Tariff

PAKISTAN
WATER AND POWER DEVELOPMENT AUTHORITY

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General Manager Finance (Power)
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☑ For nec. action ☐ For information

☐ DG (Lic.)	☐ DG (Admn/HR)
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☐ SLA	☐ Dir. (I.T)
☐ Consult (Tech.)	☐ Consult (CTBCM)

For kind information, please.
1. Chairman 2. M (Tech)
3. M (Law) 4. M (Dev)

No.GMFP/CPCC/4525/ 205-06 Dated: 27 - 06 -2025

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

Dir (R-D)

Subject: Submission of Tariff Modification Petition for WAPDA Regulated Business (Hydroelectric) For FY 2025-26

Pursuant to Section 31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 and the NEPRA Tariff (Standards and Procedure) Rules, 1998, The Water & Power Development Authority ("**WAPDA**") hereby submits three (3) sets of its Tariff Modification Petition for the Financial Year 2025-26 in respect of its Regulated Business (Hydroelectric), along with all supporting documentation, affidavit and a cheque # 00006005 Dated 04-06-2025 amounting Rs.1,701,194/- (after deduction of Tax Rs.168,250/-) as NEPRA fee.

This Tariff Modification Petition is being filed pursuant to the tariff determination issued by the National Electric Power Regulatory Authority ("**NEPRA**") dated 06.09.2023 subsequently revised on 06.06.2024 and notified on 26.07.2024, which established the applicable tariff for WAPDA Regulated Business (Hydroelectric) for FY 2022-23. The revised determination also sets out directives for WAPDA regarding post-retirement benefit mechanisms, transmission asset transfers, and project-specific Power Purchase Agreements. Pursuant to these directions and to account for changes in revenue requirements arising from audited financial results for FY 2023-24, provisional numbers for FY 2024-25, and projections for FY 2025-26, WAPDA now seeks NEPRA's approval for the updated Bulk Supply Tariff applicable to its hydroelectric business for FY 2025-26.

The instant Petition also includes specific requests such as the proposed carve-out of up to 20 MW from WAPDA's contracted capacity for supply to Sky47, a Mari Energy initiative, under a wheeling arrangement, which aligns with broader CTBM reforms.

In view of the above, WAPDA respectfully requests that it be granted the opportunity to present any further arguments, clarifications, evidence, or supplementary submissions that may become necessary during NEPRA's evaluation and determination process. WAPDA further seeks the Authority's permission to participate in public hearings or submit additional pleadings, as may be required or permitted, to ensure a fair, comprehensive, and just determination of the matters raised herein.

We look forward to NEPRA expediting the review and approval of this petition to ensure a smooth and timely transition in line with the regulatory requirements.

Diary No: 7689
Date: 30-6-25

(Syed Irfan H. Rizvi)
GM Finance (Power)

Cc to:
1- Section Officer (HP) MoWR, Ataturk Avenue G-5/1, Islamabad.

PAKISTAN
WATER AND POWER DEVELOPMENT AUTHORITY

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General Manager Finance (Power)
713-Wapda House, Lahore

No.GMFP/CPCC/4525/ 205-06

Dated: 27 - 06 -2025

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(Syed Irfan H. Rizvi)
GM Finance (Power)

Cc to:

1- Section Officer (HP) MoWR, Ataturk Avenue G-5/1, Islamabad.

E-STAMP

ID : **PB-LHR-C694CC20E5F855F3**
Type : **Low Denomination**
Amount : **Rs 300/-**

Scan for online verification

Description : AFFIDAVIT- 4
Applicant : SYED IRFAN HUSSAIN RIZVI [35202-2719285-9]
S/O : SYED SHABBIR HUSSAIN RIZVI
Agent : Self
Address : LAHORE
Issue Date : 27-Jun-2025 10:36:02 AM
Delisted On/Validity : 4-Jul-2025
Amount in Words : Three Hundred Rupees Only
Reason : FOR NEPRA
Vendor Information : Khurram Shahzad | PB-LHR-1706 | District Courts

Shaikh Khurram Shahzad
Stamp Vendor District Court Lahore
Licence # 1706 D

BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

AFFIDAVIT

I, Syed Irfan Hussain Rizvi, General Manager Finance (Power) of WAPDA, 713 WAPDA House, Lahore being duly authorized representative/attorney of WAPDA Hydroelectric, hereby solemnly affirm and declare that contents of the accompanying petition/application # GMFP/CPCC/4525/205-06 dated 27-06-2025 including all supporting documents are true and correct to the best of my knowledge and belief and that nothing has been concealed. I also affirm that all further documentation and information to be provided by me in connection with the accompanying petition shall be true to the best of my knowledge and belief.

DEPONENT

(Syed Irfan Hussain Rizvi)
General Manager Finance (Power)

Verification
Verified on oath this 27th day of June, 2025 that the contents hereof are true and correct to the best of my knowledge and belief and nothing has been concealed.

DEPONENT

(Syed Irfan Hussain Rizvi)
General Manager Finance (Power)

MUHAMMAD ASHRAF
OATH COMMISSIONER

ATTESTED
MUHAMMAD ASHRAF
Advocate High Court
OATH COMMISSIONER

Name of Licensee

Pakistan Water And Power Development Authority

License No. GL (HYDEL) /05 / 2004

Petition

PETITION FOR REVISION OF TARIFF FOR FY 2025-26 FOR BULK SUPPLY OF POWER FROM WAPDA HYDEL POWER STATIONS.

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Water & Power Development Authority Pakistan LAHORE.

