company has claimed a cost of US\$ 394,286 under this head, which is consistent with Projects like Gulpur, Karot, and Kohala Hydropower Project.

#### 3.1.2.3 INSURANCE DURING CONSTRUCTION

Considering the long gestation period, higher construction risk, and political risks prevailing in the KPK, the consultant has assumed 2.0% of the EPC Cost as minimum Insurance during Construction expenditure. This component covers the following risks.

- i) Construction All Risk Insurances
- ii) Marine and Inland Transit Insurance
- iii) Marine- Delay-In Start-up Insurances
- iv) CAR Delay in Start- up Insurance
- v) Terrorism Insurance
- vi) Comprehensive General Liability

The total amount for this head is US\$ 7.47 million, which shall be updated on the EPC stage tariff proposal based on the firm EPC cost and prevailing insurance rates.

We would like the honourable Authority to appreciate that the number of insurers willing to provide insurance for hydropower projects has always been limited, with many considering it too risky. In comparison with other technologies, hydropower has some unique characteristics which have made the availability of insurance cover extremely limited. Some of the significant concerns raised by insurance companies are as follows:

#### A. RECENT LOSSES

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Recently insurers have reported as loss ratio of well more than 100%, with some reporting loss ratios of up to 300%. Some recent examples of these losses include the Ituango hydropower project in Columbia, the PNPC hydropower project in Laos, the Tapovan Hydropower in India, and the number of tunnel collapse incidents in Vietnam, China, Scotland, and Ethiopia. These losses and inherent risks have diminished the possibility of getting insurance at reasonable rates.

#### B. SITE CONDITIONS AND SITE QUALITY

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Specific site condition especially flooding risk is a major concern of insurers worldwide. They prefer that during the construction period, the temporary structure should be designed at a return period of 1:20 years so that some variation margin remains. The situation puts the Sponsors in a severe quagmire; on the one hand, they are constrained to complete the project quickly and optimize the cost, while on the other hand, implementing a 1:20-year return period results in higher cost and time. Therefore, balancing insurance perception and avoiding additional costs always increases insurance premiums.

Additionally, based on the response from several reinsurers, the Swat area falls at high risk for earthquakes and GLOF. Additionally, this area has remained prone to insurgency and terrorism; therefore, many reinsurers are unwilling to participate in this risk.

### C. DELAY IN START-UP COVER

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Insurers consider this coverage an extremely elevated risk as even a tiny incidence or physical damage can delay the project exposing the insurers to a significant claim of loss of revenue.

### D. RISK ALLOCATION

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Under the turnkey lump sum contracts, more risk of ground condition area is allocated to the contractor, which sometimes results in higher EPC prices and makes the contractor uncompetitive. Recently contractors are not willing to take "Cost" risks and demand more fair risk allocation, which naturally resulted in higher insurance premiums.

### E. COUNTRY RISK

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The Company has contacted about 10 leading insurance companies to get the initial quotes; however, due to aforesaid situation, nine out of ten reinsurers have denied participating in this Project. The primary reason for non-inclusion includes the earthquake area, GLOF Risk, Political Instability, Insurgency and terrorism risk, and the current economic situation resulting in high exchange risk and the ability to get SBP and SECP approvals for USD remittance.

A more worrisome issue is that top reinsurers like Munich Re and Swiss Re are unwilling to participate in Pakistan-based hydropower projects as lead insurers. We have received only one quote, which amounts to US\$ 21.5 million (% 5.77 of EPC) with high deductibles [Attached as Appendix-XX with this Tariff Petition]. We hope that this situation shall improve in next year and we may be able to get better quotes. We are also planning to do a roadshow to convince the lead insurers.

The explanations above clearly demonstrate that getting the full coverage of insurance at the rate of 2% of EPC cost is not practically possible. Therefore, the Company shall request the waiver of the 2% cap on insurance at the EPC stage tariff once the firm insurance quotes are received.

#### 3.1.2.4 FINANCING/ LENDER FEES

An amount of US\$ 8.89 million, which is 2.5% of the base debt of the Project, is considered as expected financing and consultancy fee for the Project. The Project is proposed to be 80% financed by foreign debt through MDBs, and this is the minimum fee expected to be paid under the above-listed heads. However, finalized costs based on actual loan agreement and terms sheet shall be updated and presented in the EPC stage tariff petition.

We would like to highlight that the 2.5% cap proposed by NEPRA for financing fees does not work for small and medium-sized projects like Asrit Kedam. While it is acknowledged that commitment fees and front-end fees are linked with Project cost and financing amount, the other fees like working fees, monitoring fees, out-of-pocket expenses, and waiver fees are

independent of the project and have no linear relationship with financing amount or project cost. Therefore, projects with more significant financing amounts are given extra room to fund these costs in a discriminatory manner. This point is further established by the fact that estimated calculations of financing fees & charges work out as 2.5% for the Project.

Therefore, it is humbly requested that Authority reconsider this approach at the EPC stage tariff application and approve the actual incurrence of cost to keep the true spirit of the cost-plus tariff regime.

### 3.1.2.5 DUTIES AND TAXES

Per standard rates allowed by Policy and NEPRA, an import duty of 5% and Sind Infrastructure Cess of 1.15% have been assumed to calculate the cost under this head. This head also includes the other sales tax payable by the Project. Therefore, the total amount in this head is US\$ 9.55 million, which has been used to calculate the base Project cost.

TABLE 3-9: BREAKUP OF DUTIES & TAXES

| Sub Head                  | Amount (US\$)    |
|---------------------------|------------------|
| Custom Duties @5%         | 4,729,941        |
| Sind Infrastructure Cess  | 1,087,886        |
| Sales Tax on EPC Contract | 3,733,926        |
| <b>Total Cost</b>         | <b>9,551,754</b> |

Due to variations in sales tax rates for CPEC and non-CPEC projects, this cost has been assumed to be 1% of the EPC cost of the Project. The Company shall try to opt for a concessionary sales tax rate for CPEC projects and shall finalize this aspect of cost on the EPC stage tariff of the Project. We understand that in the Gulpur hydropower project, NEPRA has allowed a 1% sales tax, though it is a non-CPEC project.

### 3.1.2.6 OWNER'S ADVISORS

The advisor's role is crucial in the smooth sailing of any infrastructure project. Therefore, US\$ 2.17 million has been reserved under this head which shall be consumed during 8 years of development and construction. This amount is 0.44% of the total Project cost and 0.58% of the EPC cost of the Project.

Fees for the following advisors and consultants are covered under this head.

TABLE 3-10: BREAKUP OF OWNER'S ADVISOR COST

| Sub Head                             | Amount (US\$)    |
|--------------------------------------|------------------|
| Legal Advisor – English Law          | 200,000          |
| Legal Advisor – Pakistan Law         | 560,993          |
| Legal Advisor – South Korea          | 75,000           |
| Tax Consultants and Advisor          | 69,972           |
| Advisor on KPK Affairs               | 1,000,000        |
| Audit Charges                        | 103,212          |
| Other Legal and Professional Charges | 156,464          |
| <b>Total Cost</b>                    | <b>2,165,642</b> |

It must be appreciated that, as such, the advisor's costs are not linked with project capacity or project cost, and NEPRA has allowed significantly higher costs to larger projects under this head. In this context, the Company's claim of this cost is justified and reasonable.

### 3.1.2.7 LAND ACQUISITION & RESETTLEMENT

An amount of US\$ 3.61 million is assessed to acquire the land for the development of the Project and related resettlement, which is 0.74% of the total Project cost and 0.97% of the EPC cost of the Project. Details of costs are as follows.

TABLE 3-11: BREAKUP OF LAND ACQUISITION &amp; RESETTLEMENT

| Sub Head                      | Amount (US\$)    |
|-------------------------------|------------------|
| Compensation of Land          | 2,417,791        |
| LA compulsory charges @ 15%   | 362,669          |
| Cost of Affected Structures   | 445,329          |
| Cost of the Affected Crops    | 30,929           |
| Cost of the Affected Trees    | 102,667          |
| Business/Transition Allowance | 26,930           |
| Monitoring and Evaluation     | 169,316          |
| Administration Cost           | 33,863           |
| LARP Update Cost              | 24,650           |
| <b>Total Cost</b>             | <b>3,614,143</b> |

The Company has assessed the cost of land acquisition and resettlement based on the survey carried out during ESIA and LARP preparation. This cost includes compensation for land, cost of affected structures, trees, crops, business/transfer allowances, admin costs and numerous studies.

It may be noted that the estimation of land and other items is based on the feasibility study, and these requirements may change once the basic design is finalized. The Company shall submit the updated requirement in the EPC Stage tariff petition time per the NEPRA guidelines. The cost of land and compensation may change at the time of actual acquisition and payment, which shall be allowed as per actual cost incurred as an adjustment in reference tariff at COD as explained in Section 6.2 of this Tariff Petition.

*Note: The cost for Forest Land and its compensation cost according to NOC from Forest Department GoKP will become part of this Land acquisition and resettlement cost.*

### 3.1.2.8 ENVIRONMENT & ECOLOGY

During the Project implementation, environmental and social impacts would be experienced primarily during the construction and operation phases. The potential significant impacts on the social, physical, and biological environment during the construction and operation phases shall be reduced/mitigated to acceptable levels through the implementation of ESMS and ESMPs.

At this stage of the Project, an amount of US\$ 2.03 million is estimated to mitigate/ reduce the environmental and ecological impacts. This cost shall be refined through further studies during the LOS period and presented to NEPRA at the EPC stage tariff.

TABLE 3-12: BREAKUP OF ENVIRONMENT & ECOLOGY COST

| Sub Head                                               | Amount (US\$) |
|--------------------------------------------------------|---------------|
| Lender Studies (Due diligence + Miscellaneous Studies) | 307,486       |
| EIA Fees and Public Hearing Arrangements               | 8,571         |
| Biodiversity Action Plan and Implementation            | 153,000       |
| Construction and upgradation of the fish hatchery      | 78,171        |
| Fish Seed Cost -(Fisheries Department)                 | 50,000        |
| Hiring of Monitoring and Evaluation (M&E)              | 200,000       |
| Stakeholders Engagement Plan Implementation            | 100,000       |
| Development of ESMS including ESMPs                    | 35,000        |
| Lender's Monitoring, and Auditing                      | 268,714       |

| Sub Head                                    | Amount (US\$)    |
|---------------------------------------------|------------------|
| Social Investment Programs                  | 400,000          |
| Environmental Monitoring and Testing Cost   | 27,789           |
| Tree Plantation Cost                        | 33,120           |
| Forest Dept Trees Compensation cost         | 35,000           |
| Human Resourcing & Strengthening Cost       | 70,000           |
| Tourism Management Plan                     | 120,000          |
| Implementation of Watershed Management Plan | 141,000          |
| <b>Total Cost</b>                           | <b>2,027,851</b> |

**A. LENDER STUDIES (DUE DILIGENCE + MISCELLANEOUS STUDIES):**

During the implementation of the Project until COD, the Company is required to carry out a significant number of studies, including an Update of EIA as per lender's requirements which include revision of the Environment and Social Impact Assessment, Climate Change Assessment, Cumulative Impact Assessment (CIA), seasonal survey, dam break studies, Ecological flow assessment etc.

**B. EIA FEES AND PUBLIC HEARING ARRANGEMENTS:**

This cost of US\$ 8,571 reflects the ESIA fee and expenses incurred on arrangements of Public Hearings etc.

**C. BIODIVERSITY ACTION PLAN DEVELOPMENT AND IMPLEMENTATION**

It is expected that lenders and other stakeholders shall require the Company to study and implement the protection measures (like protection, inspections, and awareness etc.) comprehensive BAP for the protection of the area's biodiversity (including flora and wildlife etc.). This cost relates to the preparation and implementation of BAP & would be more precisely known at the EPC Stage Tariff once lenders are on board and more studies are done. Construction and upgradation of the fish hatchery are part of the BMP implementation measures and obligations under the NOC issued by the fisheries department of GoKPK to mitigate the damage and maintain the trout fish population.

**D. CONSTRUCTION AND UPGRADATION OF THE FISH HATCHERY:**

This requirement has been imposed by the fisheries department of GoKP and is a condition for approval. This hatchery shall be constructed to mitigate the damage and maintain the trout fish population.

#### E. FISH SEED COST –(FISHERIES DEPARTMENT):

This requirement has been imposed by the fisheries department of GoKP and is a condition for approval. The fish seed is to be provided to the fisheries department of GoKPK on annual basis.

#### F. MONITORING AND EVALUATION (M&E):

Once the EMP and BAP are implemented on-site, the Company is required to hire reputable monitoring and evaluation consultants to monitor and evaluate the performance of such a plan. M&E consultant shall also report to the Project lenders.

#### G. STAKEHOLDERS MANAGEMENT PLAN IMPLEMENTATION:

A continuous engagement with all stakeholders, Government and Community is significant for the success of the Project. Based on this engagement and input, continuous improvement is made in various EHS plans to implement this program. For this purpose, the Company has allocated an amount of US\$ 100,000 during the construction period.

#### H. DEVELOPMENT OF SITE-SPECIFIC MANAGEMENT PLAN:

The Company shall develop ESMS and SSMPs to run the environment and social matters according to Lender's requirements. The Company and Contractor shall jointly develop site-specific management plans, including health & safety plans, contingency plans, environmental and social action plans, security management plans, emergency preparedness and response plans, and stakeholders' engagement plans. Various consultants and the house team shall jointly develop these plans. A cost of US\$ 35,000 has been allocated for preparing these plans.

#### I. LENDERS MONITORING COST:

During the construction of the Project, lenders and their advisor's team visit the site quarterly to monitor the environment and social monitoring performance. A cost of US\$ 268,714 has been allocated under these heads.

#### J. SOCIAL INVESTMENT PROGRAM:

In our humble opinion, one of the critical success factors in successfully implementing hydropower projects is engaging the community respectably and compassionately. Worldwide many projects have failed or been delayed due to lesser emphasis on community engagement. The Sponsors have already pledged US\$ 1 million to implement a comprehensive CSR program during construction. This step is unprecedented in that any sponsor has pledged this amount early, and we believe this amount is significant, considering the project's size.

However, considering the area's shallow socioeconomic profile and infrastructure, a joint effort is required to uplift the socioeconomic profile. Therefore, we have requested a contribution of US\$ 0.4 million in the Project cost to fulfil the CSR efforts of the Company. This additional amount shall have a negligible effect on a consumer tariff, but we believe that it shall create an enormous impact on the local community and this action by Authority and federal government shall be appreciated at all levels.

#### K. ENVIRONMENTAL MONITORING AND TESTING COST:

This cost of US\$ 27,789 refers to the testing cost (water, noise, air pollution) etc., to be carried out during the whole construction period every quarter as per the requirements of the environmental management plan.

#### L. TREE PLANTATION COST:

This cost refers to the tree plantation required as per ESIA. There are two types of tree plantation, i.e., plantation relating to the damage of trees of forest land and tree plantation required for the trees affected for other lands. The Company is required to plant ten times the damaged trees.

#### M. FOREST DEPARTMENT TREE PLANTATION COST:

This cost refers to the tree compensation required as per the Forest department of GoPKP and is a condition for approval.

#### N. HUMAN RESOURCING AND STRENGTHENING:

The Company would be required to hire resources from the local community, including community liaison officers and social mobilizers. Additionally, resources relating to the HSE shall also be stationed at the site to monitor the HSE performance of the EPC Contractor. This cost relates to these human resources.

#### O. TOURISM MANAGEMENT PLAN:

It is to appreciate that the Project is implemented in the hardcore tourist area as Swat is one of the most popular tourist destinations in Pakistan. Hydropower and tourism complement each other very well. The Company plans to incorporate a tourism management plan within the Project to explore the possibility of improving the area's tourism infrastructure. Additionally, some of the tourism activities are expected to be affected by the implementation of the Project. One of the purposes of having a tourism management plan is to offset such effects. An amount of US\$ 120,000 has been allocated in this respect, which shall include preparing and implementing the tourism management plan.

## P. IMPLEMENTATION OF WATERSHED MANAGEMENT PLAN

The BMP for the Project shall include the establishment of integrated watershed management subject to the approval of the cost of the tariff by NEPRA. Integrated Watershed Management if recommended as part of the BMP may include strategic replantation for slope stabilization. Integrated Watershed Management is needed for the catchment area.

### 3.1.2.9 O&M MOBILIZATION

Onsite mobilization of the O&M contractor is expected at least 9 months before the start of commercial operations of the Project. An amount of US\$ 2.6 million is reserved to cover the expenses expected to be incurred during the mobilization period of the O&M contractor before the start of the entire commercial operations of the Project. Please note that annual O&M cost of the Company is US\$ 7.4 million, and this cost is about 35% of the annual O&M cost. Keeping in view nine-month period this cost is reasonable and justifiable.

### 3.1.2.10 GOVERNMENT FEES & CHARGES

An estimated US\$ 1.3 million is required to be paid under this head. The amount payable includes different fees to PPIB, NEPRA, PEDO, PESCO, NTDC and other stakeholders during the development of the Project and related facilities.

TABLE 3-13: BREAKUP OF GOVERNMENT FEES & CHARGES

| Sub Head                            | Amount (US\$)    |
|-------------------------------------|------------------|
| NEPRA Fees                          | 273,291          |
| PPIB Fee                            | 611,650          |
| Transmission Line Survey Charges    | 150,000          |
| NTDC Interconnection Review Charges | 28,571           |
| Stamp Duties                        | 28,571           |
| Competition Commission Fee          | 11,429           |
| SECP Fees                           | 227,761          |
| <b>Total Cost</b>                   | <b>1,331,273</b> |

#### A. NEPRA FEE

This represents the fee required to be paid by the Company on annual basis under "National Electric Power Regulatory Authority (Fees) Regulations, 2021" to NEPRA till COD. This fee also includes NEPRA fee required to be paid with the application for generation license and with the submission of 3 stage tariff petitions applicable for hydropower projects.

**B. PPIB FEE**

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This represents the fee to be paid to PPIB at various stages of development. The fee is required to be paid under Private Power and Infrastructure Board (Fee and Charges) Rules, 2018 upon the issuance of LOS, FC, COD, and other expected fee during the life of the development.

**C. TRANSMISSION LINE SURVEY CHARGES**

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The Company is required to pay such cost for transmission line survey charges conducted by PESCO and PEDO for cascade.

**D. NTDC INTERCONNECTION REVIEW**

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The Company is required to pay such cost at the time of approval of interconnection study by NTDC.

**E. STAMP DUTIES**

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For the registration of security agreements, finance agreements and registration of mortgage, the Company is required to pay under the Stamp Duty under The Stamp Act 1899

**F. COMPETITION COMMISSION FEE**

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Being one of the condition precedents for FC, the Company is required to take clearance from Competition Commission of Pakistan under the Competition Act, 2010 to ensure that Company's agreements are prohibiting the Project developers to be in any dominant position.

**G. SECP FEE**

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The Company is required to pay SECP a fee upon its increase of authorized share capital. The authorized share capital shall be the same increase upon each equity injection and shall go up to maximum of equity required for the Project. The fee is calculated keeping in view the equity required at the feasibility stage and may increase at EPC Stage.

**3.1.2.11 LENDERS ADVISORS & AGENTS**

The Project is proposed to be 80% financed through debt, and lenders have a higher-risk portfolio than other stakeholders. To conduct the due diligence and continuous monitoring of the Project activities and progress, lenders require advisors during the LOS and construction phases, the cost of which must be allocated in the main pool.

For this purpose, US\$ 4.8 million is allocated to the non-EPC cost of the Project. The following lender's advisors and agents are covered under this head.

TABLE 3-14: BREAKUP OF LENDERS ADVISORS &amp; AGENTS

| Sub Head                     | Amount (US\$)    |
|------------------------------|------------------|
| Technical Advisor            | 1,180,034        |
| Insurance Advisor            | 129,149          |
| Security Trustee Fee         | 352,828          |
| Intercreditor Agent fee      | 394,578          |
| Legal Advisor - English Law  | 1,341,245        |
| Legal Advisor - Pakistan Law | 240,485          |
| Out of Pocket Expenses       | 49,902           |
| Financial Model Auditor      | 25,000           |
| Syndication/ Arrangement Fee | 998,501          |
| Offshore Account Bank        | 90,000           |
| <b>Total Cost</b>            | <b>4,801,722</b> |

This breakup and total cost are tentative only and shall be finalized at the EPC stage after negotiations with lenders and consultants.

### 3.2 OPERATING COSTS

Operating costs shall be incurred periodically during the operations phase of the Project, i.e., after the successful commissioning of the Project. These are estimated minimum costs required for the successful operations of the Project. Following is the summary of the operating costs of the Project.

TABLE 3-15: SUMMARY OF OPERATING COSTS

| Cost Head                              | Amount (US\$)     |
|----------------------------------------|-------------------|
| Water Use Charges                      | 2,294,174         |
| O&M Cost (Variable & Fixed)            | 7,364,517         |
| Insurance Expense                      | 3,733,926         |
| <b>Total Annual Operating Expenses</b> | <b>13,392,617</b> |

These costs represent initial estimates that may change/ be refined during the Project's development period. The Company shall demonstrate the updated and more accurate budgets at the EPC stage tariff petition of the Project.

### **3.2.1 WATER USE CHARGES**

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Section 5 of the Power Policy 2016 mentions that WUC is assumed to be payable @ Rs. 0.425/kWh by the Company to GoKPK. As per the referred section, the rate of WUC shall be reviewed every five years by the GoKPK to determine if an increase in WUC is necessary.

For the calculation of the reference tariff of the Project, it is assumed that WUC shall stay the same throughout the concession period, and any change in rate shall be considered a pass-through item.

### **3.2.2 O&M COST**

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An annual O&M cost of US\$ 7.4 million has been assumed @ 1.5% of the total Project cost. This cost includes the amount payable to the O&M contractor and covers the administrative and other overheads of the Company.

Variable O&M is estimated at US\$ 0.74 million per annum, which is 10% of the total annual Operations & Maintenance costs of the Project. Out of total variable cost, 60% is assumed to be incurred in foreign currency, which amounts to US\$ 0.44 million. The remaining amount of US\$ 0.3 million shall be incurred in local currency.

Fixed O&M cost is 90% of the Project's total operations & maintenance cost and amounts to US\$ 6.63 million per annum. It is estimated that 60% of this cost, i.e., US\$ 3.98 million, shall be incurred in foreign currency. The remaining US\$ 2.65 million, i.e., 40% of the total fixed O&M, shall be incurred in local currency.

### **3.2.3 INSURANCE COST**

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Insurance during operations cost has been assumed at 1% of the EPC cost of the Project, amounting to US\$ 3.73 million per annum.

The Company has explained the situation of the insurance market and the availability of hydropower insurance in section 3.1.2.3. We believe that a cap of 1% for operating phase insurance is insufficient for the Project due to its remote location and continued risk of flooding, sedimentation, GLOF, seismic activity and insurgency.

In the case of the Gulpur Hydropower Project, the insurance cost increased by about 200% in the last two years, which translates into 2% of the EPC Cost. The Company shall submit the detailed cost and justification of insurance cost at the EPC Stage tariff and request the Authority's consideration.

### 3.3 COST OF CAPITAL

The cost of Capital of the Project is the weighted average of costs of all funding sources. At this stage of the Project, only debt and equity are considered as funding sources, and the proposed capital structure consists of 80% debt and 20% equity. This capital structure is tentative only and may change after negotiations with lenders; however, it shall stay within limits defined by NEPRA.

FIGURE 3-3: REFERENCE LIBOR RATE FOR PROJECT

**LONDON: London Interbank Offered Rates (LIBOR) on Thursday (September 30, 2021).**

| 52-Week         |         |         |         |         |
|-----------------|---------|---------|---------|---------|
|                 | Latest  | Wk Ago  | High    | Low     |
| Libor Overnight | 0.07025 | 0.07250 | 0.08738 | 0.05425 |
| Libor 1 Week    | 0.07250 | 0.07025 | 0.10838 | 0.05788 |
| Libor 1 Month   | 0.08238 | 0.08325 | 0.15863 | 0.07263 |
| Libor 2 Month   | 0.11025 | 0.10800 | 0.19400 | 0.09263 |
| Libor 3 Month   | 0.13088 | 0.12925 | 0.25388 | 0.11413 |
| Libor 6 Month   | 0.15738 | 0.15550 | 0.26663 | 0.14663 |
| Libor 1 Year    | 0.24063 | 0.22525 | 0.36013 | 0.21950 |

Sources: FactSet, ICE Benchmark Administration

Debt is assumed to be 100% foreign debt with a benchmark LIBOR rate of 16 bps<sup>4</sup> and spread of 460 bps. Debt and equity drawdowns are assumed on a bi-annual basis, and debt drawdowns are assumed to start after the Project's financial close.

TABLE 3-16: PROJECT FINANCING BY SOURCE OF FUNDS

| Description        | Share % age | Amount (US\$) |
|--------------------|-------------|---------------|
| Total Equity       | 20%         | 98,259,757    |
| Total Debt         | 80%         | 393,039,027   |
| Total Project Cost | 100%        | 491,298,783   |

All expenses before the Project's financial close shall be met from equity injection by the sponsors of the Project. The cost of equity is assumed to be 17% on all the equity injections starting 30 months before the Project's financial close. The justification of claimed cost of equity is explained in Section 3.3.2.

<sup>4</sup> The Reference Date for LIBOR is September 30, 2021

Considering the above capital structure and cost of debt & equity, the weighted average cost of capital for the Project results in 7.21 %.

TABLE 3-17: CALCULATION OF WEIGHTED AVERAGE COST OF CAPITAL

| S. No | Description                              | Amount  |
|-------|------------------------------------------|---------|
| 1     | Reference LIBOR Rate                     | 16 bps  |
| 2     | Spread on Prime Rate                     | 460 bps |
| 3     | Cost of Debt (1+2)                       | 476 bps |
| 4     | Share of Debt in Total Cost              | 80%     |
| 5     | Corporate Tax Rate                       | 0%      |
| 6     | Weighted Cost of Debt [3 x (1-5) x 4]    | 3.81%   |
| 7     | Cost of Equity                           | 17%     |
| 8     | Share of Equity in Total Cost            | 20%     |
| 9     | Weighted Cost of Equity (7 x 8)          | 3.4%    |
| 10    | Weighted Average Cost of Capital (6 + 9) | 7.21%   |

### 3.3.1 FUNDS INJECTION SCHEDULE

It is assumed that Project shall reach the LOS stage by June 2023. 18 months is assumed for the Project's financial close, which means that the Project shall achieve the financial close by December 2024. A construction period of 5 years shall result in commercial operations of the Project in December 2029. The concession Period is assumed as 30 years, starting from COD, which means that Project shall be transferred to the government in December 2059.

Capital cost outflow from the Company shall start from the LOI date and shall end on the COD of the Project. No loan contribution is expected during the development period, and all cash expenditure shall be met from financing through equity. After the financial close, the banks shall contribute per the capital structure finalized for the Project, which is assumed as 80:20 at this stage.

TABLE 3-18: EQUITY &amp; DEBT DRAWDOWN SCHEDULE (US\$ MILLIONS)

| Period Ending | Equity Amount | Debt Amount | Total Funds |
|---------------|---------------|-------------|-------------|
| Dec-22        | 0.40          |             | 0.40        |
| Dec-23        | 0.40          |             | 0.40        |

| Period Ending | Equity Amount | Debt Amount   | Total Funds   |
|---------------|---------------|---------------|---------------|
| Dec-24        | 1.60          |               | 1.60          |
| Dec-25        | 8.94          | 36.71         | 45.65         |
| Dec-26        | 13.79         | 56.60         | 70.39         |
| Dec-27        | 18.93         | 77.65         | 96.58         |
| Dec-28        | 32.29         | 132.42        | 164.70        |
| Dec-29        | 21.91         | 89.66         | 111.56        |
| <b>Total</b>  | <b>98.26</b>  | <b>393.04</b> | <b>491.30</b> |

The above schedule (Table 3-18) is provided only for reference purposes. The Company shall submit the updated equity disbursement schedule at the EPC stage tariff & actual drawdowns on the COD stage tariff. As per NEPRA guidelines and practices, ROE DD and ROE DC shall be adjusted at COD as per the actual drawdowns of equity.

### 3.3.2 JUSTIFICATION OF 17% IRR

KOEN, the Project's main sponsor, is a reputable international investor and has experience investing in several countries. The applicant is concerned that no official document, except for "Concept Paper on Determination of Rate of Return for Power Sector" by NEPRA, can explain the basis of IRR calculation. The approved IRR for different hydropower projects ranges between 13%-17%. The applicant has requested an IRR of 17%, which has been justified from various perspectives. In the following sections, we have attempted to give an overall viewpoint on IRR for the consideration of honourable Authority so that an informed decision can be taken to attract the FDI in Pakistan.

In the cost-plus tariff regime, the IRR allows sponsors to consider the proposed investment's sufficiency and bankability. Several factors affect the IRR of the investors, and consideration should be given to attract the much-needed FDI in the country.

Some of the key factors in this respect are as follows:

- i) Economic and Political Stability and its impact on foreign direct investment and required rate of return.
- ii) Sector-Specific Risks and its impact on IRR
- iii) Hydropower-Specific risks and its impact on IRR
- iv) Gross IRR vs Net IRR – the impact of cost overruns, delayed payments, sponsor's costs and taxes on IRR

- v) Testing the consistency of “IRR” with internationally acceptable criteria like CAPM, UNFCCC hurdle rates, sovereign default risks, and default spread

### 3.3.2.1 ECONOMIC AND POLITICAL STABILITY

The investment made by KOEN in Pakistan is a “Foreign Direct Investment”, which is the bloodline for a country like Pakistan, which has a substantial current account deficit and lacklustre economic growth. Foreign direct investment stimulates economic growth and employment and stabilises the foreign currency exchange rate and reserves.

Compared with local investors, foreign investors gauge the host country from a distinct perspective while taking an investment decision. Some of the fundamental considerations are as follows:

- i) Economic and Political Environment
- ii) Regulatory and Legal Environment
- iii) Exchange risk coverage and repatriation rights
- iv) The capability of the off taker to pay for a tariff on a timely basis
- v) Ranking or rating of the country like corruption index, terrorism index, ease of doing business, credit ratings, etc.
- vi) Infrastructure and institutional strength

Therefore, while deciding the investment hurdle rate, the factors mentioned above are given consideration, and such decisions comply with the prevailing economic, political and governance indicators. One of the primary reasons for the decline in FDI is that available returns do not compensate for the risks to which foreign investors are prone. It should be appreciated that whenever a reputable foreign investor decides to invest in a country, it considers, amongst others, the factors mentioned above to reach the required “hurdle rate” and compares the same with other competing investment opportunities in other countries.

Other than sector-specific risks, investors rely on many data providers to assess the risks of investing in any country. For example, the Worldwide Governance Indicators (WGI) project by World Bank reports aggregate and individual governance indicators for over two hundred countries and territories over the period 1996–2021 for six dimensions of governance. Governance consists of the traditions and institutions by which power in a country is exercised. This includes the process by which governments are selected, monitored, and replaced; the government's capacity to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them.

Following are the components of WGI. The estimated score gives the country's position on the aggregate indicator in units of standard normal distribution, i.e., ranging from approximately between -2.5 to 2.5.

#### A. CONTROL OF CORRUPTION

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Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including petty and grand forms of corruption and "capture" of the state by elites and private interests.

#### B. GOVERNMENT EFFECTIVENESS

---

Government Effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

#### C. POLITICAL STABILITY AND ABSENCE OF VIOLENCE/TERRORISM

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Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism.

#### D. RULE OF LAW

---

Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, in particular, the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

#### E. REGULATORY QUALITY

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Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.

#### F. VOICE AND ACCOUNTABILITY

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Voice and Accountability capture perceptions of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression, freedom of association, and free media. It is clear from Figure 3-4 that in most indicators, Pakistan falls behind the other regional countries, and therefore investors assign a higher risk score while determining their hurdle rates. At the same time, Figure 3-5 depicts the status of WGI indicators of Pakistan Since 1996, suggesting a meagre improvement in the state of affairs during the last 25 years.

While it is duly acknowledged that the Power Generation Policy 2015 of Pakistan offers reasonably attractive incentives to foreign investors and promises to cover risk related to political force majeure, changes in law, tariff indexations and repatriation rights, however, Pakistan is seriously lagging in other fundamental areas which results in higher "hurdle rate" for Pakistan.

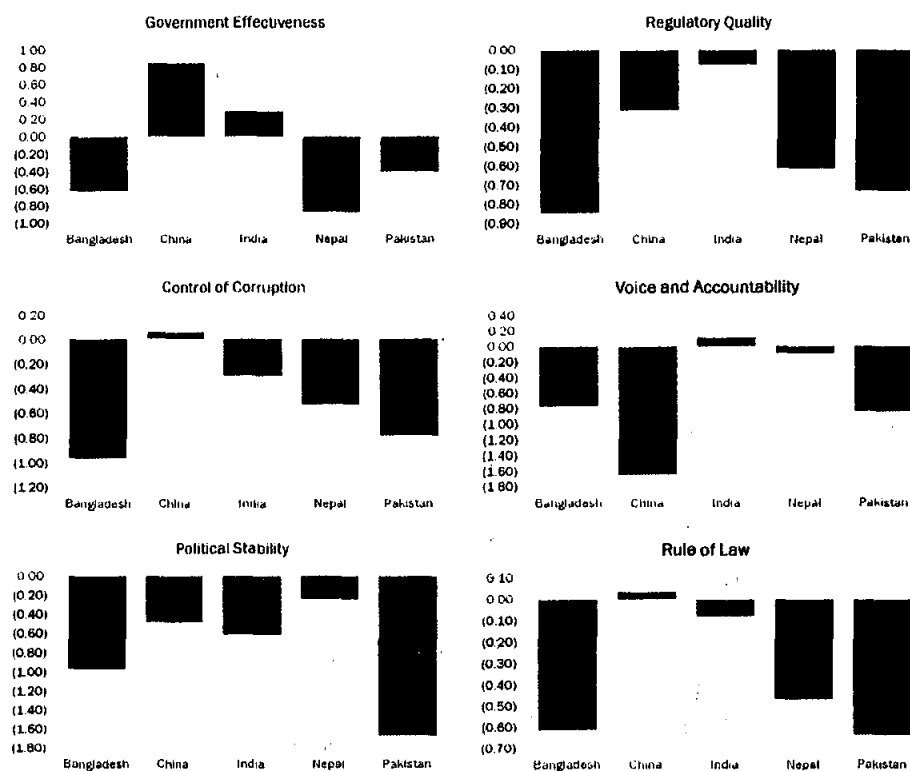


FIGURE 3-4: WGI COMPARISON OF PAKISTAN WITH NEIGHBORING COUNTRIES

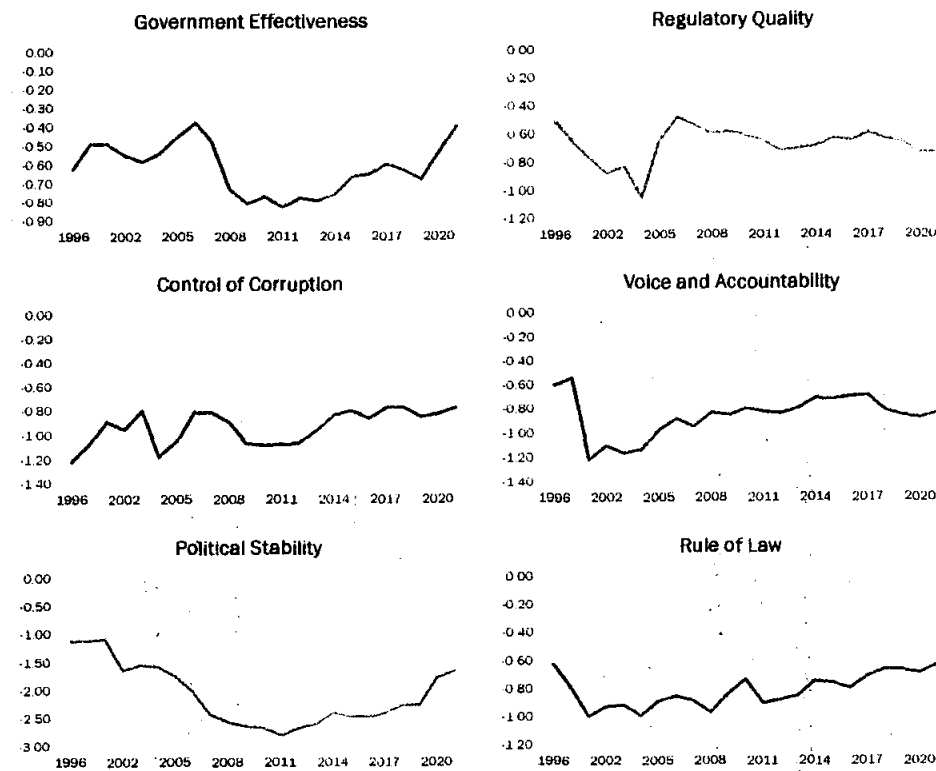


FIGURE 3-5: TIME SERIES ANALYSIS OF WGI INDICATORS OF PAKISTAN

The six aggregate indicators are based on over 30 underlying data sources reporting the perceptions of governance of a large number of survey respondents and expert assessments worldwide. Details on the underlying data sources, the aggregation method, and the interpretation of the indicators, can be found in the WGI methodology paper:

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1682130](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1682130)

### 3.3.2.2 INDICATIVE HURDLE RATE

United Nations Framework Convention on Climate Change has devised a tool to help applicants demonstrate the “additionality” of the proposed project. Methodological Tool for Investment Analysis, also known as Tool 27, aims to undertake an investment analysis to determine whether the project activity would be financially viable without the incentive of the CDM.

Tool 27 suggests that the applicant should use CAPM or another appropriate method to calculate the cost of equity for investment in any country. At the same time, the tool also provides the benchmark hurdle rates for equity investment for all member countries. If the available return on equity is lower than the approved hurdle rates of the UNFCCC, the additionality is proved.

| Country          | Group 1 | Group 2 | Group 3 | Meeting criteria (a)-(c) and (e) in paragraph 21? |
|------------------|---------|---------|---------|---------------------------------------------------|
| Haiti            | 18.52   | 19.52   | 18.02   |                                                   |
| Honduras         | 15.42   | 16.42   | 14.92   |                                                   |
| India            | 10.73   | 11.73   | 10.23   | Y                                                 |
| Indonesia        | 10.73   | 11.73   | 10.23   | Y                                                 |
| Kenya            | 17.00   | 18.00   | 17.00   |                                                   |
| Oman             | 9.87    | 10.87   | 9.37    |                                                   |
| Pakistan         | 16.85   | 17.85   | 16.35   |                                                   |
| Panama           | 10.31   | 11.31   | 9.81    |                                                   |
| Papua New Guinea | 15.42   | 16.42   | 14.92   |                                                   |

FIGURE 3-6: REQUIRED RATE OF RETURN- ESTIMATE BY UNFCCC

The default values in the benchmark hurdle rate are based on long-term historical returns and are recommended to be applied by projects with a start date before the adoption of the default values by the Board. The hurdle rates in Tool 27 reflect, as an approximate value, the returns on equity expected by the market for different sectors and countries.

The expectation of return depends on conditions of the market that can be modelled, considering the history (time series) of the market key variables (explaining variables proper of the technology and/or sector under analysis). To determine the adjustment factor, reflecting the risk of projects in different sectoral scopes, three different project categories are distinguished according to the sectoral scopes used under the CDM. Energy Industry falls into group 1 of the classification.

The KOEN board decided in October 2018 to invest in Project. Version 8.0 of the Tool 27 was applicable at the time of this decision. The expected Return on Equity for Pakistan was determined as 16.85% in version 8.0 of the Tool 27. At the time of the investment decision,

the IRR offered by the NEPRA was 17%; therefore, the sponsors pledged investment in the Project while comparing the hurdle rate of 16.85%. Any unfavourable return on equity change shall impact the Sponsors' decision to invest in the Project.

UNFCCC released the version 12 of the Tool 27 on November 2, 2002, where the required rate of return for energy sector is set as 15.79%. Please note that Tool 27 considered the sovereign default rating of B3 (from Moody's) in its analysis, which is now downgraded to Caa1.

Based on the above discussion, it is evident that a rate of return below minimum hurdle rate set by reputable agencies like UNFCCC is unjustified. We therefore request the honourable Authority to approve the IRR of the Project above the hurdle rate of 16.85% (in USD terms).

### 3.3.2.3 SECTOR-SPECIFIC RISKS

The aforesaid hurdle rate of 16.85% (as shown in Figure 3-6) does not fully consider the sector-specific risks as this rate has been calculated using a model for the whole energy sector.

As explained in the previous section, Power Policy 2015 provides an attractive set of incentives; however, recent deviations from the Policy by various institutions have seriously shaken foreign investors' confidence and increased the hurdle rate for Pakistan. KOEN is not challenging or criticizing these actions of the Government; however, it would like to register a point that consistency of policies should be ensured, and foreign investors (who have already taken investment decisions) should be protected against these changes. Some examples of the recent actions of the government are as follows:

- i) Reopening of executed PPAs to reduce the IRR of investors.
- ii) Introduction of new National Electricity Plan and Electricity Policy aimed to reduce specific incentives available to foreign investors that have already been issued LOIs by the relevant implementing agencies.
- iii) Significant changes in the tax regime whereby various tax concessions are being withdrawn gradually.
- iv) Reversal of approved costs and tariffs at the COD stage of the projects.
- v) Significant payment delays by the off taker
- vi) Delays caused by the IGCEP.

NEPRA approved 17% IRR for hydropower projects until 2015, when the deviations above were not in sight, and the overall situation of the economy and sector was in much better shape. In our humble opinion, reducing IRR in the current situation does not make any

economic sense for a country like Pakistan, and it should be allowed at @17% after considering the sector-specific risk to reach the required IRR for the Power Sector.

### 3.3.2.4 HYDROPOWER-SPECIFIC RISKS AND THEIR IMPACT ON IRR

Hydropower is a capital-intensive technology with long lead times for development and construction due to the significant feasibility, planning, design, and civil engineering works required. The capital costs of large hydropower projects are dominated by civil works, which are influenced by numerous factors of the site, the high volatility of construction material prices, the scale of development and the technological solution that is most economical. Hydropower is a highly site-specific technology where each project is tailor-made for a particular location within a river basin to meet specific energy and water management needs.

An analysis reveals that around three-quarters of the total investment costs of hydropower projects are driven by site-specific elements that impact the civil engineering design and costs. Proper site selection and hydro scheme design are vital challenges, and detailed work at the design stage can avoid expensive mistakes<sup>5</sup>.

Therefore, while offering an IRR to the daring sponsors who decide to invest in hydropower, a reasonable premium should be added as compared to other technologies like wind, solar and thermal, which have significantly lesser risks, especially in the following areas.

#### A. GESTATION PERIOD

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A typical hydropower project has a gestation period of about 9-10 years. (Initial Due Diligence (6 months) →, LOI and Feasibility (1.5 years) → (LOS and Financial Close (2 years) →, Construction and Commissioning (5-6 years). The gestation period of other technologies typically falls within the range of 2-4 years.

#### B. CONSTRUCTION RISK

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Hydropower is prone to higher construction risks compared with other technologies. Under the construction contract, the EPC contractor must take risks related to unforeseeable site conditions (geotechnical risk, rock conditions, underground flooding, seismic risks, weather conditions, and flooding risks). Insurance coverage is only available for acts of God; however, the higher deductibles of insurance programs expose the contractor and sponsors to significantly higher risks compared with other technologies.

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<sup>5</sup> Ecofys, et al., 2011

### C. FINANCING AND SPONSOR SUPPORT PROGRAM RISK

Hydropower has limited access to financing due to its inherent risks. In most cases, only development/multilateral banks consider financing hydropower with higher spreads. Additionally, under the financing arrangements, the sponsors must provide significantly higher sponsor support programs in the form of bank guarantees/LCs for negative cost overruns, initial debt servicing and excess debt (the debt which NEPRA does not approve).

This sponsor support program not only exposes the sponsors to significant risk but also results in spending high costs to arrange bank guarantees which are not considered admissible costs in the tariff.

### D. DESIGN RISK

Most competing technologies have standard and off-the-shelf designs; however, each hydropower site is unique and needs to be designed from scrap, which sometimes results in unexpected design changes during the detailed design stage, exposing the sponsors to additional costs and delays. Additionally, such design changes may require approvals of POE, resulting in further delays.

We appreciate that NEPRA recognizes this fundamental aspect of the risk profile of hydropower projects and has allowed an IRR premium of 2% to hydropower projects compared to other technologies. Therefore, we expect the same approach to be taken by honourable authority while deciding the IRR for the Project.

#### 3.3.2.5 *GROSS/NOMINAL IRR VS NET IRR*

Honourable Authority would appreciate that the gross IRR allowed for any project does not reflect the actual IRR (net IRR) earned by the Sponsors. There are several risks and items the honourable Authority does not consider for calculating IRR. If such factors are duly considered, the net IRR to the Sponsors is significantly lesser than the nominal IRR allowed. Some of the critical factors which bear a negative impact on IRR are as follows:

#### A. NEGATIVE COST OVERRUNS AND DELAYS

The Sponsors Support Program shall cover negative cost overruns and delays incurred by the Project. Although the Lenders and Sponsors devise a robust contractual structure to allocate the risks, it must be appreciated that almost all hydropower projects suffer cost overruns and delays due to their unique nature and high and unforeseeable construction risks.

Typically, Lenders require the sponsors to provide cost overrun support in the form of a bank guarantee to the tune of 15% of construction cost or 45% to 50% of equity investment. For this Project, this translates into about USD 60 million. While this amount is conditional upon the actual incidence of cost overrun; however, international and local experience shows that,

in most cases, such cost overrun occurs and seriously deteriorates the IRR of the sponsors. To see things in perspective, for every 3% cost overrun, an approximate reduction of 1% in IRR is expected. In the case of a 15% overrun in construction cost, a reduction of above 5% in IRR is evident.

TABLE 3-19: IMPACT OF NEGATIVE COST OVERRUNS ON EQUITY IRR

| Construction Cost Status | Effective IRR |
|--------------------------|---------------|
| No Cost Overrun          | 17.00%        |
| 3% Cost Overrun          | 15.87%        |
| 5% Cost Overrun          | 15.17%        |
| 7% Cost Overrun          | 14.49%        |
| 10% Cost Overrun         | 13.50%        |
| 15% Cost Overrun         | 11.93%        |

The indirect impact of these overruns is in addition to the loss of IRR. For example, the debt covenants are disrupted, and sponsors must provide additional risk guarantees for meeting the target ratios & reserves. Moreover, the insurance amount increases due to the increased cost of installed assets.

#### B. DELAYED REVENUES FROM THE POWER PURCHASER

Unfortunately, the power sector of Pakistan is trapped in the menace of "circular debt", which resulted in significant delays from the Power Purchaser. Typically, Power Purchaser pays about 70% of the invoiced amount, and the remaining 30% represents the sponsors' equity returns. While a delayed payment interest shall accrue on overdue payments, it must be appreciated PKR based delayed payment interest is significantly lower than the USD-based IRR of the sponsors. This reduction in dividend, coupled with the delayed impact of the time value of money, significantly hurts the IRR of the sponsors and overall project.

Following is the demonstration of the impact on project IRR & equity IRR due to delayed payment. The matrix shows the resultant IRR for various combinations of percentage payments against invoice value and the years after which the balance/withheld amount is paid to the company. The PPA allows interest on the unpaid amount; however, this does not cover the whole loss of IRR due to overdue payments.

TABLE 3-20: IMPACT OF DELAYED PAYMENTS ON EQUITY IRR

| Years/ %age Payment | 100.00% | 90.00% | 80.00% | 70.00% | 60.00% |
|---------------------|---------|--------|--------|--------|--------|
| 3                   | 16.95%  | 16.81% | 16.68% | 16.56% | 16.45% |

| Years/ %age Payment | 100.00% | 90.00% | 80.00% | 70.00% | 60.00% |
|---------------------|---------|--------|--------|--------|--------|
| 5                   | 16.95%  | 16.23% | 15.59% | 15.02% | 14.50% |
| 6                   | 16.95%  | 16.00% | 15.18% | 14.45% | 13.80% |
| 10                  | 16.95%  | 15.16% | 13.67% | 12.43% | 11.41% |

Table 3-20 shows that even at 17% IRR, the delayed payment can reduce the effective IRR to ~12%. Similarly, the table below shows that delayed payments have a similar impact on the overall IRR of the Project. This reduction may impede the viability of the Project because longer delays may also cause a negative NPV of the Project.

Another aspect of the late and partial payments is the delay in declaring dividends. All financing documents include a schedule/ waterfall of cash distribution. The dividend to sponsors is available only when the model passes the test for DSCR and other covenants for such purpose. The DSCR ratio depends on the quantum of free cashflows to the Project. If the cashflows are low (which they become as a result of partial payment by the power purchaser), the DSCR test fails, and therefore dividend declaration is delayed. The delay of dividends reduces the actual IRR of the sponsors by ~1% to 3%.

#### C. NON-PERMITTED COSTS

Under the limited course financing, the sponsors are required to provide the following bank guarantees and LCs to provide security to the Lenders as a Sponsors Support Program:

- i) Bank Guarantee to cover Negative Cost Overruns (about USD 60 million).
- ii) Bank Guarantee to cover undrawn equity (starting from USD 75 million and reducing gradually).
- iii) Bank Guarantee/LC covering first debt repayment (approx. USD 22 million).

