P E D O

PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION
GOVT. OF KHYBER PAKHTUNKHWA
PH: 0938-270633 FAX: 0938-270195

(1)

No.4070 /PEDO/RE/O&M/Pehur HPC
Date: 17/04/ 2024

To,

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

Subject: **APPLICATION FOR THE GRANT OF ELECTRIC POWER SUPPLY LICENSE AS COMPETITIVE SUPPLIER TO PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION (PEDO) FOR 18MW PEHUR HYDEL POWER PLANT LOCATED AT INDUS RIVER DOWNSTREAM OF TARBELA RESERVOIR, DISTRIC SWABI, KHYBER PAKHTUNKHWA.**

I, Engr. Gul Zali Khan, Resident Engineer, 18MW Pehur Hydropower Complex, being the duly authorized representative of Pakhtunkhwa Energy Development Organization ("**PEDO**") by virtue of authority letter No.1020 PEDO/CEO Pehur HPC dated: 17-04-2024 , hereby apply to the National Electric Power Regulatory Authority ("**NEPRA**") for the grant of an Electric Power Supply License to PEDO for 18 MW Pehur Hydel Power Plant Located at Indus River, downstream of Tarbela Reservoir, Swabi, Khyber Pakhtunkhwa ("**Pehur Hydel Power Plant**"), pursuant to section 23E of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 ("**NEPRA Act**"), read with regulation 4 of National Electric Power Regulatory Authority Licensing (Electric Power Supplier) Regulations, 2022 ("**NEPSR2022**").

I hereby certify that the documents-in-support attached with this application are prepared and submitted in conformity with the provisions of the National Electric Power Regulatory Authority Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 (the "**Licensing Regulations**"), and undertake to abide by the terms and provisions of the above-said regulations. I further undertake and confirm that the information provided in the attached documents-in-support is true and correct to the best of my knowledge and no material omission has been made.

It is pertinent to mention that the Applicant holds generation license no. '*GL (Hydel)/08/2009*' dated November 26, 2009 ("**Generation License**") to establish the 18.00MW Hydel Power Plant. Subsequently on 25th November, 2019 the Applicant proposed a modification to the Generation License pursuant to regulation 10 (2) of the Licensing Regulations, seeking to supply electricity to Bulk Power Consumers ("**BPCs**") instead of the National Grid.

After completing all formalities and necessary requirement, the Generation License was modified to accommodate this alteration, including the grant of the Second-Tier Supply Authorization for supply of electric power to the BPCs specified in the Generation License.

Furthermore, regulation 4 (2) of the NEPSR 2022 mandates a generation licensee who has been granted a Second-Tier Supply Authorization to apply to NEPRA for grant of an Electric Power Supply License pursuant to section 23E of the NEPRA Act. Therefore, PEDO's submission of this Application aligns with the requirements set forth in NEPSR 2022.

In addition to the aforesaid, the Applicant has complied with the eligibility criteria for obtaining an Electric Power Supply License including but not limited to the minimum solvency and minimum human resource requirements as envisaged in section 23E of the NEPRA Act.

A BANK DRAFT No. (14796554) in the sum of Rs. 1,234,948/- (Rupees: One Million Two Hundred Thirty Four Thousand Nine Hundred Forty Eight Only), being the license application fee calculated in accordance with Schedule II to the National Electric Power Regulatory Authority Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021, is also attached herewith.

Resident Engineer
O&M Pehur HPC
PEDO, Swabi

Documents attached herewith

1. [Board Resolution or Power of Attorney] of PEDO.
2. Affidavit of authorized representative of PEDO regarding correctness and accuracy of documents.
3. Affidavit of authorized representative of PEDO regarding other licenses granted under the Act.
4. Generation License granted to PEDO.
5. Checklist of documents required regulation 3 (1) of the Licensing Regulations
6. Bank Draft / Pay order of Rs. 1,234,948

PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION
Government of Khyber Pakhtunkhwa

NO. 1020 /PEDO/CEO/Pehur HPC
Dated Peshawar the 17/04/2024

The

Registrar
National Electric Power Regulatory Authority (NEPRA)
NEPRA Tower
G-5/1, Islamabad.

Subject: Authority Letter for Electric Power Supply License to PEDO for 18MW Pehur Hydropower Complex

Mr. Gul Zali Khan S/O Shamsu Jan Khan, Resident Engineer, 18 MW Pehur Hydropower Complex, PEDO, bearing CNIC No. 12201-9639780-9 is hereby appointed as Authorized Representative of the Pakhtunkhwa Energy Development Organization (PEDO), for the purpose of filing an application for determination of Electric Power Supply License for 18MW Pehur Hydropower Complex.

For and on behalf of
Pakhtunkhwa Energy Development Organization (PEDO)

17/04/2024

Chief Executive Officer
PEDO, Peshawar

(4)

POWER OF ATTORNEY

Pakhtunkhwa Energy Development Organization ("PEDO" or the "Applicant")

I, NISAR AHMAD, Chief Executive Officer Pakhtunkhwa Energy Development Organization, do hereby appoint, authorize and constitute M/s Lincolns Law Chamber through Barrister Asghar Khan, to file, sign, appear, represent, plead and act on behalf of Pakhtunkhwa Energy Development Organization as advocate(s) in connection with the Application before National Electric Power Regulatory Authority in the matter of "Application for Grant of Electric Power Supply License to Pakhtunkhwa Energy Development Organization for the 18MW Pehur Hydel Power Plant" (the "**Application**").

PEDO has specifically authorized the said Barrister Asghar Khan / Advocate or any member of M/s Lincolns Law Chamber to do all acts and things necessary for the processing, completion and finalization of the Application with NERPA.

For and on Behalf of

17/04/2024

Peshawar:

Chief Executive Officer
Pakhtunkhwa Energy Development Organization

'Annex - A' (6)

THE PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION ACT, 2020 (KHYBER PAKHTUNKHWA ACT NO. XLVI OF 2020)

CONTENTS

PREAMBLE

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(7)

Chapter-VI
Finance

Chapter-VII
Miscellaneous

THE PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION ACT, 2020 (KHYBER PAKHTUNKHWA ACT NO. XLVI OF 2020)

(First published after having received the assent of the Governor of the Khyber Pakhtunkhwa in the Gazette of the Khyber Pakhtunkhwa, (Extraordinary), dated the 16th December, 2020).

AN
ACT

to provide for the sustainable and green development of power resources of the Province of Khyber Pakhtunkhwa.

WHEREAS it is expedient to provide for the sustainable and green development of power resources and for the generation, transmission, distribution and regulation of electric power within the Province of the Khyber Pakhtunkhwa;

AND WHEREAS facilitation of private sector investment and participation in the energy resources of the Province of the Khyber Pakhtunkhwa is the priority of the Provincial Government;

AND WHEREAS to achieve the objectives, it is expedient to re-organize the Pakhtunkhwa Energy Development Organization and corporatize the existing power sector entities, with focus on delivery and cost management and for matters connected therewith and ancillary thereto;

It is hereby enacted as follows:

CHAPTER-I
GENERAL

1. Short title, extent and commencement.---(1) This Act may be called the Pakhtunkhwa Energy Development Organization Act, 2020.

(2) It extends to the whole of the Province of the Khyber Pakhtunkhwa.

(3) It shall come into force at once.

2. Definitions.---In this Act, unless there is anything repugnant in the subject or context,-

(a) "**Chairman**" means the Chairman of the Executive Committee;

(b) **"Chief Executive Officer"** means the Chief Executive Officer of the PEDO, appointed under section 9 of this Act;

(c) "**company**" for the purpose of this Act, means a company, established by the PEDO, with the approval of Government, under the Companies Act, for carrying out one or more of its functions;

(d) "**Companies Act**" means the Companies Act, 2017 (Act No. XIX

of 2017);

(e) **"electric power"** means electrical energy or the capacity for the production of electric power;

(f) "**electric power services**" include the generation, transmission, distribution, supply, sale or trading of electric power and all other services incidental thereto;

(g) "**energy plan**" means the activities approved by Government, from time to time, for the development of energy resources of the Province in accordance with the energy policy;

(h) "**energy policy**" means the policy, directions and guidance, approved by Government from time to time, for the development of energy resources of the Province;

(i) "**Executive Committee**" means the Executive Committee, constituted under section 7 of this Act;

(j) "**Government**" means the Government of Khyber Pakhtunkhwa;

(k) "**PEDO**" means the Pakhtunkhwa Energy Development Organization, re-organized under section 3 of this Act;

(l) **"PEDO Fund"** means the PEDO Fund established under section 16 of this Act;

(m) **"Policy Board"** means the Policy Board, established under section 5 of this Act;

(n) "**power**" means and includes power or electrical energy, generated by any means including steam, gas, coal, re-gasified liquefied natural gas, wind, solar, bagasse, waste to energy or any other form of power generation notified as such by Government;

(o) "**prescribed**" means prescribed by rules or regulations;

(p) "**projects**" mean to build, finance, own, operate and maintain the power generation, transmission and distribution projects, in the public sector, private sector or in joint venture of public private partnership mode, within the Province;

(q) "**property**" means and includes any right, title or interests in property, moveable or immovable, tangible or intangible and in whole or in part;

(r) "**Province**" means the Province of Khyber Pakhtunkhwa;

(s) **"repealed Act"** means the Pakhtunkhwa Energy Development Organization Act, 1993 (Khyber Pakhtunkhwa Act No. I of

1993), repealed under section 33 of this Act;

(t) "**regulations**" mean regulations made under this Act;

(u) "**rules**" mean rules made under this Act;

(v) "**scheduled bank**" means a scheduled bank, licensed by the State Bank of Pakistan; and

(w) "**sponsor**" means a person, including consortium from the private or public sector, who intends to invest or have already invested in the power sector.

CHAPTER-II
THE PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION

3. Re-organization of PEDO.--- (1) Soon after the promulgation of this Act, the Pakhtunkhwa Energy Development Organization, established under section 3 of the repealed Act, shall be re-organized in accordance with the provisions of this Act and shall be known as the Pakhtunkhwa Energy Development Organization, hereinafter referred to as "PEDO", for the development and utilization of the power and energy resources of the Province.

(2) The PEDO shall be a body corporate having perpetual succession and a common seal, with power, subject to the provisions of this Act, to enter into agreements and contracts, acquire, hold and sell property, both movable and immovable, undertake projects, generate, transmit, distribute and regulate electricity, issue licenses and determine tariff within the Province and shall have the power to sue and be sued.

(3) The head office of the PEDO shall be at Peshawar.

4. Functions and powers of the PEDO.--- (1) Notwithstanding anything contained in any other law for the time being in force, the PEDO shall have exclusive functions and powers for the development and utilization of the power and energy resources of the Province through public sector, private sector or through public private partnership mode.

(2) In particular and without prejudice to the generality of the foregoing powers, the PEDO shall-

(a) approve and undertake the projects of any financial value;

(b) regulate, generate, transmit and distribute the electric power services;

(c) construct, maintain, own, operate and control the power houses, grids and micro grids, generation stations, transmission and distribution lines through itself, contractors or private parties etc,;

(d) conduct feasibility studies, surveys, detailed designs, detailed

(q) obtain from sponsors or contractors, as the case may be, security instruments and en-cash or return them, as deemed appropriate;

(r) open and operate bank accounts in local and foreign currencies as permissible under the laws of Pakistan;

(s) commence, conduct, continue arbitration or alternate dispute resolution mechanisms and terminate litigation, at whatever levels may be necessary; and

(t) perform any other function or exercise any other power as may be incidental or consequential for the performance of any of its functions or the exercise of any of its powers or as may be entrusted by Government to meet the objects of this Act.

CHAPTER-III
MANAGEMENT AND ADMINISTRATION

5. Policy Board.--- (1) There shall be a Policy Board, which shall consist of the followings:

(a)	Chief Minister, Khyber Pakhtunkhwa;	Chairperson
(b)	Minister for Energy and Power or Advisor/ Special Assistant to Chief Minister for Energy and Power;	Vice-Chairperson
(c)	Additional Chief Secretary, Planning and Development Department;	Member
(d)	Secretary to Government, Energy and Power Department;	Member
(e)	Secretary to Government, Finance Department;	Member
(f)	Chairman, Executive Committee; and	Member
(g)	two (2) private members, to be appointed by Policy Board from amongst the person having at least ten (10) years' experience in field of energy and power or industry or finance sector.	Members

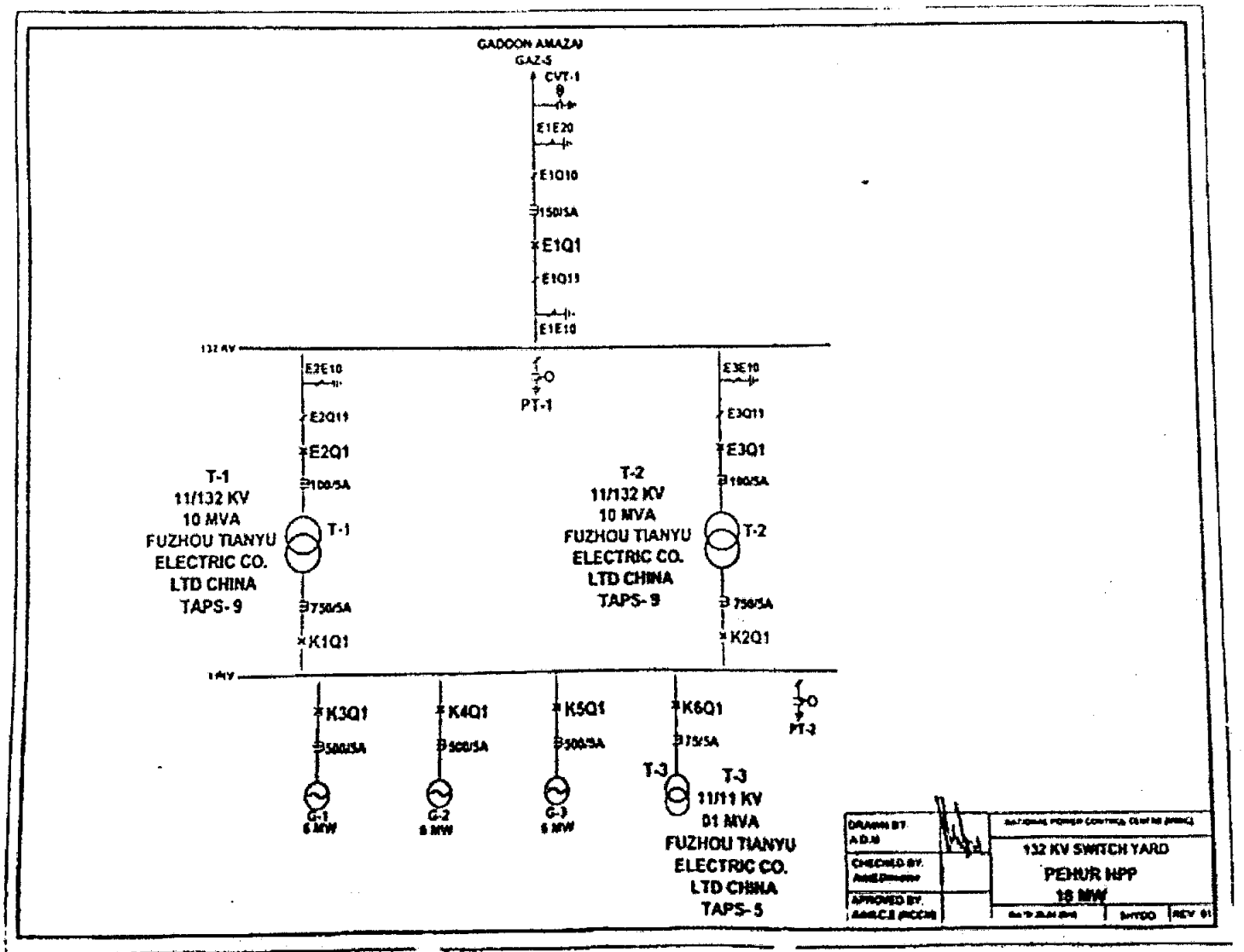
(2) The meetings of the Policy Board shall be presided over by the Chairperson and in his absence, the Vice-Chairperson shall preside over its meetings.

(3) Meetings of the Policy Board shall be held as and when required, but at least once in a quarter, at the time and place as the Chairperson may determine.

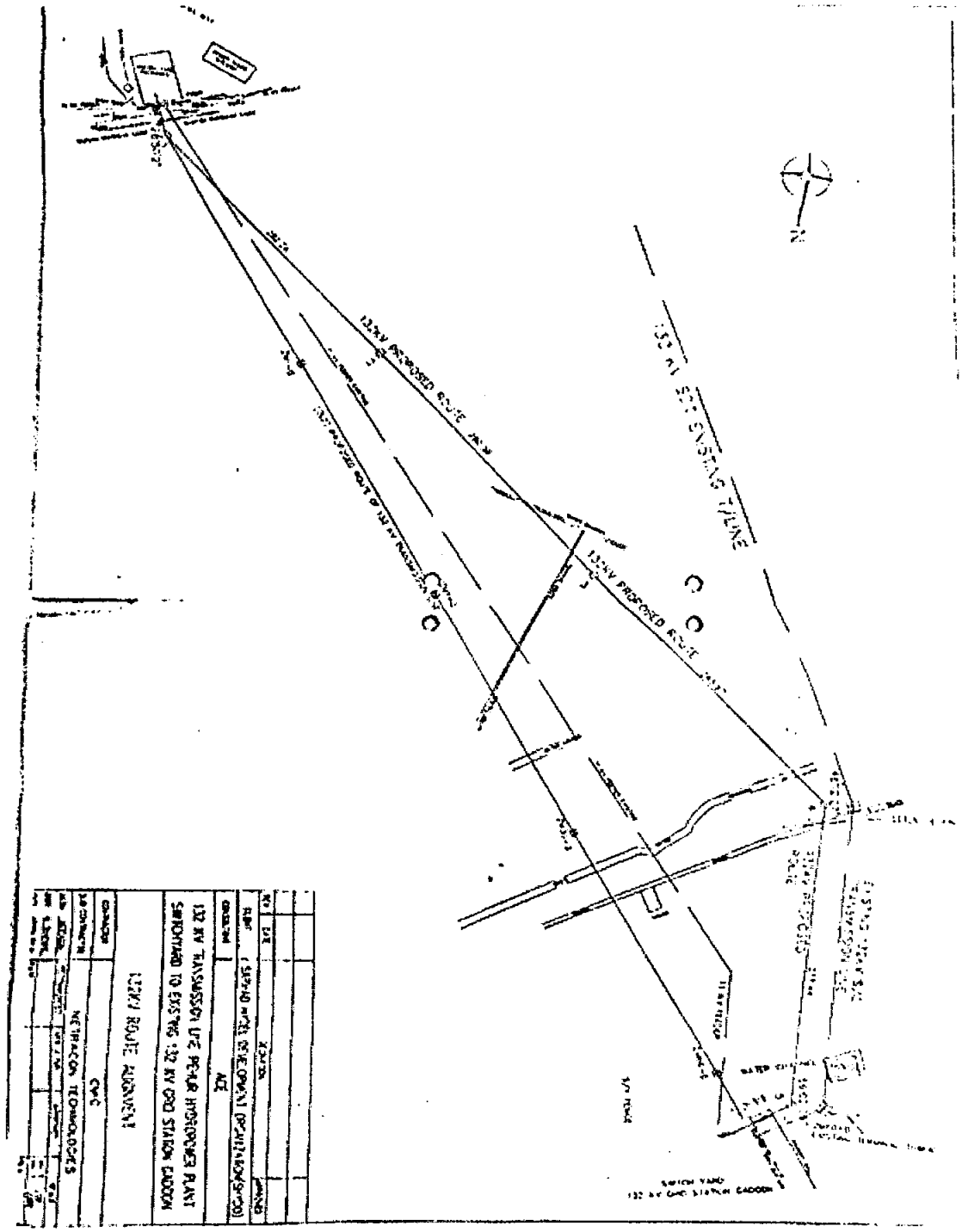
(23)

Annex - B'

Single Line Diagram of the Generation Facility/Hydel Power Plant of PEDO



Schematic Diagram
for Interconnection/Transmission Arrangement for Dispersal of Power from Generation Facility/ Hydel Power Plant of PEDO



Consumer class/category, sub category on the basis of sanctioned load and voltage level:

1. The power generated by the Pehur Hydel Power Plant of PEDO shall be dispersed to 132 KV Gadoon Amazai Grid Station of PESCO through a 132 KV S/C Transmission Line for supplying to different BPC(s) by wheeling through the network of PESCO.
2. Total no of BPC(s) are 05 (five):

S/No.	Name of the Purchaser (BPCs)	PAIE (Purchaser Allocated Input Energy) as per EWA/EPA(%)
i.	Cherat Cement Company Ltd.	10
ii.	Premier Chipboard Industries Pvt. Ltd.	15
iii.	AJ Textile Mills Ltd.	30
iv.	Gadoon Textile Mills Ltd.	30
v.	Cherat Packaging Ltd.	15

3. Wheeling covers all BPC(s) (Bulk Power Consumers) having load equal and above 1MW.
4. Any change in the final Interconnection and Transmission Arrangement(s), for the dispersal of power other than the above, as agreed by the Licensee, BPCs and PESCO shall be communicated to the Authority in due course of time.

Annex - D

Summary of PEHUR Indexation for 1st Quarter 2023 w.e.f 1st Jan 2023 to 31st March 2023		
	Revised	
Tariff Components	Reference	w.e.f Oct- 2022
	Rs/kWh	Rs/kWh
Fixed Charges	4.6395	4.6395
Variable Component		
Variable	2.4869	4.2869
Water Use Charge	0.4250	0.4250
Total Tariff	7.5514	[redacted]
Benchmarks		
CPI	119.46	136.86

Indexation & Adjustment Factors

Note:According to Schedule-I Part 3 of the Energy Purchase Agreement (EPA)

$VC(Rev)=VC_{(Ref)}*CPI_{(Rev)}/CPI_{(Ref)}$

Vc(Rev)=

CamScanner

Summary of PEHUR Indexation for Q-2-2023 w.e.f 1s April-2023 to 30th June. 2023		
	Revised	
Tariff Components	Reference	w.e.f April- 2023
	Rs/kWh	Rs/kWh
Fixed Charges	4.6395	4.6395
Variable Component		
Variable	2.4869	4.5620
Water Use Charge	0.4250	0.4250
Total Tariff	**7.5514**	**9.6265**
Benchmarks		
CPI	119.46	219.14
Note: Applicable Tariff	**9.6265**	
According to Schedule-I Part 3 of the Energy Purchase Agreement (EPA), The above mentioned rate will be applicable from 1st April -2023 to 30th June-2023 if any changes occures the same will be applicable accordingly.		

(29)

CPI (Ref) - Mar-19 - 119.46
CPI(Rev) - Mar-23 - 219.14
VC (Rev)= - 4.5620

Difference in percentage
22.28

2.0751

30

Summary of PEHUR Indexation for 3rd Q-2023 w.e.f 1s July-2023 to 30th Sep. 2023		
	Revised	
Tariff Components	Reference	w.e.f April- 2023
	Rs/kWh	Rs/kWh
Fixed Charges	4.6395	4.6395
Variable Component		
Variable	2.4869	4.7456
Water Use Charge	0.4250	0.4250
Total Tariff	**7.5514**	**9.8101**
Benchmarks		
CPI	119.46	227.96
Note: Applicable Tariff for 3rd Q-2023	**9.8101**	

According to Schedule-I Part 3 of the Energy Purchase Agreement (EPA), The above mentioned rate will be applicable from 1st July -2023 to 30th Sep-2023 if any changes occures the same will be applicable accordingly.

Summary of PEHUR Indexation for 4th Q-2023 w.e.f 1s Oct-2023 to 31st Dec. 2023		
	Revised	
Tariff Components	**Reference**	**w.e.f Oct- 2023**
	Rs/kWh	**Rs/kWh**
Fixed Charges	4.6395	4.6395
Variable Component		
Variable	2.4869	5.0806
Water Use Charge	0.4250	0.4250
Total Tariff	**7.5514**	**10.1451**
Benchmarks		
CPI	119.46	**244.05**
Note: Applicable Tariff for 4th Q-2023	**10.1451**	

As per Part 3 of Schedule-I in the Energy Purchase Agreement (EPA), the specified rate will be in effect from Oct 1st, 2023, to Dec 31st, 2023. Any modifications or updates will be applied accordingly.

'Annex. E'

Demand and consumption pattern on different time period

Month wise expected energy export to BPCs (12-months)

Month	Cherat Cement KWh		Premier Chipboard KWh		AJ Textile KWh		Gadoon Textile KWh		Cherat Packaging KWh	
	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump..
Apr, 21	494,400	600,048	329,600	325,528	988,800	1,450,600	988,800	761,848	494,400	1,322,328
May, 21	466,350	657,576	310,900	323,832	932,700	1,141,672	932,700	1,070,216	466,350	848,504
Jun,21	491,010	3,184,416	453,240	343,148	1,133,100	1,160,568	1,133,100	1,434,816	566,550	1,125,224
July,21	954,730	2,194,272	83,020	77,256	1,245,300	1,336,240	1,245,300	1,199,104	622,650	1,005,936
Aug,21	2,164,860	2,084,112	481,080	264,924	2,806,300	2,021,376	1,363,060	945,672	1,202,700	1,078,560
Sep, 21	1,769,460	1,735,272	241,290	86,172	2,412,900	1,993,792	2,412,900	729,096	1,206,450	1,240,144
Oct, 21	2,495,260	2,529,720	73,390	21,636	2,201,700	2,096,784	1,100,850	663,064	1,467,800	1,352,184
Nov, 21	1,599,920	1,511,352	114,280	44,172	1,714,200	1,887,016	1,142,800	852,464	1,142,800	1,330,192
Dec, 21	955,680	1,591,056	130,320	51,424	1,303,200	2,062,344	1,303,200	1,743,120	651,600	1,355,144
Jan-22	73,500	737,712	31,500	79,296	157,500	2,052,136	157,500	2,419,200	105,000	1,228,456
Feb,22	12,870	466,848	8,910	76,208	29,700	1,907,608	29,700	1,763,272	17,820	1,002,552
Mar,22	217,600	3,291,408	65,280	79,228	652,800	1,925,656	652,800	1,250,120	587,520	1,221,328

Procurement plan for meeting expected loads (including own Generation and/or long term and short term PPAs):-

Procurement of power from IPPs is being considered as second/cheapest source electricity for the Industrialist Estate through direct connection/wheeling as a long term and short term solution of energy shortfall as well.

Pakistan is currently passing from one of its worst energy crisis. It is very difficult to supply continuous electricity to Industrial Estates, to Increase the industrialization and make the availability of 24hrs electricity. There is a need to add more power in KPEZDMC all projects.

KPEZDMC is aggressively pursuing for adding new power generation capacity for all its projects throughout KP province in the affordable cost through wheeling arrangement. The contract of Power Purchase will be regulated as per NEPRA rules and regulations.

5-year Investment Plan indicating schemes/ models/ framework for undertaking supply of electric power (including frameworks for providing non-discriminatory services and acquisition/sale of assets in relevant service territories)

PEDO has been mandated not only to harness the available hydropower potential but also to develop other renewable energy sources in the province. It is very encouraging to note that PEDO has so far completed several hydropower projects with a total capacity of 162 MW. Another five hydro power projects with cumulative capacity of 226 MW are under completion. Moreover, contract for the 300MW Balakot HPP has been successfully awarded and physical work started at site. The project is being funded by the Asian Development Bank (ADB). Two other large-scale projects including 88MW Gabral Kalam and 157MW Madyan HPPs, funded by the World Bank, are also being awarded shortly.

'Annex-H'

Month wise expected energy export to BPCs (12-months):

Month	Cherat Cement KWh		Premier Chipboard KWh		AJ Textile KWh		Gadoon Textile KWh		Cherat Packaging KWh	
	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump..
Apr, 21	494,400	600,048	329,600	325,528	988,800	1,450,600	988,800	761,848	494,400	1,322,328
May, 21	466,350	657,576	310,900	323,832	932,700	1,141,672	932,700	1,070,216	466,350	848,504
Jun,21	491,010	3,184,416	453,240	343,148	1,133,100	1,160,568	1,133,100	1,434,816	566,550	1,125,224
July,21	954,730	2,194,272	83,020	77,256	1,245,300	1,336,240	1,245,300	1,199,104	622,650	1,005,936
Aug,21	2,164,860	2,084,112	481,080	264,924	2,806,300	2,021,376	1,363,060	945,672	1,202,700	1,078,560
Sep, 21	1,769,460	1,735,272	241,290	86,172	2,412,900	1,993,792	2,412,900	729,096	1,206,450	1,240,144
Oct, 21	2,495,260	2,529,720	73,390	21,636	2,201,700	2,096,784	1,100,850	663,064	1,467,800	1,352,184
Nov, 21	1,599,920	1,511,352	114,280	44,172	1,714,200	1,887,016	1,142,800	852,464	1,142,800	1,330,192
Dec, 21	955,680	1,591,056	130,320	51,424	1,303,200	2,062,344	1,303,200	1,743,120	651,600	1,355,144
Jan-22	73,500	737,712	31,500	79,296	157,500	2,052,136	157,500	2,419,200	105,000	1,228,456
Feb,22	12,870	466,848	8,910	76,208	29,700	1,907,608	29,700	1,763,272	17,820	1,002,552
Mar,22	217,600	3,291,408	65,280	79,228	652,800	1,925,656	652,800	1,250,120	587,520	1,221,328

Annex - I

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CONSUMER SERVICE MANUAL

(PEDO) operating in pursuance of the generation license attached at Annex-**A** (Modified under letter# NEPRA/R/LAG-145/11367-72, dated: April 27, 2020) granted by NEPRA.

At Annex-**B,** EPA with one of the bulk power consumer is enclosed which is also approved by NEPRA. All procedures, terms and conditions are explained in this EPA which applies to all the 5 (five) bulk power consumers.

National Electric Power Regulatory Authority (NEPRA)

Islamabad – Pakistan

GENERATION LICENCE

GL(HYDEL)/08/2009

In exercise of the powers conferred under Section-26 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, as amended or replaced from time to time, the Authority hereby modifies the Generation Licence [no. GL(HYDEL)/08/2009 dated November 26, 2009 expiring on November 25, 2039] granted to Pakhtunkhwa Energy Development Organization (PEDO), to the extent of changes mentioned hereunder:-

(i). Changes made in **Articles** of the Generation Licence are attached as **Revised/Modified Articles** of Generation Licence;

(ii). Changes made in **Schedule-I** of the Generation Licence are attached as **Revised/Modified Schedule-I**;

(iii). Changes made in **Schedule-II** of the Generation Licence are attached as **Revised/Modified Schedule-II**; and

(iv). Addition of new **Second Tier Supply Authorization**.

This **Modification-I** is given under my hand on 27th day of April Two Thousand & Twenty

21.04.20

Registrar

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY REGISTRAR

(Energy purchase agreement with one of the BPC)

ENERGY PURCHASE AGREEMENT

BETWEEN

PAKHTUNKHWA ENERGY DEVELOPMENT ORGANISATION

AND

A.J TEXTILE MILLS LIMITED

RELATING TO -

PEHUR HYDROPOWER GENERATION FACILITY

DATED 7TH OCTOBER 2019

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C527046

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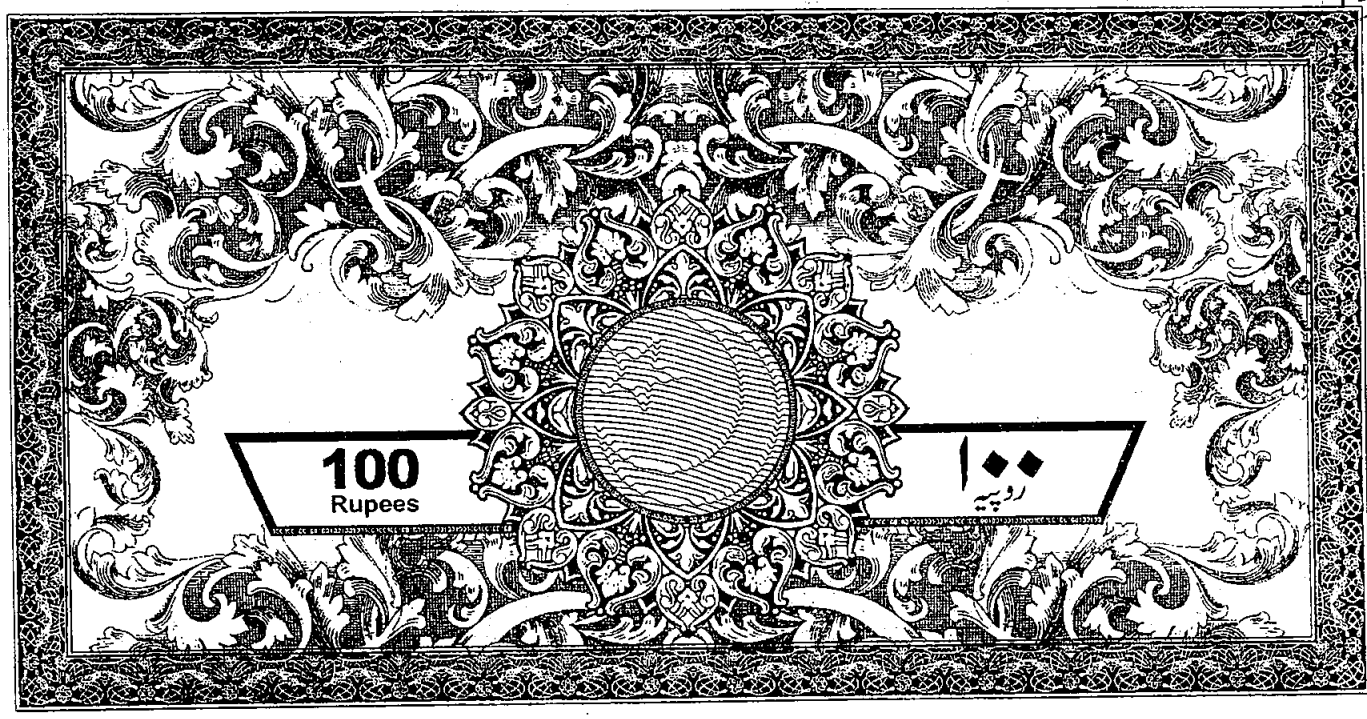

THIS ENERGY PURCHASE AGREEMENT (this "Agreement") is made at Peshawar, Pakistan on this 7th day of October 2019 (the "Effective Date").

BETWEEN

Pakhtunkhwa Energy Development Organisation (the "Seller"), a statutory organisation established under the Pakhtunkhwa Energy Development Organization Act, 1993, with its offices at Plot no. 38, Sector B-2, Phase-5 Hayatabad, Peshawar, Pakistan which expression shall include its successor.

AND

A.J Textile Mills Limited, (the "Purchaser"), a public limited company incorporated in Pakistan, with its principal office at 90-B, Industrial Estate Jamrud Road Peshawar, KP Pakistan.

Each of the Purchaser and the Seller is hereinafter referred to as a "Party" and collectively, as the "Parties."

RECITALS

A. WHEREAS, pursuant to a Letter of Award dated 16th September 2019, the Seller has agreed to sell and the Purchaser has agreed to purchase, on a "take-and-pay" basis, the Purchaser Allocated Input Energy generated by the Facility.

B. WHEREAS, the Purchaser Allocated Input Energy will be wheeled to the Exit Point using PESCO's Distribution System;

E. WHEREAS, on or about the date hereof, the Seller is entering into an Energy Wheeling Agreement with PESCO.

NOW, THEREFORE, the Parties hereby agree as follows:

1. DEFINITIONS; RULES OF INTERPRETATION

1.1 DEFINITIONS

Terms and expressions used in the Wheeling Regulations shall have the same meaning when used in this Agreement, provided that, in case of amendments to the Wheeling Regulations, such terms and expressions shall continue to bear the meaning ascribed thereto in the Wheeling Regulations in force on the date of this Agreement for the purposes of construction and interpretation of this Agreement.