ABOUT THE PETITIONER

1 - WAPDA

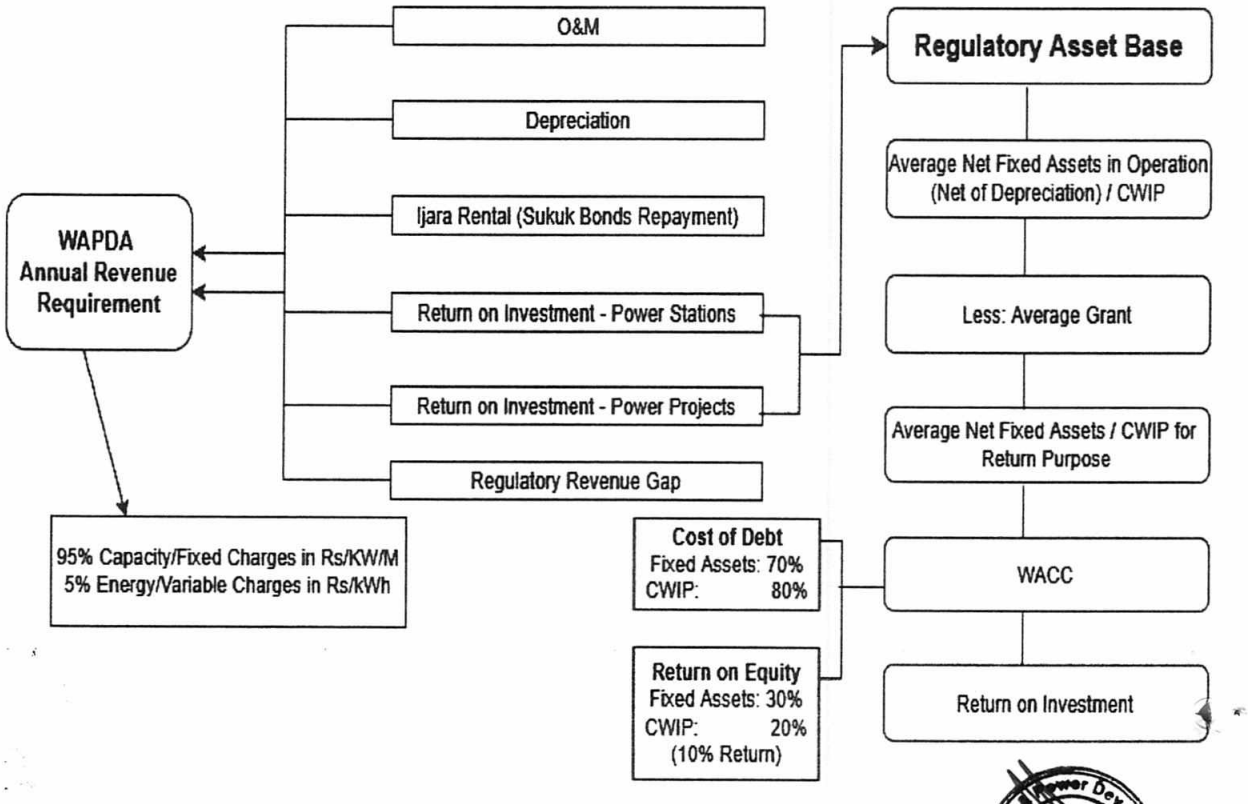
WAPDA was established under the WAPDA Act, 1958 as an autonomous body for the development and utilization of the water and power resources of Pakistan on a unified and multipurpose basis. As a result of structural reforms introduced by the Federal Government in the power sector, Residual WAPDA Power Wing is engaged in the operation, maintenance, up-gradation, and expansion of its in-operation hydel power stations and construction of new projects for generation of power using hydel sources on Built, Own and Operate (**BOO**) basis as per the provisions of Section-8 of the WAPDA Act.

2 – Generation License & Tariff Structure

In 1997, the National Electric Power Regulatory Authority ("**NEPRA**") was established under the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997) (the "**NEPRA Act**"), and WAPDA was declared a licensee under Section-30 of the NEPRA Act. However, NEPRA formally issued a Generation License to WAPDA in 2004, valid until 2034. Being a licensee, WAPDA Regulated Business is required to seek tariff approvals from NEPRA based on the assessment and recovery of prudent cost-of-service, in accordance with Section-31 of the NEPRA Act.

WAPDA Regulated Business files Tariff Modification Petition on year-to-year basis, under which NEPRA determines power station-wise tariffs on a "Take or Pay" basis, ensuring recovery of 95% of revenue requirement as fixed charges and 5% as variable charges.

Pictorial explanation of WAPDA Regulated Business annual revenue requirement is provided below:



Water & Power Development Authority LAHORE.

The Core components of WAPDA Hydroelectric Tariff are:

1. O&M
2. Depreciation
3. Return on Regulatory Asset Base ("**RAB**")
4. [+/-] prior period adjustments
5. (–) Other Regulatory Income

The RAB of WAPDA Regulated Business comprise net book value (at historical cost) of completed projects as well as capital work in progress of under-development projects, net off Interest During Construction ("**IDC**") and grants. However, for RAB purposes the project must be included in the Generation License of WAPDA. The Weighted Average Cost of Capital ("**WACC**") is worked out at actual cost of debt and the Government of Pakistan ("**GoP**") approved Return on Equity of 10% with benchmarked debt-equity ratio of 70%:30% for in-operation Hydro Power Projects ("**HPPs**") and 80%:20% for under-development HPPs, respectively.

Tariff methodology of WAPDA Regulated Business do not include any formula-based indexation/escalation. The projected revenue requirement of HPPs is trued up in each succeeding tariff petition based upon its prudent cost-of-service established through actual audited accounts.

Hydel Levies, comprising of Net Hydel Profit ("**NHP**"), Water Usage Charges ("**WUC**"), and IRSA Charges, are pass-through items and are not included in WAPDA's revenue requirement. Accordingly, NEPRA determines and notifies the Hydel Levies rates as a separate block in the tariff. WAPDA's role is limited to invoicing Hydel Levies at NEPRA determined rates and transfer the funds, received from CPPA-G, to the relevant province or agency.

NEPRA determines the bulk supply tariffs from WAPDA's Hydel power stations and recommends GoP to publish the approved tariff in the official Gazette within thirty (30) days. If the Gazette notification is not issued within this timeframe, NEPRA under sub-section (7) of section 31 NEPRA Act, is empowered to notify the tariff itself. Once officially notified, the tariff becomes applicable and remains effective until its modification/revision by NEPRA.

The current tariff mechanism/regime besides offering sustainable increase in tariff also facilitates WAPDA to attract adequate funding for its capital cost intensive HPPs from local as well foreign capital market. This is achieved by ensuring the payment of interest on loans during construction period, as well as injection of equity at the stipulated ratio by ploughing back return earned during construction period of the project.

3 - Commercial Operation

The key source of WAPDA Regulated Business's revenue is proceeds from sale of electricity at NEPRA notified tariff for an agreement year to CPPA-G. For the sale of power, after restructuring of the Power Wing, WAPDA entered into a Power Purchase Agreement ("**PPA**") initially with NTDC which was subsequently novated to CPPA-G vide amendment dated 01-10-2015 **(Annex-1)**.