While these instruments are conditional, it must be appreciated that in most cases, such guarantees are encashed/used, keeping in view the cost overrun risks related to hydropower and payment delays by the Power Purchaser. In the instant case of our sister concern (Mira Power Limited), all the guarantees described above were used, resulting in a drastic reduction in the IRR of the sponsors.

In addition to the risk described above, bank charges to arrange such guarantees and other expenses of Sponsors (like initial due diligence cost, head office support, travelling etc.) are not allowed as permissible cost items under the Project cost and have a direct impact on Sponsor's IRR.

The estimated amount of these expenses (guarantee charges and other items) is ~ US\$ 8 million, which is approximately 10% of the total non-EPC costs. The impact of these extra costs reduces the IRR from 17% to 16.23%.

#### D. DIVIDEND TAX

KOEN took the investment decision relying on the currently prevailing Power Generation Policy 2015 and Hydropower Policy 2016 along with then prevailing concession documents of Mira Power Limited, under which the dividend tax was a pass-through item and Sponsors were allowed net of dividend tax IRR. The following table explains the effective IRR allowed to different IPPs before 2018.

TABLE 3-21: EFFECTIVE EQUITY IRR TO IPPS BEFORE 2018

| IRR Case | IRR Allowed | Withholding Tax | Effective IRR |
|----------|-------------|-----------------|---------------|
| Case-1   | 17%         | Pass-Through    | 17%           |
| Case-2   | 17%         | 7.5%            | 15.72%        |

Finance Bill 2022 proposed to enhance the applicable tax rate, including a collection of advance tax from 7.5% to 25% on dividends distributed by company set-up for power generation. The Finance Act has re-instated the reduced rate of 15% only in case of dividends paid by IPPs where such dividend tax is a Pass-Through item under an IA or PPA, or EPA and is required to be reimbursed by CPPA or its predecessor or successor entity. After this change, the effective IRR of Investors has reduced to an unattractive level, as demonstrated below.

TABLE 3-22: EFFECTIVE EQUITY IRR TO IPPS AFTER 2018

| IRR Case | IRR Allowed | Withholding Tax | Effective IRR |
|----------|-------------|-----------------|---------------|
| Case-1   | 17%         | 25%             | 12.75%        |
| Case-2   | 15%         | 25%             | 11.25%        |
| Case-3   | 13%         | 25%             | 9.75%         |

#### E. EQUITY INSURANCE & SHARING OF 1% IRR WITH GOKPK

While awarding the Project, KPK Government has specified that the Project shall share an IRR of 1% with GoKPK as a facilitation fee. Therefore, the impact of this 1% sharing should be considered while allowing the IRR to the Project. Net effective IRR after this sharing shall reduce to 16.16% from 17% allowed by NEPRA.

Foreign investors are often required by their respective governments to ensure equity investment in Pakistan. Korean Development Institute requires the Korea-based sponsors to

get insurance for the amount invested in Pakistan. This practice has been followed by all Korean investments in Pakistan, including Patrind & Gulpur sponsors.

The Sponsors, therefore, contacted the Multilateral Investment Guarantee Agency (MIGA) to cover the risks of equity investments. A non-binding indication of price has been offered to the sponsors, where an insurance premium is between 180 bps and 190 bps. In our financial model, we used the figure of 1.85% to assess the impact on IRR and found that this cost shall reduce the IRR from 17% to 15.65%.

The combined impact of IRR sharing with GoKPK and MIGA insurance shall reduce the IRR from 17% to 14.85%. However, both of these costs are considered inadmissible by the NEPRA.

### 3.3.3 QUANTIFICATION/ VERIFICATION OF 17% IRR

The rationale for 17% IRR for hydropower is provided in Section 3.3.2; however, in the following sections, we have used the mathematical models employed worldwide to determine the cost of equity to substantiate our claim of 17% IRR. It should be noted that these methods are used for calculating the cost of equity for an ongoing business and therefore do not consider the risks associated with greenfield projects, especially hydropower projects.

#### 3.3.3.1 COMPARISON OF IRR WITH SOVEREIGN BONDS

On January 12, 2023, Pakistan's 10-year sovereign bond yield was 14.51%. The yield on the 10-year bond changed by +25.74% during the last year, indicating the extended risk of investment in Pakistan. As per analysts' estimates, the yield on a 10-year bond may touch 15.68% by the end of June 2023. The exact impacts are observed on 5-year & 20-year bonds as well. The Pakistan credit rating is CCC+, according to Standard & Poor's.

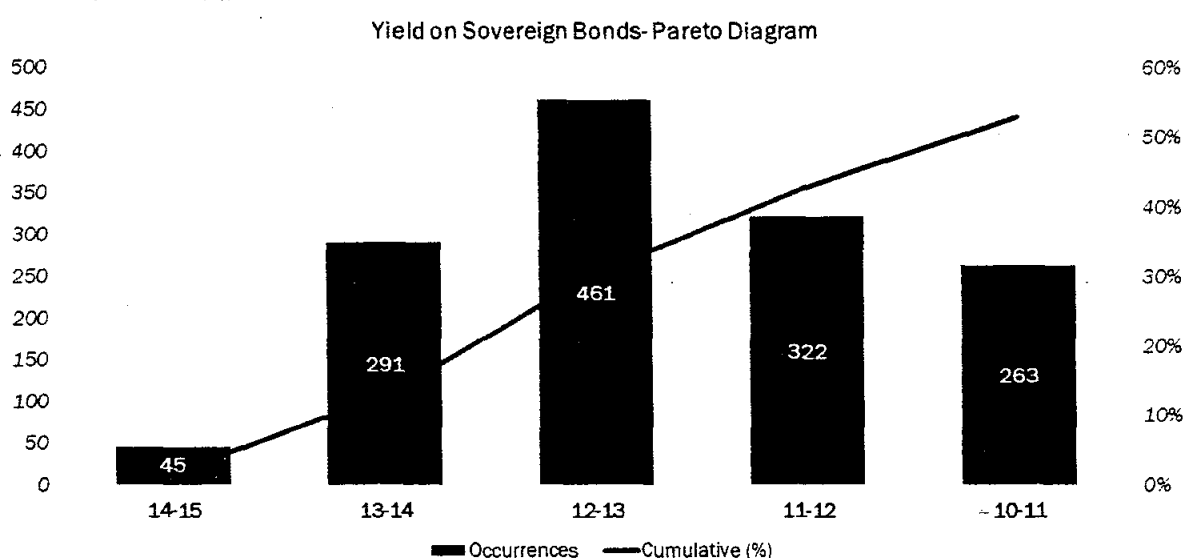


FIGURE 3-7: YIELD ON BONDS- PARETO DIAGRAM

A daily analysis of 10-year sovereign bond rates during the past ten years reveals that in more than 53% of the observations, the yield on the bond stayed above 10%, while the probability of yields in range between 12%-13% is highest in the dataset.

As discussed in the section above, the Sponsors decided to invest in the country when bond rates were 8-9% (October 2018). Current yield rates indicate that investors of bonds are unwilling to accept that return for holding government debt. High bond yields show that government shall be unable to raise inexpensive funds that can be used to fund infrastructure investment. High yields also extend fiscal pressure by increasing interest costs.

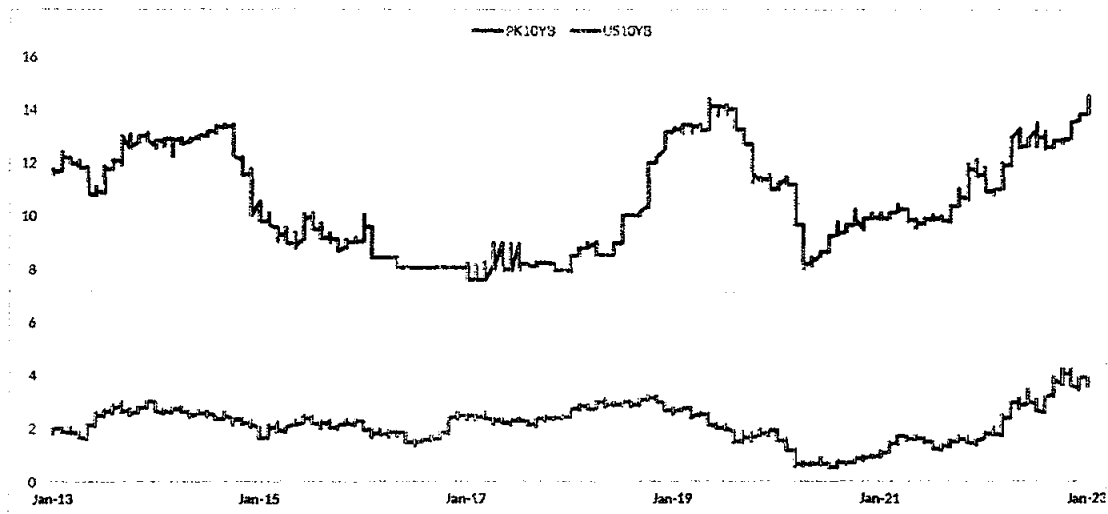


FIGURE 3-8: HISTORICAL YIELD ON PAKISTAN'S & US 10- YEAR SOVEREIGN BONDS

Compared to equity investment, Sovereign bonds investment is safer and does not involve risks that a hydropower project is prone to. It is, therefore, unfair to reduce the IRR of the investors when the yield on the sovereign bond, considered a safer and risk-free investment, has increased more than 55% since the initial decision of the equity investment in the Project. Offering IRR of 13%-15% on equity investment in a highly risky hydropower project, when compared to 14.50% least risky investment in sovereign bonds is unjustified.

### 3.3.3.2 DETERMINATION OF ROR USING CAPITAL ASSET PRICING MODEL

#### A. METHOD-1: NEPRA METHOD

The existing generation tariff regime of NEPRA, both upfront and cost-plus, allows for a fixed Internal Rate of Return (IRR). The IRR presently ranges between 13% and 20%. In November 2016, NEPRA presented a concept paper on determining the rate of return for the power sector<sup>6</sup>. The paper argues that working outside of the power sector, IRR needs to be effectively

<sup>6</sup> <https://nepra.org.pk/Admission%20Notices/2016/Nov/Concept%20Paper%20Rate%20of%20Return.pdf>

depicted against specific risk and return matrix and its adjustment for a particular technology. The IRR thus allowed should spell out and be reflective of a return which has a built-in approach to account for various parameters, such as (a) prevailing power sector incentive packages, (b) associated country risks, (c) variants of that specific technology, (d) level of incentive to be created for investors and e) whether the investor is opting for upfront or cost-plus regime.

The paper recommended the following formula to calculate the required rate of return.

EQUATION 3-1: NEPRA CAPM MODEL FORMULA

$$R_e = R_f + \beta(R_m - R_f) + CRP$$

Where,

- $R_e$  = Required Rate of Return on Equity  
 $R_f$  = Risk-Free Rate on US 5-year bond  
 $R_m$  = Expected Return on Portfolio of Stock  
 $\beta$  = The Systematic Risk Factor  
 $CRP$  = Country Risk Premium

We have replicated the NEPRA CAPM Model with updated variables as latest as they are available.

TABLE 3-23: REFERENCE & UPDATED ASSUMPTIONS OF CAPM

| Description                               | NEPRA Model [2016] | Latest [2021-23]   |
|-------------------------------------------|--------------------|--------------------|
| $R_f$ <sup>7</sup>                        | 1.38%              | 3.56%              |
| $R_m - R_f$ [Actual Market Risk Premium]  | 4.62%              | 5.94% <sup>8</sup> |
| $R_m - R_f$ [Rounded Market Risk Premium] | 5.00%              | 5.94%              |
| Unlevered $\beta$                         | 0.36               | 0.60 <sup>9</sup>  |
| Levered $\beta$ [Gearing 80:20]           | 1.20               | 2.98               |
| Country Risk Premium <sup>10</sup> [CDS]  | 5.53%              | N/A                |

<sup>7</sup> The 5-year US Treasury Bond Rate prevailing as on January 13, 2023. <https://www.bloomberg.com/markets/rates-bonds/government-bonds/us>

<sup>8</sup> As calculated by Mr. Aswath Damodaran's Equity Risk Premium Model as on January 1, 2022. (This is the latest data available on site) [https://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/datafile/ctryprem.html](https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html)

<sup>9</sup> <https://pages.stern.nyu.edu/~adamodar/pc/datasets/betas.xls> [Data used is as of January 2023]

<sup>10</sup> The CDS for year 2023 are not available and therefore the rates available in previous years data are taken for analysis. [https://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/datafile/ctryprem.html](https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html) [Data updated till June 2021]

| Description                         | NEPRA Model [2016] | Latest [2021-23] |
|-------------------------------------|--------------------|------------------|
| Adjusted Country Risk Premium [CDS] | 6.14%              | N/A              |
| Country Risk Premium [SDR]          |                    | 9.17%            |

As per references and explanations provided in the footnotes, it is evident that the situation has markedly changed for some critical variables. The CDS rates are not available for the country in the new dataset; therefore, the rate prevailing during the last year (3.67% as prevailing on January 1, 2022) is used for comparison purposes.

Based on the values shown in the table above and using the formula proposed by NEPRA for calculating the Rate of Return, we have updated the results as follows.

TABLE 3-24: UPDATED ROR USING NEPRA CAPM MODEL-USING CDS OF THE PREVIOUS YEAR

| Project Beta                              | CDS [3.67%] | Adjusted CDS [4.26%] |
|-------------------------------------------|-------------|----------------------|
| Unlevered Beta                            | 10.77%      | 11.36%               |
| Levered Beta @ D/E of 50:50               | 14.31%      | 14.90%               |
| Levered Beta @ D/E of 70:30               | 19.04%      | 19.62%               |
| Levered Beta @ D/E of 80:20 <sup>11</sup> | 24.94%      | 25.52%               |

As evident from the recent NEPRA determination of a similar hydropower project, a ROR of 13% was awarded, which is the same number as calculated in NEPRA's Model with an assumption of unadjusted CDS, D/E ratio of 70:30, and Equity Risk premium of 5%. On current assumptions, with the CDS rate of last year, this number has now been calculated as 19.04%.

NEPRA's Concept Paper also argues that ROE, once fixed for a particular period, cannot be applied indefinitely to all projects. ROE and its underlying assumptions change from one period to another. In principle, ROE should be dynamic, and the formula should offer flexibility to change one or more variables so that the sector exposure to risk is adequately and timely addressed. A review period of 5 years has been recommended in the Concept Paper; thus, a revision is already due for reassessing the number for ROE.

When these values are revised per market conditions mentioned in Table 3-24 above, the ROE determined by NEPRA revises to 19.04%. If we further adjust the CDS as per recommended financial methods, the return reaches 19.62%. Please note that these numbers are calculated based on the D/E ratio of 70:30, and if we match it with our proposed

<sup>11</sup> Debt Equity Ratio of the applicant

capital structure of 80:20, the required ROE further increase to 24.94% with unadjusted CDS and 25.52% with adjusted CDS.

As the NEPRA concept paper advocates, technology-specific risk should be considered when deciding project returns. In the past, NEPRA has allowed an IRR to hydropower projects which included a technology margin of 2% (Higher than thermal power projects)

The concept paper also explains that under a cost-plus regime, the investor doesn't have the option to keep the saving arising from achieving better efficiency or reducing the cost of major CAPEX items, i.e., EPC, post NEPRA approval. The investor primarily relies on the Authority-approved return. This is not the case in upfront tariff, wherein the investor is entitled to keep, among many things, the project cost/efficiency saving and thus can attain ROE higher than the approved one. This means that the potential of earning profit is more under the upfront tariff than under the cost-plus regime, and thus the return offer on the upfront tariff regime should be lower than the Cost Plus.

#### B. CAPM FROM THE PERSPECTIVE OF SOVEREIGN RISK

The most observable measure of country risk, at least in financial markets, is the default risk when lending to the government of that country. This risk, termed sovereign default risk, has a long history of measurement attempts, stretching back to the nineteenth century. If governments can default, we need measures of sovereign default risk to set interest rates on sovereign bonds and loans and price all other assets. The following are three well-known methods of measuring the country's risk premium, which are also considered in the NEPRA's CAPM model.

##### I. CREDIT DEFAULT SWAP RATE

NEPRA's CAPM Model uses CDS to measure the country risk premium; however, the CDS rates from the source used by NEPRA are no longer available for the year 2023. To test the validity of the NEPRA model, we used the previous year's CDS rates, and the results are shown in Table 3-24. Despite using the outdated & conservative CDS (3.67% as prevailing on January 1, 2022), the required IRR is above 19%. Economic situation has much deteriorated after the reference date and an updated CDS shall result into even a higher IRR.

It is pertinent to mention that there are inherent limitations to using CDS prices as predictors of country default risk. The first is that the exposure to counterparty and liquidity risk, endemic to the CDS market, can cause changes in CDS prices that have little to do with default risk. Thus, a sizable portion of the surge in CDS prices in the last quarter of 2008 can be traced to the failure of Lehman and the subsequent surge in concerns about counterparty risk. The second and related problem is that the narrowness of the CDS market can make an individual CDS susceptible to illiquidity problems, concurrently affecting prices.

## II. SOVEREIGN RISK BY RATING AGENCIES

An alternative to CDS is the country's sovereign rating provided by reputable international rating agencies. Moody's, Standard and Poor's and Fitch have been rating corporate bond offerings since the early twentieth century. To price sovereign bonds (or set interest rates on sovereign loans), investors (banks) need assessments of default risk that are updated and timely. Ratings are driven mainly by the CDS & default spread on bonds.

Results based on the sovereign default risk of Pakistan [Credit rating of CCC+ & default risk of 9.17%] are shown in the table below.

TABLE 3-25: ADJUSTED ROR USING SOVEREIGN DEFAULT RISK OF PAKISTAN

| Project Beta                              | Required IRR |
|-------------------------------------------|--------------|
| Unlevered Beta                            | 16.28%       |
| Levered Beta @ D/E of 50:50               | 19.82%       |
| Levered Beta @ D/E of 70:30               | 24.54%       |
| Levered Beta @ D/E of 80:20 <sup>12</sup> | 30.44%       |

## III. DEFAULT SPREAD ON BONDS

When a government issues bonds denominated in a foreign currency, the interest rate on the bond can be compared to the rate on a riskless investment in that currency to get a market measure of the default spread for that country. To illustrate, the Pakistan government had a 10-year dollar-denominated bond outstanding on January 12, 2023, with a yield of 14.51%. At the same time, the 10-year US treasury bond rate was 3.44%. If we assume that the US

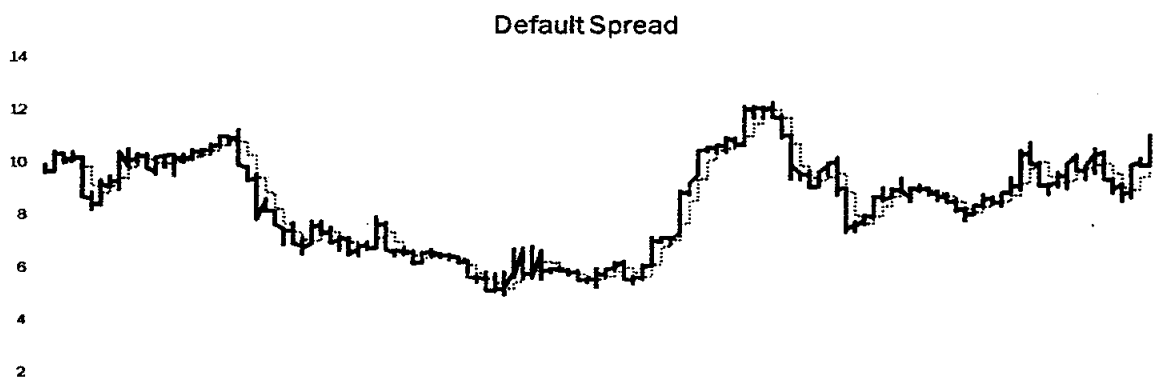


FIGURE 3-9: DEFAULT SPREAD ON PAKISTAN'S 10 YEAR BOND

<sup>12</sup> Debt Equity Ratio of the applicant

treasury is default free, the difference of 11.07% between the two rates (14.51%- 3.44% = 11.07%) can be viewed as the market's assessment of the default spread for Pakistan.

While there is a positive correlation between sovereign ratings and market default spreads, there are advantages to using these bond-market-based default spreads. The first is that the market differentiation for risk is more granular than the rating agencies; thus, Pakistan and Ukraine had the same Moody's rating (B3) in the year 2022, but the market saw more default risk in Ukraine than in Pakistan [Yield of 54.05% & 13.88% respectively for a bond of 3-year maturity]. The second is that the market-based spreads are more dynamic than ratings, with changes occurring in real-time.

When we compared the yield of Pakistan's 10-year sovereign bond with a yield of a US\$ 10-year bond, we found the pattern of default spread, as shown in Figure 3-9 above. Based on yields of January 12, 2023, the default spread of Pakistan is 11.07%. When we use this measure of country risk premium to calculate the Return on Equity, the results are higher than both CDS and sovereign default risk.

TABLE 3-26: ADJUSTED ROR USING DEFAULT SPREAD OF PAKISTAN'S SOVEREIGN BOND

| Project Beta                | Required IRR |
|-----------------------------|--------------|
| Unlevered Beta              | 18.17%       |
| Levered Beta @ D/E of 50:50 | 21.71%       |
| Levered Beta @ D/E of 70:30 | 26.43%       |
| Levered Beta @ D/E of 80:20 | 32.33%       |

### 3.3.3.3 CONCLUSION

In the aforesaid discussions and analysis, which are based on credible sources and information, we have demonstrated that IRR for the Pakistan market should be as follows.

TABLE 3-27: CALCULATION OF IRR FROM VARIOUS MODELS

| S. No | Methodology                             | IRR     | Reference       |
|-------|-----------------------------------------|---------|-----------------|
| 1     | UNFCCC Tool 27                          | 16.85%  | Section 3.3.2.2 |
| 2     | NEPRA CAPM Model- CDS Method            | 19.04%* | Table 3-24      |
| 3     | NEPRA CAPM Model- SDR Method            | 24.54%  | Table 3-25      |
| 4     | NEPRA CAPM Model- Default Spread Method | 26.43%  | Table 3-26      |

\* As provided in NEPRA Concept Paper, with the addition of a technology-specific risk premium for hydropower of 2% & cost-plus risk, this rate of IRR should increase to ~21%.

In addition to the above, the IRR shall be further eroded due to the following factors.

Sector-Specific Risks [ Section 3.3.2.3]

Hydropower Specific Risks [ Section 3.3.2.4]

Cost Overruns [Section 3.3.2.5A]

Delayed Payment from Power Purchaser [Section 3.3.2.5B]

Non-Permitted Cost [Section 3.3.2.5C]

Dividend Tax [Section 3.3.2.5D]

Equity Insurance [Section 3.3.2.5E]

Sharing of IRR with GoKPK [Section 3.3.2.5E]

Due to the risks and assumptions discussed above, the overall negative impact on the IRR can range between 5% to 7%. Therefore, we humbly request NEPRA to approve 17% IRR for the Project.

#### 4. PROJECT TARIFF

The tariff of the Project is calculated keeping in view the following.

- i) Section 31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997;
- ii) Rule 3 of the National Electric Power Regulatory Authority Tariff (Standard and Procedure) Rules, 1998,.
- iii) Applicable provisions of the Government of Pakistan's Power Generation Policy 2015 (Policy)
- iv) The Mechanism for the Determination of Tariff for Hydropower Projects 2008 by NEPRA, for determination of Feasibility Stage Reference Tariff.
- v) Tariff Determinations by NEPRA for similar projects.

According to Section 10 of Power Generation Policy 2015, the tariff for hydropower projects is calculated and presented in two sections, i.e., two-tier tariff as follows:

TABLE 4-1: PROJECT TARIFF STRUCTURE AS PER POLICY

| Tier                    | Tariff Components                                  |
|-------------------------|----------------------------------------------------|
| Energy Purchase Price   | Water Use Charges + Variable O&M                   |
| Capacity Purchase Price | Fixed O&M + Insurance + ROE + ROEDC + Debt Service |

#### 4.1.2 ENERGY PURCHASE PRICE

The Energy Purchase Price (EPP) comprises Water Use Charge (WUC), Variable O&M and any other variable component determined by NEPRA. The EPP shall be paid based on the amount of kWh (PKR/kWh) supplied by the Project Company at the point of delivery.

##### 4.1.2.1 WATER USE CHARGES

Section 5 of the Policy mentions that WUC is assumed to be payable @ Rs. 0.425/kWh by the Company to GoKPK. As per Policy, the rate of WUC shall be reviewed every five years by the GoKPK to determine if an increase in WUC is necessary.

For the calculation of the reference tariff of the Project, it is assumed that WUC shall stay the same, and any change in rate shall be considered a pass-through item.

WUC make ~76% of the total EPP cost of electricity, as shown in Table 4-2 below.

##### 4.1.2.2 VARIABLE O&M

Variable O&M is estimated at US\$ 0.74 million per annum, which is 10% of the total annual Operations & Maintenance costs of the Project.

The tariff component is calculated as PKR 0.137/ kWh, out of which 40%, i.e., PKR 0.055/ kWh, is estimated as local currency cost and 60%, i.e., PKR 0.082/ kWh, is in foreign currency, both during and after the debt repayment period.

##### 4.1.2.3 TOTAL ENERGY PURCHASE PRICE

The total EPP during and after the loan repayment period is shown below. Please note that amounts in US\$ million are the total annual payments under the respective tariff component.

TABLE 4-2: BREAKDOWN OF ENERGY PURCHASE PRICE

| Tariff Component  | During Loan Repayment |          |         | After Loan Repayment |          |         |
|-------------------|-----------------------|----------|---------|----------------------|----------|---------|
|                   | US\$ Million          | US\$/kWh | PKR/kWh | US\$ Million         | US\$/kWh | PKR/kWh |
| Water Use Charges | 2.294                 | 0.243    | 0.425   | 2.294                | 0.243    | 0.425   |
| Variable O&M      | 0.737                 | 0.078    | 0.137   | 0.737                | 0.078    | 0.137   |
| Foreign           | 0.442                 | 0.047    | 0.082   | 0.442                | 0.047    | 0.082   |
| Local             | 0.295                 | 0.031    | 0.055   | 0.295                | 0.031    | 0.055   |
| Total EPP         | 3.031                 | 0.321    | 0.562   | 3.031                | 0.321    | 0.562   |

### 4.1.3 CAPACITY PURCHASE PRICE

The Capacity Purchase Price (CPP) comprises fixed O&M, insurance during operations, return on equity (ROE), ROE during development & construction and debt servicing (both Principal and interest charges). The CPP expressed in PKR/kW/month is payable by the power purchaser to the Company, provided the Project is made available for despatch by the Company as per the standards defined in the agreed PPA.

#### 4.1.3.1 FIXED O&M

Fixed O&M cost is 90% of the Project's total operations & maintenance cost and amounts to US\$ 6.63 million per annum, including the SPC running cost of US\$ 1.97 million per year. It is estimated that 60% of this cost, i.e., US\$ 3.98 million, shall be incurred in foreign currency & therefore treated as a foreign part in Reference Tariff Table ("RTT"). The remaining US\$ 2.65 million, i.e., 40% of the total fixed O&M, shall be incurred in local currency.

Tariff component is calculated as PKR 425.90/kW/Month, out of which 60%, i.e., PKR 255.54/kW/Month, is estimated as foreign currency cost and 40%, i.e., PKR 170.36/kW/Month, both during and after the debt repayment period.

#### 4.1.3.2 INSURANCE DURING OPERATIONS

Insurance during operations cost has been assumed at 1% of the Project's EPC cost, which amounts to US\$ 3.73 million per annum. The insurance cost based on these assumptions translates into PKR. 239.77 per kilowatt per month.

The Company has already expressed its concerns about sufficiency of this cost in Section 3.2.3 above and requests NEPRA to allow realistic amount at the EPC stage tariff.

#### 4.1.3.3 RETURN ON EQUITY

The Company's total equity is US\$ 98.26 million based on the Project cost. Redemption of equity shall start after repayment of the loan, i.e., from year 13 onward, and hence ROE component of the tariff during the loan repayment period (year 1 – year 12) is lower than after the loan repayment period (year 13- year 30).

Based on the IRR of 17%, ROE during the loan repayment period is calculated as PKR 1,072.64 per kilowatt per month and PKR 1,140.19 per kilowatt per month after the loan repayment period. In absolute terms, US\$ 16.70 million during the loan repayment period and US\$ 17.76 million after the loan repayment period shall be received by the Company on account of return on equity.

#### 4.1.3.4 ROE DURING CONSTRUCTION

ROE during development and construction amounts to US\$ 31.41 million. This amount includes ROE during development for 30 months before financial close and ROE during the construction period of 60 months.

The tariff component amounts to PKR 346.03 per kilowatt per month during and after the loan repayment period. In absolute terms, this amounts to US\$ 5.39 million per annum for 30 years of concession periods.

#### 4.1.3.5 DEBT SERVICE

The expected total loan (including IDC) of the Company shall be US\$ 393.04 million (US\$ 362.88 million as base debt and US\$ 30.16 as IDC share), which shall be repaid in twelve (12) years in the form of annuity payments on a bi-annual basis. The tariff component of loan repayment amounts to PKR 2,784.63 per kilowatt per month.

Following is the estimated loan repayment schedule of the Company.

TABLE 4-3: LOAN REPAYMENT SCHEDULE (US\$)

| Year Ending | Interest    | Principal   | Total       |
|-------------|-------------|-------------|-------------|
| 30-Dec-30   | 18,404,989  | 24,959,974  | 43,364,963  |
| 30-Dec-31   | 17,203,425  | 26,161,538  | 43,364,963  |
| 30-Dec-32   | 15,944,019  | 27,420,944  | 43,364,963  |
| 30-Dec-33   | 14,623,985  | 28,740,978  | 43,364,963  |
| 30-Dec-34   | 13,240,406  | 30,124,557  | 43,364,963  |
| 30-Dec-35   | 11,790,221  | 31,574,742  | 43,364,963  |
| 30-Dec-36   | 10,270,225  | 33,094,738  | 43,364,963  |
| 30-Dec-37   | 8,677,057   | 34,687,906  | 43,364,963  |
| 30-Dec-38   | 7,007,195   | 36,357,769  | 43,364,963  |
| 30-Dec-39   | 5,256,946   | 38,108,018  | 43,364,963  |
| 30-Dec-40   | 3,422,440   | 39,942,523  | 43,364,963  |
| 30-Dec-41   | 1,499,622   | 41,865,341  | 43,364,963  |
| Total       | 127,340,530 | 393,039,027 | 520,379,557 |

## A. TARIFF COMPONENT OF DEBT

Based on the loan repayment schedule as shown in Table 4-3, the following is the detail of the annual Interest Charge, Principal Repayment, and total loan components of the Reference Tariff Table.

TABLE 4-4: LOAN REPAYMENT COMPONENT OF TARIFF (PKR/KW/MONTH)

| Date      | Interest Charge | Principal Repayment | Total    |
|-----------|-----------------|---------------------|----------|
| 30-Dec-30 | 1,181.85        | 1,602.77            | 2,784.63 |
| 30-Dec-31 | 1,104.70        | 1,679.93            | 2,784.63 |
| 30-Dec-32 | 1,023.83        | 1,760.80            | 2,784.63 |
| 30-Dec-33 | 939.06          | 1,845.57            | 2,784.63 |
| 30-Dec-34 | 850.22          | 1,934.41            | 2,784.63 |
| 30-Dec-35 | 757.09          | 2,027.53            | 2,784.63 |
| 30-Dec-36 | 659.49          | 2,125.14            | 2,784.63 |
| 30-Dec-37 | 557.19          | 2,227.44            | 2,784.63 |
| 30-Dec-38 | 449.96          | 2,334.67            | 2,784.63 |
| 30-Dec-39 | 337.57          | 2,447.06            | 2,784.63 |
| 30-Dec-40 | 219.77          | 2,564.86            | 2,784.63 |
| 30-Dec-41 | 96.30           | 2,688.33            | 2,784.63 |

## 4.1.3.6 TOTAL CAPACITY PURCHASE PRICE

Based on the discussions above, the following is the summary of tariff components pertaining to the Capacity Purchase Price. Please note that amounts in US\$ million are total annual payments under respective tariff components.

TABLE 4-5: BREAKDOWN OF CAPACITY PURCHASE PRICE

| Tariff Component | During Loan Repayment |           |          | After Loan Repayment |           |          |
|------------------|-----------------------|-----------|----------|----------------------|-----------|----------|
|                  | US\$ Million          | US\$/kW/M | PKR/kW/M | US\$ Million         | US\$/kW/M | PKR/kW/M |
| Fixed O&M        | 6.63                  | 0.702     | 425.90   | 6.63                 | 0.702     | 425.900  |
| Foreign          | 3.98                  | 0.421     | 255.54   | 3.98                 | 0.421     | 255.540  |
| Local            | 2.65                  | 0.281     | 170.36   | 2.65                 | 0.281     | 170.360  |
| Insurance        | 3.73                  | 0.395     | 239.77   | 3.73                 | 0.395     | 239.769  |

| Tariff Component | During Loan Repayment |              |                 | After Loan Repayment |              |                  |
|------------------|-----------------------|--------------|-----------------|----------------------|--------------|------------------|
|                  | US\$ Million          | US\$/kW/M    | PKR/kW/M        | US\$ Million         | US\$/kW/M    | PKR/kW/M         |
| ROE              | 16.70                 | 1.768        | 1,072.64        | 17.76                | 1.880        | 1,140.188        |
| ROEDC            | 5.39                  | 0.570        | 346.03          | 5.39                 | 0.570        | 346.030          |
| Debt Service     | 43.36                 | 4.591        | 2,784.63        |                      |              |                  |
| <b>Total CPP</b> | <b>75.82</b>          | <b>8.027</b> | <b>4,868.96</b> | <b>33.511</b>        | <b>3.547</b> | <b>2,151.887</b> |

#### 4.1.4 SUMMARY OF ANNUAL & LEVELIZED TARIFF

Project tariff is higher in the first 12 years due to loan repayment; however, it drops substantially, approximately half once the loan is repaid.

TABLE 4-6: SUMMARY OF ANNUAL & LEVELIZED TARIFF

| Tariff Component              | Loan Period | Post Loan Period |
|-------------------------------|-------------|------------------|
| Operating Expenditure (US \$) | 1.418       | 1.418            |
| Equity Return (US \$)         | 2.339       | 2.450            |
| Debt Service (US \$)          | 4.591       |                  |
| Total Tariff (US \$)          | 8.347       | 3.868            |
| Levelized Tariff (PKR/kWh)    |             | 12.4352          |
| Levelized Tariff (US\$ /kWh)  |             | 7.1058           |

During the loan repayment period, approximately 55% of the annual tariff is used to service the loan component of the Project. Once loan repayment is complete, there shall be only two main components, i.e., equity return and operating costs which constitute 63% & 37% share in tariff during the remaining 18 years of the concession period.

Reference Tariff Table, as per NEPRA standards, is attached as Appendix-V of this Petition.

#### 4.1.5 INDEXATION OF THE REFERENCE TARIFF

In line with the Power Policy 2015 and NEPRA guidelines, the various components of the Reference Tariff shall be indexed as per Clause 10.2 of the Power Policy 2015 of GOP.

### 5. PROJECT COST & TARIFF RATIONALE

The CPP portion of the Reference Tariff of all technologies, including hydropower, is essentially a translation/spread of Project's capital cost over the concession period. In contrast, the EPP

portion represents the fuel and other components related to actual generation. It has been observed that during tariff negotiations, parties mainly focus on the reduction/optimization of Project Cost to reduce the tariff, while the EPP portion of the tariff is not considered during decision-making. Similarly, ancillary benefits and reliability of various technologies are also not considered in tariff calculations while giving the tariff decisions, which sometimes results in undesirable energy mix and erroneous actual cost incurred by a country for adding particular technology.

### 5.1 HYDROPOWER VS THERMAL - IRRELEVANCE OF COST

We have made the following comparison to demonstrate the statement above whereby the annual fuel cost for various technologies to produce 944.66 GWh (equal to the annual energy generation Asrit - Kedam Project) has been calculated as follows:

TABLE 5-1: COMPARISON OF ASRIT KEDAM WITH THERMAL PROJECTS

| Technology                  | Fuel Cost | Asrit-Kedam<br>Generation-KWh | Fuel Cost per annum |             | Cost recovery<br>Years |
|-----------------------------|-----------|-------------------------------|---------------------|-------------|------------------------|
|                             | PKR/KWh   |                               | PKR                 | USD         |                        |
| RLNG <sup>13</sup>          | 29.5270   | 944,660,000                   | 27,892,975,820      | 139,464,879 | 3.523                  |
| Imported Coal <sup>14</sup> | 28.5768   | 944,660,000                   | 26,995,359,888      | 134,976,799 | 3.640                  |
| Furnace Oil <sup>15</sup>   | 24.5703   | 944,660,000                   | 23,210,579,598      | 116,052,898 | 4.233                  |

While the Power Purchaser and the regulator have all the right and mandate to validate the prudence of the capital cost, consideration should be given to the substantial fuel cost savings in the decision-making. It would not be prudent to discard or delay the hydropower because of high capital cost when a typical hydro project shall recover its total capital cost only in three to four years on fuel savings. Additionally, this shall save substantial import bills, which is especially important for a country like Pakistan.

<sup>13</sup> TRF-85 HPGCL FPA May 2022 20-06-2022 10348-52.pdf (nepra.org.pk)

<sup>14</sup> TRF-308 HSRPEL FPA May 2022 07-06-2022 9172-76.PDF (nepra.org.pk)

<sup>15</sup> TRF-92 HUBCO FPA Apr 2022 08-06-2022 9284-88.PDF (nepra.org.pk)

## 5.2 HYDROPOWER VS RENEWABLES (SOLAR & WIND)

Primarily, the point to consider is reliability while comparing the tariff of hydropower with other renewables like solar and wind. Other renewable produce energy whenever a particular resource is available, regardless of the electricity demand. On the other hand, a typical run of the river hydro plant works as a base load plant and does not create a capacity trap and shadows the peak demand curve of the country.

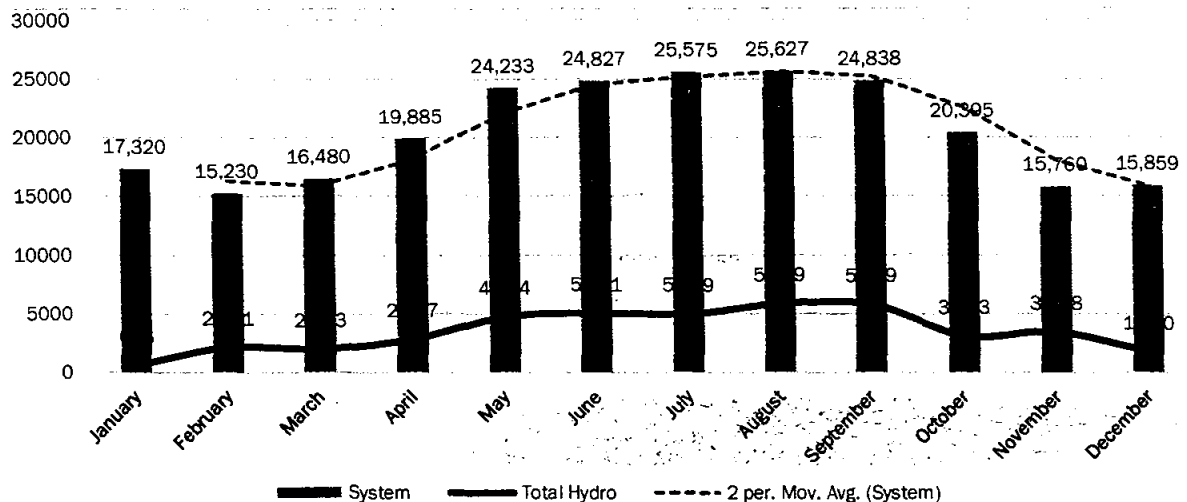


FIGURE 5-1: COUNTRY DEMAND CURVE VS. HYDROPOWER GENERATION

In addition to the above significant advantage, hydropower provides unparalleled ancillary services like grid stability, peaking power, and black starts. Similarly, being a mature technology, hydropower has a significantly longer life (about 80-100 years) compared to competing technologies, which have a life span of about 20-25 years. Unfortunately, in Pakistan, tariffs are worked on discounted cash flow method, which completely ignores the benefits of hydropower after 30 years, and tariff calculations do not provide any credit or discount for ancillary services. The following table shows the “adjusted tariff” of hydropower considering previously mentioned factors based on conservative assumptions.

| Description                     | Tariff (US cents/kWh) |       |
|---------------------------------|-----------------------|-------|
| Levelized Tariff (Asrit-Kedam)  |                       | 7.106 |
| Adjustment of Water Use Charges | 0.243                 |       |
| Reactive Power (94.66 kVarh)    | 0.533                 |       |
| Peaking Power                   | 0.286                 |       |
| Onshore Tax Impact              | 0.300                 |       |
| Total Impact                    |                       | 1.362 |
| Adjusted Tariff                 |                       | 5.744 |

**Assumptions:**

- i) Water Use Charges are only applicable to hydropower. The Company does not make any money from it and is obligated to pay the relevant provincial Government. Other renewables do not pay for resource costs.
- ii) Typical hydropower produces reactive power ranging from 10% to 20% based on the relevant power factors. Reactive power stabilizes the grid, clears the fault, and helps maintain the voltage levels. Ideally, the reactive power tariff should be equal to the power tariff, however, conservatively, a discount of 25% has been applied, and reactive power of only 10% has been assumed for this Project.
- iii) A typical run of river hydro can produce a peaking power of about 2-4 hours daily, depending on the reservoir's size. DISCOs typically charge PKR 6/kWh additional peaking power. For this Project, 2 hours per day peaking has been assumed.
- iv) A significant portion (about 70%) of hydropower EPC comprises civil works cost, which attracts an onshore withholding tax of 7%. Until recently, offshore contracts were exempt from such taxes. For other technologies, the major portion of EPC works comprises offshore works, which did not attract such tax.

### **5.3 COST AND TARIFF COMPARISON WITH INTERNATIONAL PROJECTS**

For the comparison of our Levelized Tariff with international projects, we would like to quote the following section about hydropower cost and the tariff published by International Renewable Energy Agency (IRENA)

*"Hydropower has historically provided the backbone of low-cost electricity in a significant number of countries around the world and is often the cheapest way to generate electricity where good, unexploited resources exist. In addition to the electricity generated, where reservoir storage exists, hydropower can also contribute to system stability and provide a range of ancillary grid services. The LCOE of large-scale hydro projects at high-performing sites can be as low as USD 0.020/kWh, while average costs were of the new capacity added in 2019 was slightly less than USD 0.050/kWh.*

*For large hydropower projects the weighted average LCOE of new projects added over the past decade in China and Brazil was USD 0.040/kWh, around USD 0.080/kWh in North America and USD 0.120/kWh in Europe. For small hydropower projects (1-10 MW) the weighted average LCOE for new projects ranged between USD 0.040/kWh in China, 0.060/kWh in India and Brazil and USD 0.130/kWh in Europe.*

*Hydropower technologies are mature and cost reduction potentials are therefore small and generally limited to improvements in civil engineering techniques and processes. However, its low cost, its growing importance – where storage reservoirs exist – in facilitating the high*

penetration of variable renewables and unrivalled ability to provide grid flexibility make hydropower an increasingly valuable component of the energy transition.

The total installed costs for most hydropower projects commissioned between 2010 and 2019, range from a low of around USD 600/kW to a high of around USD 4 500/kW. However, given the highly site-specific nature of hydropower it is not unusual to find projects costs outside this range. For instance, installing hydropower at an existing dam built for other purposes may have costs as low as USD 450/kW. On the other hand, projects at remote sites, can be economic despite the additional costs due to lack of local infrastructure, given the costs of alternative generation or grid connection can be much higher.”

The installed Cost of the Asrit-Kedam Project is USD 2,141/KW, and LCOE US\$ 0.054/kWh comfortably falls within the lower ranges of international precedents.

#### 5.4 TARIFF COMPARISON WITH LOCAL PROJECTS

The reference tariff of the Project compares favourably with the recently approved projects, as provided in Table 5-2.

TABLE 5-2: TARIFF COMPARISON OF LOCAL HYDROPOWER PROJECTS

| Project         | Capacity | Tariff (US\$/kWh) | Year |
|-----------------|----------|-------------------|------|
| Karot           | 720      | 7.6152            | 2016 |
| New Bong Escape | 84       | 8.5453            | 2009 |
| Arkari Gol      | 98       | 7.9175            | 2018 |
| Gulpur          | 102      | 9.0241            | 2015 |
| Patrind         | 147      | 8.2936            | 2012 |
| Suki Kinari     | 862      | 8.8145            | 2014 |
| Azad Pattan     | 700      | 7.3532            | 2018 |
| Asrit-Kedam     | 229      | 7.1058            | 2022 |

#### 5.5 PROJECT BARRIERS

Every hydropower project faces some common and some site-specific set of hurdles and engineering solutions which impact the overall costs of the development. In the sections below, we have highlighted some site-specific barriers which have contributed to significant changes in the costs and hence generation tariff of the Project.

### 5.5.1 PROJECT FINANCING

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The economic situation of Pakistan is complex and has been affected by several factors, including political instability, lack of government support, and high levels of debt. The country has high levels of poverty, debt, and unemployment. Credit ratings of the country are downgraded to negative due to this lacklustre economic growth and mismanagement. Pakistan has a large trade deficit and is heavily dependent on foreign aid and loans to support its economy. The country has struggled to attract foreign investment due to political instability and a lack of infrastructure. Project financing is a significant issue considering the Project's location and the country's current economic situation.

### 5.5.2 SECURITY ISSUES

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Due to mounting frictions in the neighbouring areas, the security of ex-pats and local staff is another issue of concern. The Company may require additional funds to ensure the security of the workforce employed on the Project site during the construction and operations phases. Although a tentative budget has been made at this stage to contemplate the security expenses required, the Company shall make a strategy and final budget after consultation with relevant defence organizations.

## 5.6 PROJECT BENEFITS

Like most hydropower schemes, the Project requires a higher upfront investment; however, it is more cost-effective eventually. The operating costs of the Project are meagre & it requires little maintenance, which shall help save on recurring maintenance costs even after the end of the concession period.

The Project shall also enhance the country's energy independence by relying on indigenous resources. The project shall ease the burden on the foreign exchange reserves of the country in the longer run by replacing more expensive thermal projects depending on non-indigenous resources.

More details about the benefits of the Project are summarized in Chapter 16, Volume-1 of the Feasibility Study, attached as Annex-6 of the Petition.

### 5.6.1 DEVELOPMENT OF ADJACENT PROJECTS

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Successful development of the Project shall pave the way for the development of neighbouring projects in the area. The Project shall set the models for project financing, insurance, security, access roads and mobilization strategy.

### 5.6.2 ECONOMIC BENEFITS

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An entire chapter on the Economic & Financial Analysis of the Project is available in the attached Feasibility Study Report of the Project. [Appendix-XV, Chapter 19 of Volume-1]

Economic analysis results show that the Project is highly viable when analysed as a standalone infrastructure activity. Positive Economic NPV with a B/C ratio above 1 and Economic IRR of 13.81% provide the basis to further develop the Project. The average price of US\$ 57.45/ mWh, coupled with the ancillary benefits of hydropower projects, is highly competitive compared to similar projects in the region and country.

Further, a thermal alternative is more sensitive to gas price increases. The prevailing vulnerability of gas prices in the world market favours the development of the Project despite higher initial costs. Under current market trends and expectations, thermal generation in the future shall not be favoured against hydro projects.

### 5.6.3 COMMUNITY BENEFITS

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The social uplift Program has been made part of Project ESIA, and Company plans to rehabilitate the concerned area per the Program to avoid any deforest status and provide an equivalent environment after construction.

The project implementation is expected to raise the hopes of the project area population for their general welfare. The Company plans to provide facilities in the form of education, health, improvement of existing access roads and development of parks to the people of the project area. Considering the betterment of the local community, socio-environmental development plans have been proposed.

- i) Provide basic civic amenities like streetlights, drinking water facilities etc.
- ii) Vegetation along the dam, reservoir banks, powerhouses, and roads
- iii) Development Schemes like Medical Treatment & Health Care Centre
- iv) Organized Health Camps for the villagers in partnership with the nearby hospital
- v) Distribute free medicine to health sufferers
- vi) Organize Polio & other Vaccination drives.
- vii) Organize specialized medical camps such as eye treatment, malnutrition, dental treatment, gynaecological treatment,
- viii) Provide disability access infrastructures for People with Disabilities (PWDs)
- ix) Upgradation of Schools
- x) Provision of scholarships for the eligible people of the affected project area.

- xi) Raise awareness for child literacy and adult literacy programs.
- xii) Distribute study materials
- xiii) Equip schools with reference books, blackboards or other teaching aids, sports kits
- xiv) Technical and vocational skills enhancement schemes
- xv) Others, via Public Consultations

## 6. ASSUMPTIONS OF PETITION

The Reference Tariff for the Project, as presented in Section 4 above, is computed based on costs documented in Section 3 of this Petition. The Project cost and the Reference Tariff, as determined according to this Petition, shall be subject to adjustment for the following Cost Reopeners at COD stage tariff determination.