Further, the following capitalised terms shall bear the respective meanings ascribed to them below in this Agreement:

Actual Output Energy (AOE)	The whole or part of the Purchaser Allocated Input Energy actually received as Output Energy by the Purchaser at the Exit Point and determined in accordance with schedule 3 of the Energy Wheeling Agreement, which schedule 3 of the Energy Wheeling Agreement is incorporated herein by reference for the purposes of calculation of the AOE as if expressly set out in this Agreement.
Agreement	This Energy Purchase Agreement, together with all Schedules, as may be amended by the Parties from time to time
Billing Cycle	The period starting at 00:00 hours of the first day of each month and ending at 24:00 hours of the last day of the same month, provided that, the first Billing Cycle shall commence at 00:00 hours on the Commencement Date and end at 24:00 hours of the last day of the month in which the Commencement Date occurs.
Commencement Date	The date on which the sale and delivery of the Purchaser Allocated Input Energy shall commence for the purposes of this Agreement, which date shall be notified in writing by the Seller to the Purchaser at least seven (7) days in advance (the "**Commencement Notice**").
Coordination Committee	The committee described in Section 5.
Due Date	The due date for a payment due by a Party to the other Party in terms of this Agreement or in an invoice delivered under this Agreement.
Effective Date	The date this Agreement is signed by both Parties.
Energy Payment	The consideration payable by the Purchaser to the Seller for the AOE, determined in accordance with Section 9.1.
Energy Price	The amount in Rupees per kWh identified as the Energy Price in Schedule 1, as adjusted from time to time in accordance with the provisions thereof.
Energy Wheeling Agreement	The Energy Wheeling Agreement entered into or to be entered into by and between the Seller and PESCO, as may be amended by the parties thereto from time to time.
Entry Meter	The electricity meter installed at the Entry Point installed at Facility, as defined in Schedule 3.
Entry Meter Reading Confirmation	The meaning given to that term in Section 7.2(a).
Entry Point	The meaning given to the term in Schedule 3.

Excusable Event	A Force Majeure Event, an outage, despatch instructions from the National Power Control Centre, the national grid operator, conditions occurring in the Distribution System, an emergency, change in hydrological conditions, outages or other operating events occurring at the Facility, and other causes beyond the reasonable control of the Seller, that result in total or partial reduction of the electrical output of the Facility or in total or partial reduction in supply of the same through PESCO to the Purchaser.
Exit Meter	The electricity meter installed at the Exit Point at the Purchaser's premises, as defined in Schedule 3.
Exit Meter Reading Confirmation	The meaning given to that term in Section 7.2(b).
Exit Point	The meaning given to the term in Schedule 3.
Facility	18MW hydropower generation facility known as the Pehur Hydro Power Plant, located at Pehur High Level Canal on the right bank of River Indus Downstream of Tarbela Reservoir in District Swabi, NWFP, owned and operated by PEDO pursuant to the generation licensed numbered GL(Hydel)/08/2009, as may be amended from time to time.
Guarantee	The bank guarantee furnished by the Purchaser as payment security in terms of Section 2.3.
Letter of Award	The Letter of Award No. 240/PEDO/Dir O&C/Wheeling dated 18th September 2019 issued by PEDO, as may be amended, extended or clarified prior to the Effective Date.
NEPRA	The National Electric Power Regulatory Authority established by the Regulation of Generation, Transmission and Distribution of Electric Power Act 1997 (XL of 1997), and any successor or substitute regulatory agency with authority and jurisdiction over the electricity sector in Pakistan.
Party	Each of the Purchaser and the Seller, and the "Parties" means both of them.
Pass-Through Items	Certain costs or charges identified as Pass-Through Items in Schedule 1.
Purchaser Allocated Input Energy	30 % of daily Input Energy, allocated by the Seller to the Purchaser under this Agreement, as such percentage may be modified by agreement in writing between the Parties.

Reference Energy Price	Rs. 7.5514 per kWh, as stated in the Letter of Award.
Term	A period of ten (10) consecutive years commencing on the first day of the month in which the Commencement Date occurs, as may be extended by agreement in writing of the parties.
Wheeling Regulations	National Electric Power Regulatory Authority (Wheeling of Electric Power) Regulations, 2016 as notified through SRO 549(1)12016 dated 13-06-2016.
Wheeling Charges	Wheeling Charges shall be the wheeling charges approved by NEPRA in the last applicable tariff determination of PESCO, as was notified by the Federal Government

1.2 RULES OF INTERPRETATION

(a) In this Agreement, except where the context otherwise requires:

(i) "day" means a period of twenty-four (24) consecutive hours, commencing at 12:00 midnight, and "daily" has the corresponding meaning;

(ii) "month" means a calendar month according to the Gregorian calendar;

(iii) "year" means a consecutive period of twelve (12) months;

(iv) references to Distribution System are to PESCO's Distribution System, and all references in the Wheeling Regulations to Distribution System for the purposes of the application of the Wheeling Regulations to this Agreement are to PESCO's Distribution System;

(v) if a day or a period on or within which performance by a Party of an obligation under this Agreement is due is not a working day, being a day on which banks are open for business in the Province of Khyber Pakhtunkhwa, then the obligation shall be due for performance on the first following working day;

(vi) other than where the context determines otherwise, the singular includes the plural and vice versa;

(vii) unless otherwise provided herein, whenever a consent or approval is required by one Party from the other Party, such consent or approval shall not be unreasonably withheld or delayed; and

(viii) in carrying out its obligations and duties under this Agreement, each Party shall have an implied obligation of good faith.

2. COMMENCEMENT DATE; TERM

2.1 COMMENCEMENT DATE

(a) The Seller is entitled to serve the Commencement Notice on the Purchaser on the last to occur of the following conditions:

(i) the grant of second-tier supply authorisation by NEPRA to the Seller under the NEPRA Licensing (Generation) Rules, 2000, in respect of the Purchaser;

(ii) the execution of the Energy Wheeling Agreement between the Seller and PESCO; and

(iii) receipt by the Seller of the Guarantee from the Purchaser,

whereupon this Agreement shall become operative and the sale and purchase of Purchaser Allocated Input Energy shall commence on the Commencement Date.

(b) If the Commencement Date has not occurred within six (6) months of the date of signing of this Agreement, either Party may terminate this Agreement by notice in writing to the other Party, whereupon the Parties shall have no further rights against each other and shall be released from all further obligations under this Agreement, subject to any rights and obligations that may have accrued before the date of such termination.

2.2 TERM

Unless terminated earlier in accordance with its terms, this Agreement shall continue in full force and effect for the Term.

2.3 PAYMENT SECURITY

(a) Within seven (7) days of the date of signing of this Agreement, the Purchaser shall furnish the Guarantee to the Seller as payment security for the Energy Payment and the Wheeling Charges calculated in the following manner:

- One-half of the annual electricity cost of the Purchaser from PHP, with the annual electricity cost being the product of the (i) Purchaser Allocated Input Energy (Percentage), (ii) 38.5 GWh being estimated annual production, and (iii) the Energy Price prevailing on the date the guarantee is issued and thereafter on its annual renewals; Plus
- One-half of the annual Wheeling Charges to be paid to PESCO, with the annual Wheeling Charges being the product of the (i) Purchaser Allocated Input Energy (Percentage), (ii) 38.5 GWh being estimated annual production, and (iii) the Wheeling Charges prevailing on the date the guarantee is issued and thereafter on its annual renewals.

(b) The Guarantee shall be:

(i) in the form set out in Schedule 4;

(ii) issued by a scheduled bank in Pakistan acceptable to the Seller and having a credit rating of at least "AA-" according to the PACRA rating scale for financial institutions; and

(iii) valid for fourteen (14) months when issued or renewed.

(c) The Purchaser shall renew the Guarantee on the same terms each year during the Term no later than two (2) months before its then expiry date.

(d) The Guarantee shall not lapse for any draws thereunder and the Purchaser shall cause the sum guaranteed under the Guarantee to be replenished to its full amount in case of any partial or entire draws made by the Seller on the Guarantee within three (3) working days of the draws.

3. SALE AND PURCHASE OF ENERGY

3.1 SALE AND PURCHASE

Subject to the terms of this Agreement, the Seller shall sell and the Purchaser shall purchase the Actual Output Energy (AOE), during the Term, in consideration whereof the Purchaser shall pay the Energy Payment to the Seller and the Wheeling Charges to PESCO in each Billing Cycle.

3.1A Seller and Purchaser shall follow process provided hereunder for sale of Banked Energy to Purchaser:

a) Purchaser shall notify intention, in writing within 10 (ten) working days of end of month, to the Seller to acquire Banked Energy available due to lower 'Actual Output Energy' compared with 'Purchaser Allocated Energy' based on statements available as per Section 3.5 or other information available. The Banked Energy can be acquired in the immediately following month after its availability. On receipt of the notification, Seller shall pass instructions to PESCO, under the Energy Wheeling Agreement to provide Banked Energy to the Purchaser.

b) Seller and Purchaser may discuss availability of Banked Energy in any of the meeting of Coordination Committee, that relate to lower combined 'Actual Output Energy' of all purchasers compared with total Input Energy. In case, Purchaser is interested in acquiring the said Banked Energy and provided that no notification for said Banked Energy has been received by Seller by end of 15th (fifteenth) working days of its availability, Purchaser can notify intention for purchasing the same to the Seller. Seller may pass instructions to PESCO, under the Energy Wheeling Agreement, on first come first serve basis and subject to availability of Banked Energy, to provide the requested Banked Energy to the Purchaser.

3.2 ENERGY PAYMENT

(a) Subject to Section 3.8 (payment disputes),

(i) The Energy Payment for each Billing Cycle shall be calculated as follows:

$$EP_{MNT} = EP_{BC} * (AOE + BE) + Taxes$$

Where:

EP_{MNT} = Energy Payment for the Billing Cycle

EP_{BC} = Energy Price for the Billing Cycle, calculated in accordance with Schedule 1

AOE	=	Actual Output Energy in kWh for the Billing Cycle, determined in accordance with schedule 5 of the EWA
BE	=	Banked Energy, if any, delivered to the Purchaser in the Billing Cycle
Taxes	=	Applicable sales tax on sale of electricity to be paid to Purchaser for onward submission to relevant tax authorities, as per applicable law

3.3 WHEELING CHARGES PAYMENT

(a) The Purchaser shall deliver to the Seller promptly a copy of the Wheeling Charges Invoice received from PESCO for a Billing Cycle. The Purchaser shall pay the Wheeling Charges, along with applicable sales tax, directly to PESCO, with a copy of the payment receipt delivered to Seller, and shall keep the Seller fully indemnified, including for any late payment charges and penalties, for Purchaser's failure to timely and properly pay the Wheeling Charges Invoice on or before its Due Date to PESCO.

(b) In case of default by the Purchaser in payment of Wheeling Charges to PESCO on or before the due date therefor, unless there is manifest error in the Wheeling Charges Invoice and a dispute has formally been raised by the Purchaser on that basis with PESCO and with the Coordination Committee, the Seller shall be entitled to draw on the Guarantee and pay the Wheeling Charges to PESCO.

3.4 PASS-THROUGH ITEM(S)

The Purchaser shall pay the Seller any amount for the Pass-Through Items evidenced in accordance with this Agreement and Schedule 1. Each invoice for the Pass-Through Items shall be accompanied with such information as is reasonably necessary for the Purchaser to determine the accuracy thereof, failing which, the Seller shall supply such information on Purchaser's reasonable request.

3.5 DELIVERY OF COPIES OF NOTICES AND STATEMENTS UNDER THE EWA

The Seller shall deliver to the Purchaser promptly and without delay copies of the following notices and statements delivered by the Seller to PESCO under the Energy Wheeling Agreement:

(i) Wheeling Notices and Revised Wheeling Notices under section 3.3 of the EWA;

(ii) Entry Meter Reading Confirmation under section 4.2(a) of the EWA;

(iii) the Purchaser Allocated Input Energy Statement under section 6.1 of the EWA;

(iv) the Actual Output Energy Statement under section 6.2 of the EWA; and

(v) Instructions issued to PESCO with regard to Banked Energy related to Purchaser.

3.6 INVOICING PROCEDURE

(a) The Seller shall invoice the **Energy Payment** for a Billing Cycle to the Purchaser within thirty (30) days after the end of such Billing Cycle. The Seller's invoice shall show, for the relevant Billing Cycle:

(i) the Energy Payment due,

(ii) the Energy Price,

(iii) the Actual Output Energy,

(iv) any Pass-Through Item,

(v) any late payment charges in respect of previous unpaid invoices; and

(vi) sales tax or other taxes, if any, payable by or collectible from the Purchaser under the applicable law.

(b) The Seller shall cause PESCO to directly invoice or forward the related **Wheeling Charges** invoice to Purchaser for the relevant Billing Cycle, and the Purchaser covenants with the Seller to pay the Wheeling Charges billed by PESCO directly to PESCO and the Purchaser shall keep the Seller fully indemnified against any loss, demand, or claim of PESCO in respect of the Wheeling Charges. The Purchaser shall provide the Seller a copy of PESCO's Wheeling Charges Invoices forthwith, if received directly by Purchaser.

(c) The information in support of the Energy Price stated in the Seller's invoice shall include, inter alia:

(i) the relevant GOP Bureau of Statistics publication showing the relevant wholesale price index values; and

(ii) invoices or payment receipts for any amount claimed as Pass-Through Items.

(d) The Purchaser may require clarification or substantiation of any amount included in an invoice by delivering notice of such requirement to the other Party. The Party receiving such request shall provide the requested clarification and substantiation of such invoice within five (5) days of its receipt of such request.

(e) The Purchaser shall provide to the Seller a copy of PESCO's electricity bill for a given month forthwith upon receipt for the related Exit Meter at Purchaser's premises.

3.7 PAYMENT

(a) Subject to Section 3.8,

(i) the Purchaser shall pay the Seller the amount shown on an invoice delivered in accordance with Section 3.6(a) and Section 3.6(b), less deductions for any disputed amounts shown in the invoice, on or before the tenth (10th) day following the day the invoice is received by the Purchaser; and

(ii) the Purchaser shall pay the Wheeling Charges to PESCO, less deductions for any amount disputed, on or before the tenth (10th) day following the day the invoice for Wheeling Charges is received by the Purchaser.

(b) Each Party shall have the right to set off any amounts due and payable by it to the other Party under this Agreement against any and all amounts then due and payable to it by the other Party under this Agreement. Such rights of set-off shall relate only to amounts that are then due and payable to and by a Party and are undisputed or have been determined to be payable.

(c) The Purchaser's obligation to pay any amount under this Agreement shall remain in full force and effect, and shall not be affected by the provisions of the Guarantee, except to the extent that the Purchaser's payment obligation has been discharged under the Guarantee.

(d) Payments received by either Party shall be applied against outstanding invoices on the 'first in, first out' principle, so that the invoices that have been outstanding the longest (in whole or in part) shall be paid first.

3.8 PAYMENT DISPUTE

(a) At any time within five (5) days after receipt of an invoice, a Party may dispute the amount of such invoice (or any part thereof) by notice to the other Party, specifying the invoice disputed, the amount disputed and the reasons for disputing the invoice. Within five (5) days of receiving the notice disputing an invoice, the Parties shall meet to resolve the dispute. If the Parties cannot resolve the dispute within ten (10) days of receipt of the notice, the matter will be settled in terms of Section 10 (Resolution of Disputes).

(b) Upon resolution of the dispute under Section 10, any amounts disputed and not paid but determined to be owed by a Party or any amounts paid and determined not to be owed shall be paid or repaid to the other Party, as the case may be, within seven (7) days after such resolution or determination, together with late payment charges as per Section 11.2 thereon, but excluding the date initially owed or paid until and including the date paid or repaid, as the case may be.

4. OPERATION OF THE FACILITY

4.1 OPERATION OF THE FACILITY

The Seller shall operate and maintain the Facility with good utility practices. Subject to the foregoing, the Seller does not warrant that the operation of the Facility will remain uninterrupted. In particular, the Purchaser acknowledges that the operation of the Facility may be partially or wholly interrupted due to an Excusable Event resulting in a reduction of the Actual Output Energy at the Exit Point without the Seller being liable in such an event.

4.2 DELIVERY AT THE EXIT POINT – TAKE AND PAY

The Seller's obligation is to deliver the total Input Energy at the Entry Point for onward wheeling by PESCO of Purchaser Allocated Input Energy to the Exit Point, and the Seller makes no representation or warranty of the proper performance of its transport and delivery obligations by PESCO under the Energy Wheeling Agreement. The Seller does not represent or warrant the delivery of the entire quantity of the Purchaser Allocated Input Energy at the Exit Point, it being understood that nothing in this Agreement is to be construed as making the Seller liable to sell any fixed quantity of kilowatt hours of electricity to the Purchaser.

4.3 OUTAGES

(a) The Seller may undertake scheduled outages as deemed necessary or required, provided the Seller gives thirty (30) days prior written notice of the scheduled outage to the Purchaser and the Coordination Committee, stating the time, date and duration of the scheduled outage and the extent to which such outage will in the reasonable estimate of the Seller result in the total or partial reduction of the electrical output of the Facility.

(b) The Seller shall give prompt notice to the Purchaser and the Coordination Committee of unscheduled outages as soon as reasonably possible after their occurrence, setting forth the likely cause thereof (if known at the time), together with an estimated time-frame within which such unscheduled outage is likely to end, on the basis of information available to the Seller at that time.

5. COORDINATION COMMITTEE

5.1 NOMINATION OF THE COORDINATION COMMITTEE

(a) The Parties nominate the following persons to be their representatives on the Coordination Committee:

Purchaser's nominee: Mr. Anwar-Ul-Haq Manager Power

Seller's nominee: Resident Engineer Pehur HPC, Swabi

PESCO will nominate its representative on the Coordination Committee under the Energy Wheeling Agreement and will inform the Parties his particulars upon execution of the Energy Wheeling Agreement.

(b) Either Party may replace its Coordination Committee member at any time upon one week's prior written notice to the other Party and to PESCO.

(c) Each Party warrants that its nominee (including any replacement or authorized representatives of the nominees identified in Section 5.1a and 5.1b) has the relevant experience in view of the scope of work of the Coordination Committee.

(d) The Coordination Committee shall develop procedures for the holding of meetings and the keeping of minutes of meetings.

(e) The Coordination Committee shall have the right, on a recurring basis and upon reasonable prior notice to the Purchaser, Seller and PESCO, as the case may be, to visit their respective facilities and sites in connection with the performance of its functions under this Agreement and the Energy Wheeling Agreement. Each Party shall assist in arranging any such observation visits.

(f) The Purchaser agrees to follow the requirements of Energy Wheeling Agreement with regard to any subcommittees, as may be established, by the Coordination Committee for separation of functions with other purchasers.

5.2 DUTIES OF THE COORDINATION COMMITTEE

(a) The Coordination Committee shall be responsible for enabling the Parties in the implementation of this Agreement and the Energy Wheeling Agreement in a coordinated manner, including in relation to the following matters:

(i) the operation and maintenance of the electrical facilities and Meters at the Entry Point and the Exit Point;

(ii) billing procedures of Energy Price and the Wheeling Charges and any Taxes in relation thereto and improvements in such procedures for timely and effective billing and collections;

(iii) the steps to be taken on the occurrence of a Force Majeure Event or a shutdown or reduction in generation;

(iv) safety; prudent utility practices; review and revision of protection schemes;

(v) inspection, testing and calibration of the Entry Meters and the Exit Meters and adjustments to be made to the billing invoices on the Entry Meters or Exit Meters being found to be inaccurate in excess of the agreed limits since the last inspection pursuant to section;

(vi) availability of Banked Energy; and

(vii) any other matter agreed upon by the Parties.

(b) The Coordination Committee shall have no power or authority to amend or modify the provisions of this Agreement or to determine the rights or obligations of the Parties under this Agreement.

5.3 MAINTENANCE OF OPERATING RECORDS

(a) Each Party shall keep complete and accurate records and all other data reasonably required for the proper administration of this Agreement and shall make copies thereof available to the Coordination Committee upon request of the other Party. Such data and records may include, but shall not be limited to, the operating logs of the Facility, the hydrological conditions, the meter readings and the back-up meter readings.

(b) All such records and data shall be maintained for a minimum of sixty (60) months after the creation of such record or data.

6. SYSTEM OBLIGATIONS

6.1 SELLER'S COVENANT

The Seller shall maintain, and if required, augment and upgrade, the Entry Point and the Entry Meter at all times during the Term for the Entry Point and the Entry Meter to be in compliance with the requirements of this Agreement and the Distribution Code.

6.2 PURCHASER'S COVENANT

The Purchaser shall maintain, and if required, augment and upgrade, the Exit Point and the Exit Meter at all times during the Term for the Exit Point and the Exit Meter to be in compliance with

the requirements of this Agreement and the Distribution Code.

7. METERING

7.1 WHEELING METERS

(a) The Wheeling Meters shall be used to measure the total Input Energy and to derive the Purchaser Allocated Input Energy comprised therein at the Entry Point and the Actual Output Energy at the Exit Point.

(b) The Wheeling Meters shall have an accuracy class of zero point two percent (0.2%) or subject to the requirements of Energy Wheeling Agreement. The requirements of Energy Wheeling Agreement will prevail in this regard, if different.

(c) The testing and recalibration (if necessary) of the Wheeling Meters shall be carried out by the Party which installed the relevant meter under supervision of and coordination by the Coordination Committee.

(d) A request by a Party (or by PESCO under the EWA) for testing and recalibration of a Wheeling Meter shall be made to the Coordination Committee who shall take steps to have the testing and recalibration done at the expense of the related Party within seven (7) working days of the request.

7.2 READING

(a) On the Commencement Date and thereafter on the last day of each month, the Entry Meter shall be jointly read by representatives of PESCO and Seller at the Coordination Committee and results thereof signed by respective members (the "**Entry Meter Reading Confirmation**").

(b) On the Commencement Date and thereafter on the last day of each month, the Exit Meter shall be read by the Coordination Committee and results thereof signed by its members (the **"Exit Meter Reading Confirmation").**

7.3 ATTENDANCE

(a) A Party shall not read, test, adjust, repair or replace its Wheeling Meter without giving two (2) days' notice to the Coordination Committee and without the presence of all the members of the Coordination Committee. If a nominee of a party on the Coordination Committee is unable to attend, then such party has the authority to nominate another person as its representative on the Coordination Committee for such specific occasion.

(b) Where any of the Seller's, Purchaser's or PESCO's nominee on the Coordination Committee fails to attend any meter reading, and such party does not nominate another representative for the specific occasion, the nominees of the attending parties may read the Wheeling Meters and such readings shall be binding on the Parties and PESCO, provided that, the attending party(ies) shall deliver the readings to the non-attending party(ies) within two (2) working days after the reading is taken.

7.4 TAMPERING

The Parties shall ensure that their respective contractors, employees, agents and invitees shall not tamper with the Wheeling Meter for which it is responsible.

7.5 USE OF CHECK METERS

The Parties are entitled to install check meters that are compliant with the requirements of the Applicable Documents. Where any Wheeling Meter is out of service due to repair, maintenance or testing, the relevant check meter shall be used to record the Input Energy and the Output Energy. The check meters if installed shall be of the same specifications as the Wheeling Meters and shall be sealed, tested, calibrated, recalibrated and read in the same manner as the Wheeling Meters.

7.6 SEALING

The Wheeling Meters and the check meters, if any, will be jointly sealed by the Parties under supervision of the Coordination Committee. Seals shall only be broken in the presence of the Coordination Committee.

7.7 TESTING

The Coordination Committee, at the request of either Party or PESCO, shall test the accuracy of one or more Wheeling Meters at any time that the Parties disagree on the quantum of Input Energy and Output Energy into and out of the Distribution System and such disagreement in the reasonable opinion of the requesting party owes to inaccuracy of the Wheeling Meters. In such eventuality, the Coordination Committee shall test the accuracy of the Wheeling Meter in question and require the responsible Party to recalibrate its Wheeling Meter, if necessary, to bring it in conformity with the requirements of Section 7 and Energy Wheeling Agreement.

7.8 INACCURACIES

Where, as a result of testing, any Wheeling Meter is found to be inaccurate by more than zero decimal point five percent (0.5%), or is otherwise unavailable or functioning improperly, then the correct amount of Input Energy and/or the Output Energy, as the case may be, for the period when inaccurate measurements were made shall be determined as follows:

(a) the readings of the relevant check meters, if installed, shall be used, unless a test of the check meter reveals that it is inaccurate by more than zero decimal point five percent (0.5%) or is otherwise unavailable or functioning improperly;

(b) if the check meter is not installed or is found to be inaccurate by more than zero decimal point five percent (0.5%), or is otherwise unavailable or functioning improperly, then the Parties with PESCO shall prepare an estimate of the correct reading on the basis of all available information and such guidelines as may be determined by the Coordination Committee;

(c) if the Parties fail to agree upon an estimate for the correct reading, the dispute shall be referred by either Party for resolution in accordance with Section 10 for resolution of disputes; and

(d) the difference between the previous payments by the Purchaser for the period of inaccuracy and the recalculated amount shall be offset against or added to the next payment to the Seller under this Agreement, as appropriate. If the period of inaccuracy cannot be accurately determined, it shall be deemed to have begun on the date which is midway between the date the meter was found to be inaccurate and the date of the last meter reading accepted by the Parties as accurate.

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8. FORCE MAJEURE

8.1 EXCLUSIONS

Force Majeure Events shall not include events or circumstances that arose due to a breach of any obligation of the affected Party under this Agreement or due to non-compliance with any applicable law.

8.2 NOTICE

On occurrence of a Force Majeure Event, the affected Party shall immediately give the other Party and PESCO written notice of the Force Majeure Event (including reasonable details thereof). Such notice shall include a reasonable estimate by the affected Party of when it expects the Force Majeure Event to end enabling the affected Party to resume its obligations under this Agreement.

8.3 EFFECT OF FORCE MAJEURE

So long as the Party affected by the Force Majeure Event complies with the requirements of Section 8.2 and has taken reasonable steps to mitigate the effects of a Force Majeure Event, then the affected Party shall not be liable for any failure or delay in performing its obligations (other than payment obligations) under or pursuant to this Agreement during the pendency of the Force Majeure Event, provided however, that no relief shall be granted to the affected Party pursuant this Section 8.3 to the extent that such failure or delay would have nevertheless been experienced by the affected Party had the Force Majeure Event not occurred.

8.4 DUTY TO MITIGATE

The affected Party shall use all reasonable efforts to mitigate the effects of a Force Majeure Event, including, but not limited to, the payment of reasonable sums of money, which sums are reasonable in light of the likely efficacy of the mitigation measures.

8.5 CESSATION

On cessation of the Force Majeure Event, the affected Party shall immediately notify in writing to the other Party of its ability to recommence performance of its affected obligations under this Agreement.

9. TERMINATION

9.1 EVENT OF DEFAULT

(a) The following shall be events of default by a Party:

(i) a Party's failure to pay any undisputed amount by the Due Date for the relevant invoice,

(ii) the dissolution or winding-up of a Party, except for the purpose of amalgamation or reconstruction where the amalgamated or the reconstructed entity undertakes to perform the Party's obligations under this Agreement;

(iii) any material breach by a Party of this Agreement that is not remedied within thirty (30) days after the non-defaulting Party's notice stating that a material breach has occurred and is continuing and describing the material breach in reasonable detail; or

(iv) in respect of the Purchaser, the Guarantee ceasing to remain valid or the Purchaser's failure to renew the Guarantee in terms provided in Section 2.3.

(v) in respect of the Purchaser, the Guarantee is not fully replenished in terms provided in Section 2.3 within (30) days, when due.

9.2 TERMINATION FOR DEFAULT

Upon the occurrence of an event of default by a Party, the non-defaulting Party may serve a notice on the defaulting Party to cure the default. If the default is not cured within thirty (30) days of the notice to cure the default, the non-defaulting Party may terminate this Agreement by delivering a notice of termination to the defaulting Party, whereupon this Agreement shall terminate on the date specified in the notice of termination.

9.3 NON-DEFAULT TERMINATION

The Seller shall have the right to terminate this Agreement without cause by giving a thirty (30) day prior written notice of termination to the Purchaser.

9.4 CONSEQUENCES OF TERMINATION

(a) Upon termination of this Agreement or on its expiry, the Parties shall have no further obligations or liabilities hereunder except for those obligations and liabilities that:

(i) arose prior to such termination; and

(ii) expressly survive such termination, including without limitation, the obligation to pay amounts due under this Agreement.

(b) Notwithstanding the foregoing, termination of this Agreement in accordance with its terms shall not affect the validity and enforceability of the Guarantee by the Seller of any payment obligations of the Purchaser outstanding beyond their Due Date.

9.5 OTHER REMEDIES

The rights of the Parties provided herein to terminate this Agreement do not preclude Parties from exercising other remedies that are provided herein or may be available by law. Remedies are cumulative, and the exercise, or failure to exercise, one or some of them shall not operate or be construed as a waiver of such remedy or any other remedy available.

10. RESOLUTION OF DISPUTES

Any dispute between the Parties on any matter arising out of or in connection with this Agreement that is not resolved by negotiations may be referred by either Party to NEPRA for resolution in exercise of its powers under section 47 of the NEPRA Act read with regulation 20 of Wheeling Regulations. The Purchaser submits to NEPRA's role as an adjudicator to the maximum extent permitted by law and waives any objections it may have to the adjudication of the dispute by NEPRA. Subject as aforesaid, either Party may avail such remedies as are available under applicable law if it remains dissatisfied with NEPRA's decision, provided it serves a notice of dissatisfaction and intention to litigate to the other Party within fifteen (15) days of the date of NEPRA's decision and thereafter files the appropriate legal proceedings within thirty (30) days thereafter, failing which the relevant Party shall be deemed to have accepted NEPRA's decision

and to have waived any objection thereto to the maximum extent permitted by the applicable law.

11. MISCELLANEOUS PROVISIONS

11.1 REPRESENTATIONS AND WARRANTIES

(a) Each Party represents and warrants to the other Party that the execution of this Agreement has been duly authorised by all required action on its part and this Agreement constitutes its legal, valid and binding obligations.

(b) Each Party represents and warrants to the other Party that it shall perform its obligations under this Agreement in compliance with all applicable laws and shall maintain in full force and effect during the Term all licenses, consents, approvals and authorisations required under its constitutive documents and the applicable laws for it to perform its obligations under this Agreement.

11.2 LATE PAYMENTS

All payments due under an invoice shall incur late payment charges from the day after the Due Date until actual payment. The late payment charges shall be KIBOR plus three (3) percent per annum (on the basis of a three hundred and sixty five (365) day year), compounded semi-annually, calculated for the actual number of days for which the relevant amount remains unpaid. For the purposes hereof, KIBOR means the average "ask side" Karachi Inter-Bank Offer Rate for Rupee deposits for a period of three (3) months.

11.3 TAXES

Invoices and payments under this Agreement shall be subject to the taxes, cesses, duties and levies (collectively, "taxes") applicable thereto under the applicable laws. A payment subject to withholding tax shall be made net of the applicable withholding tax, with evidence of deduction and payment to the relevant revenue authority furnished to the other Party. Sales taxes and other taxes required under the applicable laws to be added to invoices for collection from the payor of the invoice shall be so added and shall be paid by the Party receiving the invoice. Save as aforesaid, each Party shall bear its own taxes that, under the applicable laws, are not stipulated to be passed-through to or collected from the recipient or payor of an invoice.

11.4 SET-OFF

Each Party shall have the right to set off any amounts due and payable by it to the other Party under this Agreement against any and all amounts then due and payable to it by the other Party under this Agreement. Such rights of set-off shall relate only to amounts that are then due and payable to and by a Party and are undisputed or have been determined to be payable in terms of Section 10 *(Dispute Resolution)*.

11.5 NO ASSIGNMENT

Neither this Agreement nor any right, privilege or delegation hereunder may be assigned or transferred in whole or in part by a Party without the prior written consent of the other Party and any attempted assignment or transfer without such written consent shall be void.

11.6 NOTICES

(a) Notices and other communications by a Party shall be in writing and either delivered personally or by courier or sent by facsimile or email to the address or number of the other Party specified below:

IF TO THE PURCHASER:

Attention: Mr. Zahid Ali Company Secretary

Facsimile No: 091-5202896-8

Email: zahid.ali@azizgrp.com

Address: Gulshan-e-Aziz Opposite PSO Pump Warsak Road Peshawar

IF TO THE SELLER:

Attention: Chief Executive Officer, PEDO

Facsimile No: 091-9217003

Email: zasabri@hotmail.com

Address: PEDO House 38-B/2 Phase-5 Hayatabad Peshawar

provided that a Party may change the address to which notices are to be sent to it by giving not less than thirty (30) days' prior written notice to the other Party in accordance with this Section 22.1.

(b) No notice or other communication shall be effective until received or deemed received. Notices or other communications shall be deemed to have been received by the receiving Party:

(i) when delivered if personally delivered;

(ii) five (5) working days after sending, if sent by registered post or courier; or

(iii) upon sending if sent by facsimile, subject to confirmation of an uninterrupted transmission report and provided that a hard copy is despatched not later than the following working day to the recipient by courier or personal delivery;

(iv) upon sending if sent by Email, subject to the sender not receiving a mail delivery failure notification, and provided that a hard copy is despatched not later than the following working day to the recipient by courier or personal delivery.

11.7 AMENDMENTS; WAIVER

(a) An amendment or modification of this Agreement shall be effective or binding on a Party only if made in writing and signed by a duly authorized representative of each of the Parties.

(b) No default by either Party in the performance of or compliance with any provision of this Agreement shall be waived or discharged except with the express written consent of the other Party. No waiver by either Party of any default by the other in the performance of or compliance with any of the provisions of this Agreement shall operate or be construed as a waiver of any other or further default whether of a like or different character.

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11.8 SUCCESSORS AND ASSIGNS

This Agreement shall be binding upon, and inure to the benefit of, the Parties and their respective permitted successors and permitted assigns.

11.9 SEVERABILITY

If any term of this Agreement is determined by a court or other authority of competent jurisdiction to be invalid, void, illegal, unenforceable or against public policy, the remaining provisions of this Agreement shall remain in full force and effect and will not be affected by such determination in any way.

IN WITNESS WHEREOF, the Parties have executed and delivered this Agreement in Peshawar, Pakistan as of the date first above written.

For and on behalf of Pakhtunkhwa Energy Development Organization (PEDO)

Signature: _____

Name: Zahid Akhtar Sabri

Chief Executive Officer, PEDO

Address: PEDO House, 38-B/2, Phase-5

Hayatabad Peshawar.

Witness:

Signature: _____

Name: Maqsood Anwar Khan,

NIC: 17301-1611551-1

Chief Engineer O&C, PEDO

Address: PEDO House, 38-B/2, Phase-5

Hayatabad, Peshawar

For and on behalf of A.J Textile Mills (Limited)

Signature: _____

Name: Mr. Afan Aziz

Chief Executive Officer A.J Textile Mills Ltd

Address: Gulshan-e-Aziz Opposite PSO

Pump Warsak Road Peshawar

Witness:

Signature: _____

Name: Mr. Zahid Ali

NIC: 17301-1053244-7

Company Secretary, A.J Textile Mills Ltd

Address: Gulshan-e-Aziz Opposite PSO

Pump Warsak Road Peshawar

SCHEDULE 1

TARIFF, INDEXATION AND ADJUSTMENT

Introduction

This Schedule 1 is attached to and constitutes an integral part of the Energy Purchase Agreement dated _____ (the "EPA" or the "Energy Purchase Agreement") by and between the Purchaser and the Seller. This Schedule is divided into the following Parts:

(a) Part I: The calculation of the Energy Price;

(b) Part II: The Pass-Through Item(s);

(c) Part III: The procedure for indexation and adjustments for price index changes; and

(d) Part IV: Reference Tariff and components

Part I: ENERGY PRICE

1.1 From and after the Commencement Date, the Energy Price (EP) for the Energy Payment for the relevant Billing Cycle shall be *the lower of:*

(a) the Indexed Energy Price calculated in the manner stated in section 1.2 of this Part I, and

(b) the Below-Grid Energy Price calculated in the matter stated in section 1.3 of this Part I.