4 - Maintenance of Accounts

Pursuant to Section 26 of the WAPDA Act, 1958, the WAPDA Authority maintains separate accounts for all schemes and transactions relating to power. Additionally, NEPRA also requires its licensees to maintain separate accounts for NEPRA Regulated Business in line with the prescribed Unified System of Accounts ("**USoA**"). Accordingly, IFRS/IAS compliant accounts of WAPDA Regulated Business are prepared as per statutory and regulatory requirements. Accounts of WAPDA Regulated Business are prepared through a customized accounting software equipped with integrated modules of general ledger, inventory management, and payroll for preparation of financial statements.

5 - Audit

The Auditor General of Pakistan performs the statutory audit of the WAPDA under Section 28 of WAPDA Act, 1958. In addition to that, the accounts of WAPDA Regulated Business are also audited by the State Bank of Pakistan's "A" category rated Chartered Accountants Firm, selected under PPRA Rules.

The annual accounts of WAPDA Regulated Business for FY 2023-24 forming basis of this Tariff Modification Petition were audited by Crowe Hussain Chaudhury & Co.

THE PETITION

Authorization

The WAPDA Authority, in its meeting held on 20th May, 2025, has approved filling of the Tariff Modification Petition of WAPDA for FY 2025-26 **(Annex-2).** The Authority in its decision has authorized the following WAPDA officers to submit and sign, individually or jointly, the documents necessary in support of this petition and to appear before NEPRA and represent WAPDA-Hydroelectric during the proceedings of this petition:

1. General Manager Finance (Power)
2. General Manager (Hydel Operation)
3. General Manager (Hydel Development)
4. General Manager (Hydro Planning)
5. General Manager (C&M) Water
6. Director Legal (WAPDA)

Pakistan Water & Power Development Authority LAHORE.

STATEMENT OF COMPLIANCE

Order of NEPRA

NEPRA issued the Tariff Determination of WAPDA for FY 2022-23 on 06.09.2023. However, WAPDA filed Motion for Leave for Review ("**MLR**") on September 18, 2023 under rule 16(6) of NEPRA (Tariff Standards and Procedures) Rules, 1998 because of certain discrepancies in the NEPRA determined tariff. Pursuant to WAPDA's MLR, NEPRA issued its revised decision on 06.06.2024. The revised NEPRA determined tariff become applicable from the date of its official notification i.e., 26.07.2024.

NEPRA in its revised decision issued certain direction to WAPDA, compliance report on which is as under:

1. Development of Mechanism and Maintenance of Designated Bank Account for Post-Retirement Benefits

At Para-28, NEPRA directed WAPDA to maintain a separate account for post-retirement benefits and to develop a mechanism with CPPA-G for crediting the available cash flows to the dedicated account first for fulfillment of future employee liabilities.

In this regard, it is submitted that WAPDA has been consistently complying with the underlying objective of safeguarding funds earmarked for post-retirement obligations. As for the development of a mechanism with CPPA-G for post-retirement benefits, it is apprised that CPPA-G makes erratic payments against WAPDA power sale invoices, with current payments covering invoices from FY 2023-24. Therefore, instead of maintaining a conventional bank account, WAPDA has been making investment for planned assets in Term Deposit Receipts ("**TDRs**"), which offer significantly higher returns as compared to standard savings or current account deposits as well as recoupment of TDRs earmarked as Planned Assets along with the profits on maturity. Additionally, in order to keep the track of investments and for transparency, WAPDA has been maintaining a designated account in its general ledger for Planned Assets.

A comparison of employees retirement benefits charged as cost of revenue in statement of profit and loss on the basis of actuarial revaluation reports and payment of benefits actually paid as per audited accounts, along with year-wise detail of TDRs placed for post-retirement benefits is as under:

TABLE-1

Post Employment Benefits (PEB)

(Mln Rs.)

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Total
Charge for Employee Benefits in Statement of Profit & Loss - (A)	4,493	5,857	8,886	7,891	9,211	10,804	12,950	60,092
Employee benefits paid during the year - (B)	2,141	3,072	3,103	3,935	4,354	5,140	6,405	28,149
Difference - (C=A-B)	**2,351**	**2,785**	**5,783**	**3,956**	**4,857**	**5,664**	**6,546**	**31,942**
TDRs Placed for Fund purpose - (D)								31,705
Balance Amount - (E=D-C)								**238**

2. Development of Mechanism for Transfer of Transmission Assets cost to Concerned Entities

NEPRA, in para-52 of its Tariff Determination of WAPDA (Hydroelectric) has decided to provisionally allow the cost of transmission assets in the revenue requirement of WAPDA. However, the Authority directed WAPDA and the concerned entities to establish a clear and well-defined mechanism for the transfer and operation of transmission networks pertaining to T4, Tarbela, Golen Gol, Khan Khawar, Alai Khawar, Dubair Khawar, Jinnah, and Jabban, by ensuring that there is no duplication of transmission assets between WAPDA and the concerned entity.

To comply with the NEPRA's directive, several meetings of WAPDA, NTDC and PESCO representatives have been held and NEPRA is also closely supervising the matter regarding the cost of transmission assets. Wapda hereby requests NEPRA to continue allowing all costs in respect of such transmission assets in WAPDA tariff till the final outcome of the matter.

3. CPPA-G and WAPDA to Sign PPA for all under-developing WAPDA Projects and Submit to NEPRA for Approval

NEPRA, at para-165 of its decision dated 06.09.2023, directed CPPA-G and WAPDA to sign a PPA for all under-developing WAPDA projects with clear mechanism for LDs, RCOD, outages, technical specifications, testing protocols etc. and submit to NEPRA for approval.

WAPDA being aggrieved on various aspects of NEPRA decision dated 06.09.2023, filed MLR on 18.09.2023 against which NEPRA issued its revised decision on 06.06.2024 which was notified by NEPRA on 26.07.2024 and became effective. Soon after the notification of tariff, WAPDA and CPPA-G started working on improvement and amendments in PPA as per NEPRA observations and once the PPA is finalized between WAPDA, CPPA-G and NTDC the same will be shared with NEPRA.

Pakistan Water & Power Development Authority LAHORE.