### 6.1 TUNNEL COST VARIATION

NEPRA Tariff Mechanism for Hydropower Projects (hereinafter "Mechanism") provides mitigation for changes in rock quality by allowing adjustments on the COD stage. Adjustments allowed are due to variations in different rock categories within overall design parameters and escalation in unit rates due to input costs.

The following formulas shall be used to calculate the reference and adjusted cost of tunnel construction.

EQUATION 6-1: REFERENCE TUNNEL CONSTRUCTION COST

$$TCC_{ref} = \sum_{x=1}^n (Q_{xRef} * R_{xRef})$$

Where,

$TCC_{ref}$  = Reference Tunnel Construction Cost

$Q_{xRef}$  = Reference Quantity of Rock Category "x."

$R_{xRef}$  = Reference Unit Rate of Rock Category "x."

The Company shall submit details of actual rock classification on COD stage tariff, supported by the report & certificate issued by the Re-opener verifier to NEPRA for adjustment in Project cost and the Reference Tariff. The adjustment shall be made using the following formula subject to the caveat expressed in Equation 4.

## EQUATION 6-2: ADJUSTED TUNNEL CONSTRUCTION COST

$$TCC_{adj} = \sum_{x=1}^n (Q_{xAct} * R_{xRef})$$

Where.

$TCC_{adj}$  = Adjusted Tunnel Construction Cost

$Q_{xAct}$  = Actual Quantity of Rock Category "x."

$R_{xRef}$  = Reference Unit Rate of Rock Category "x."

### 6.1.1 CAVEAT IN ADJUSTMENT OF TUNNEL COST

Escalations in unit rates and adjustments in rock categories are subject to the following caveat as per Mechanism.

## EQUATION 6-3: CAVEAT IN TUNNEL COST ADJUSTMENT

$$\sum_{x=1}^n Q_{xRef} = \sum_{x=1}^n Q_{xAct}$$

This means that any variation in total quantity is prohibited, and only changes within distinct categories are subject to adjustments.

## 6.2 LAND ACQUISITION & RESETTLEMENT

Section 3.1.2.7 provides detailed cost estimates for the acquisition of land and resettlements required for the development of the Project. Project Cost shall be adjusted on Commercial Operations Date with the actual land acquisition and resettlement costs (including but not limited to land acquisition cost, house and structures compensation, livelihood restoration, family packages, infrastructure improvement/restoration, land improvements, cost of facilities, structures and trees, restoration of access (through bridges or other means) or other activities directly related with the land acquisition or resettlement) incurred by the Company. The relevant component of the RTT shall be revised at the Commercial Operations Date to incorporate the variation related to changes in the cost of land acquisition and resettlement on the provision of documentary evidence to the Power Purchaser.

## 6.3 CONSTRUCTION COST

Construction costs, as explained in Section 3.1.1 of this Petition, are calculated based on the rates available during the feasibility study period. On the EPC tariff stage, a revised reference

date shall be agreed upon with the EPC contractor ("Reference EPC Cost") for escalation in cement, labour, steel, and fuel rates.

Reference Construction Cost, as demonstrated in Table 3-3, shall be bifurcated into local currency component and foreign currency component at the EPC stage tariff. The total Reference Construction Cost shall be calculated as follows.

EQUATION 6-4: REFERENCE EPC COST

$$EPC_{ref} = FC_{ref} + LC_{ref}$$

Where.

$EPC_{ref}$  = Reference Total EPC Cost

$FC_{ref}$  = Offshore/ Foreign component of Reference EPC Cost

$LC_{ref}$  = Onshore/ Local component of Reference EPC Cost

Final EPC cost shall be adjusted using the following formula on the COD stage tariff.

EQUATION 6-5: ADJUSTED EPC COST

$$EPC_{adj} = FC_{ref} + LC_{adj}$$

Where.

$EPC_{adj}$  = Adjusted Total EPC Cost on COD stage

$LC_{adj}$  = Adjusted Onshore/ Local component of EPC Cost

Adjusted Onshore portion of EPC costs, i.e.,  $LC_{adj}$ , shall be calculated using the following formula.

EQUATION 6-6: ADJUSTED PART OF ONSHORE/ LOCAL EPC COST

$$LC_{adj} = \sum_{x=1}^n W_c \left( \frac{C_x}{C_{ref}} \right) + W_s \left( \frac{S_x}{S_{ref}} \right) + W_l \left( \frac{L_x}{L_{ref}} \right) + W_f \left( \frac{F_x}{F_{ref}} \right)$$

Where.

$x$  = Month of  $LC_{ref}$  payment starting from 1 to "n" number of months.

$W_c$  = Weight/ Coefficient of Cement in  $LC_{ref}$

$W_s$  = Weight/ Coefficient of Steel in  $LC_{ref}$

$W_l$  = Weight/ Coefficient of Labour in  $LC_{ref}$

$W_f$  = Weight/ Coefficient of Fuel in LCref

$C_x$  = Cost/ indices of Cement in month "x."

$S_x$  = Cost/ indices of Steel in month "x."

$L_x$  = Cost/ indices of Labor in month "x."

$F_x$  = Cost/ indices of Fuel in month "x."

$C_{ref}$  = Cost/ indices of Cement on the reference date

$S_{ref}$  = Cost/ indices of Steel on the reference date

$L_{ref}$  = Cost/ indices of Labor on the reference date

$F_{ref}$  = Cost/ indices of Fuel on the reference date

## 6.4 INTEREST RATES

As discussed in Section 3.3, reference debt terms are based on initial discussions with prospective lenders of the Project, which shall be finalized and locked at financial close. However, per Policy, changes in prime rate, i.e., LIBOR and KIBOR, are assumed as pass-through items during the operation phase. Similarly, any changes in prime rate during the construction period shall be adjusted on the COD tariff stage using the following formula.

EQUATION 6-7: CALCULATION OF ADJUSTED IDC

$$IDC_{act} = \sum_{x=1}^n \left( D_x * \frac{k_x}{k_{ref}} \right)$$

Where.

$x$  = Month of Debt Disbursement starting from 1 to "n" number of months.

$D_x$  = Debt Disbursement in Month "x"

$K_x$  = Prime rate (LIBOR/ KIBOR as the case may be) at time "x."

$K_{ref}$  = Reference Prime Rate (LIBOR/ KIBOR as the case may be)

## 6.5 TAXES & DUTIES

Project costs, as discussed in Section 3 of this Petition, contain certain assumptions regarding taxes and duties applicable to Project as per government policies and procedures. This section explains the assumptions of cost calculation and later adjustments in tariff.

### **6.5.1 SALES TAX ON EPC**

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Due to variations in sales tax rates for CPEC and non-CPEC projects, this cost has been assumed to be 1% of the EPC cost of the Project. The Company shall try to opt for a concessionary sales tax rate for CPEC projects and shall finalize this aspect of cost on the EPC stage tariff of the project. We understand that in the Gulpur hydropower project, NEPRA has allowed a 1% sales tax, though the project is a non-CPEC project.

### **6.5.2 WITHHOLDING TAX**

---

Only a 7% withholding tax has been assumed on onshore civil works. Any other withholding taxes and sales tax on invoices issued under the EPC contract shall be allowed with the corresponding adjustments in tariff.

No provision for withholding tax has been made for the offshore component of EPC cost; therefore, the cost shall be adjusted for any impact due to these factors.

### **6.5.3 CUSTOM DUTY & CESS**

---

Only 5% of electrical & mechanical cost, as detailed in Section 3.1.2.5, is considered a custom duty applicable to the Project. For Sind Infrastructure Cess @1.15% of the E&M Cost is also included in this head. Other cesses (including the Khyber Pakhtunkhwa Infrastructure Development Cess Act, 2022), charges, and fees applicable on the import of Project components are not considered at this stage.

### **6.5.4 CORPORATE INCOME TAX**

---

No provision for income tax has been accounted for in the Tariff. In case the company is obligated to pay any tax on its income from generation of electricity, or any duties and/or taxes, not being of refundable nature, are imposed on the Company, the exact amount paid by the Company on these accounts shall be reimbursed on production of original receipts in lump sum and this payment shall be considered as a pass-through payment.

## **6.6 RETURN ON EQUITY**

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Return on equity forms a significant part of the Project tariff, and adjustments thereto shall be made according to escalations/ indexations available according to Policy and NEPRA guidelines at the COD stage tariff as follows.

### **6.6.1 SPECIAL ROE**

---

A Special Return on Equity (SROE) per annum has been assumed starting 30 months before the financial close of the Project. An estimate has been made and presented in this Petition

regarding expected equity drawdowns during this period, and SROE has to be included in the calculation of the Project Tariff. However, actual equity drawdowns may vary depending on the progress of the Project.

Adjustments in SROE shall be made on the COD stage tariff as follows.

EQUATION 6-8: ADJUSTED SPECIAL ROE-ON COD STAGE TARIFF

$$SROE_{adj} = \sum_{x=-1}^{-30} \{E_x * k_e\}$$

Where.

$x$  = Month starting from the financial close date to 30 months before the financial close.

$E_x$  = Equity contribution during the month " $x$ ."

$K_e$  = Cost of Equity as mentioned in Section 3.3 above.

## 6.6.2 RETURN ON EQUITY DURING CONSTRUCTION

Return on equity during construction has been calculated analogously to SROE, which is also based on estimated cash outflows of the Project during the construction period. This tariff component shall be adjusted on the COD stage tariff using the following formula.

EQUATION 6-9: ADJUSTED ROE DC ON COD STAGE TARIFF

$$ROEDC_{adj} = \sum_{x=1}^{60} \{E_x * k_e\}$$

Where.

$x$  = Month starting from the financial close date to 60 months after the financial close.

$E_x$  = Equity contribution during the month " $x$ ."

$K_e$  = Cost of Equity as mentioned in Section 3.3 above.

### 6.6.2.1 CAVEAT IN ADJUSTMENT OF ROE

Adjustments in SROE and ROEDC, as discussed in the above sections, are subject to the following caveat as per Policy and various regulations of NEPRA.

## EQUATION 6-10: CAVEAT IN ADJUSTMENT OF SROE AND ROEDC

$$\sum_{x=-30}^{60} E_x = E_{ref}$$

Where.

$x$  = Month starting from 30 months before the financial close date to 60 months after the financial close.

$E_x$  = Equity contribution during the month " $x$ ."

$E_{ref}$  = Reference Equity Amount as mentioned in EPC Tariff Determination.

## 6.7 LENDER FEES & CHARGES

As per Guidelines, Lender Fees & Charges shall be adjusted based on actual evidence of final Project debt at the time of the COD stage tariff.

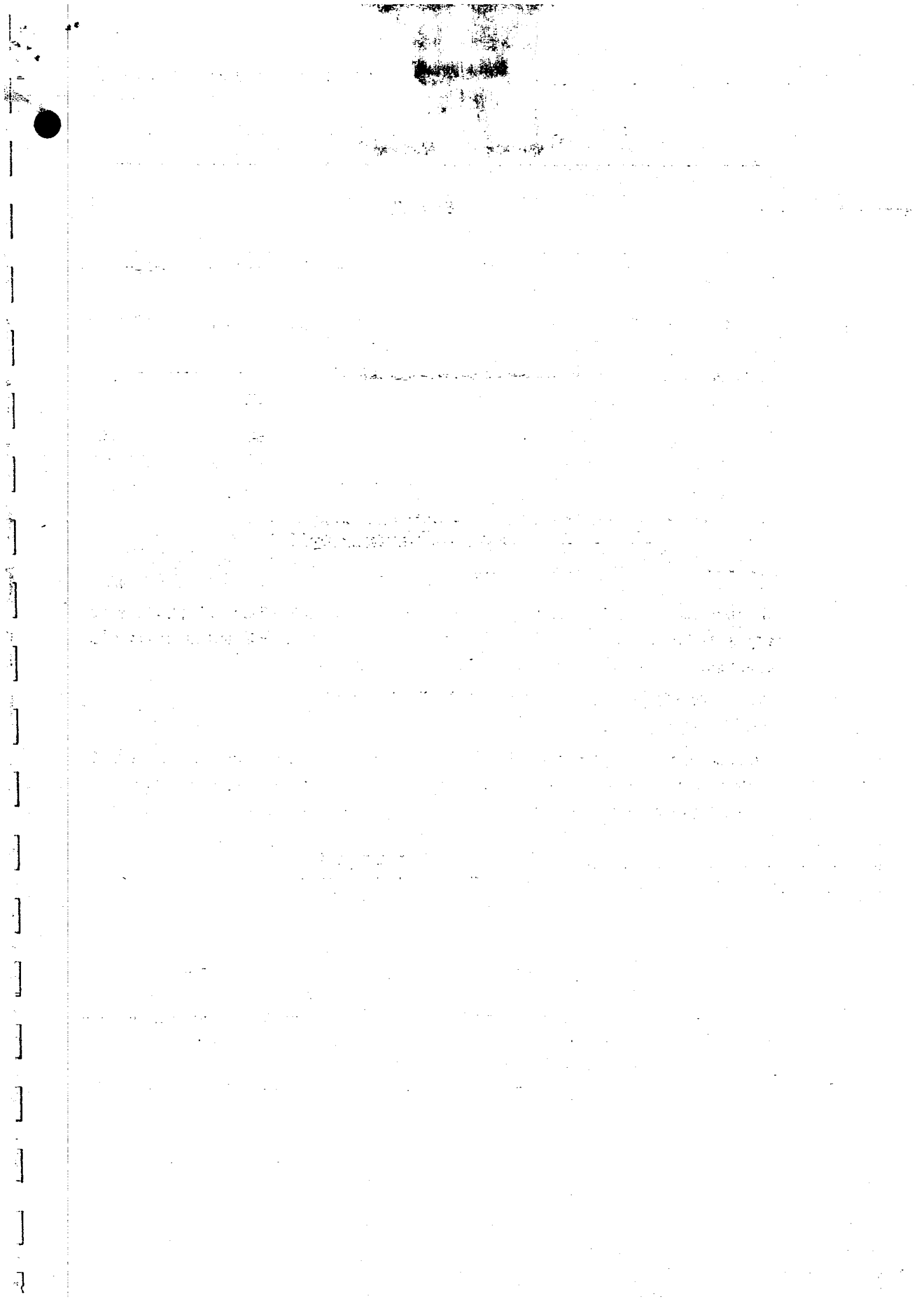
## 6.8 INSURANCE DURING CONSTRUCTION

The reference cost of insurance during construction is US\$ 7.47 million, being 2.0% of the aggregate Construction Cost, and such insurance cost shall be adjusted at Commercial Operations Date based on the actual EPC Cost & Insurance rate.

## 6.9 INSURANCE DURING OPERATIONS

Arrangements of insurance during operations shall be finalized before the filing of the COD stage tariff proposal by the Company. This component shall be therefore adjusted on the COD stage after the provision of verifiable evidence of rates negotiated with the insurance provider.

**\*\*\*\*\* The End \*\*\*\*\***



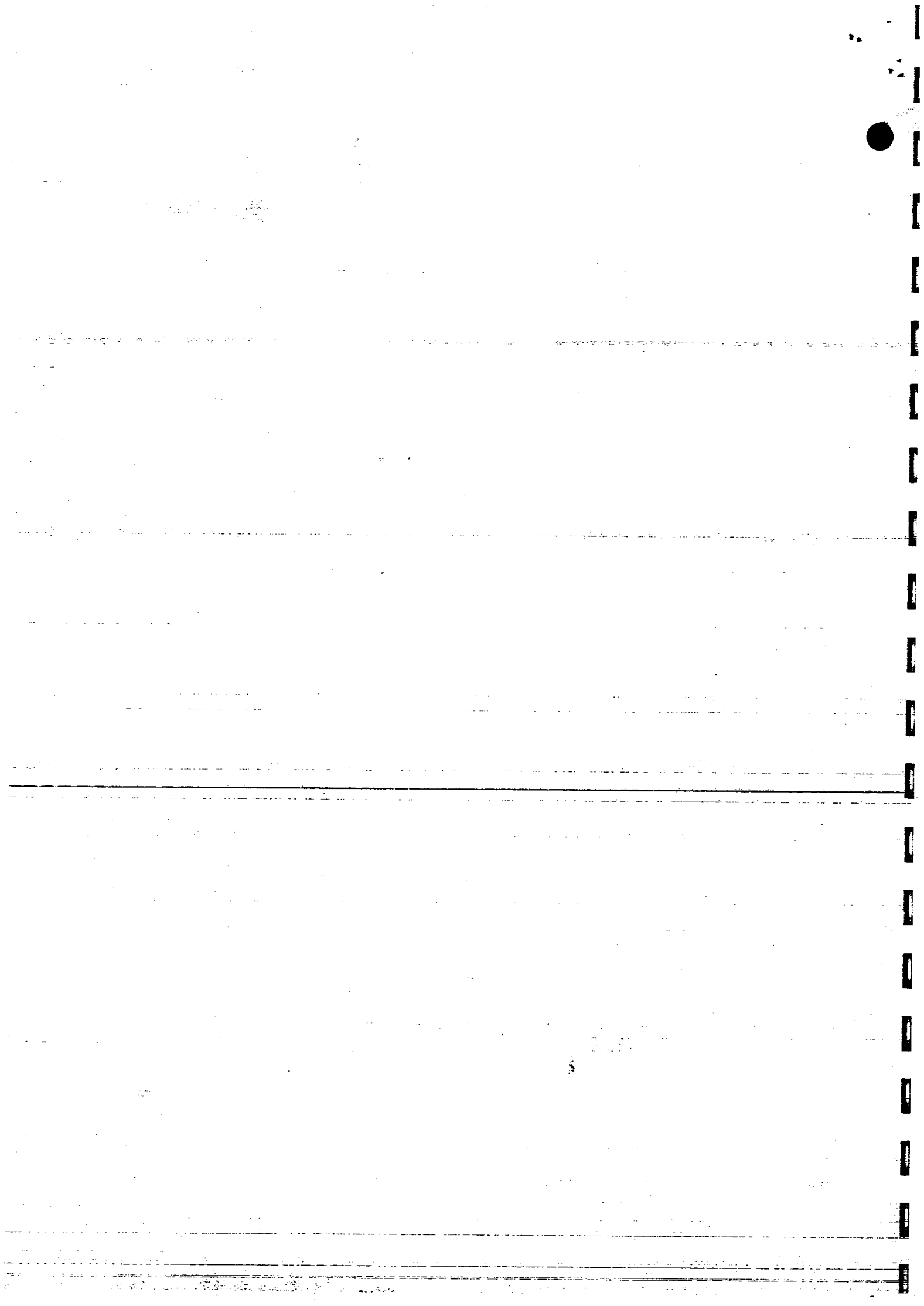


[The body of the document contains several paragraphs of text that are extremely faint and illegible due to the quality of the scan. The text appears to be organized into a structured format, possibly a report or a letter, with multiple lines of text per paragraph. A prominent horizontal line is visible across the middle of the page, suggesting a section break or a header/footer separator. The right edge of the page shows a vertical strip of text, likely a margin or a binding artifact.]

# ● APPENDICES TO PETITION

## 229 MW ASRIT KEDAM HYDROPOWER PROJECT





## APPENDICES

The Tariff Petition (including the following Appendices) is submitted together with the following:

| Appendix | Description                                                                                                                                                        |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I.       | Letter of Intent issued by Pakhtunkhwa Energy Development Organization (PEDO) in favour of project sponsors                                                        |
| II.      | Approval Letter of the Feasibility Study by PEDO                                                                                                                   |
| III.     | Grid Interconnection Study submitted to National Transmission & Despatch Company Limited                                                                           |
| IV.      | Environmental & Social Impact Assessment ("ESIA") Approval issued by the Directorate of Environmental Protection Agency, Peshawar Government of Khyber Pakhtunkhwa |
| V.       | Reference Tariff Table                                                                                                                                             |
| VI.      | Debt Repayment Schedule                                                                                                                                            |
| VII.     | Summary of Cost Estimates                                                                                                                                          |
| VIII.    | Board Resolution of KOAK Power Limited                                                                                                                             |
| IX.      | Affidavit of Mr Yoon An Sang, CEO                                                                                                                                  |
| X.       | Copies of Bank Draft for Tariff Determination Fee                                                                                                                  |
| XI.      | Certified Company Incorporation Certificate                                                                                                                        |
| XII.     | Certified True Copy of Article of Association of the Company                                                                                                       |
| XIII.    | Certified True Copy of Memorandum of Association of the Company                                                                                                    |
| XIV.     | Copy of submission of application for Generation License                                                                                                           |
| XV.      | Approved Feasibility Study of the Project                                                                                                                          |
| XVI.     | Previous Feasibility Approval Letter by POE of PPIB                                                                                                                |
| XVII.    | Rejection Letter for FS stage tariff petition from NEPRA                                                                                                           |
| XVIII.   | Termination Notice of LOI by PPIB to YBG                                                                                                                           |
| XIX.     | Bills of Quantities as per Approved Feasibility Study                                                                                                              |
| XX.      | Quotation for Project Insurance                                                                                                                                    |
| XXI.     | Feasibility Rights Purchase Agreement                                                                                                                              |



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# APPENDIX – I

Letter of Intent issued by  
Pakhtunkhwa Energy Development  
Organization (PEDO) in favor of  
project sponsors.

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition





# P E D O

## PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION Government of Khyber Pakhtunkhwa Peshawar



No. 431-38/PEDO/DREPP/KOEN/LOI

Dated: 23.06.2021

To

M/S Korea South East Power Company (Lead Applicant), through  
M/s KOAK Power Limited (Project Company),  
Plot # 7-C, G-8 Markaz,  
Islamabad.

Subject: LETTER OF INTENT (LOI) FOR APPROXIMATELY 215 MW ASRIT-KEDAM  
HYDRO POWER PROJECT (the "Project")

### WHEREAS

- A) Government of Khyber Pakhtunkhwa (GoKP) signed Memorandum of Understanding (MOU) on May 15, 2017 with M/S Korea South East Power Company (KOEN) for the development of 215 MW Asrit-Kadam Hydropower Project under the KP Hydro Power Policy 2016. Notice to Proceed (NTP) was issued on January 10, 2018.
- B) Proposal dated November 17, 2020 including the Statement of Qualification (SOQ) (the "Proposal") was submitted by M/S Korea South East Power Company (KOEN) (the "Main Sponsor"), having its registered address at 32, Sadeul-ro 123beon-gil, Jinju-si, Gyeongsangnam-do, Korea; (Main Sponsor Korea South East Power Company (KOEN) referred herein as the "Sponsors");
- C) PEDO issued No Objection Certificate (NOC) dated June 21, 2021; and
- D) The Main Sponsors through KOAK Power Limited delivered an irrevocable, unconditional, on demand bank guarantee No. HMB/LG/99/02/1500017/2021 dated June 21, 2021, on terms acceptable to PEDO, issued by Habib Metropolitan Bank Limited, Islamic Banking Branch, Hill View Plaza, Near Fresco Sweets, Jinnah Avenue, Blue Area, Islamabad, in the amount of US \$ 215,000/- (United State Dollar Two Hundred and Fifteen Thousands only) valid up to June 20, 2024 (hereinafter referred to as the 'Performance Guarantee') in favour of PEDO.

### NOW THEREFORE

In terms of the provisions of the KP Hydro Power Policy 2016 and associated Guidelines (the "Policy"), the LOI is issued to the Sponsors for updating/conducting a bankable feasibility study (the "Feasibility Study") for establishing, in private sector, an approximately 215 MW **Asrit-Kadam Hydropower Project** to be located on Swat River in Swat District, Khyber Pakhtunkhwa (KP), Pakistan (the "Project") and to perform such actions as provided hereinafter in accordance with the following terms and conditions:

Room # 332, Plot # 38 / B-2, PEDO House, Phase-5, Hayatabad, Peshawar, Tel: 091-9217246



# P E D O

**PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION**  
Government of Khyber Pakhtunkhwa Peshawar



1. The Sponsors shall be required to update/carry out the Feasibility Study, complete, at internationally acceptable standards and in accordance with the terms and conditions stipulated in the Policy for the Project, **at no risk and cost to, and without any obligation on part of, the GOKP and its agencies**, within **12 months** from the date of issuance of this LOI. Indicative Terms of Reference (TOR) for the Feasibility Study at **Annex-A**. The Feasibility Study shall include, but not limited to, an environmental & social impact assessment study, optimized layout of the Project components, detailed design of power house and its allied structures, load flow and stability studies, design of interconnection/transmission lines, details pertaining to infrastructure, detailed bill of quantities and rate analysis of major items, project cost, financing plan, financing terms, tariff calculations and assumptions of financial calculations including economic/financial analysis. You are advised to liaise with the power purchaser while determining your plant size and site, project layout, transmission line and interconnection arrangements, etc. In addition you will also be required to liaise and coordinate with the sponsors of other upstream and downstream projects at Swat River in order to ensure that the design and other parameters/features of the Project do not affect such other projects.
2. The Sponsors shall submit detailed project milestones within one month of signing of this LOI and shall submit monthly progress reports showing progress against these milestones.
3. PEDO will appoint a Panel of Experts (POE) to monitor the conduct of the Feasibility Study and its progress, to verify attainment of the aforesaid milestones and to ensure implementation of the project consistent with national and provincial needs.
4. The Sponsors shall be jointly and severally liable for all obligations and liabilities hereunder. Furthermore, the approval of Feasibility Study by PEDO is subject to fulfillment by the Sponsors of the terms and conditions under and in accordance with the Policy and commitment made under SOQ.
5. Within ninety (90) days after the approval of Feasibility Study by GOKP/PEDO, you are also required to finalize and file a complete feasibility stage tariff petition before National Electric Power Regulatory Authority (NEPRA) in accordance with NEPRA's Mechanism for Determination of Tariff for Hydropower Projects. Furthermore, within sixty (60) days after such tariff determination / approval by NEPRA of the feasibility stage tariff, the Sponsors, after meeting all requirements under the Policy including but not limited to posting of an irrevocable, unconditional, on demand bank Guarantee on terms acceptable to PEDO/PPIB in an amount equal to US\$ 5,000/MW shall apply to PPIB for issuance of Tripartite Letter of Support (LOS).
6. PEDO shall be entitled to encash the Performance Guarantee and the LOI shall stand terminated without any notice. In the event, the Sponsors delays, defaults or fails either to:
  - i. Complete Feasibility Study within **12 months** from the date of issuance of this LOI in accordance with the terms hereof.
  - ii. File petition before NEPRA, in accordance with NEPRA's Mechanism for Determination of Tariff for Hydropower Projects, within ninety (90) days of the



P E D O



**PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION**  
**Government of Khyber Pakhtunkhwa Peshawar**

approval of the Feasibility Study by GOKP/PEDO, for tariff determination.

- iii. Apply to PPIB for issuance of Tripartite LOS within sixty (60) days of tariff determination by NEPRA; or
- iv. Extend the validity of the Performance Guarantee as and when required.

7. If PEDO acting in its sole discretion determines that any extension is required by the Sponsors in relation to their obligations to achieve any milestone(s) under the LOI, PEDO shall be entitled acting on an application in writing made to it by the Main Sponsors at least thirty (30) days before the expiry of such milestone, to grant in writing to the Sponsors such extension as is prescribed under and subject to such conditions as provided in the Policy.

8. The Performance Guarantee shall secure the Sponsor's obligations under and in accordance with the terms of this LOI. The Performance Guarantee shall remain valid and in full force until the date falling three (3) months beyond the expected date for issuance of Tripartite LOS, If the Performance Guarantee is due to expire within thirty (30) days and is required to be maintained by the Sponsors, the Sponsors shall renew the Performance Guarantee no later than ten (10) days before its expiry, failing which PEDO shall be entitled to encash the Performance Guarantee in full and hold such cash as security for the obligations of the Sponsors under the LOI.

9. The Sponsors shall hold not less than fifty one percent (51%) of the equity during Lock in Period (commencing from the date of issuance of this LOI until the sixth (6<sup>th</sup>) anniversary of the commissioning of the Project). The Main Sponsor shall hold not less than twenty percent (20%) of the equity during the Lock in Period.

10. This LOI shall be effective from the date hereof, and remain valid till the issuance of Tripartite LOS by PPIB or unless terminated earlier in accordance with the terms hereof. **Nevertheless, this LOI shall lapse if the signed copy is not received at PEDO within fifteen (15) days of its issuance.**

11. This LOI shall in no way be construed as an award of the Project as no such vested legal or contractual rights shall accrue, in your favor, till such time, valid Project Agreements (as defined in the LOS) are executed in accordance with the terms and conditions contained therein.

12. Issuance of this LOI or any act done in terms hereof or its termination, lapse or expiry or Sponsors' conduct of Feasibility Study hereunder cannot form the basis of any claim for compensation or damages by the Sponsors or any party claiming through them against the Government of Khyber Pakhtunkhwa, PEDO or any of its agencies on any grounds whatsoever, during or after the expiration, lapse or termination of the LOI.

13. The obligations and liabilities of the Sponsors under the LOI and the Performance Guarantee shall be joint and several. Any notice or communication by or to the Main Sponsor under this LOI shall be deemed a notice or communication to or by the entire Sponsors.



# P E D O

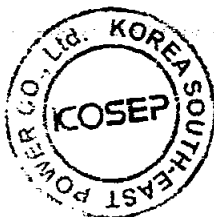
## PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION

### Government of Khyber Pakhtunkhwa Peshawar



14. The rights and obligations of the parties pursuant to and under this LOI shall be governed by the laws of Pakistan and the Courts of Pakistan shall have exclusive jurisdiction in relation to any dispute or matter arising out of or in connection herewith. The court of jurisdiction will be at Peshawar High Court.

This LOI has been issued in duplicate on the date hereof. Kindly sign the attached copy of this LOI at the place indicated and returns the same to us no later than fifteen (15) days of its issuance.



Yours sincerely,

Chief Executive Officer, PEDO

Chief Executive Officer  
PEDO

Mr. Kim Kyungsik  
CNIC/Passport: M63997854

For and on behalf of  
M/S KOAK POWER LIMITED/KOREA SOUTH-EAST POWER Co. Ltd.

Encl.: 1) Indicative Terms of Reference (TOR) for the Feasibility Study of Hydropower Project (Annex-A)

Cc:

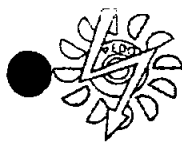
1. Chairman NEPRA, NEPRA Tower, Ataturk Avenue, G-5/1 (east), Islamabad.
2. MD NTDCL, 4<sup>th</sup> Floor, PIA Tower, Egertorn Road Lahore.
3. CEO, CPPA-G, Shaheed-e-Millat Secretariat, Blue Area Islamabad.
4. MD PPIB, Immigration Tower, G-8/1, Mauve Area Islamabad.
5. CEO PESCO, WAPDA House, Shami Road, Peshawar.
6. PS to Secretary E&P Department, Civil Secretariat, Peshawar.
7. PS to Secretary Environment Department, Civil Secretariat, Peshawar.

# APPENDIX – II

## Approval Letter of the Feasibility Study by PEDO

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition





# P E D O

## PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION

Government of Khyber Pakhtunkhwa Peshawar



No.241-47/PEDO/CEREPP/FS/AKHPP

Dated: May 31, 2022

To

Mr. Yoon, An Sang,  
Chief Executive Officer (CEO),  
KOAK Power Ltd.  
Korea South-East Power Company Limited, (KOEN),  
Plot 7-C, G-8 Markaz,  
Islamabad, Pakistan

**Subject: APPROVAL OF FEASIBILITY STUDY UPDATE FOR 229 MW ASRIT-KEDAM HPP,  
LOCATED ON SWAT RIVER, DISTRICT SWAT**

- References:**
- Letter of Interest (LOI) dated June 23, 2021
  - Feasibility Study submitted dated April 22, 2022
  - Minutes of POE Meeting dated April 14, 2022, issued vide PEDO letter no. 208-21/PEDO/CEREPP/PoE/MoM/AKHPP dated May 23, 2022.

PEDO is pleased to communicate following decision of Panel of experts (POE) of PEDO, monitoring the conduct of Feasibility Study for the subject project:

*"The feasibility Study for 229 MW Asrit-Kedam Hydropower Project on Swat River, District Swat carried out by the consultants for M/S KOEN is approved in accordance with KP Hydropower Policy 2016 and Associated Guidelines subsequent to NOCs from Environment Protection Agency (EPA) and Power Evacuation Consent from National Transmission & Dispatch Company Limited (NTDCL)."*

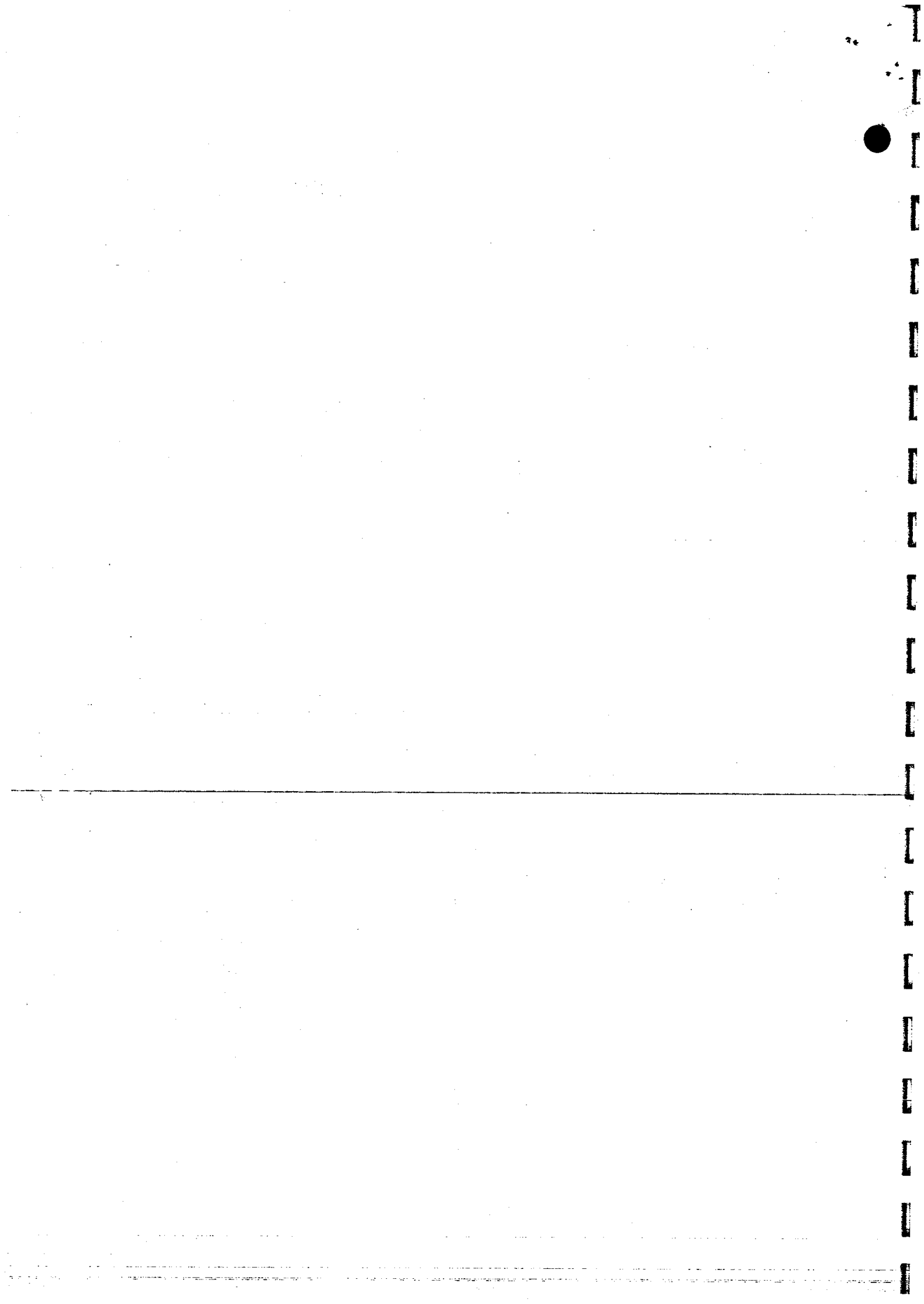
- Due to nature of data and resultant conclusion, Panel of Experts jointly and/or individually will not be responsible for reliability of data, contents and conclusions given in the feasibility study.
- As the feasibility study has been carried out at the risk & cost of the sponsor, the approval of feasibility study shall not form basis of any claim for compensation from Govt. of KP / PEDO in future.
- In accordance with the KP Hydropower Policy 2016, upon the approval of the feasibility study by the POE, you are requested to process the case for tariff determination with NEPRA within 90 days.
- PEDO appreciates your efforts to complete the feasibility study and expect the same pace and spirit for negotiation and finalizing tariff with NEPRA.

  
Director (Commercial & Tariff)  
PEDO, Peshawar

**Copy for information to:**

- Managing Director, NTDCL, Lahore.
- Managing Director, PPIB, Islamabad.
- CEO, CPPA-G, Islamabad.
- Registrar, NEPRA, Islamabad.
- PS to Secretary, E&P Department, Peshawar.
- PS to CEO, PEDO, Peshawar.

  
Director (Commercial & Tariff)  
PEDO, Peshawar





# P E D O

## PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION

Government of Khyber Pakhtunkhwa Peshawar

PEDO House, 38/B-2, Phase-V, Hayatabad, Peshawar. Tel: (+92-91) 9217246



No. <sup>208-21</sup> /PEDO/CEREPP/PoE/MoM/AKHPP

Dated: May 23, 2022

To

1. Secretary, Energy & Power Department, Peshawar
2. Secretary, Environment Department, Peshawar
3. Managing Director, NTDCL, Lahore
4. Managing Director, PPIB, Islamabad
5. Chief Executive Officer, PESCO, Peshawar
6. Chief Engineer (North), Irrigation, Peshawar
7. Mr. Amin Khalil (E&M Advisor), PEDO
8. Chief Engineer, RE/PP, PEDO
9. Director, P&F, PEDO
10. Mr. Muhammad Shafi (Geology / Geotechnical Expert)
11. Mr. Karim Khan (DD Hydrology), PEDO

Subject: **MINUTES OF THE PANEL OF EXPERT (POE) MEETING**

I am directed to refer to the subject noted above and to enclose herewith minutes of the Panel of Expert (PoE) meetings held on February 17, 2022 and April 14, 2022 in the Committee Room of PEDO House Peshawar, for review/approval of feasibility study of 229 MW Asrit Kedam HPP, District Swat.

Deputy Director (RE-I)  
Private Power

**Copy for information to:**

1. Chief Engineer (Dev), PEDO, Peshawar.
2. PS to CEO, PEDO, Peshawar.
3. Mr. Yoon, An Sang, CEO, KOAK Power Ltd.

Deputy Director (RE-I)  
Private Power

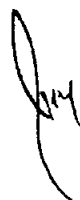


## Minutes of the Panel of Experts (PoE) of PEDO

**Dated:** February 17, 2022 in PEDO House Peshawar

1. A meeting of the Panel of Experts (PoE) was held on February 17, 2022 at 10:30 AM in the committee room of PEDO House, Peshawar to review the progress of feasibility study (FS) of 215 MW Asrit-Kedam HPP. The list of participants is attached as **Annex-I**.
2. Director REP/PP, PEDO welcomed all participants of the meeting. Afterwards, the meeting progressed towards the following agenda items.

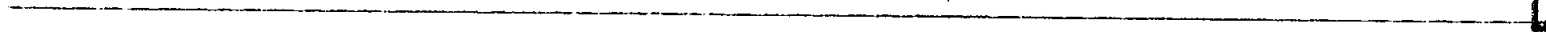
| S. No | Project                | Discussions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Recommendations/Decisions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| 1     | 215 MW Asrit-Kedam HPP | <p>The forum was informed that during the course of feasibility study review and updating, couple of PoE meetings have been conducted wherein certain comments were raised.</p> <p>The forum was further informed that during the previous meeting of the PoE the consultant presented the layout alternatives wherein conditional approval was accorded for the optimized alternative/layout including the Powerhouse location subject to confirmation from the results of additional borehole drilling at powerhouse location.</p> <p>The consultant then presented the overall progress of the FS. It was apprised that the Dam will be a floating type to be protected and reinforced through secant piling of about 15 m in length to avoid maximum possible seepage. PoE inquired about the structure analysis to which the consultant confirmed that they have carried out the same.</p> <p>PoE Geotech member inquired about the effect of right bank nullah having steep gradient and huge boulders history in floods. The consultant explained that we have proposed a boulder trap to be reinforced with concrete structure and are finalizing the design which shall be included in the final updated FS. The said solution was acknowledged and appreciated.</p> <p>i. It was apprised that previously three additional boreholes were advised to be drilled at power house site, surge tank and tailrace each, however, Geotech member explained that in a special meeting it was decided that one more borehole at power house site to be drilled and other two may be done at basic</p> | <p>PoE advised to share the structure analysis in order to verify the same through 3<sup>rd</sup> party experts. Furthermore, the consultant has to submit the design calculation report.</p> <p>Considering the Asrit-Kedam HPP as one of the cascade projects, it was advised by the PoE that the KOAK team shall sit and share the requisite information with the downstream Madyan HPP team to have mutually agreed upon operation modalities. The project sponsor agreed to the proposal.</p> <p>i. Director (RE) proposed to continue the boreholes at the surge tank and tailrace for the time being as it will save time during the next phase, however, it will not affect the FS approval process. POE member also suggested to keep the</p> |





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|  | <p>design stage. Additional bore hole at PH status was explained and the harsh weather conditions. POE geologist asked for weekly update of the drilling works and suggested a site visit in early March to physically check the core recoveries and borehole log at site.</p> <p>ii. Powerhouse type (Cavern vs Surface) was explained in detail explaining the benefits of underground power house with respect to overall technical situation along with cost and resettlement aspects. The consultant geologist also proposed that we should go for the cavern keeping in view the rock condition investigated so far.</p> <p>POE member asked about the trap efficiency and flushing period of desander. Consultant responded and referred to the attachments that trap efficiency is 77% and flushing period is 1.88 day. POE member was satisfied with the response.</p> <p>iii. It was observed that tunnel length has been increased a bit as compared to the old FS. The consultant responded that it is due to increase stability and safety. PoE inquired about the optimization analysis keeping in view this tunnel length to which the consultant responded that we have done the same. POE member from PPIB inquired about the alternate HRT option on the left bank. Consultant responded by explaining the disadvantages like increase tunnel length, , access bridges, roads and social impacts eventually translating into higher cost and construction period.</p> <p>iv. POE member from PPIB asked about the Delta Formation of sediment settling in the reservoir and its impact on the operation of the plant.</p> <p>v. POE geologist inquired about the 0.32g seismic coefficient value for PH area as it is underground and in his opinion is on the conservative side. Consultant explained in detail that Seismic hazard is less at PH as compared to DAM area and earthquake waves have less impact in the rock as compared to the surface.</p> <p>vi. POE member from PPIB requested for relevant documentation for EPC cost with unit rate analysis and construction schedule.</p> | <p>drilling machine at the site after completion of the additional drilling so that it can be used for further investigations at the next phase.</p> <p>ii. POE pointed that though we support the selection of cavern powerhouse type but with concern that detail breakup of the cost and further analysis shall be provided for both the surface and cavern PH. PPIB representative further added that the consultant shall quantify those analysis based on certain parameters like technical conditions, environmental, social, land &amp; resettlement and ultimately it will come to the costing for both types of Powerhouses as the cost difference, Justifications should be included for disqualification of surface powerhouse.</p> <p>iii. PoE agreed with the tunnel alternative, however, asked for detail back-end calculations and a detail comparative report to quantify the advantages and disadvantages of HRT at the left bank.</p> <p>iv. KOAK team responded that we would include these details in the FS updated report.</p> <p>v. POE geologist acknowledged the explanation, however, suggested to recheck the value through some assumptions data for estimating the seismic hazard for PH site and confirm it through quantifiable analysis.</p> <p>vi. Consultant agreed to provide and explain all the details of cost and construction schedule to the PoE members for their review.</p> |
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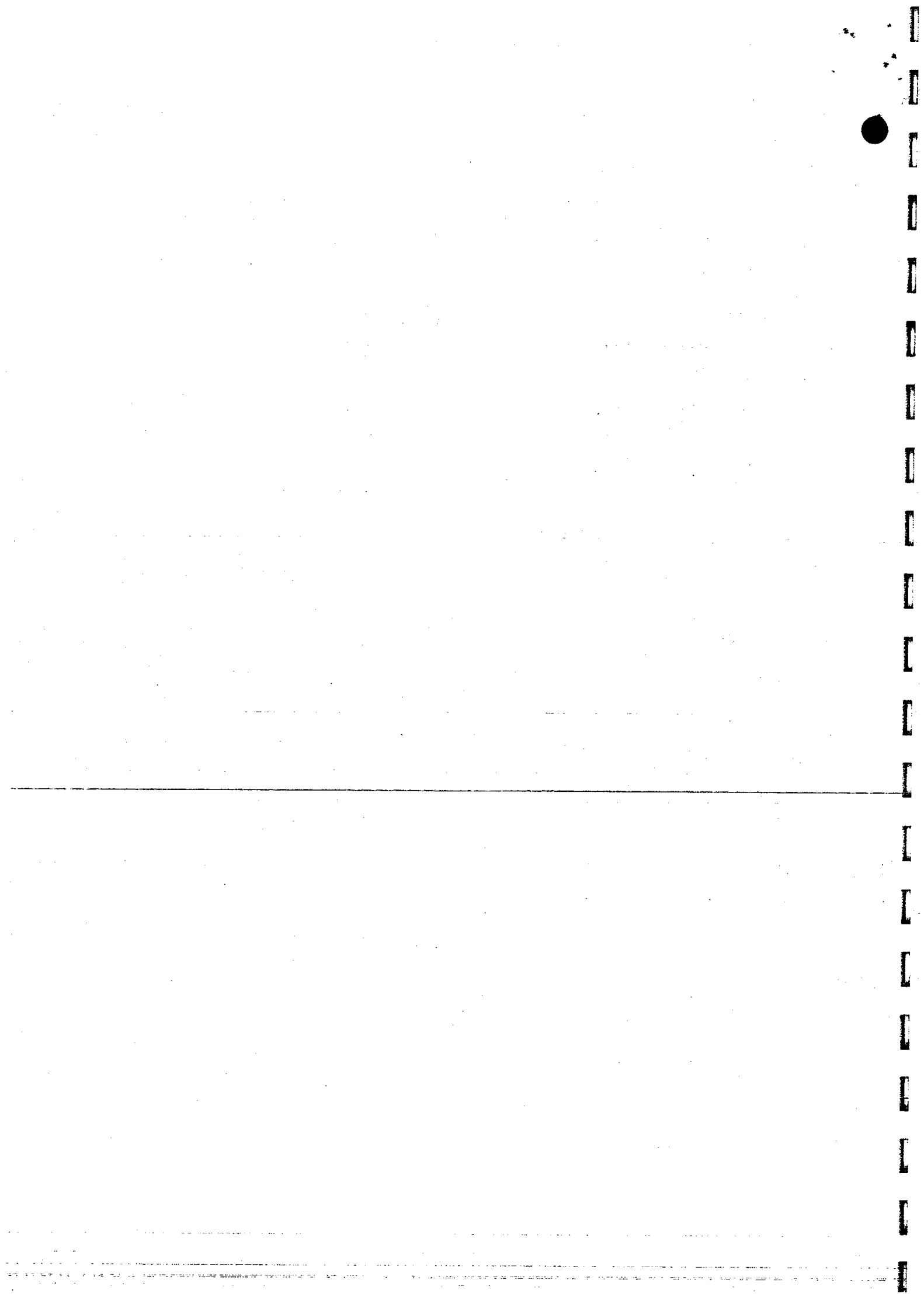




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|  | <p>vii. NTDC was taken online for discussion on the GIS study and inclusion in IGCEP. It was mentioned by the PPIB representative said that with reference to the inclusion of Asrit Kedam HPP in the IGCEP, it is pertinent to mention that the 220 kV transmission line for Madiyan and Matiltan HPP will be utilized, and both these projects are included in the IGCEP. Since both of Asrit Kedam and Kalam Asrit HPPs are in between Matiltan and Madiyan HPP, therefore it offers optimal utilization of said transmission line hence these projects may be considered for inclusion in IGCEP as per the criteria</p> <p>viii. ESIA and RAP contents were presented by the consultants in detail. POE member from EPA inquired about the E-flows and discussed about the need for cascade study for the determination of the E-flows. The consultants responded that it is not fair to discuss about the cascade study at this stage, however, it may be the responsibility of the regulator to conduct such studies.</p> <p>ix. Economic and Financial Analysis was presented by the consultant expert to the POE members. POE member from PPIB asked about the O&amp;M cost and suggested that it should be same as NEPRA allowed percentage. He further added that the EPC and non-EPC cost seems to be on the higher side. The PoE advised the sponsor to revisit their cost estimate and present during next meeting. The construction methodology should also be prepared and shared to assess the construction period. The project sponsor has taken debt equity ratio of 75:25. PoE advised to consider it 80:20 in order to get reduced the tariff. The project sponsor agreed with these proposals.</p> | <p>vii. Director (RE), PEDO requested NTDC to kindly consider the GIS study of the project for review and approval. It was further advised that the consultant shall fulfill all the requirements for inclusion of the project in IGCEP and PEDO will facilitate them in the whole process.</p> <p>viii. POE supported the consultant stance and assured full support for the NOC from the EPA.</p> <p>ix. PoE asked for detail breakup of non-EPC cost and comparison with other IPPs who have achieved the Financial Close. It was further advised to include the comparison of Wind and Solar also in the Economic benefits of Hydro Project. It was also decided that the consultant before submitted the draft FS shall share all the costing including unit rate analysis with PoE for their review and discussion.</p> |
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*Singh* 23-05-22