1.2 The Indexed Energy Price (IEP) shall be adjusted for the indexations and adjustments on a quarterly basis, being 1 January through 31 March, 1 April through 30 June, 1 July through 30 September and 1 October through 31 December (each, a "Quarter"), as follows:

$$IEP = IEP_{REV}$$

$$IEP_{REV} = FC + VC_{REV} + WUC_{REV}$$

Where:

IEP_{REV}	=	Indexed Energy Price for the relevant Billing Cycle
FC	=	the fixed component of the IEP expressed in Rs. / kWh.
VC_{REV}	=	the indexation-adjusted component of the IEP, expressed in Rs. / kWh, in the Quarter in which the relevant Billing Cycle occurs.

WUC_{REV} = the indexation adjusted Water Use Charge in Rs. / kWh, in the Quarter in which the relevant Billing Cycle occurs.

1.3 If the IEP determined under section 1.2 above for the relevant Quarter plus Wheeling Charges is equal to or higher than the discounted Grid Price, then the IEP shall be discounted to a level where the IEP plus the Wheeling Charges for the relevant Billing Cycle result in a 0% discount on the Grid Price., to be calculated as follows:

$$IEP_{REV} + WC_{BC} = GP * X\%$$

Where:

IEP_{REV} = the indexation-adjusted Energy Price for the relevant Billing Cycle calculated under section 4.1;

WC_{BC} = the Wheeling Charges for the relevant Billing Cycle.

GP = the prevailing off-peak per kWh tariff applicable to the B3 customer category of industrial consumers under the tariff allowed to PESCO by NEPRA for the relevant Billing Cycle.

X% = the discount applied on the GP to balance the equation.

Part 2: PASS-THROUGH ITEMS

Federal and Provincial sales tax, if any, applicable on the Wheeling of electricity that is paid by the Seller to PESCO and remain unrecovered from Purchaser shall be a Pass Through item.

Part 3: INDEXATION AND ADJUSTMENT FACTORS

Variable Component

3.1 The Variable Component of the Energy Price shall be indexed by using the inflation adjustment factor calculated according to the following formula;

$$VC_{Rev} = VC_{Ref} * CPI_{Rev} / CPI_{Ref}$$

Where:

VC_{Rev} = the indexation-adjusted component of the IEP, expressed in Rs. / kWh, in the Quarter in which the relevant Billing Cycle occurs;

VC_{Ref} = the reference value of Variable Component, as established in Part-4;

CPI_{Rev} = the revised CPI (General) in Pakistan for the month prior to the month in

which indexation is applicable, as notified by the Pakistan Bureau of Statistics; and

CPI_{Ref} = the CPI (General) in Pakistan for the month of March 2019, as established in Part-4.

Water Use Charge

3.2 **WUC_{REV}** will be an amount in Rs/KWh as established by the relevant Government Agency. The reference value of Water Use Charge (**WUC_{REF}**) is Rs **0.425/kWh**. As per decision of the ECC, water use charges will be reviewed every five (5) years to determine if an increase is required. Any subsequent change in rate of Water Use Charges as notified by the relevant Government Agency shall be applicable from the date of such decision.

Mechanism of Indexations

3.2 At the beginning of each Quarter following the Commencement Date, the Seller shall on the 2nd Business Day following the end of the Quarter, deliver to the Purchaser, the current Indices and values.

3.3 In case, the index used herein ceases to be available or withdrawn for any reason, the Parties shall request Coordination Committee to determine suitable alternative index for the purpose. In case of dispute, the Coordination Committee shall request NEPRA to determine an alternative index or shall use NEPRA determined index for similar circumstances for other hydro Projects. Such determination when made by NEPRA shall be binding on all the Parties. Pending the determination of alternative index by Coordination Committee or NEPRA, as the case may be, the last available value of the index shall be used for all purposes.

Part 4: REFERENCE TARIFF

$EP_{Ref} = FC + VC_{Ref} + WUC_{Ref}$

Where:

EP_{Ref} = Rs 7.5514/kWh

FC = Rs 4.6395/kWh

VC_{Ref} = Rs 2.4869/kWh

WUC_{REF} = Rs 0.4250/kWh

SCHEDULE 2

THE GENERATION FACILITY

A. Introduction

Pehur Hydropower Project (PHP) is an independent component of the Pehur High Level Canal (PHLC) Project, which is located on the right bank of Indus River immediately downstream of Tarbela water reservoir. PHP is owned by the GOK through PEDO. PHP is currently supplying electricity to PESCO/CPPA through a 132 KV transmission line terminating at Gadoon Grid.

The technical feasibility studies for PHP were completed in May 2001 and the generation license was granted to PEDO by NEPRA on 26 November 2009 (a copy whereof is available on NEPRA's website). Construction of PHP was completed in 2009 and it achieved commercial operations date on 1 March 2010.

B. Generation Capacity

PHP installed capacity is 18MW with 3 turbines of 6MW each (1 low head, 2 Medium head). However, PHP has a dual generation trend i.e. low hydrology and high hydrology trends depending primarily on water discharge from Tarbela dam. Accordingly, the 3 units of 6 MW generally operate as per following two settings:

- 1 unit low head 1x6 = 6 MW (from February to June - average head 40 meter)
- 2 units medium head 2x6 = 12 MW (from July to January - average head 68 meter).

Plant does not produce electricity during canal closure period. Annual canal closure period during last 9-years is provided in the Table below.

Closure Period			
Year	**From**	**To**	**Days**
2010	1st January	20th February	51
2011	8th January	1st March	51
2012	1st January	17th February	48
2013	1st January	14th February	45
2014	10th January	6th March	55
2015	15th January	20th March	65
2016	10th January	11th March	62
2017	10th January	27th February	49
2018	10th January	20th February	42

The efficiency of the Project is also dependent upon irrigation requirement that is established by the Irrigation Department, GOK, the off-take/hydrology of Tarbela water reservoir and the requirements of the Gadoon Grid.

C. Electricity Generation Trend

The electricity generation trend for the years 2017 and 2018 is in the table below:

Months	Power Generation (KWh)	
	2017	2018
January	1,278,400	1,514,300
February	181,100	266,200
March	2,233,100	1,506,100
April	2,317,500	1,543,300
May	3,493,700	2,613,700
June	3,498,000	4,101,600
July	2,341,900	1,545,300
August	3,093,200	4,001,200
September	5,723,500	7,609,200
October	5,084,500	4,429,700
November	4,313,600	5,105,100
December	3,976,600	4,274,400
Total Generation	**37,535,100**	**38,510,100**

SCHEDULE 3

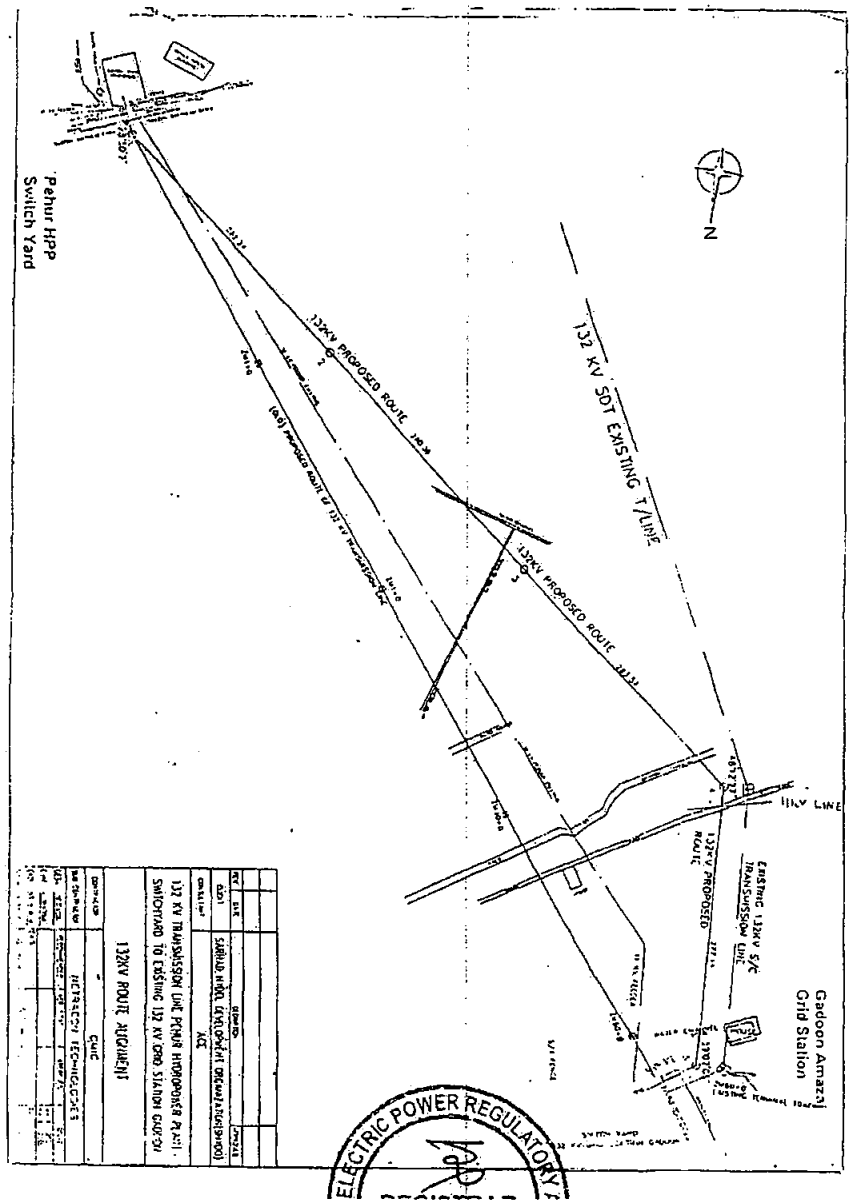
ENTRY POINT AND EXIT POINT

A. ENTRY POINT

A.1. Entry Meter Description and brief description of interconnection at the Entry Point

The power generated by Pehur Hydro Power Project of PEDO is being dispersed to the Load Center/Ring of PESCO by connected it to 132 KV Gadoon Amazai Grid Station of PESCO through a 132 KV S/C Transmission Line (measuring about 1.20 KM) on ASCR LYNX Conductor.

Schematic Diagram for Interconnection/Transmission Arrangement for Dispersal of Power from Pehur Hydro Power Plant



B. EXIT POINT

B.1. Exit Meter Description

Name of Purchaser: AJ Textile Mills Limited

Address	Account No	Feeder Code	PESCO Ref. No.	Meter No.
Plot No 209, Industrial Estate, Gadoon Amazai, Sawabi, Pakistan	27263440010700	wheeling 062715 AJ 11 KV	2726842001070 U	26030499327

B.2. Brief description of interconnection at the Exit Point

Feeder Code: Wheeling 062715 AJ

Feeder Length: 2.8KM

Feeder Sanctioned Load: 4516 kw

Feeder Voltage Level: Medium Level

Grid Station: Gadoon Amazai Grid (PESCO)

SCHEDULE 4

FORM OF GUARANTEE

[On Stamp Paper]

[Issuing Bank, Guarantee Particulars]

Pakhtunkhwa Energy Development Organisation

PEDO House, Room No 123, Plot 38, Sector B/2

Phase-Hayatabad, Peshawar

Gentlemen,

At the request of AJ Textile Mills Limited with its office at Plot No 209, Industrial Estate, Gadoon Amazai, Sawabi, Pakistan (the "Principal Debtor"), who has entered into an Energy Purchase Agreement dated _____ with Pakhtunkhwa Energy Development Organisation with its offices at Plot no. 38, Sector B-2, Phase-5 Hayatabad, Peshawar, Pakistan (the "Creditor"), we [*name of bank*], (the "Surety") issue this irrevocable, unconditional and on-demand bank guarantee for the payment of the sum of the Rupees • (the "Guaranteed Sum"), without recourse to the Principal Debtor, on your first written demand made before expiry of this Guarantee on [•] (the "Term") and we further guarantee and covenant as follows:

1. Guarantee

In consideration of the Creditor entering into the Energy Purchase Agreement with the Principal Debtor, the Surety hereby irrevocably and unconditionally guarantees and promises to pay the Creditor the Guaranteed Sum or part thereof on the Creditor's first written demand in the form specified in clause 2 below.

2. Form of Demand

Any demand for payment made pursuant to this Guarantee shall be made in person by a duly authorized officer of the Creditor at the Surety's offices at [identify location], and shall be accompanied by a certificate signed by a duly authorized officer of the Creditor, stating that:

> "We hereby certify that (A) Pakhtunkhwa Energy Development Organisation (the "Creditor") is making this demand on the [name of bank] (the "Surety") in the amount of Rupees [insert amount] under the Guarantee dated ___ _____ 20__, by and between the Surety and the Creditor; (B) the amount specified hereinabove is due and payable by AJ Textile Mills Limited ("the Principal Debtor") under the Energy Purchase Agreement between the Creditor and the Principal Debtor; and (C) such amount, on the date hereof, remains unpaid by the Principal Debtor."

3. Continuing Guarantee

This Guarantee shall be a continuing security during its Term. No demand made by the Creditor hereunder shall prejudice or restrict the right of the Creditor to make further or other demands up to the Guaranteed Sum.

4. Additional Security

4.1 This Guarantee shall be in addition to, and not in substitution for or derogation of, any other

security that the Creditor may at any time hold in respect of the obligations of the Principal Debtor under the Energy Purchase Agreement.

4.2 The Creditor may enforce this Guarantee notwithstanding that it may hold any other guarantee, lien, or security of or for the obligations of the Principal Debtor under the Energy Purchase Agreement or have available to it any other remedy at law or equity.

4.3 The Creditor shall not be obliged before taking steps to enforce this Guarantee, to exercise any other remedies that may be available to it under or in respect of the Energy Purchase Agreement, or to initiate any proceedings or obtain judgment against the Principal Debtor thereon.

5. Late Payments

Late payments by us hereunder shall bear late payment charges at KIBOR plus three (3) percent per annum (on the basis of a three hundred and sixty five (365) day year), compounded semi-annually, calculated for the actual number of days for which the relevant amount remains unpaid. For the purposes hereof, KIBOR means the average "ask side" Karachi Inter-Bank Offer Rate for Rupee deposits for a period of three (3) months.

6. Waiver of Defences

The obligations of the Surety shall not be modified or impaired upon (and the Surety waives any defence to the performance of such obligations based upon) the happening from time to time of any event, including the following:

6.1 the extension of time for payment of any amounts due or of time for performance of any of the covenants, terms, or agreements of the Principal Debtor set forth in the Energy Purchase Agreement;

6.2 amendments to the Energy Purchase Agreement;

6.3 the failure, omission, or delay by the Creditor to enforce, ascertain, or exercise any right, power, or remedy under or pursuant to the terms of the Energy Purchase Agreement or this Guarantee;

6.4 the bankruptcy, insolvency, or other failure or financial disability of the Principal Debtor or the Creditor;

6.5 any failure of the Principal Debtor to comply with the requirements of any law, regulation or order; and

6.6 any invalidity or unenforceability of the Energy Purchase Agreement.

7. No Set-off

No set-off, counterclaim, reduction, or diminution of any obligation that the Surety has or may have against the Creditor, nor any right of subrogation that the Surety has or may have against the Creditor, shall be available to the Surety against the Creditor in connection with any obligation of the Surety to the Creditor under this Guarantee.

8. Duration

This Guarantee shall remain in full force and effect from and after the date during the Term, and for so long thereafter as any amount accrued during the Term and owed to the Creditor by the Surety or Principal Debtor is or may be outstanding.

9. No Waiver

No failure or delay by the Creditor to exercise any right or remedy under this Guarantee shall constitute a waiver of such right or remedy. No single or partial exercise of any right or remedy shall preclude any other or further exercise thereof, or the exercise of any other right or remedy. No waiver by the Creditor shall be effective unless it is in writing.

10. Remedies Cumulative

The rights and remedies of the Creditor provided by this Guarantee are cumulative and not exclusive of any rights or remedies provided by law.

11. Successors

This Guarantee shall be binding upon and inure to the benefit of the Surety and the Creditor and the respective successors and permitted assigns of each.

12. Representation and Warranty

The Surety represents and warrants for the benefit of the Creditor that (a) the Surety has the right to give this Guarantee and to perform its obligations hereunder, (b) this Guarantee is legal, valid, binding, and enforceable upon the Surety in accordance with its terms; and (c) all requisite corporate and other authorisations to sign, deliver and perform this Guarantee have been duly obtained by the Surety and are in full force and effect.

IN WITNESS WHEREOF, this Guarantee has been executed on the Day first hereabove written.

For and on behalf of:
[the bank particulars]

By: _____ BANK STAMP

Title:

Witness: _____ Witness: _____

Name: _____ Name: _____

CNIC: _____ CNIC: _____

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"30% of daily Input Energy, allocated by the Seller to the Purchaser under this Agreement, as such percentage may be revised by the Purchaser in accordance with Section 3.1A."

(d) The definition of "Wheeling Charges" under section 1.1 shall stand deleted in its entirety and replaced with the following:

"Wheeling Charges shall be the wheeling charges approved by NEPRA in the latest applicable tariff determination of the PESCO, as notified by the Federal Government."

(e) The expression "*to be paid to PESCO,*" in first sentence of second bullet point of section 2.3(a) shall stand deleted.

(f) Section 3.1 shall stand deleted in its entirety and replaced with the following:

"Subject to the terms of this Agreement, the Seller shall sell and the Purchaser shall purchase the Actual Output Energy (AOE), during the Term, in consideration whereof the Purchaser shall pay the Energy Payment and the Wheeling Charges to the Seller in each Billing Cycle."

(g) Section 3.1A shall stand deleted in its entirety and replaced with the following:

"The Purchaser shall notify the Purchaser Allocated Input Energy for each Billing Cycle to the Purchaser not later than ten (10) days prior to commencement of such Billing Cycle; provided however, that if the Purchaser fails to notify the same, the Purchaser Allocated Input Energy notified by the Purchaser in the last Billing Cycle shall be deemed to be the Purchaser Allocated Input Energy for next Billing Cycle."

(h) Section 3.2(a) shall stand deleted in its entirety and replaced with the following:

"Subject to Section 3.8 (payment disputes),

The Energy Payment for each Billing Cycle shall be calculated as follows:

$EP_{MNT} = (EP_{BC} * AOE) + Taxes$

Where:

EP_{MNT}	=	Energy Payment for the Billing Cycle
EP_{BC}	=	Energy Price for the Billing Cycle, calculated in accordance with Schedule 1
AOE	=	Actual Output Energy in kWh for the Billing Cycle, determined in accordance with schedule 5 of the EWA
Taxes	=	Applicable sales tax on sale of electricity to be paid to Purchaser for onward submission to relevant tax authorities, as per applicable law."

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Purchase Agreement shall be applied in the interpretation of this Amendment Agreement.

(b) The dispute resolution mechanism set out in section 10 of the Energy Purchase Agreement shall apply *mutatis mutandis* to this Amendment Agreement.

(c) Save as amended or modified herein, all other terms and conditions of the Energy Purchase Agreement shall continue in full force and effect.

(d) This Amendment Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but of which together shall consist one and the same agreement.

IN WITNESS WHEREOF, the Parties have executed and delivered this Agreement in Peshawar, Pakistan as of the date first above written.

For and on behalf of Pakhtunkhwa Energy Development Organization (PEDO)

Signature: _____

Name: _____

Designation: _____

Address: PEDO House, 38-B/2, Phase-5 Hayatabad Peshawar.

Witness:

Signature: _____

Name: Maysood Anwar Khan

NIC: _____

Designation: Chief Engineer PEDO

Address: _____

For and on behalf of A.J Textile Mills (Limited)

Signature: _____

Name: AFAN Aziz

Designation: CEO

Address: 90-B Industrial Estate Jamrud Road Peshawar

Witness:

Signature: _____

Name: SYED IRFAN SHAH

NIC: _____

Designation: C/O AZIZ GROUP.

Address: _____

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Annex - J

Training and Development Procedures

Introduction

In order to keep staff fully updated with the system, a Training and Development program has established.

Training at regular intervals is arranged by Engineer for the Technical Staff where new and efficient safety, operation & maintenance and fault locating methods are being explained for implementation.

All the operations and maintenance (O&M) staff of Pehur HPC are trained as per the SOP's of National Electric Power Regulatory Authority (NEPRA). The staff is trained to provide high quality services and is trained in the following areas:

- Introduction to Training Programmed Organization and System
- Overview of role and duties of Technical Staff
- Use and care of T&P
- First aid skills and practices
- Basic electricity concepts, testing/measuring instruments and their uses
- Distribution system standards and specifications
- Installation of earth system
- Safety & safety equipment
- Fire prevention and control

On Job Training

18MW PEHUR HYDROPOWER COMPLEX

ATTENDANCE SHEET OF PARTICIPANTS

ON – JOB TRAINING

Lecture/Topic: Station Service Transformer (SSTR)			
Trainer: Mr. Muhammad Ayaz		**Date:** 02-12-2023	

S/N	Participants	Designation	Department	Signature
1.	Nasir Shehzad	Turbine Operator	Operation	
2.	Zaheen Khan	Attendent Operation	-do-	
3.	Aslam Khan	Attendent Operation	-do-	
4.	Abbas Gul	Turbine Operator	-do-	
5.	Abdul Haseeb	Attendent Operation	-do-	
6.	M. Zeeshan Khan	Attendent Operation	-do-	
7.	Haris Khan	Assistant Engineer	-do-	
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

18MW PEHUR HYDROPOWER COMPLEX

ATTENDANCE SHEET OF PARTICIPANTS

ON – JOB TRAINING

Lecture/Topic: Neutral Ground Transformer (NGT)			
Trainer: Mr. Abdul Nasir		Date: 05-12-2023	

S/N	Participants	Designation	Department	Signature
1.	Abbas Gul	Turbine Operator	Operation	
2.	Abdul Haseeb	Attendent Operation	-do-	
3.	M. Zeeshan Khan	Attendent Operation	-do-	
4.	Syed Shah Jehan	Turbine Operator	-do-	
5.	Hamza Behroz	Attendent Operation	-do-	
6.	Yasir	Attendent Operation	-do-	
7.	Haris Khan	Assistant Engineer	-do-	
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

18MW PEHUR HYDROPOWER COMPLEX

ATTENDANCE SHEET OF PARTICIPANTS

ON – JOB TRAINING

Lecture/Topic: Isolation Transformer				
Trainer: Mr. Salman Wahab			Date: 08-12-2023	
S/N	**Participants**	**Designation**	**Department**	**Signature**
1.	Syed Shah Jehan	Turbine Operator	Operation	
2.	Hamza Behroz	Attendent Operation	-do-	
3.	Yasir	Attendent Operation	-do-	
4.	Irfan Ali	Turbine Operator	-do-	
5.	Shahab Hadi	Attendent Operation	-do-	
6.	Mohib Khan	Attendent Operation	-do-	
7.	Haris Khan	Assistant Engineer	-do-	
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

18MW PEHUR HYDROPOWER COMPLEX

ATTENDANCE SHEET OF PARTICIPANTS

ON – JOB TRAINING

Lecture/Topic: Excitation Transformer			
Trainer: Mr. Irfanullah		**Date:** 11-12-2023	

S/N	Participants	Designation	Department	Signature
1.	Irfan Ali	Turbine Operator	Operation	
2.	Shahab Hadi	Attendent Operation	-do-	
3.	Mohib Khan	Attendent Operation	-do-	
4.	Nasir Shehzad	Turbine Operator	-do-	
5.	Zaheen Khan	Attendent Operation	-do-	
6.	Aslam Khan	Attendent Operation	-do-	
7.	Haris Khan	Assistant Engineer	-do-	
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

18MW PEHUR HYDROPOWER COMPLEX

TRAINING SCHEDULE FOR ELECTRICAL MAINTENANCE STAFF

Month: Oct, 2023

S/No.	Topic	Trainer	Location	Date and Time	Remarks
1.	Work Permit issuer and receiver, Electrical Safety	Muhammad Ashraf Bhatti	EME Office	11-10-2023 11:00am	
2.	PPE/T&P, Fire watch, Standby man	Muhammad Umair	EME Office	10-10-2023 11:00am	

(81)

18 MW PEHUR HYDROPOWER COMPLEX
ATTENDANCE SHEET OF PARTICIPANTS
On Job Training

11-10-2023

Trainer: Muhammad Ashraf Bhatti

Topic: HSE Awareness (Work Permit issuer and receiver, Electrical Safety)				
S/No.	**Participants**	**Designation**	**Department**	**Signature**
1.	**Junaid Habib**	Foreman	Electrical Maintenance	
2.	**Majid Khan**	Electrician	Electrical Maintenance	
3.	**Sabir Khan**	Electrician	Electrical Maintenance	
4.	**Fazal Muhammad**	Maintenance Helper	Electrical Maintenance	
5.	**Osama Anees**	Maintenance Helper	Electrical Maintenance	

18 MW PEHUR HYDROPOWER COMPLEX
ATTENDANCE SHEET OF PARTICIPANTS

On Job Training

10-10-2023

Trainer: Muhammad Umair

Topic: HSE Awareness
(PPE/T&P, Fire watch, Standby man)

S/No.	Participants	Designation	Department	Signature
1.	**Junaid Habib**	Foreman	Electrical Maintenance	
2.	**Majid Khan**	Electrician	Electrical Maintenance	
3.	**Sabir Khan**	Electrician	Electrical Maintenance	
4.	**Fazal Muhammad**	Maintenance Helper	Electrical Maintenance	
5.	**Osama Anees**	Maintenance Helper	Electrical Maintenance	

3.6 INVOICING PROCEDURE

(a) The Seller shall invoice the Energy Payment for a Billing Cycle to the Purchaser within thirty (30) days after the end of such Billing Cycle. The Seller's invoice shall show, for the relevant Billing Cycle:

(i) the Energy Payment due,

(ii) the Energy Price,

(iii) the Actual Output Energy,

(iv) any Pass-Through Item,

(v) any late payment charges in respect of previous unpaid invoices; and

(vi) sales tax or other taxes, if any, payable by or collectible from the Purchaser under the applicable law.

(b) The Seller shall cause PESCO to directly invoice or forward the related Wheeling Charges invoice to Purchaser for the relevant Billing Cycle, and the Purchaser covenants with the Seller to pay the Wheeling Charges billed by PESCO directly to PESCO and the Purchaser shall keep the Seller fully indemnified against any loss, demand, or claim of PESCO in respect of the Wheeling Charges. The Purchaser shall provide the Seller a copy of PESCO's Wheeling Charges Invoices forthwith, if received directly by Purchaser.

(c) The information in support of the Energy Price stated in the Seller's invoice shall include, inter alia:

(i) the relevant GOP Bureau of Statistics publication showing the relevant wholesale price index values; and

(ii) invoices or payment receipts for any amount claimed as Pass-Through Items.

(d) The Purchaser may require clarification or substantiation of any amount included in an invoice by delivering notice of such requirement to the other Party. The Party receiving such request shall provide the requested clarification and substantiation of such invoice within five (5) days of its receipt of such request.

(e) The Purchaser shall provide to the Seller a copy of PESCO's electricity bill for a given month forthwith upon receipt for the related Exit Meter at Purchaser's premises.

3.7 PAYMENT

(a) Subject to Section 3.8,

(i) the Purchaser shall pay the Seller the amount shown on an invoice delivered in accordance with Section 3.6(a) and Section 3.6(b), less deductions for any disputed amounts shown in the invoice, on or before the tenth (10th) day following the day the invoice is received by the Purchaser; and

(ii) the Purchaser shall pay the Wheeling Charges to PESCO, less deductions for any amount disputed, on or before the tenth (10th) day following the day the invoice for Wheeling Charges is received by the Purchaser.

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the requirements of this Agreement and the Distribution Code.

7. METERING

7.1 WHEELING METERS

(a) The Wheeling Meters shall be used to measure the total Input Energy and to derive the Purchaser Allocated Input Energy comprised therein at the Entry Point and the Actual Output Energy at the Exit Point.

(b) The Wheeling Meters shall have an accuracy class of zero point two percent (0.2%) or subject to the requirements of Energy Wheeling Agreement. The requirements of Energy Wheeling Agreement will prevail in this regard, if different.

(c) The testing and recalibration (if necessary) of the Wheeling Meters shall be carried out by the Party which installed the relevant meter under supervision of and coordination by the Coordination Committee.

(d) A request by a Party (or by PESCO under the EWA) for testing and recalibration of a Wheeling Meter shall be made to the Coordination Committee who shall take steps to have the testing and recalibration done at the expense of the related Party within seven (7) working days of the request.

7.2 READING

(a) On the Commencement Date and thereafter on the last day of each month, the Entry Meter shall be jointly read by representatives of PESCO and Seller at the Coordination Committee and results thereof signed by respective members (the "**Entry Meter Reading Confirmation**").

(b) On the Commencement Date and thereafter on the last day of each month, the Exit Meter shall be read by the Coordination Committee and results thereof signed by its members (the "**Exit Meter Reading Confirmation**").

7.3 ATTENDANCE

(a) A Party shall not read, test, adjust, repair or replace its Wheeling Meter without giving two (2) days' notice to the Coordination Committee and without the presence of all the members of the Coordination Committee. If a nominee of a party on the Coordination Committee is unable to attend, then such party has the authority to nominate another person as its representative on the Coordination Committee for such specific occasion.

(b) Where any of the Seller's, Purchaser's or PESCO's nominee on the Coordination Committee fails to attend any meter reading, and such party does not nominate another representative for the specific occasion, the nominees of the attending parties may read the Wheeling Meters and such readings shall be binding on the Parties and PESCO, provided that, the attending party(ies) shall deliver the readings to the non-attending party(ies) within two (2) working days after the reading is taken.

7.4 TAMPERING

The Parties shall ensure that their respective contractors, employees, agents and invitees shall not tamper with the Wheeling Meter for which it is responsible.

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PROSPECTUS

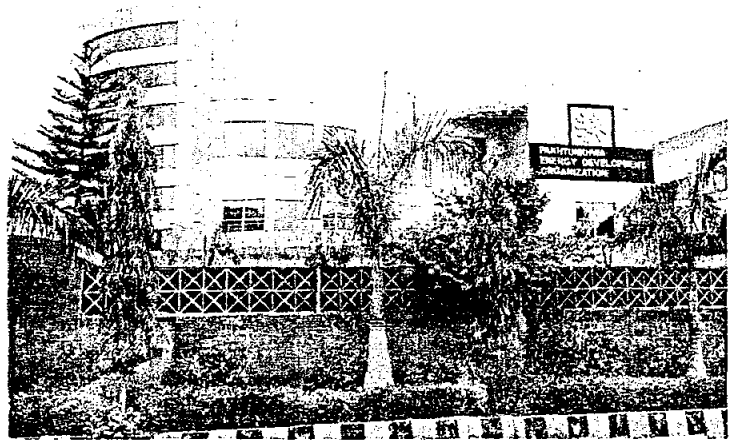
FOR

18 MW PEHUR HYDEL POWER PLANT LOCATED AT INDUS RIVER DOWNSTREAM OF TARBELA RESERVOIR, DISTRICT SAWABI, KHYBER PAKHTUNKHWA

1. PEDO Introduction

Khyber Pakhtunkhwa Province of Pakistan is blessed with huge hydropower potential. This potential remained focus of interest to private investors and international funding agencies. Most of the hydel projects of Pakistan including Tarbela and Warsak hydropower stations are located in KP.

Pakhtunkhwa Energy Development Organization (PEDO), since its inception in 1986, has been instrumental in identifying and exploiting hydel potential in Khyber Pakhtunkhwa. The organization is under the administrative control of Energy and Power Department of Provincial Government and is governed by the Board of Directors. PEDO has so far identified a number of promising hydel potential sites of more than 6000 MW capacity, which can be developed in a systematic manner either through Public sector or Private sector.



i. Objectives of the Organization

- Prepare comprehensive plan for development of the power and energy resources of the province.
- Frame schemes related to Generation, Transmission and Distribution of power, construction, maintenance and operation of powerhouses.
- Advisory body for the Government of KP in power sector matters regarding hydropower development.
- Conducting feasibility studies, surveys of hydel potential sites etc.
- Implementation of Provincial Hyde-I Power Policy to promote private sector investment in generation, transmission and distribution of power.

ii. Role of PEDO

The Provincial Government has entrusted a dynamic role to PEDO, which is mainly oriented towards private sponsor's participation in power sector projects besides developing projects in public sector. PEDO has established a dedicated Directorate to provide one window facility to private sponsors.

iii. PEDO Organization

A Board of Directors under the chairmanship of the Chief Minister of Khyber Pakhtunkhwa governs the affairs of PEDO. The members include Additional Chief Secretary, Secretary Finance, Secretary Energy and Power and Chief Executive Officer PEDO. The head office of the Organization is situated at Peshawar. A copy of the organogram of PEDO is given with this introduction.

1.1 Achievements by PEDO

PEDO, with the assistance of GTZ (German Agency for Technical Cooperation), has compiled a Master Plan for rural electrification in the Northern mountainous areas of KP with particular emphasis on those areas which were not connected to the National Grid System. The Master Plan entails a total potential of more than 6000 MW that has been identified for public and private sector development. The hydropower potential sites are mainly located in the Northern districts of K.P i.e. Chitral, Dir, Swat, Indus Kohistan and Mansehra.

i. Small Hydel Potential Sites

The Master Plan envisages small scale potential sites having total capacity of about 240 MW, comprising 53 hydel potential sites. These sites are suitable for regional supply to isolated communities in the mountainous areas of KP. The district wise breakup of sites is as follows:

S/No.	Region	No of Sites	Power Potential
1.	Upper Chitral	12	80
2.	Lower Chitral	10	68
3.	Kohistan	4	6
4.	Swat	5	5
5.	Mansehra/West	2	19
6.	Kaghan Valley	3	13
7.	Dir	17	50
Total:		53	241

ii. Medium /Large Hydropower Systems

During field investigations, some very attractive sites of medium and large hydropower potential were also identified by PEDO.

S/No.	Name of Project/Location	Capacity (MW)	Remarks
1.	Kandiah System, Kohistan a. Karang Scheme, 454 MW b. Kaigah Scheme, 548 MW	1002	Private sector is developing these sites under Federal Power Policy
2.	Swat System, Swat a. Upper Scheme Al, 101 MW b. Middle Scheme BI, 410 MW c. Lower Scheme Cl, 148 MW	659	--do--
3.	Spat-Gah, Kohistan a. Upper Scheme 200 MW b. Middle Scheme 550 MW c. Lower Scheme 500 MW	1250	WAPDA has undertaken the feasibility study through KfW, Germany
4.	Chor Nala System, Kohistan a. Scheme C-II, 700MW	1500	--do--

	b. Scheme C-L 650 MW c. Scheme K-II, 150MW		
5.	Kunhar River System, Mansehra a. Naran, 215 MW b. Suki Kinari, 840 NW	865	Private sector is developing these sites under Federal Power Policy

iii. Feasibility Studies Completed

Out of the identified sites, PEDO has completed feasibility studies of the following potential sites. These schemes are in various stages of implementation.