Grounds of Petition

Change in components of revenue requirements of WAPDA Hydroelectric for FY 2025-26, as compared to the NEPRA determined revenue requirement for FY 2022-23 have formed the basis for this Tariff Modification Petition, which have been ascertained / worked out on the basis of actual audited accounts for FY 2023-24 along with provisional numbers for FY 2024-25 comprising nine (9) months actual and three (3) months estimates, and projected numbers of WAPDA's Regulated Business for FY 2025-26.

A comparison of the revenue requirements determined by NEPRA for FY 2022-23 and Revenue Requirements proposed for FY 2025-26 is as under:

TABLE – 2

WAPDA's Revenue Requirment

Revenue Components	NEPRA Determined for FY 2022-23	Requested for FY 2025-26
	(Mln Rs)	(Mln Rs)
O&M Expenses	23,961	39,592
Depreciation (Repayment of Loan & Equity)	7,494	8,668
Return on Investment-H/P stations	29,453	32,011
Return on Investment-H/P Projects	36,771	99,642
Deduction for Misc. Income	(535)	(772)
Sub.total	**97,144**	**179,141**
Regulatory Revenue Gap	22,816	139,366
Revenue Requirement WAPDA	**119,960**	**318,507**

In the above comparison:

1. Projected increase in O&M cost for FY 2025-26 against O&M determined by NEPRA for FY 2022-23.
2. Variation in Depreciation charges for FY 2025-26 from that determined by NEPRA for FY 2022-23, mainly due to transfer of completed assets of Tarbela 4th Extension from development to fixed assets in operation.
3. Increase in RAB for power stations due to capital expenditures on rehabilitation/ replacement of aged generation plants and transfer/acquisition of new fixed assets.
4. Increase in RAB for power projects due to additional capital investment in the under-development hydropower projects.
5. Variation in WACC from that allowed by NEPRA for FY 2022-23.
6. Change in estimated other income from NEPRA regulated business activities for FY 2025-26 with NEPRA determined for FY 2022-23.
7. Regulatory revenue gap due to delay in determination and notification of tariff as well as difference between actual and NEPRA determined annual revenue requirement.
8. Any additional information, ground, evidence or further submissions that arise later will be submitted during proceedings of this tariff petition and shall form an integral part of this tariff petition.

Water & Power Development Authority LAHORE

Generation Facility and Plan

During FY 2023-24, NEPRA approved the inclusion of Tarbela 5th Extension HPP (1530 MW) and Mohmand Dam HPP (800 MW) in the Generation License of WAPDA vide Modification no.VI & VII, respectively. Accordingly, WAPDA's aggregate net generation license stands at 19,664 MW, including under development projects of 11,264 MW.

WAPDA presently owns and operates 21 hydel power stations with aggregated net generation capacity of 8,400 MW. Major hydel power stations include Tarbela (3,474 MW), Ghazi Barotha (1,447 MW), Tarbela 4th Ext. (1,407 MW), Mangla (997 MW), Warsak (242 MW), Chashma (183 MW) and Golen Gol (108 MW).

The utilization of capacity for Hydel generation is largely dependent on the net head of each respective power station and the quantum of water indents allowed by IRSA. In this instant Tariff Modification Petition, generation data for FY 2023-24 has been taken on actual basis, while for FY 2024-25, nine (9) months actual and remainder three (3) months estimated generation has been taken and generation projected for FY 2025–26 is based on the average of actual generation during five years (2019-20 to 2023-24). The power station-wise generation plan for FY 2025-26 is presented in the table below:

TABLE – 3

WAPDA HYDROELECTRIC

Generation Plan

Sr.No.	Hydel Power Station	Net Capacity	Net Generation (Gwh)						
		MW	2019-20 (Actual)	2020-21 (Actual)	2021-22 (Actual)	2022-23 (Actual)	2023-24 (Actual)	2024-25 (Actual / Prov.)	2025-26 (Projected)
1	Tarbela	3,474	11,858	12,566	10,956	12,446	13,293	12,748	12,224
2	Warsak	242	1,095	1,065	934	899	775	832	954
3	Duber Khawar	130	609	641	617	495	454	476	563
4	Allai Khawar	121	469	439	373	481	457	395	444
5	Khan Khawar	72	274	231	162	263	246	207	235
6	Jabban	22	138	134	135	125	116	141	130
7	Dargai	20	98	109	87	71	63	69	86
8	Kuram Garhi	4	15	20	11	14	16	17	15
9	Chitral	1	3	3	2	3	2	2	2
10	Tarbela 4th Ext.	1,407	5,486	3,419	3,276	4,427	4,642	4,454	4,250
11	Golen Gol	108	86	82	138	132	175	128	123
12	Gomal Zam	17	54	62	57	41	25	28	48
	Total KP	**5,615**	**20,186**	**18,770**	**16,748**	**19,397**	**20,264**	**19,498**	**19,074**
13	Ghazi Barotha	1,447	6,482	6,811	6,762	6,813	6,466	6,642	6,667
14	Chashma	183	747	772	796	876	974	909	833
15	Jinnah HPP	95	177	235	256	207	205	156	216
16	Rasul	22	34	77	59	54	72	49	59
17	Nandipur	14	34	32	29	36	36	32	34
18	Shadiwal	13	14	32	28	32	36	37	28
19	Chichoki	13	30	27	22	31	30	25	28
20	Renala Khurd	1	2	2	2	2	2	2	2
	Total Punjab	**1,788**	**7,519**	**7,989**	**7,954**	**8,051**	**7,821**	**7,851**	**7,867**
21	Mangla	997	4,589	5,314	4,201	3,838	5,173	4,556	4,623
	Total AJK	**997**	**4,589**	**5,314**	**4,201**	**3,838**	**5,173**	**4,556**	**4,623**
	Total	**8,400**	**32,295**	**32,073**	**28,903**	**31,286**	**33,259**	**31,905**	**31,563**

Pakistan Water & Power Development Authority LAHORE

Revenue Requirement of WAPDA FY 2025-26

The revenue requirements of WAPDA Power Wing (Hydroelectric) comprises of O&M expenses, depreciation charges, ijara rentals, RAB and regulatory revenue gap.

The revenue requirement has been calculated based upon the audited financial statements of FY 2023–24, provisional numbers of FY 2024-25 comprising nine (9) months actual and three (3) months estimates and projected numbers of WAPDA Regulated Business for FY 2025-26.