*[Signature]*



## Minutes of the Panel of Experts (PoE) of PEDO

**Dated:** April 14, 2022 in PEDO House Peshawar

1. A meeting of the Panel of Experts (PoE) was held on April 14, 2022 at 10:30 AM in the committee room of PEDO House, Peshawar to review/approve feasibility study of 215 MW Asrit-Kedam HPP. The list of participants is attached as Annex-I.
2. Director REP/PP, PEDO welcomed all participants of the meeting. Afterwards, the meeting progressed towards the following agenda items.

| S. No | Project                | Discussions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Recommendations/Decisions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| 1     | 215 MW Asrit-Kedam HPP | <p>The forum was informed that during the course of feasibility study, several PoE meetings have been conducted wherein certain comments have been raised by the PoE.</p> <p>The forum was further informed that during the previous meeting of the PoE the overall progress of the feasibility study particularly Geotech investigations have been deliberated upon in detail.</p> <p>Director (RE) PEDO briefly asked relevant sector experts of the PoE for any comments/discussions. After which the meeting progressed towards formal proceedings. The consultant then presented responses to the PoE comments made during previous meetings and PoE site visit.</p> <p>i. The forum was apprised about the status of additional bore hole at PH location. The geological expert from consultant told that 106m of drilling has been completed at the location. The progress has been slow due to rock slip which caused a 5-6 days delay. He also informed that the RQD of the rock is getting better as we drill deeper and it can confirm the cavern PH. It was also informed that shear zones are present at 2-3 locations in the project area to which Mr. Shafi suggested satellite imagery of the area for the additional data which will be used in the next design stage, however, the FS recommendation chapter shall highlight the same. Mr. Shafi stated that Dam stability is not justified having only 10m drilled where very poor fractured rock was recovered, and the seepage will not be controllable later. Project sponsor informed that secant pile of 15m will be used</p> | <p>Irrigation department being one of the main stakeholders joined the meeting via zoom and requested to leave early due to some other engagements, however, they cleared that the project area has been visited by them and there is no irrigation facility available in the vicinity which can be affected by the project.</p> <p>i. PoE advised that the drilling should be extended to at least 150m, however, it was mutually agreed that the drilling machine being used has certain limitation and a maximum depth of 125-130m can be achieved only. It was agreed that the project sponsor shall continue drilling after the meeting until 125 m and further to this the consultant shall make a two-pager technical document recommending the cavern PH stating that the core recovery and RQD is better based on the result of 125m drilling and the land geology is suitable for the cavern powerhouse considering the financial implications as well.</p> |





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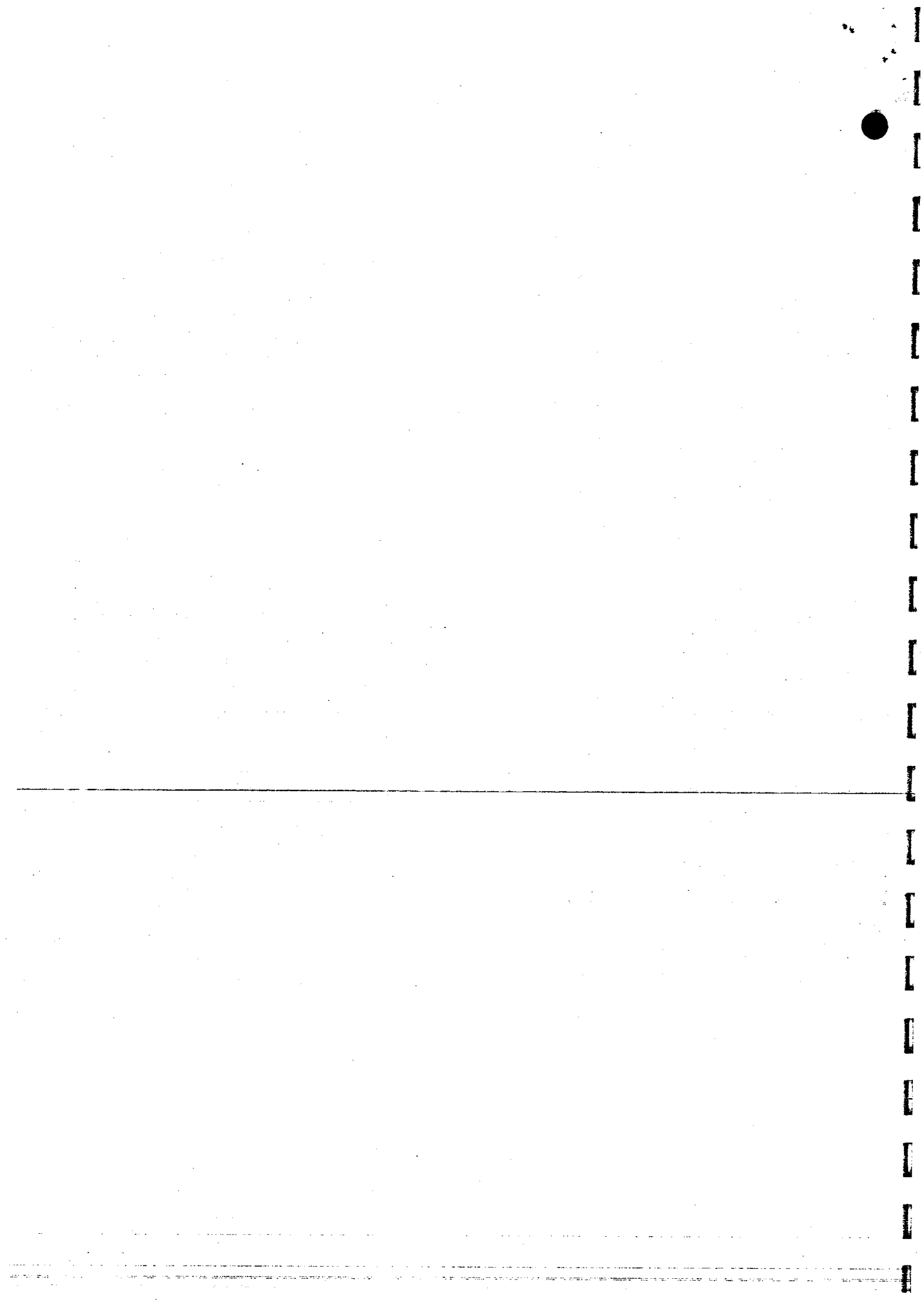
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|  | <p>along with consolidation grouting to control the seepage.</p> <p>ii. The sponsor's consultant presented the comparative analysis of cavern versus surface power house and of layout components vis-à-vis intake, tunnel and power house on left and right sides of the river. The PoE expressed satisfaction on the proposed layout resulted to lower cost of the project.</p> <p>iii. The sponsor presented the BoQ, unit rate analysis of civil works, overall, all EPC cost wherein quotations of electro-mechanical equipment and of TBM were produced in support of the cost estimates. The sponsor further highlighted that based on the advice of POE in the last meeting, the EPC cost was internally revisited and reduced by about 3.5%. The POE appreciated and desired for further reduction. The POE members pointed out that in each sub-head of civil works 5% cost for unforeseen items has been included which is on higher side and above the total civil works cost 10% contingency is also added. The POE suggested to lower such cost too. The PoE also advised sponsors to rationalize the non-EPC cost based on latest available cost &amp; tariff determinations of NEPRA for hydropower projects. Project Sponsors made an argument that there is usually at-least 20% contingency difference between the FS stage and the final agreement after EPCC bidding for comfort of lenders. So, we don't have to go deeply in the cost estimates as there are always some variations in differently sourced costs and real time cost to be obtained through competitive bidding process will surface at EPC stage</p> <p>iv. The Project Sponsor presented the construction methodology, and schedule spanning over five years including cavern power house on critical path was discussed by POE. The POE noted that construction of head race tunnel being through TBM therefore recognized that cavern power house on critical path, however, found a room of 3-months reduction in the overall construction period of the project. The sponsors argued that based on the geological conditions investigated so far reveal more requirement protection works quantum and time period than usual cases. The POE suggested like other HPPs of private sector to start construction of preliminary works during financial closing period to reduce the overall construction period. The sponsors</p> | <p>ii. It was also recommended by POE that that the hydrology gauging stations shall continue to be operated and the boreholes at tailrace and surge tank may also be continued to be a support in the next design stage.</p> <p><b>The panel after detail deliberations and based on the data, information, analysis presented by sponsors concluded that this was the final PoE meeting and hence recommended the feasibility study update of 215 MW Asrit-Kedam Hydropower Project, conducted by M/s KOEN, for approval subject to:</b></p> <ol style="list-style-type: none"> <li>The Sponsors shall submit within fifteen (15) days the final Feasibility Study Report based upon addressing maximum possible recommendations / findings of the POE.</li> <li>POE jointly or individually shall not be responsible for accuracy and reliability of data, contents and conclusions reached in the Feasibility Study</li> <li>The design approved in the Feasibility Study shall be made basis for submission of Tariff Petition to NEPRA and selection of EPC contractor</li> <li>Interconnection Study will be finalized by the Sponsors at the earliest for approval by concerned entity. Moreover, the Sponsors shall continue recording river flow data at the Project site</li> <li>The Sponsors may justify their cost estimates before NEPRA for the purposes of cost and tariff determination.</li> <li>The final FS Report should be properly formatted according to the international standards.</li> </ol> |
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|  |  | agreed to consider such option upon on-boarding EPC contractor. |  |
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Final 22/05/22



# APPENDIX – III

Grid Interconnection Study  
submitted to National Transmission  
& Despatch Company Limited

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



Letter No. KOAK- 112 -2022

Date: 3<sup>rd</sup> Feb ,2022

General Manager (Master Planning)  
National Transmission and Dispatch Company (NTDC)  
4<sup>th</sup> Floor, PIA Tower,  
Egerton Road, Lahore

**Subject: Grid Interconnection Studies of 215 MW Asrit Kedam Hydropower Project,  
Swat, Khyber Pakhtunkhwa.**

Reference: NTDC Data Permission Letter: GMPSP/TRP-300/4287-92 dated 05-11-2021

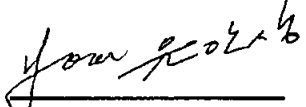
Sir,

Please find attached the Draft Report of Grid Interconnection Studies of 215 MW Asrit Kedam Hydropower Project by KOAK Power Limited near Bahrain, Swat, Khyber Pakhtunkhwa.

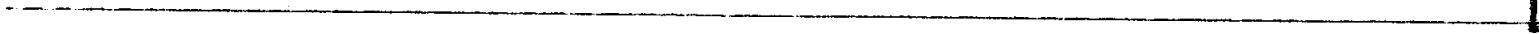
The Report includes all the necessary studies required for the feasibility of interconnection with the main grid. The report comprises of following.

1. Load flow analysis
2. Short circuit analysis
3. Dynamic and Transient stability analysis

We request you to please expedite the review process and necessary action by your good offices, your expeditious response on the subject matter will enable the Project company to achieve the further developments on fast track basis.

  
Yoon An Sang  
Chief Executive Officer

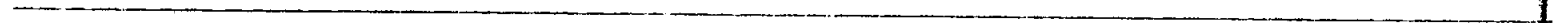
Cc: Power Planners International, 95 – H/2, Wapda Town, Lahore



# APPENDIX – IV

Environmental & Social Impact  
Assessment (“ESIA”) Approval  
issued by the Directorate of  
Environmental Protection Agency,  
Peshawar Government of Khyber  
Pakhtunkhwa

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition





**Environmental Protection Agency  
Forestry, Environment & Wildlife Department  
Govt. of Khyber Pakhtunkhwa**

**EPA/EIA/Asrit-Kedam/HPP/22/299-302**

**Date: 04/07/2022**



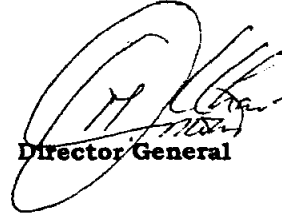
To

Mr. Yoon An Sang,  
CEO KOAK Power Limited,  
Plot No. 7-C, G-8, Markaz, Islamabad.  
Contact No. 051-8735923

Subject: **EIA REPORT FOR 229MW ASRIT KEDAM HYDROPOWER  
PROJECT IN SWAT DISTRICT, KHYBER PAKHTUNKHWA**

Kindly refer to the subject cited above and to enclose herewith Environmental Approval/Decision Note on EIA Report of "229 MW Asrit Kedam Hydro Power Project, District Swat" for your information and further implementation.

Moreover, **Schedule-X** must be submitted to this Agency within a month on Stamp Paper as an undertaking for the compliance of terms and conditions as mentioned in the Environmental Approval as well as mitigation measures proposed in the EIA Report. (Copy enclosed).

  
**Director General**

**Copy for information and necessary action to the;**

- PS to Secretary FE&WD, Govt. of Khyber Pakhtunkhwa
- PS to Secretary Energy & Power Department, Govt. of Khyber Pakhtunkhwa
- GIS Specialist, EPA, HQ, Peshawar

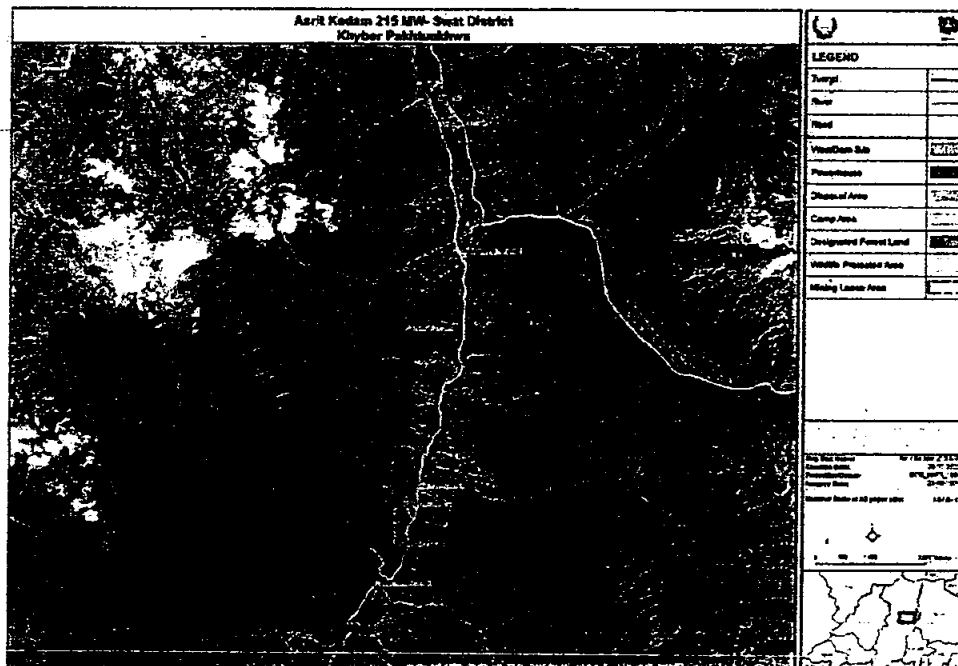
E:\EIA\#Sector\Waste Companies\Waste Water Treatment (Chashma Sugar Mills Limited Dera Ismail Khan)

**3<sup>rd</sup> Floor, Old Courts Building, Khyber Road, Peshawar Cantt.  
Tel: 92(91) 9210263-9210148, Fax: 92 (91) 9210280**

## SCHEDULE-VI

### Decision on EIA

1. **Name, address of proponent:** Mr. Yoon An Sang,  
CEO KOAK Power Limited,  
Plot No. 7-C, G-8, Markaz, Islamabad.  
Contact No. 051-8735923
2. **Description of project.** 229MW Asrit-Kedam hydropower project Development Project located at Asrit Village, District Swat at approximately 14km about downstream from the confluence of Gabral and Ushu Rivers and the powerhouse at a point 500m upstream of kedam khwr, which is about 14km from Saidu sharif Airport, swat and its approx.1km to the 157MW Madyan HPP Project Reservoir. The construction of the 229 MW Asrit-Kedam project have impact on 36 DPs(less than 200) who will experience major impacts in term of losing their housing and 10 % or more of their productive assets project vicinity is expected to be adversely impacted by the proposed project activities. It is run of the river project and will be executed on base load. E. Flow of 2.87Cumecs will be allowed for survival of the downstream riparian.
3. **Location of project.** District Swat.  
**GIS Map & Coordinates** Powerhouse (35°15'54.5072"N  
72°35'51.6012" E)  
Weir (35°21'29.92104"N  
(72°36'19.58904"E)



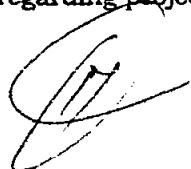
4. **Date of filing of EIA.** 24/12/2021 (Ref: EPA Diary No.1769)

5. After careful review, the Environmental Protection Agency, Govt. of Khyber Pakhtunkhwa has decided to accord Construction Environmental Approval of the Environmental Impact Assessment (EIA) Report of **"229 MW Asrit Kedam Hydro Power Project, District Swat"** in line with the Khyber Pakhtunkhwa Environmental Protection Act, 2014 and the Khyber Pakhtunkhwa Environmental Assessment Rules, 2021, subject to the following Terms & Conditions;

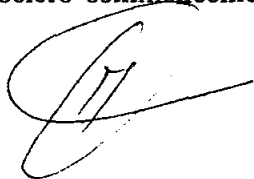
- a) The proponent shall adopt all precautionary and mitigation measures recommended in the EIA Report as well as replies of the proponent submitted to this Agency and any un-anticipated impacts arising during the Construction and Operation phase of the project.
- b) Arrangement for compensation to the affectees in case of loss of agriculture land, Crops and property, Schools, Graveyards, Masjids, will be finalized before the start of construction. Any money involved in compensation will be deposited with District Govt. /Revenue Department for disbursement among the affectees. A committee will be constituted as per laid out procedure in EIA report ensuring fair representation of locals with properly documented grievance procedure. As far as possible recommendations of a committee comprising of land/house owners and tenants shall be taken into consideration during finalizing the compensation package. All conflicting issues regarding compensation, etc. should be settled before executing/commencing of the project activities and a certificate in this regard should be submitted to this Agency.
- c) In light of the LARP, in addition to other compensation measures, at least one male from every affected household will be given employment or loan based on their willingness, based on the project requirement.
- d) The existing irrigation channels, natural water springs, the water supply scheme/spring affected from the Project shall be properly compensated and alternate water supply for the affectees shall be ensured, Detail of the same shall shared with the Agency before commencement of the construction activity;
- e) The spring channels disturbed during tunnel excavation shall be connected to pipes and shall be used as source of drinking water or other purposes for the locals of the area. Details of the same shall be submitted to this Agency.
- f) Detail of steps/mitigation measures shall be taken to mitigate impacts of the project on River Swat/natural water streams;
- g) The Right of Way (RoW) of the River Swat shall be protected. Moreover, the River shall be also protected from all type of pollution from project related activities;
- h) The natural rainwater water sheds RoW shall not be disturbed;



- i) The contaminated waste water of the tunnels shall be retained in confined pits of proper size ensuring proper treatment, complying NEQS parameters before final disposal.
- j) The existing routes going to the nearby villages shall not be affected or alternate routes shall be provided to the villagers;
- k) The affected existing structures shall be relocated & compensated to other appropriate area before start of construction work;
- l) A Committee shall be constituted under the supervision of District Administration comprising representatives of the affected villages. The Committee will look into issues arising from the Project;
- m) In order to avoid the traffic congestion issues, the submitted traffic management plan shall be properly implemented.
- n) Proper mitigation plan shall be formulated and implemented to avoid soil erosion / land sliding and sedimentation to the nearby river/water channel before commencement of Construction activity.
- o) Minimum environmental flow of 2.87 cumecs with 10% extra flow in case of emergency or as recommended by EPA KP shall be maintained in the downstream. In light of the submitted EIA Report, the project management shall operate the dam on option of base load / high protection operation run of river mode. The amount of E. Flow may be revised on the basis of findings of the Cumulative Impacts Assessment study of Hydropower Projects on river Swat that is planned to be conducted in near future. Moreover, E.flow meters shall be installed on site and online access of the same shall be provided to EPA KP as and when required.
- p) The muck/debris generated from the project shall be properly quantified, dumping sites for the same shall be properly identified & selected and this Agency shall be informed prior commencement of the construction activities. The proponent shall ensure to avoid dumping of debris into down slope or in the River Swat Right of Way (RoW) or other water bodies. The same shall be stabilized by proper plantation, bio engineering and engineering techniques. Retention walls of proper size shall be erected along the muck disposal material/site;
- q) The biodiversity management plan shall be implemented. Fisheries, Wildlife, Forest Department and EPA shall be consulted in improvement of the Biodiversity management Plan to mitigate the impact of the project on aquatic life, fauna, flora and Environment. Moreover, Biodiversity Action Plan (BAP) shall be formulated in future if recommended by EPA KP at any stage on the basis of findings during monitoring of the instant project.
- r) Clearance from Wildlife Department Govt. of Khyber Pakhtunkhwa shall be obtained if impacts of the project activities are identified / reported on the nearest wildlife park in future.
- s) Safety zone/adequate engineering measures should be provided to overcome fears of the residents regarding project activities to their houses;

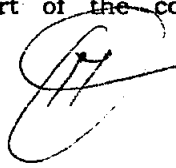


- q) The construction/installations shall be carried out keeping in view seismicity of the project area & ensuring implementation of updated building by-laws/codes;
- u) Proper Flood Management Plan shall be identified for the project site & site specific mitigation measures shall be implemented during floods;
- v) Primary baseline data comprising analysis reports of surface water (River Swat/ project RoW water bodies), Soil, ambient air, noise etc. of the project area shall be carried out on quarter basis from KP-EPA certified Lab before commencement of the construction activity. Moreover, the analysis reports shall be submitted to EPA on quarterly basis;
- w) A sedimentation load study shall be carried out alongwith mitigation measures for the control of sedimentation from upstream of the reservoir;
- x) Road/Highway Submerged/damaged due to project activity should be reconstructed/repared/rehabilitated to another suitable place in consultation with concerned Govt. Department;
- y) The proponent shall ensure the strict and efficient health and safety measures for the protection of workers and passersby backed by a comprehensive emergency response plan;
- z) A comprehensive CSR policy shall be formulated keeping in view, the demands/needs of the locals and quantum of the project activity. The detail of the same shall be shared with this Agency before commencement of the construction activity. A committee with representation from locals and EPA shall be finalized for this reason before commencement of physical activities.
- aa) Funds shall be allocated for environmental improvement, monitoring facilitation and protection of natural resources of the area.
- bb) Non-technical jobs shall be provided to local community/villages. Priority should also be given to locals in technical jobs. Employment record for all positions shall be provided to EPA-Khyber Pakhtunkhwa. Regular trainings shall be arranged for the locals regarding acquiring knowledge of technical jobs.
- cc) The camp site, asphalt plants, crush plants & batching plants shall be located at a safe distance as recommended by the Agency.
- dd) Separate approval shall be obtained for establishment of Crushing Plant, permanent Colony, Asphalt plant, etc. under Khyber Pakhtunkhwa Environmental Assessment Rules, 2021. For temporary colony and camps, proper treatment plant shall be constructed for municipal effluents treatment to bring it within the NEQS parameters before final discharge;
- ee) A comprehensive plantation plan, in consultation with Forest Department, shall be submitted to this Agency along with GPS Coordinates of the plantation sites.
- ff) De-notification of the Forest land from the concerned Govt. Authority shall be submitted to this Agency before commencement of physical activities.



Moreover, all the conditions / recommendations of the de-notification shall be implemented in letter & spirit and compliance report of the same shall be submitted to this Agency.

- gg) As committed only TBM shall be used for establishment of tunnel and control blasting techniques shall be adopted only at start and end points of the tunnel in accordance with prevailing explosive laws.
- hh) Fisheries department recommendations communicated vide letter No. 1067/DGF/R-3, dated 18/04/2022 shall be implemented in letter and spirit and compliance of the same shall be submitted to EPA KP.
- ii) Mines & Mineral Department letter No. 1707/MDW/SWT/Asrit Kedam Hydropower Project, dated; 21/06/2022 shall be implemented in letter and spirit and compliance of the same shall be submitted to EPA KP.
- jj) Proper plan shall be submitted for safe disposal of hazardous waste before commencement of physical activities.
- kk) Cumulative Impacts Assessment study of the project on river Swat shall be conducted or the proponent shall pay the due share as and when decided for a cumulative impacts assessment study for all the Hydropower projects located on river Swat. Moreover, the proponent will facilitate the Agency in research activities / studies through allocation of scholarship for proper assessment of the HPPs on different rivers and its mitigation.
- ll) As committed a bridge located in the project RoW shall be relocated before commencement of the project activity and an updated traffic management plan shall be submitted for this reason.
- mm) Boulders trap shall be installed at upstream of Asrit nala and sand trap shall installed for control of sedimentation.
- nn) An Environmentalist along with team shall be hired for proper and effective implementation of the Environmental Management Plan.
- oo) The cultural values & social norms of the area shall be followed strictly;
- pp) The proponent shall adopt all the possible mitigation measures to prevent ground water contamination at any cost.
- qq) River bed mining shall not be conducted without prior approval of this Agency.
- rr) A proper flood protection and management plan duly approved from Provincial Disaster Management Authority (PDMA) shall be submitted to this Agency before commencement of physical activities.
- ss) No extension /change would be permitted in the future in the existing hydropower project without prior approval of the EPA Govt. of Khyber Pakhtunkhwa.
- tt) The proponent shall provide the copy of this approval and EIA Report to the contractor for information and compliance. Applicable conditions of this approval shall be made part of the contract agreement. However,

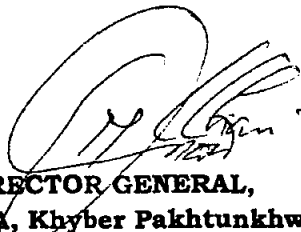


compliance of this approval shall be the sole responsibility of the proponent of this project.

- uu) This Agency may suggest any additional mitigation measures /updated technology for the control of Environmental Pollution/degradation at any stage (construction & operational phase) of the project;
6. The Proponent shall be liable for correctness and validity of the information supplied by the environmental consultant.
  7. There shall be no legal case pending in any court against the project
  8. The proponent shall be liable for compliance of rules 14, 15, 18, 19, 20 & 21 of the Khyber Pakhtunkhwa Environmental Assessment Rules, 2021 regarding approval, confirmation of compliance, entry, inspections and monitoring.
  9. This approval is accorded only for the construction phase of the project. The Proponent will obtain approval for operation of the hydro power project in accordance with the rule-15 and 18 of the Khyber Pakhtunkhwa Environmental Assessment Rules, 2021.
  10. Any change in the approved project shall be communicated to EPA, Khyber Pakhtunkhwa and shall be commenced after obtaining the approval.
  11. This approval shall be treated as null and void if all or any of the conditions mentioned above is/are not complied with.
  12. This approval does not absolve the proponent of the duty to obtain any other approval or clearance that may be required under any law in force.
  13. The quarterly progress/compliance report of the above conditions shall be submitted to EPA.
  14. In exercise of the power under Section-13 of the Khyber Pakhtunkhwa Environmental Protection Act, 2014, the undersigned is pleased to approve the EIA Report of **"Asrit-Kedam 229MW Hydro Power Project, District Swat"** for construction phase of the project with above mentioned terms and conditions.

Dated: Peshawar 04 / 07 / 2022

Tracking/ File.No. EPA/EIA/HPP/Asrit -Kedam 229 MW /22/299-302

  
**DIRECTOR GENERAL,  
EPA, Khyber Pakhtunkhwa,  
3<sup>rd</sup> Floor, SDU Building,  
Khyber Road, Peshawar Cantt.**



# APPENDIX – V

## Reference Tariff Table

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



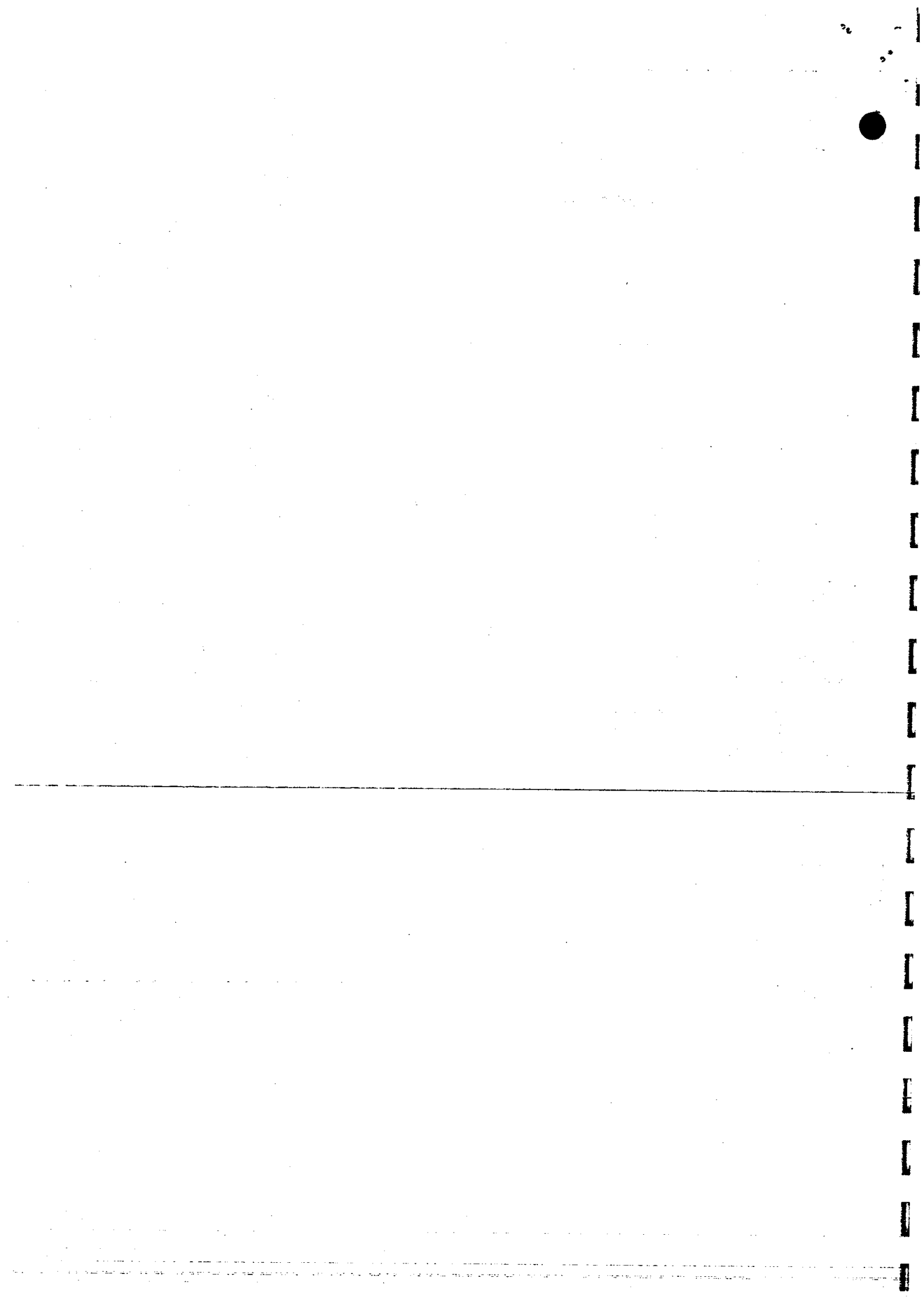
| During Year Ending | Period | Energy Purchase Price-EPP (PKR/kWh) |                        |                      |        | Capacity Purchase Price - CPP (PKR/kW/Month) |                   |           |            |          |                |                  |            | Capacity Charge | Total Tariff |           |         |
|--------------------|--------|-------------------------------------|------------------------|----------------------|--------|----------------------------------------------|-------------------|-----------|------------|----------|----------------|------------------|------------|-----------------|--------------|-----------|---------|
|                    |        | Water Use Charges                   | Variable O&M (Foreign) | Variable O&M (Local) | Total  | Fixed O&M (Foreign)                          | Fixed O&M (Local) | Insurance | ROE        | ROE DC   | Debt Principal | Interest Charges | Total      | PKR/kWh         | PKR/ kWh     | US \$/kWh | PKR/kWh |
| 30-Jun-30          | 1      | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 1,602.77       | 1,181.85         | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-31          | 2      | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 1,679.93       | 1,104.70         | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-32          | 3      | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 1,760.80       | 1,023.83         | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-33          | 4      | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 1,845.57       | 939.06           | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-34          | 5      | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 1,934.41       | 850.22           | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-35          | 6      | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 2,027.53       | 757.09           | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-36          | 7      | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 2,125.14       | 659.49           | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-37          | 8      | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 2,227.44       | 557.19           | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-38          | 9      | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 2,334.67       | 449.96           | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-39          | 10     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 2,447.06       | 337.57           | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-40          | 11     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 2,564.86       | 219.77           | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-41          | 12     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 2,688.33       | 96.30            | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| 30-Jun-42          | 13     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-43          | 14     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-44          | 15     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-45          | 16     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-46          | 17     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-47          | 18     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-48          | 19     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-49          | 20     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-50          | 21     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-51          | 22     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-52          | 23     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-53          | 24     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-54          | 25     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-55          | 26     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-56          | 27     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-57          | 28     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-58          | 29     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| 30-Jun-59          | 30     | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| Avg 1-12           |        | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,072.6371 | 346.0300 | 2,103.2099     | 681.4180         | 4,868.9645 | 14.0466         | 14.6081      | 8.3475    |         |
| Avg 13-30          |        | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,140.1879 | 346.0300 | -              | -                | 2,151.8875 | 6.2080          | 6.7696       | 3.8688    |         |
| Avg 1-30           |        | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,113.1676 | 346.0300 | 841.2840       | 272.5672         | 3,238.7183 | 9.3435          | 9.9050       | 5.6600    |         |
| Levelized Tariff   |        | 0.4250                              | 0.0819                 | 0.0546               | 0.5615 | 255.5400                                     | 170.3600          | 239.7695  | 1,091.3628 | 346.0300 | 1,441.9659     | 570.7390         | 4,115.7671 | 11.8737         | 12.4352      | 7.1058    |         |



# APPENDIX – VI

## Debt Repayment Schedule

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



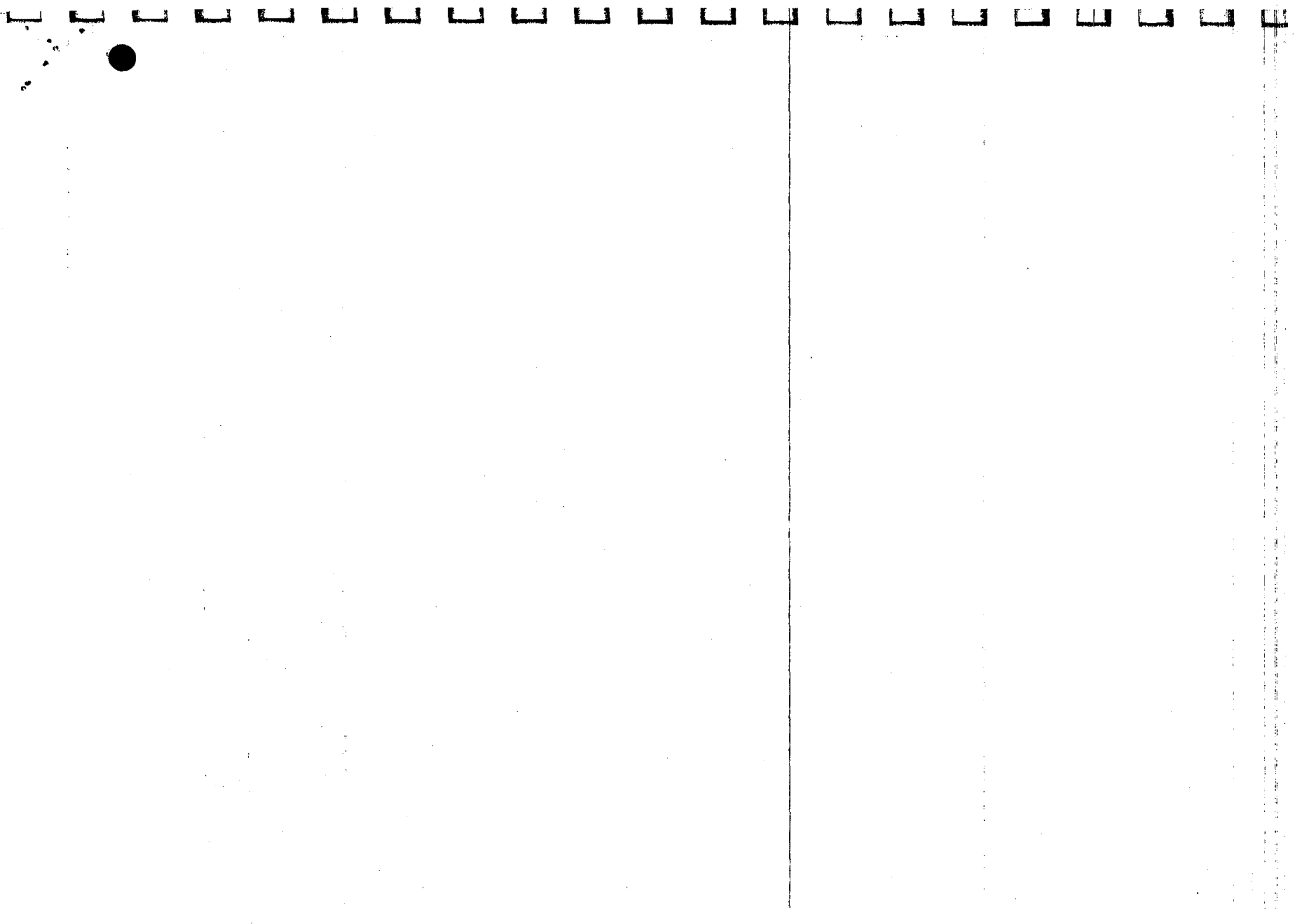
## DEBT REPAYMENT SCHEDULE

*(All Figures in US\$ Million)*

| Years | QTR. | Interest | Principle | Total  |
|-------|------|----------|-----------|--------|
| 2029  |      | 9.349    | 12.333    | 21.682 |
|       | Dec  | 9.349    | 12.333    | 21.682 |
| 2030  |      | 17.811   | 25.554    | 43.365 |
|       | Mar  | 0.000    | 0.000     | 0.000  |
|       | Jun  | 9.056    | 12.627    | 21.682 |
|       | Sep  | 0.000    | 0.000     | 0.000  |
|       | Dec  | 8.755    | 12.927    | 21.682 |
| 2031  |      | 16.581   | 26.784    | 43.365 |
|       | Mar  | 0.000    | 0.000     | 0.000  |
|       | Jun  | 8.448    | 13.235    | 21.682 |
|       | Sep  | 0.000    | 0.000     | 0.000  |
|       | Dec  | 8.133    | 13.549    | 21.682 |
| 2032  |      | 15.292   | 28.073    | 43.365 |
|       | Mar  | 0.000    | 0.000     | 0.000  |
|       | Jun  | 7.811    | 13.872    | 21.682 |
|       | Sep  | 0.000    | 0.000     | 0.000  |
|       | Dec  | 7.481    | 14.202    | 21.682 |
| 2033  |      | 13.940   | 29.425    | 43.365 |
|       | Mar  | 0.000    | 0.000     | 0.000  |
|       | Jun  | 7.143    | 14.539    | 21.682 |
|       | Sep  | 0.000    | 0.000     | 0.000  |
|       | Dec  | 6.797    | 14.885    | 21.682 |
| 2034  |      | 12.524   | 30.841    | 43.365 |
|       | Mar  | 0.000    | 0.000     | 0.000  |
|       | Jun  | 6.443    | 15.239    | 21.682 |
|       | Sep  | 0.000    | 0.000     | 0.000  |
|       | Dec  | 6.081    | 15.602    | 21.682 |
| 2035  |      | 11.039   | 32.326    | 43.365 |
|       | Mar  | 0.000    | 0.000     | 0.000  |
|       | Jun  | 5.710    | 15.973    | 21.682 |
|       | Sep  | 0.000    | 0.000     | 0.000  |
|       | Dec  | 5.330    | 16.353    | 21.682 |
| 2036  |      | 9.483    | 33.882    | 43.365 |
|       | Mar  | 0.000    | 0.000     | 0.000  |
|       | Jun  | 4.941    | 16.742    | 21.682 |
|       | Sep  | 0.000    | 0.000     | 0.000  |
|       | Dec  | 4.542    | 17.140    | 21.682 |
| 2037  |      | 7.852    | 35.513    | 43.365 |
|       | Mar  | 0.000    | 0.000     | 0.000  |
|       | Jun  | 4.135    | 17.548    | 21.682 |



| Years       | QTR. | Interest | Principle | Total   |
|-------------|------|----------|-----------|---------|
| 2038        | Sep  | 0.000    | 0.000     | 0.000   |
|             | Dec  | 3.717    | 17.965    | 21.682  |
|             |      | 6.142    | 37.223    | 43.365  |
|             | Mar  | 0.000    | 0.000     | 0.000   |
|             | Jun  | 3.290    | 18.393    | 21.682  |
|             | Sep  | 0.000    | 0.000     | 0.000   |
| 2039        | Dec  | 2.852    | 18.830    | 21.682  |
|             |      | 4.350    | 39.014    | 43.365  |
|             | Mar  | 0.000    | 0.000     | 0.000   |
|             | Jun  | 2.405    | 19.278    | 21.682  |
|             | Sep  | 0.000    | 0.000     | 0.000   |
|             | Dec  | 1.946    | 19.737    | 21.682  |
| 2040        |      | 2.472    | 40.893    | 43.365  |
|             | Mar  | 0.000    | 0.000     | 0.000   |
|             | Jun  | 1.476    | 20.206    | 21.682  |
|             | Sep  | 0.000    | 0.000     | 0.000   |
|             | Dec  | 0.996    | 20.687    | 21.682  |
|             |      | 0.504    | 21.179    | 21.682  |
| 2041        | Mar  | 0.000    | 0.000     | 0.000   |
|             | Jun  | 0.504    | 21.179    | 21.682  |
| Grand Total |      | 127.341  | 393.039   | 520.380 |



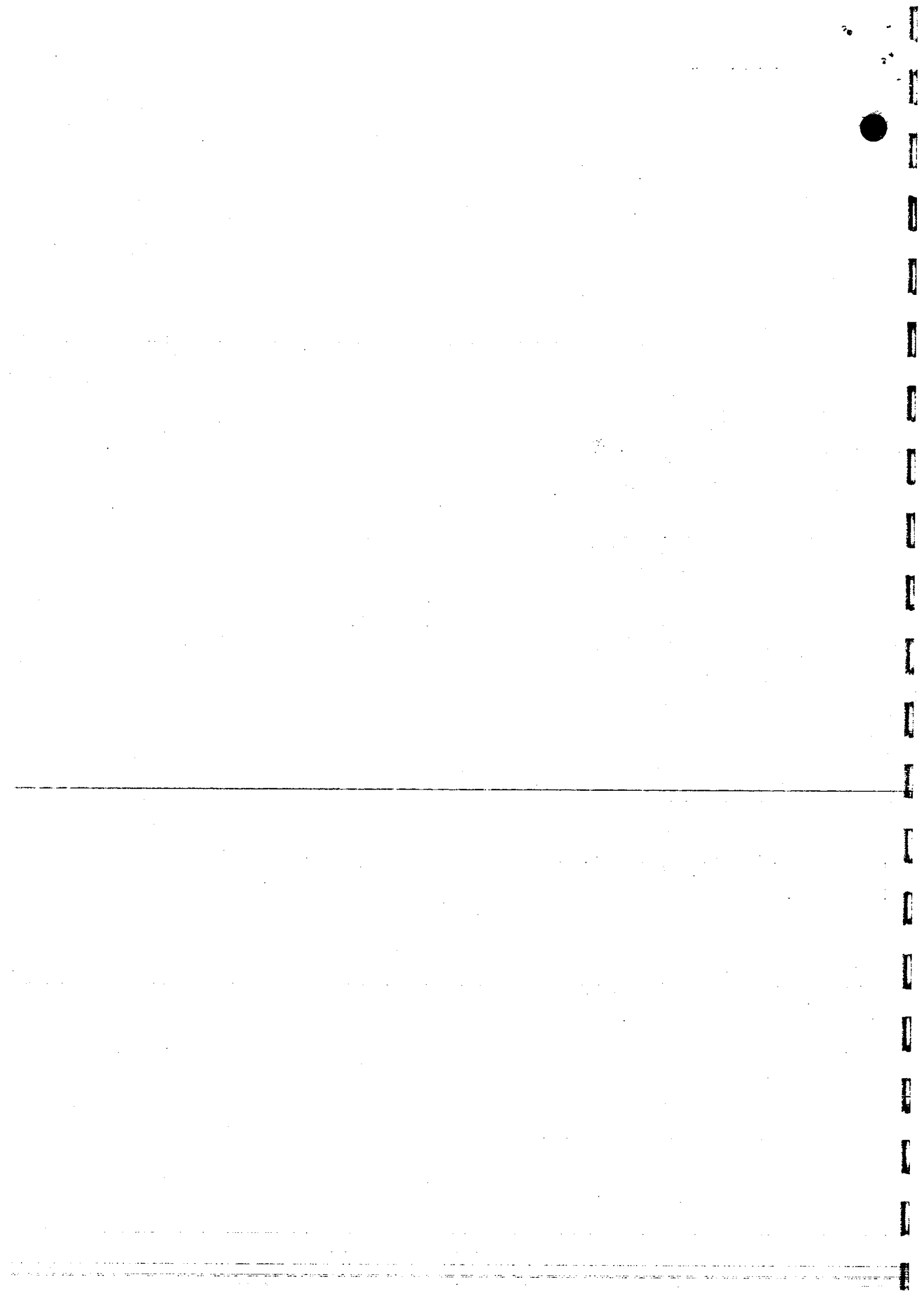
# APPENDIX – VII

## Summary of Cost Estimates

Refer to

APPENDIX – XV “Approved Feasibility Study Report”,  
Volume 1, Chapter 18

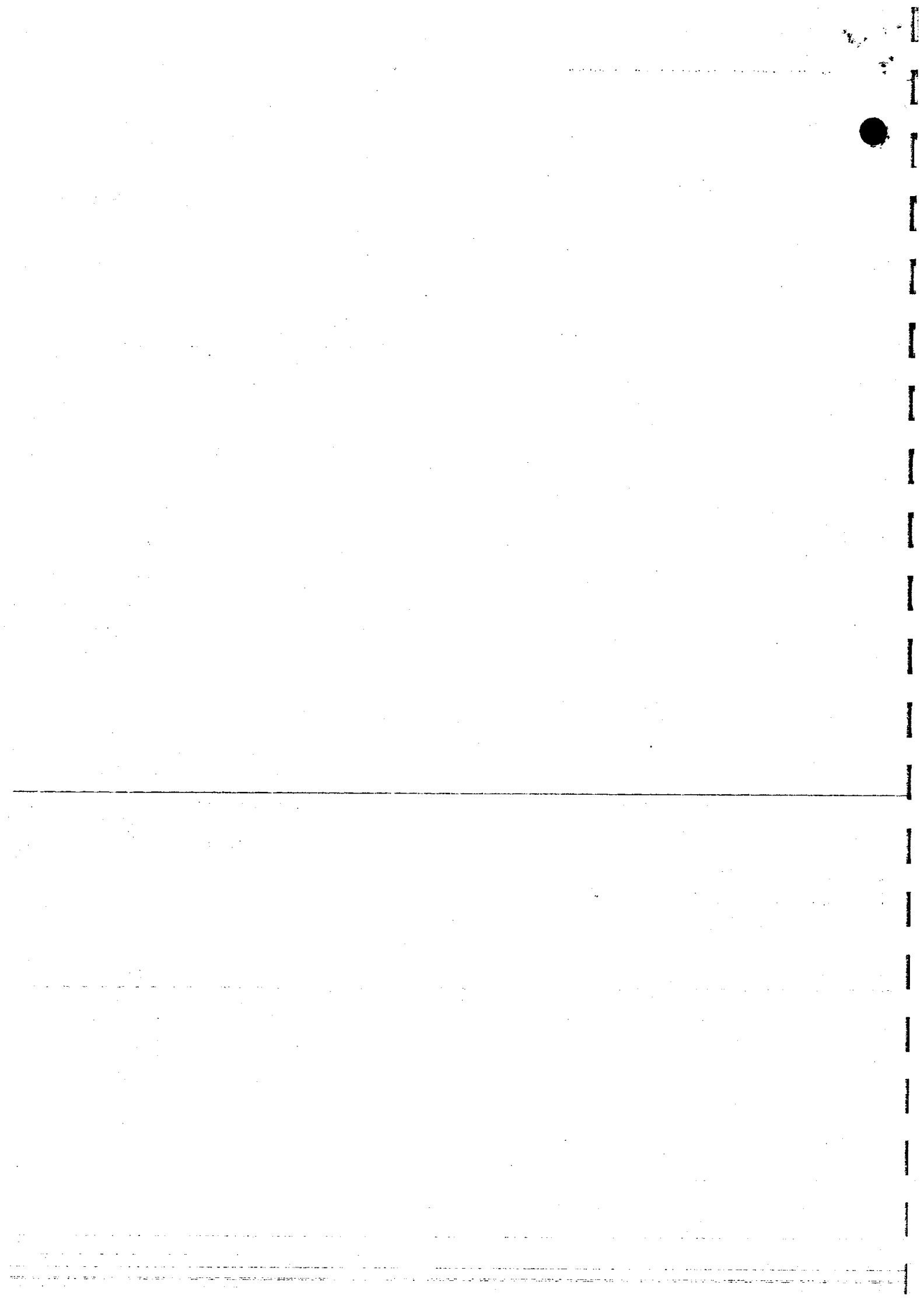
KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



# APPENDIX – VIII

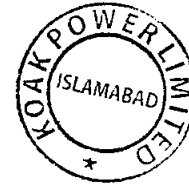
## Board of Directors Resolution

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



Ref: KOAK/CS/True Extracts/ 558 /2022

**TRUE EXTRACTS  
APPROVAL OF THE RESOLUTIONS  
BY THE BOARD OF DIRECTORS  
ON 8<sup>TH</sup> JUNE 2022**



**RESOLUTIONS TO SUBMIT AN APPLICATION FOR FEASIBILITY STAGE  
TARIFF PETITION WITH NEPRA; AND TO AUTHORIZE AND EMPOWER  
CHIEF EXECUTIVE OFFICER OF THE COMPANY, SINGLY, TO SIGN ALL  
DOCUMENTS TO NEPRA.**

**Whereas**, KOAK Power Limited ("KOAK") is established as Special Purpose Company (SPC) by Korea South-East Power Co. Ltd. ("KOEN") to own, design, engineer, construct, insure, commission, operate and maintain an approximately 229 MW hydro-electric generation facility namely Asrit-Kedam Hydropower Project ("Project") located on Swat River, District Mingora, KPK;

**WHEREAS**, the PEDO issued the "Letter of Intent (LOI)" in favor of KOAK Power Limited on 23rd June 2021;

**WHEREAS**, according to terms of LOI, within ninety (90) days after the approval of Feasibility Study by GOKP/PEDO, company is required to finalize and file a complete feasibility stage tariff petition before National Electric Power Regulatory Authority (NEPRA) in accordance with NEPRA's mechanism for Determination of Tariff for Hydropower Projects. Furthermore, within sixty (60) days after such tariff determination / approval by NEPRA of the feasibility stage tariff, the Sponsors, after meeting all requirements under the Policy including but not limited to posting of an irrevocable, unconditional, on demand bank Guarantee on terms acceptable to PEDO/PPIB in an amount equal to US\$ 5,000/MW shall apply to PPIB for issuance of Tripartite Letter of Support (LOS).