S/No.	Project Location	Capacity (MW)	Remarks
1.	Daral Khwar HPP, Swat	36	Construction completed
2.	Ranolia HPP, Kohistan	17	--do--
3.	Pehur HPP, Swabi	18	--do--
4.	Summar Gah HPP, Kohistan	28	Suitable for private sector
5.	Batal Khwar HPP, Swat	8	--do--
6.	Matiltan HPP, Swat	84	Under construction stage
7.	Khan Khwar HPP, Besham	72	Picked up by WAPDA for implementation
8.	Duber Khwar HPP, Kohistan	130	
9.	Allai Khwar HPP, Batagrarn	120	

1.2 Hydropower Projects Completed

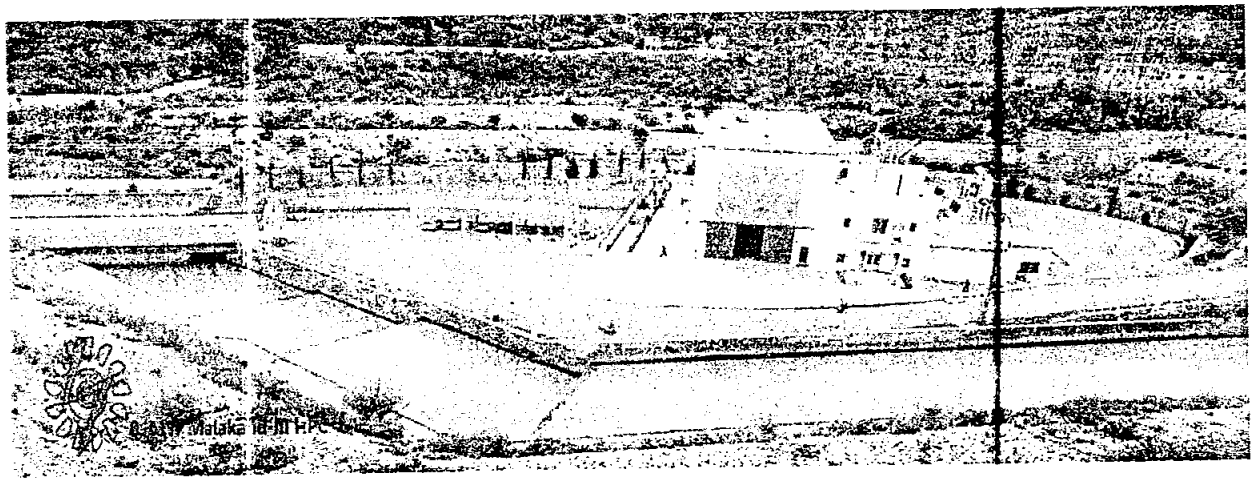
PEDO, after successful completion of following four small and medium size hydel projects with its own resources is planning to launch number of small, medium and large hydropower projects in view urgency for combating energy crises in the country.

Projects Completed by PEDO

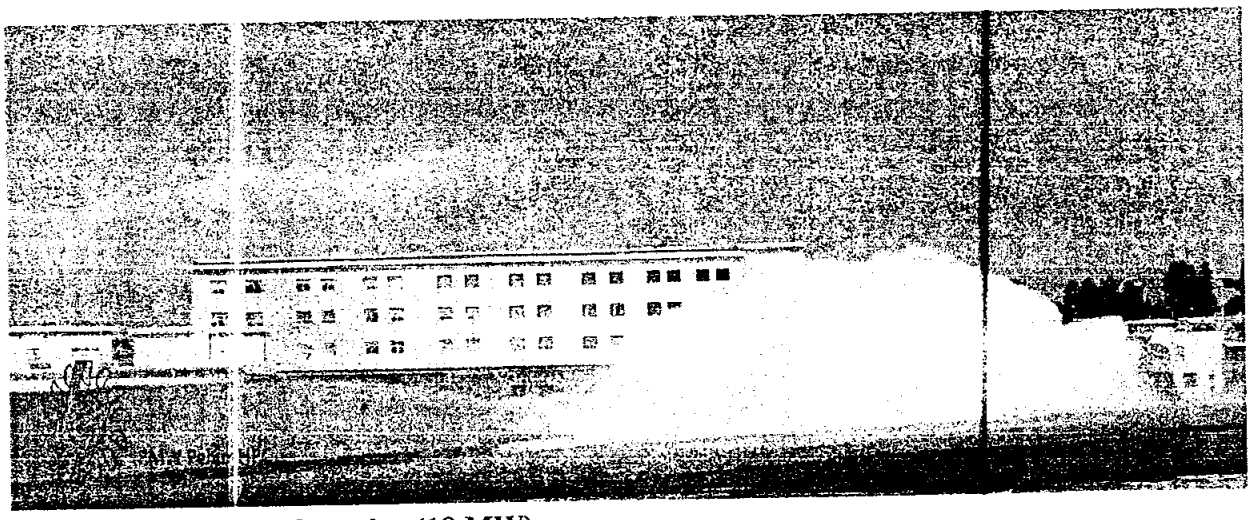
S/No.	Name of Scheme	Location	Capacity in MW
1.	Malakand-III HPP	Malakand	81
2.	Pehure HPP	Swabi	18
3.	Shishi HPP	Chitral	1.8
4.	Reshun HPP	Chitral	4.2
5.	Ranolia HPP	Kohistan	17
6.	Daral Khwar HPP	Bahrain, Swat	36.6
7.	Machai HPP	Mardan	2.6
8.	Karora HPP	Kohistan	11.80
9.	Jabori HPP	Mansehra	10.20
Total Installed Capacity:			183.2

These projects are not only contributing towards the reduction in load shedding but also generating annual revenue of Rs. 2 to 3 billion for the province. Besides the above completed Hydropower Projects, PEDO is implementing following projects with the assistance of Asian Development Bank (ADB) for the development of Hydropower Potential in Khyber Pakhtunkhwa Province which will be completed within three years;

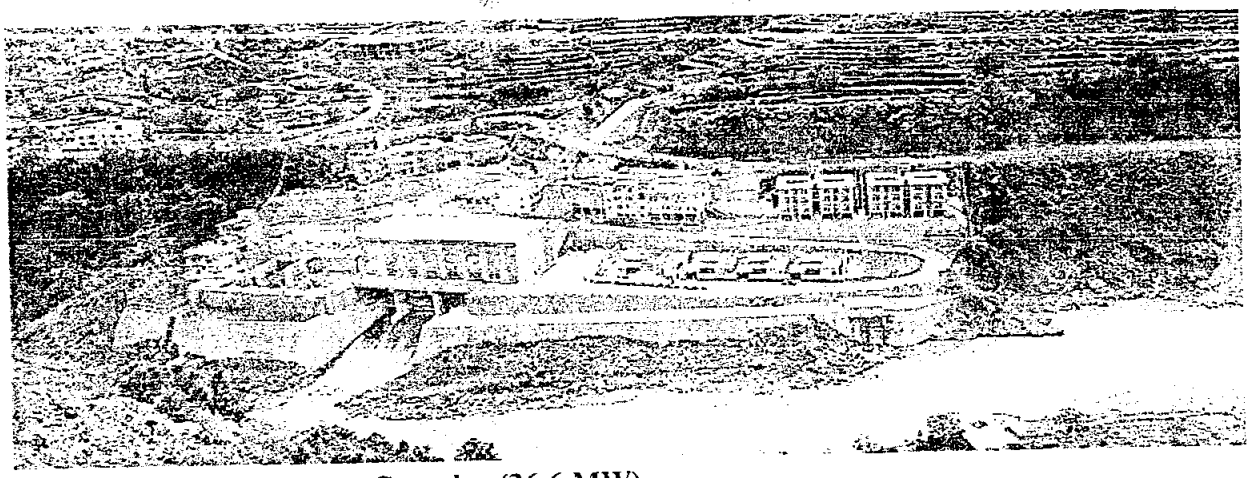
A view of Completed Projects as shown in below:



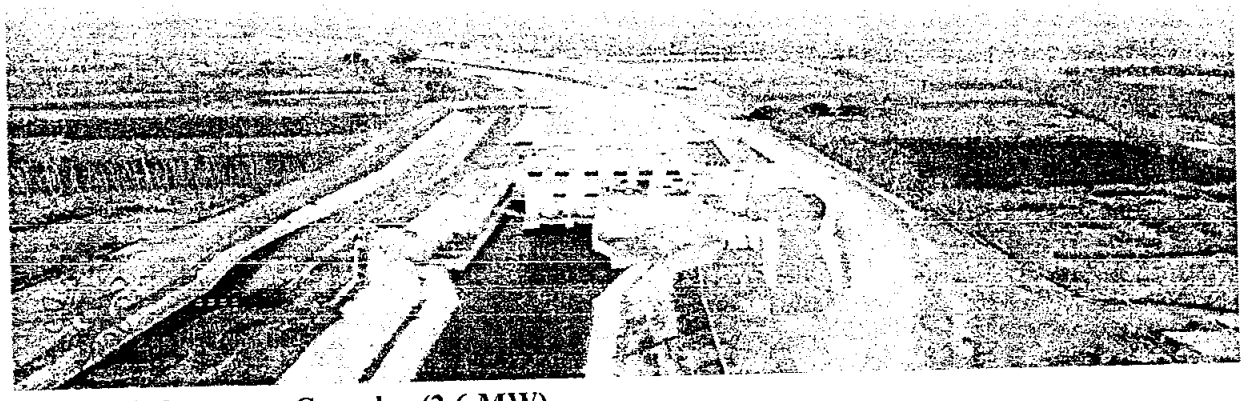
Malakand-III Hydropower Complex (81 MW)



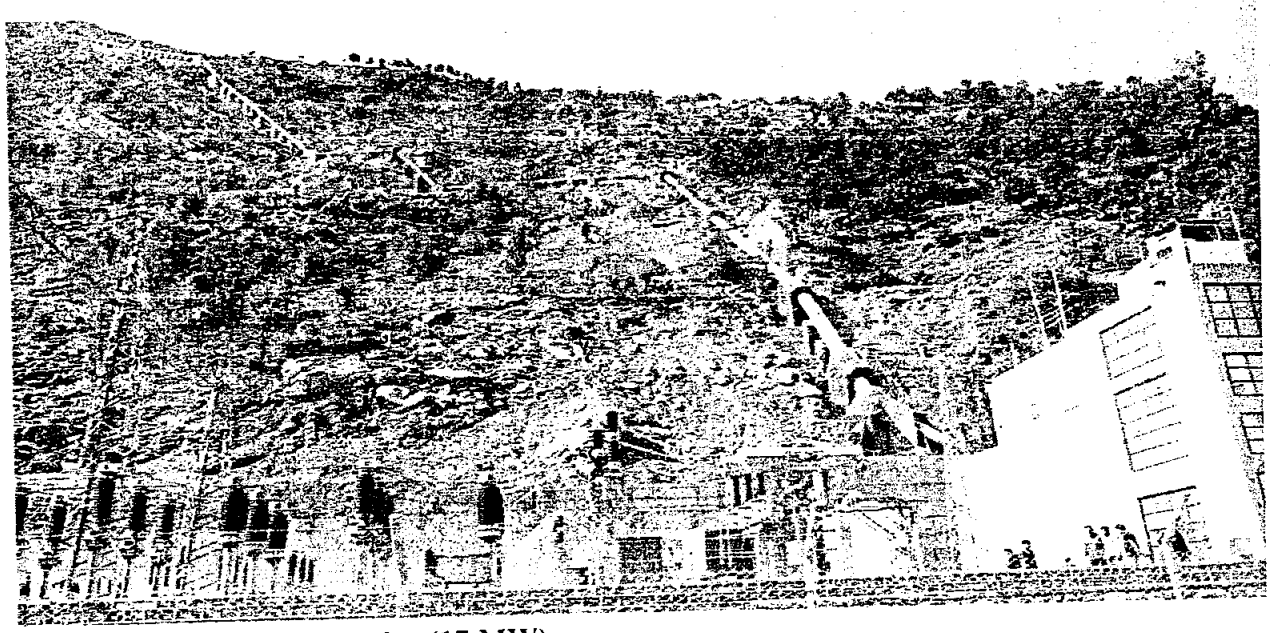
Pehure Hydropower Complex (18 MW)



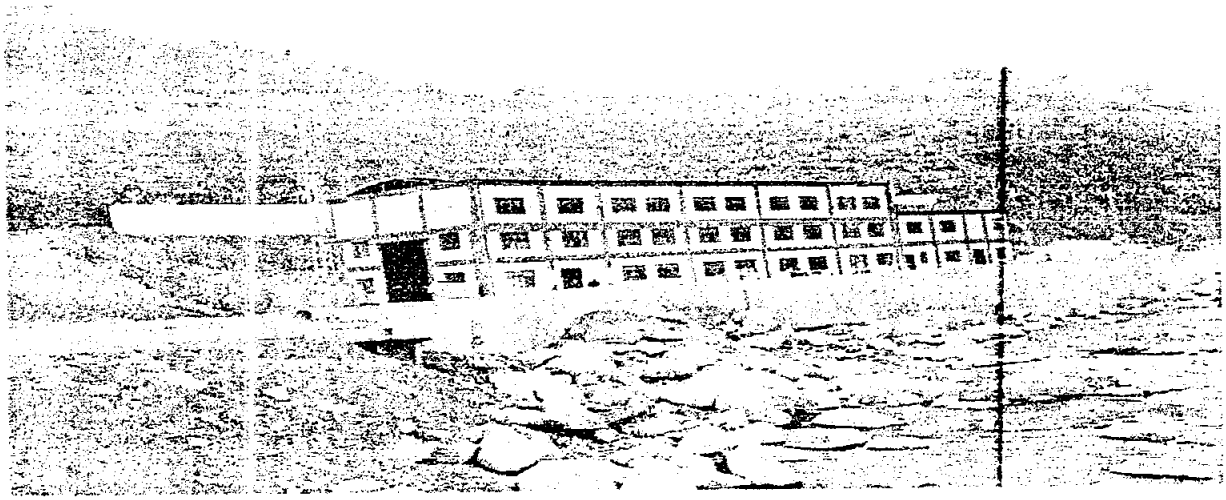
Daral Khwar Hydropower Complex (36.6 MW)



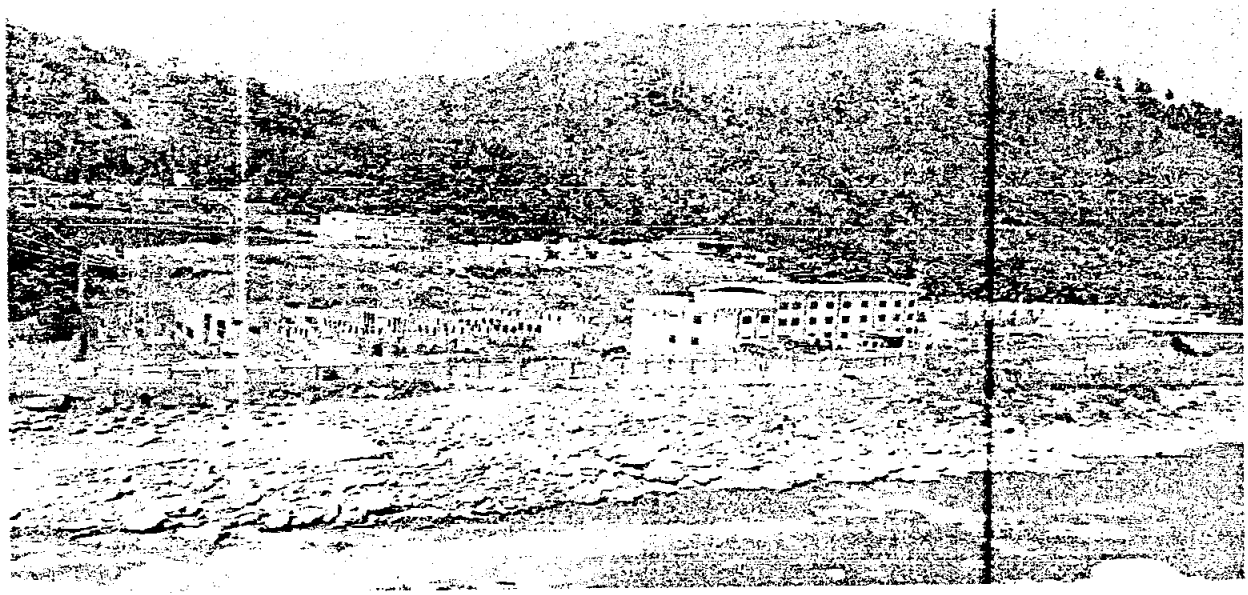
Machai Hydropower Complex (2.6 MW)



Ranolia Hydropower Complex (17 MW)



Jabori Hydropower Complex (10.20 MW)

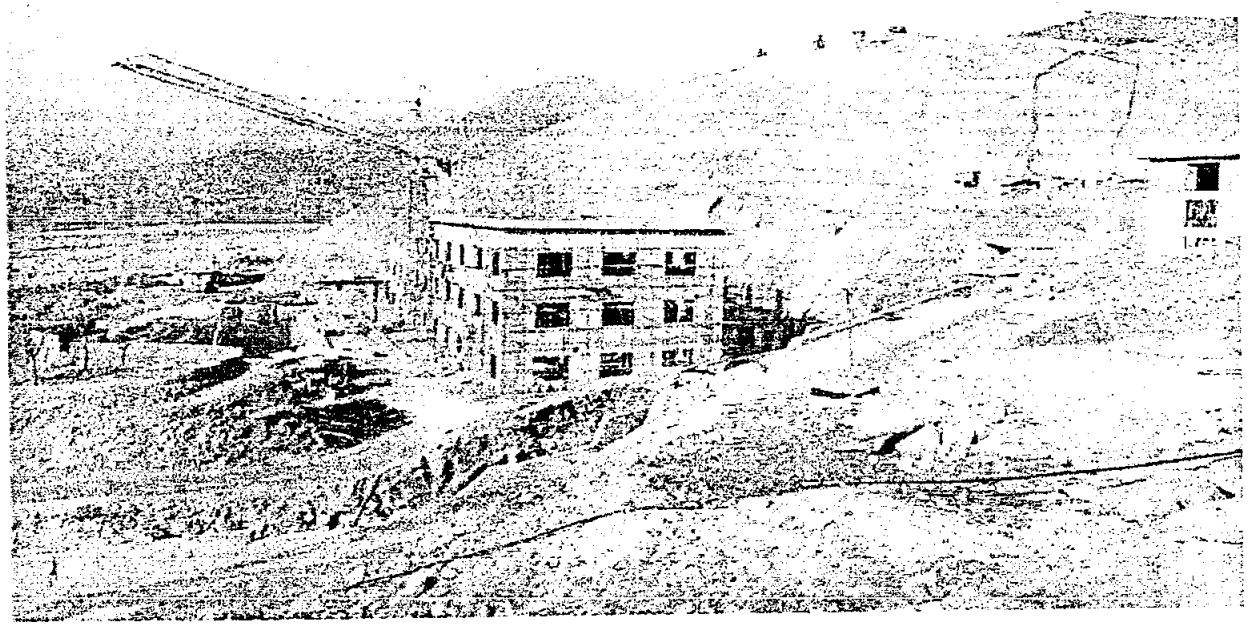


Karora Hydropower Complex (11.80 MW)

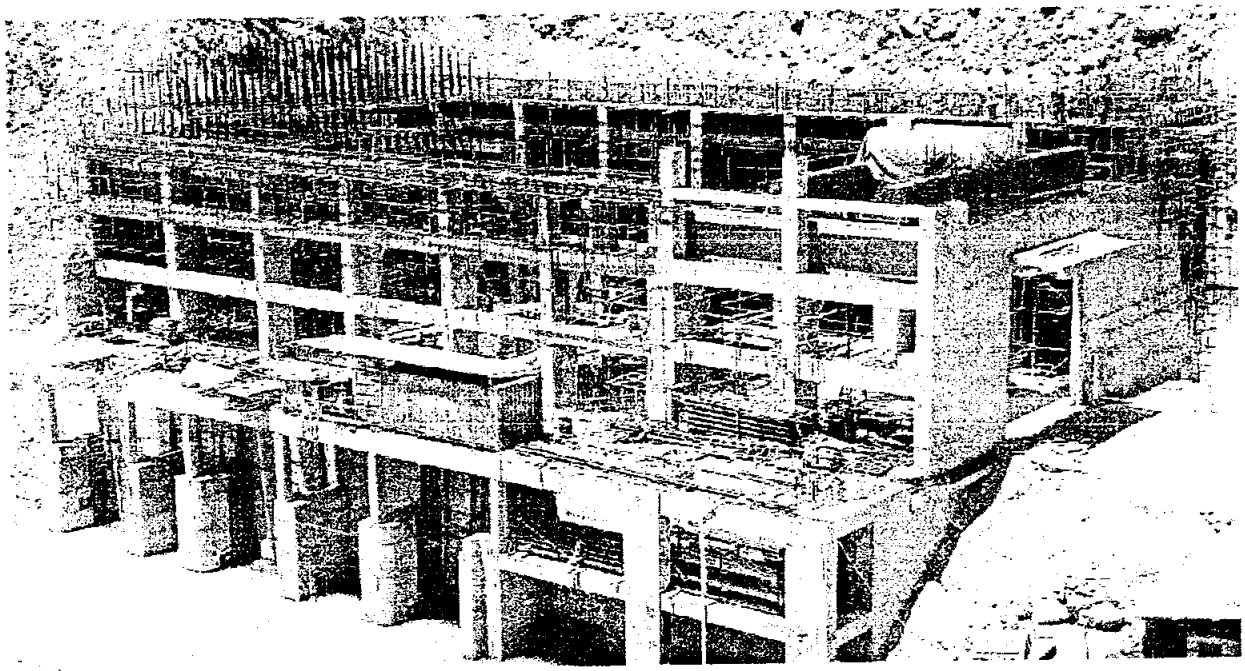
Projects under construction:

S/No.	Name of Scheme	Location	Capacity in MW
1.	Koto HPP	Dir (Lower)	40.8
2.	Matiltan HPP	Swat	84
3.	Lawi HPP	Chitral	69
4.	Balakot HPP	Mansehra	300
Total Installed Capacity:			493.8

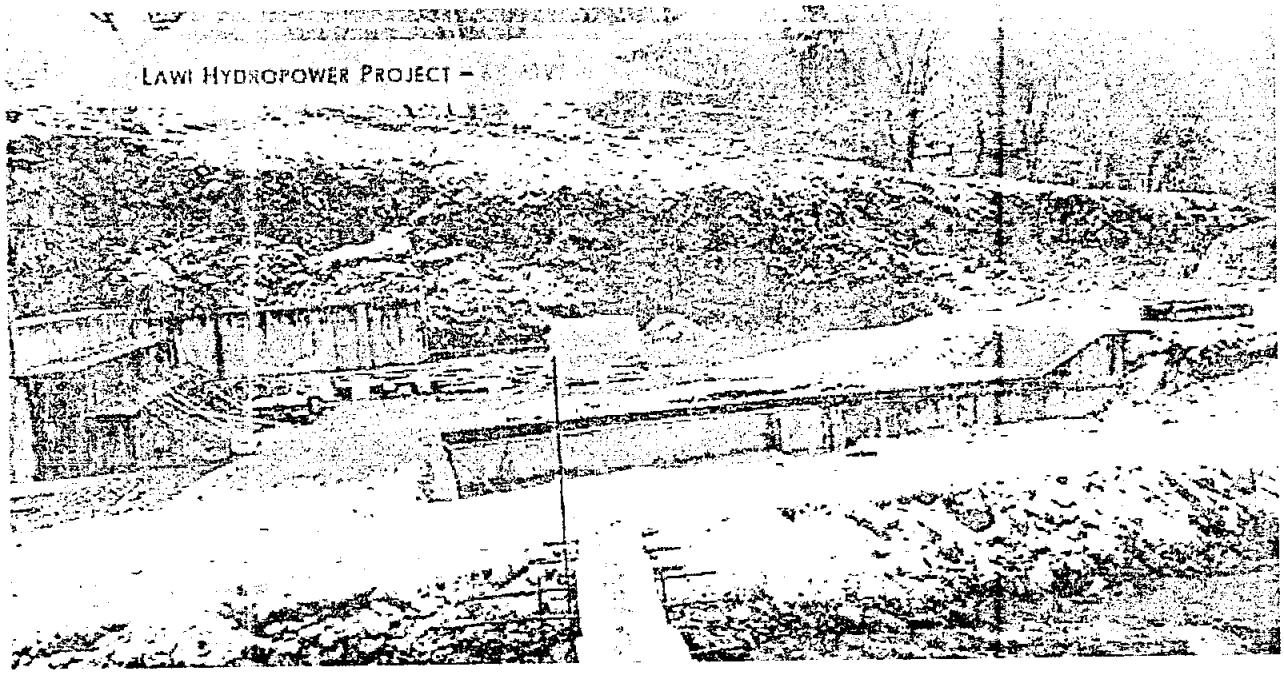
A view of Under Construction Projects as shown in below:



Koto Hydropower Project (40.8 MW)



Gorkin Matiltan Hydropower Project (84 MW)



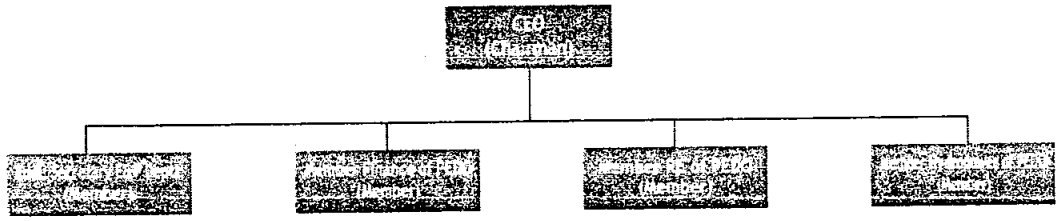
Lawi Hydropower Project (69 MW)

In addition to construction projects, PEDO has also completed feasibility study of 13 Hydel Power Projects with potential of 1322 MW under the same ACTION PLAN.

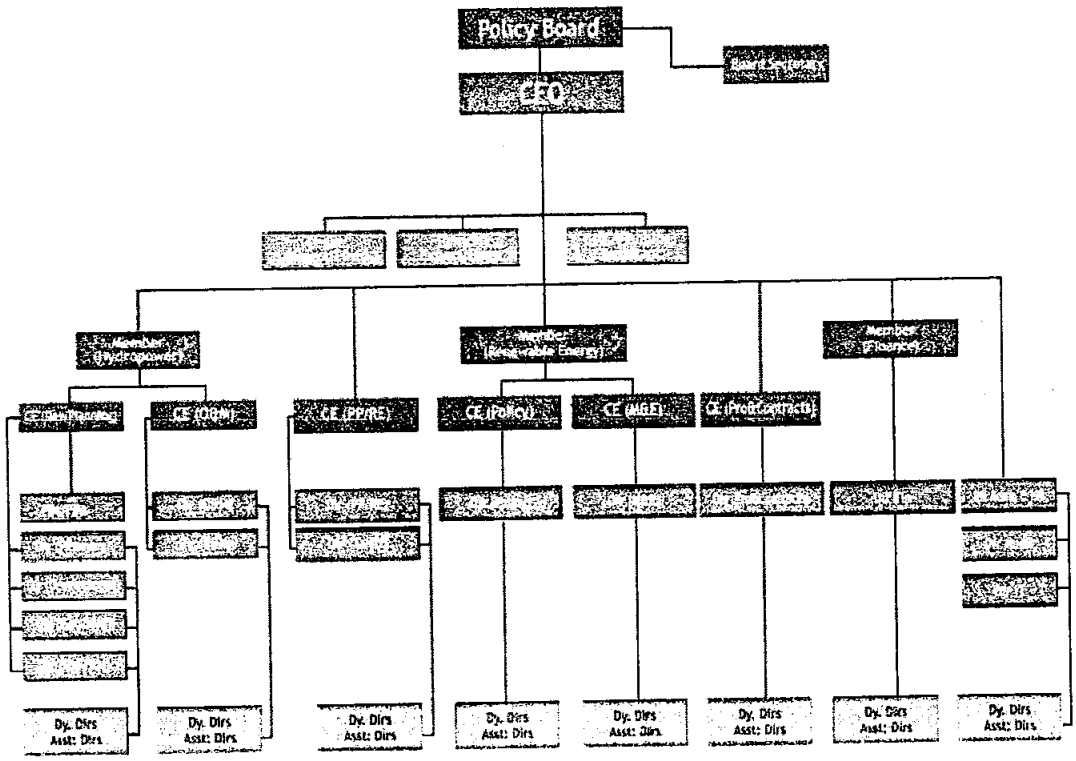
Projects in Feasibility Studies Stage:

S/No.	Name of Scheme	Location	Capacity in MW
1.	Gahrit-Swir Lasht HPP	Chitral	377
2.	Jamshail-Toren More HPP	Chitral	260
3.	Toren More — Kari HPP	Chitral	350
4.	Laspur Marigram HPP	Chitral	230
5.	Arkari Gol HPP	Chitral	99
6.	Istaru-Buni HPP	Chitral	72
7.	Mujigram Shogo HPP	Chitral	64.26
8.	Barikot Patrak HPP	Dir	47
9.	Patrak Shringal HPP	Dir	22
10.	Shigo Kach HPP	Dir	102
11.	Ghor Band HPP	Shangla	20.6
12.	Nandihar HPP	Batagram	12.3
13.	Naram Dam HPP	Mansehra	188
14.	Shushai-Zhendoli HPP	Chitral	144
15.	Shogo Sin HPP	Chitral	132
16.	Batakundi HPP	Mansehra	99
17.	Gabral Kalam	Swat	88
18.	Kari Mushkur HPP	Chitral	495
Total Installed Capacity:			2802.16

EXECUTIVE COMMITTEE



PEDO ORGANOGRAM



2. Project Brief

- Pehur Hydropower Complex is constructed at the out let of Gandaf Tunnel emanating from Tarbela Reservoir to feed the Pehur High level canal PHLC located in District Swabi. 1km south of Gadoon Industrial State.
- The idea of Pehur Hydropower Project (PHPP) was conceived in 1993 during the feasibility study of the Pehur High Level Canal (PHLC) Project. Technical feasibility study for PHPP was completed in May 2001 and the PC-I of the project was approved in February 2005. The construction work on the project started in November 2005 and was completed in July 2009. The total cost of the project was around 900Million PKR of which 50% was financed by Sarhad Hydel Development Fund (HDF) and 50% by Annual Development Program (ADP).
- The Generation License [No.GL (Hydel)/08/2009] was granted by National Electric Power Regulatory Authority (NEPRA) to Sarhad Hydel Development Organization (SHYDO) for 18 MW Pehur Hydropower Plant in November 2009.
- The project achieved the COD on 1st March, 2010. Pehur HPC interconnected with 132KV Gadoon grid station. The annual generation of the plant is 57.7 GWh. So far Pehur HPC has generated 642.052 GWh of energy.

3. Salient features of the Pehur Hydropower Complex are given below:

Cost of Project	Rs. 900 million
Completion	July 2009
Capacity:	18 (3x6MW)
Annual Energy:	57.7 GWh
Commercial Operation Date (COD):	1st March 2010
Rated Flow	Unit#1&2: 10.09 cumecs Unit#3: 15.75 cumecs
Net Head	Unit#1&2: 68 m Unit#3: 44 m

4. Social and Environmental Impact:

We are committed to environmental sustainability and the prevention of pollution by carrying out all works on our sites, yards and offices in an environmentally responsible manner and acting as a "good neighbor".

Management of the Environment:

In order to manage our environmental performance we have implemented an Environmental Management System in accordance with the requirements of ISO 14001:2004 and it aims to achieve the following objectives;

- Evaluate the environmental aspects of our activities and minimize where possible, the resulting environmental impacts.
- Implement systems and procedures to facilitate continual improvement.
- Manage our activities with diligence and with the awareness that our goal is to protect the environment and prevent pollution.
- Comply with relevant environmental legal and regulatory requirements as well as company policies and client requirements.
- Foster openness, dialogue and facilitate communication regarding our environmental performance and our environmental objectives and targets. At least once every year we review the environmental objectives and targets.

5. Proposed Investment:

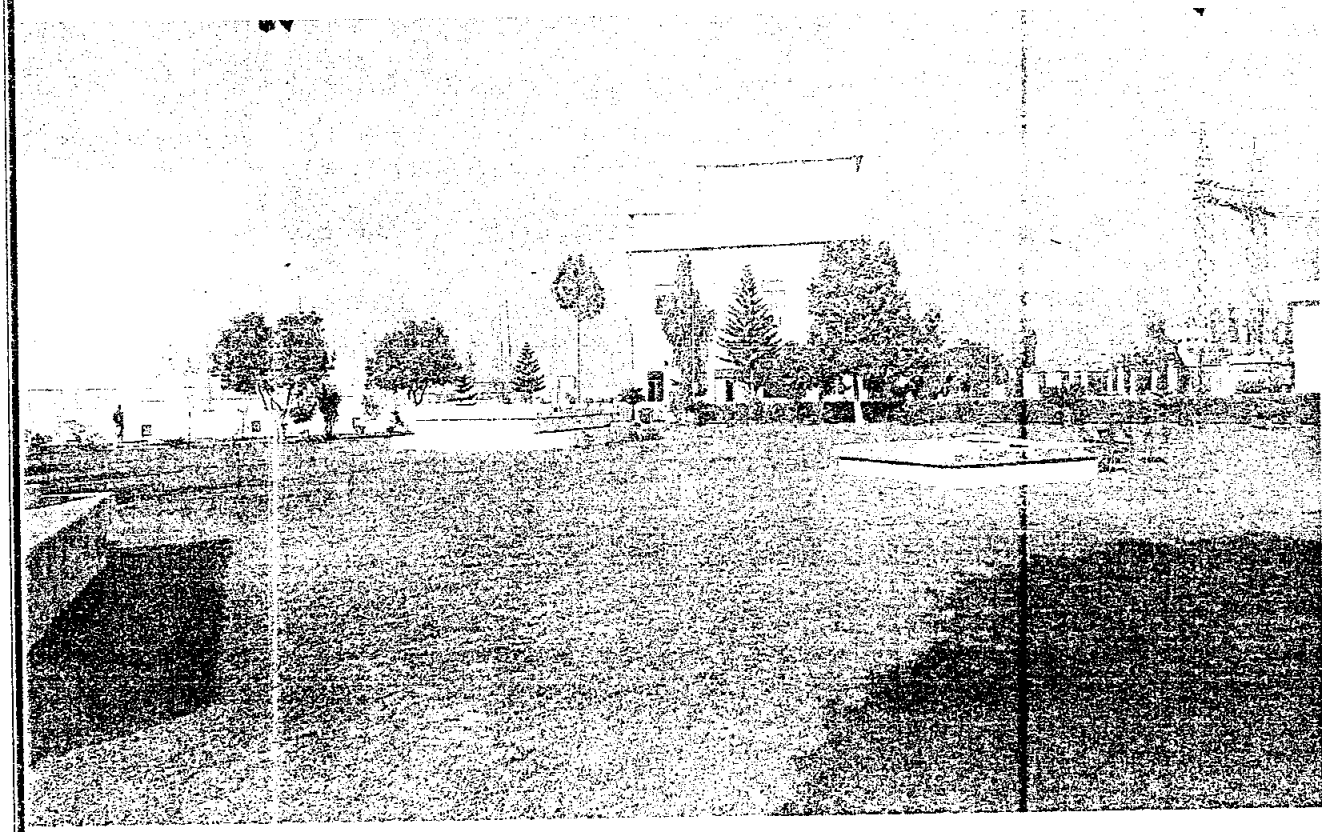
PEDO has been mandated not only to harness the available hydropower potential but also to develop other renewable energy sources in the province. It is very encouraging to note that PEDO has so far completed several hydropower projects with a total capacity of 162 MW. Another five hydro power projects with cumulative capacity of 226 MW are under completion. Moreover, contract for the 300MW Balakot HPP has been successfully awarded and physical work started at site. The project is being funded by the Asian Development Bank (ADB). Two other large-scale projects including 88MW Gabral Kalam and 157MW Madyan HPPs, funded by the World Bank, are also being awarded shortly.