The consolidated revenue requirement of WAPDA Hydroelectric from FY 2023-24 to FY 2025-26 is shown in the table below, whereas station wise revenue requirement is appended at **(Annex-3)**.

TABLE - 4

Consolidated - Revenue Requirement

	Unit	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Audited*	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*	*(Mln Rs)*
Installed Capacity	(MW)		**8,420**	**8,420**	**8,420**
Net Capacity	(MW)	8,400	**8,400**	**8,400**	**8,400**
Est. Generation (Net Electrical Output)	(MW)	31,286	**33,259**	**31,905**	**31,563**
Plant Factor	(MW)	43%	**45%**	**43%**	**43%**
Revenue Requirement (Mln Rs)					
O&M	(Mln Rs)	24,203	30,665	36,374	39,592
Depreciation (At Carrying Cost)	(Mln Rs)	7,562	7,924	8,611	8,668
Ijara Rental	(Mln Rs)	-	-	-	-
Return on Investment	(Mln Rs)	31,492	31,582	32,294	32,011
Provision for Future Development	(Mln Rs)	38,006	59,783	78,408	99,642
Misc. Income	(Mln Rs)	(535)	(772)	(772)	(772)
Total Revenue Requirement	**(Mln Rs)**	**100,728**	**129,182**	**154,915**	**179,141**
Regulatory Revenue Gap					
FY - 2022-23 - Audited					22,352
FY - 2023-24 - Audited					56,038
FY - 2024-25 - Provisional					60,975
Total Revenue Gap					**139,366**
Total Revenue Requirement with Rev. Gap					**318,507**

Rationale in respect of each component and sub component of WAPDA Hydroelectric Revenue Requirement has been briefly explained in the following paras.

Water & Power Development Authority LAHORE. Pakistan

1. O&M EXPENSES

O&M expenses comprises of employees cost, repair & maintenance and administration cost. A component wise comparison of O&M cost determined by NEPRA for FY 2022-23 with actual/ audited requested O&M Cost is shown in the succeeding table whereas station wise O&M costs is appended at **(Annex-4)**.

TABLE - 5

(Mln Rs)

Components of O&M Cost	2022-23		2023-24	2024-25	2025-26
	Audited	Allowed	Audited	Actual/Prov.	Estimated
Employee's Salaries & Benefits	7,411	7,411	10,624	13,545	15,089
Post Retirement Benefits	10,804	10,804	12,950	14,893	15,786
Repair & maintenance	1,207	1,207	1,633	1,937	2,301
Administrative Expenses	4,781	4,540	5,458	5,999	6,416
Total	**24,203**	**23,961**	**30,665**	**36,374**	**39,592**

Employees Cost is sub classified into Employee salary & wages, Employees Benefits and Retiring Benefits. WAPDA appoints the human personnel and fixes their terms of employment by exercising administrative powers conferred under section 17 & 18 of the WAPDA Act. Being fully GoP owned autonomous body, WAPDA has adopted National Pay Scale, therefore, the salary package of the employees is adjusted, in line with adjustments made by the Federal Government for its employees in each financial year budget.

a) Requested Employees Costs are mentioned in the table below followed by brief explanation of their basis.

TABLE - 6

Mln Rs.

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	Actual/Prov.	Estimated
Salaries and Wages	8,853	11,509	12,890
Employees Benefits	1,771	2,036	2,199
Post Retirement Benefits	12,950	14,893	15,786
Total	**23,574**	**28,438**	**30,875**

i) Salaries & Employee Benefits for Tariff Petition are worked out on the basis of:

- The Sanctioned Manpower Strength is kept the same.
- The actual number of working employees during the year keep on changing due to Retirements, New Appointments, Posting/Transfers etc.
- Salaries and Wages for FY 2023-24 are based on actual number of working employees and assumed to remain same for FY 2024-25. For FY 2025-26, Salaries and Wages are projected based on the Sanctioned Manpower Strength, assuming that all vacant positions shall be filled during the year.
- The Employee's Salaries & Wages for FY 2023-24 are reported on the basis of actual/audited accounts. For FY 2024-25 an increase of 30% comprising 25% adhoc relief allowance granted by the Federal Govt. and 5% effect of annual

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increments, has been incorporated. Whereas, Employee Salaries & Wages for FY 2025-26 are projected with a 12% increase from FY 2024-25.

- Employees benefits comprise of different allowances payable as per the Federal Govt.'s pay structure adopted by WAPDA. During FY 2023-24 GoP increased some allowances resulting in increase of employee benefits over FY 2022-23. For FY 2023-24 an increase of 15% and for FY 2025-26 an increase of 8% has been forecasted, subject to adjustment as per actual.

ii) Employees Retirement benefits consist of pension, medical, electricity and compensated absences benefits are paid in line with IAS-19 (Employee Benefits), based upon Actuarial Valuation Report as per Projected Unit Credit Cost method. Employee's retirement benefits for FY2023-24 are as per Actuarial Valuation Report **(Annex-5)** and audited financial statements. Retirement benefits for FY 2024-25 & FY 2025-26 have been projected with 15% & 6% increase respectively, subject to adjustment as per actual.

b) Repair and Maintenance works of all 21 Hydel power Stations were carried out as per schedule. Apart from routine maintenance following major repair and maintenance works were also completed during FY 2023-24:

- Successful replacement and upgradation of 220/500 KV Transmission Lines Protection Relays and Static Excitation System of Units 11-14 of Tarbela Hydel Power Station.
- Replacement of Operation and Maintenance Seal of Main inlet Valve for Unit No.1 and replacement of Turbine Nozzle of Unit No.2 of Allai Khawar Hydel power Station.
- Successful major overhauling of Unit No.2 of Gomal Zam Hydel power Station.
- Successful replacement of faulty nozzle positions of both units, Pelton wheel runner of Unit No.01, and MIV bypass valve of Unit No.2 of Dubair Khawar Hydel Power Station.

Repair and Maintenance **"R&M"** during FY 2024-25 and FY 2025-26 has been planned within the maintenance hours allowed in the PPA for stable and maximum operation of Hydel power stations. The R&M expenses for FY 2024-25 and FY 2025-26 are taken on provisional / estimated basis which are subject to adjustment as per actual. Power station-wise major repair & maintenance activities are reported in technical data attached at **(Annex-6)**, while requested R&M in this Tariff Modification Petition are mentioned in the table below:

TABLE - 7

Mln Rs.