Therefore, all Members of the Board of Directors unanimously approve the following resolutions by Circulation:

**"RESOLVED THAT** KOAK Power Limited, a company incorporated under the laws of Pakistan with its registered office located at 1st Floor, 12-A , CBC Building, G-8 Markaz, Islamabad (the "Company") be and is hereby authorized to submit an application for Feasibility Stage Tariff Petition (including any subsequent modifications) for submission to the National Electric Power Regulatory Authority (the "NEPRA") for the grant of Feasibility Stage Tariff in respect of its 229 MW (Gross) Asrit Kedam Hydropower Project to be located at Swat River, Swat, Khyber Pakhtunkhwa, Pakistan (the "Project") and in relation thereto, enter into and execute all documents, make all filings and pay all applicable fees, In each case, of any nature whatsoever, as required,"

**"RESOLVED FURTHER THAT** in respect of application for the grant of Feasibility Stage Tariff (including any modification to the tariff petition for the grant of such Tariff) for submission to NEPRA, Chief Executive Officer, Mr. Yoon Ansang (the



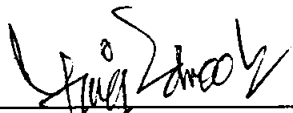
"Authorized Representatives"), be and are hereby acting singly empowered and authorized for and behalf of Company to;

- I. prepare, review, execute, submit and deliver the Feasibility Stage Tariff Petition (including any modification to the application for the grant of such Tariff Petition) 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 in respect to the Tariff;
- II. represent the Company in all negotiations, representations, presentations, hearings, conferences and/or meetings of any nature whatsoever with any entity (including, but in no manner limited to NEPRA, any private parties, companies, partnerships, individuals, governmental and/or semi-governmental authorities and agencies, ministries, boards, departments, regulatory authorities and/or any other entity of any nature whatsoever).
- III. sign, certify and execute all necessary documentation, pay the necessary fees, appear before the NEPRA as and when required, and do all acts necessary for the completion and processing of the Feasibility Stage Tariff Petition (including any modification).
- IV. do all such acts, matters and things as may be necessary for carrying out the purpose aforesaid and giving full effect to the above resolution/resolutions."

**CERTIFIED**

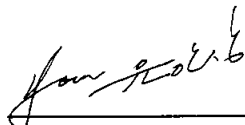
*Certified further that the above resolutions are included in the minute's book of the Company. It is further stated that the information given above is correct and true to the best of our knowledge and belief.*

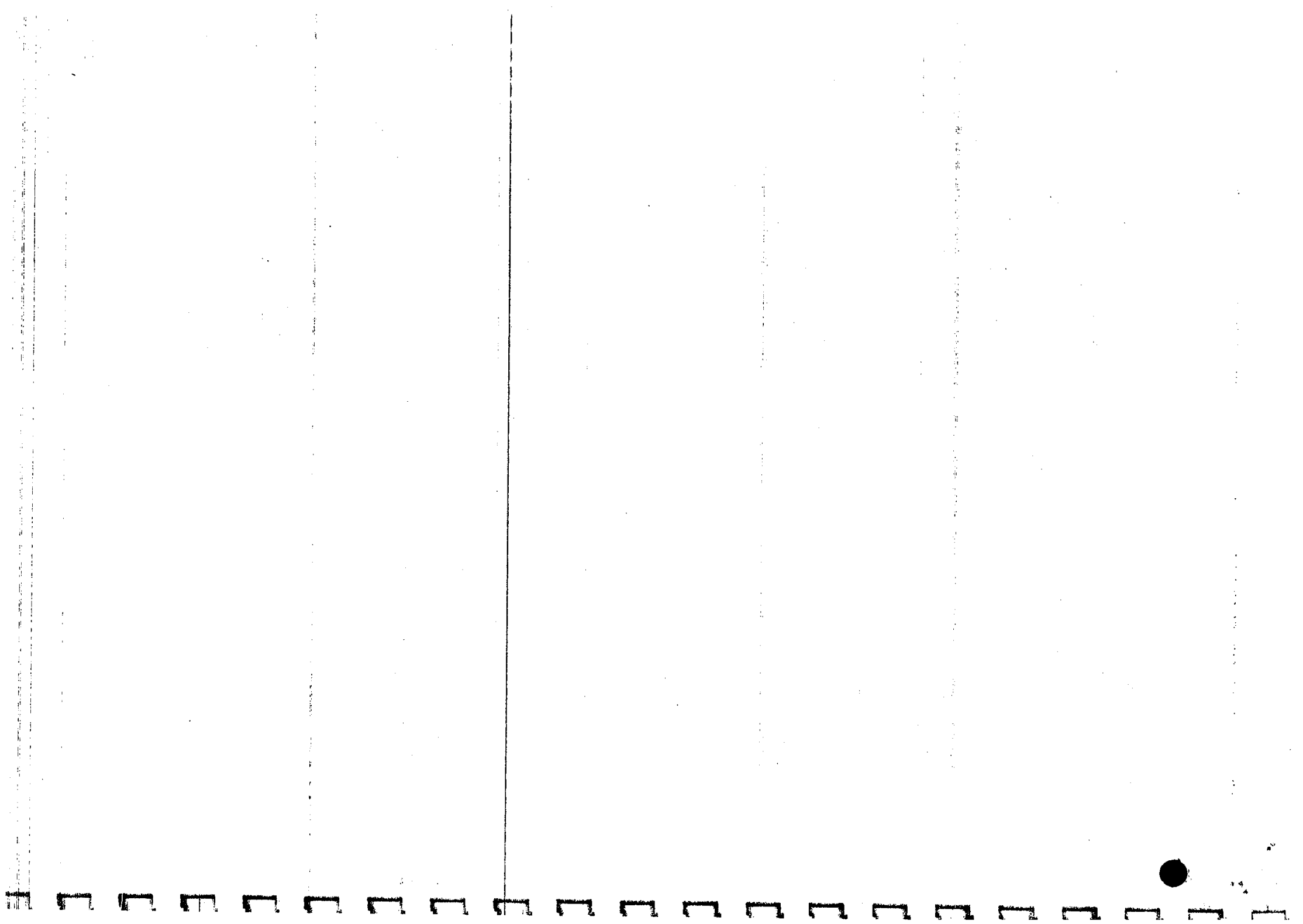
***On behalf of the Board and Company***

  
**TARIQ MAHMOOD**  
Company Secretary

Place: Islamabad  
Dated: 29<sup>th</sup> June 2022



  
**YOON, ANSANG**  
Director/CEO



# APPENDIX – IX

## Affidavit of Authorized Representative

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



**Affidavit of Yoon An Sang S/o Young Kyun having Passport No. M07037396 resident of apartment 1006-B, Plot No. 1, Jinnah Avenue, Tower B, The Centaurus, Sector F-8, Islamabad and authorized representative of KOAK Power Limited having its registered office at 12A, CRC Building. Floor, C4 Markaz, Islamabad (the "Company")**

**I am the Chief Executive Officer of the Company.**

The contents of accompanying Feasibility Stage Tariff Petition dated 02<sup>nd</sup> March, 2023 submitted to National Electric Power Regulatory Authority ("NEPRA") is along with the supporting documents are true and correct to the best of my knowledge and belief and nothing material or relevant thereto has been concealed or withheld therefrom.

POWER LI

100/

5490

02-03-2023

Yoon An Sang S/o Young Kyun having Passport No. M07037396 resident of apartment 1006-B, Plot No. 1, Jinnah Avenue, Tower B, The Centaurus, Sector F-8, Islamabad

BEFORE

THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

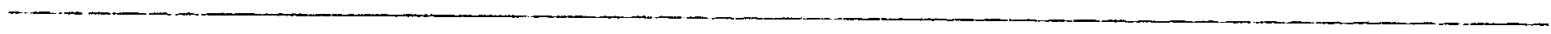
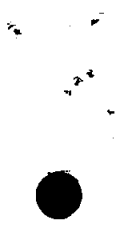
TAHIR MEHMOOD  
STAMP VENDOR  
Lic. No. 278/DPA/2015  
ISLAMABAD

نوٹ: ہر کسی کی سکاری اراضی ICDAR  
رہائی اداروں کی ملکیت میں کسی دوسری اراضی کی  
خرید و فروخت کے لئے جاری نہیں کیا گیا۔

# APPENDIX – X

## Copies of Bank Draft for Tariff Determination Fee

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



F/A-1

# HABIB METROPOLITAN BANK LTD.

Islamic Bkg.-Islamabad  
Branch Code : 2

P.O No. 15421669

Stationery/Ref. No. 15421669

Date : 2 8 0 6 2 2

PKR \*\*\*1,869,444.00\*\*\*

Pay to NATIONAL ELECTRIC POWER REGULATORY AUTHORITY or Order

Rupees one million eight hundred and sixty nine thousand four  
hundred and forty four only



Please do not write below this line

Signature  
Attorney No.

Signature  
Attorney No.

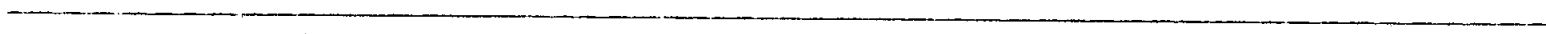
1542166906402200000000001609739020



# APPENDIX – XI

## Certified Incorporation Certificate

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition





A067542

SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN

COMPANY REGISTRATION OFFICE

CERTIFICATE OF INCORPORATION

[Under section 16 of the Companies Act, 2017 (XIX of 2017)]

Corporate Universal Identification No: 0143765

I hereby certify that KOAK POWER LIMITED is this day incorporated under the Companies Act, 2017 (XIX of 2017) and that the company is limited by shares.

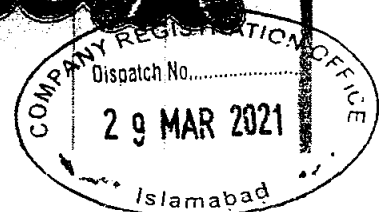
Given under my hand at Islamabad this Eleventh day of December, Two Thousand and Nineteen

Incorporation fee 590.0/= only

(Syed Jamal Ahmed Zaidi)  
Additional Joint Registrar  
Islamabad

**CERTIFIED TO BE TRUE COPY**

INC. REG.  
Dated 11/12/19





10-11-1964

10-11-1964

# APPENDIX – XII

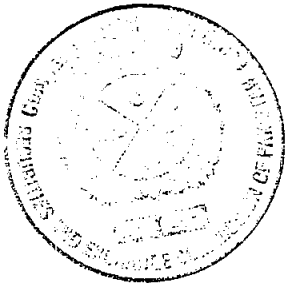
## Certified Article of Association

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



**THE COMPANIES ACT, 2017 (XIX of 2017)**

**(COMPANY LIMITED BY SHARES)**



**ARTICLES OF ASSOCIATION**

**OF**

**KOAK POWER LIMITED**

# PRELIMINARY

## PUBLIC COMPANY

1. The Regulations contained in Table 'A' to the First Schedule to the Companies Act, 2017 (the "Act") shall be the regulations of **KOAK POWER LIMITED** (the "Company") so far as these are applicable to a private company.
2. The Company is a "Public Company" within the meaning of Section 2(1)(52) of the Act and accordingly:

The number of the members of the Company (exclusive of persons in the employment of the Company), shall not be limited, provided that for the purpose of this provision. Where two or more persons hold one or more shares in the company jointly, they shall be treated as single member, and

The right to transfer shares of the Company shall not be restricted in the manner and to the extent herein appearing.

3. The authorized capital of the company is Rs2,500,000,000 (Rupees Two Billion Five Hundred Million Only) divided into 25,000,000 (Twenty Five Million Only) Ordinary Shares of Rs.100/- (Rupees Hundred Only) each with powers to increase and reduce the Capital of the Company and to divide the shares in the Capital for the time being into several classes in accordance with the provisions of Companies Act, 2017.
4. The minimum subscription upon which the directors may proceed to make the first allotment has been fixed as Rs.515 (Rupees Five Hundred and Fifteen Only).
5. (1) In these regulations—

1. In these Articles, unless the context or the subject matter otherwise requires:

2.

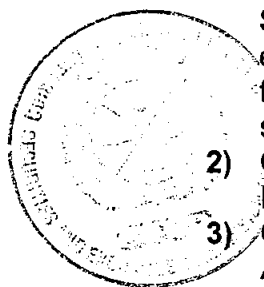
- a) —the Company means **KOAK POWER LIMITED**.
- b) —the office means the registered office for the time being of the company.
- c) —the directors mean the directors for the time being of the company.
- d) —the seal means the common seal or official seal of the company as the case may be.
- e) —the Act means the Companies Act, 2017.
- f) —the Commission means the Securities and Exchange Commission of Pakistan.
- g) —the registrar means the registrar of companies as defined in the Companies Act, 2017.
- h) —the register means the register of the members to be kept in pursuant to section 119 of the Act.
- i) —chief executive means the chief executive of the company.
- j) —secretary means the company secretary of the company.
- k) —memorandum means the memorandum of association of the company.
- l) —person includes an individual, company, corporation and body corporate.
- m) —articles means the articles of association of the company.
- n) —board means the board of directors of the company.
- o) —year used in the context of financial matters shall mean financial year of the

company.

- p) Expressions referring to writing shall be construed as including references to typewriting, printing, lithography, photography and other modes of representing or reproducing words in visible form.
- q) Words importing the singular number include the plural number and vice versa and words importing the masculine gender include the feminine gender.
- r) Unless the context otherwise requires words or expressions contained in these Articles shall be of the same meaning as in the Act or any statutory modification thereof in force at the date at which these Articles become binding on the company.

s) — Interpretations

- 1) **Affiliate** means any entity (including any person, firm, corporation, association or partnership) which (a) is owned and controlled, directly or beneficially, singly or collectively, by one or more Initial Shareholders, (b) owns and controls, directly or beneficially, one or more Initial Shareholders, or (c) is under common ownership and control, directly or beneficially, by an entity which owns and controls, directly or beneficially, one or more Initial Shareholders. For the purposes of this definition, "own and controls" by an entity or entities or another entity shall mean direct or beneficial ownership of fifty one percent (51%) or more interest in, and management control over, such other entity;
- 2) **Commercial Operation Date** means the meaning ascribed thereto in the Power Purchase Agreement;
- 3) **Complex** means the meaning ascribed thereto in the Power Purchase Agreement;
- 4) **Common Terms Agreement** means the Common Terms Agreement dated the Signing Date among the Company and the Finance Parties.
- 5) **Finance Parties** bears the meaning ascribed thereto in Common Terms Agreement.
- 6) **Financiers** bear the meaning ascribed thereto in Common Terms Agreement.
- 7) **GOP** bear the meaning ascribed thereto in in the GOP Implementation Agreement.
- 8) **GOP Implementation Agreement** or **GOP IA** means the Implementation Agreement dated the Signing Date by and between the GOP and the Company entered into in relation to the Project, as may be amended by the parties thereto from time to time.
- 9) **Initial Shareholders** means (i)- **M/s. Korea South-East Power Co. Ltd.**, a company incorporated under the laws of Republic of Korea with its principal office at 32, Sadeul-Ro, 123 Beon-Gil, Jinju-Si, Gyeongsangnam-Do, Republic of Korea, (ii) - **Mr. Hong Seokbin** having Passport No. M74744749, (iii) - **Mr. Kim Youngkeun** having Passport No. M74198693, (iv) - **Mr. Yoon Ansang** having Passport No. M07037396 and all other shareholders as ascribed under the Sponsors' Support Agreement as well as under the Common Terms Agreement, with their permitted assigns, permitted transferee and successors;
- 10) **Main Sponsor** means **Korea South-East Power Co. Ltd.**, a company incorporated under the laws of Republic of Korea with its principal office at



32, Sadeul-Ro, 123 Beon-Gil, Jinju-Si, Gyeongsangnam-Do, Republic of Korea with permitted assigns, permitted transferees and successors;

11) **Power Purchase Agreement** means the Power Purchase Agreement entered into by and between the Power Purchaser and the Company, for the purchase and sale of electric generation capacity and electric power generated by the Complex, as may be amended by the parties thereto from time to time; and

12) **Power Purchaser** means the Central Power Purchasing Agency (CPPA-G) is a Company incorporated under the Companies Ordinance, 1984 and wholly owned by the Government of Pakistan (the "GOP"), with its principal office located at CPPA-G, Shaheen Plaza, Plot No. 73-West, Fazal-e-Haq Road, Blue Area, Islamabad., Pakistan or any successor or substitute board or agency that assumes the responsibilities of the Central Power Purchasing Agency.

13) **PPIB** means the Private Power & Infrastructure Board of, a body corporate established under the Ministry of Water and Power, Government of Pakistan PPIB Act, 2012, with the principal office at Ground & 2nd Floors, Emigration Tower, Plot No. 10, Mauve Area, Sector G-8/1, Islamabad-Pakistan or any successor or substitute board or agency that assumes the responsibilities of the Private Power & Infrastructure Board.

14) **PEDO** means Pakhtunkhwa Energy Development Organization is an autonomous body of the Government of Khyber Pakhtunkhwa under the Pakhtunkhwa Energy Development Organization (Amendment) Act, 2014, with the principal office at Plot # 38, Sect B-2, Phase-5, Hayatabad, District Khyber Pakhtunkhwa, Peshawar-Pakistan or any successor or substitute board or agency that assumes the responsibilities of the Pakhtunkhwa Energy Development Organization.

15) **Project Completion Date** bears the meaning ascribed thereto in Common Terms Agreement.

16) **Release Date** bears the meaning ascribed thereto in Common Terms Agreement.

17) **Signing Date** bears the meaning ascribed thereto:

- a)-in Common Terms Agreement;
- b)-in GOP Implementation Agreement or GOP IA; and
- c)-in Sponsors Support Agreement.

18) **Sponsors Support Agreement** means the Sponsors Support Agreement dated the Signing Date among the Company, Sponsors' of the Company and the Finance Parties.

- (2) Unless the context otherwise requires, words or expressions contained in these regulations shall have the same meaning as in this Act; and words importing the singular shall include the plural, and vice versa, and words importing the masculine gender shall include feminine, and words importing persons shall include bodies corporate.

## BUSINESS

6. The directors shall have regard to the restrictions on the commencement of business imposed by section 19 if, and so far as, those restrictions are binding upon the company.

## SHARES

7. In case of shares in the physical form, every person whose name is entered as a member in the register of members shall, without payment, be entitled to receive, within thirty days after allotment or within fifteen days of the application for registration of transfer, a certificate under the seal specifying the share or shares held by him and the amount paid up thereon:

Provided that if the shares are in book entry form or in case of conversion of physical shares and other transferable securities into book-entry form, the company shall, within ten days after an application is made for the registration of the transfer of any shares or other securities to a central depository, register such transfer in the name of the central depository.

8. The company shall not be bound to issue more than one certificate in respect of a share or shares in the physical form, held jointly by several persons and delivery of a certificate for a share to one of several joint holders shall be sufficient delivery to all.

9. If a share certificate in physical form is defaced, lost or destroyed, it may be renewed on payment of such fee, if any, not exceeding one hundred rupees, and on such terms, if any, as to evidence and indemnity and payment of expenses incurred by the company in investigating title as the directors think fit. 6. Except to the extent and in the manner allowed by section 86, no part of the funds of the company shall be employed in the purchase of, or in loans upon the security of, the company's shares.

## TRANSFER AND TRANSMISSION OF SHARES

10. The instrument of transfer of any share in physical form in the company shall be executed both by the transferor and transferee, and the transferor shall be deemed to remain holder of the share until the name of the transferee is entered in the register of members in respect thereof, provided that the following provisions/conditions apply to all shares issued by the Company:

- (a) The transfer of such shares to persons of a nationality that is specifically prescribed by the laws of Pakistan shall not be registered by the Company.
- (b) The Company shall have the right and power to investigate the declaration of nationality stated on any application for registration or transfer of such shares if, as a result of such transfer, the transferee would hold five percent (5%) or more of Ordinary Share Capital of the Company.
- (c) The Company cannot issue any such shares and Initial Shareholder cannot transfer any such shares owned directly or beneficially by it at any time prior to the Commercial Operations Date or for a period of six (6) years after the Commercial Operations Date, if following such issuance or such transfer the Initial Shareholder will own directly, indirectly or beneficially less than fifty-one percent (51%) of the outstanding Ordinary Share Capital, except for a transfer of shares:
  - (i) to another Initial Shareholder
  - (ii) subject to national security interests of Pakistan as such interests shall be determined in the sole but reasonable discretion of the GOP, to an Affiliate of any Initial Shareholder;
  - (iii) required by any law(s) of Pakistan or by the operation of the law(s) of

Pakistan or by order of a court, tribunal, or governmental authority or agency with appropriate jurisdiction;

- (iv) resulting from the creation or enforcement of a security interest in or over any such shares in accordance with the financing documents entered into by the Company in relation to its power generation complex; or
- (v) to which the Government of Pakistan (including any of its relevant authority or agency) has given its prior written approval.

(d) The Main Sponsor shall own directly or beneficially at all times prior to the Commercial Operations Date and for a period of six (6) years after the Commercial Operations Date, not less than twenty percent (20%) of the then outstanding Ordinary Share Capital, except where the reduction of ownership of Ordinary Share Capital below twenty percent (20%) by the Main Sponsor results from a transfer of Ordinary Share Capital:

- (i) required by any laws of Pakistan or by the operation of the laws of Pakistan or by order of a court, tribunal, or governmental authority or agency with appropriate jurisdiction;
- (ii) resulting from the creation or enforcement of a security interest in or over any Ordinary Share Capital in accordance with the financing documents entered into by the Company in relation to its power generation complex; or
- (iii) the Government of Pakistan (including any of its relevant authority or agency) has given its prior written approval.

(e) The restrictions set out in Articles 6(c) and 6(d) above shall be noted on all share certificates by affixing thereon a prominent legend as follows: "Subject in all respects to the restrictions on transfers of these shares set out in Articles 6(c), and 6(d) of the Company's Articles of Association". After the completion of the time period, provided in Articles 6(c) and 6(d), any share certificates to which the legend set out in Article 6(e) is still affixed may be returned to the Company and exchanged for a new certificate in accordance with Article 5.

11. Shares in physical form in the company shall be transferred in the following form, or in any usual or common form which the directors shall approve:—

**Form for Transfer of Shares**  
**(First Schedule to the Companies Act, 2017)**

I..... s/o .....r/o..... (hereinafter called the transferor) in consideration of the sum of..... paid to me by..... s/o .....r/o..... (hereinafter called the transferee), do hereby transfer to the said transferee.....the share (or shares) with distinctive numbers from .....to.....inclusive, in the **KOAK POWER LIMITED**, to hold unto the said transferee, his executors, administrators and assigns, subject to the several conditions on which I held the same at the time of the execution hereof, and I, the said transferee, do

hereby agree to take the said share (or shares) subject to the conditions aforesaid.

As witness our hands this..... day of....., 20.....

Signature .....

Transferor Full Name, \_\_\_\_\_  
Father's / Husband's Name \_\_\_\_\_  
CNIC Number (in case of  
foreigner, Passport  
Number) \_\_\_\_\_  
Nationality \_\_\_\_\_  
Occupation \_\_\_\_\_  
Usual Residential Address \_\_\_\_\_

Signature .....

Transferee Full Name, \_\_\_\_\_  
Father's / Husband's  
Name \_\_\_\_\_  
CNIC Number (in case  
of foreigner, Passport  
Number) \_\_\_\_\_  
Nationality \_\_\_\_\_  
Occupation and  
Usual Residential  
Address \_\_\_\_\_  
Cell number \_\_\_\_\_  
Landline number, \_\_\_\_\_  
If any Email address \_\_\_\_\_

**Bank Account Details of Transferee for Payment of Cash Dividend**

**(Mandatory in case of a listed company or optional for any other company)**

It is requested that all my cash dividend amounts declared by the company, may be credited into the following bank account:

|                         |  |
|-------------------------|--|
| Title of Bank Account   |  |
| Bank Account Number     |  |
| Bank's Name             |  |
| Branch Name and Address |  |

It is stated that the above mentioned information is correct and that I will intimate the changes in the above-mentioned information to the company and the concerned Share Registrar as soon as these occur.

.....  
Signature of the Transferee(s)

12. (1) Subject to the restrictions contained in regulation 10 and 11, the directors shall not refuse to transfer any share unless the transfer deed is defective or invalid. The directors may also suspend the registration of transfers during the ten days immediately preceding a general meeting or prior to the determination of entitlement or rights of the shareholders by giving seven days' previous notice in the manner provided in the Act. The directors may, in case of shares in physical form, decline to recognize any instrument of transfer unless—

- (a) a fee not exceeding fifty rupees as may be determined by the directors is paid to the company in respect thereof; and
- (b) the duly stamped instrument of transfer is accompanied by the certificate of the shares to which it relates, and such other evidence as the directors may reasonably require to show the right of the transferor to make the transfer.

- (2) If the directors refuse to register a transfer of shares, they shall within fifteen days after the date on which the transfer deed was lodged with the company send to the transferee and the transferor notice of the refusal indicating the defect or invalidity to the transferee, who shall, after removal of such defect or invalidity be entitled to re-lodge the transfer deed with the company.

Provided that the company shall, where the transferee is a central depository the refusal shall be conveyed within five days from the date on which the instrument of transfer was lodged with it notify the defect or invalidity to the transferee who shall, after the removal of such defect or invalidity, be entitled to re-lodge the transfer deed with the company.

### **TRANSMISSION OF SHARES**

13. The executors, administrators, heirs, or nominees, as the case may be, of a deceased sole holder of a share shall be the only persons recognized by the company to deal with the share in accordance with the law. In the case of a share registered in the names of two or more holders, the survivors or survivor, or the executors or administrators of the deceased survivor, shall be the only persons recognized by the company to deal with the share in accordance with the law.
14. The shares or other securities of a deceased member shall be transferred on application duly supported by succession certificate or by lawful award, as the case may be, in favour of the successors to the extent of their interests and their names shall be entered to the register of members.
15. A person may on acquiring interest in a company as member, represented by shares, at any time after acquisition of such interest deposit with the company a nomination conferring on a person, being the relatives of the member, namely, a spouse, father, mother, brother, sister and son or daughter, the right to protect the interest of the legal heirs in the shares of the deceased in the event of his death, as a trustee and to facilitate the transfer of shares to the legal heirs of the deceased subject to succession to be determined under the Islamic law of inheritance and in case of non-Muslim members, as per their respective law.
16. The person nominated under regulation 12 shall, after the death of the member, be deemed as a member of company till the shares are transferred to the legal heirs and if the deceased was a director of the company, not being a listed company, the nominee shall also act as director of the company to protect the interest of the legal heirs.
17. A person to be deemed as a member under regulation 11, 12 and 13 to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would be entitled if he were the registered holder of the share and exercise any right conferred by membership in relation to meetings of the company.

### **ALTERATION OF CAPITAL**

18. Subject to the provisions of Article 6(c) and 6(d), the company may, by special resolution—
  - (a) -increase its authorized capital by such amount as it thinks expedient;
  - (b) consolidate and divide the whole or any part of its share capital into shares of larger amount than its existing shares;

- (c) -sub-divide its shares, or any of them, into shares of smaller amount than is fixed by the memorandum;
- (d) -cancel shares which, at the date of the passing of the resolution in that behalf, have not been taken or agreed to be taken by any person, and diminish the amount of its share capital by the amount of the share so cancelled.
19. Subject to the provisions of the Act, all new shares shall at the first instance be offered to such persons as at the date of the offer are entitled to such issue in proportion, as nearly as the circumstances admit, to the amount of the existing shares to which they are entitled. The offer shall be made by letter of offer specifying the number of shares offered, and limiting a time within which the offer, if not accepted, will deem to be declined, and after the expiration of that time, or on the receipt of an intimation from the person to whom the offer is made that he declines to accept the shares offered, the directors may dispose of the same in such manner as they think most beneficial to the company. The directors may likewise so dispose of any new shares which (by reason of the ratio which the new shares bear to shares held by persons entitled to an offer of new shares) cannot, in the opinion of the directors, be conveniently offered under this regulation.
20. The new shares shall be subject to the same provisions with reference to transfer, transmission and otherwise as the shares in the original share capital.
21. The company may, by special resolution—
- (a) consolidate and divide its share capital into shares of larger amount than its existing shares;
- (b) sub-divide its existing shares or any of them into shares of smaller amount than is fixed by the memorandum of association, subject, nevertheless, to the provisions of section 85;
- (c) cancel any shares which, at the date of the passing of the resolution, have not been taken or agreed to be taken by any person.
22. The company may, by special resolution, reduce its share capital in any manner and with, and subject to confirmation by the Court and any incident authorized and consent required, by law.

### GENERAL MEETINGS

23. The statutory general meeting of the company shall be held within the period required by section 131.
24. A general meeting, to be called annual general meeting, shall be held, in accordance with the provisions of section 132, within sixteen months from the date of incorporation of the company and thereafter once at least in every year within a period of **one hundred and twenty days** following the close of its financial year.
25. All general meetings of a company other than the statutory meeting or an annual general meeting mentioned in sections 131 and 132 respectively shall be called extraordinary general meetings.
26. The directors may, whenever they think fit, call an extra-ordinary general meeting, and extra-ordinary general meetings shall also be called on such requisition, or in default, may be called by such requisitionists, as provided by section 133. If at any time there are not within Pakistan sufficient directors capable of acting to form a quorum, any director of the company may call an extra-ordinary general meeting in the same manner as nearly as possible as that in which meetings may be called by the directors.

27. The company may provide video-link facility to its members for attending general meeting at places other than the town in which general meeting is taking place after considering the geographical dispersal of its members:

Provided that in case of listed companies if the members holding ten percent of the total paid up capital or such other percentage of the paid up capital as may be specified, are resident in any other city, the company shall provide the facility of video-link to such members for attending annual general meeting of the company, if so required by such members in writing to the company at least seven days before the date of the meeting.

### **NOTICE AND PROCEEDINGS OF GENERAL MEETINGS**

28. Twenty-one days' notice at the least (exclusive of the day on which the notice is served or deemed to be served, but inclusive of the day for which notice is given) specifying the place, the day and the hour of meeting and, in case of special business, the general nature of that business, shall be given in manner provided by the Act for the general meeting, to such persons as are, under the Act or the regulations of the company, entitled to receive such notice from the company; but the accidental omission to give notice to, or the non-receipt of notice by, any member shall not invalidate the proceedings at any general meeting.
29. All the business transacted at a general meeting shall be deemed special other than the business stated in sub-section (2) of section 134 namely; the consideration of financial statements and the reports of the board and auditors, the declaration of any dividend, the election and appointment of directors in place of those retiring, and the appointment of the auditors and fixing of their remuneration.
30. No business shall be transacted at any general meeting unless a quorum of members is present at that time when the meeting proceeds to business. The quorum of the general meeting shall be—
- (a) in the case of a public listed company, not less than ten members present personally, or through video-link who represent not less than twenty-five per cent of the total voting power, either of their own account or as proxies;
  - (b) in the case of any other company having share capital, two members present personally, or through video-link who represent not less than twenty-five per cent of the total voting power, either of their own account or as proxies.
31. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if called upon the requisition of members, shall be dissolved; in any other case, it shall stand adjourned to the same day in the next week at the same time and place, and, if at the adjourned meeting a quorum is not present within half an hour from the time appointed for the meeting, the members present, being not less than two, shall be a quorum.
32. The chairman of the board of directors, if any, shall preside as chairman at every general meeting of the company, but if there is no such chairman, or if at any meeting he is not present within fifteen minutes after the time appointed for the meeting, or is unwilling to act as chairman, any one of the directors present may be elected to be chairman, and if none of the directors is present, or willing to act as chairman, the members present shall choose one of their number to be chairman.
33. The chairman may, with the consent of any meeting at which a quorum is present (and shall if so directed by the meeting), adjourn the meeting from time to time but no business shall be transacted at any adjourned meeting other than the business left unfinished at the

meeting from which the adjournment took place. When a meeting is adjourned for fifteen days or more, notice of the adjourned meeting shall be given as in the case of an original meeting. Save as aforesaid, it shall not be necessary to give any notice of an adjournment or of the business to be transacted at an adjourned meeting.

34. (1)-At any general meeting a resolution put to the vote of the meeting shall be decided on a show of hands unless a poll is (before or on the declaration of the result of the show of hands) demanded. Unless a poll is so demanded, a declaration by the chairman that a resolution has, on a show of hands, been carried, or carried unanimously, or by a particular majority, or lost, and an entry to that effect in the book of the proceedings of the company shall be conclusive evidence of the fact, without proof of the number or proportion of the votes recorded in favour of, or against, that resolution.
- (2)-At any general meeting, the company shall transact such businesses as may be notified by the Commission, only through postal ballot.
35. A poll may be demanded only in accordance with the provisions of section 143.
36. If a poll is duly demanded, it shall be taken in accordance with the manner laid down in sections 144 and 145 and the result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded.
37. A poll demanded on the election of chairman or on a question of adjournment shall be taken at once.
38. In the case of an equality of votes, whether on a show of hands or on a poll, the chairman of the meeting at which the show of hands takes place, or at which the poll is demanded, shall have and exercise a second or casting vote.
39. Except for the businesses specified under sub-section (2) of section 134 to be conducted in the annual general meeting, the members of a private company or a public unlisted company (having not more than fifty members), may pass a resolution (ordinary or special) by circulation signed by all the members for the time being entitled to receive notice of a meeting. The resolution by circulation shall be deemed to be passed on the date of signing by the last of the signatory member to such resolution.

### **VOTES OF MEMBERS**

40. Subject to any rights or restrictions for the time being attached to any class or classes of shares, on a show of hands every member present in person shall have one vote except for election of directors in which case the provisions of section 159 shall apply. On a poll every member shall have voting rights as laid down in section 134.
41. In case of joint-holders, the vote of the senior who tenders a vote, whether in person or by proxy or through video-link shall be accepted to the exclusion of the votes of the other joint-holders; and for this purpose seniority shall be determined by the order in which the names stand in the register of members.
42. A member of unsound mind, or in respect of whom an order has been made by any court having jurisdiction in lunacy, may vote, whether on show of hands or on a poll or through video link, by his committee or other legal guardian, and any such committee or guardian may, on a poll, vote by proxy.
43. On a poll votes may be given either personally or through video link, by proxy or through postal ballot:

Provided that nobody corporate shall vote by proxy as long as a resolution of its directors in accordance with the provisions of section 138 is in force.

44. (1)-The instrument appointing a proxy shall be in writing under the hand of the appointer

or of his attorney duly authorized in writing.

(2)-The instrument appointing a proxy and the power-of-attorney or other authority (if any) under which it is signed, or a notarially certified copy of that power or authority, shall be deposited at the registered office of the company not less than forty-eight hours before the time for holding the meeting at which the person named in the instrument proposes to vote and in default the instrument of proxy shall not be treated as valid.

45. An instrument appointing a proxy may be in the following form, or a form as near thereto as may be:

**INSTRUMENT OF PROXY  
KOAK POWER LIMITED**

I ..... s/o ..... r/o.....being a member of the ..... Limited, hereby appoint..... s/o.....r/o .....as my proxy to attend and vote on my behalf at the (statutory, annual, extra-ordinary, as the case may be) general meeting of the company to be held on the.... day of....., 2... and at any adjournment thereof.

46. A vote given in accordance with the terms of an instrument of proxy shall be valid notwithstanding the previous death or insanity of the principal or revocation of the proxy or of the authority under which the proxy was executed, or the transfer of the share in respect of which the proxy is given, provided that no intimation in writing of such death, insanity, revocation or transfer as aforesaid shall have been received by the company at the office before the commencement of the meeting or adjourned meeting at which the proxy is used.

**DIRECTORS**

47. The following subscribers of the memorandum of association shall be the first directors of the company, so, however, that the number of directors shall not in any case be less than that specified in section 154 and they shall hold office until the election of directors in the first annual general meeting:

|   |                   |                          |
|---|-------------------|--------------------------|
| 1 | MR. HONG SEOKBIN  | (PASSPORT NO. M74744749) |
| 2 | MR. KIM YOUNGKEUN | (PASSPORT NO. M74198693) |
| 3 | MR. YOON ANSANG   | (PASSPORT NO. M07037396) |

48. The remuneration of the directors shall from time to time be determined by the company in general meeting subject to the provisions of the Act.
49. Save as provided in section 153, no person shall be appointed as a director unless he is a member of the company.

**POWERS AND DUTIES OF DIRECTORS**

50. The business of the company shall be managed by the directors, who may pay all expenses incurred in promoting and registering the company, and may exercise all such powers of the company as are not by the Act or any statutory modification thereof for the time being in force, or by these regulations, required to be exercised by the company in general meeting, subject nevertheless to the provisions of the Act or to any of these regulations, and such regulations being not inconsistent with the aforesaid provisions, as may be prescribed by the company in general meeting but no regulation made by the company in general meeting shall invalidate any prior act of the directors which would have been valid if that regulation had not been made.
51. The directors shall appoint a chief executive in accordance with the provisions of sections

186 and 187.

52. The amount for the time being remaining un-discharged of moneys borrowed or raised by the directors for the purposes of the company (otherwise than by the issue of share capital) shall not at any time, without the sanction of the company in general meeting, exceed the issued share capital of the company.
53. The directors shall duly comply with the provisions of the Act, or any statutory modification thereof for the time being in force, and in particular with the provisions in regard to the registration of the particulars of mortgages, charges and pledge affecting the property of the company or created by it, to the keeping of a register of the directors, and to the sending to the registrar of an annual list of members, and a summary of particulars relating thereto and notice of any consolidation or increase of share capital, or sub-division of shares, and copies of special resolutions and a copy of the register of directors and notifications of any changes therein.

#### **MINUTE BOOKS**

54. The directors shall cause records to be kept and minutes to be made in book or books with regard to—

- (a) all resolutions and proceedings of general meeting(s) and the meeting(s) of directors and Committee(s) of directors, and every member present at any general meeting and every director present at any meeting of directors or Committee of directors shall put his signature in a book to be kept for that purpose;
- (b) recording the names of the persons present at each meeting of the directors and of any committee of the directors, and the general meeting; and
- (c) all orders made by the directors and Committee(s) of directors:

Provided that all records related to proceedings through video-link shall be maintained in accordance with the relevant regulations specified by the Commission which shall be appropriately rendered into writing as part of the minute books according to the said regulations.

#### **THE SEAL**

55. The directors shall provide for the safe custody of the seal and the seal shall not be affixed to any instrument except by the authority of a resolution of the board of directors or by a committee of directors authorized in that behalf by the directors and in the presence of at least two directors and of the secretary or such other person as the directors may appoint for the purpose; and those two directors and secretary or other person as aforesaid shall sign every instrument to which the seal of the company is so affixed in their presence.

#### **DISQUALIFICATION OF DIRECTORS**

56. No person shall become the director of a company if he suffers from any of the disabilities or disqualifications mentioned in section 153 or disqualified or debarred from holding such office under any of the provisions of the Act as the case may be and, if already a director, shall cease to hold such office from the date he so becomes disqualified or disabled:

Provided, however, that no director shall vacate his office by reason only of his being a

member of any company which has entered into contracts with, or done any work for, the company of which he is director, but such director shall not vote in respect of any such contract or work, and if he does so vote, his vote shall not be counted.

### **PROCEEDINGS OF DIRECTORS**

57. The directors may meet together for the dispatch of business, adjourn and otherwise regulate their meetings, as they think fit. A director may, and the secretary on the requisition of a director shall, at any time, summon a meeting of directors. Notice sent to a director through email whether such director is in Pakistan or outside Pakistan shall be a valid notice.
58. The directors may elect a chairman of their meetings and determine the period for which he is to hold office; but, if no such chairman is elected, or if at any meeting the chairman is not present within ten minutes after the time appointed for holding the same or is unwilling to act as chairman, the directors present may choose one of their number to be chairman of the meeting.
59. At least one-third (1/3rd) of the total number of directors or two (2) directors whichever is higher, for the time being of the company, present personally or through video-link, shall constitute a quorum.
60. Save as otherwise expressly provided in the Act, every question at meetings of the board shall be determined by a majority of votes of the directors present in person or through video-link, each director having one vote. In case of an equality of votes or tie, the chairman shall have a casting vote in addition to his original vote as a director.
61. The directors may delegate any of their powers not required to be exercised in their meeting to committees consisting of such member or members of their body as they think fit; any committee so formed shall, in the exercise of the powers so delegated, conform to any restrictions that may be imposed on them by the directors.
62. (1)-A committee may elect a chairman of its meetings; but, if no such chairman is elected, or if at any meeting the chairman is not present within ten minutes after the time appointed for holding the same or is unwilling to act as chairman, the members present may choose one of their number to be chairman of the meeting.

(2)-A committee may meet and adjourn as it thinks proper. Questions arising at any meeting shall be determined by a majority of votes of the members present. In case of an equality of votes, the chairman shall have and exercise a second or casting vote.

63. All acts done by any meeting of the directors or of a committee of directors, or by any person acting as a director, shall, notwithstanding that it be afterwards discovered that there was some defect in the appointment of any such directors or persons acting as aforesaid, or that they or any of them were disqualified, be as valid as if every such person had been duly appointed and was qualified to be a director.
64. A copy of the draft minutes of meeting of the board of directors shall be furnished to every director within seven working days of the date of meeting.
65. A resolution in writing signed by all the directors for the time being entitled to receive notice of a meeting of the directors shall be as valid and effectual as if it had been passed at a meeting of the directors duly convened and held.

### **FILLING OF VACANCIES**

66. At the first annual general meeting of the company, all the directors shall stand retired from office, and directors shall be elected in their place in accordance with section 159 for a term of three years.

67. A retiring director shall be eligible for re-election.
68. The directors shall comply with the provisions of sections 154 to 159 and sections 161, 162 and 167 relating to the election of directors and matters ancillary thereto.
69. Any casual vacancy occurring on the board of directors may be filled up by the directors, but the person so chosen shall be subject to retirement at the same time as if he had become a director on the day on which the director in whose place he is chosen was last elected as director.
70. The company may remove a director but only in accordance with the provisions of the Act.

### **DIVIDENDS AND RESERVE**

71. The company in general meeting may declare dividends but no dividend shall exceed the amount recommended by the directors.
72. The directors may from time to time pay to the members such interim dividends as appear to the directors to be justified by the profits of the company.
73. Any dividend may be paid by a company either in cash or in kind only out of its profits. The payment of dividend in kind shall only be in the shape of shares of listed company held by the distributing company.
74. Dividend shall not be paid out of unrealized gain on investment property credited to profit and loss account.
75. Subject to the rights of persons (if any) entitled to shares with special rights as to dividends, all dividends shall be declared and paid according to the amounts paid on the shares.
76. (1)-The directors may, before recommending any dividend, set aside out of the profits of the company such sums as they think proper as a reserve or reserves which shall, at the discretion of the directors, be applicable for meeting contingencies, or for equalizing dividends, or for any other purpose to which the profits of the company may be properly applied, and pending such application may, at the like discretion, either be employed in the business of company or be invested in such investments (other than shares of the company) as the directors may, subject to the provisions of the Act, from time to time think fit.
- (2)-The directors may carry forward any profits which they may think prudent not to distribute, without setting them aside as a reserve.
77. If several persons are registered as joint-holders of any share, any one of them may give effectual receipt for any dividend payable on the share.
78. (1)-Notice of any dividend that may have been declared shall be given in manner hereinafter mentioned to the persons entitled to share therein but, in the case of a public company, the company may give such notice by advertisement in a newspaper circulating in the Province in which the registered office of the company is situate.
- (2)-Any dividend declared by the company shall be paid to its registered shareholders or to their order. The dividend payable in cash may be paid by cheque or warrant or in any electronic mode to the shareholders entitled to the payment of the dividend, as per their direction.
- (3)-In case of a listed company, any dividend payable in cash shall only be paid through electronic mode directly into the bank account designated by the entitled shareholders.
79. The dividend shall be paid within the period laid down under the Act.

### **ACCOUNTS**

80. The directors shall cause to be kept proper books of account as required under section 220.
81. The books of account shall be kept at the registered office of the company or at such other place as the directors shall think fit and shall be open to inspection by the directors during business hours.
82. The directors shall from time to time determine whether and to what extent and at what time and places and under what conditions or regulations the accounts and books or papers of the company or any of them shall be open to the inspection of members not being directors, and no member (not being a director) shall have any right of inspecting any account and book or papers of the company except as conferred by law or authorized by the directors or by the company in general meeting.
83. The directors shall as required by sections 223 and 226 cause to be prepared and to be laid before the company in general meeting the financial statements duly audited and reports as are referred to in those sections.
84. The financial statements and other reports referred to in regulation 80 shall be made out in every year and laid before the company in the annual general meeting in accordance with sections 132 and 223.
85. A copy of the financial statements and reports of directors and auditors shall, at least twenty-one days preceding the meeting, be sent to the persons entitled to receive notices of general meetings in the manner in which notices are to be given hereunder.
86. The directors shall in all respect comply with the provisions of sections 220 to 227.
87. Auditors shall be appointed and their duties regulated in accordance with sections 246 to 249.

### **NOTICES**

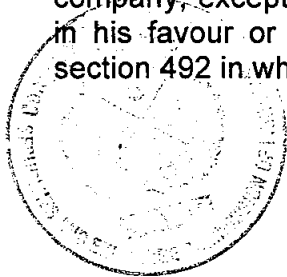
88. (1)-A notice may be given by the company to any member to his registered address or if he has no registered address in Pakistan to the address, if any, supplied by him to the company for the giving of notices to him against an acknowledgement or by post or courier service or through electronic means or in any other manner as may be specified by the Commission.  
(2)-Where a notice is sent by post, service of the notice shall be deemed to be effected by properly addressing, prepaying and posting a letter containing the notice and, unless the contrary is proved, to have been effected at the time at which the letter will be delivered in the ordinary course of post.
89. A notice may be given by the company to the joint-holders of a share by giving the notice to the joint-holder named first in the register in respect of the share.
90. A notice may be given by the company to the person entitled to a share in consequence of the death or insolvency of a member in the manner provided under regulation 85 addressed to them by name, or by the title or representatives of the deceased, or assignees of the insolvent, or by any like description, at the address, supplied for the purpose by the person claiming to be so entitled.
91. Notice of every general meeting shall be given in the manner hereinbefore authorized to (a) every member of the company and also to (b) every person entitled to a share in consequence of the death or insolvency of a member, who but for his death or insolvency would be entitled to receive notice of the meeting, and (c) to the auditors of the company for the time being and every person who is entitled to receive notice of general meetings.

### **WINDING UP**

92. (1)-In the case of members' voluntary winding up, with the sanction of a special resolution of the company, and, in the case of creditors' voluntary winding up, of a meeting of the creditors, the liquidator shall exercise any of the powers given by sub-section (1) of section 337 of the Act to a liquidator in a winding up by the Court including inter-alia divide amongst the members, in specie or kind, the whole or any part of the assets of the company, whether they consist of property of the same kind or not.
- (2)-For the purpose aforesaid, the liquidator may set such value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the members or different classes of members.
- (3)-The liquidator may, with the like sanction, vest the whole or any part of such assets in trustees upon such trusts for the benefit of the contributories as the liquidator, with the like sanction, thinks fit, but so that no member shall be compelled to accept any shares or other securities whereon there is any liability.