PEDO

PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION
GOVERNMENT OF KHYBER PAKHTUNKHWA

Feasibility Study

Electric Power Supply to Bulk Power Consumers



18 MW PEHUR HYDROPOWER COMPLEX, GADOON

1 Introduction &Background

1.1 About Pakhtunkhwa Energy Development Organization (PEDO)

In 1986 the government established an organization with the name "Small Hydel Development Organization (SHYDO)" and the prime objective of this establishment was (i) to identify and develop Hydel potential up to 50MW (ii) to construct small Hydel stations for isolated load centers& (iii) to operate and maintain off grid small hydel stations. In 1993 under the Act declared this organization as an autonomous body and renamed it as "Sarhad Hydel Development Organization (SHYDO)". After change in the name of province the organization's name was also changed to "Pakhtunkhwa Hydel Development Organization (PHYDO)". Recently in 2014 PHYDO converted in "Pakhtunkhwa Energy Development Organization (PEDO)" through amendment in PEDO act 2014.

1.2 Background & Objective

The Government of Khyber Pakhtunkhwa (GOK) through Pakhtunkhwa Energy Development Organisation (PEDO) is interested in sale of electricity generated by Pehur Hydropower Project ("PHP" or the "Project") to the bulk power consumers or industries. The selected mode of transfer of electricity, after a careful examination of all available options, is based on Wheeling arrangement using PESCO Grid.

The objective of this "Feasibility Study" is to solicit offers from Qualifying Industrial Consumers (QICs) for electricity purchase from PHP. The offers received from QICs will be evaluated based on the selection criteria. Power Purchase Agreements will be signed only with those QICs who get highest scores and only up to the extent of available electricity, generated by PHP.

"QICs" or "Bidders" are entities that have industrial projects in Gadoon Amazai Industrial Estate, and are connected with Gadoon Amazai Grid Station (Gadoon Grid) through one or more feeders.

1.3 Project Introduction

PHP is an Independent Component of the Pehur High Level Canal (PHLC) Project, which is located on the right bank of Indus River immediately downstream of Tarbela water reservoir. PHP is owned by the GoK through PEDO. PHP is supplying electricity to Gadoon grid through 132 KV transmission line.

PHP has an installed capacity of 18MW. However PHP has a dual generation trend i.e Low Hydrology and High Hydrology Trend depending primarily on Water Discharge from Tarbela Dam.

Accordingly, the 3 units of 6 MW, each, operate as per following two settings:

- 1 unit low head 1x6 = 6 MW (from February to June - Average head 40 meter)
- 2 units medium head 2x6 = 12 MW (from July to January - average head 68 meter).

The efficiency of the Project is also dependent upon irrigation requirement that is established by the KP irrigation department, the off-take/ hydrology of Tarbela water reservoir and requirement of Gadoon Grid. However, average annual generation of PHP is 10.2MW.

1.4 PHP Status

The technical feasibility studies for PHP were completed in May 2001 and Generation License for development of 18 MW Pehur Hydropower Project was granted to PEDO in Nov 2009. Construction of the Project was completed in 2009, and PHP achieved COD on March 1, 2010.

1.5 Electricity Generation Trend - PHP

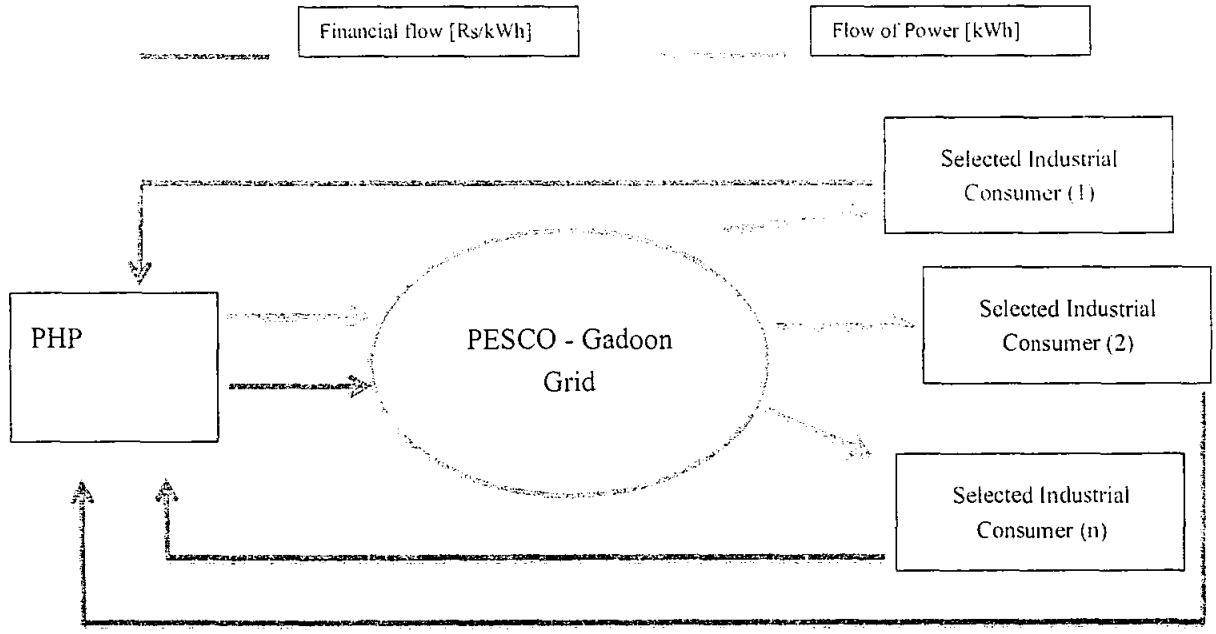
Month	2020-21	2021-22	2022-23
July	4,169,000	4,146,000	1,654,000
August	6,216,000	8,018,000	4,365,000
September	6,346,000	8,043,000	7,755,000
October	8,284,000	7,339,000	5,918,000
November	5,298,000	5,713,000	5,690,000
December	3,504,000	4,344,000	6,652,000
January	1,660,000	493,000	1,960,000
February	998,000	72,000	745,000
March	3,400,000	2,171,000	3,830,000
April	3,295,000	2,406,000	3,921,000
May	3,109,000	2,884,000	3,802,000
June	3,777,000	2,160,000	3,545,000
Total	**50,056,000**	**47,789,000**	**49,837,000**

1.6 The Wheeling Arrangement (for supply of electricity from PHP)

As PHP is already operational, connected with PESCO grid and supplying power to QICs, the wheeling mechanism will be established with selected industrial consumers on the existing interconnection and infrastructure in place, with no technical changes required, as such.

Under the wheeling mechanism there will be an entry meter installed at PHP end to record the supply of power into the PESCO network. Similarly there will be an exit meter installed at the consumer end (or selected industrial consumer or power purchaser). No change in the protection hardware may be required within the interconnection of system because the Project and selected industrial consumer is already connected with PESCO, under the existing interconnection scheme.

The overall wheeling arrangement is summarized in following diagram.



The Transmission & Distribution (T&D) losses incurred from the entry point till the exit point will have no impact on PESCO under an Energy Wheeling Agreement (EWA) to be signed between PESCO and PHP for supply of energy to the selected Consumer. These losses will be pre-agreed in the EWA to be deducted from the net power that PESCO has to make available at the exit point to the power purchaser.

In case selected industrial consumer is unable to accept electricity at any time, or due to inability of PESCO to deliver the power at the exit point (at any time), the concept of Banking may also be covered under EWA, to be negotiated with PESCO. Under this concept, the PESCO will be bound to supply such energy in future, which was evacuated from the Entry Point but not delivered at the Exit Point at that time, less agreed losses. The selected industrial consumers may retain their

backup power options from captive means. However if the demand at consumer end is more than the supply under EWA, the consumer can also purchase excessive power requirement from PESCO at applicable tariff.

1.7 Tariff Calculation

Summary of PEHUR Indexation for Q-1st-2024 w.e.f 1s Jan-2024 to 30th April, 2024		
	Revised	
Tariff Components	Reference	w.e.f Jan- 2024
	Rs/kWh	Rs/kWh
Fixed Charges	4.6395	4.6395
Variable Component:		
Variable	2.4869	[illegible]
Water Use Charge	0.4250	[illegible]
Total Tariff	7.5514	10.3780
Benchmarks		
CPI	119.46	255.24
Note: Applicable Tariff	10.3780	
According to Schedule-I Part 3 of the Energy Purchase Agreement (EPA), The above mentioned rate will be applicable from 1st Jan -2024 to 30th April -2024 if any changes occures the same will be applicable accordingly.		

1.8 Transaction structure for electricity sale

- Selected Bidders will be invited to sign the Power Purchase Agreement (PPA)with PEDO
- Per unit electricity purchase price to be charged to power purchaser, shall be based on the price quoted by selected Bidders
- Bidders are expected to provide their quotes keeping in view their existing effective electricity cost per unit. Financial Bid is to be unconditional.
- Billing to power purchaser, for electricity consumed, will be based on exit meter(s) installed at the premises of power purchaser.
- The infrastructure cost (exit meter etc.) within factory premises for purchase of electricity from PHP, will be responsibility of the power purchaser
- Invoicing for electricity sold by PHP will be based on monthly basis
- Power purchaser will also reimburse wheeling charges at actual to PEDO, for transportation of electricity, under the wheeling agreement to be signed between PEDO and PESCO (as the wheeling charges may be modified time to time by NEPRA).
- Payment security is to be provided as per the requirements of financial Bid

1.9 Consumer class/category, sub category on the basis of sanctioned load

- The power generated by the Pehur Hydel Power Plant of PEDO shall be dispersed to 132 KV Gadoon Amazai Grid Station of PESCO through a 132 KV S/C Transmission Line for supplying to different BPC(s) by wheeling through the network of PESCO.
- Total no of BPC(s) are 05 (five):

S/No.	Name of the Purchaser (BPCs)	PAIE (Purchaser Allocated Input Energy) as per EWA/EPA(%)
i.	Cherat Cement Company Ltd.	10
ii.	Premier Chipboard Industries Pvt. Ltd.	15
iii.	AJ Textile Mills Ltd.	30
iv.	Gadoon Textile Mills Ltd.	30
v.	Cherat Packaging Ltd.	15

- Wheeling covers all BPC(s) (Bulk Power Consumers) having load equal and above 1MW.
- Any change in the final Interconnection and Transmission Arrangement(s), for the dispersal of power other than the above, as agreed by the Licensee, BPCs and PESCO shall be communicated to the Authority in due course of time.

1.10 Month wise probable energy export to BPCs (12-months):

Month	Cherat Cement KWh		Premier Chipboard KWh		AJ Textile KWh		Gadoon Textile KWh		Cherat Packaging KWh	
	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump..
Apr, 24	494,400	600,048	329,600	325,528	988,800	1,450,600	988,800	761,848	494,400	1,322.328
May, 24	466,350	657,576	310,900	323,832	932,700	1,141,672	932,700	1,070,216	466,350	848,504
Jun,24	491,010	3,184,416	453,240	343,148	1,133,100	1,160,568	1,133,100	1,434,816	566,550	1,125,224
July,24	954,730	2,194,272	83,020	77,256	1,245,300	1,336,240	1,245,300	1,199,104	622,650	1,005,936
Aug,24	2,164,860	2,084,112	481,080	264,924	2,806,300	2,021,376	1,363,060	945,672	1,202,700	1,078,560
Sep, 24	1,769,460	1,735,272	241,290	86,172	2,412,900	1,993,792	2,412,900	729,096	1,206,450	1,240,144
Oct, 24	2,495,260	2,529,720	73,390	21,636	2,201,700	2,096,784	1,100,850	663,064	1,467,800	1,352,184
Nov, 24	1,599,920	1,511,352	114,280	44,172	1,714,200	1,887,016	1,142,800	852,464	1,142,800	1,330,192
Dec, 24	955,680	1,591,056	130,320	51,424	1,303,200	2,062,344	1,303,200	1,743,120	651,600	1,355,144

Jan-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Feb,22	12,870	466,848	8,910	76,208	29,700	1,907,608	29,700	1,763,272	17,820	1,002,552
Mar,22	217,600	3,291,408	65,280	79,228	652,800	1,925,656	652,800	1,250,120	587,520	1,221,328

1.11 Environmental Impact of the Facility:

We are committed to environmental sustainability and the prevention of pollution by carrying out all works on our sites, yards and offices in an environmentally responsible manner and acting as a "good neighbour".

Management of the Environment:

In order to manage our environmental performance we have implemented an Environmental Management System in accordance with the requirements of ISO 14001:2004 and it aims to achieve the following objectives;

- Evaluate the environmental aspects of our activities and minimize where possible, the resulting environmental impacts.
- Implement systems and procedures to facilitate continual improvement.
- Manage our activities with diligence and with the awareness that our goal is to protect the environment and prevent pollution.
- Comply with relevant environmental legal and regulatory requirements as well as company policies and client requirements.
- Foster openness, dialogue and facilitate communication regarding our environmental performance and our environmental objectives and targets. At least once every year we review the environmental objectives and targets.

Annexure A: Technical Information about PHP

PEHUR HYDROPOWER PLANT

GENERATOR MAIN TECHNICAL DATA

Unit No.1&2

Type:	SFW-J6000-10/2150
Rated power:	6000 kW
Rated voltage:	11 kV
Rated current:	370.5 A
Rated speed:	600 rpm
Runaway speed:	1100 rpm
Rated frequency:	50 Hz
Rated power factor:	0.85 (lagging)
Rated field current:	345 A
Rated field voltage:	108.5 V
Direct-axis sub-transient reactance (X_d''):	0.1581
Direct-axis synchronous reactance (X_d):	1.0822
Cross-axis synchronous reactance (X_q):	0.6069
Direct-axis transient reactance (X_d'):	0.2419
Cross-axis transient reactance (X_q'):	0.6069
Direct-axis sub-transient reactance (X_d''):	0.1581
Cross-axis sub-transient reactance (X_q''):	0.2580
Negative-sequence reactance (X_2):	0.2019
Zero phase-sequence reactance (X_0):	0.0543
Short-circuit ratio:	≥1.02
Leakage reactance of stator winding (X_e):	0.0894
Resistance of stator winding per phase (75°C):	0.1159 Ohm
Direct-axis transient open-circuit time constant (T_{d0}'):	3.76 s
Direct-axis sub-transient open-circuit time constant (T_{d0}''):	0.0379 s
Direct-axis transient short-circuit time constant (T_d'):	0.841 s
Armature time constant (T_a):	0.0951 s

Unit No.3

Type:	SFW-J6000-16 2840
Rated power:	6000 kW
Rated voltage:	11 kV
Rated current:	370.5 A
Rated speed:	375 rpm
Runaway speed:	742 rpm
Rated frequency:	50 Hz
Rated power factor:	0.85 (lagging)
Rated field current:	340 A
Rated field voltage:	132.5 V
Direct-axis sub-transient reactance (X_d''):	0.1858
Direct-axis synchronous reactance (X_d):	1.004
Cross-axis synchronous reactance (X_q):	0.6219
Direct-axis transient reactance (X_d'):	0.2918
Cross-axis transient reactance (X_q'):	0.6219
Direct-axis sub-transient reactance (X_d''):	0.1858
Cross-axis sub-transient reactance (X_q''):	0.2789
Negative-sequence reactance (X_2):	0.2276
Zero phase-sequence reactance (X_0):	0.0692
Short-circuit ratio:	≥1.1
Leakage reactance of stator winding (X_e):	0.1128
Resistance of stator winding per phase (75°C):	0.1222 Ohm
Direct-axis transient open-circuit time constant (T_{d0}'):	3.50 s
Direct-axis sub-transient open-circuit time constant (T_{d0}''):	0.04169 s
Direct-axis transient short-circuit time constant (T_d'):	1.0173 s
Armature time constant (T_a):	0.1016 s

GOVERNOR

Main Technical Data

Unit No.1, 2 and 3

Frequency setting range:	45～55Hz
Permanent speed droop:	0～10%
Proportional gain:	0.5～20
Integral gain:	0.05～10 1/s
Derivative gain;	0～5 s
Artificial frequency dead band:	0～±0.5Hz
AC Power supply:	AC380/220V+10% 50Hz
DC Power supply:	DC220V±15%
Unit frequency signal:	AC0.5～220V(supplied by unit PT)
Grid frequency signal:	AC0.5～220V(supplied by network PT)
Rated work pressure of Hydraulic system:	4.0 MPa
Open/close time of servomotor:	2.5-80 s

EXCITATION SYSTEM

Main Technical Data

Unit 1 & 2

Excitation type:	static
Excitation transformer	
Capacity:	125 kVA
Voltage ratio:	11 / 0.19 kV
Vector group:	Dy11
Frequency:	50 Hz
Range of unit voltage:	70% to 110%
Range of field current:	20% I_{f0} to 110% I_{fn}
Voltage regulating precision:	0.5%
Step response characteristic	
Overshoot:	≤50%
Regulating time:	≤10 s
Oscillation times:	≤3
Flashing from zero	
Overshoot:	≤15%
Regulating time:	≤10 s
Oscillation times:	≤3
Load rejection with rated power	
Overshoot:	≤15%
Regulating time:	≤10 s

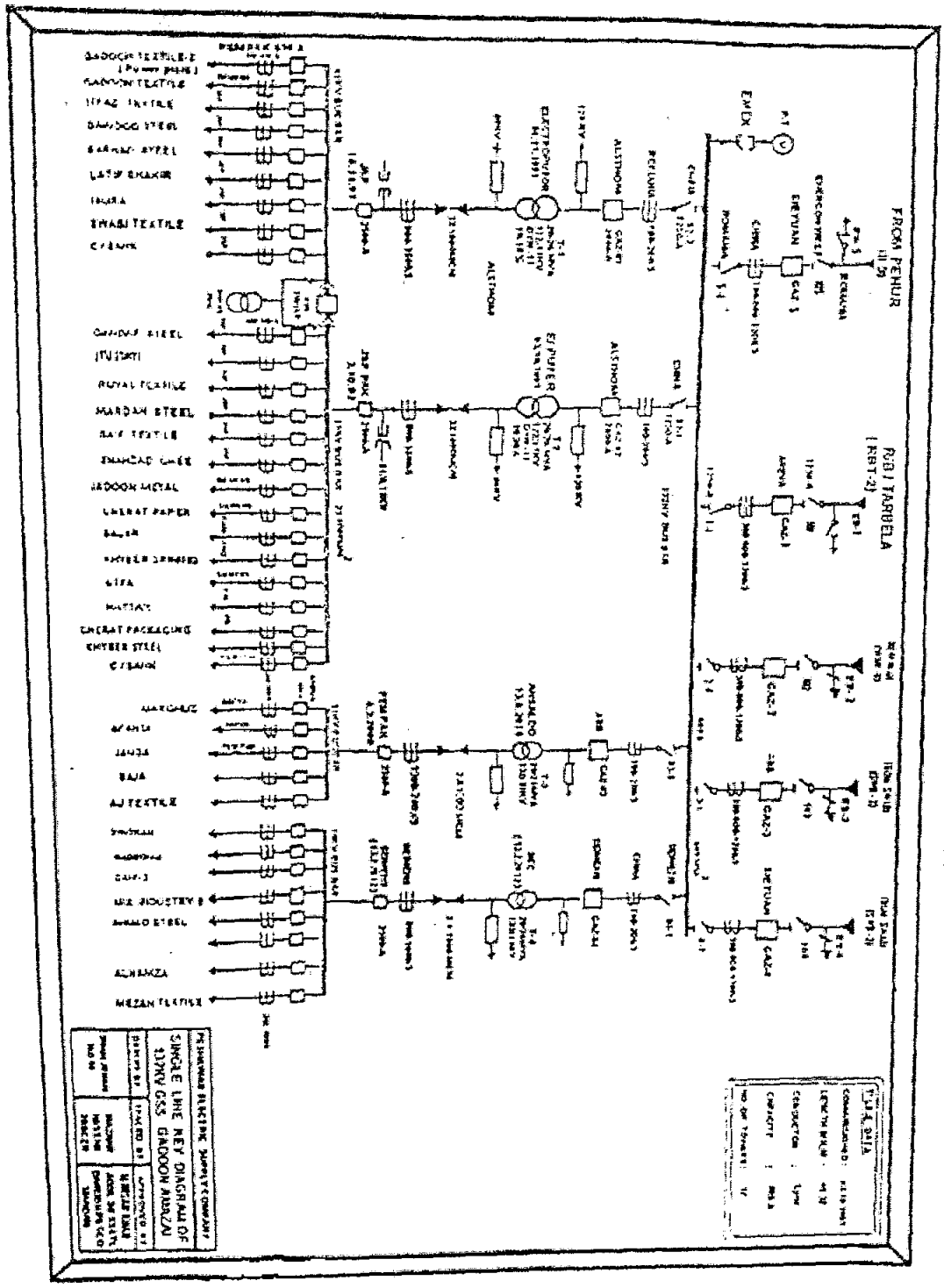
Oscillation times:	≤3
Frequency characteristic	
Voltage change is less than 0.25% (When frequency changes)	1%
Over load ability:	110%

Unit 3

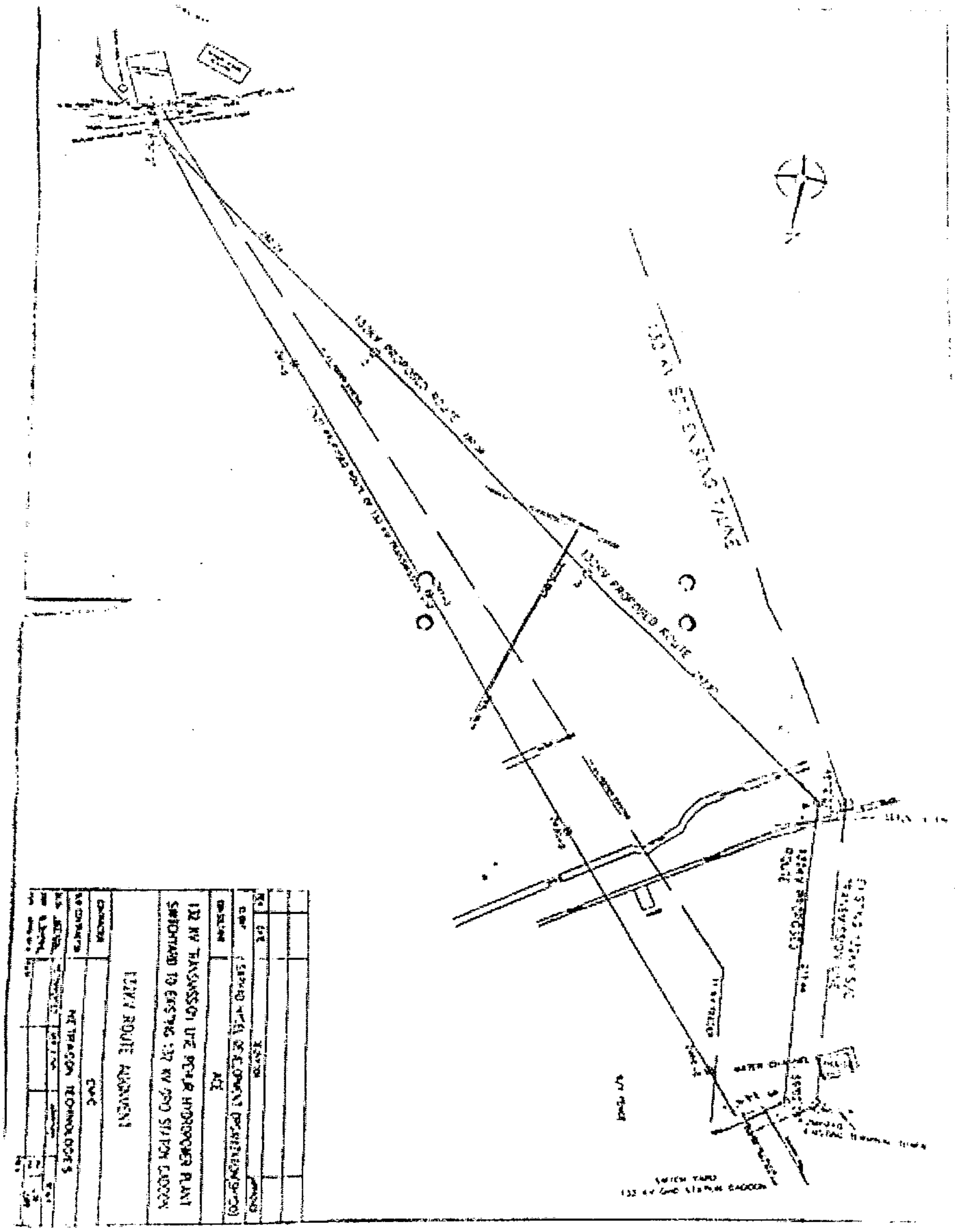
Excitation type:	static
Excitation transformer	
Capacity:	160 kVA
Voltage ratio:	11 / 0.231 kV
Vector group:	Dy11
Frequency:	50 Hz
Range of unit voltage:	70% to 110%
Range of field current:	20% I_{f0} to 110% I_{fn}
Voltage regulating precision:	0.5%
Step response characteristic	
Overshoot:	≤50%
Regulating time:	≤10 s
Oscillation times:	≤3
Flashing from zero	
Overshoot:	≤15%
Regulating time:	≤10 s
Oscillation times:	≤3
Load rejection with rated power	
Overshoot:	≤15%
Regulating time:	≤10 s
Oscillation times:	≤3
Frequency characteristic:	
Voltage change is less than 0.25% (When frequency changes)	1%
Over load ability:	110%

Annexure B: Technical Drawings

Single Line Diagram
of 132 KV Gadoon Amazai Grid Station of PESCO for
Dispersal of Power to Different BPC(s)



Schematic Diagram
for Interconnection/Transmission Arrangement for Dispersal of Power from Generation Facility/ Hydel Power Plant of PEDO



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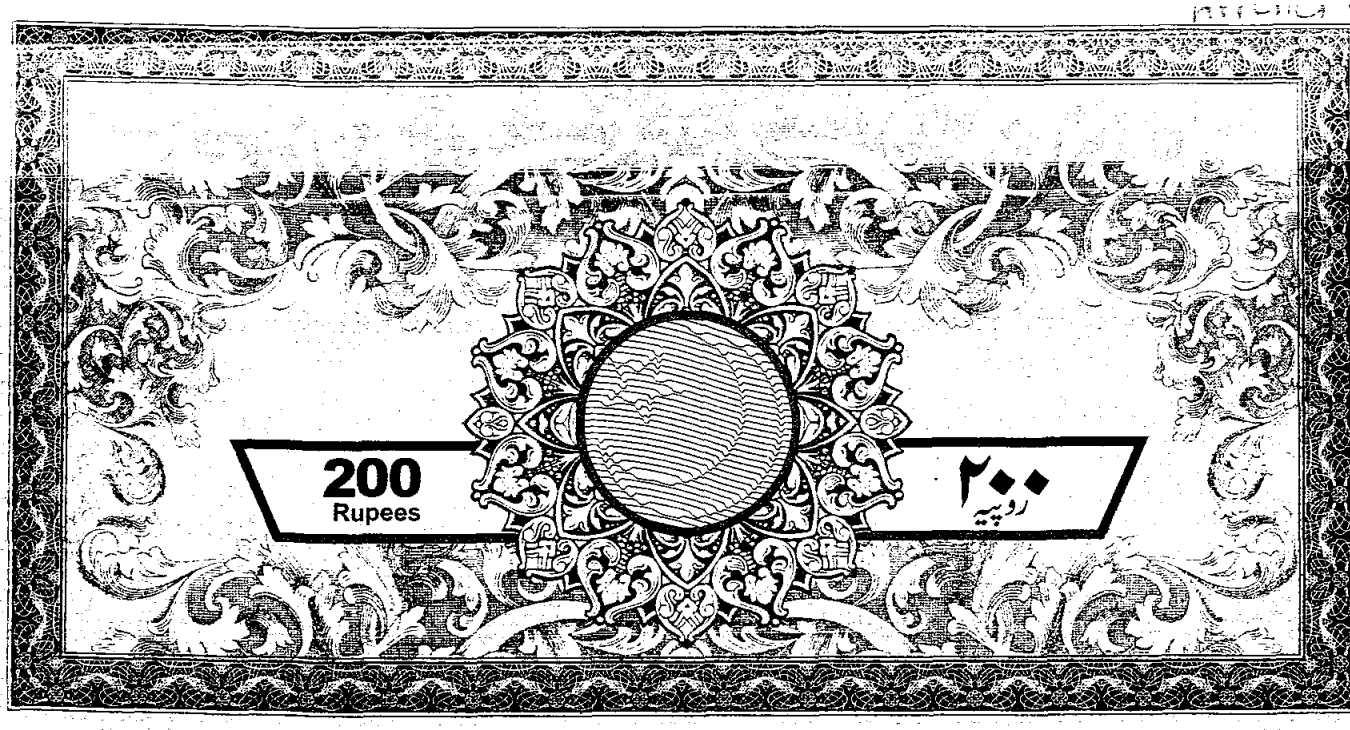


AFFIDAVIT

I, Engr Gul Zali Khan, Resident Engineer, Pehur Hydropower Project, Pakhtunkhwa Energy Development Organization, being duly authorized representative of Pakhtunkhwa Energy Development Organization, with its office at Plot No. 38, Sector B-2, Phase – 5, Hayatabad, Peshawar, Pakistan.

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

1. I am Resident Engineer, Pehur Hydropower Project, Pakhtunkhwa Energy Development Organization.

2. It is hereby stated that the Pakhtunkhwa Energy Development Organization has been granted Generation Licences for the following projects pursuant to the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997:

   (i) 11.80 MW Karora Hydropower Project;
   (ii) 36.60 MW Daral Khwar Hydropower Project;
   (iii) 10.2 MW Jabori Hydropower Project;
   (iv) 2.60 MW Machai Power Project;
   (v) 18 MW Pehur Hydropower Project;
   (vi) 17 MW Ranolia Hydropower Project;
   (vii) 4.20 MW Reshun Power Project;
   (viii) 1.875 Shishi Power Project; and
   (ix) 40.8 MW Koto Hydropower Project.

3. The above content is true and correct to the best of my knowledge and belief, and nothing material or relevant thereto has been concealed or withheld therefrom.

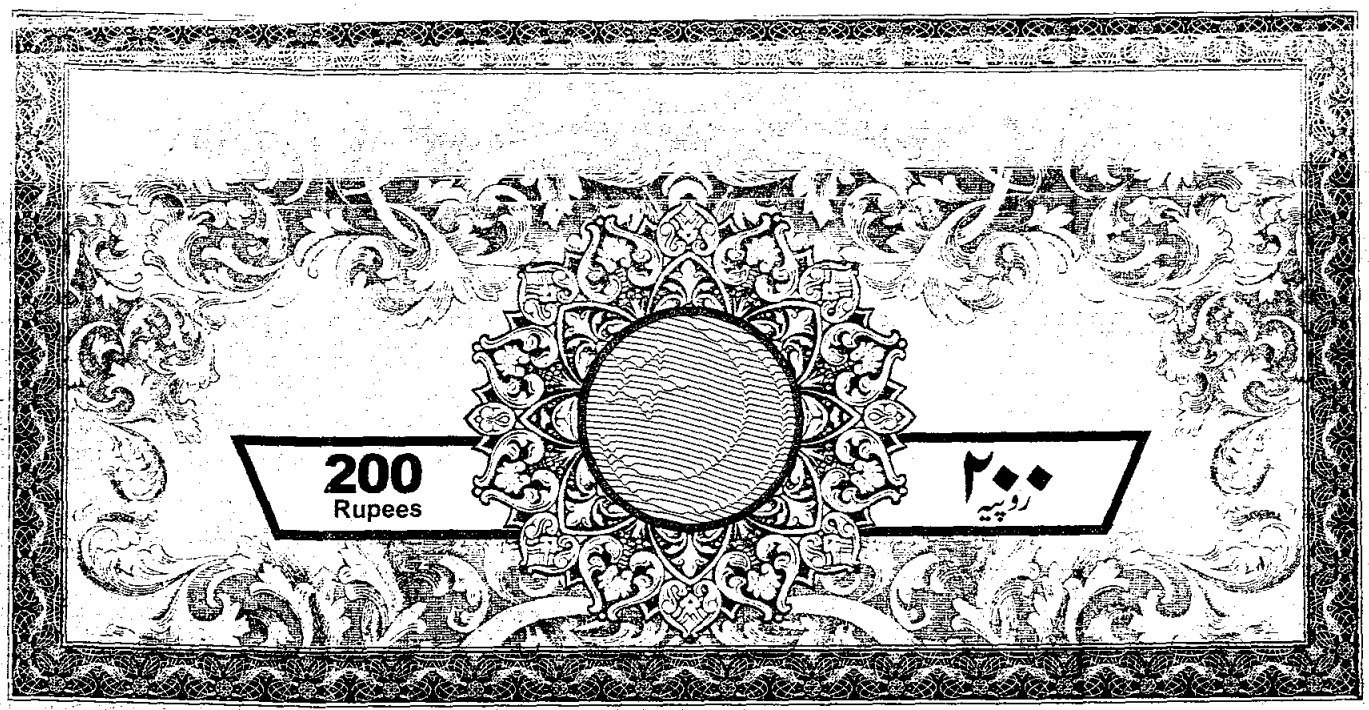
Deponent

Verification

It is hereby verified on solemn affirmation at Islamabad on 7th day of June, 2024 that the contents of the above Affidavit are true and correct to the best of my knowledge and belief, and that nothing material or relevant thereto has been concealed or withheld therefrom.

696482

ONLY USED FOR ISLAMABAD



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

1. I am Resident Engineer, Pehur Hydropower Project, Pakhtunkhwa Energy Development Organization.

2. The contents of the accompanying Electric Power Supply Licence Application, including all supporting documents, annexures and appendices are true and correct to the best of my knowledge and belief, and nothing material or relevant thereto has been concealed or withheld therefrom.

3. I also affirm that all further documentation and information to be provided by the Pakhtunkhwa Energy Development Organization in connection with the Electric Power Supply Licence Application (as may be required).

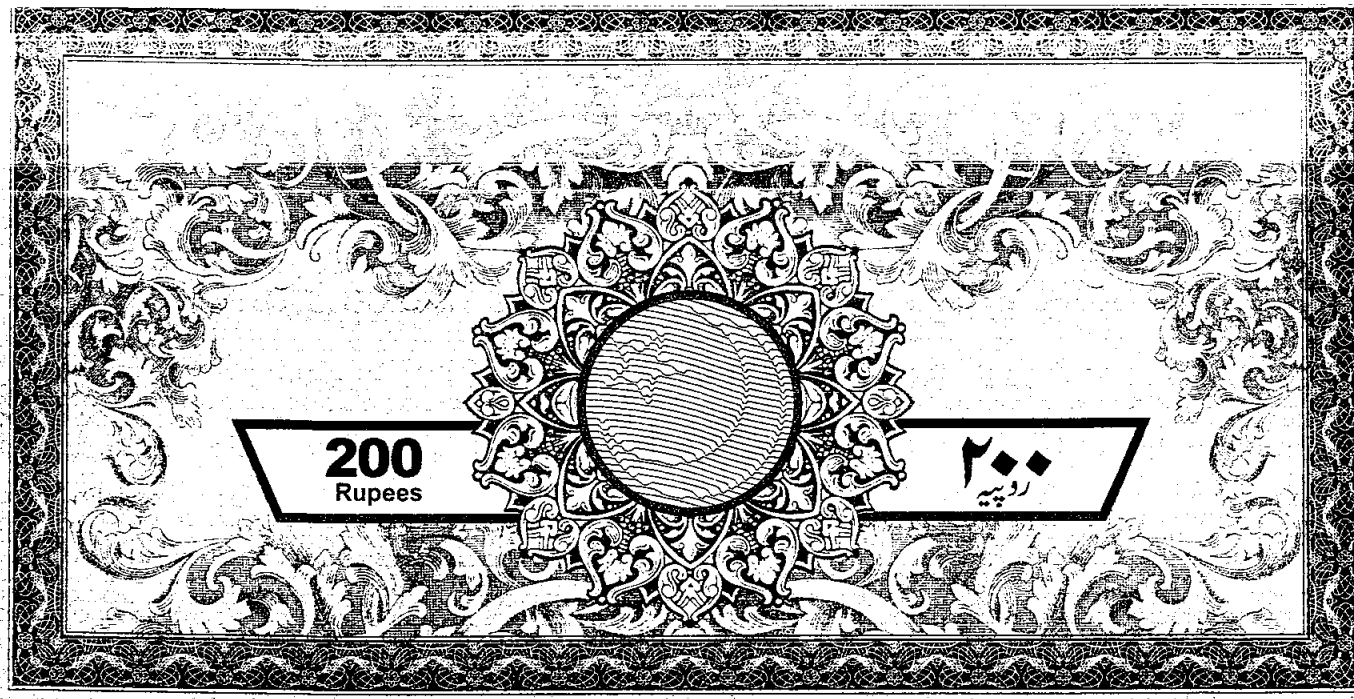
Deponent

Verification

It is hereby verified on solemn affirmation at Islamabad on 7th day of June, 2024 that the contents of the above Affidavit are true and correct to the best of my knowledge and belief, and that nothing material or relevant thereto has been concealed or withheld therefrom.