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	Actual/Prov.	Estimated
Fuel Charges	55	60	66
Repair and Maintenance	1,458	1,750	2,100
Insurance	120	127	135
Consultancy	0	0	0
Total	**1,633**	**1,937**	**2,301**

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c) **Administration costs** mainly include management charges, NEPRA Fees, security contracts, vehicles running costs, dams and hydrology monitoring costs. Moreover, due to their recurring nature, NEPRA has been allowing survey and investigation costs for new power projects as part of O&M under administration costs. Details of administration cost components for FY 2023-24 with projected increase for FY 2024-25 and FY 2025-26 are as under:

TABLE - 8

(Mln Rs)

	FY 2023-24	FY 2024-25		FY 2025-26	
	Audited	Actual/Prov.	% Increase	Estimated	% Increase
Dams and Hydrology Monitoring Cost	1,000	1,060	6%	1,124	6%
Survey and Experiment	542	574	6%	609	6%
Power, Gas and Water	821	871	6%	923	6%
Management/Authority Overheads	1,528	1,834	20%	2,001	9%
Vehicle Running Expenses	514	545	6%	577	6%
NEPRA Fees	264	280	6%	297	6%
Corporate Social Responsibility (CSR)	114	121	6%	128	6%
Other Operating Expenses	675	715	6%	758	6%
Total	**5,458**	**5,999**		**6,416**	

In the current Tariff Modification Petition, Administration costs for FY 2023-24 have been taken on actual basis, whereas for FY 2024-25 and FY 2025-26 an increase of 6% on all administrative costs (except Management/Authority Overheads), have been applied in line with ADB inflation rate which is 6% and 5.8% for FY 2024-25 & FY 2025-26 respectively **(Annex-7),** subject to adjustment as per actual.

WAPDA Regulated Business is required to pay Authority Overheads @ 5.5% of O&M budget in compliance of erstwhile Ministry of Water and Power (**"MoW&P "**) office order No.4(4)/2010-B&F dated 15.08.2011 **(Annex-8)**. The Overheads collected are utilized by WAPDA Authority for meeting its expenses as well as the expenses of offices under its control performing various centralized functions. Accordingly, Management/Authority Overheads for FY 2023-24 are claimed on actual basis which are almost within the prescribed limit of 5.5%. Moreover, Authority Overheads for FY 2024-25 and FY 2025-26 have been worked out at 5.5% of corresponding year expenditures, subject to adjustment as per actual.

2. DEPRECIATION CHARGE

Depreciation charges have been worked out on a straight-line method based on the carrying cost of the fixed assets at the approved rates.

As per policy proportionate depreciation is charged on new assets additions during the year in accordance with International Accounting Standard (IAS-16). Depreciation is charged at the following rates:

TABLE – 9

Sr. No:	Description of Assets	Depreciation Rates
1	Land	0%
2	Building & Civil Works	2%
3	Power Generation Plant	2%-5%
4	Transmission Equipment	4%
5	Dam & Reservoirs	1%-1.25%
6	General Plant Assets	10%
7	Office Equipment	10%-25%
8	Furniture and Fixtures	10%
9	Transportation Equipment	20%

Accordingly, station wise details of depreciation charges of each group of fixed assets in operation have been provided with the instant Tariff Modification Petition which is attached as **(Annex–9).**

Consolidated schedule for actual charge of depreciation for FY 2023-24 and proposed charge for FY 2024-25 & FY 2025-26 is given in the table below:

TABLE – 10

(Mln Rs)

Depreciation	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	Actual/Prov.	Estimated
Depreciation	7,924	8,611	8,668
Total	**7,924**	**8,611**	**8,668**

The increase in depreciation charges during FY 2024–25 is attributed to the transfer of remaining cost of Tarbela 4th Extension to Fixed Assets in Operation.

3. RETURN ON INVESTMENT (ROI)- HYDEL POWER STATIONS

Return on Investment (**"ROI"**) for hydel power stations is calculated based on average RAB which is worked out on the average historical cost of net fixed assets in operation excluding depreciation charges and grants.

The RAB of hydel power stations, debt/equity ratio, WACC and ROI for FY 2023-24 has been calculated based on audited accounts, while incorporating budgeted/estimated CAPEX of hydel power stations during FY 2024–25 & FY 2025-26.
NEPRA in its WAPDA Tariff determination for FY 2015-16 fixed debt-equity ratio of 80:20 for development projects and 70:30 for in-operation projects. Accordingly, debt equity ratio for power stations has been claimed as 70%:30% in this Tariff Modification Petition except Golen Gol and Tarbela 4th Ext. HPP which were under development at that time and were developed with debt/equity ratio of 80:20. Resultantly, average debt-to-equity ratio for operational hydropower stations comes as 74:26.

Consolidated RAB and ROI for hydel power stations is shown in following Table No. 11 & 12 respectively. Whereas, Power station wise detail is appended at **(Annex-10).**

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TABLE – 11

(Mln Rs)

Regulatory Assets Base (RAB)	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**248,368**	**262,482**	**256,872**
Additions			
Other Addition/Purchased/(Deletion)	22,035	3,001	8,718
New Cost transferred from CWIP	-	-	-
Total Addition	**22,035**	**3,001**	**8,718**
(Deletions)			
Depreciation on Fixed Assets	(7,924)	(8,611)	(8,668)
Transfer/Adjustment	3	-	-
Total Deletion	**(7,921)**	**(8,611)**	**(8,668)**
Net Fixed Assets in Operation (Closing)	**262,482**	**256,872**	**256,923**
Average Net Fixed Assets in Operation	**255,425**	**259,677**	**256,897**

TABLE – 12

Return on Investment - Hydel power Stations	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	255,425	259,677	256,897
Less: Financing of RAB through Grant	5,492	5,248	5,003
RAB for Return Purpose	249,933	254,429	251,894
Financing of RAB			
Average Debt	183,742	187,494	185,605
Average Equity	66,190	66,935	66,289
Cost of Debt (%age)	13.59%	13.65%	13.68%
ROE (%age)	10.00%	10.00%	10.00%
WACC (%age)	**12.64%**	**12.69%**	**12.71%**
Debt/Equity Ratio	**74:26**	**74:26**	**74:26**
(Return on Investment ROI)	**31,582**	**32,294**	**32,011**