#### **INDEMNITY**

93. Every officer or agent for the time being of the company may be indemnified out of the assets of the company against any liability incurred by him in defending any proceedings, whether civil or criminal, arising out of his dealings in relation to the affairs of the company, except those brought by the company against him, in which judgment is given in his favour or in which he is acquitted, or in connection with any application under section 492 in which relief is granted to him by the Court.



We, the several persons whose names and addresses are subscribed below, are desirous of being formed into a company, in pursuance of this **Articles of Association**, and we respectively agree to take the number of shares in the capital of the company as set opposite our respective names:

| Name and surname (present & former) in full (in Block Letters)      | NIC No. (in case of foreigner, Passport No.)<br>Father's | Father's/<br>Husband's<br>Name in full | National<br>ity(ies)<br>with any<br>former<br>National<br>ity | Occupation | Usual residential<br>address in full or the<br>registered/ principal<br>office address for a<br>subscriber other than<br>natural person                                                                                                                                    | Number<br>of<br>shares<br>taken by<br>each<br>subscriber (in<br>figures<br>and<br>words) | Signatures |
|---------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------|
| KOREA SOUTH-EAST<br>POWER CO., LTD.<br><br>THROUGH<br>KIM YOUNGKEUN | Reg. No.<br>120-86-19151<br><br>M74198693                | NA<br><br>HYEONG TAE<br>KIM            | KOREA<br>(SOUTH)<br><br>KOREA<br>(SOUTH)                      | BUSINESS   | <b>IN KOREA</b><br>32, SADEUL-RO, 123 BEON-GIL,<br>JINJU-SI, GYEONGSANGNAM-<br>DO, KOREA.<br><br><b>IN KOREA</b><br>723-6 SOGYEO-DONG,<br>CHANGWON CITY,<br>GYEONGSANGNAMDO,<br>REPUBLIC OF KOREA<br><br><b>IN PAKISTAN</b><br>1204, CENTAURS, TOWER B, F-<br>8, ISLAMABAD | 500                                                                                      |            |
| HONG SEOKBIN                                                        | M74744749                                                | WONKI<br>HONG                          | KOREA<br>(SOUTH)                                              | SERVICE    | <b>IN KOREA</b><br>SEWANG 101-2202, GUIDONG<br>KWANGJIN-GU, SEOUL,<br>REPUBLIC OF KOREA<br><br><b>IN PAKISTAN</b><br>11 <sup>TH</sup> SQUARE PLAZA, 1 <sup>ST</sup><br>FLOOR, STREET 1, MPCHS, E-<br>11/1, ISLAMABAD                                                       | 5                                                                                        |            |
| KIM YOUNGKEUN                                                       | M74198693                                                | HYEONG TAE<br>KIM                      | KOREA<br>(SOUTH)                                              | SERVICE    | <b>IN KOREA</b><br>723-6 SOGYEO-DONG,<br>CHANGWON CITY,<br>GYEONGSANGNAMDO,<br>REPUBLIC OF KOREA<br><br><b>IN PAKISTAN</b><br>1204, CENTAURS, TOWER B, F-<br>8, ISLAMABAD                                                                                                  | 5                                                                                        |            |
| YOON ANSANG                                                         | M07037396                                                | YOUNGKYUN<br>YOON                      | KOREA<br>(SOUTH)                                              | SERVICE    | <b>IN KOREA</b><br>DMC RAEMIAN-E<br>PYUNHANSANG 112-2201,<br>SUSAEKRO-100, SEODAEMUN-<br>GU, SEOUL, REPUBLIC OF<br>KOREA<br><br><b>IN PAKISTAN</b><br>11 <sup>TH</sup> SQUARE PLAZA, 1 <sup>ST</sup><br>FLOOR, STREET 1, MPCHS, E-<br>11/1, ISLAMABAD                      | 5                                                                                        |            |
| <b>Total number of shares taken (Five Hundred and Fifteen Only)</b> |                                                          |                                        |                                                               |            |                                                                                                                                                                                                                                                                            | <b>515</b>                                                                               |            |

Dated the 21<sup>st</sup> day of November, 2019.

Witness to above signatures: (For the documents submitted in physical form)

**CERTIFIED TO BE TRUE COPY**

|                              |  |
|------------------------------|--|
| Signature                    |  |
| Full Name (in Block Letters) |  |
| Father's/ Husband's name     |  |
| Nationality                  |  |
| Occupation                   |  |
| NIC No.                      |  |
| Usual residential address    |  |

Additional Company Registration Office: Islamabad

# APPENDIX – XIII

## Certified Memorandum of Association

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



**EXTERNAL**

**THE COMPANIES ACT, 2017 (XIX of 2017)**

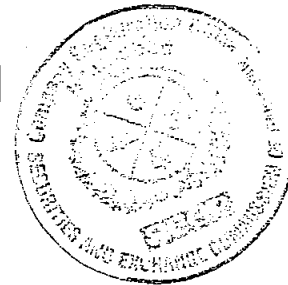
**(COMPANY LIMITED BY SHARES)**

**MEMORANDUM**

**OF**

**ASSOCIATION**

**OF**



**KOAK POWER LIMITED**

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**THE COMPANIES ACT, 2017 (XIX of 2017)**



**EXTERNAL**

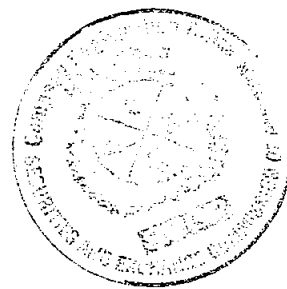
**THE COMPANIES ACT, 2017 (XIX of 2017)**  
**(COMPANY LIMITED BY SHARES)**

**MEMORANDUM**

**OF**

**ASSOCIATION**

**OF**



**KOAK POWER LIMITED**

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**THE COMPANIES ACT, 2017 (XIX of 2017)**

**(COMPANY LIMITED BY SHARES)**

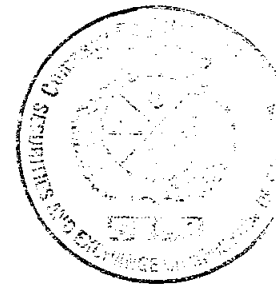
**MEMORANDUM OF ASSOCIATION  
OF  
KOAK POWER LIMITED**

1. The name of the company is **KOAK POWER LIMITED**.
2. The registered office of the Company will be situated in **Islamabad Capital Territory**.
3. (i) The principal line of business of the company shall be to carry on all or any of the businesses of generating, purchasing, importing, transforming, converting, distributing, supplying, exporting and dealing in electricity and all other forms of energy and products or services associated therewith and of promoting the conservation and efficient use of electricity and to perform all other acts which are necessary or incidental to the business of electricity generation, transmission, distribution and supply, subject to permission of concerned authorities; and to locate, establish, construct, equip, operate, use, manage and maintain thermal power plants, coal fired power plants, hydal power plants, wind mills, power grid station, grid stations, cables, overhead lines, sub-stations, switching stations, tunnels, cable bridges, link boxes, heat pumps, plant and equipment for combined heat and power schemes, offices, computer centres, shops and necessary devices, showrooms, depots, factories, workshops, plants and to provide transforming, switching, conversion and transmission facilities, subject to permission of relevant authorities.
- (ii) Except for the businesses mentioned in sub-clause (iii) hereunder, the company may engage in all the lawful businesses and shall be authorized to take all necessary steps and actions in connection therewith and ancillary thereto.
- (iii) Notwithstanding anything contained in the foregoing sub-clauses of this clause nothing contained herein shall be construed as empowering the Company to undertake or indulge, directly or indirectly in the business of a Banking Company, Non-banking Finance Company (Mutual Fund, Leasing, Investment Company, Investment Advisor, Real Estate Investment Trust management company, Housing Finance Company, Venture Capital Company, Discounting Services, Microfinance or Microcredit business), Insurance Business, *Modaraba* management company, Stock Brokerage business, forex, managing agency, business of providing the services of security guards or any other business restricted under any law for the time being in force or as may be specified by the Commission.
- (iv) It is hereby undertaken that the company shall not:
  - (a) engage in any of the business mentioned in sub-clause (iii) above or any unlawful operation;

- (b) launch multi-level marketing (MLM), Pyramid and Ponzi Schemes, or other related activities/businesses or any lottery business;
- (c) engage in any of the permissible business unless the requisite approval, permission, consent or licence is obtained from competent authority as may be required under any law for the time being in force.

4. The liability of the members is limited.

5. The authorized capital of the company is Rs2,500,000,000 (Rupees Two Billion Five Hundred Million Only) divided into 25,000,000 (Twenty Five Million Only) Ordinary Shares of Rs.100/- (Rupees Hundred Only) each with powers to increase and reduce the Capital of the Company and to divide the shares in the Capital for the time being into several classes in accordance with the provisions of Companies Act, 2017.



We, the several persons whose names and addresses are subscribed below, are desirous of being formed into a company, in pursuance of this **Memorandum of Association**, and we respectively agree to take the number of shares in the capital of the company as set opposite our respective names:

| Name and surname (present & former) in full (in Block Letters)      | NIC No. (in case of foreigner, Passport No.)<br>Father's | Father's/ Husband's Name in full | Nationality(ies) with any former Nationality | Occupation | Usual residential address in full or the registered/ principal office address for a subscriber other than natural person                                                                                                                               | Number of shares taken by each subscriber (in figures and words) | Signatures |
|---------------------------------------------------------------------|----------------------------------------------------------|----------------------------------|----------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------|
| KOREA SOUTH-EAST POWER CO., LTD.<br><br>THROUGH<br>KIM YOUNGKEUN    | Reg. No. 120-86-19151<br><br>M74198693                   | NA<br><br>HYEONG TAE KIM         | KOREA (SOUTH)<br><br>KOREA (SOUTH)           | BUSINESS   | <b>IN KOREA</b><br>32, SADEUL-RO, 123 BEON-GIL, JINJU-SI, GYEONGSANGNAM-DO, KOREA.<br><br><b>IN KOREA</b><br>723-6 SOGYEO-DONG, CHANGWON CITY, GYEONGSANGNAMDO, REPUBLIC OF KOREA<br><br><b>IN PAKISTAN</b><br>1204, CENTAURS, TOWER B, F-8, ISLAMABAD | 500                                                              |            |
| HONG SEOKBIN                                                        | M74744749                                                | WONKI HONG                       | KOREA (SOUTH)                                | SERVICE    | <b>IN KOREA</b><br>SEWANG 101-2202, GUIDONG, KWANGJIN-GU, SEOUL, REPUBLIC OF KOREA<br><b>IN PAKISTAN</b><br>11 <sup>TH</sup> SQUARE PLAZA, 1 <sup>ST</sup> FLOOR, STREET 1, MPCHS, E-11/1, ISLAMABAD                                                   | 5                                                                |            |
| KIM YOUNGKEUN                                                       | M74198693                                                | HYEONG TAE KIM                   | KOREA (SOUTH)                                | SERVICE    | <b>IN KOREA</b><br>723-6 SOGYEO-DONG, CHANGWON CITY, GYEONGSANGNAMDO, REPUBLIC OF KOREA<br><br><b>IN PAKISTAN</b><br>1204, CENTAURS, TOWER B, F-8, ISLAMABAD                                                                                           | 5                                                                |            |
| YOON ANSANG                                                         | M07037396                                                | YOUNGKYUN YOON                   | KOREA (SOUTH)                                | SERVICE    | <b>IN KOREA</b><br>DMC RAEMIAN-E PYUNHANSANG 112-2201, SUSAEKRO-100, SEODAEMUN-GU, SEOUL, REPUBLIC OF KOREA<br><b>IN PAKISTAN</b><br>11 <sup>TH</sup> SQUARE PLAZA, 1 <sup>ST</sup> FLOOR, STREET 1, MPCHS, E-11/1, ISLAMABAD                          | 5                                                                |            |
| <b>Total number of shares taken (Five Hundred and Fifteen Only)</b> |                                                          |                                  |                                              |            |                                                                                                                                                                                                                                                        | <b>515</b>                                                       |            |

Dated the 21<sup>st</sup> day of November, 2019.

Witness to above signatures: (For the documents submitted in physical form)

|                              |  |
|------------------------------|--|
| Signature                    |  |
| Full Name (in Block Letters) |  |
| Father's/ Husband's name     |  |
| Nationality                  |  |
| Occupation                   |  |
| NIC No.                      |  |
| Usual residential address    |  |

**CERTIFIED TO BE TRUE COPY**

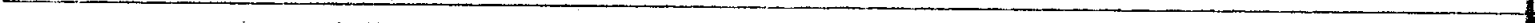
Additional Joint Registrar  
Company Registration Office Islamabad



# APPENDIX – XIV

Copy of submission of application  
for Generation License

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



Letter No: KOAK-482-2022

Date: June 6, 2022

**The Registrar**

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

Stamp: National Electric Power Regulatory Authority  
Date: 8-7-22

**Subject: Application for Grant of Generation License for KOAK Power Limited for 229MW  
Asrit Kedam Hydropower Project located at Swat River Khyber Pakhtunkhwa**

Dear Sir,

Korea South East Power Co., Ltd. (KOEN) is a premier state owned generation company of Republic of Korea with generation capacity of 10,376MW worldwide and asset based of \$9.9 Billion. KOEN has successfully developed 102MW Gulpur Hydropower Project in district Kotli of Azad Jammu & Kashmir which has achieved its Commercial Operations in March 2020.

The Letter of Intent (LOI) for 229MW Asrit Kedam Hydropower Project (The Project) was issued to KOEN on June 23, 2021 under KPK Hydropower Policy 2016. The Project is being implemented through KOAK Power Limited which is currently a wholly owned subsidiary of KOEN. The LOI requires the company to get Generation License and Feasibility Stage Tariff from NEPRA within the stipulated timeline followed by issuance of tripartite Letter of Support by Private Power & Infrastructure Board (PPIB) under the Federal Government's Power Generation policy 2015.

The Updated Feasibility Study of the Project was approved by Pakhtunkhwa Energy Development Organization (PEDO) on May 31, 2022 after rigorous deliberation of Panel of Experts (POE). The POE was comprised of representatives of PPIB, National Transmission & Despatch Company (NTDC), Central Power Purchasing Agency Guarantee Limited (CPPAG), PEDO, KPK Environmental Protection Agency (KPK EPA), Irrigation Department Khyber Pakhtunkhwa, and Peshawar Electric Supply Company (PESCO).

The Grid Interconnection Study (GIS) of the Project was conducted by Power Planners International and submitted to NTDC on February 3, 2022. The NTDC responded that the subject HPP is part of the integrated study for evacuation of power from hydropower projects in Swat valley at which is presently under progress by the PEDO's consultant and has not been completed yet therefore, NTDC shall give its approval on the subject GIS report after completion of integrated study. Upon the instruction of NTDC the GIS was also shared with PEDO and PESCO on February 14, 2022. The GIS is under review of PESCO and comments shall be submitted once the aforesaid integrated study is completed. Since the Company has completed all its requirements relating to GIS and it is pending with NTDC for the



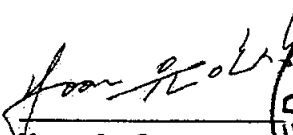
reasons explained above therefore, the Company requests the waiver of the approval of such Study as part of Generation License. We undertake that the subject study shall be approved before the Financial Closure of the Project. (The relevant correspondence is attached)

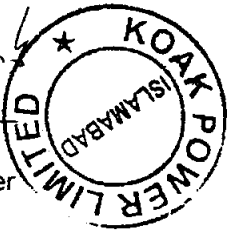
No Objection Certificate from the KPK Environmental Protection Agency was issued vide letter No. EPA/EIA/Asrit-Kedam/238 dated 27/04/2012. The said NOC is valid however, being a prudent employer and to satisfy the Lender's concern the company has decided to update the Environmental Impact Assessment (EIA) and to get the renewed NOC in due course which is under process.

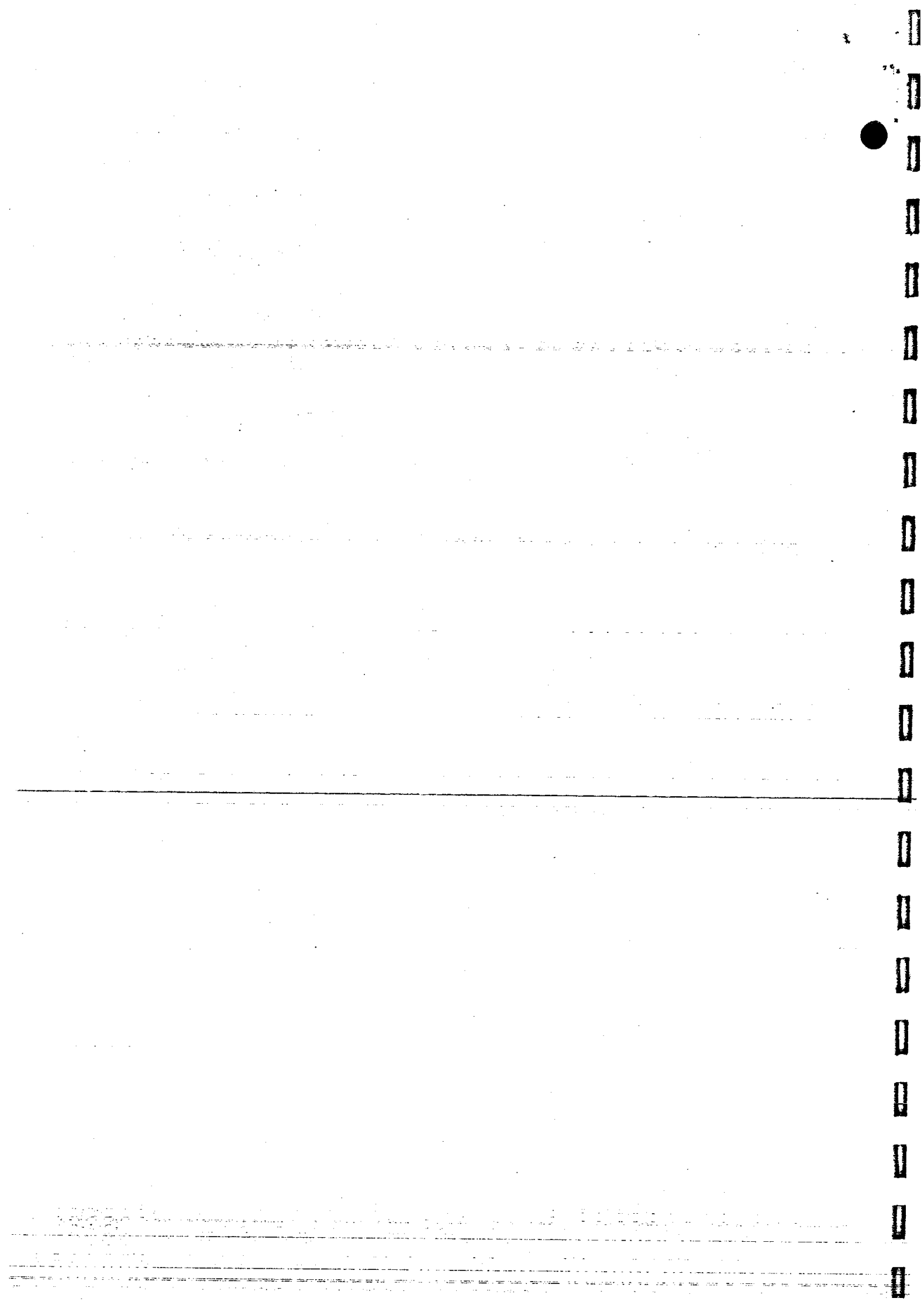
KOAK Power Limited hereby applies for the issuance of Generation License pursuant to the provisions of National Electric Power Regulatory Authority Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021. The Checklist and relevant documents are attached herewith this application.

Keeping in view the forgoing, the Authority is requested to kindly process our application for grant of Generation License for subject Project as per applicable laws.

Warm Regards

  
**Yoon An Sang**  
Chief Executive Officer  
KOAK Power Limited





# APPENDIX – XV

## Approved Feasibility Study Report

Refer to

Feasibility Study Comprising of 4 volumes are attached separately.

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



# APPENDIX – XVI

Previous Feasibility Approval Letter  
by POE of PPIB

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition





GOVERNMENT OF PAKISTAN  
MINISTRY OF WATER AND POWER  
(PRIVATE POWER & INFRASTRUCTURE BOARD)

No: 1(101) PPIB-2017-01/08/PRJ

24<sup>th</sup> December 2008

**Mr. Mohammad Sohail Tabba**  
M/s Yunus Brothers Group  
6-A, Muhammad Ali Housing Society  
Abdul Aziz Hashim Tabba Street  
Karachi

Subject: **Approval of Feasibility Study for Asrit-Kedam Hydropower Project conducted by M/s Yunus Brothers Group (the "Sponsors")**

Reference: i. Letter of Interest (LOI) dated 14th April 2007.  
ii. M/s Yunus Brothers Group letter No. Nil dated 13th December 2008 vide which the Final Feasibility Study for the subject project was submitted.

Dear Sir,

PPIB is pleased to communicate the following decision of Panel of Experts (POE) monitoring the conduct of Feasibility Study for the subject project:

- (i) **The Feasibility Study for Asrit-Kedam Hydropower Project District Swat, NWFP completed by M/s Yunus Brothers Group has been approved by the Panel of Experts (POE).**
- (ii) **POE certify only the completion of the Feasibility Study, however, due to nature of data and resultant conclusions, POE jointly and/or individually will not be responsible for reliability of data, contents and conclusions given in the feasibility study.**

2. In accordance with the provisions of the Policy for Power Generation Projects 2002 and its subsequent amendments, upon the approval of the feasibility study by the POE, the sponsors are required to approach NEPRA for tariff negotiation and finalize their tariff within three months.

3. You are therefore, requested to approach NEPRA and file your tariff petition for the subject project within three (3) months starting from 30<sup>th</sup> December 2008 and lapsing on 29<sup>th</sup> March 2009.

**House No. 50, Nazimuddin Road, F-7/4, Islamabad - Pakistan**

Tel: (9251) 920 5421 Fax: (9251) 9217735, 9215723

Email: [ppib@ppib.gov.pk](mailto:ppib@ppib.gov.pk) Internet: <http://www.ppib.gov.pk>



4. We appreciate your efforts for timely completion of the feasibility study and expect the same pace and spirit for negotiation and filing the tariff petition with NEPRA.

With kind regards,

Yours sincerely,

  
(Fayyaz Elahi)  
Managing Director

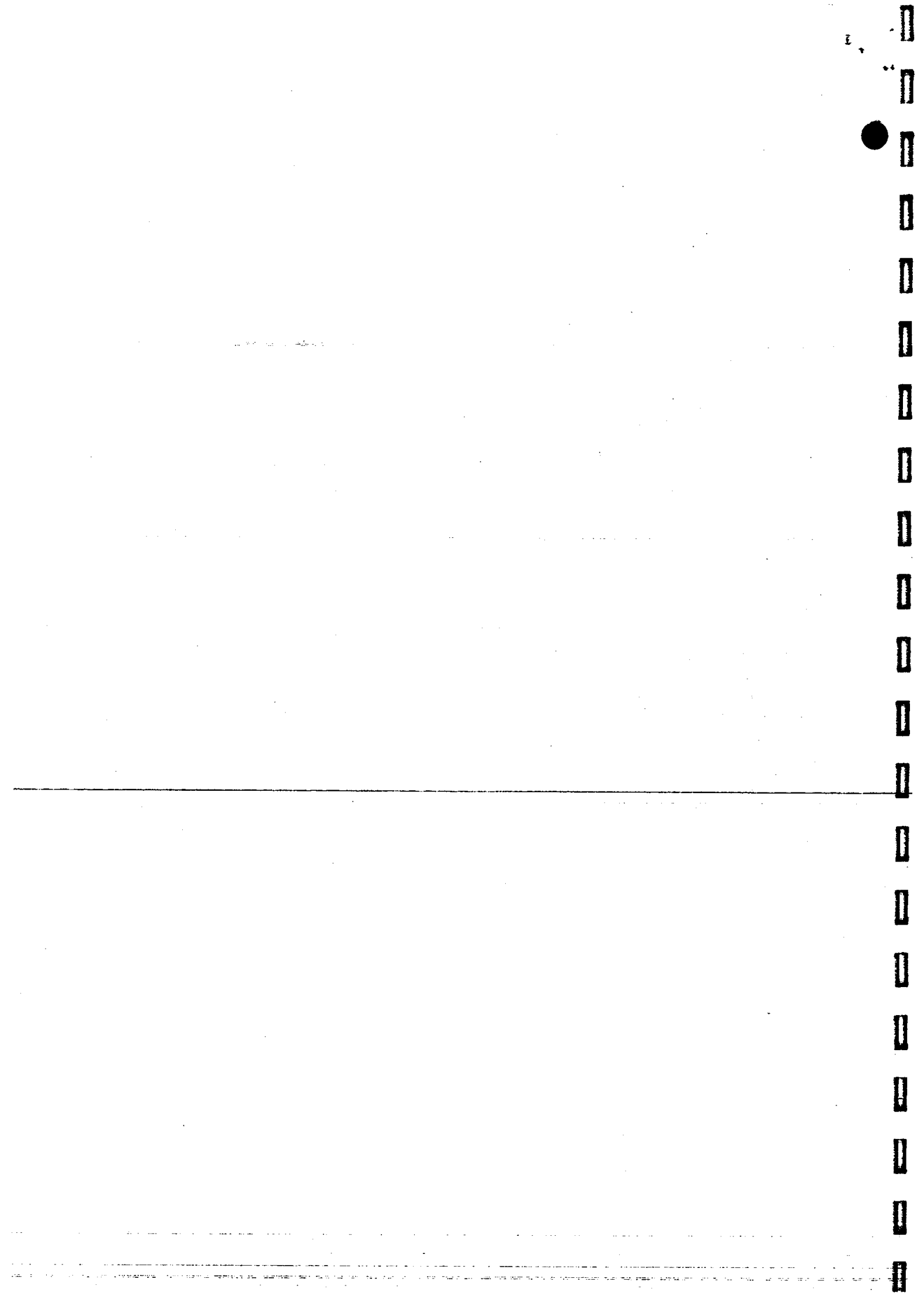
Copy to:

1. General Manager (WPPO)  
325 -WAPDA House  
Lahore
2. Chairman NEPRA  
OPF Building, G-5/1  
Islamabad

**House No. 50, Nazimuddin Road, F-7/4, Islamabad - Pakistan**

Tel: (9251) 920 5421 Fax: (9251) 9217735, 9215723

Email: [ppib@ppib.gov.pk](mailto:ppib@ppib.gov.pk) Internet: <http://www.ppib.gov.pk>



# APPENDIX – XVII

Rejection Letter for FS stage tariff  
petition from NEPRA

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition





## National Electric Power Regulatory Authority

NEPRA Tower, Ataturk Avenue (East), G-5/1, Islamabad

Phone: 9206500, Fax: 2600026

Website: [www.nepra.org.pk](http://www.nepra.org.pk), Email: [info@nepra.org.pk](mailto:info@nepra.org.pk)

### OFFICE OF THE REGISTRAR

No. NEPRA/R/TRF-100/AKHPL/14959

November 2, 2016

Mr. Abdul Sattar  
Company Secretary  
Asrit Kedam Hydro Power Project Limited  
7-A, Tabba Street, Muhammad Ali Society  
Karachi

**Subject: Submission of the Feasibility Stage Tariff Petition of 215MW Asrit Kedam Hydro Power Project**

This is with reference to the subject Tariff Petition of Asrit Kedam Hydro Power Project Limited (AKHPL) for Feasibility Stage Tariff in respect of its proposed 215MW Hydro Power Plant at Swat River submitted vide AKHPL's letter dated 07.09.2016.

2. The Authority has considered the subject petition and observed that the feasibility study submitted by the applicant was approved on 29<sup>th</sup> Dec, 2008 by the Panel of Experts (POEs) and hence outdated. Therefore, the Authority decided to return the Tariff Petition of M/s Asrit Kedam Hydro Power Project Limited (AKHPL) for determination of Feasibility Stage Generation Tariff in respect of 215MW Hydropower Project at Swat River.

3. The Authority has directed AKHPL to update the feasibility study and get it approved from POEs.

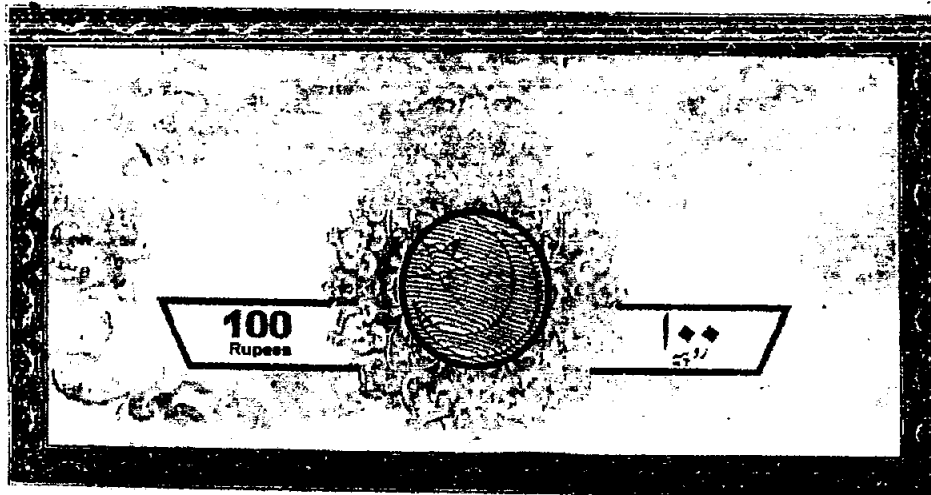
4. In view of the above, the subject Tariff Petition of Asrit Kedam Hydro Power Project Limited is being returned herewith, in original, along with the fee submitted by AKHPL.

Encl: i) Original Tariff Petition

ii) Cheque no. 02341194 dated 07.09.2016 of Rs. 1, 454, 240.00/-

(Iftikhar Ali Khan)  
Director





STAMPED BY THE STATE BANK OF PAKISTAN  
Karachi

02 NOV 2015

Stamp Vendor's Signature: \_\_\_\_\_  
(NOT USE FOR FREE WILL & DIVORCE PURPOSES)



BEFORE  
THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

ASRIT KEDAM HYDRO POWER PROJECT LIMITED  
215 MW AT SWAT RIVER, PROVINCE OF KHYBER PAKHTUNKHWA, PAKISTAN

AFFIDAVIT

AFFIDAVIT of Abdul Sattar, Company Secretary, Asrit Kedam Hydro Power Project Limited,  
7-A, Muhammad Ali Society, Abdul Aziz Haji Hashim Tabba Street, Karachi, Pakistan.

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

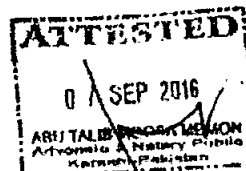
1. I am the Authorized Representative of Asrit Kedam Hydro Power Project Limited for filling the accompanying Feasibility Stage Tariff Petition and to appear and to represent before the National Electric Power Regulatory Authority (NEPRA) in relation to the Tariff Petition.
2. I declare that the contents of the accompanying Feasibility Stage Tariff petition of Asrit Kedam Hydro Power Project Limited including all information is based on Feasibility Study and correct to the best of my knowledge and belief that nothing has been concealed or mis-stated therein.

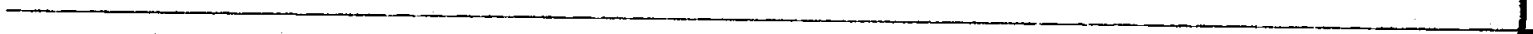
Deponent

Verification

Verified on oath at Karachi on this 07 September 2016 that the contents of the above affidavit are true and correct to the best of my knowledge and belief.

Deponent





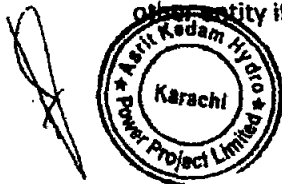


**EXTRACT OF RESOLUTION BY CIRCULATION**  
**PASSED BY THE BOARD OF DIRECTORS OF**  
**ASRIT KEDAM HYDRO POWER PROJECT LIMITED (THE COMPANY)**  
**DATED: SEPTEMBER 06, 2016**

"RESOLVED THAT Asrit Kedam Hydro Power Project Limited (a company incorporated under the laws of Pakistan with its registered office located at 7-A, Muhammad Ali Society, Tabba Street, Karachi, Pakistan. ("the Company") be and is hereby authorized to file Feasibility Stage Tariff Petition (hereinafter referred to as "the Petition") of 215 MW Asrit Kedam Hydropower Project (including any review petitions and any motion for leave for review) for submission to National Electric Power Regulatory Authority ("NEPRA") for determination of the reference generation tariff in respect of its 215 MW Hydro Power generation project to be located at Swat River in reach between Asrit and Kedam villages, in the Province of Khyber Pakhtunkhwa. ("the Project") and in relation thereto, enter into and execute all required documents, make all filings and pay all applicable fees, in each case, of any nature whatsoever, as required."

"FURTHER RESOLVED THAT in respect of filing a Petition (including any review petitions and any motion for leave for review) for submission to NEPRA, Mr. Abdul Sattar, Company Secretary, be empowered and authorized for and on behalf of the Company to review, execute, submit, and deliver the Petition (including any review petitions and any motion for leave for review) and any related documentation required by NEPRA for the determination of the reference generation tariff, including any contact, 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;

- i) represent the Company in all negotiations, representations, presentations, hearings, conferences and/or meetings of any nature whatsoever with any entity (including, but in no manner limited to NEPRA, any private parties, companies, partnerships, individuals, governmental and/or semi-governmental authorities and agencies, ministries, boards, departments, regulatory authorities and/or any other entity if any nature whatsoever);







**ASRIT KEDAM HYDRO POWER PROJECT LIMITED**

Head Office: 7-A Tahha Street, Muhammad Ali Society, Karachi - 75350

Ph: +92 21 35205479-80 Fax: 34382436, 34536329

- ii) sign and execute the necessary documentation, pay the necessary fees, appear before the NEPRA as needed, and do all acts necessary for completion and processing of the Petition including any review petition (including any review petitions and any motion for leave for review) and procuring NEPRA's tariff determination;
- iii) appoint or nominate any one or more officers of the Company or any other person or persons, singly or jointly, in their discretion to communicate with, make presentations to and attend the NEPRA hearings, and
- iv) do all such acts, matters and things as may be necessary for carrying out the purposes aforesaid and giving full effect to the above resolutions/resolution."

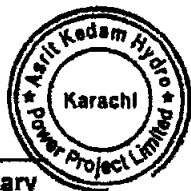
**"FURTHER RESOLVED THAT** Mr. Abdul Sattar, Company Secretary, be and is hereby authorized to delegate all or any of the above powers in respect of the foregoing to any other officials of the Company as deemed appropriate."

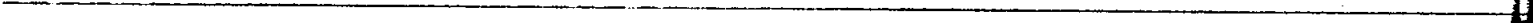
**"FURTHER RESOLVED THAT** the Company Secretary is authorized to issue extracts of the Board Resolution for submission of a copy to NEPRA."

**CERTIFICATE**

*Certified that the foregoing is a true extract of resolution by circulation passed by the Board of Directors of Asrit Kedam Hydro Power Project Limited on September 06, 2016.*

\_\_\_\_\_  
Company Secretary

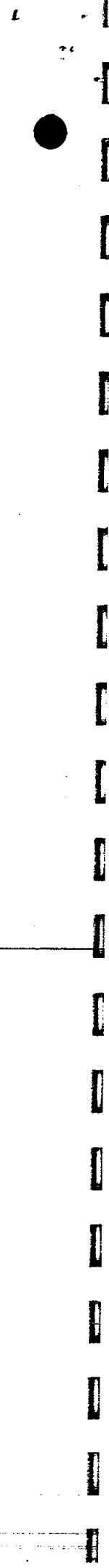




# APPENDIX – XVIII

Termination Notice of LOI by PPIB  
to YBG

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition





PRIVATE POWER & INFRASTRUCTURE BOARD  
MINISTRY OF WATER & POWER  
GOVERNMENT OF PAKISTAN

MANAGING DIRECTOR

No. 1(101) PPIB-2020-04/17/PRJ/O-48785

4<sup>th</sup> May 2017

Mr. Muhammad Sohail Tabba  
M/s Yunus Brothers Group  
6-A. Muhammad Ali Housing Society  
Abdul Aziz Hashim Tabba Street  
Karachi

Subject: TERMINATION NOTICE - 215 MW ASRIT KADAM HYDROPOWER PROJECT

WHEREAS:

- A. M/s Yunus Brothers Group (the "Sponsor") was issued a Letter of Interest (LOI) dated 14<sup>th</sup> April, 2007 (the "LOI") for 215-MW Asrit Kadam Hydropower Project, District Swat, Khyber Pakhtunkhwa (the Project) pursuant to the Policy for Power Generation Projects 2002 (the "Policy");
- B. PPIB vide its letter No. 1(101) PPIB-2017-01/17/PRJ/O-48271 dated 31<sup>st</sup> January, 2017 issued a show cause notice (the "Show Cause Notice") to the Sponsor for, *inter alia*, its delay, default and failure to make significant progress towards timely development of the Project especially to file feasibility stage tariff petition (the "Tariff Petition") before National Electric Power Regulatory Authority (NEPRA) pursuant to NEPRA Act, applicable rules and regulations thereunder;
- C. In reply to the Show Cause Notice, the explanations and justifications by Sponsor/purported Asrit Kadam Hydro Power Project Limited vide letters dated 13<sup>th</sup> February 2017, 20<sup>th</sup> March 2017 having been found to be false, whimsical, defunctive and

Page 1 of 2

Ground & 2nd Floors, Emigration Tower, Plot No. 10, Mauve Area, G-8/1, Islamabad - Pakistan.

Tel: (92-51) 9264034-45, Fax No. (92-51) 9264030-31

Email: ppib@ppib.gov.pk Internet: <http://www.ppib.gov.pk>



evasive were rejected vide PPIB's letter No. 1(101) PPIB-2017-01/17/PRJ/O-48609 dated 31<sup>st</sup> March 2017;

- D. In the interest of justice and fair play the Sponsor was also afforded a personal hearing on 10<sup>th</sup> April 2017 however no plausible justification was provided against the averments in the Show Cause Notice and later the Sponsor reiterated its whimsical and false justifications vide letter dated 17<sup>th</sup> April 2017 but of no avail;

**NOW THEREFORE**, the Sponsor having failed to show cause with plausible explanations and justifications for its delay, default and failure towards timely development of the Project including but not limited to filing of a Tariff Petition as per the requirements of NEI RA Act, applicable rules and regulations thereunder, thus having defeated the Policy objectives of the GOP as set out in the Show Cause Notice, all rights and interest of the Sponsor (or any party claiming through or on behalf of the Sponsor) in and related to the Project are hereby terminated with immediate effect.

  
(Shah Jahan Mirza)

Cc.

1. Minister for Water & Power/Chairman PPIB
2. Secretary, Water & Power
3. Registrar, NEPRA
4. Chief Executive Officer, CPPA-G
5. Managing Director NTDC

# APPENDIX – XIX

## Bills of Quantities as per Approved Feasibility Study

Refer to

APPENDIX – XV “Approved Feasibility Study Report”,  
Volume 1, Chapter 18

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition

# APPENDIX – XX

## Quotation for Project Insurance

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition

## Kalam Asrit Hydropower 보험견적

1) 건설기간 (60 개월)

| 보 험 종 목       |                                       | 가 입 금 액       | 공제금액                                                            | 요 율  | 보 험 료        | 비고                                                                                                   |
|---------------|---------------------------------------|---------------|-----------------------------------------------------------------|------|--------------|------------------------------------------------------------------------------------------------------|
| CAR<br>(건설공사) | Property Damage<br>(물적손해)             | \$356,958,331 | Minimum : 15%<br>Maximum : \$20,000,000<br>Others : \$1,000,000 | 3.9% | \$13,921,374 | 자연재해(지진포함)<br>최소 사고액의 15%<br>최대 \$20Mil<br>터널, 사운전, Under<br>Ground, Wet Work<br>기타 사고 : \$1,000,000 |
|               | Third Party Liability<br>(제 3 자 배상책임) | \$15,000,000  | Property : \$50,000                                             |      |              |                                                                                                      |
|               | ALOP<br>(예정이익상실)                      | \$118,742,141 | Time Excess : 180                                               | 4.5% | \$5,343,396  |                                                                                                      |
| 합계            |                                       |               |                                                                 |      | \$19,264,770 |                                                                                                      |

| 보 험 종 목        |                        | 가 입 금 액       | 공제금액     | 요 율   | 보 험 료        | 비 고                               |
|----------------|------------------------|---------------|----------|-------|--------------|-----------------------------------|
| Cargo<br>(적 하) | Property Damage (물적손해) | \$130,000,000 | \$50,000 | 0.08% | \$104,000    |                                   |
|                | DSU (예정이익상실)           | \$118,742,141 | 60 일     | 0.36% | \$427,471    | Estimated Survey Cost<br>\$70,000 |
|                | 합계                     |               |          |       | \$601,471    | Survey Fee 포함                     |
| 테러보험           |                        | \$100,000,000 | 60 일     |       | \$937,500    | 공사기간 60 개월                        |
| 합계             |                        |               |          |       | \$20,803,741 |                                   |

2) 운영기간 (1 년 단위 갱신)

| 보 험 종 목        |                      | 가 입 금 액       | 공제금액      | 요 율  | 보 험 료       | 비 고 |
|----------------|----------------------|---------------|-----------|------|-------------|-----|
| CCAR<br>(완성토목) | Property Damage + BI | \$475,700,472 | \$300,000 | 0.65 | \$3,092,053 |     |
|                | Nat Cat (지진/ 홍수)     | \$200,000,000 |           |      | \$350,000   |     |
|                | 합계                   |               |           |      | \$3,442,053 |     |
| 테러보험           |                      | \$100,000,000 | 14 일      |      | \$265,000   |     |
| 제 3 자 배상책임보험   |                      | \$25,000,000  |           |      | \$170,000   |     |
| 합계             |                      |               |           |      | \$3,877,053 |     |

\* 모든 보험종목에 부가세 17% 포함됨

\* SPC 에서 필요한 보험은 건설공사보험 (Construction All Risk), 적하보험 (Project Cargo), 테러보험으로 파키스탄 프로젝트에 Lender 측에서 요구하는 보험종목이며, 건설사는 WC/EL (Worker's Compensation/ Employee Liability), 장비보험 등 임



**FACULTATIVE REINSURANCE PLACEMENT SLIP**  
**COMPREHENSIVE PROJECT INSURANCE**

**1. Original Insured:**

Section 1) Project Works

1. KA Power Limited as Principal and/or
2. Korean South East Power Co. Ltd
3. Project Manager and/or EPC Contractor and/or all other Contractors and/or Sub-contractors including direct or indirect contractors of any tier and/or others (not included in Insured 3) engaged to provide goods or services in connection with the Project; and/or
4. Any other Lenders to the Project; and/or
5. Architects, surveyors, suppliers and engineers and other professional consultants engaged by the Insured 1 and/or 3 solely to provide professional services for their site activities only).

All for their respective rights and interests.

The Insurers agree to waive all rights of subrogation or action which they may have or acquire against any of the parties comprising the Insured or their directors agents or employees or their insurers arising out of any occurrence in respect of which any claim is admitted hereunder or which but for the application of any deductible/excess mentioned in the Schedule hereto would be made hereunder.

The terms Principal, Contractor, Sub-contractors shall also mean all their affiliated, subsidiary and associated companies and corporations as now exist or may hereafter be constituted or acquired.

Section 2) Delay in Start-Up

1. KA Power Limited (the Owner)
2. The Finance Parties



Section 3) Third Party Liability

The Insured's named under Section 1 above

**2. Reinsured:** To be Advised

**3. Interest Insured:** Section 1) Project Works

"All Risks" of physical Loss and/or Damage to the preliminary permanent and temporary works, materials, including materials supplied by the Owner (provided that the value of such is included in the Sum Insured), temporary buildings and contents thereof and all other property used or for use in connection with the Project.

Section 3) Delay in Start-Up

Fixed operating costs and/or debt service and/or Loss of ROEC and/or penalties payable under the Power Purchase Agreement and/or increased cost of working arising from a delay in commencement of the Insured Business consequent upon Damage insured by Section 1a) Project Works

Indemnity Period

18 months commencing on the Scheduled Date of Commencement of Commercial Operations.

Scheduled Date of Commencement of Commercial Operations

July 1, 2029 or such other date as may be agreed by Insurers.

Section 3 - Third Party Liability

The Insured's legal liability for accidental third party death and/or bodily and/or personal injury and/or property Damage arising directly out of the performance of the Project.

**4. Project:**

The design, engineering, procurement, supply, delivery, erection, construction, installation, start-up, Testing, Commissioning, Performance Testing, Initial Operations and maintenance of the Kalam Asrit Hydropower, Pakistan (the Project) together with all associated and/or ancillary works.



- 5. Project Site:** Where work is carried out in connection with the Project.
- 6. Policy Period:** From July 1, 2024 to June 30, 2029 both days inclusive local standard time at the location of the Property Reinsured (both days inclusive, 60 months)
- Followed by a Defects Liability Period of 24 months from the Commercial Operation Date as defined in the Contract.
- 7. Sum Insured/  
Sub Limit**
- |                                |                 |
|--------------------------------|-----------------|
| Section 1 – Project Works:     | USD 365,958,331 |
| Section 2 – Delay in Start-Up: | USD 118,742,141 |
| Total Contract Value:          | USD 484,700,472 |
- In respect of Property Damage : USD100,000,000 a.o.o
- 8. Limit of liability:** Section 3 – Third Party Liability  
USD 15,000,000 each and every Occurrence and/or series of Occurrences arising out of one event unlimited in all but in the aggregate in respect of Seepage, Pollution and Contamination.
- 9. Deductible:** Section 1 – Project Works  
Each & every occurrence:-
1. 15% VARTOL subject to a minimum and a maximum of USD 20,000,000 each and every occurrence in respect of Natural Catastrophe Damage.
  2. USD 1,000,000 each and every occurrence in respect of all others.
- Section 2 – Delay in Start-Up
1. In respect of Delays resulting from Natural Catastrophe Damage or underground works:  
180 days in the aggregate commencing on the Scheduled Date of Commencement of Commercial Operations.



2. In respect of Delays resulting from any other Loss:  
120 days in the aggregate commencing on the Scheduled  
Date of Commencement of Commercial Operations.

Section 3 – Third Party Liability

USD 50,000 each and every Occurrence in respect of Property  
Damage only.

**10. Choice of Law and  
Jurisdiction:**

Section 1 & 2 Construction "All Risks" & Delay in Start-Up  
Anywhere in Pakistan in connection with the Contract

Section 3 Third Party Liability

Worldwide excluding USA, Canada, Australia

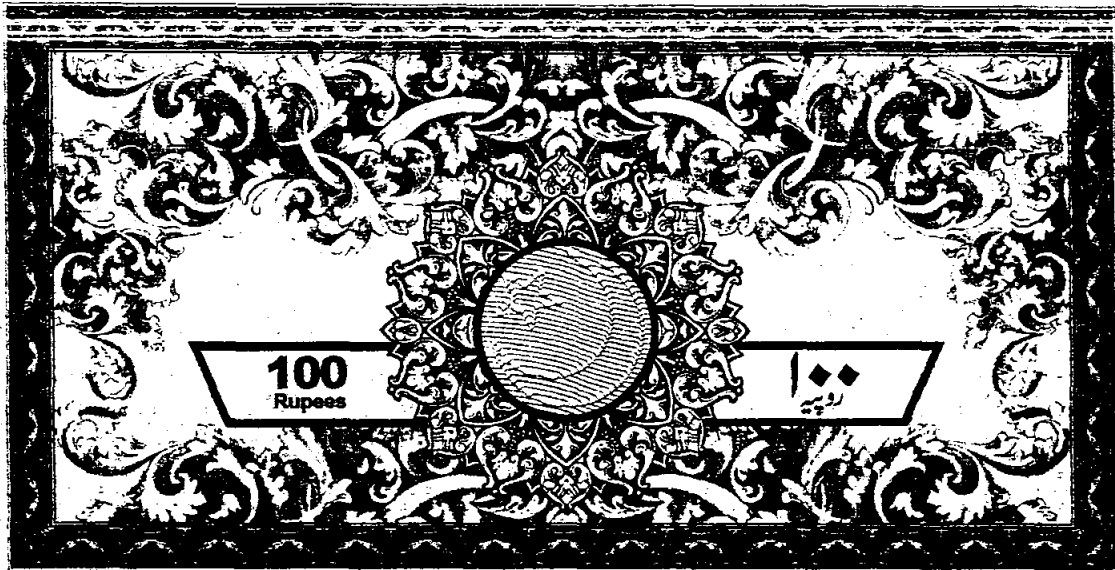
**11. Gross Premium:**

Section 1 & 3) Project Work: **3.9%** and to be adjustable at expiry  
on final contract value  
Section 2) Delay in Start-Up: **4.5%** on the Sum Insured

# APPENDIX – XXI

## Feasibility Rights Purchase Agreement

KOAK Power Limited  
229MW Asirt Kedam Hydropower Project  
Feasibility Stage Tariff Petition



### FEASIBILITY RIGHTS PURCHASE AGREEMENT

This Feasibility Rights Purchase Agreement (the "Agreement") is made at Islamabad on ~~68~~ day of ~~March~~ <sup>April</sup> 2020 (the "Signing Date");

#### BY AND BETWEEN

1. Korea South- East Power Co. Ltd., incorporated in accordance with the laws of South Korea, having its registered office at 32, Sadeul-ro, 123beon-gil, Jinju-si, Gyeongsangnam-do, Republic of Korea (hereinafter referred to as the "KOEN");

#### AND

2. Y.B Pakistan Limited, incorporated in accordance with the laws of Pakistan, having its registered office at 7-A Muhammad Ali Housing Society, A. Aziz Hashim Tabba Street, Karachi- 75350, Pakistan, which is successor in interest of Yunus Brothers (hereinafter referred to as the "YBL");

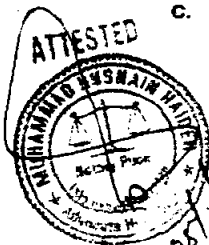
#### AND

3. Pakhtunkhwa Energy Development Organization, established under the laws of Pakistan, through its Chief Executive Officer (hereinafter referred to as "PEDO").