696481

ONLY USED FOR ISLAMABAD



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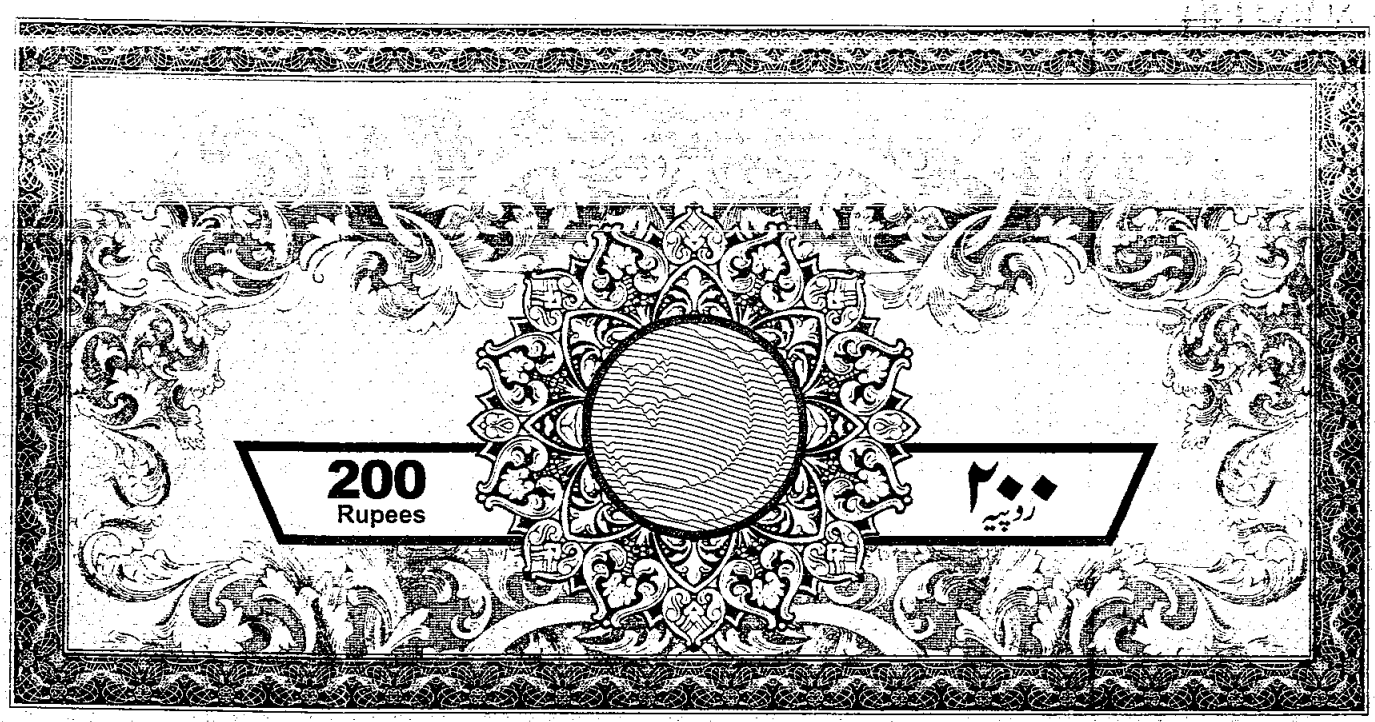
I, Engr Gul Zali Khan, Resident Engineer, Pehur Hydropower Project, Pakhtunkhwa Energy Development Organization, being the duly authorized representative of Pakhtunkhwa Energy Development Organization in regards to Application for grant of Electric Power Supply Licence for 18MW Pehur Hydropower Project by virtue of Power of Attorney dated April 17, 2024, hereby solemnly affirm and declare that the Pakhtunkhwa Energy Development Organization is compliant with and shall always fulfill the obligations imposed on it under the National Electricity Policy and National Electricity Plan made under section 14A of the Act

Deponent

ATTESTED

696479

ONLY USED FOR ISLAMABAD



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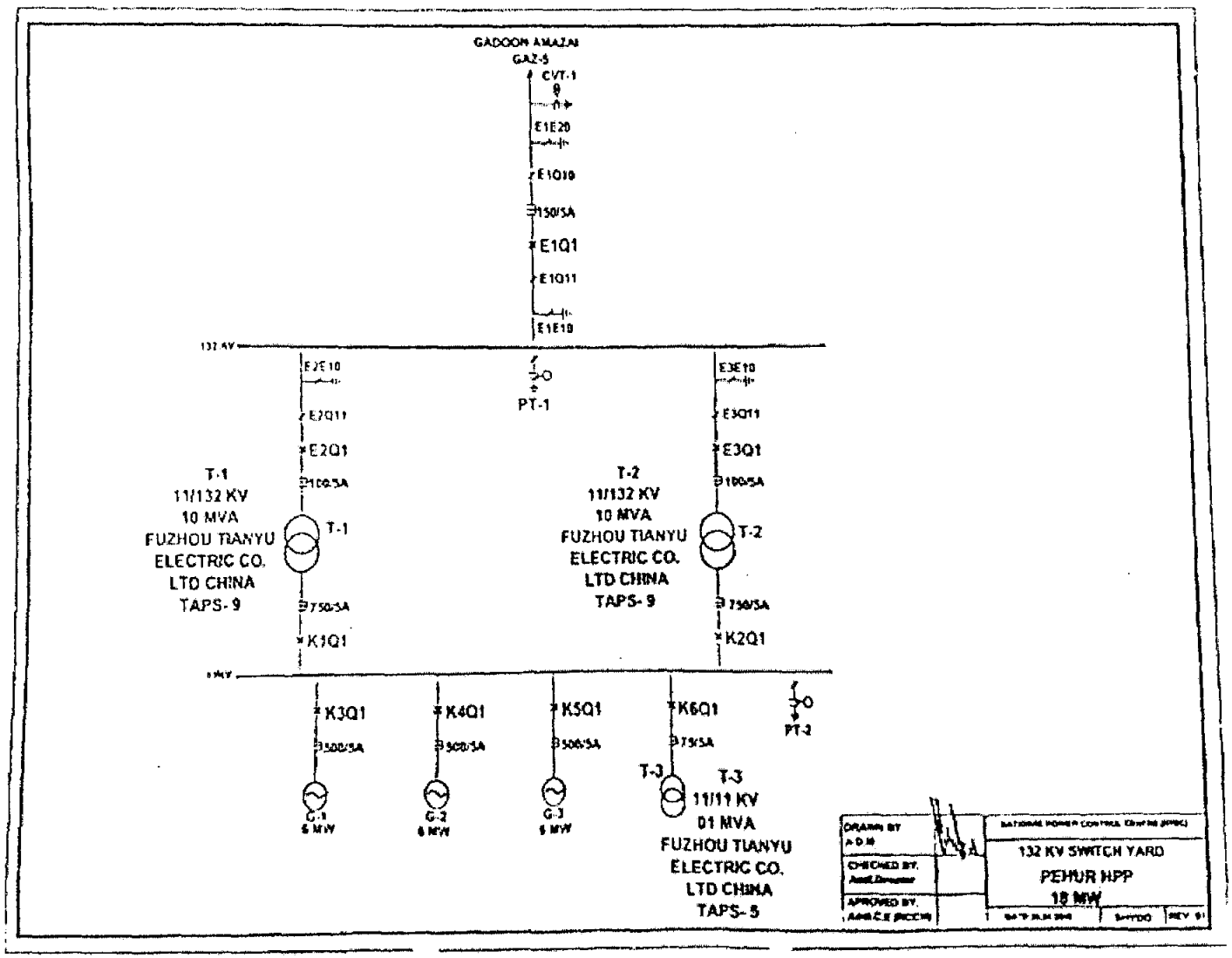
Deponent

ATTESTED

DETAILS
OF
RELEVANT FEEDER MAPS

Single Line Diagram of the Generation Facility/Hydel Power Plant of PEDO



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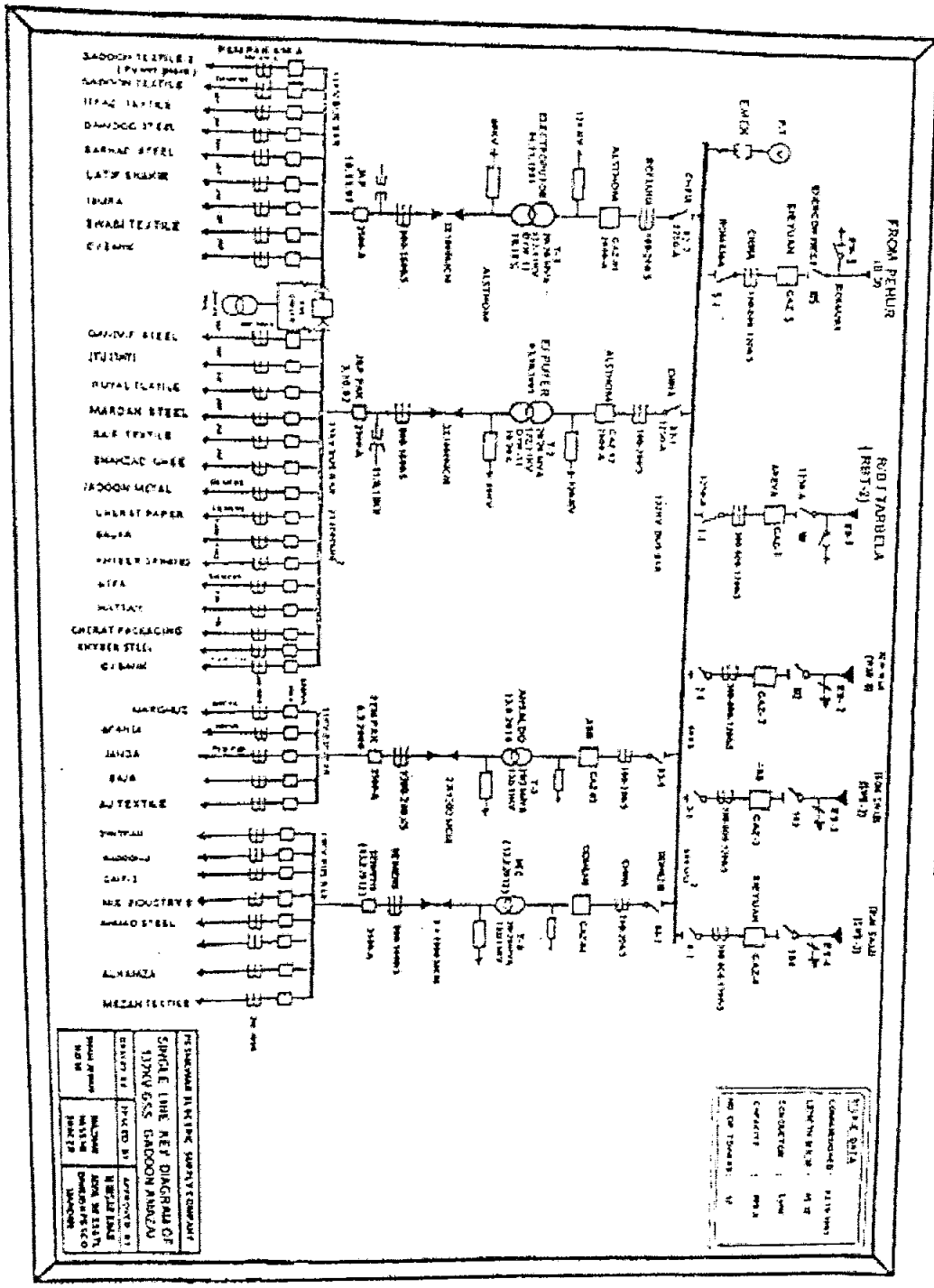

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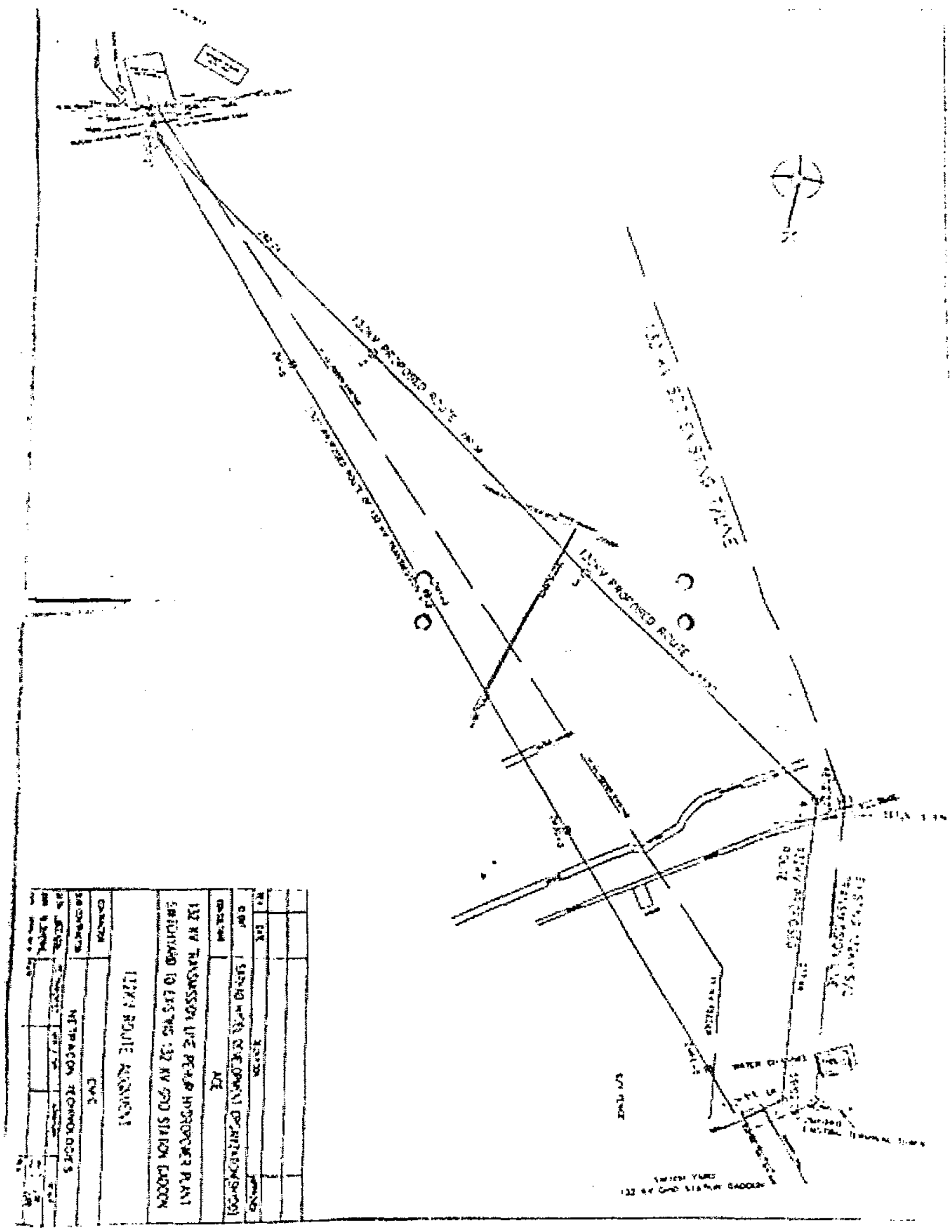

TARIFF CATEGORIES OF CONSUMER CLASSES TO BE SERVED

1. The power generated by the Pehur Hydel Power Plant of PEDO shall be dispersed to 132 KV Gadoon Amazai Grid Station of PESCO through a 132 KV S/C Transmission Line for supplying to different BPC(s) by wheeling through the network of PESCO.
2. Total number of BPC(s) is five (05):

S/No.	Name of the Purchaser (BPCs)	PAIE (Purchaser Allocated Input Energy) as per EWA/EPA(%)
i.	Cherat Cement Company Ltd.	10
ii.	Premier Chipboard Industries Pvt. Ltd.	15
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v.	Cherat Packaging Ltd.	15

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4. Any change in the final Interconnection and Transmission Arrangement(s), for the dispersal of power other than the above, as agreed by the Licensee, BPCs and PESCO shall be communicated to the Authority in due course of time.

Tariff Calculation

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Water Use Charge	0.4250	0.4250
Total Tariff	7.5514	10.3780
Benchmarks		
CPI	119.46	255.24
Note: Applicable Tariff	10.3780	
According to Schedule-I Part 3 of the Energy Purchase Agreement (EPA), The above mentioned rate will be applicable from 1st Jan -2024 to 30th April -2024 if any charges occures the same will be applicable accordingly.		

TWELVE MONTHS

MONTH WISE EXPECTED

ENERGY EXPORT

TO

BULK POWER CONSUMERS

Month wise expected energy export to BPCs (12-months):

Month	Cherat Cement KWh		Premier Chipboard KWh		AJ Textile KWh		Gadoon Textile KWh		Cherat Packaging KWh	
	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump..
Apr, 24	494,400	600,048	329,600	325,528	988,800	1,450,600	988,800	761,848	494,400	1,322,328
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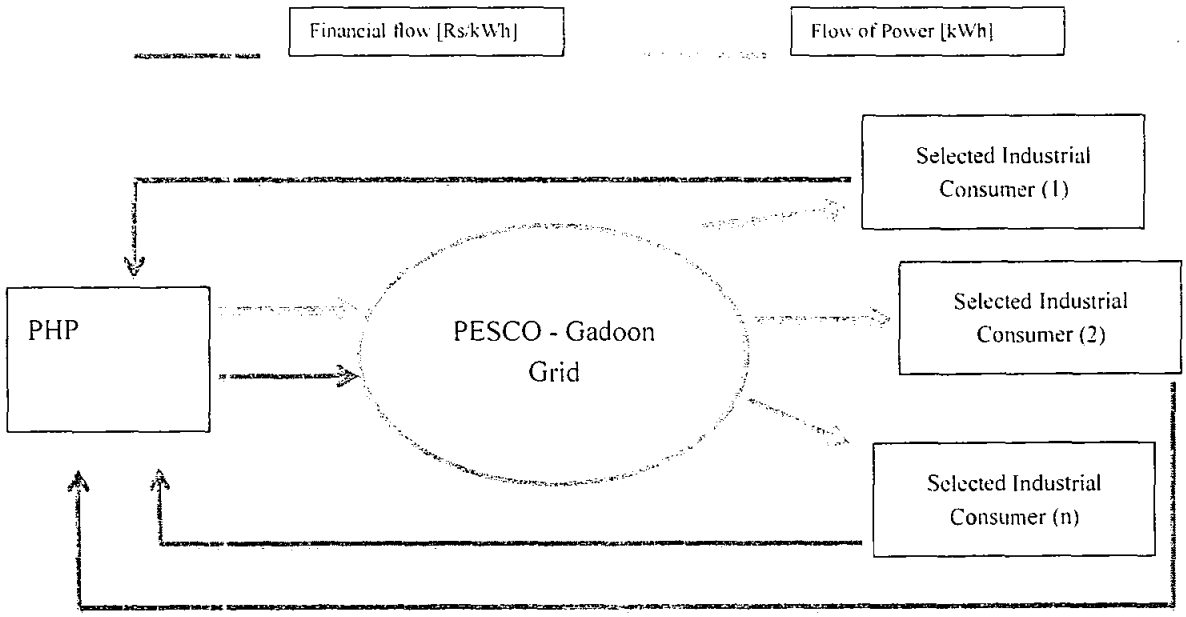
Dec, 24	955,680	1,591,056	130,320	51,424	1,303,200	2,062,344	1,303,200	1,743,120	651,600	1,355,144
Jan-25	73,500	737,712	31,500	79,296	157,500	2,052,136	157,500	2,419,200	105,000	1,228,456
Feb,25	12,870	466,848	8,910	76,208	29,700	1,907,608	29,700	1,763,272	17,820	1,002,552
Mar,25	217,600	3,291,408	65,280	79,228	652,800	1,925,656	652,800	1,250,120	587,520	1,221,328

BILLING AND COLLECTION PROCEDURES

As PHP is already operational, connected with PESCO grid and supplying power to QICs, the wheeling mechanism will be established with selected industrial consumers on the existing interconnection and infrastructure in place, with no technical changes required, as such.

Under the wheeling mechanism there will be an entry meter installed at PHP end to record the supply of power into the PESCO network. Similarly there will be an exit meter installed at the consumer end (or selected industrial consumer or power purchaser). No change in the protection hardware may be required within the interconnection of system because the Project and selected industrial consumer is already connected with PESCO, under the existing interconnection scheme.

The overall wheeling arrangement is summarized in following diagram.



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In case selected industrial consumer is unable to accept electricity at any time, or due to inability of PESCO to deliver the power at the exit point (at any time), the concept of Banking may also be covered under EWA, to be negotiated with PESCO. Under this concept, the PESCO will be bound to supply such energy in future, which was evacuated from the Entry Point but not delivered at the Exit Point at that time, less agreed losses. The selected industrial consumers may

retain their backup power options from captive means. However, if the demand at consumer end is more than the supply under EWA, the consumer can also purchase excessive power requirement from PESCO at applicable tariff.

1. Online galaxy reading, collected by PESCO from exit meters, and then forwarded to PEDO for preparing the BPC's bill.

2. Invoices/bills then moved to BPC's for payment.

3. Invoice for the excess energy (Energy that not utilized by any BPC's) send to PESCO for payment.

Lincoln's Law Chamber
Corporate Office. 22nd F Floor, Beverley Centre, Blue Area, Islamabad
Business Center : 22nd M-Floor, Beverley Center, Blue Area, Islamabad

No. LLC/Pehur/SL-01/02
Date: July 25, 2024

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

SUBJECT: **APPLICATION FILED BY PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION FOR GRANT OF POWER SUPPLY LICENCE —18 MW PEHUR HYDROPOWER PROJECT**

Ref: [1] No. NEPRA/R/LAS-100/10215-15 dated July 03, 2024

Dear Sir,

In reference to your letter at ref [1], please find attached herewith the following documents as required by your good office in relation to PEDOs' Application for Supply of Electric Power for 18 MW Pehur Hydropower Project.

(i) Prospectus;
(ii) Feasibility Study and technical specifications;
(iii) Affidavits duly stamped by Oath Commissioner;
(iv) Details of relevant feeder maps;
(v) Tariff categories of consumer classes to be served;
(vi) 12-month projections on expected load, number of consumers and expected sale of units for each consumer category; and
(vii) Billing and collection procedures.

The Application may be placed before the National Electric Power Regulatory Authority for its perusal and consideration regarding grant of Electric Power Supply Licence.

For and On behalf of
Pakhtunkhwa Energy Development Organization

LINCOLN'S LAW CHAMBER ISLAMABAD

Barrister Asghar Khan
Advocate

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PROSPECTUS

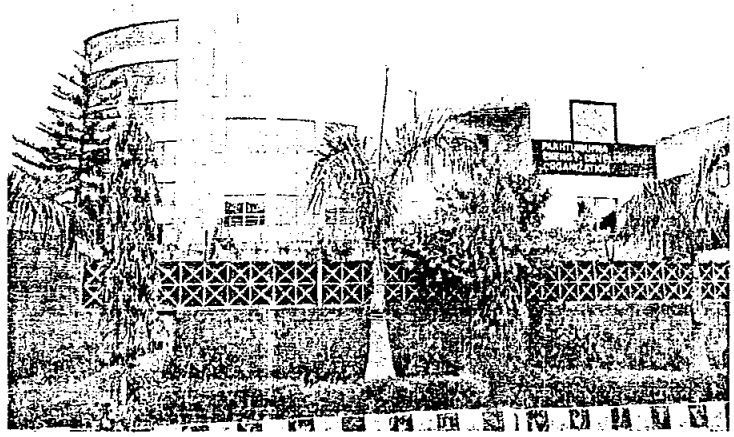
FOR

18 MW PEHUR HYDEL POWER PLANT LOCATED AT INDUS RIVER DOWNSTREAM OF TARBELA RESERVOIR, DISTRICT SAWABI, KHYBER PAKHTUNKHWA

1. PEDO Introduction

Khyber Pakhtunkhwa Province of Pakistan is blessed with huge hydropower potential. This potential remained focus of interest to private investors and international funding agencies. Most of the hydel projects of Pakistan including Tarbela and Warsak hydropower stations are located in KP.

Pakhtunkhwa Energy Development Organization (PEDO), since its inception in 1986, has been instrumental in identifying and exploiting hydel potential in Khyber Pakhtunkhwa. The organization is under the administrative control of Energy and Power Department of Provincial Government and is governed by the Board of Directors. PEDO has so far identified a number of promising hydel potential sites of more than 6000 MW capacity, which can be developed in a systematic manner either through Public sector or Private sector.



i. Objectives of the Organization

- Prepare comprehensive plan for development of the power and energy resources of the province.
- Frame schemes related to Generation, Transmission and Distribution of power, construction, maintenance and operation of powerhouses.
- Advisory body for the Government of KP in power sector matters regarding hydropower development.
- Conducting feasibility studies, surveys of hydel potential sites etc.
- Implementation of Provincial Hyde-I Power Policy to promote private sector investment in generation, transmission and distribution of power.

ii. Role of PEDO

The Provincial Government has entrusted a dynamic role to PEDO, which is mainly oriented towards private sponsor's participation in power sector projects besides developing projects in public sector. PEDO has established a dedicated Directorate to provide one window facility to private sponsors.

iii. PEDO Organization

A Board of Directors under the chairmanship of the Chief Minister of Khyber Pakhtunkhwa governs the affairs of PEDO. The members include Additional Chief Secretary, Secretary Finance, Secretary Energy and Power and Chief Executive Officer PEDO. The head office of the Organization is situated at Peshawar. A copy of the organogram of PEDO is given with this introduction.

1.1 Achievements by PEDO

PEDO, with the assistance of GTZ (German Agency for Technical Cooperation), has compiled a Master Plan for rural electrification in the Northern mountainous areas of KP with particular emphasis on those areas which were not connected to the National Grid System. The Master Plan entails a total potential of more than 6000 MW that has been identified for public and private sector development. The hydropower potential sites are mainly located in the Northern districts of K.P i.e. Chitral, Dir, Swat, Indus Kohistan and Mansehra.

i. Small Hydel Potential Sites

The Master Plan envisages small scale potential sites having total capacity of about 240 MW, comprising 53 hydel potential sites. These sites are suitable for regional supply to isolated communities in the mountainous areas of KP. The district wise breakup of sites is as follows:

S/No.	Region	No of Sites	Power Potential
1.	Upper Chitral	12	80
2.	Lower Chitral	10	68
3.	Kohistan	4	6
4.	Swat	5	5
5.	Mansehra/West	2	19
6.	Kaghan Valley	3	13
7.	Dir	17	50
Total:		53	241

ii. Medium /Large Hydropower Systems

During field investigations, some very attractive sites of medium and large hydropower potential were also identified by PEDO.

S/No.	Name of Project/Location	Capacity (MW)	Remarks
1.	Kandiah System, Kohistan a. Karang Scheme, 454 MW b. Kaigah Scheme, 548 MW	1002	Private sector is developing these sites under Federal Power Policy
2.	Swat System, Swat a. Upper Scheme AI, 101 MW b. Middle Scheme BI, 410 MW c. Lower Scheme CI, 148 MW	659	--do--
3.	Spat-Gah, Kohistan a. Upper Scheme 200 MW b. Middle Scheme 550 MW c. Lower Scheme 500 MW	1250	WAPDA has undertaken the feasibility study through KfW, Germany
4.	Chor Nala System, Kohistan a. Scheme C-II, 700MW	1500	--do--

	b. Scheme C-L 650 MW c. Scheme K-II. 150MW		
5.	Kunhar River System. Mansehra a. Naran. 215 MW b. Suki Kinari. 840 NW	865	Private sector is developing these sites under Federal Power Policy

iii. Feasibility Studies Completed

Out of the identified sites. PEDO has completed feasibility studies of the following potential sites. These schemes are in various stages of implementation.

S/No.	Project Location	Capacity (MW)	Remarks
1.	Daral Khwar HPP. Swat	36	Construction completed
2.	Ranolia HPP. Kohistan	17	--do--
3.	Pehur HPP. Swabi	18	--do--
4.	Summar Gah HPP, Kohistan	28	Suitable for private sector
5.	Batal Khwar HPP. Swat	8	--do--
6.	Matiltan HPP. Swat	84	Under construction stage
7.	Khan Khwar HPP. Besham	72	Picked up by WAPDA for implementation
8.	Duber Khwar HPP. Kohistan	130	
9.	Allai Khwar HPP, Batagram	120	

1.2 Hydropower Projects Completed

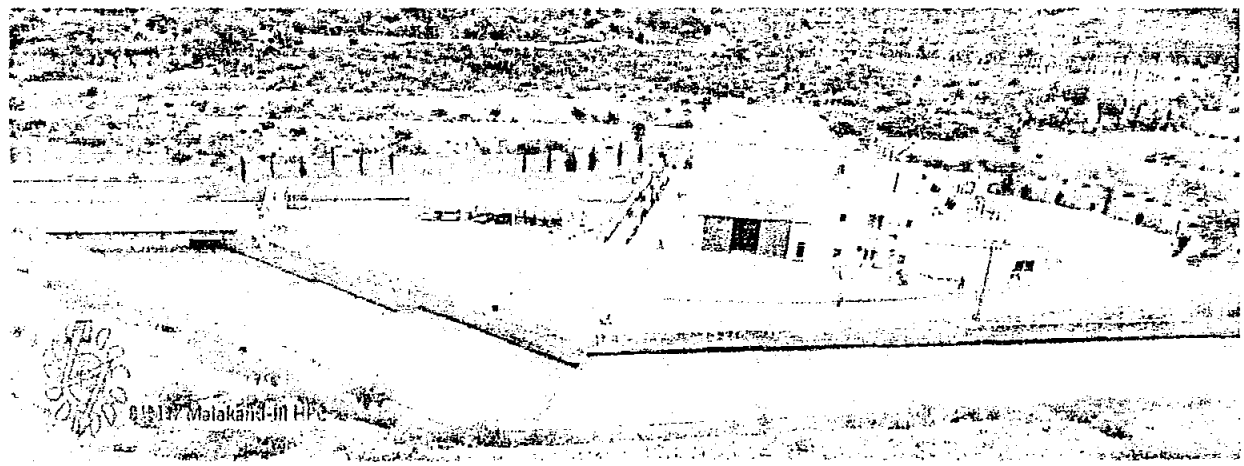
PEDO. after successful completion of following four small and medium size hydel projects with its own resources is planning to launch number of small. medium and large hydropower projects in view urgency for combating energy crises in the country.