4. CAPITAL INVESTMENT IN ONGOING DEVELOPMENT PROJECTS

NEPRA allows capital investments made in ongoing development projects in RAB of WAPDA. Year-wise detail of capital investments made by WAPDA in its ongoing development projects is as under:

TABLE - 13

Year-to-Year Investment in CWIP of Ongoing Development Projects	(Mln Rs.)							
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Development Projects		Audited	Audited	Audited	Audited	Audited	Provisional	Estimated
DBD (Dam, LA&R, Power Generation)	9,187	57,760	15,237	30,081	49,765	44,962	43,959	62,600
Dasu HPP	8,562	19,137	31,523	31,326	51,457	48,879	47,348	78,300
Keyal Khawar HPP	396	172	213	213	192	195	1,323	1,950
Mohmand Dam Project	16,709	5,609	19,593	44,740	46,618	42,372	37,119	35,000
Tarbela 5th Extension	-	710	9,869	5,793	15,392	31,516	38,213	50,000
Mangla Rehabilitation	2,468	4,290	4,437	3,266	3,633	5,555	14,010	14,180
Warsak Rehabilitation	13	139	54	1,343	1,260	5,455	7,704	8,950
Dargai Rehabilitation	-	-	-	-	-	169	1,083	1,000
Chitral Rehabilitation	-	-	-	-	-	41	2	300
Tarbela 4th Extension	3,148	2,164	3,659	1,939	7,778	2,582	-	-
Golen Gol HPP	4,111	550	282	433	151	403	1	2,465
Total	**44,595**	**90,531**	**84,867**	**119,133**	**176,248**	**182,128**	**190,762**	**254,745**
Other Projects	(134)	1,620	877	1,145	3,916	2,066	124	124
Grand Total	**44,461**	**92,151**	**85,743**	**120,278**	**180,164**	**184,195**	**190,886**	**254,869**

NEPRA at Para -122 of its decision dated 06.09.2023 disallowed the ROI / WACC based return on "Other Projects" stating that these projects are at feasibility/inception stage and are not part of Petitioners license. Therefore, in compliance with NEPRA's directive, the costs associated with these projects have not been included in the current tariff petition.

5. RETURN ON INVESTMENT (ROI) - HYDEL POWER PROJECTS

The RAB for development projects has been calculated on Average Capital Works in Progress ("**CWIP**") balances, excluding IDC and grants.

While allowing "Provision for Future Development", NEPRA considers debt equity ratio of 80%:20% for power projects as benchmark (fixed in FY 2015-16) instead of actual debt equity ratio. In compliance debt equity ratio for power projects has been claimed as 80%:20% in the current tariff petition.

Return on RAB in respect of each project is calculated exclusively at its respective WACC, which transpires from bench mark debt-to-equity ratio of 80:20, the contracted cost of debts and return on equity as per GoP decision.

Diamer Bhasha Project

The Diamer Bhasha Dam Project comprises of three components: land acquisition & resettlement, dam construction, and power generation—each governed by three separate PC-Is, duly approved by the GoP. NEPRA in its tariff determination of WAPDA for FY 2020-21, approved the allocation of Dam Part and Land Acquisition and Resettlement cost component of project between power and water Sectors as 49% and

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51%, respectively. Accordingly, 49% of capital expenditures incurred on land acquisition and dam part has been claimed in this Tariff Modification Petition. Since, the entire cost of the power generation component pertains solely to the power sector, therefore 100% of the expenditures incurred under this component have been claimed in the Tariff Modification Petition.

Dasu HPP

WAPDA in its Tariff Petition for FY 2022–23, requested NEPRA to grant extension in the earlier fixed Commercial Operation Date ("**COD**") of FY 2023-24 for Dasu Hydropower Project, as stipulated in the original approved PC-I due to factors beyond control, including land acquisition issues, the COVID-19 pandemic, and terrorist incidents. NEPRA in its decision on WAPDA's MLR for FY 2022–23, dated June 6, 2024, concluded that, for the purposes of the current Tariff Petition, the cost and completion timeline of the Dasu HPP remains within the scope of the approved PC-I. However, the Authority may reconsider the matter on merit once the Revised PC-I is approved and formally submitted by the Petitioner.

In this regard, 1st Revised PC-I of Dasu HPP has been approved by ECNEC at a revised cost of PKR 1,737.981 billion and completion timeline is extended up to November, 2028. Accordingly, soft copy of approved 1st Revised PC-I is attached at **(Annex-11)** for reference & record of NEPRA with the request to acknowledge the revised cost numbers and completion timelines of Dasu HPP approved by ECNEC.

Mohmand Dam Project

The Mohmand Dam HPP, with a generation capacity of 800 MW is located on Swat River about 5 km upstream of Munda Head Works in Mohmand Tribal District, KPK. NEPRA on 1st March, 2024 approved the inclusion of multipurpose 800 MW Mohmand Dam Project in WAPDA's Generation License. The project was commenced on September 20, 2019 and the main works contract was awarded to joint venture of M/S China Gezhouba Group Company and M/S Descon. In the instant tariff modification petition, actual audited figures of capital investment during FY 2023-24, provisional figures of FY 2024-25 and estimated figures for FY 2025-26 have been used for calculation of ROI.

Tarbela 5th Extension HPP

Tarbela 5th Extension Hydropower Project has a generation capacity of 1530 MW with three generating units of 510 MW each and is being constructed on Tunnel No. 5 of the Tarbela Dam. NEPRA on 1st March, 2024 approved the inclusion of 1530 MW Tarbela 5th Ext. HPP in WAPDA's Generation License. Presently, work on T5 is in full swing. In the instant TMP, actual audited figures of capital investment during FY 2023-24, provisional figures of FY 2024-25 and estimated figures for FY 2025-26 have been used for calculation of ROI.

Tarbela 4th Ext. HPP

In compliance of NEPRA's decision in WAPDA's Tariff determination for FY 2022-23, at Para-85, Post-COD expenditures incurred on Tarbela 4th Ext. HPP has not been claimed in RAB Power Projects. Completed cost of T4 HPP was transferred to Fixed Assets in Operation in FY 2023-24 and accordingly claimed under RAB Power Stations.