(The KOEN and YBL shall hereinafter collectively be referred to as the "Parties" and individually be referred as a "Party")

#### RECITALS

- A. WHEREAS, a letter of Intent ("YB LOI") dated 14.04.2007 was issued in favour of Muhammad Sohail Tabba of Yunus Brothers ("YBG") by the Private Power & Infrastructure Board (the "PPIB") under the Policy for Power Generation Projects, 2002 (the "2002 Power Policy") for the 215 MW Asrit- Kedam Hydropower project located on the Swat River in Mingora District of Swat Valley, Khyber Pakhtunkhwa (the "Project").
- B. AND WHEREAS, the feasibility study for the Project was conducted by YBG and approved by PPIB on 29.12.2008 (the "Feasibility Study").
- C. AND WHEREAS, PPIB subsequently terminated the YB LOI on 04.05.2017. The YBL impugned such termination before the High Court of Sindh (the "SHC") through its civil suit 1235/2017 dated 11.05.2017, and also moved a stay application and a high court appeal (the civil suit and the high court appeal are collectively hereinafter referred to as the "SHC litigation"). The SHC Litigation is currently pending in the SHC.



R

*[Handwritten signature]*

*[Handwritten signature]*

D. AND WHEREAS YBL acquired and took over as an ongoing concern all assets and business interests of YBG, including the Project;

E. AND WHEREAS, YBL also impugned, *inter alia*, the award of the Project by PEDO to KOEN before the Peshawar High Court ("PHC") through its writ petition 1462-P/2018 (Petition), which was decided through the judgment dated 07.11.2018 (the "PHC Judgment") in favor of YBL. The PHC Judgment has been appealed before the Supreme Court of Pakistan (the "SCP") by, *inter alia*, KOEN and PEDO and such appeal is pending before the Supreme Court of Pakistan (the "SCP Litigation").

F. AND WHEREAS the Parties have respective claims over the Project (the "Disputes");

G. AND WHEREAS, KOEN desires to purchase, and YBL desires to sell all of its rights in the Project and the Feasibility Study on as is where is basis, and the Parties, freely and voluntarily, wish to enter into this Agreement in order to entirely, finally and fully settle and end all past, present and future Disputes between them regarding the Project.

NOW THEREFORE, in consideration of the mutual covenants herein contained and for other good and valuable consideration, the sufficiency of which is hereby acknowledged by the Parties and PEDO, it is hereby agreed and declared by and between the Parties and PEDO as follows.

#### 1. EFFECTIVENESS AND PURCHASE OF RIGHTS

- 1.1. This Agreement shall only become effective upon:
  - (i) PHC Judgment being set aside; or
  - (ii) Withdrawal of the Petition by YBL upon its remand back to PHC from SCP.
- 1.2. Effective as of the date of payment of the Settlement Amount set out in Clause 3 hereof, YBL, on as is where is basis, sells, transfers, assigns, delivers and conveys to KOEN, and KOEN agrees to purchase and accept, on as is where is basis, all rights, title, and interests of YBL in and to the Feasibility Study, including but not limited to the right to use, update, transfer, assign the Feasibility Study in any manner KOEN deems fit in accordance with the applicable guidelines or policy as set out by KPK or PEDO.
- 1.3. YBL shall deliver to KOEN all available documents relating to the Project.
- 1.4. PEDO does not have any objection to the sale and purchase under Clause 1.2; however such no objection is not to be construed as approval, consent or authorization of the Feasibility Study or of the Settlement Amount.

#### 2. WITHDRAWAL & RESOLUTION OF PENDING LITIGATION

- 2.1. Subject to fulfillment of conditions under the applicable policy, immediately upon the issuance of no objection/ an intimation to submit a bank guarantee ("NOC") for the issuance of a valid letter of Intent ("LOI") for the Project by PEDO in favour of KOEN, YBL agrees and affirms to undertake any and all such actions as may be necessary to withdraw from and cease the SHC litigation. KOEN undertakes to submit the required bank guarantee not later than forty-five (45) days of issuance of the NOC.

- 2.2. YBL agrees and affirms to undertake any and all such actions, as may be reasonable and necessary for the disposal of the SCP litigation in favour of KOEN.
- 2.3. If the SCP fully or partially upholds the PHC Judgment or rejects the appeals filed by KOEN and/or PEDO, or YBL fails to withdraw SHC Litigation, this Agreement shall stand rescinded.

### 3. CONSIDERATION AND SCHEDULE OF PAYMENT

- 3.1 Subject to the fulfillment of the conditions contained in Clause 3.2 & 3.3 hereof, as consideration for the purchase by KOEN of the rights of YBL in the Feasibility Study and in the Project, for the full settlement of Disputes, KOEN shall, directly or indirectly through its subsidiary, pay to YBL, through banking channels, the amount of USD 5.65 Million (the "Settlement Amount") in equivalent Pakistani Rupees (using the TT&OD selling rate for Dollars expressed in Rupees, as published by the National Bank of Pakistan prevailing at the date of the payment of the Settlement Amount). Any tax liability in relation to the Settlement Amount per applicable laws shall be borne by the YBL.
- 3.2 The Settlement Amount shall be paid to YBL by KOEN within a maximum of 120 days (i.e. 90 days with a grace period of 30 days) after the issuance of valid Letter of Intent for the Project in favour of KOEN by PEDO:
- 3.3 The LOI shall be issued subject to the following conditions:
- (a) PHC Judgment being set aside; or
  - (b) Withdrawal of the Petition by YBL upon its remand back to PHC from SCP;
  - (c) The resolution of the SHC Litigation as agreed above; and
  - (d) Submission and transfer, on as is where is basis, to KOEN of all rights, available documents, drawings and materials, in soft and hard form, regarding the Feasibility Study.
- 3.4 The Parties shall be deemed to have, independently, satisfied themselves as to the accuracy, correctness and sufficiency of the Settlement Amount.
- 3.5 Notwithstanding the aforesaid and Clause 1.4, PEDO acknowledge that the Settlement Amount is the cost of the Feasibility Study and Project Rights, audited by firm of chartered accountants, mutually agreed between the Parties in a legal and lawful manner. The Audit Report is appended as Annex A.

### 4. RESCISSION

Subject to the fulfillment of the conditions as prescribed under the Agreement, this Agreement shall stand rescinded, without any liability or claim between the Parties, in case the NOC for the Project is not issued in favor of KOEN within a period of 12 months from signing of this Agreement, despite compliance with the requirements under the applicable policy. The Parties may mutually agree to extend such date.

### 4A. CONSEQUENCE OF SALE/PURCHASE OF FEASIBILITY STUDY

YBL by entering into this Agreement and/or receiving the required cost of Feasibility Study as per Agreement surrenders any and all rights to continue or enter into litigation in any manner or form directly or indirectly, in connection with the aforesaid Project which this Agreement pertain to.

**5. ROLE OF PEDO**

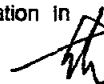
- 5.1. PEDO shall act as a facilitator in relation to the Project as per the terms and conditions of the KPK Hydropower Policy, 2016 ("KPK Policy").
- 5.2. For the avoidance of doubt, no liability financial or otherwise, shall accrue to PEDO as a result of entering into or as a consequence of this Agreement and no party would involve PEDO into any dispute or litigation.

**6. INDEMNITY**

KOEN hereby fully and unconditionally indemnifies and hold harmless the PEDO, its employees and the Advisers, Ministers of GoKP from any cost, expense, claim, damages or loss arising out of or in relation to this Agreement.

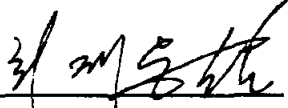
**7. GOVERNING LAW AND DISPUTE RESOLUTION**

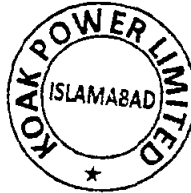
This Agreement shall be governed by and construed in accordance with the laws of Pakistan. Any dispute between the Parties pertaining to the Agreement including but not limited its existence, validity, and/or termination shall be resolved by arbitration in accordance with the Arbitration Act 1940.



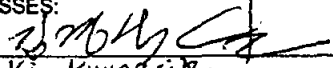
SIGNATURE PAGE

IN WITNESS WHEREOF, this Agreement has been duly executed and delivered by the duly authorized officers of each Party as of the date first above written.

  
FOR AND ON BEHALF OF KOEN  
NAME: CHOI JAI WOONG  
DESIGNATION: VICE PRESIDENT



WITNESSES:

1.   
NAME: Kim Kyung sik  
CNIC: M63997854

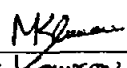
2.   
NAME: Ansaeng, Yoon  
CNIC: M07037396

  
FOR AND ON BEHALF OF YBL  
NAME: ABDUL SATTAR JUMANI  
DESIGNATION: CHIEF FINANCIAL COORDINATOR



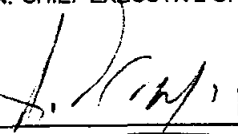
WITNESSES:

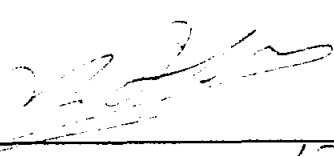
1.   
NAME: Siraj Ahmed  
CNIC: 42000-0494210-9

2.   
NAME: M. Kauran  
CNIC: 42301-9389251-3

  
FOR AND ON BEHALF OF PEDO ~~Chief Executive Officer~~  
NAME: QAZI MUHAMMAD NAEEM PEDO  
DESIGNATION: CHIEF EXECUTIVE OFFICER

WITNESSES:

1.   
NAME: ANWAR-UL-HAQ  
CNIC: 37101-3219442-2

2.   
NAME: Muhammad Irfan  
CNIC: 17301-1409318-3

6/4/2020

F/B

Most Immediate

National Electric Power Regulatory Authority  
(NEPRA)

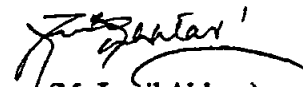
No. NEPRA/Dir (C & I)/2020/1414

September 17, 2020

Subject: **DECISION OF THE AUTHORITY ON APPLICATIONS FILED WITHOUT HAVING GENERATION LICENCE**

Enclosed please find herewith the Decision of Authority dated 17.09.2020 on the tariff petitions filed without having valid Generation Licence from NEPRA.

2. All concerned Professionals are requested to take immediate necessary action and ensure compliance of the Authority decision.

  
(M. Jamil Akhtar)  
Director (C & I)

**Distribution:**

1. SA (Tech)
2. SA (Tariff)
3. DG (M & E)
4. Registrar
5. ADG (Lic)
6. ADG (CAD)
7. ADG (Tariff)
8. Director (Standards)
9. Director (Tariff-I)
10. Sr. LA (LLP)
11. LA-KIP
12. LA-Legislation
13. ALA-Lic
14. DD (Lic-I & II)
15. DD (Tech)
16. DD (Hdro)
17. DD (RE)
18. DD (COD)
19. DD (NTDC)
20. AD (Lic)

**Copy for Information:**

- PS to Chairman
- PS to VC/M (Tariff)
- PS to M (CAD)
- PS to M (Lic)
- PS to M (M & E)

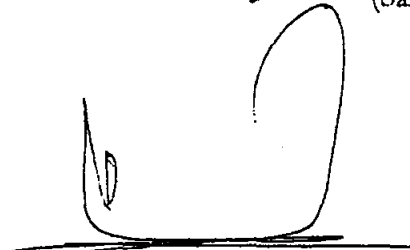
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17/9/20  
17/9/20

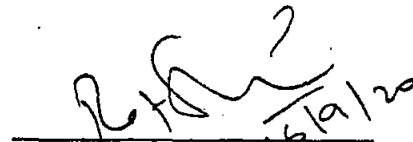


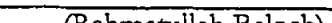
DECISION OF AUTHORITY ON APPLICATIONS FILED WITHOUT HAVING GENERATION LICENCE

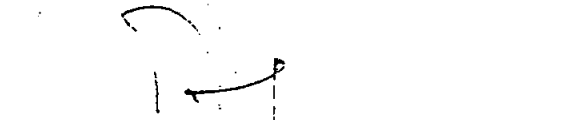
The Authority during hearings held on 16.09.2020 on the tariff petitions filed by Uzghor Hydropower Company and Lawai Hydropower Project decided that henceforth only those tariff petitions will be entertained who holds the valid Generation Licence from NEPRA. The tariff petition(s) filed without having Generation License be returned by the Registrar in future.

  
(Saif Ullah Chattha) 17.9.2020  
Member

  
(Engr. Bahadur Shah)  
Member

  
(Rafique Ahmed Shaikh)  
Member

(Did not Attend - Away)  
  
(Rehmatullah Baloch)  
Member

  
(Tauseef H. Farooqi)  
Chairman

CHAIRMAN  
By No. 5487  
Date: 16-9-2020

14/9/20  
16-9-20

16-9-2020

By No. 1259  
Date: 16-9-2020

14.9.20  
16-9-20



National Electric Power Regulatory Authority  
(NEPRA)

F/C

No. NEPRA/Dir (C & I)/2022/1541

August 22, 2022

Subject: **APPROVED MINUTES/DECISION OF THE AUTHORITY REGULATORY MEETING RM 22-407 REGARDING FEASIBILITY STAGE TARIFF PETITION FILED BY KOAK POWER LTD. FOR ITS 229 MW ASRIT KEDAM HYDROPOWER PROJECT.**

Enclosed please find herewith the Minutes/Decision of the Authority Regulatory Meeting RM 22-407 held on August 01, 2022 (signed minutes received on 22.08.2022) alongwith dissent note of Member (M & E/CA) on decision page.

2. The sponsor and all concerned professionals are requested to submit progress/status report to take immediate necessary action in compliance of timeline prescribed by the Authority in the subject Minutes/Decision.



Director (C&I)

**Distribution:**

1. Registrar /Sponsor
2. DG (M&E)
3. DG (Lic)
4. SA (M&E)
5. ADG (Tariff)
6. ADG (M&E)
7. ADG (Legal)
8. Consultant (RE)
9. Director (Tariff-I & II)
10. LA-KIP

**Copy to:**

1. PS to Chairman
2. PS to M (M & E/CA)
3. PS to M (Lic/Tariff)

**National Electric Power Regulatory Authority**  
**(NEPRA)**

Subject:- **MINUTES/DECISIONS OF THE AUTHORITY REGULATORY MEETING RM 22-407 REGARDING FEASIBILITY STAGE TARIFF PETITION FILED BY KOAK POWER LTD. FOR ITS 229MW ASRIT KEDAM HYDROPOWER PROJECT.**

A meeting of the Authority on the subject was held on August 01, 2022. Following Members of the Authority, professionals and officers participated in the meeting:

| <b><u>Authority</u></b>    |                     |
|----------------------------|---------------------|
| Mr. Tauseef H. Farooqi     | Chairman            |
| Mr. Rafique Ahmed Shaikh   | Member (M&E/CA)     |
| Engr. Maqsood Anwar Khan   | Member (Lic/Tariff) |
| <b><u>Participants</u></b> |                     |
| Syed Safeer Hussain        | Registrar / Sponsor |
| Mr. Naveed Sheikh          | DG (CAD)            |
| Mr. Imtiaz Hussain Baloch  | DG (Licensing)      |
| Mr. Sajid Akram            | ADG (Tariff)        |
| Mr. Kazi Imran             | SA (M&E)            |
| Dr. Irfan Yousaf           | Consultant (R.E)    |
| Mr. Gul Hassan Bhutto      | Advisor (CTBCM)     |
| Mr. Muhammad Ramzan        | Director C&I        |
| Mr. Nasir Ayyaz            | LA (Regulations)    |
| Mr. Irfan Gill             | LA-KIP              |

2. The Authority considered the working paper submitted by Registrar.
3. The Sponsor informed that Koak Power Limited (Koak Power) vide letter dated 30.06.2022 has submitted the subject tariff petition for determination of feasibility stage tariff for its proposed 229MW Asrit Kedam Hydropower Project located in District Swat, Khyber Pakhtunkhwa.
4. The Sponsor discussed the history of the case as follows:
  - i. Koak Power vide letter dated 06.06.2022 submitted an application for grant of Generation Licence for its proposed 229MW Asrit Kedam Hydropower Project at Swat River, Khyber Pakhtunkhwa.
  - ii. As such, the subject application was not included in candidate or committed project in IGCEP-2030. However, in view of the facts mentioned at 3(II) above, the case was presented before the Authority

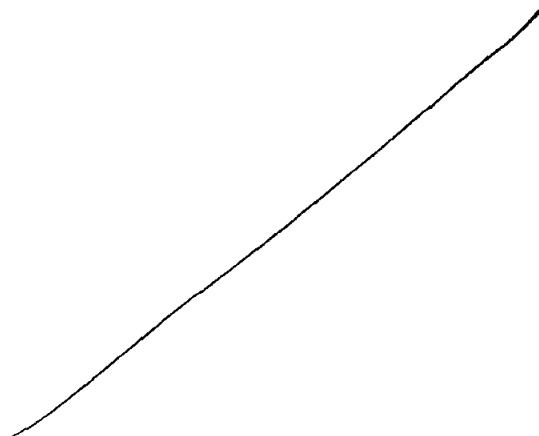
for consideration and decision in the matter. The Authority vide ARM 22-369 held on 05.07.2022 decided as under:

*'The Authority after detailed deliberations upon the working paper decided as follows:*

- i) the Authority while considering the decision of ARM 22-160 decided to register the application filed by Koak Power Limited regarding grant of Generation Licence for its proposed 229MW Asrit Kedam Hydropower Project located at Swat River, Khyber Pakhtunkhwa for processing by the Licensing Department. The Authority authorized DG (Lic) to appoint Case Officer to process the case and obtain all essentially required information/ documents during processing of the Case.*
- ii) If the subject project is failed to be optimized as candidate project in IGCEP2030, then it shall be considered as a Merchant Plant."*

5. The Sponsor mentioned that since the Koak does not have valid Generation Licence for the subject power project, therefore, pursuant to Authority's earlier decisions, a draft letter was submitted for approval of the Chairman to return the subject petition. However, Chairman has desired to place the case for Authority's consideration.
6. In view of all the above, the subject tariff petition of Koak Power Limited is submitted before the Authority for decision as to whether the subject petition and such like other petitions for the projects which neither hold valid Generation Licence nor included in the IGCEP-2030 are maintainable for processing or otherwise.

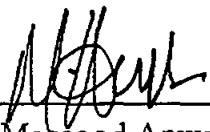
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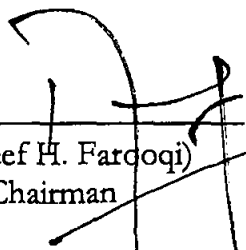
**DECISION OF AUTHORITY REGULATORY MEETING RM 22-407 HELD ON AUGUST 01, 2022.**

7. The Authority after detailed deliberations upon the working paper directed as follows:

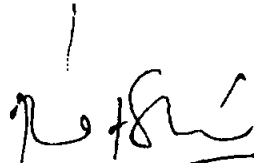
- i. To put the subject tariff petition filed by Koak Power Limited (Koak Power) and such like other tariff petitions on hold till the finalization of revised IGCEP 2030 and/or revision of Authority's decision dated Sep 17, 2020 regarding requirement of valid Generation License to entertain Tariff Petitions.
- ii. To put up a case before the Authority for revision / reconsideration of the Authority's decision dated September 17 2020 that only those tariff petitions will be entertained who holds a valid Generation License from NEPRA.

  
(Engr. Maqsood Anwar Khan)  
Member

  
(Rafique Ahmed Shaikh)  
Member

  
(Tauseef H. Farooqi)  
Chairman

① I respectfully disagree to this decision.

  
12/08/22

National Electric Power Regulatory Authority

(NEPRA)

F/D

No. NEPRA/Dir (C & I)/2022/ 1766

September 29, 2022

Subject: **APPROVED MINUTES/DECISION OF THE AUTHORITY REGULATORY MEETING RM 22-491 REGARDING REQUIREMENT OF VALID GENERATION LICENCE TO ENTERTAIN TARIFF PETITIONS.**

Enclosed please find herewith the Minutes/Decision of the Authority Regulatory Meeting RM 22-491 held on September 15, 2022 (signed minutes received on 29.09.2022).

2. The sponsor and all concerned professionals are requested to submit progress/status report to take immediate necessary action in compliance of timeline prescribed by the Authority in the subject Minutes/Decision.

  
Director (C&I)

**Distribution:**

1. Registrar /Sponsor
2. DG (M&E)
3. DG (Lic)
4. SA (M&E)
5. ADG (Tariff)
6. ADG (M&E)
7. ADG (Legal)
8. Consultant (RE)
9. Director (Tariff-I & II)
10. LA-KIP

**Copy to:**

1. PS to Chairman
2. PS to M (M & E/CA)
3. PS to M (Lic/Tariff)

**National Electric Power Regulatory Authority**  
**(NEPRA)**

Subject:- **MINUTES/DECISIONS OF THE AUTHORITY REGULATORY MEETING RM 22-491 REGARDING REQUIREMENT OF VALID GENERATION LICENCE TO ENTERTAIN TARIFF PETITIONS..**

A meeting of the Authority on the subject was held on September 15, 2022. Following Members of the Authority, professionals and officers participated in the meeting:

| <b><u>Authority</u></b>    |                     |
|----------------------------|---------------------|
| Mr. Tauseef H. Farooqi     | Chairman            |
| Mr. Rafique Ahmed Shaikh   | Member (M&E/CAD)    |
| Engr. Maqsood Anwar Khan   | Member (Lic/Tariff) |
| <b><u>Participants</u></b> |                     |
| Syed Safeer Hussain        | Registrar / Sponsor |
| Mr. Sajid Akram            | ADG (T)             |
| Dr. Irfan Yousaf           | Consultant (R.E)    |
| Mr. M. Ramzan              | Director C&I        |
| Mr. Iftikhar Ali Khan      | Director (RO)       |
| Mr. Nasir Ayaaz            | LA (Regulations)    |
| Mr. Irfan Gill             | LA (KIP)            |
| Mr. Irfan ul haq           | ALA (Licensing)     |
| Syed Zawar Haider          | Addl. Director (RO) |

2. The Authority considered the working paper submitted by Registrar.

3. The sponsor informed that the Authority vide decision of ARM 22-407 dated 22.08.2022 in the matter of Tariff petition filed by Koak Power Limited (Koak Power) for determination of feasibility stage tariff for its proposed 229MW Asrit Kedam Hydropower Project located in District Swat, decided as under:

- i. *To put the subject tariff petition filed by Koak Power Limited (Koak Power) and such like other tariff petitions on hold till the finalization of revised IGCEP 2030 and/or revision of Authority's decision dated Sep 17, 2020 regarding requirement of valid Generation License to entertain Tariff Petitions.*
- ii. *To put up a case before the Authority for revision / reconsideration of the Authority's decision dated September 17 2020 that only those tariff petitions will be entertained who holds a valid Generation License from NEPRA."*

4. The sponsor further stated that Authority during hearing held on 16.09.2020 decided as below:

*"The Authority during hearings held on 16.09.2020 on the tariff petitions filed by Uzghor Hydropower Company and Lawi Hydropower Project decided that henceforth only those tariff petitions will be entertained who holds the valid Generation Licence from NEPRA. The tariff petition(s) filed without having Generation Licence be returned by the Registrar in future."*

5. The sponsor also mentioned that the Authority vide ARM 21-140 dated 07.04.2021 has, interalia, decided as under:

*"the Authority in principle decided that all those applicants which hold Generation License, even if requiring any modification, shall be considered eligible to file tariff petition if so required. However, the tariff petition of applicants shall not be considered as maintainable if it does not hold Generation License."*

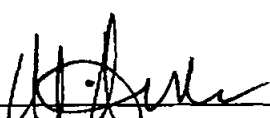
6. The sponsor apprised that pursuance to Decision No. ii of ARM 22-407 dated September 17, 2020, only those tariff petitions will be entertained who holds a valid Generation Licence from NEPRA. Finally, the matter was placed before the Authority for a decision.

**DECISION OF AUTHORITY REGULATORY MEETING RM 22-491 HELD ON SEPTEMBER 15, 2022.**

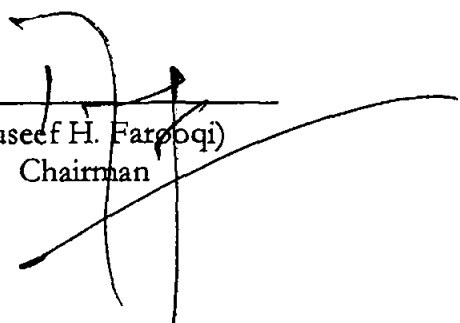
6. The Authority after detailed deliberations upon the working paper decided as under:

i. To uphold its earlier decision dated 16.09.2020 that only those tariff petitions will be entertained who holds the valid Generation Licence from NEPRA. The tariff petition(s) filed without having Generation Licence be returned by the Registrar in future.

ii. To constitute a committee under the convenership of DG (Lic) to prepare Technical Standards, required under sub-section (5) of Section 14B of NEPRA Act, for the generation companies to establish generation facility without obtaining a licence pursuant to stated provisions of NEPRA Act. DG (Lic) shall nominate the Members of the Committee, one each from Tariff, Technical and Legal Departments for approval of the Authority.

  
(Engr. Maqsood Anwar Khan)  
Member

  
(Rafique Ahmed Shaikh)  
Member

  
(Tauseef H. Farooqi)  
Chairman



OFFICE OF THE  
REGISTRAR

**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY**

ISLAMIC REPUBLIC OF PAKISTAN

NEPRA Tower, Ataturk Avenue (East) G-5/1, Islamabad

Phone: 9206500, Fax: 2600026

Website: [www.nepra.org.pk](http://www.nepra.org.pk), Email: [info@nepra.org.pk](mailto:info@nepra.org.pk)

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No. NEPRA/R/TRF-100/20/0/

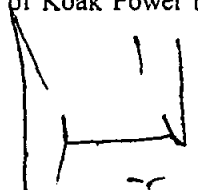
October 18, 2022

Mr. Yoon An Sang  
Chief Executive Officer  
Koak Power Limited  
1st Floor, 12-A, CBC Building,  
G-8 Markaz, Islamabad

Subject: **FEASIBILITY STAGE TARIFF PETITION OF 229MW ASRIT KEDAM  
HYDROPOWER PROJECT BY KOAK POWER LIMITED**

This is with reference to the subject tariff petition filed by Koak Power Limited (Koak Power) for its 229 MW Asrit-Kedam Hydropower Project at District Swat, Khyber Pakhtunkhwa. Please note that the Authority has decided in principle that only tariff petitions of those petitioner will be entertained who hold valid generation licenses from NEPRA. As such Koak Power does not hold Generation License for the above said hydropower project; therefore, subject Tariff Petition of Koak Power being non-maintainable, is returned herewith.

Encl: As above

 18/10/22  
(Iftikhar Ali Khan)  
Addl. Director General



(4) In the case of a generation facility connecting directly or indirectly to the transmission facilities of the national grid company, the licensee shall make the generation facility available to the national grid company for the safe, reliable, non-discriminatory, economic dispatch and operation of the national transmission grid and connected facilities, subject to the compensation fixed by the Authority for voltage support and uneconomic dispatch directed by the national grid company.

(5) The Federal Government may, after consultation with the Authority and by notification in the official Gazette, provide a mechanism for the gradual cessation of the generation licences for various classes of generation licence holders, which shall not extend beyond a period of five years from the coming into effect of the Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act, 2018, and thereafter, any generation company may establish, operate and maintain a generation facility without obtaining a licence under this Act if it complies with the technical standards relating to connectivity with the grid as may be specified:

Provided that a generation company intending to set up a generating facility shall prepare and submit a detailed scheme covering all financial, geological, hydrological, technical, safety and environmental aspects to the Authority for its concurrence:

Provided further that, while considering the scheme submitted by a generation company intending to set up a hydro-generating facility, the Authority shall consider whether or not in its opinion the proposed river work will prejudice the prospects for the best ultimate development of the river or its tributaries for power generation and are consistent with the requirements of drinking water, irrigation, flood control or other public purposes and shall satisfy itself that necessary approvals have been sought from the concerned authorities of the Federal Government and Provincial Governments.

**14C. Captive generation.-** (1) Notwithstanding anything contained in this Act, a person may construct, maintain or operate a captive generating plant and dedicated transmission lines:

Provided that the supply of electricity from the captive generating plant through the grid shall be regulated in the same manner as the generating facility of a generating company.

(2) Every person, who has constructed a captive generating plant and maintains and operates such plant, shall have the right to open access for the purposes of carrying electricity from his captive generating plant to the destination of his use:

Provided that such open access shall be subject to availability of adequate transmission facility and such availability of transmission facility shall be determined by the national grid company or the provincial grid company, as the case may be:

Provided further that any dispute regarding the availability of transmission facility shall be adjudicated upon by the Authority.

**14D. Duties of generating companies.-** (1) Subject to the provisions of this Act, the duties of a generating company shall be to establish, operate and maintain generating stations, tie-lines, sub-stations and dedicated transmission lines connected therewith and within the generation facility, in accordance with the provisions of this Act or the rules or regulations made thereunder.

(2) In the case of a generation facility connecting directly or indirectly to the transmission facilities of the national grid company or a provincial grid company, the generation company shall make the generation facility available for the safe, reliable, non-discriminatory, economic dispatch and operation of the national transmission grid and connected facilities, subject to the compensation fixed by the Authority for voltage support and uneconomic dispatch directed by the system operator.

(3) A generating company may supply electricity to any transmission, distribution, supply or market trader licensee in accordance with this Act and the rules and regulations made thereunder and may, subject to section 23E, supply electricity to any consumer.



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**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY**  
(REGISTRAR OFFICE)

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No: NEPRA/RLAG-30/ 8747

April 10, 2023

**ION**

Subject: **REQUEST FOR LEGAL OPINION REGARDING PROCESSING OF GENERATION LICENCE APPLICATION IN THE BACKDROP OF SECTION 14B(5) OF NEPRA ACT**

- Reference: i. Registrar Office ION No. 6929 dated 22.03.2023  
ii. Registrar Office ION No. 7598 dated 31.03.2023  
iii. Registrar Office ION No. 8246 dated 05.04.2023

This is in continuation to above referred IONs of Registrar Office requesting therein comments in respect of Generation Licence applications of Trident Energy, Sino-Pak Power and Shangla Power. Besides the issues mentioned in the above referred IONs, the opinion of ALA (Lic) is also required on the issue of cessation of Generation Licence under Section 14B(5) of NEPRA Act to move forward in respect of in-hand applications and those which may be received in future.

2. The Section 14B(5) of Act states as below:

*"The Federal Government may, after consultation with the Authority and by notification in the official Gazette, provide a mechanism for the gradual cessation of the generation licences for various classes of generation licence holders, which shall not extend beyond a period of five years from the coming into effect of the Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act, 2018, and thereafter, any generation company may establish, operate and maintain a generation facility without obtaining a licence under this Act if it complies with the technical standards relating to connectivity with the grid as may be specified:*

*Provided that a generation company intending to set up a generating facility shall prepare and submit a detailed scheme covering all financial, geological, hydrological, technical, safety and environmental aspects to the Authority for its concurrence:*

*Provided further that, while considering the scheme submitted by a generation company intending to set up a hydro-generating facility, the Authority shall consider whether or not in its opinion the proposed river work will prejudice the prospects for the best ultimate development of the river or its tributaries for power generation and are consistent with the requirements of drinking water, irrigation, flood control or other public purposes and shall satisfy itself that necessary approvals have been sought from the concerned authorities of the Federal Government and Provincial Governments."*

3. NERPA (Amendment) Act 2018 received the assent of the President on 27<sup>th</sup> April 2018, therefore, the five years period envisaged in the Section 14B(5) of the Act for cessation of Generation Licence is

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going to expire on 26.04.2023. As such, the said cut-off date is approaching near; therefore, while giving comments on the issues in respect of each of the above referred applications ALA (Lic) is requested to also furnish legal opinion in respect of entertaining the Generation Licence applications in view of the provision of Section 14B(5) of the Act in following scenarios:

- i. Application which have been or to be received in Registrar Office prior to 26.04.2023 but not allotted a Registration number before the cut-off date under Regulation 6 of the Licensing Regulations (AMECPR-2021)
  - ii. Application for grant of Generation Licence which may be received after 26.04.2023.
4. The requested opinion may please be furnished at the earliest for incorporating in the working paper being prepared in respect of the above mentioned applications for grant of Generation Licence already received in Registrar Office.

10/4/23  
(Ifikhar Ali Khan)  
Addl. Director General

P/F-I

ALA (Licensing)

CC:

1. Registrar
2. Master File

Recently Licensing Department has sent/marked a file <sup>to us</sup> on similar issue and they intend to seek guidance of the Authority in the Regulatory Meeting. The undersigned has provided legal opinion in the matter and is attached for your information. Further, it is advised that office of Registrar may liaise <sup>with</sup> Licensing Depart. for further information or input.

Addl. DG (R.O.)

11/04/2023

12/04/23

LA (Lic/A3)  
No: 1035  
11-4-2023

REGISTRAR OFFICE  
No: 4568  
12-4-23

P - 2/2

11<sup>th</sup> April, 2023

From Pre-Page

ALA (Licensing)

**Subject: Interpretation of Section 14B(5) of the NEPRA Act**

12. The Authority's attention is drawn towards the generation license-free regime envisaged in section 14B(5) of the NEPRA Act after 26-04-2023 (cut-off date) whereby any generation company may establish, operate and maintain a generation facility without obtaining a license. As of today the Authority can grant/extend a generation license till the cut-off date, however, it may be subject to section 14B(5) of the NEPRA Act. It is worth bringing into the notice of Authority that after 26<sup>th</sup> April, 2023, the triggering effect of section 14B(5) of the NEPRA Act will have far-reaching implications on the power sector of Pakistan; particularly in generation business. However, after being incorporated five years ago in the NEPRA Act, sub-section (5) was not interpreted by the Authority till date and no future course of action was ever discussed and planned. Considering the fact that the cut-off date is just around the corner, it is inevitable to thrash out section 14B(5) for determining the fate of holders of generation licenses and their mode of participation under the regulatory regime. The said section has been reproduced hereunder: *liaise*

*"(5) the Federal Government may, after consultation with the Authority and by notification in the official Gazette, provide a mechanism for the gradual cessation of the generation licences for various classes of generation licence holders, which shall not extend beyond a period of five years from the coming into effect of the Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act, 2018, and thereafter, any generation company may establish, operate and maintain a generation facility without obtaining a licence under this Act if it complies with the technical standards relating to connectivity with the grid as may be specified:*

*Provided that a generation company intending to set up a generating facility shall prepare and submit a detailed scheme covering all financial, geological, hydrological, technical, safety and environmental aspects to the Authority for its concurrence."*

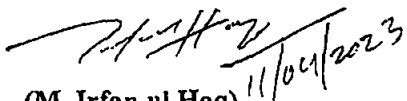
13. The plain reading of the above-quoted section reveals that the onus of notifying cessation plan lies on Federal Government (the "Government") and such notification shall not extend beyond five years of promulgation of 2018 Amendment Act. In this context, there are two possible interpretations that comes into play. Firstly, the Government may notify such plan before the cut-off date and outlines gradual cessation of generation licenses of different categories beyond the cut-off date. The other interpretation is that the said plan comes into field within the cut-off date and the generation licensing regime also ceases on the cut-off date. The best possible interpretation between the two may be aided with the fact

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11-04-2023

that the legislature by using the word "may" did not make it mandatory on part of Government to bring the cessation plan within 05 years and that might be the reason why Government did not notify any plan yet. Further, the consequence of non-notifying the cessation plan ends up in automatic stoppage to the generation licensing regime on the cut-off date. If the legislature used the word "shall", then there would have been chance for the former interpretation. However, the existing language supports later interpretation, resultantly, the generation business under licensing regime shall stand cease irrespective of any notification by the Federal Government. In the last five years, it was only witnessed once when the Federal Government exempted requirement of license and it was under the category of Distributed Generators (net-metering consumers) up to the capacity of 25kW.

14. The sub-section (5) further provides that after the end to licensing regime for generation business, any generation company may establish, operate and maintain a generation facility without obtaining a license. Here question arises that does this generation licensing free regime only extends to the new generation companies which will establish after the cut-off date or does it also applicable on generation licensees. Since the legislature did not draw any distinction between the two scenarios, therefore it can be interpreted in both ways keeping in view legacy contracts and steady revenue stream for NEPRA in the form of annual generation license fee.
15. Although, the legislature provided a license-free regime for the generation business; even then it makes it under surveillance of the regulator by obligating them to comply with the technical standards relating to connectivity with the grid envisaged in the regulations (which are yet to be formulated).
16. In view of above discussion, the Authority may interpret section 14(B)(5) of the NEPRA Act on the following two points:
- i. In the absence of any notification from the Federal Government, whether the generation licensing regime ceases on cut-off date? and
  - ii. Whether license free regime only applicable to new generation companies who intends to enter into generation business after cut-off date or it may cover existing generation licensees as well?

DG (Licensing)

  
(M. Irfan ul Haq)  
ALA (Licensing)

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F/H

**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY  
(ELECTRIC POWER PROCUREMENT) REGULATIONS, 2022**

**NOTIFICATION**

Islamabad, <sup>6<sup>th</sup></sup> day of Dec, 2022

S.R.O. <sup>2136</sup> (I)/2022. In exercise of the powers conferred by section 32 read with section 47 of the Regulation of Generation, Transmission and Distribution of Electric Power Act 1997 (Act No. XL of 1997) and all other enabling provisions thereof, the National Electric Power Regulatory Authority, is pleased to make the following regulations.—

**PART I  
GENERAL**

1. **Short title, commencement and applicability.**— (1) These regulations shall be called the National Electric Power Regulatory Authority (Electric Power Procurement) Regulations, 2022.

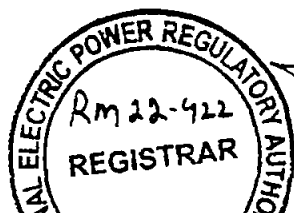
(2) These regulations shall come into force at once.

(3) These regulations shall be applicable on acquisition of electric power by the electric power suppliers, and shall not extend to procurement of electric power falling within purview of the National Electric Power Regulatory Authority (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulations, 2015.

(4) Pursuant and subject to section 45 of the Act, the provisions of these regulations shall have effect, notwithstanding anything contrary or inconsistent therewith contained in any other law, rules, or regulations, for the time being in force with respect to public procurements.

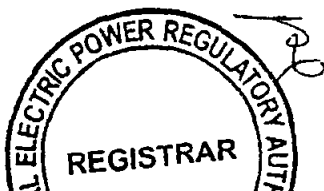
2. **Definitions.**— (1) In these regulations, unless there is anything repugnant in the subject or context,—

- (a) "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (Act No. XL of 1997), as amended from time to time;
- (b) "Authority" means the National Electric Power Regulatory Authority established under section 3 of the Act;
- (c) "applicable documents" means the rules, regulations, terms and conditions of any licence, registration, authorization, determination, any codes, manuals, directions, guidelines,



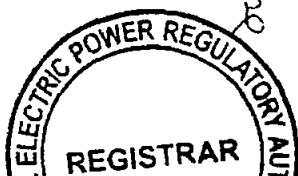
orders, notifications, agreement or document issued or approved under the Act;

- (d) "application" means an application filed in accordance with these regulations;
- (e) "auction and evaluation committee" means the committee constituted in accordance with regulation 17 of these regulations;
- (f) "auction evaluation report" means the report prepared by the auction and evaluation committee and submitted to the Authority by the Independent Auction Administrator, or the concerned supplier of last resort who conducted the competitive auction, as the case may be, after completion of a competitive auction in accordance with the bidding documents and these regulations;
- (g) "benchmark tariff" means the tariff calculated for the control period of the project at a specified discount rate as approved by the Authority for the purpose of competitive auction;
- (h) "bidding documents" means the documents including templates of agreement(s), RFP(s), and any other supporting document prepared and submitted by the Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, and approved by the Authority;
- (i) "Commercial Code" or "Market Commercial Code" means the commercial code prepared and maintained by the market operator pursuant to sections 23A and 23B of the Act and approved by the Authority;
- (j) "competitive auction" means a competitive process of pre-qualification, obtaining bids and auction award, organized and carried out by the Independent Auction Administrator or a supplier of last resort, as the case may be, in accordance with these regulations;
- (k) "competitive supplier" means a person licensed under section 23E of the Act to supply electric power to only those consumers who are located in the service territory specified in its licence and who meet the consumer eligibility criteria as laid down by the Authority in the National Electric Power Regulatory Authority Consumer Eligibility Criteria (Electric Power Suppliers) Regulations, 2022 as amended from time to time;
- (l) "Competitive Trading Bilateral Contract Market" or "CTBCM" means electric power market established in accordance with the high-level and detailed designs approved by the Authority vide its determinations dated 5<sup>th</sup> day of December 2019 and 12<sup>th</sup> day of



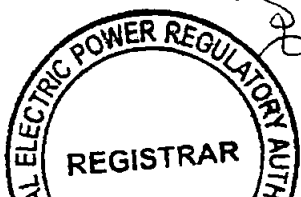
November 2020, respectively, as may be amended by the Authority from time to time;

- (m) "Distribution Code" means the code prepared by the distribution licensee and approved by the Authority, which defines the technical and operational standards and procedures for the distribution licensee and all those connected to the licensee's distribution system, as specified in the National Electric Power Regulatory Authority Licensing (Distribution) Regulations, 2022 as amended from time to time;
- (n) "distribution system" includes the distribution facilities, meters, and any other facilities of the distribution licensee operating at the distribution voltage, and shall include any other electric lines, circuits, transformers, substations, interconnection facilities or other facilities determined by the Authority as forming part of the distribution system, whether or not operating at the distribution voltage;
- (o) "electric power supplier" shall include competitive supplier and a supplier of last resort;
- (p) "global demand forecast" means the system level demand forecast, based on an econometric model, which is prepared by the system operator in accordance with the Grid Code;
- (q) "Grid Code" means the code prepared by the system operator under section 23H of the Act and approved by the Authority;
- (r) "IGCEP" or "Indicative Generation Capacity Expansion Plan" means the rolling generation capacity expansion plan prepared by the system operator in accordance with the Grid Code and approved by the Authority;
- (s) "Independent Auction Administrator" or "IAA" means any entity registered with the Authority to provide the services of organization and administration of competitive auctions for electric power procurement by electric power suppliers;
- (t) "import" means the purchase of electric power from generation facilities located in any territory where the Act does not apply or from a foreign country;
- (u) "market operator" means a person licensed under section 23A of the Act to perform the functions of the market operator;
- (v) "merchant plant" means a generation company which has not entered into any bilateral agreement and makes available its generation facility to the system operator for despatch to sell its



electric power in the CTBCM or for providing ancillary services in accordance with the applicable documents;

- (w) "most advantageous bid" means,- (i) a bid or proposal for providing electric power that after meeting the qualification criteria, is found substantially responsive to the terms and conditions as set out in the bidding documents; and (ii) is evaluated as the highest ranked bid or proposal on the basis of tariff or quality or qualification or any combination thereof, as specified in the bidding documents;
- (x) "new technology" means any alternative and renewable energy technology as defined in the alternative and renewable energy policy approved by the Council of Common Interests;
- (y) "power acquisition programme" means the electric power procurement needs and plan of an electric power supplier as specified in these regulations;
- (z) "power purchase agreement" includes power purchase agreement or energy purchase agreement, as the case may be;
- (aa) "request for proposal" or "RFP" means the document that includes the necessary information, benchmark tariff, parameters, terms, conditions, and bid evaluation criteria for pre-qualified bidders to participate in a competitive auction;
- (bb) "request for qualification" or "RFQ" means the document that establishes the minimum financial and technical qualification requirements to pre-qualify prospective bidders for participation in the subsequent process of competitive auction;
- (cc) "project" means any generation facility;
- (dd) "Registrar" means a person designated by the Authority to register and record the receipt of communications, applications and petitions filed with the Authority and to perform such other duties under these regulations, as may be assigned from time to time;
- (ee) "spatial load forecast" means the load forecast prepared by the distribution companies and electric power suppliers for their network expansion plan(s) and power acquisition programme(s), as the case may be, in accordance with the Distribution Code and other applicable documents;
- (ff) "sponsoring government" means the provincial or federal government that is sponsoring a strategic project;



- (gg) "strategic project" means a project which is approved by the federal government in consultation with the provincial governments as a strategic project;
- (hh) "supplier of last resort" means a person who holds an electric power supply licence for the service territory specified in its licence and is obligated to supply electric power to all consumers located in that service territory at the rates determined by the Authority, and is also obligated to provide electric power supply to the consumers, located within its service territory, of any competitive supplier who defaults on its obligations of electric power supply;
- (ii) "system operator" means a person licensed under section 23G of the Act to administer system operations, dispatch and power system planning; and
- (jj) "Transmission System Expansion Plan" or "TSEP" means the system plan for expansion of transmission capacity prepared in accordance with the Grid Code and approved by the Authority.

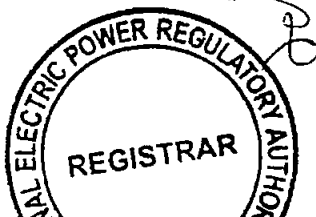
(2) Words and expressions used but not defined in these regulations shall have the same meanings as assigned to them in the Act or the applicable documents.

## PART II PROCUREMENT PLANNING

**3. Preparation of IGCEP and its approval.**— (1) The system operator shall prepare the IGCEP in accordance with these regulations and the Grid Code.

(2) The IGCEP shall be prepared by the system operator while considering, amongst others, the following:

- (a) global demand forecast prepared by the system operator in accordance with the Grid Code;
- (b) strategic project(s) shall be included upon approval by the federal government in consultation with the provincial governments to classify the project(s) as strategic, and an undertaking of the sponsoring government to provide funding to bridge the incremental cost beyond the least cost of any such project;
- (c) electric power project(s) committed to provide electric power to competitive suppliers shall be included against the respective competitive suppliers' demand without being subject to optimization:



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Provided that the market operator shall provide the consolidated demand pertaining to competitive suppliers to the system operator for inclusion in the IGCEP:

Provided further that every year on rolling basis the market operator shall provide to the system operator a ten-year projected demand that it forecasts to be defected to the CTBCM for inclusion in the IGCEP;

- (d) all projects connected or to be connected with the distribution system, at the distribution voltage, that are not included in central dispatch shall be included without being subject to optimization;
- (e) any plants whose power purchase agreements are expiring during the planning horizon, may be considered for providing electric power to suppliers of last resort subject to fulfilment of least cost criteria and optimization;
- (f) any proposed hydroelectric power project for providing electric power to suppliers of last resort may be considered for optimization on the basis of costs estimated at pre-feasibility stage and approved by a panel of experts, or bankable feasibility study based on detailed engineering design;
- (g) merchant plants (if any) shall be taken into account, without being subject to optimization;
- (h) all projects including import of power, except strategic projects or projects falling within purview of clause (c), (d) and (g), shall be considered subject to fulfilment of the least cost criteria and optimization in the IGCEP; and
- (i) any other requirements provided in the Grid Code.

(3) Subject to the above, the system operator shall submit the IGCEP for approval of the Authority along with all the supporting documents in accordance with the Grid Code.

(4) Optimization or inclusion of any project in the IGCEP shall not create any obligation of electric power procurement from the given project, and any electric power procurement by a supplier of last resort, individually or in combination with other suppliers of last resort shall be subject to approval of the Authority, compliance with these regulations and other applicable documents.

(5) Any candidate project optimized in the IGCEP pursuant to sub-regulation (2), with whom a supplier of last resort has entered into a legally binding commitment to procure electric power with approval of the Authority under these regulations, shall be considered as a committed project in subsequent iterations of the IGCEP.

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(6) While preparing the global demand forecast for IGCEP, the system operator shall also collect the individual spatial load forecasts of distribution companies for the first five years of the planning horizon and ensure that the difference between the global demand forecast and consolidated spatial load forecast of the distribution companies is minimized to the extent possible, to achieve demand-supply balance.

(7) The system operator shall ensure that the project data and costs used for the optimization of any project in the IGCEP are firm, verified and validated.

**4. Obligation to plan in advance.—** (1) An electric power supplier shall be responsible for ensuring security of supply for its consumers by planning power procurement in adequate quantity.