Projects Completed by PEDO

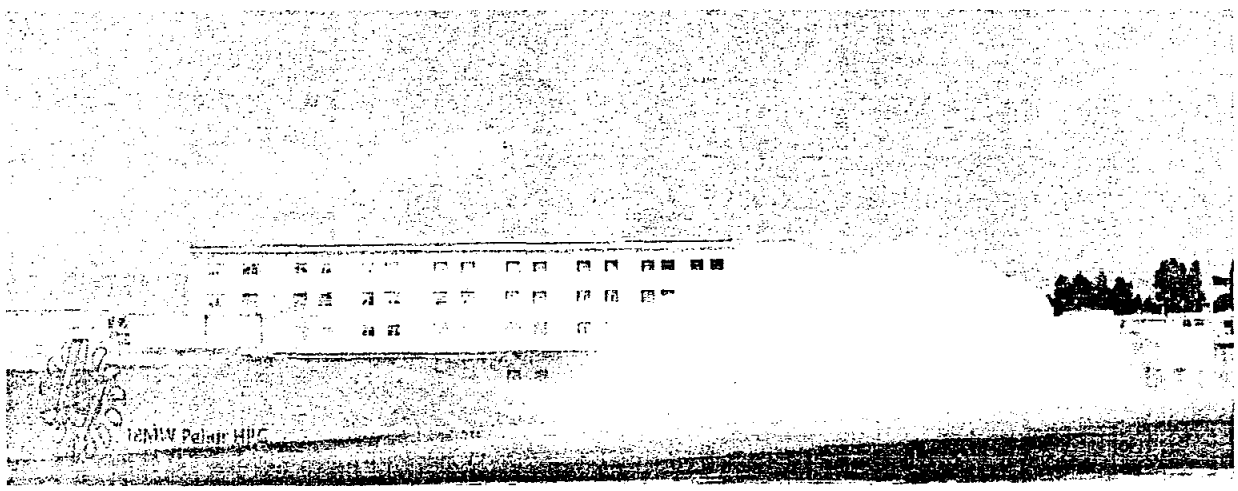
S/No.	Name of Scheme	Location	Capacity in MW
1.	Malakand-III HPP	Malakand	81
2.	Pehure HPP	Swabi	18
3.	Shishi HPP	Chitral	1.8
4.	Reshun HPP	Chitral	4.2
5.	Ranolia HPP	Kohistan	17
6.	Daral Khwar HPP	Bahrain. Swat	36.6
7.	Machai HPP	Mardan	2.6
8.	Karora HPP	Kohistan	11.80
9.	Jabori HPP	Mansehra	10.20
Total Installed Capacity:			183.2

These projects are not only contributing towards the reduction in load shedding but also generating annual revenue of Rs. 2 to 3 billion for the province. Besides the above completed Hydropower Projects, PEDO is implementing following projects with the assistance of Asian Development Bank (ADB) for the development of Hydropower Potential in Khyber Pakhtunkhwa Province which will be completed within three years;

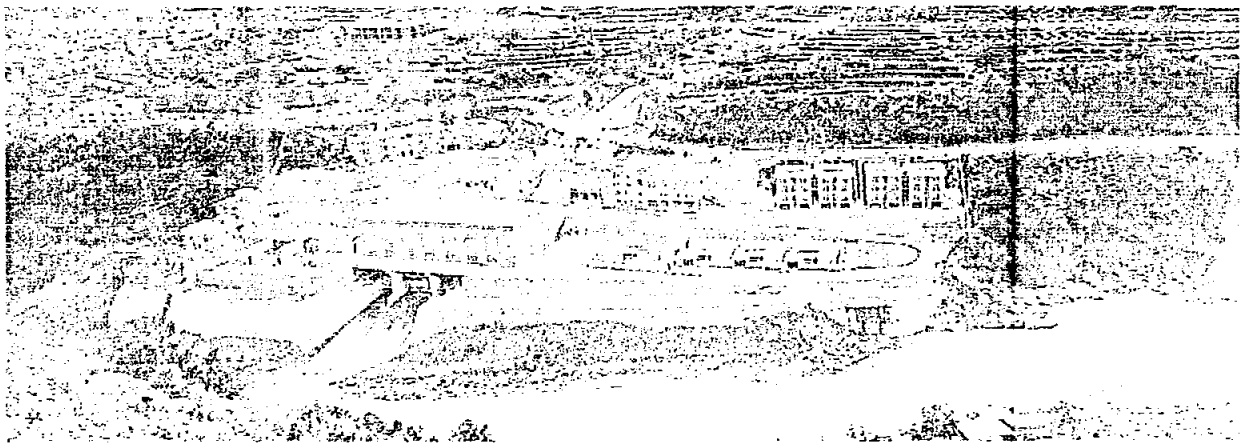
A view of Completed Projects as shown in below:



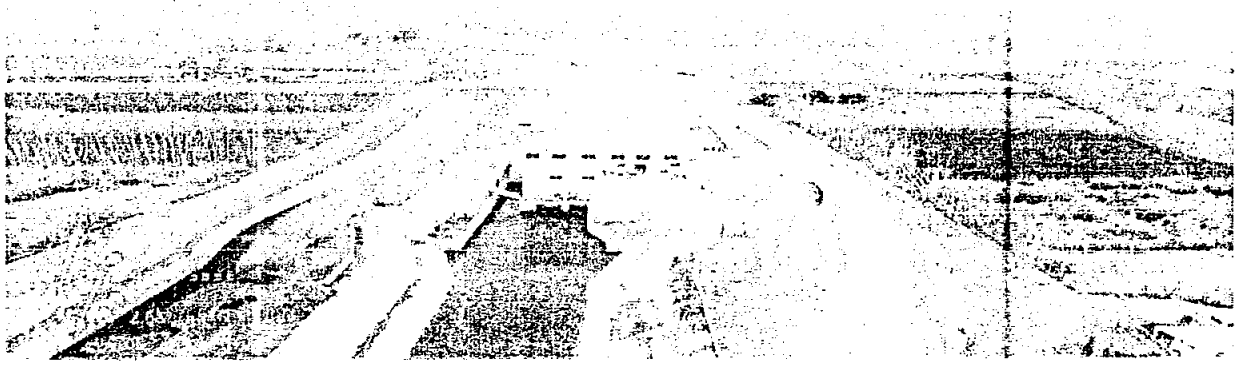
Malakand-III Hydropower Complex (81 MW)



Pehure Hydropower Complex (18 MW)



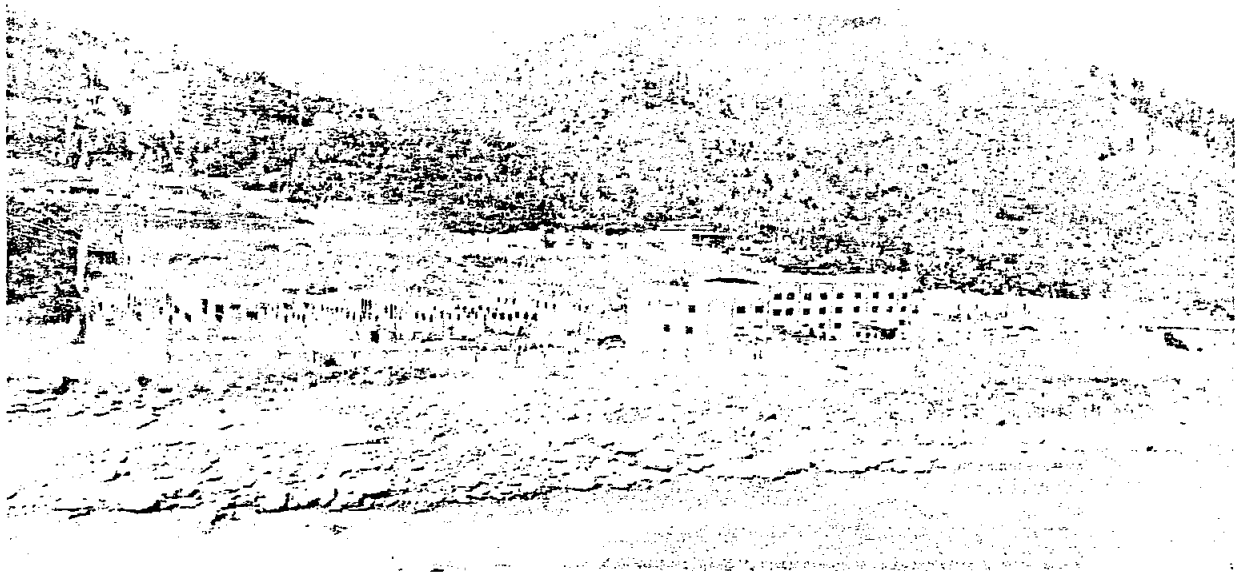
Daral Khwar Hydropower Complex (36.6 MW)



Machai Hydropower Complex (2.6 MW)

Ranolia Hydropower Complex (17 MW)

Jabori Hydropower Complex (10.20 MW)

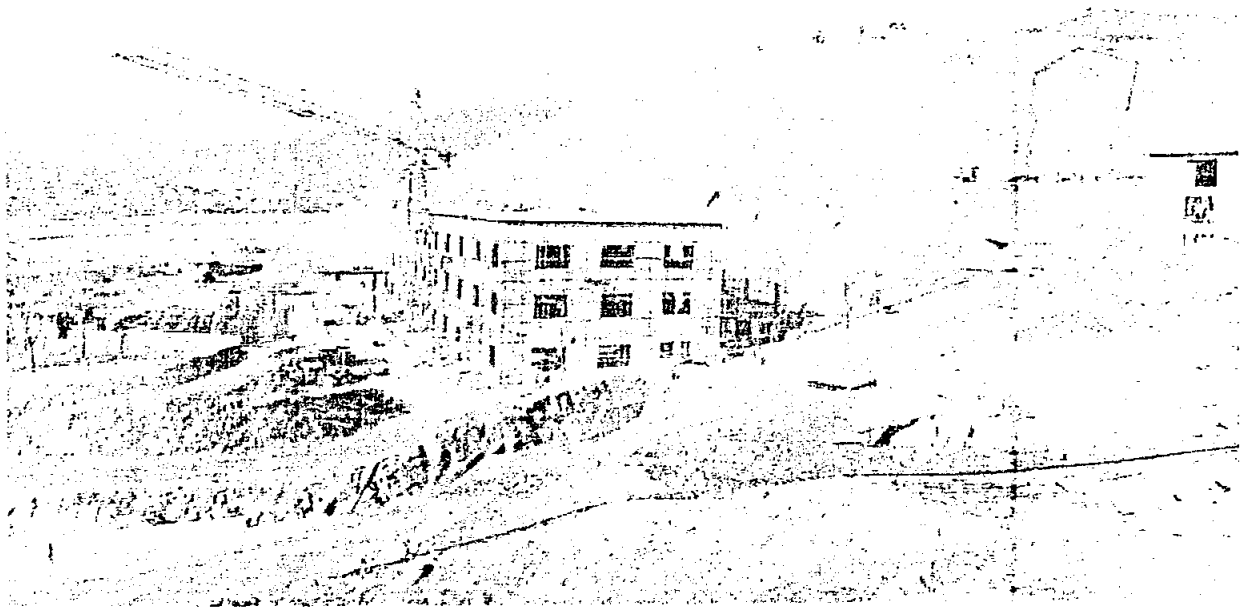


Karora Hydropower Complex (11.80 MW)

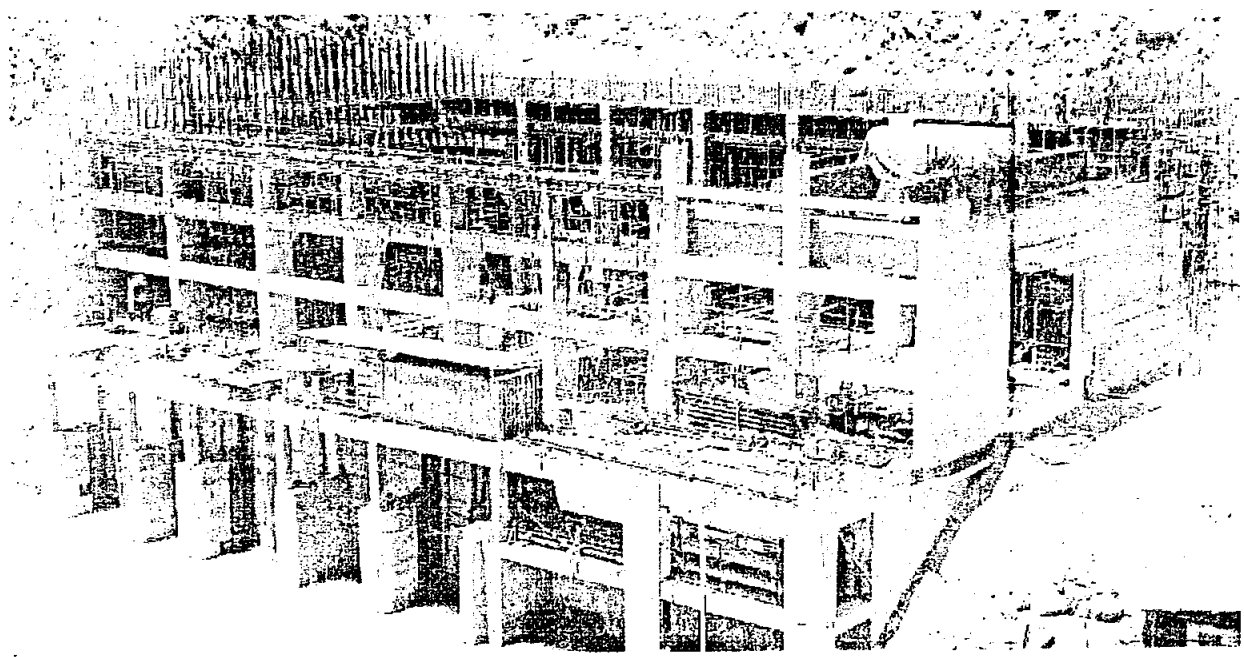
Projects under construction:

S/No.	Name of Scheme	Location	Capacity in MW
1.	Koto HPP	Dir (Lower)	40.8
2.	Matiltan HPP	Swat	84
3.	Lawi HPP	Chitral	69
4.	Balakot HPP	Mansehra	300
Total Installed Capacity:			493.8

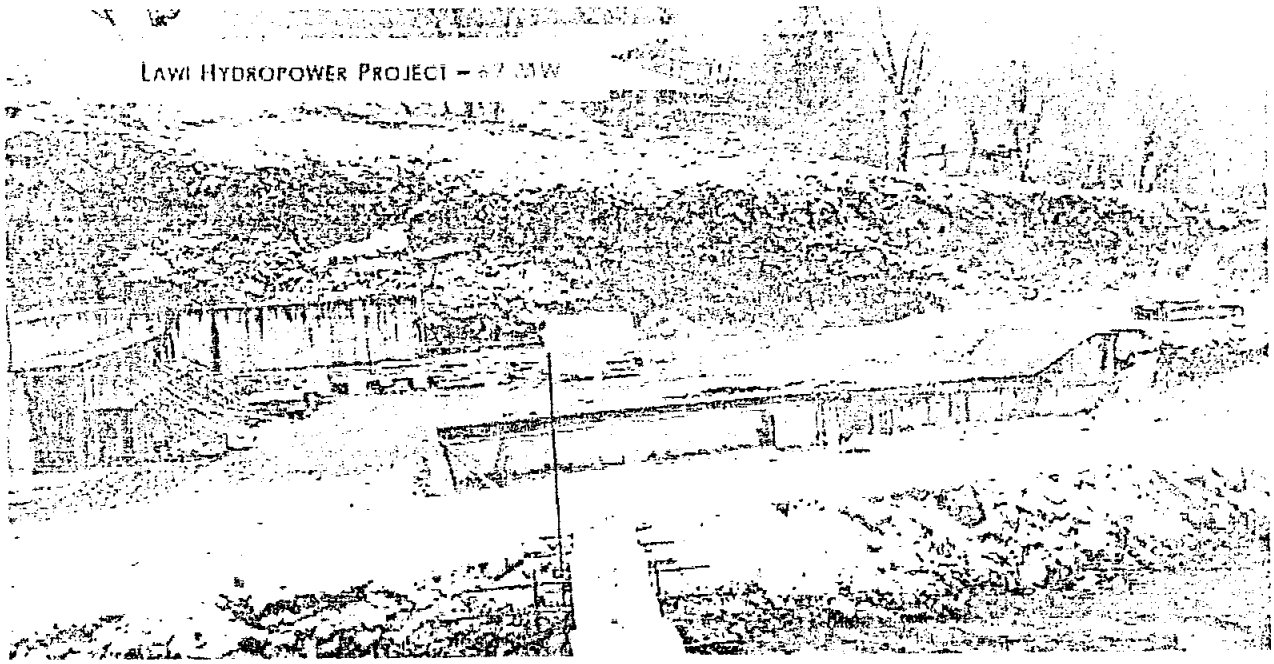
A view of Under Construction Projects as shown in below:



Koto Hydropower Project (40.8 MW)



Gorkin Matiltan Hydropower Project (84 MW)



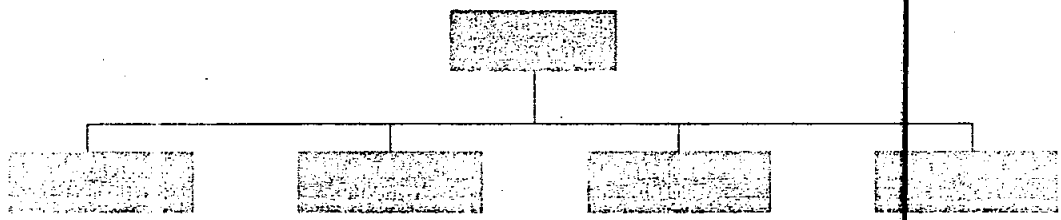
Lawi Hydropower Project (69 MW)

In addition to construction projects, PEDO has also completed feasibility study of 13 Hydel Power Projects with potential of 1322 MW under the same ACTION PLAN.

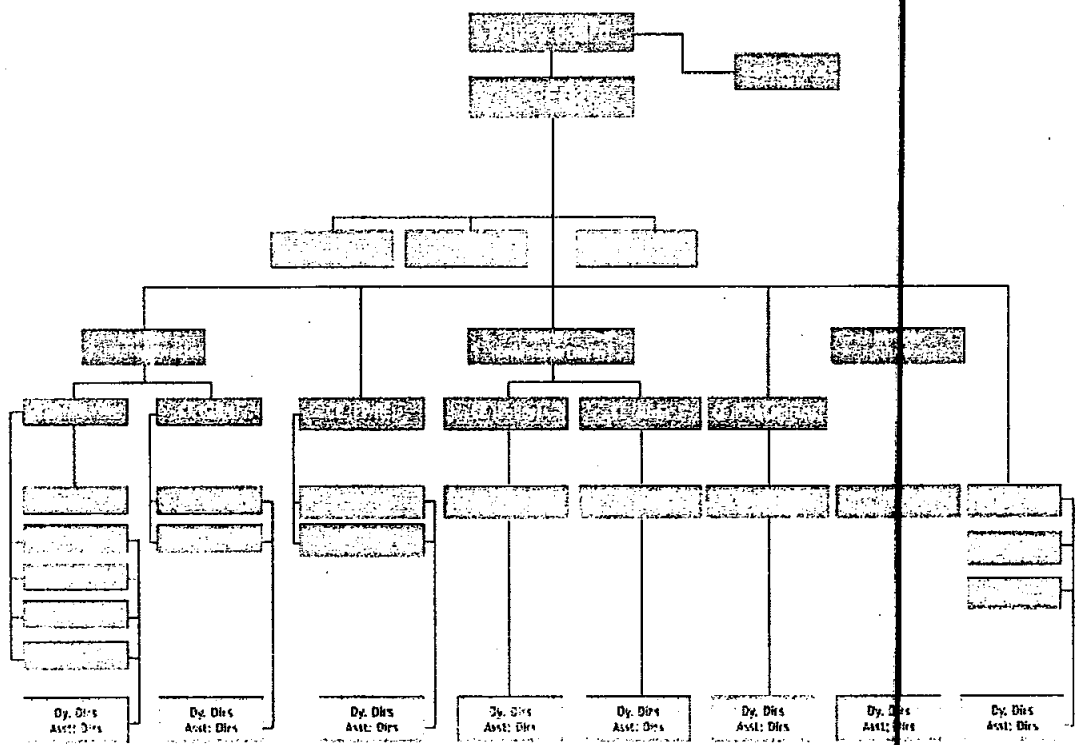
Projects in Feasibility Studies Stage:

S/No.	Name of Scheme	Location	Capacity in MW
1.	Gahrit-Swir Lasht HPP	Chitral	377
2.	Jamshail-Toren More HPP	Chitral	260
3.	Toren More — Kari HPP	Chitral	350
4.	Laspur Marigram HPP	Chitral	230
5.	Arkari Gol HPP	Chitral	99
6.	Istaru-Buni HPP	Chitral	72
7.	Mujigram Shogo HPP	Chitral	64.26
8.	Barikot Patrak HPP	Dir	47
9.	Patrak Shringal HPP	Dir	22
10.	Shigo Kach HPP	Dir	102
11.	Ghor Band HPP	Shangla	20.6
12.	Nandihar HPP	Batagram	12.3
13.	Naram Dam HPP	Mansehra	188
14.	Shushai-Zhendoli HPP	Chitral	144
15.	Shogo Sin HPP	Chitral	132
16.	Batakundi HPP	Mansehra	99
17.	Gabral Kalam	Swat	88
18.	Kari Mushkur HPP	Chitral	495
Total Installed Capacity:			2802.16

EXECUTIVE COMMITTEE



PEDO ORGANOGRAM



2. Project Brief

- Pehur Hydropower Complex is constructed at the out let of Gandaf Tunnel emanating from Tarbela Reservoir to feed the Pehur High level canal PHLC located in District Swabi, 1km south of Gadoon Industrial State.
- The idea of Pehur Hydropower Project (PHPP) was conceived in 1993 during the feasibility study of the Pehur High Level Canal (PHLC) Project. Technical feasibility study for PHPP was completed in May 2001 and the PC-I of the project was approved in February 2005. The construction work on the project started in November 2005 and was completed in July 2009. The total cost of the project was around 900Million PKR of which 50% was financed by Sarhad Hydel Development Fund (HDF) and 50% by Annual Development Program (ADP).
- The Generation License [No.GL (Hydel)/08/2009] was granted by National Electric Power Regulatory Authority (NEPRA) to Sarhad Hydel Development Organization (SHYDO) for 18 MW Pehur Hydropower Plant in November 2009.
- The project achieved the COD on 1st March, 2010. Pehur HPC interconnected with 132KV Gadoon grid station. The annual generation of the plant is 57.7 GWh. So far Pehur HPC has generated 642.052 GWh of energy.

3. Salient features of the Pehur Hydropower Complex are given below:

Cost of Project	Rs. 900 million
Completion	July 2009
Capacity:	18 (3x6MW)
Annual Energy:	57.7 GWh
Commercial Operation Date (COD):	1st March 2010
Rated Flow	Unit#1&2: 10.09 cumecs Unit#3: 15.75 cumecs
Net Head	Unit#1&2: 68 m Unit#3: 44 m

4. **Social and Environmental Impact:**

We are committed to environmental sustainability and the prevention of pollution by carrying out all works on our sites, yards and offices in an environmentally responsible manner and acting as a "good neighbor".

Management of the Environment:

In order to manage our environmental performance we have implemented an Environmental Management System in accordance with the requirements of ISO 14001:2004 and it aims to achieve the following objectives;

- Evaluate the environmental aspects of our activities and minimize where possible, the resulting environmental impacts.
- Implement systems and procedures to facilitate continual improvement.
- Manage our activities with diligence and with the awareness that our goal is to protect the environment and prevent pollution.
- Comply with relevant environmental legal and regulatory requirements as well as company policies and client requirements.
- Foster openness, dialogue and facilitate communication regarding our environmental performance and our environmental objectives and targets. At least once every year we review the environmental objectives and targets.

5. **Proposed Investment:**

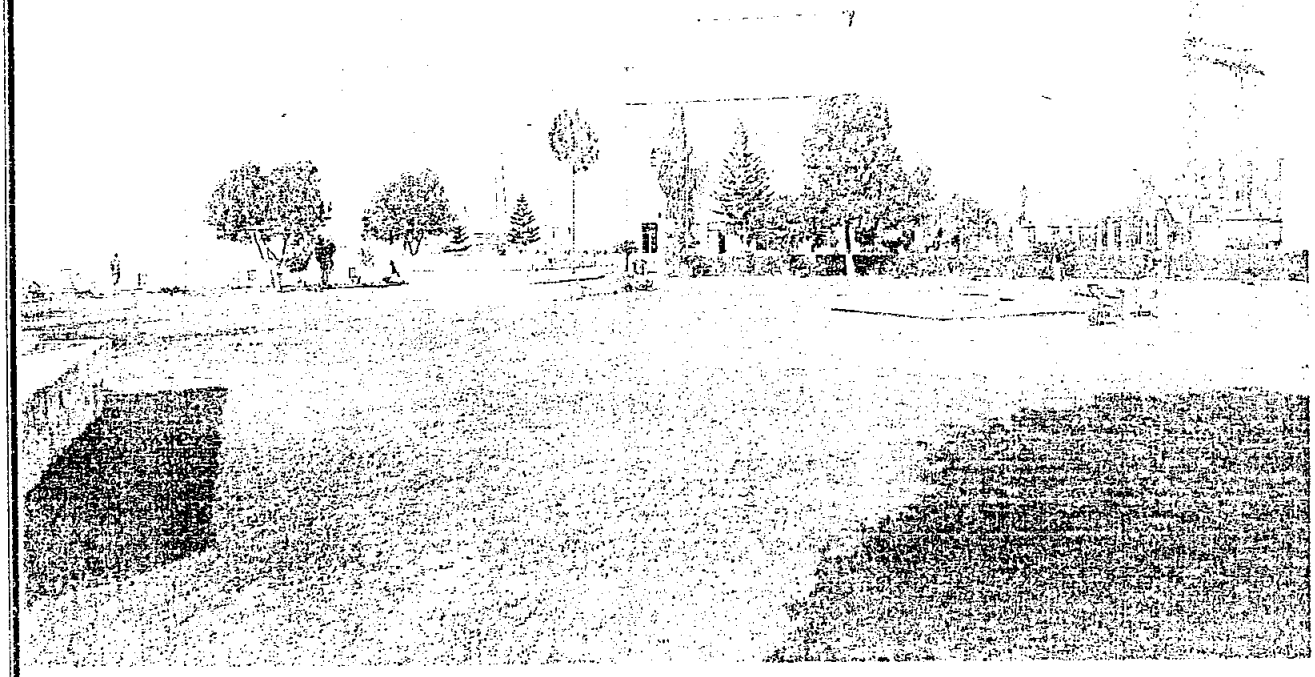
PEDO has been mandated not only to harness the available hydropower potential but also to develop other renewable energy sources in the province. It is very encouraging to note that PEDO has so far completed several hydropower projects with a total capacity of 162 MW. Another five hydro power projects with cumulative capacity of 226 MW are under completion. Moreover, contract for the 300MW Balakot HPP has been successfully awarded and physical work started at site. The project is being funded by the Asian Development Bank (ADB). Two other large-scale projects including 88MW Gabral Kalam and 157MW Madyan HPPs, funded by the World Bank, are also being awarded shortly.

PEDO

PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION
GOVERNMENT OF KHYBER PAKHTUNKHWA

Feasibility Study

Electric Power Supply to Bulk Power Consumers



18 MW PEHUR HYDROPOWER COMPLEX, GADOON

1 Introduction &Background

1.1 About Pakhtunkhwa Energy Development Organization (PEDO)

In 1986 the government established an organization with the name "Small Hydel Development Organization (SHYDO)" and the prime objective of this establishment was (i) to identify and develop Hydel potential up to 50MW (ii) to construct small Hydel stations for isolated load centers& (iii) to operate and maintain off grid small hydel stations. In 1993 under the Act declared this organization as an autonomous body and renamed it as "Sarhad Hydel Development Organization (SHYDO)". After change in the name of province the organization's name was also changed to "Pakhtunkhwa Hydel Development Organization (PHYDO)". Recently in 2014 PHYDO converted in "Pakhtunkhwa Energy Development Organization (PEDO)" through amendment in PEDO act 2014.

1.2 Background & Objective

The Government of Khyber Pakhtunkhwa (GOK) through Pakhtunkhwa Energy Development Organisation (PEDO) is interested in sale of electricity generated by Pehur Hydropower Project ("PHP" or the "Project") to the bulk power consumers or industries. The selected mode of transfer of electricity, after a careful examination of all available options, is based on Wheeling arrangement using PESCO Grid.

The objective of this "Feasibility Study" is to solicit offers from Qualifying Industrial Consumers (QICs) for electricity purchase from PHP. The offers received from QICs will be evaluated based on the selection criteria. Power Purchase Agreements will be signed only with those QICs who get highest scores and only up to the extent of available electricity, generated by PHP.

"QICs" or "Bidders" are entities that have industrial projects in Gadoon Amazai Industrial Estate, and are connected with Gadoon Amazai Grid Station (Gadoon Grid) through one or more feeders.

1.3 Project Introduction

PHP is an Independent Component of the Pehur High Level Canal (PHLC) Project, which is located on the right bank of Indus River immediately downstream of Tarbela water reservoir. PHP is owned by the GoK through PEDO. PHP is supplying electricity to Gadoon grid through 132 KV transmission line.

PHP has an installed capacity of 18MW. However PHP has a dual generation trend i.e Low Hydrology and High Hydrology Trend depending primarily on Water Discharge from Tarbela Dam.

Accordingly, the 3 units of 6 MW, each, operate as per following two settings:

- 1 unit low head 1x6 = 6 MW (from February to June - Average head 40 meter)
- 2 units medium head 2x6 = 12 MW (from July to January - average head 68 meter).

The efficiency of the Project is also dependent upon irrigation requirement that is established by the KP irrigation department, the off-take/ hydrology of Tarbela water reservoir and requirement of Gadoon Grid. However, average annual generation of PHP is 10.2MW.

1.4 PHP Status

The technical feasibility studies for PHP were completed in May 2001 and Generation License for development of 18 MW Pehur Hydropower Project was granted to PEDO in Nov 2009. Construction of the Project was completed in 2009, and PHP achieved COD on March 1, 2010.

1.5 Electricity Generation Trend - PHP

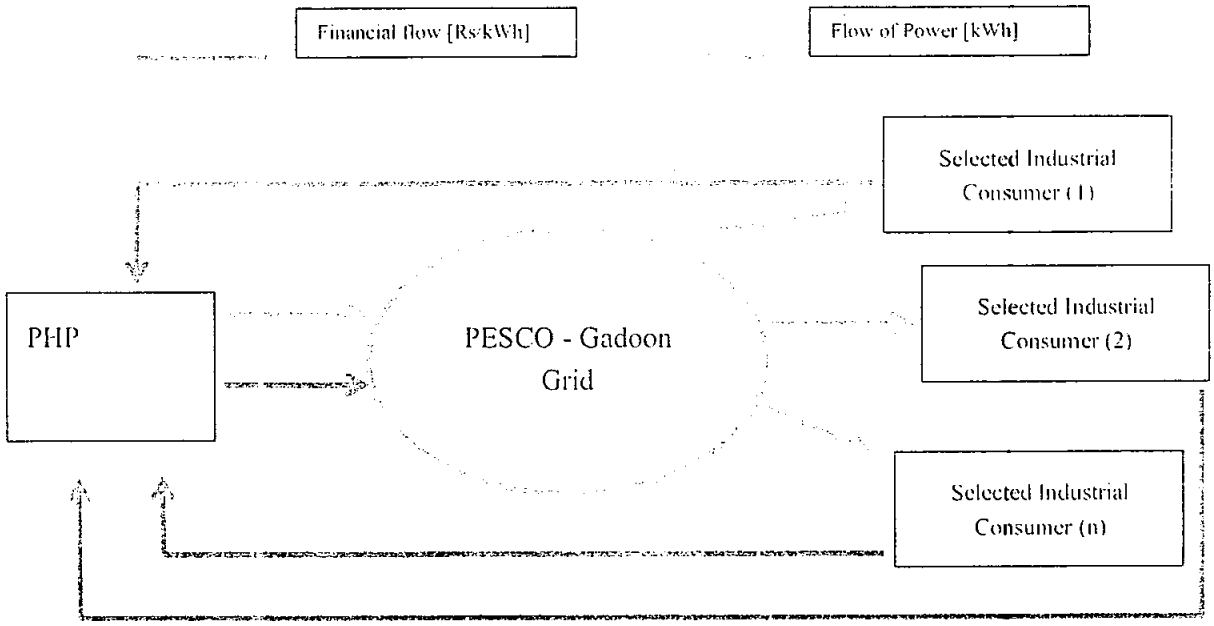
Month	Generation (kWh)		
	2020-21	**2021-22**	**2022-23**
July	4,169,000	4,146,000	1,654,000
August	6,216,000	8,018,000	4,365,000
September	6,346,000	8,043,000	7,755,000
October	8,284,000	7,339,000	5,918,000
November	5,298,000	5,713,000	5,690,000
December	3,504,000	4,344,000	6,652,000
January	1,660,000	493,000	1,960,000
February	998,000	72,000	745,000
March	3,400,000	2,171,000	3,830,000
April	3,295,000	2,406,000	3,921,000
May	3,109,000	2,884,000	3,802,000
June	3,777,000	2,160,000	3,545,000
Total	**50,056,000**	**47,789,000**	**49,837,000**

1.6 The Wheeling Arrangement (for supply of electricity from PHP)

As PHP is already operational, connected with PESCO grid and supplying power to QICs, the wheeling mechanism will be established with selected industrial consumers on the existing interconnection and infrastructure in place, with no technical changes required, as such.

Under the wheeling mechanism there will be an entry meter installed at PHP end to record the supply of power into the PESCO network. Similarly there will be an exit meter installed at the consumer end (or selected industrial consumer or power purchaser). No change in the protection hardware may be required within the interconnection of system because the Project and selected industrial consumer is already connected with PESCO, under the existing interconnection scheme.

The overall wheeling arrangement is summarized in following diagram.



The Transmission & Distribution (T&D) losses incurred from the entry point till the exit point will have no impact on PESCO under an Energy Wheeling Agreement (EWA) to be signed between PESCO and PHP for supply of energy to the selected Consumer. These losses will be pre-agreed in the EWA to be deducted from the net power that PESCO has to make available at the exit point to the power purchaser.

In case selected industrial consumer is unable to accept electricity at any time, or due to inability of PESCO to deliver the power at the exit point (at any time), the concept of Banking may also be covered under EWA, to be negotiated with PESCO. Under this concept, the PESCO will be bound to supply such energy in future, which was evacuated from the Entry Point but not delivered at the Exit Point at that time, less agreed losses. The selected industrial consumers may retain their

backup power options from captive means. However if the demand at consumer end is more than the supply under EWA, the consumer can also purchase excessive power requirement from PESCO at applicable tariff.

1.7 Tariff Calculation

Summary of PEHUR Indexation for Q-1st-2024 w.e.f 1s Jan-2024 to 30th April. 2024		
	Revised	
Tariff Components	Reference	w.e.f Jan- 2024
	Rs/kWh	Rs/kWh
Fixed Charges	4.6395	4.6395
Variable Component		
Variable	2.4869	[illegible]
Water Use Charge	0.4250	[illegible]
Total Tariff	7.5514	10.3780
Benchmarks		
CPI	119.46	255.24
Note: Applicable Tariff	10.3780	
According to Schedule-I Part 3 of the Energy Purchase Agreement (EPA), The above mentioned rate will be applicable from 1st Jan -2024 to 30th April -2024 if any changes occures the same will be applicable accordingly		

1.8 Transaction structure for electricity sale

- Selected Bidders will be invited to sign the Power Purchase Agreement (PPA)with PEDO
- Per unit electricity purchase price to be charged to power purchaser, shall be based on the price quoted by selected Bidders
- Bidders are expected to provide their quotes keeping in view their existing effective electricity cost per unit. Financial Bid is to be unconditional.
- Billing to power purchaser, for electricity consumed, will be based on exit meter(s) installed at the premises of power purchaser.
- The infrastructure cost (exit meter etc.) within factory premises for purchase of electricity from PHP, will be responsibility of the power purchaser
- Invoicing for electricity sold by PHP will be based on monthly basis
- Power purchaser will also reimburse wheeling charges at actual to PEDO, for transportation of electricity, under the wheeling agreement to be signed between PEDO and PESCO (as the wheeling charges may be modified time to time by NEPRA).
- Payment security is to be provided as per the requirements of financial Bid

1.9 Consumer class/category, sub category on the basis of sanctioned load

- The power generated by the Pehur Hydel Power Plant of PEDO shall be dispersed to 132 KV Gadoon Amazai Grid Station of PESCO through a 132 KV S/C Transmission Line for supplying to different BPC(s) by wheeling through the network of PESCO.
- Total no of BPC(s) are 05 (five):

S/No.	Name of the Purchaser (BPCs)	PAIE (Purchaser Allocated Input Energy) as per EWA/EPA(%)
i.	Cherat Cement Company Ltd.	10
ii.	Premier Chipboard Industries Pvt. Ltd.	15
iii.	AJ Textile Mills Ltd.	30
iv.	Gadoon Textile Mills Ltd.	30
v.	Cherat Packaging Ltd.	15

- Wheeling covers all BPC(s) (Bulk Power Consumers) having load equal and above 1MW.
- Any change in the final Interconnection and Transmission Arrangement(s), for the dispersal of power other than the above, as agreed by the Licensee, BPCs and PESCO shall be communicated to the Authority in due course of time.

1.10 Month wise probable energy export to BPCs (12-months):

Month	Cherat Cement KWh		Premier Chipboard KWh		AJ Textile KWh		Gadoon Textile KWh		Cherat Packaging KWh	
	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump..
Apr, 24	494,400	600,048	329,600	325,528	988,800	1,450,600	988,800	761,848	494,400	1,322,328
May, 24	466,350	657,576	310,900	323,832	932,700	1,141,672	932,700	1,070,216	466,350	848,504
Jun,24	491,010	3,184,416	453,240	343,148	1,133,100	1,160,568	1,133,100	1,434,816	566,550	1,125,224
July,24	954,730	2,194,272	83,020	77,256	1,245,300	1,336,240	1,245,300	1,199,104	622,650	1,005,936
Aug,24	2,164,860	2,084,112	481,080	264,924	2,806,300	2,021,376	1,363,060	945,672	1,202,700	1,078,560
Sep, 24	1,769,460	1,735,272	241,290	86,172	2,412,900	1,993,792	2,412,900	729,096	1,206,450	1,240,144
Oct, 24	2,495,260	2,529,720	73,390	21,636	2,201,700	2,096,784	1,100,850	663,064	1,467,800	1,352,184
Nov, 24	1,599,920	1,511,352	114,280	44,172	1,714,200	1,887,016	1,142,800	852,464	1,142,800	1,330,192
Dec, 24	955,680	1,591,056	130,320	51,424	1,303,200	2,062,344	1,303,200	1,743,120	651,600	1,355,144

Jan-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Feb,22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mar,22	217,600	3,291,408	65,280	79,228	652,800	1,925,656	652,800	1,250,120	587,520	1,221,328

1.11 Environmental Impact of the Facility:

We are committed to environmental sustainability and the prevention of pollution by carrying out all works on our sites, yards and offices in an environmentally responsible manner and acting as a "good neighbour".

Management of the Environment:

In order to manage our environmental performance we have implemented an Environmental Management System in accordance with the requirements of ISO 14001:2004 and it aims to achieve the following objectives;

- Evaluate the environmental aspects of our activities and minimize where possible, the resulting environmental impacts.
- Implement systems and procedures to facilitate continual improvement.
- Manage our activities with diligence and with the awareness that our goal is to protect the environment and prevent pollution.
- Comply with relevant environmental legal and regulatory requirements as well as company policies and client requirements.
- Foster openness, dialogue and facilitate communication regarding our environmental performance and our environmental objectives and targets. At least once every year we review the environmental objectives and targets.

Annexure A: Technical Information about PHP

PEHUR HYDROPOWER PLANT

GENERATOR MAIN TECHNICAL DATA

Unit No.1&2

Type:	SFW-J6000-10/2150
Rated power:	6000 kW
Rated voltage:	11 kV
Rated current:	370.5 A
Rated speed:	600 rpm
Runaway speed:	1100 rpm
Rated frequency:	50 Hz
Rated power factor:	0.85 (lagging)
Rated field current:	345 A
Rated field voltage:	108.5 V
Direct-axis sub-transient reactance (X''_d):	0.1581
Direct-axis synchronous reactance (X_d):	1.0822
Cross-axis synchronous reactance (X_q):	0.6069
Direct-axis transient reactance (X'_d):	0.2419
Cross-axis transient reactance (X'_q):	0.6069
Direct-axis sub-transient reactance (X''_d):	0.1581
Cross-axis sub-transient reactance (X''_q):	0.2580
Negative-sequence reactance (X_2):	0.2019
Zero phase-sequence reactance (X_0):	0.0543
Short-circuit ratio:	≥1.02
Leakage reactance of stator winding (X_σ):	0.0894
Resistance of stator winding per phase (75°C):	0.1159 Ohm
Direct-axis transient open-circuit time constant (T'_{d0}):	3.76 s
Direct-axis sub-transient open-circuit time constant (T''_{d0}):	0.0379 s
Direct-axis transient short-circuit time constant (T'_d):	0.841 s
Armature time constant (T_a):	0.0951 s

Unit No.3

Type:	SFW-J6000-16-2840
Rated power:	6000 kW
Rated voltage:	11 kV
Rated current:	370.5 A
Rated speed:	375 rpm
Runaway speed:	742 rpm
Rated frequency:	50 Hz
Rated power factor:	0.85 (lagging)
Rated field current:	340 A
Rated field voltage:	132.5 V
Direct-axis sub-transient reactance (X_d''):	0.1858
Direct-axis synchronous reactance (X_d):	1.004
Cross-axis synchronous reactance (X_q):	0.6219
Direct-axis transient reactance (X_d'):	0.2918
Cross-axis transient reactance (X_q'):	0.6219
Direct-axis sub-transient reactance (X_d''):	0.1858
Cross-axis sub-transient reactance (X_q''):	0.2789
Negative-sequence reactance (X_2):	0.2276
Zero phase-sequence reactance (X_0):	0.0692
Short-circuit ratio:	≥1.1
Leakage reactance of stator winding (X_e):	0.1128
Resistance of stator winding per phase (75°C):	0.1222 Ohm
Direct-axis transient open-circuit time constant (T_{d0}'):	3.50 s
Direct-axis sub-transient open-circuit time constant (T_{d0}''):	0.04169 s
Direct-axis transient short-circuit time constant (T_d'):	1.0173 s
Armature time constant (T_a):	0.1016 s

GOVERNOR

Main Technical Data

Unit No.1, 2 and 3

Frequency setting range:	45～55Hz
Permanent speed droop:	0～10%
Proportional gain:	0.5～20
Integral gain:	0.05～10 1/s
Derivative gain:	0～5 s
Artificial frequency dead band:	0～±0.5Hz
AC Power supply:	AC380/220V+10% 50Hz
DC Power supply:	DC220V±15%
Unit frequency signal:	AC0.5～220V(supplied by unit PT)
Grid frequency signal:	AC0.5～220V(supplied by network PT)
Rated work pressure of Hydraulic system:	4.0 MPa
Open/close time of servomotor:	2.5-80 s

EXCITATION SYSTEM

Main Technical Data

Unit 1 & 2

Excitation type: static

Excitation transformer

Capacity:	125 kVA
Voltage ratio:	11 / 0.19 kV
Vector group:	Dy11
Frequency:	50 Hz
Range of unit voltage:	70% to 110%
Range of field current:	20% I_{f0} to 110% I_{fn}
Voltage regulating precision:	0.5%

Step response characteristic

Overshoot:	≤50%
Regulating time:	≤10 s
Oscillation times:	≤3

Flashing from zero

Overshoot:	≤15%
Regulating time:	≤10 s
Oscillation times:	≤3

Load rejection with rated power

Overshoot:	≤15%
Regulating time:	≤10 s

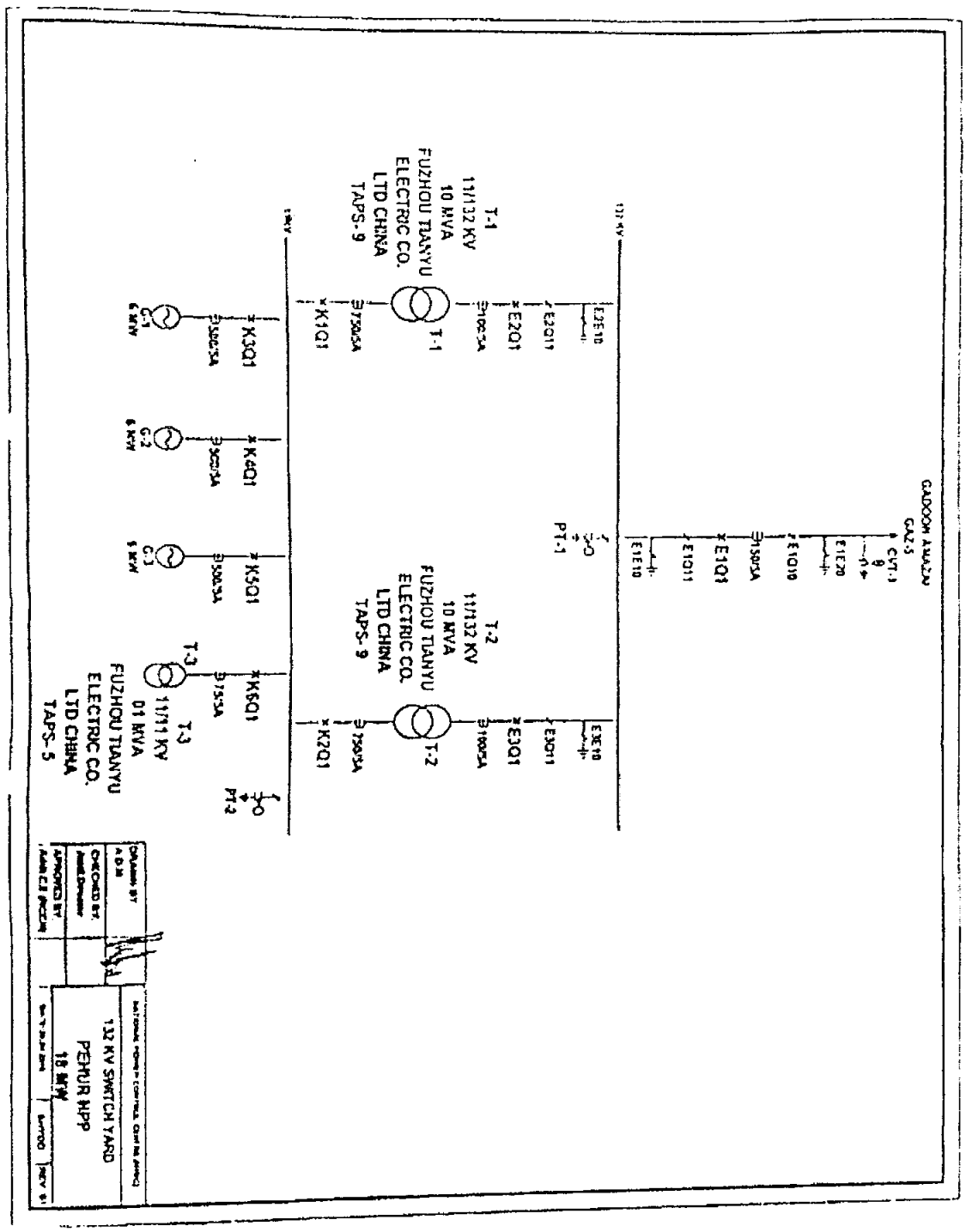
Oscillation times:	≤3
<u>Frequency characteristic</u>	
Voltage change is less than 0.25% (When frequency changes)	1%
Over load ability:	110%

<u>Unit 3</u>

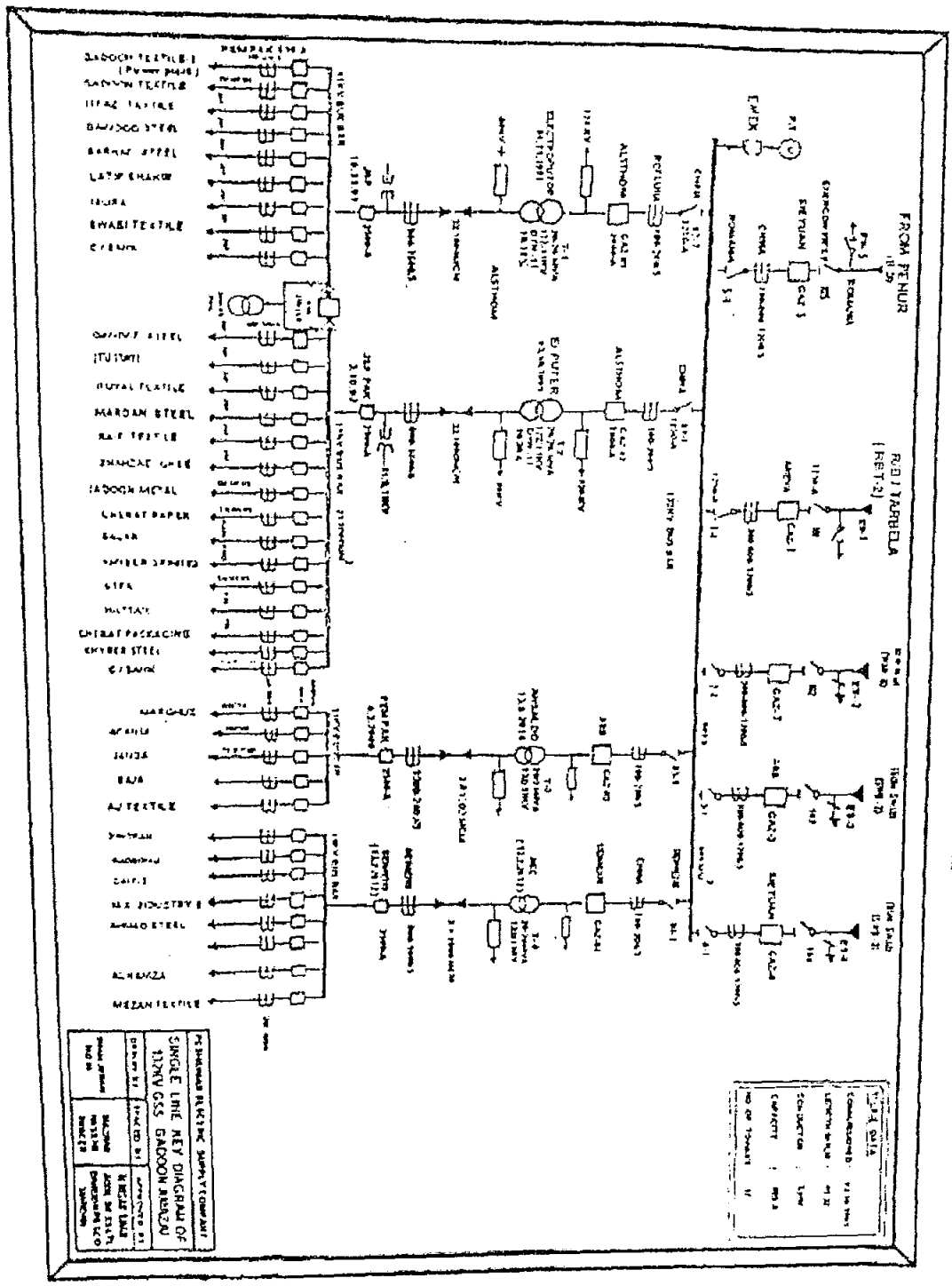
Excitation type:	static
<u>Excitation transformer</u>	
Capacity:	160 kVA
Voltage ratio:	11 / 0.231 kV
Vector group:	Dy11
Frequency:	50 Hz
Range of unit voltage:	70% to 110%
Range of field current:	20% I_{fn} to 110% I_{fn}
Voltage regulating precision:	0.5%
<u>Step response characteristic</u>	
Overshoot:	≤50%
Regulating time:	≤10 s
Oscillation times:	≤3
<u>Flashing from zero</u>	
Overshoot:	≤15%
Regulating time:	≤10 s
Oscillation times:	≤3
<u>Load rejection with rated power</u>	
Overshoot:	≤15%
Regulating time:	≤10 s
Oscillation times:	≤3
<u>Frequency characteristic:</u>	
Voltage change is less than 0.25% (When frequency changes)	1%
Over load ability:	110%

Annexure B: Technical Drawings

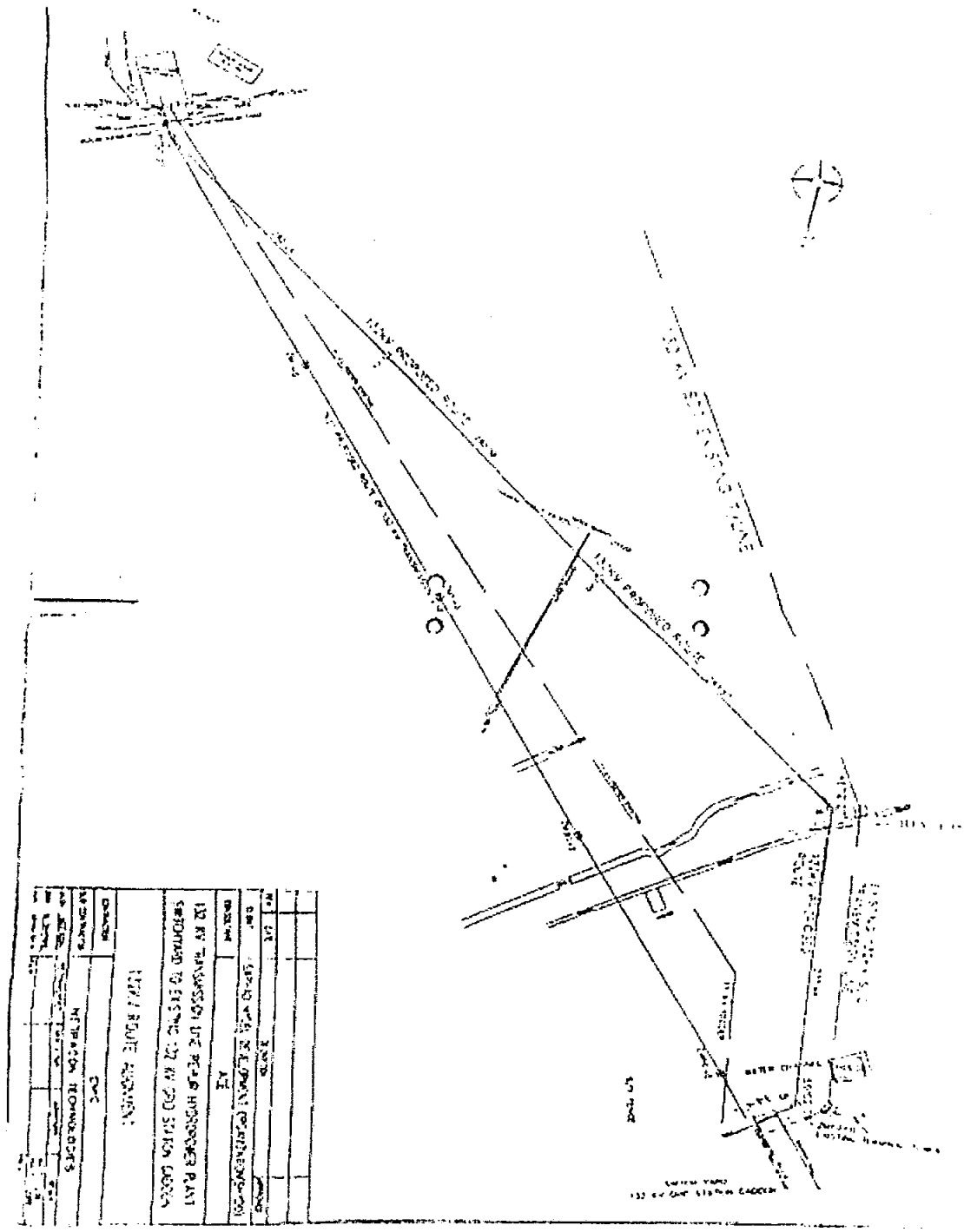
Single Line Diagram of the Generation Facility/Hydel Power Plant of PEDO



Single Line Diagram
of 132 KV Gadoon Amazai Grid Station of PESCO for
Dispersal of Power to Different BPC(s)

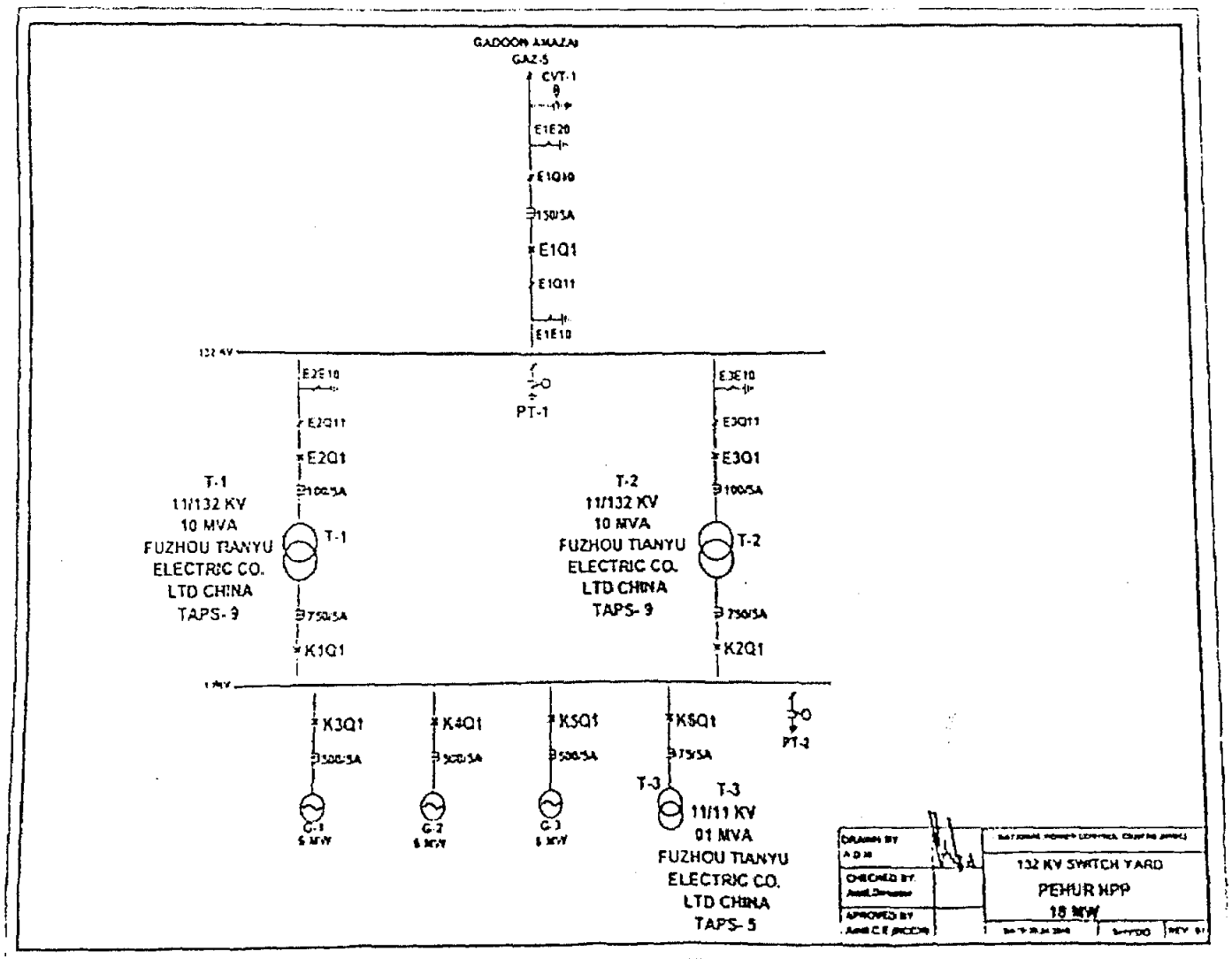


Schematic Diagram
for Interconnection/Transmission Arrangement for Dispersal of Power from Generation Facility/ Hydel Power Plant of PEDO

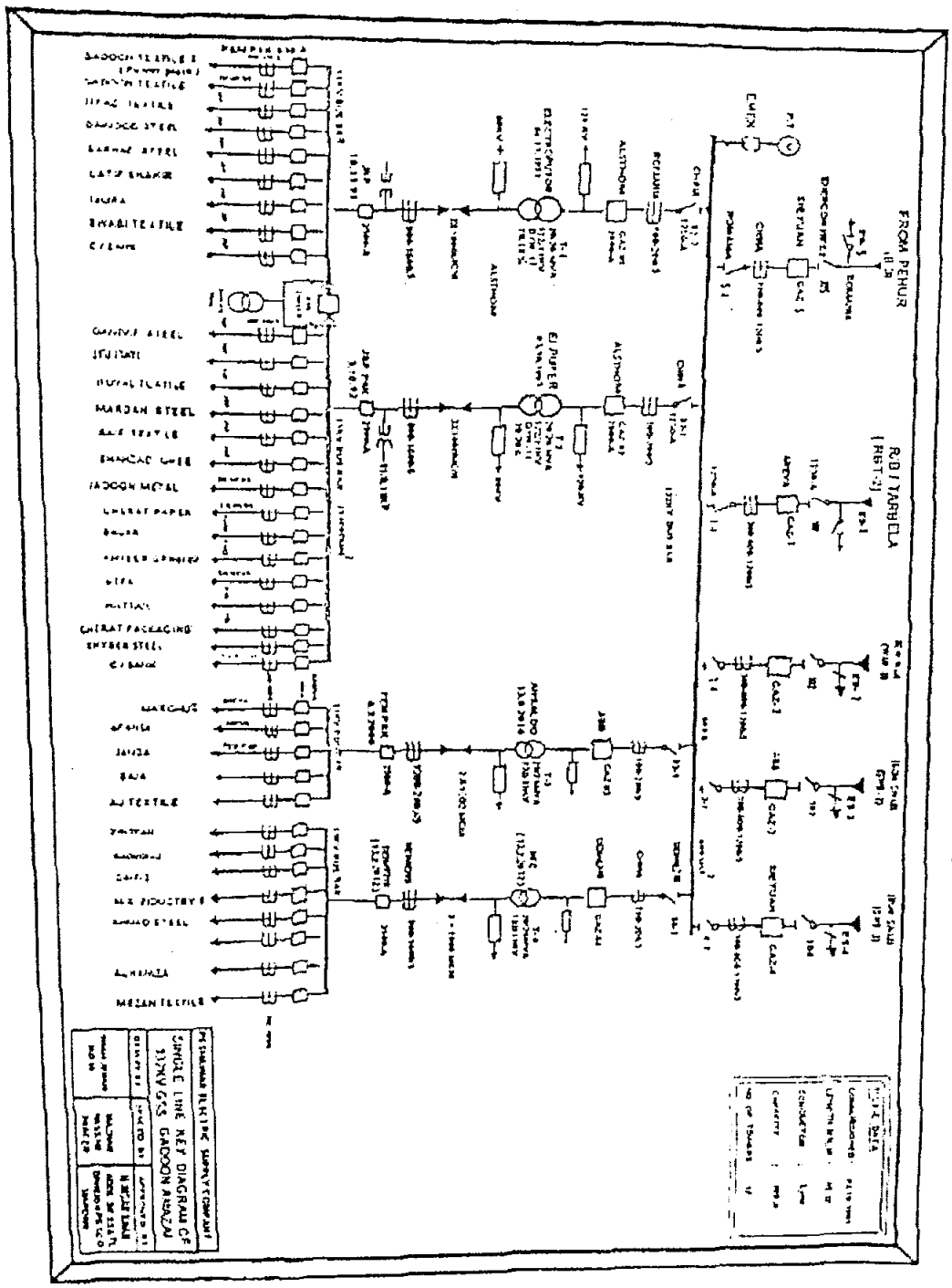


DETAILS
OF
RELEVANT FEEDER MAPS

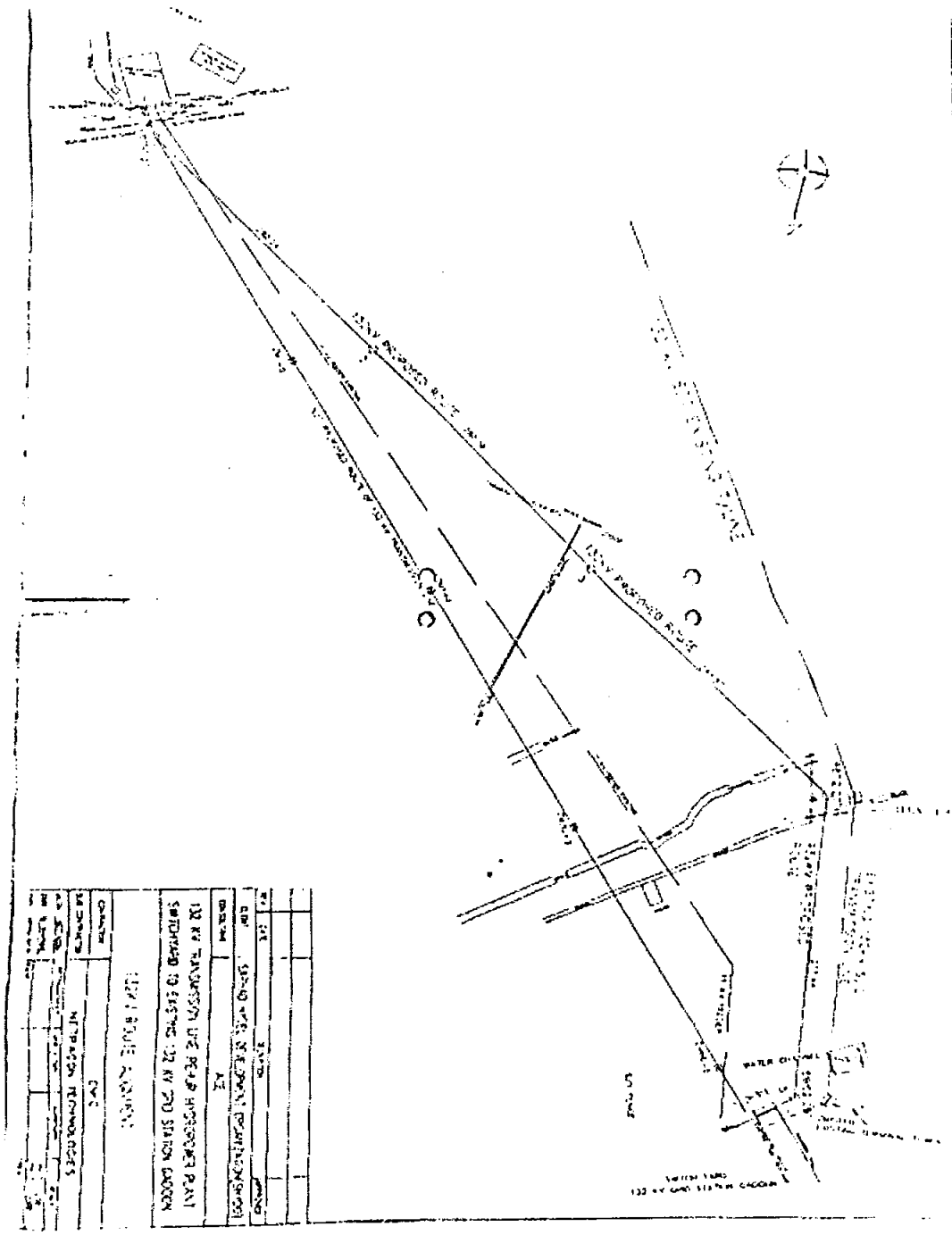
Single Line Diagram of the Generation Facility/Hydel Power Plant of PEDO



Single Line Diagram
of 132 KV Gadoon Amazai Grid Station of PESCO for Dispersal of Power to Different BPC(s)



Schematic Diagram
for Interconnection/Transmission Arrangement for Dispersal of Power from Generation Facility/ Hydel Power Plant of PEDO



TARIFF CATEGORIES OF CONSUMER CLASSES TO BE SERVED

1. The power generated by the Pehur Hydel Power Plant of PEDO shall be dispersed to 132 KV Gadoon Amazai Grid Station of PESCO through a 132 KV S/C Transmission Line for supplying to different BPCs by Wheeling through the network of PESCO.

2. Total number of BPC(s) is five (05):

S/No.	Name of the Purchaser (BPCs)	PAIE (Purchaser Allocated Input Energy) as per EWA/EPA (%)
i.	Cherat Cement Company Ltd.	10
ii.	Premier Chipboard Industries Pvt. Ltd.	15
iii.	AJ Textile Mills Ltd.	30
iv.	Gadoon Textile Mills Ltd.	30
v.	Cherat Packaging Ltd.	15

3. Wheeling covers all BPC(s) (Bulk Power Consumers) having load equal and above 1MW.

4. Any change in the final Interconnection and Transmission Arrangement(s), for the dispersal of power other than the above, as agreed by the Licensee, BPCs and PESCO shall be communicated to the Authority in due course of time.

Tariff Calculation

Summary of PEHUR Indexation for Q-1st-2024 w.e.f 1st Jan-2024 to 30th April, 2024		
	Reference	Revised w.e.f Jan-2024
Tariff Components	Rs/kWh	Rs/kWh
Fixed Charges	4.6395	4.6396
Variable Component		
Variable	2.4869	5.4130
Water Use Charge	0.4250	0.4250
Total Tariff	7.5514	10.3780
Benchmarks		
CPI	119.46	255.24
Note: Applicable Tariff	10.3780	

According to Schedule-I Part 3 of the Energy Purchase Agreement (EPA), The above mentioned rate will be applicable from 1st Jan -2024 to 30th April -2024 if any changes occures the same will be applicable accordingly.

TWELVE MONTHS

MONTH WISE EXPECTED

ENERGY EXPORT

TO

BULK POWER CONSUMERS

Month wise expected energy export to BPCs (12-months):

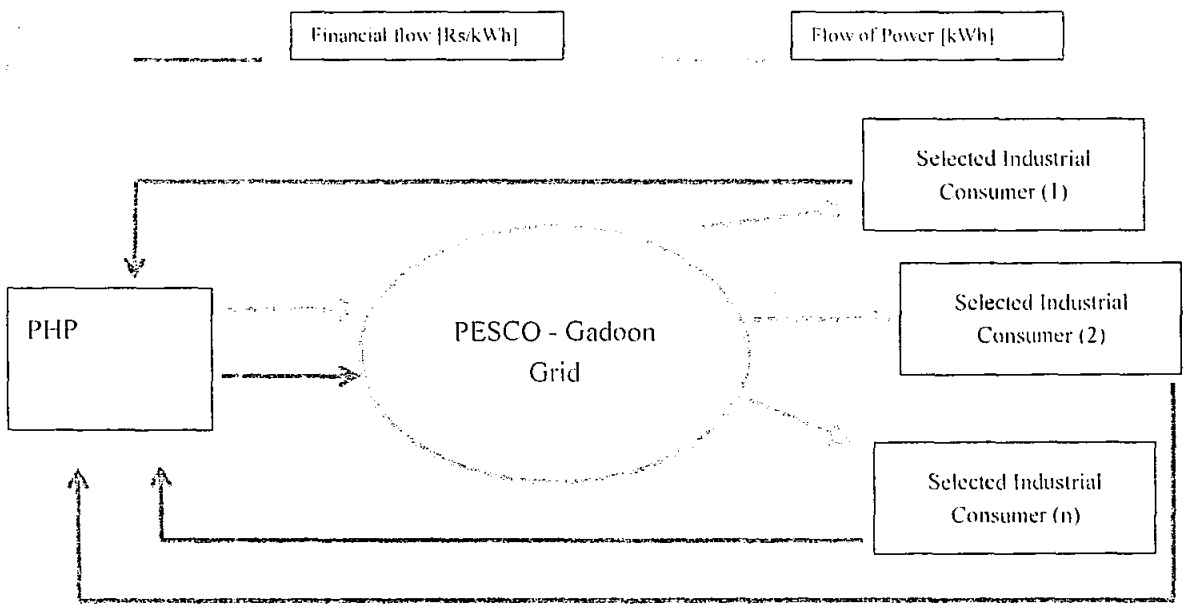
Month	Cherat Cement KWh		Premier Chipboard KWh		AJ Textile KWh		Gadoon Textile KWh		Cherat Packaging KWh	
	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump.	PEDO Allocation	Consump..
Apr, 24	494,400	600,048	329,600	325,528	988,800	1,450,600	988,800	761,848	494,400	1,322,328
May, 24	466,350	657,576	310,900	323,832	932,700	1,141,672	932,700	1,070,216	466,350	848,504
Jun,24	491,010	3,184,416	453,240	343,148	1,133,100	1,160,568	1,133,100	1,434,816	566,550	1,125,224
July,24	954,730	2,194,272	83,020	77,256	1,245,300	1,336,240	1,245,300	1,199,104	622,650	1,005,936
Aug,24	2,164,860	2,084,112	481,080	264,924	2,806,300	2,021,376	1,363,060	945,672	1,202,700	1,078,560
Sep, 24	1,769,460	1,735,272	241,290	86,172	2,412,900	1,993,792	2,412,900	729,096	1,206,450	1,240,144
Oct, 24	2,495,260	2,529,720	73,390	21,636	2,201,700	2,096,784	1,100,850	663,064	1,467,800	1,352,184
Nov, 24	1,599,920	1,511,352	114,280	44,172	1,714,200	1,887,016	1,142,800	852,464	1,142,800	1,330,192
Dec, 24	955,680	1,591,056	130,320	51,424	1,303,200	2,062,344	1,303,200	1,743,120	651,600	1,355,144
Jan-25	73,500	737,712	31,500	79,296	157,500	2,052,136	157,500	2,419,200	105,000	1,228,456
Feb,25	12,870	466,848	8,910	76,208	29,700	1,907,608	29,700	1,763,272	17,820	1,002,552
Mar,25	217,600	3,291,408	65,280	79,228	652,800	1,925,656	652,800	1,250,120	587,520	1,221,328

BILLING AND COLLECTION PROCEDURES

As PHP is already operational, connected with PESCO grid and supplying power to QICs, the wheeling mechanism will be established with selected industrial consumers on the existing interconnection and infrastructure in place, with no technical changes required, as such.

Under the wheeling mechanism there will be an entry meter installed at PHP end to record the supply of power into the PESCO network. Similarly there will be an exit meter installed at the consumer end (or selected industrial consumer or power purchaser). No change in the protection hardware may be required within the interconnection of system because the Project and selected industrial consumer is already connected with PESCO, under the existing interconnection scheme.

The overall wheeling arrangement is summarized in following diagram.



The Transmission & Distribution (T&D) losses incurred from the entry point till the exit point will have no impact on PESCO under an Energy Wheeling Agreement (EWA) to be signed between PESCO and PHP for supply of energy to the selected Consumer. These losses will be pre-agreed in the EWA to be deducted from the net power that PESCO has to make available at the exit point to the power purchaser.

In case selected industrial consumer is unable to accept electricity at any time, or due to inability of PESCO to deliver the power at the exit point (at any time), the concept of Banking may also be covered under EWA, to be negotiated with PESCO. Under this concept, the PESCO will be bound to supply such energy in future, which was evacuated from the Entry Point but not delivered at the Exit Point at that time, less agreed losses. The selected industrial consumers may

retain their backup power options from captive means. However, if the demand at consumer end is more than the supply under EWA, the consumer can also purchase excessive power requirement from PESCO at applicable tariff.

1. Online galaxy reading, collected by PESCO from exit meters, and then forwarded to PEDO for preparing the BPC's bill.

2. Invoices/bills then moved to BPC's for payment.

3. Invoice for the excess energy (Energy that not utilized by any BPC's) send to PESCO for payment.