(2) An electric power supplier shall ensure that it:

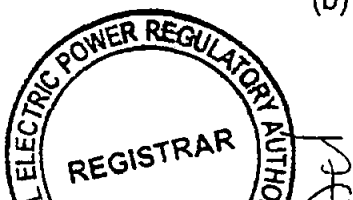
- (a) procures adequate electric power to meet its capacity obligations with prudent spatial load forecasts while using the best available information, to avoid under or over contracting:

Provided that the capacity obligations of an electric power supplier engaged in supply of electric power through the national grid shall be calculated in accordance with the Market Commercial Code;

- (b) adopts efficient and effective power procurement strategy and risk mitigation mechanisms keeping in view the approved IGCEP, TSEP, network expansion plan(s) and power acquisition programme;
- (c) prepares its power acquisition programme in a manner that appropriately accounts for the time that may be required for procurement of electric power and where applicable, regulatory approvals and other relevant factors; and
- (d) maintains creditworthiness, financial health, and sufficient payment capacity, and complies with its electric power procurement and use of system charges payment obligations.

**5. Business plan.—** Every year by or before first week of January, each electric power supplier, shall submit to the Authority for information an updated five years business plan. The business plan shall include at least the following:

- (a) power acquisition programme;
- (b) investment, financing, commercial, technical, consumer service and human resource plans;



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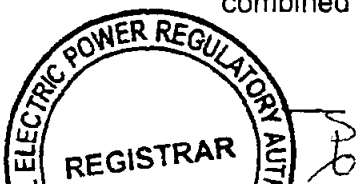
- (c) training, digitalization and modernization plans;
- (d) monitoring and compliance plan;
- (e) power price projections,
- (f) financial statements and five-year cash flow projections; and
- (g) any other relevant information as may be required by the Authority.

**6. Power acquisition programme for new electric power procurement.—** (1) A supplier of last resort shall prepare a rolling five-year power acquisition programme on an annual basis which shall include:

- (a) its requirements in terms of energy and peak demands, in accordance with the Distribution Code and other applicable documents, during the preceding twelve months on actual basis and projections for the subsequent five years;
- (b) existing contracted energy and capacity;
- (c) its capacity obligations as determined by the market operator in accordance with the Market Commercial Code;
- (d) proposed new and firm power procurement during the next three years and indicative procurement for the subsequent two years in accordance with these regulations;
- (e) mode of procurement against each proposed procurement and respective timelines including start and completion of the procurement process and start of operations of the respective projects;
- (f) contracted energy and capacity that is expected to become available during next five years with respective timelines including indication of delay (if any); and
- (g) any other information considered relevant and necessary to explain and justify the proposed power acquisition programme.

(2) The power acquisition programme shall be prepared by the supplier of last resort in line with the IGCEP, TSEP, network expansion plan(s) and approved investment programme of the concerned distribution licensee, demonstrating compliance with its capacity obligations determined in accordance with the Market Commercial Code:

Provided that for a period of five years from the date of notification of these regulations or such earlier period as may be directed by the Authority, a combined power acquisition programme shall be developed and submitted by the



suppliers of last resort, except KE, in consultation with the Independent Auction Administrator.

(3) KE may also consult the Independent Auction Administrator in preparation of its power acquisition programme for participation in any procurement in conjunction with other suppliers of last resort in line with the applicable documents.

(4) The share of respective suppliers of last resort in a project selected to meet their combined capacity obligations shall be allocated on pro rata basis keeping in view their respective capacity obligations.

(5) No new electric power procurement shall be made unless it is approved in the power acquisition programme of the supplier of last resort.

**7. Review and approval of power acquisition programme.—**(1) The Registrar, upon receipt of a power acquisition programme prepared in accordance with the Act, these regulations and other applicable documents, shall review it and place the same before the Authority within seven working days of receipt, thereof, for admission:

Provided that if the Registrar is of the view that the power acquisition programme is not prepared in accordance with these regulations, the Registrar may return the same with such directions as may be deemed appropriate in the matter:

Provided further that if any additional information is required, the Registrar may direct the supplier(s) of last resort to submit the same.

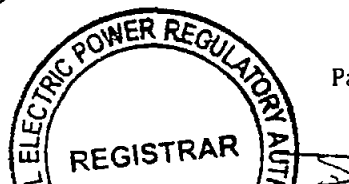
(2) The Authority shall advertise the submitted power acquisition programme and frame such issues as may be deemed appropriate by the Authority for public consultation and hearing.

(3) The power acquisition programme shall be submitted by 30<sup>th</sup> September of every year and approved by the Authority within ninety days from its submission in accordance with these regulations and other applicable documents:

Provided that a supplier of last resort shall submit its power acquisition programme to the Authority within three months from the notification of these regulations and thereafter the power acquisition programme shall be submitted to the Authority along with any proposed changes, on an annual basis i.e., 30<sup>th</sup> September of every year.

(4) The approved power acquisition programme shall be definitive for the initial three years and indicative for the subsequent two years for new electric power procurement.

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(5) A supplier of last resort shall ensure that its tariff petition is prepared and submitted in accordance with the power acquisition programme approved by the Authority under these regulations.

### **PART III IMPLEMENTATION OF POWER ACQUISITION PROGRAMME**

#### **8. New electric power procurement by a supplier of last resort.—**

(1) Any new electric power procurement by a supplier of last resort shall only be in accordance with these regulations and the power acquisition programme approved by the Authority, through competitive auction:

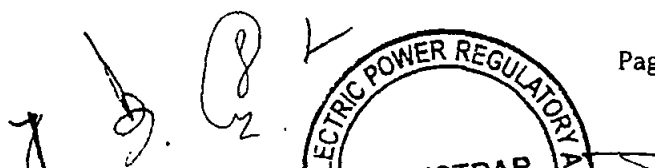
Provided that electric power procurement from:

- (a) hydroelectric power projects shall be as provided in sub-regulation (2) of regulation 26;
- (b) projects based on new technology shall be as provided in regulation 27;
- (c) strategic projects shall be as provided in regulation 28;
- (d) import of electric power shall be as provided in regulation 29;
- (e) negotiated power procurement shall be as provided in regulation 30; and
- (f) generation facilities that were providing electric power to suppliers of last resort under a power purchase agreement or set up by the KE at its own as a generation licensee, and the respective power purchase agreement or term approved under the generation licence for sale of electric power has expired, shall be subject to fulfilment of least cost criteria and optimization in the IGCEP and prior approval of tariff and power purchase agreement by the Authority:

**Explanation.—** For the purposes of this regulation, new electric power procurement shall not include:

- (a) any power purchase agreement that has been executed prior to notification of these regulations; and
- (b) any electric power procurement approved prior to notification of these regulations under the relevant policy approved by the Council of Common Interests.

(2) Competitive auctions for new electric power procurement of a supplier of last resort shall be organized and carried out prudently in a timely manner, in accordance with the timelines given in the approved power acquisition programme.

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(3) The connection and power evacuation infrastructure required for any project approved in the power acquisition programme shall be duly accounted for in the TSEP, network expansion plan(s) and concerned distribution licensees' investment programme, as the case may be.

**PART IV**  
**COMPETITIVE AUCTIONS AND DUTIES OF THE INDEPENDENT AUCTION ADMINISTRATOR**

**9. Conditions for competitive auction.—** (1) A competitive auction under these regulations for procurement of electric power for supplier(s) of last resort shall be conducted by the Independent Auction Administrator, in accordance with the power policies approved by the Council of Common Interests and applicable documents, till such time the Authority directs that the competitive auction may be conducted by the respective supplier of last resort individually or jointly, as the case may be:

Provided that the Independent Auction Administrator or an electric power supplier conducting the competitive auction, as the case may be, shall prepare a regular and detailed annual competitive auctions plan with precise timelines consistent with the approved power acquisition programme, and demonstrate year-on-year improvements reflecting past experience:

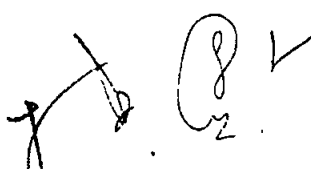
Provided further that procurement of electric power for KE through competitive auction shall be dealt with as follows:

- (a) in the event KE intends to set up a generation facility, optimized in IGCEP, at its own to meet its capacity obligation, KE shall specify the generation facility in its power acquisition programme for approval of the Authority and any such procurement shall be subject to competitive auction to be conducted by the Independent Auction Administrator; and
- (b) where for a project selected in IGCEP, KE does not intend to participate as a generation company, KE shall specify in its power acquisition programme whether it shall conduct competitive auction at its own in accordance with these regulations or seek services of the Independent Auction Administrator.

(2) Subject to meeting the pre-qualification requirements, the competitive auction shall be open for participation by all prospective bidders.

(3) The competitive auction shall be carried out on a site-specific and technology-specific basis as provided in the bidding documents.

Provided that for a specific competitive auction, if the Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, finds it appropriate/necessary to opt for site-neutral or

technology-neutral auction, then it may propose the same in the bidding documents with substantiating justification for approval of the Authority.

(4) All competitive auctions shall be designed to include at least the following stages:

- (a) pre-qualification of prospective bidders through RFQ;
- (b) notice of auction and publication of bidding documents;
- (c) period for pre-qualified bidders to submit comments and requests for clarification to the bidding documents, including any material issues or concerns on the terms and conditions of the template power purchase agreement or any other agreement;
- (d) period for response to comments and clarifications;
- (e) bidding process as per RFP;
- (f) evaluation of bids; and
- (g) award of auctions.

(5) Subject to these regulations, the Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, may adopt any method of competitive auction as approved by the Authority in the bidding documents.

(6) The Independent Auction Administrator or the supplier of last resort, conducting the competitive auction, as the case may be as provided in sub-regulation (1), shall submit bidding documents including RFP and proposal for determination of benchmark tariff (if any) to the Authority for its approval at least two months prior to the proposed date of publication of advertisement for the competitive auction.

(7) The Authority shall process and approve bidding documents including RFP and benchmark tariff (if applicable), within sixty days from the date of submission of the same.

**10. Other services by an Independent Auction Administrator.—** (1) The Independent Auction Administrator may offer its competitive procurement services to competitive suppliers.

(2) Where the Independent Auction Administrator offers its competitive procurement services to competitive suppliers under sub-regulation (1), the parties may mutually agree on the processes and modes of auction that may be different from the process provided in these regulations.

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**11. Coordination and reporting.—** (1) The Independent Auction Administrator shall coordinate with the relevant stakeholders for implementation of the approved power acquisition programmes of supplier(s) of last resort including procurement from hydroelectric power projects, strategic projects, new technology, and import of electric power:

Provided that, before conducting the competitive auction the Independent Auction Administrator shall consult with the federal government and the relevant provincial government, or its designated entities, where the generation facility is to be developed.

(2) The Independent Auction Administrator shall submit a report to the Authority within the first month of each year on its activities and performance, clearly depicting compliance with the terms and conditions of its registration, these regulations, and other applicable documents, while ensuring transparency, independence in the performance of its functions.

(3) The report shall include any issue identified in implementing competitive auctions and recommendations for improvement in the process and the requirements for competitive auctions.

(4) The Authority may consider the report as part of its monitoring activities and may require additional information or clarifications from the Independent Auction Administrator.

(5) The Independent Auction Administrator may propose any changes in these regulations in the report submitted under sub-regulation (1) with suitable justification in the interest of the power industry for consideration of the Authority.

**12. Principles for competitive auctions.—** (1) In designing, organizing and administering a competitive auction, the Independent Auction Administrator or supplier of last resort, as the case may be, shall ensure that:

- (a) the advertisement for the competitive auction shall be widely published in local and international newspapers for information of the prospective bidders and the general public;
- (b) all prospective bidders have the same access to information. The bidding documents, the information during the auction process and all information on the award shall be made public on the website of the Independent Auction Administrator;
- (c) pre-qualification process is uniform, consistent, transparent, and non-discriminatory in its application to all prospective bidders;
- (d) the bidding documents clearly define qualification requirements, criteria and methodology for the evaluation of bids, benchmark tariff (if determined by the Authority for inclusion in the bidding

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ADMINISTRATOR

documents), and award and allocation of power purchase agreements among the suppliers of last resort;

- (e) bids are invited, received and processed transparently in accordance with the procedure laid down in the RFP;
- (f) bidders comply with technical, operational, and financial qualifications defined in the bidding documents;
- (g) the criteria for award of auctions and evaluation minimize total power purchase costs while considering bids by pre-qualified bidders. Subject to authorization by the Authority, the competitive auction may allow bidders to offer part of the energy or capacity auctioned (partial offers), to award power purchase agreements to more than one bidder, while totalling the auctioned quantities as the sum of energy and/or capacity in awarded contracts;
- (h) the preferred auction award criteria reach the lowest possible price to select the qualified bidder;
- (i) the competitive auction will have at least two qualified bidders, where any bidder shall not have commercial interest in any of the other bidders:

Provided that in special circumstances and exigency, subject to approval of the Authority, the Independent Auction Administrator or supplier of last resort conducting the competitive auction, as the case may be, may accept the bid of a single qualified bidder, if the said bid does not exceed the benchmark tariff; and

- (j) compliance with these regulations, applicable laws, and other applicable documents.

(2) The Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, shall establish an electronic auction platform linked to its website for the purpose of accessing bidding documents, auction information, receiving bids and carrying out the competitive auction process to ensure transparency and promote market confidence, combined with a communications strategy to reach prospective and potential bidders, as many as possible.

(3) The bidding documents may require the bidders to furnish a fixed amount of bid security not exceeding five percent of the estimated value of the procurement.

(4) Where the time period for submission of bids is to be extended, it shall only be done after recording the reasons in writing and in a non-discriminatory

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manner. Advertisement of such extension shall be made in a manner similar to the original advertisement.

(5) The bidding documents may specify any conditions to promote indigenisation and localization of technology equipment and other resources as per the targets provided in the policies of the government.

(6) The bidding documents shall provide a detailed mechanism for blacklisting and debarment of bidders for a specified time, if need arises, with the approval of the Authority.

(7) All procurement under these regulations shall be subject to signing of an integrity pact as specified in the bidding documents.

(8) The Independent Auction Administrator or the supplier of last resort conducting the auction, as the case may be, shall make available on its website information relating to the competitive auction to the interested parties and the general public. The address of the website shall be published in the public advertisement relating to the competitive auction.

#### **PART V**

#### **PRE-QUALIFICATION OF BIDDERS AND BIDDING DOCUMENTS**

**13. Pre-qualification of prospective bidders.—**(1) The auction design shall provide for pre-qualification of prospective bidders through RFQ for competitive auctions to be conducted as per the approved power acquisition programme under these regulations.

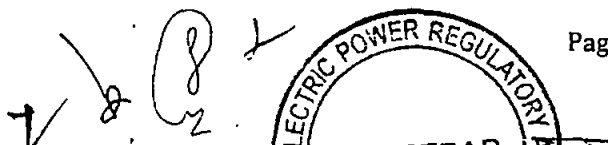
(2) The pre-qualification shall be conducted, prior to submission of RFP to the Authority, by inviting expressions of interest from local and international prospective bidders as per the requirements provided in the RFQ.

Provided that the Authority may review and reject the pre-qualification process at the time of approval of the RFP, if substantial evidence exists that the pre-qualification process was not conducted in accordance with these regulations.

(3) The RFQ shall contain necessary guidelines and information for the prospective bidders, including the pre-qualification criteria, details of the documents and information required from them with the expression of interest.

(4) The pre-qualification of prospective bidders shall be based on:

- (a) the technical ability to execute the project;
- (b) financial capability;
- (c) relevant experience;
- (d) history of legal, social, environmental and regulatory compliance;

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- (e) whether the applicant, or any officer, director, or owner thereof, has been in substantial non-compliance of the terms and conditions of prior competitive auctions or power purchase agreements;
- (f) whether the applicant or any of its affiliate is blacklisted by the Authority or any other government agency; and
- (g) any other factor that may be deemed relevant and appropriate.

(5) Each applicant shall be promptly notified about the results of the pre-qualification stage in writing. A list of pre-qualified bidders shall also be published on the website of the Independent Auction Administrator or the supplier(s) of last resort, as the case may be:

Provided that in the event where an applicant is denied pre-qualification, the written notification to that applicant shall state the reasons for denial of pre-qualification.

(6) Notwithstanding anything contained in these regulations, an applicant may be disqualified, at any stage, if it is established that the information submitted by the applicant is materially incorrect, false, misleading, or fraudulent:

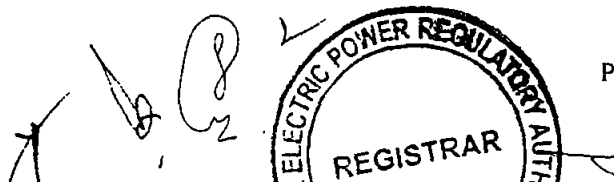
Provided that before disqualification under this sub-regulation, the concerned applicant shall be given an opportunity of hearing and reasons for disqualification shall be recorded in writing and conveyed to the concerned applicant.

**14. Requirement of RFP.—** (1) The Independent Auction Administrator or the supplier of last resort conducting the auction, as the case may be, shall prepare an RFP in accordance with these regulations for the purpose of inviting bids from the pre-qualified bidders. The RFP shall be submitted along with other bidding documents to the Authority for approval.

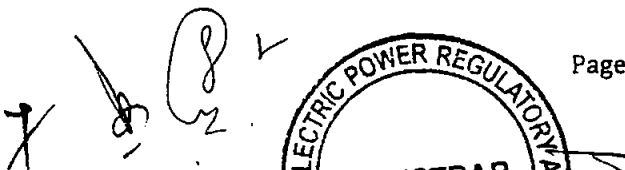
(2) The RFP and auction design shall provide for a transparent process of bidding to ensure healthy competition.

**15. Contents and approval of RFP.—** (1) Subject to the type of auction design and the requirements and principles in these regulations and instructions by the Authority, the RFP shall include, amongst others, the following:

- (a) identification of the suppliers of last resort which will be the purchasers of project(s) to be awarded in the auction;
- (b) the bidding methodology, bid evaluation criteria and formula;
- (c) maximum quantities of energy (in MWh) and/or capacity (in MW) and/or number of projects proposed to be procured through the competitive auction;

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- (d) description of the type(s) of generation technologies or project(s) that are to be procured through the auction, including any requirement with respect to:
- (i) technology and, where applicable, fuel type;
  - (ii) location, timelines, availability;
  - (iii) minimum and maximum allowed size of a project;
  - (iv) if a template connection agreement is included in the bidding documents, proposed locations for new projects and the network company providing connection; and
  - (v) capability of the project to provide the specified ancillary services;
- (e) connection point(s) with commercial metering systems where electric power is to be delivered;
- (f) list and information of pre-qualified bidders;
- (g) detailed feasibility study;
- (h) detailed technical and operational qualifications to be met by the bidders;
- (i) provisions for environmental, social assessments and local benefits sharing, in line with international good practices;
- (j) financial requirements to be met by bidders, including minimum net-worth, revenues, etc., with necessary proof of the same;
- (k) mode and manner of financial commitments from lenders at the time of submission of the bids;
- (l) timetable of the bidding process including its different stages;
- (m) expected date of commencement of supply (commencement of sales in the power purchase agreements) or commercial operations;
- (n) price structure of bids and benchmark tariff (if applicable) and other terms and conditions for electric power procurement;
- (o) minimum period of validity of bids;
- (p) timelines for financial close and commercial operation date of the project;
- (q) any bid bond, performance bond, bid security instrument which the Independent Auction Administrator or the supplier of last

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resort conducting the competitive auction, as the case may be, may require to be submitted by the bidder;

- (r) required contract performance guarantee, if any;
- (s) commitment by bidders not to require changes to the provisions of the template power purchase agreement after auction award;
- (t) requirement upon all the bidders to support their respective bids with an affidavit affirming the correctness of the information and assumptions stated therein, along with an undertaking to not conceal any material information in their bids or any supporting documents;
- (u) in case the bid is for a new project, construction milestones to be specified by the bidders, and requirement to submit a statement on affidavit regarding readiness to execute the project unconditionally;
- (v) conditions and criteria for bid disqualification;
- (w) dispute resolution mechanism; and
- (x) any such additional information as may be applicable to the bidding process or as may be required by the Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, or the Authority.

(2) The Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, shall submit to the Registrar, the RFP complete in all respects along with a non-refundable fee, calculated in accordance with the applicable documents, who shall place the same before the Authority within seven working days of receipt thereof for admission:

Provided that the Registrar may return the RFP if it is deficient or not in conformity with these regulations.

(3) After admission, the Authority if satisfied that all the requirements of these regulations and other applicable laws are met, may with or without modification approve the RFP:

Provided that the Authority may, before approving the RFP, conduct a hearing if deemed necessary, which shall be in accordance with the NEPRA Tariff (Standards & Procedure) Rules, 1998, as amended or replaced from time to time:

Provided further that the Authority shall approve the RFP within sixty days from the date of submission of the same.

**16. Bidding documents.**— Subject to the auction design and these regulations, the bidding documents shall, in addition to the RFP, include:

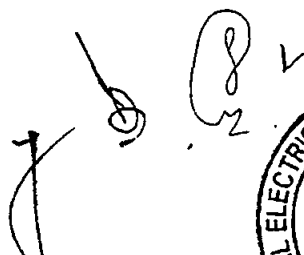
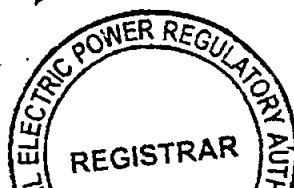
- (a) template of power purchase agreement, to be awarded through the competitive auction that shall be consistent with requirements for contracts in the Market Commercial Code;
- (b) if the competitive auction allows participation of different generation technologies, the bidding document may include different template power purchase agreements depending on the proposed generation technology;
- (c) templates of the security package documents, including but not limited to the connection agreement, land lease or purchase agreement, implementation agreement, buyer participation agreement; and
- (d) any other document as may be applicable.

**17. Auction and evaluation committee.**— (1) The Independent Auction Administrator shall constitute an auction and evaluation committee chaired by an authorized representative of the Independent Auction Administrator and include the following other members, odd in number, who shall have one vote each:

- (a) at least one representative of each supplier of last resort participating in the auction as power purchaser;
- (b) an authorised representative of the relevant provincial government, where the project is to be developed; and
- (c) at least two independent members, one being a technical expert having experience in relevant generation project(s) and one being a financial expert, who have no commercial interest with any prospective bidder, the Independent Auction Administrator, supplier(s) of last resort or their affiliates:

Provided that where the competitive auction is being conducted by the supplier of last resort on its own, the supplier of last resort shall constitute auction and evaluation committee comprising of at least four members, two of whom shall be independent members fulfilling the criteria as stipulated in clause (b).

(2) The auction and evaluation committee shall, including but not limited to, prepare the bidding documents, pre-qualify prospective bidders, and evaluate the bids as required in these regulations and the bidding documents approved by the Authority.

## PART VI BIDDING

**18. Notice of auction.**— (1) Upon approval of the bidding documents by the Authority, notice of invitation to participate in the bidding shall be made available by the Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, to the pre-qualified bidders and also publish the same on its website.

(2) The response time for receipt of bids from the date of publication of notice of auction shall not be less than thirty days.

**19. Content of bids.**— (1) The bidders shall be required to submit the bids in compliance with the bidding documents.

(2) Bidding documents shall clearly provide a format on which bids are to be submitted, and the bid security deposit and information to be accompanied with the bids.

**20. Administration of bids.**— (1) The Independent Auction Administrator or the supplier of last resort conducting the auction, as the case may be, shall administer the bidding process in accordance with the auction design defined in the bidding documents.

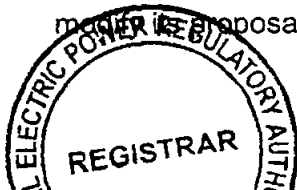
(2) The bids evaluated by the auction and evaluation committee as most advantageous bid shall be selected:

Provided that if there are insufficient valid bids to cover the entire quantities/projects defined in the bidding documents, all or such number of valid bids may be declared successful as the Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, may decide:

Provided further that prior to the start of the bidding process and taking into consideration the pre-qualified bidders, the quantities to be auctioned may be reduced to ensure sufficient bids are received to maximize competition; and in such event, the reduced quantities shall be communicated to the pre-qualified bidders and considered as the quantities to be contracted in the bidding documents.

(2) Declaration of a bid as valid or successful, shall not create any vested right or legitimate expectation in favour of the bidder for signing of power purchase agreement and the award of auction shall be decided after the auction evaluation report along with the recommendations of the Independent Auction Administrator or supplier of last resort conducting the competitive auction, as the case may be, have been submitted and approved by the Authority.

**21. Clarification of bids.**— (1) No bidder shall be allowed to alter or modify its proposal after the bids have been submitted. However, the auction and



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evaluation committee may seek and accept clarifications to any proposal that do not change the substance of the proposal as described in the bidding documents.

(2) Any request for clarification in the bid shall invariably be in writing. The response to such request shall also be in writing.

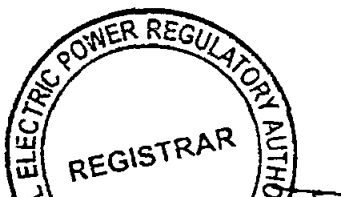
**22. Rejection of bids.—** (1) The Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, upon decision of the auction and evaluation committee, may declare a bid non-responsive and reject the same, for reasons to be recorded in writing, if the bid is in material deviation from the bidding documents, or the quoted bid price(s) is higher than the benchmark tariff (where applicable), or if the bid does not provide all the necessary information or meet the tariff structure provided in the bidding documents.

(2) Where all the bids have been rejected, the Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, may call for rebidding and prior to doing so, it shall assess the reasons for rejection and may revise the specifications, evaluation criteria and any other conditions for bidders as deemed necessary, subject to approval of the Authority.

## **PART VII AUCTION EVALUATION REPORT**

**23. Auction evaluation report.—** (1) The auction evaluation report prepared by the auction and evaluation committee shall include:

- (a) brief of the competitive auction process followed, demonstrating compliance with these regulations;
- (b) statement regarding compliance with the bidding documents;
- (c) details of all bidders clearly identifying the qualified bidders;
- (d) description of bidders declared not qualified, and the justification for each disqualification;
- (e) identification and description of rejected bids, and the justification for each rejection;
- (f) details of all valid (responsive) bids;
- (g) results of the evaluation methodology for the lowest combined electric power procurement cost, subject to requirements in the RFP, and whether the auction is considered successful, or deemed null and void along with justification;



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- (h) if the auction was successful, list of all the awarded bidders, including details of all the bids, and information on allocation of quantities and prices to be awarded in the power purchase agreement of each successful bidder with each supplier of last resort;
- (i) any observation by a member of the auction and evaluation committee; and
- (j) any other information that the Authority may require from time to time.

(2) Not later than fifteen days after completion of the bidding process, the Independent Auction Administrator or the supplier of last resort conducting the competitive auction, as the case may be, shall submit to the Registrar the auction evaluation report prepared by the auction and evaluation committee along with its recommendations on the auction evaluation report.

(3) The Registrar, upon being satisfied that the auction evaluation report is complete as per these regulations, shall place the same before the Authority within seven working days of receipt thereof for its consideration and decision:

Provided that the Registrar may return the auction evaluation report if it is deficient or not in conformity with these regulations.

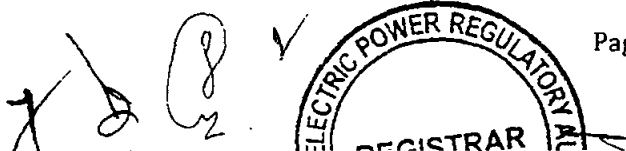
**24. Review of the auction evaluation report.—** (1) The Authority shall review the auction evaluation report in light of the recommendations of the Independent Auction Administrator or the supplier of last resort, as the case may be.

(2) The Authority upon being satisfied that the requirements of these regulations, the bidding documents and other applicable documents have been complied with, shall approve the auction evaluation report within thirty days of submission of the report:

Provided that if deemed necessary for reasons to be recorded in writing, the Authority may, before approving the auction evaluation report, appoint an independent auction auditor to evaluate the auction evaluation report and submit its assessment on the same:

Provided further that the Authority may reject a successful bidder in case the bid submitted is imprudent or unreasonable or there is evidence of deceptive or anti-competitive behaviour, including collusion, predatory pricing, or abuse of dominant position.

(3) Upon approval of the auction evaluation report, the Independent Auction Administrator or supplier of the last resort conducting the competitive auction, as the case may be, shall notify the successful bidders. The decision of approval of the auction evaluation report shall be published on the Authority's website, and the notification of successful bidder shall be published on the website

The block contains a handwritten signature and a circular official stamp. The stamp is from the 'ELECTRIC POWER REGULATORY AUTHORITY' and the word 'REGISTRAR' is visible at the bottom. There are also some handwritten marks and a checkmark next to the stamp.

of the Independent Auction Administrator or supplier of last resort conducting the competitive auction, as the case may be.

(4) The Authority may declare the auction cancelled and the result as null and void in the following situations:

- (a) the auction evaluation report justifies, and the Authority agrees that the process was null and void, and no contract should be awarded;
- (b) the Authority is of the view that the auction process did not comply with these regulations or there has been any material deviation from the bidding documents; or
- (c) the process did not ensure free and fair competition.

**25. Licensing and tariff.—** (1) Within fifteen days of approval of the auction evaluation report by the Authority, the successful bidder shall submit an application for the grant of generation licence or concurrence under section 14B of the Act, as the case may be, and approval of tariff to the Authority in accordance with the applicable documents.

(2) The tariff petition filed under sub-regulation (1) shall be in accordance with the auction evaluation report approved by the Authority.

(3) The Authority upon being satisfied that the requested tariff is in accordance with the approved auction evaluation report and these regulations, shall approve the tariff.

## PART VIII OTHER MODES OF PROCUREMENT

**26. Procurement from hydroelectric power projects.—** (1) In case of a hydroelectric power project, before competitive auction, the concerned government or its designated entity shall conduct a bankable feasibility study and detailed engineering design on the basis of which competitive auction shall be conducted. The costs of bankable feasibility study and detailed engineering design shall be reimbursed to the concerned government or its designated entity by the successful bidder upon successful auction and award of the project:

Provided that where a hydroelectric power project is selected in IGCEP based on the costs approved at pre-feasibility study stage, the project shall only be proceeded for competitive auction if the costs determined in the bankable feasibility study and detailed engineering design do not exceed ten percent of the costs approved at pre-feasibility study stage.

(2) In case of a raw site, where feasibility study has not been carried out and detailed engineering design is not available, electric power procurement may be allowed from the hydroelectric power project, selected on least cost basis in the

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IGCEP and approved in the power acquisition programme, without competitive auction subject to fulfilment of the following conditions:

- (a) the concerned government or its designated entity shall provide grounds substantiated through documentary evidence that competitive bidding is not feasible for the project:

Provided that the decision to determine the tariff without competitive bidding shall be taken by the Authority upon review of the substantiated grounds provided by the concerned government or its designated entity;

- (b) procurement is made at a prudent cost of the project determined by the Authority in its tariff determination:

Provided that the project cost determined or approved by the Authority shall not exceed ten percent of the least cost on the basis of which the project was selected in the IGCEP.

(3) After approval of the power acquisition programme of the supplier of last resort, the generation company shall apply for generation licence or concurrence of the Authority under sub-section (5) of section 14B of the Act, as the case may be, and a tariff petition for tariff determination.

(4) Upon determination of the tariff by the Authority under sub-regulation (3), the parties may enter into a power purchase agreement subject to such terms and conditions, including rates and charges of electric power as determined or approved by the Authority.

**27. Procurement from new technology projects.—** (1) Electric power procurement from a new technology project, selected on least cost basis in the IGCEP and approved in the power acquisition programme, may be allowed without competitive auction subject to fulfilment of the following conditions:

- (a) the concerned government or its designated entity shall provide grounds substantiated through documentary evidence that competitive bidding is not feasible for the project;

Provided that the decision to determine the tariff without competitive bidding shall be taken by the Authority upon review of the substantiated grounds provided by the concerned government or its designated entity; and

- (b) procurement is made at a prudent cost of the project determined by the Authority in its tariff determination:

Provided that the project cost approved by the Authority shall not exceed ten percent of the least cost on the basis of which the project was selected in the IGCEP.

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(2) After approval of the power acquisition programme of the supplier of last resort, the generation company shall apply for generation licence or concurrence of the Authority under sub-section (5) of section 14B of the Act, as the case may be, and a tariff petition for tariff determination.

(3) Upon determination of the tariff by the Authority under sub-regulation (2), the parties may enter into a power purchase agreement subject to such terms and conditions including rates and charges of electric power as determined or approved by the Authority.

**28. Procurement from strategic projects.—** (1) Electric power procurement from a project approved by the federal government as strategic project in accordance with the national electricity policy and subsequently selected in the IGCEP and the power acquisition programme shall be made subject to fulfilment of following conditions:

- (a) the cost on which the strategic project is selected under the least cost principle during the optimization in IGCEP, shall be treated as the least cost of the strategic project;
- (b) funding to bridge the incremental cost beyond least cost of any such project shall be paid by the concerned sponsoring government;
- (c) procurement is made at a prudent cost of the project determined by the Authority in its tariff determination

Provided that the Authority while determining the tariff of the project shall ensure that it does not exceed the least cost of the project as provided in sub-regulations (1) (a).

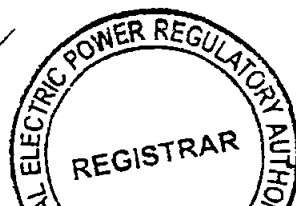
(2) After approval of the power acquisition programme of the supplier of last resort, the generation company shall apply for generation licence or concurrence of the Authority under sub-section (5) of section 14B of the Act, as the case may be, and a tariff petition for tariff determination.

(3) Upon determination of the tariff by the Authority under sub-regulation (2), the parties may enter into a power purchase agreement subject to such terms and conditions including rates and charges of electric power as determined or approved by the Authority.

**29. Import of electric power.—** (1) Electric power procurement from a project based on import of power, selected on least cost basis in the IGCEP and approved in the power acquisition programme, may be allowed subject to fulfilment of the following conditions:

- (a) procurement from the project is approved by the federal government; and

*[Handwritten signature]*



- (b) procurement is made at a prudent cost of the project determined by the Authority in its tariff determination:

Provided that the prudent cost determined by the Authority shall not exceed ten percent of the least cost on the basis of which the project was selected in the IGCEP.

(3) After approval of the power acquisition programme of the supplier of last resort, the concerned entity shall file the tariff petition for tariff determination.

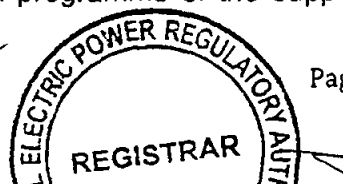
(4) Upon determination of the tariff by the Authority under sub-regulation (3), the parties may enter into a power purchase agreement subject to such terms and conditions including rates and charges of electric power as determined by the Authority.

**30. Negotiated power procurement.—** (1) Where a supplier of last resort intends to procure electric power from a project connected or to be connected with distribution system at the distribution voltage on negotiated rates and where competitive auction is not feasible, such a project shall be separately identified in the power acquisition programme along with the following information and documents:

- (a) the prudence of the procurement, in particular avoiding over contracting, and the benefits compared to other procurement opportunities;
- (b) the adequacy of the distribution system to receive and deliver the energy from the proposed project;
- (c) if the request corresponds to electric power procurement from an embedded/small generation connected directly to the distribution system at the distribution voltage, a letter of interest for supply of electric power by the generation company including information on the name of the proposed seller, generation type(s) (resource, technology and fuel type), size, location, timeline, connection point(s), quantities (energy and/or capacity), and duration and type of agreement, negotiated rates, commitment by the seller to comply with the Distribution Code, and any other information to describe the proposed power procurement;
- (d) analysis of the concerned supplier of last resort showing that the proposed procurement shall result in a decrease in the average power purchase price; and
- (e) the impact of the proposed power procurement on the basket price of the supplier of last resort.

(2) The Authority may approve procurement under sub-regulation (1) at the time of approval of the power acquisition programme of the supplier of last

*[Handwritten signature]*



resort if the Authority is satisfied that such procurement shall result in a decrease in the average power purchase price of the supplier of last resort.

(3) While approving projects under this regulation, or otherwise as deemed appropriate, the Authority may require availability of coordination procedures and systems among the concerned distribution licensee, system operator and the project connected with the distribution system at distribution voltage for operation, scheduling, and dispatch in accordance with the applicable documents.

(4) After approval of the power acquisition programme of the supplier of last resort, the concerned generation company shall apply for generation licence, or concurrence of the Authority under sub-section (5) of section 14B of the Act, as the case may be.

(5) Upon grant of generation licence or concurrence by the Authority, as the case may be, under sub-regulation (4), the parties may enter into a power purchase agreement.

Provided that the supplier of last resort shall submit the power purchase agreement on the basis of which the rates and other terms and conditions for such procurement shall be approved by the Authority.

#### **PART IX**

#### **APPROVAL OF POWER PURCHASE AGREEMENT**

**31. Power Purchase Agreement.—** (1) The power purchase agreement to be executed by the supplier(s) of last resort shall invariably be in line with the template(s) of the power purchase agreement approved by the Authority, the tariff of the respective power project determined or approved by the Authority, and the generation licence or concurrence, as the case may be, for which the supplier(s) of last resort shall submit a certificate of compliance before execution of the power purchase agreement:

Provided that if there is any agreed change or deviation from the template approved by the Authority, the tariff determination, or generation licence or concurrence as the case may be, in such case, before executing a power purchase agreement, the supplier(s) of last resort shall file its power purchase agreement initialed by the respective parties for its approval by the Authority:

Provided further that any addition of schedules to the power purchase agreement shall also be submitted to the Authority by the supplier of last resort, duly initialed by the respective parties, for its approval prior to its execution.

(2) In case where the template of power purchase agreement has not been approved by the Authority, the supplier(s) of last resort shall, before execution, file the power purchase agreement initialed by the respective parties for its approval by the Authority.

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ELECTRIC POWER REGULATORY AUTHORITY  
REGISTRAR

**PART X  
MISCELLANEOUS**

**32. Electric power procurement as a result of imbalances in electric power market.—** (1) Nothing in these regulations shall prevent an electric power supplier or a bulk power consumer from procurement of electric power required as a result of imbalances arising in the electric power market provided such procurement and settlement of imbalances is in accordance with the Market Commercial Code approved by the Authority.

(2) The Authority may set a limit for any or all electric power suppliers for procurement of electric power as a result of imbalances in the competitive electric power market or issue such other directions as may be deemed appropriate in the interest of ensuring consumers' interest and avoiding any manipulation or circumvention of applicable documents.

**33. Legacy contracts.—** (1) Notwithstanding anything contained in these regulations, any lawful power purchase agreement entered into by or on behalf of a supplier of last resort prior to notification of these regulations shall be continued without any change or modification till expiry of the power purchase agreement:

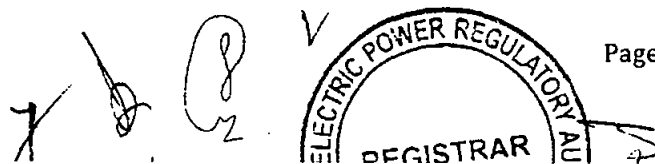
Provided that any proposed amendment in the power purchase agreement falling within purview of sub-regulation (1) shall be initialled by the respective parties and submitted to the Authority for its approval before its execution.

(2) Any project falling within purview of sub-regulation (1), after expiry of the power purchase agreement, may be considered for electric power procurement by the concerned suppliers of last resort subject to the condition that it qualifies as least cost procurement as per the IGCEP, the procurement is justified under the power acquisition programme of the supplier of last resort in accordance with these regulations and the procurement is approved by the Authority.

**34. Credit rating of suppliers of last resort.—** (1) Each supplier of last resort, shall every two years, get itself credit rated from a credit rating agency licensed by the Security and Exchange Commission of Pakistan and which is on the panel of State Bank of Pakistan.

(2) The credit rating report of the supplier of last resort shall be submitted to the Authority for its information along with corrective measures being taken and/or to be taken to improve the financial health and credit worthiness. The Authority may, if deemed necessary, issue directives to the supplier of last resort regarding measures to improve financial health and credit rating.

**35. Provincial participation.—** Notwithstanding anything contained in these regulations, the rights available to the provincial governments under the power policies approved by the Council of Common Interests, with respect to



competitive auction or any part thereof may be exercised by the provincial governments.

**36. Complaints and dispute resolution.**— (1) All complaints regarding compliance with the RFP or these regulations, shall be referred to the Authority for decision:

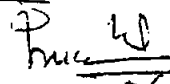
Provided that a dispute between a bidder and the Independent Auction Administrator or supplier of last resort conducting the competitive auction, as the case may be, shall be addressed as per the dispute resolution mechanism provided in the RFP.

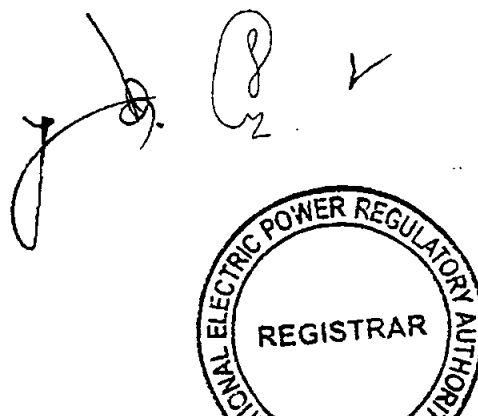
(2) After execution of the power purchase agreement, all disputes between the parties shall be settled in accordance with the mechanism set forth in the said agreement.

**37. Repeal and savings.**— (1) Upon notification of these regulations, the following regulations shall be repealed. -

- (a) National Electric Power Regulatory Authority Interim Power Procurement (Procedure and Standards) Regulations, 2005;
- (b) National Electric Power Regulatory Authority Competitive Bidding Tariff (Approval Procedure) Regulations, 2017;
- (c) National Electric Power Regulatory Authority (Import of Power) Regulations, 2014; and
- (d) National Electric Power Regulatory Authority Upfront Tariff (Approval & Procedure) Regulations, 2011.

(2) Notwithstanding any repeal effected by these regulations, for any competitive process initiated or submitted to the Authority prior to notification of these regulations, the procedure for notification of successful bidder and approval of tariff shall be the same as provided in the National Electric Power Regulatory Authority Competitive Bidding Tariff (Approval Procedure) Regulations, 2017.

  
(Syed Safeer Hussain)  
Registrar





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**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY**  
**(REGISTRAR'S OFFICE)**

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No. NEPRA/R/TRF-100/ 4854-A

March 07, 2023

**Subject: Feasibility Stage Tariff Petition 229 MW Asrit Kedam Hydropower Project by KOAK Power Limited**

KOAK Power Limited (KOAK) vide letter dated 03.03.2023 (received on 06.03.2023) has resubmitted the subject Tariff Petition for determination of Feasibility Stage Tariff for its 229 MW Asrit Kedam Hydropower Project at District Swat, Khyber Pakhtunkhwa. Copy of Petition is enclosed herewith.

**2. Brief Back Ground**

**I. Issue of valid Generation License**

i. The Authority during hearing held on 16.09.2020 decided as below:

*"The Authority during hearings held on 16.09.2020 on the tariff petitions filed by Uzghor Hydropower Company and Lawi Hydropower Project decided that henceforth only those tariff petitions will be entertained who holds the valid Generation Licence from NEPRA. The tariff petition(s) filed without having Generation Licence be returned by the Registrar in future".*

ii. Pursuant to above decision the Tariff Petitions of all the Petitioner who did not have valid Generation Licence have been returned.

iii. KOAK earlier submitted Tariff Petition on 30.06.2022 for determination of Feasibility Stage tariff for its 229 MW Asrit Kedam Hydropower Swat. The said Petition of KOAK was put on hold by the Authority vide 22-407 (F/A) while deciding to reconsider its decision of 16.09.2020.

iv. The Authority vide RM 22-491 reconsidered the above decision dated 16.02.2020 and decided as under:

*"To uphold its earlier decision dated 16.09.2020 that only those tariff petitions will be entertained who holds the valid Generation Licence from NEPRA. The tariff petition(s) filed without having Generation Licence be returned by the Registrar in future" (F/B).*

v. Pursuant to above decision of RM-491, the earlier Tariff Petition of KOAK was returned vide NEPRA letter dated 18.10.2022.

vi. KOAK also submitted application for grant of Generation Licence, which is under process at Licence Department. However, the Generation License has yet not been issued to KOAK.

vii. In the meantime, KOAK has resubmitted the subject Petition while agitating Authority's decision of not entertaining the Tariff Petition without valid Generation Licence.

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The LA (KIP) is requested to give opinion specifically on the stance taken by KOAK in its covering letter against Authority's decision of not entertaining Tariff Petition without valid Generation License.

II. Issue of Compliance with NEPRA Procurement Regulations, 2022

- i. NEPRA has notified NEPRA (Electric Power Procurement) Regulations, 2022. As per Regulation 8(1) of the Regulation "*Any new electric power procurement by a supplier of last resort shall only be in accordance with these regulations and the power acquisition programme approved by the Authority, through competitive auction...*"

- ii. The Regulation 26 of the Procurement Regulation which deals with the Hydro Power Projects reproduced as below:

**"Regulation 26:** *"(1) In case of a hydroelectric power project, before competitive auction, the concerned government or its designated entity shall conduct a bankable feasibility study and detailed engineering design on the basis of which competitive auction shall be conducted. The costs of bankable feasibility study and detailed engineering design shall be reimbursed to the concerned government or its designated entity by the successful bidder upon successful auction and award of the project:*

*Provided that where a hydroelectric power project is selected in IGCEP based on the costs approved at pre-feasibility study stage, the project shall only be proceeded for competitive auction if the costs determined in the bankable feasibility study and detailed engineering design do not exceed ten percent of the costs approved at pre-feasibility study stage.*

*(2) In case of a raw site, where feasibility study has not been carried out and detailed engineering design is not available, electric power procurement may be allowed from the hydroelectric power project, selected on least cost basis in the IGCEP and approved in the power acquisition programme without competitive auction subject to fulfilment of the following conditions:*

- (a) the concerned government or its designated entity shall provide grounds substantiated through documentary evidence that competitive bidding is not feasible for the project:*

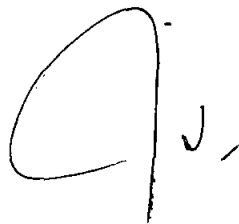
*Provided that the decision to determine the tariff without competitive bidding shall be taken by the Authority upon review of the substantiated grounds provided by the concerned government or its designated entity;*

- (b) procurement is made at a prudent cost of the project determined by the Authority in its tariff determination:*

*Provided that the project cost determined or approved by the Authority shall not exceed ten percent of the least cost on the basis of which the project was selected in the IGOEP."*

In the instant case, the following facts are relevant to note vis-a-vis the Regulation 26 of Procurement Regulations 2022:

The project of Asrit Kedam is included in IGCEP 2022-31 as optimized project for 2029-30.

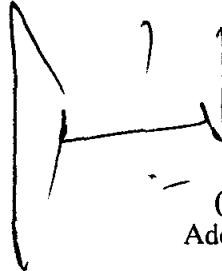




- KOAK was issued LOI by PEDO on 23.06.2021 after which KOAK has conducted Feasibility Study for the subject Petition.
- NEPRA has not received Power Acquisition Program (PAP) from the relevant SoLR seeking approval for procurement of power from the subject project.

2. Keeping in view the above two issues (i.e issue of Generation Licence and compliance with Procurement Regulation), comments of DG (Lic), DG (Tariff), Director (Tech), Consultant CTBCM and LA (KIP) are solicited whether the subject petition of KOAK is maintainable for further process or otherwise. The requested comments may kindly be provided by 09.03.2023 for submission of case for Authority's consideration, please.

Encl: As Above

 7/3/23  
(Iftikhar Ali Khan)  
Addl. Director General

1. DG (Lic)
2. DG (Tariff)
3. Dir (Tech)
4. Consultant (CTBCM)
5. LA (KIP)

Copy to:

1. Registrar
2. Master File



**National Electric Power Regulatory Authority  
(NEPRA)  
(Coordination & Implementation Department)**

No. NEPRA/C&I-001/2023/ 387

F/5  
March 2, 2023

**ION**

The Chairman during the Regulatory Meetings held on February 28, 2023 and March 2, 2023 directed DG (Licensing), Director (Tariff-Hydro), LA (KIP)/ALA (Licensing) and Consultant (CTBCM) to examine National Electric Power Regulatory Authority (Electric Power Procurement) Regulations, 2022 in the following context:

- i. Whether there is a need to modify procurement Regulations to process Tariff petitions of Hydel projects including both private and public sector on cost plus basis or otherwise?
  - ii. Whether any other issues including the one highlighted in RM 23-53 (i.e. Import of Power) pertaining to the above regulation needs amendments or otherwise?
2. In this respect a joint report be placed before the Authority in next week commencing from 6<sup>th</sup> March, 2023, positively.
3. The aforementioned professionals will be required to apprise and discuss their opinion / views/Report with Member (Law) prior to placing it before the Authority.

  
**Humaira Haseen Butt**  
Addl. Director (C&I)

**Distribution:**

1. DG (Licensing)  
2. Director (Tariff-Hydro)  
3. LA (KIP)  
4. ALA (Licensing)  
5. Consultant (CTBCM)  
6. Member (Law)

**For Information:**

1. Member (Law)  
2. Member (Law)