Golen Gol HPP

WAPDA during proceedings of the MLR for FY 2022-23 apprised NEPRA with detailed presentation and justifications regarding post COD expenses incurred due to GLOF events on Golen Gol HPP. While the 2nd Revised PC-I of Golen Gol as per NEPRA directions has been submitted to the Planning Commission through MoWR and its approval from competent authority will be communicated to NEPRA in due course of time. Since, the cost is legitimate and necessary, therefore expenditure incurred thereon has been included in RAB Power Projects.

REHABILITATION PROJECTS

WAPDA has been working on rehabilitation and refurbishment of its existing hydel power stations which will increase / restore the generation capacity, improve operational safety, and extend their useful life. Key initiatives include the refurbishment of Mangla and Warsak hydel power stations, as well as rehabilitation works at Dargai and Chitral hydel power stations.

Mangla HPS

NEPRA in its tariff notification for WAPDA for FY 2022-23 dated 26.07.2024 at Para-75 stated that, the Authority has allowed ROI for Mangla rehabilitation based on actual cost incurred for the allowed construction period which is ending in FY 2022-23. However, the Authority may consider the matter on merit once the revised PC-I is approved and submitted by the Petitioner along with other documentary evidence/justification in the next tariff petition.

In this regard, the Planning Commission's "Manual for Development Projects" stipulates that a project's PC-I must be revised in the event of a change in scope of work or cost overruns. However, for projects which are within the approved PC-I cost but facing time overrun issues, the Planning Commission guidelines require that an extension in time is obtained from the relevant forum which in case of federally administered projects is DDWP **(Annex-12)**, and does not require revision of PC-I.

Since Capital Cost of Mangla HPS is still within approved PC-I therefore WAPDA seeks necessary extension of time through MoWR **(Annex-13)** as per Planning Commission guidelines. Therefore, NEPRA is requested to allow the cost incurred on rehabilitation of Mangla HPS being legitimate & within approved PC-I.

Warsak HPS

NEPRA in its tariff notification of WAPDA for FY 2022-23 dated 26.07.2024 at Para-75 disallowed the ROI for Warsak rehabilitation beyond FY 2019-20, which was the allowed construction timeline as per approved PC-I. However, at Para-77 of said decision, NEPRA stated that, the Authority may consider the matter on merit once the revised PC-I is approved and submitted by the Petitioner along with other documentary evidence/justification in the next tariff petition.

In this regard, 1st Revised PC-I of Warsak rehabilitation has been submitted through MoWR **(Annex-14)** to Planning Commission, the approval of which shall be instantly shared with NEPRA. Therefore, considering the public sector importance of the project involving different government channels for PC-I approval, NEPRA is requested to allow the legitimate cost incurred on rehabilitation of Warsak HPS.

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Dargai and Chitral HPSs

Rehabilitation works on Dargai and Chitral rehabilitation projects are currently underway. 1st Revised PC-I of Dargai rehabilitation has been submitted through MoWR to Planning Commission. Whereas, 1st Revised PC-I of Chitral Rehabilitation is under process and shall be submitted soon to MoWR. Civil & EM works contract of Dargai rehabilitation project has been signed, whereas pre-qualification / initial selection of contractor for Chitral capacity enhancement project has been completed and contract is expected to be awarded in near future.

Consolidated ROI for power projects for FY 2023-24 (audited), FY 2024–25 (provisional) & FY 2025-26 (estimated) using the NEPRA bench mark debt/equity ratio of 80:20, has been given in the table below. Project-wise detail is also placed at **(Annex-15).**

TABLE – 14

RAB for Hydel Power Projects

(Mln Rs)

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Capital Work In Progress (Excl. IDC) Opening	613,638	792,989	982,428
Add: Investment During the Year	179,351	189,439	252,795
Less: CWIP Transferred to Fixed Assets	-	-	(3,735)
Capital Work In Progress (Excl. IDC) Closing	**792,989**	**982,428**	**1,231,488**
Average Capital Work in Progress	**703,314**	**887,709**	**1,106,958**

TABLE – 15

Return on Investment - Power Projects

(Mln Rs)

		2023-24	2024-25	2025-26
		Audited	*Actual/Prov.*	*Estimated*
Avg.Capital Work in Progress (Excluding IDC)		703,314	887,709	1,106,958
Less: Financing of RAB through Grant		222,805	258,968	307,951
Avg.Capital Work in Progress (For Return Purpose)	**(Mln Rs)**	**480,509**	**628,741**	**799,008**
Fixed Assets Financed By:				
Average Debt	(Mln Rs)	384,407	502,993	639,206
Average Equity	(Mln Rs)	96,102	125,748	159,802
Debt Equity Financing Ratio				
Debt	(%)	80%	80%	80%
Equity	(%)	20%	20%	20%
WACC				
Cost of Debt	(%)	13.1%	13.1%	13.1%
Return on Equity	(%)	10%	10%	10%
WACC	**(%)**	**12.44%**	**12.47%**	**12.47%**
Return on Investment	(Mln Rs)	**59,783**	**78,408**	**99,642**

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6. INCOME FROM ASSETS OTHER THAN FINANCIAL ASSETS

Actual other income derived from **"assets other than financial assets"** for the period during FY 2023-24 has been taken as per the audited accounts, whereas for FY 2024-25 & FY 2025-26 other income is assumed at the same level of FY 2023-24. Year wise detail of income from non-financial assets is given in the following table:

TABLE – 16

(Mln Rs.)

Income From Non-Financial Assets	FY 2023-24	FY 2024-25	FY 2025-26
	Actual	Estimated	Estimated
Amortization of Grant	245	245	245
Income from Guest Houses and Others	140	140	140
Sale of Scrap	19	19	19
Gain on Disposal of Operating Fixed Assets	5	5	5
Income from Non-Utility Operations	8	8	8
Sale of Stores	70	70	70
Miscellaneous Income	285	285	285
Total	**772**	**772**	**772**

7. REGULATORY REVENUE GAP

Regulatory revenue gap has been calculated based on the audited accounts of FY 2023-24 and provisional figures of FY 2024-25. The year-wise details of the regulatory revenue gap, along with the underlying reasons, are provided below:

FY 2022-23

i. WAPDA's tariff for FY 2022–23 was determined by NEPRA based on audited accounts; therefore, no revenue gap has been claimed in relation to the audited/determined figures for that year. However, the delayed determination and subsequent late notification of FY 2022–23 tariff barred WAPDA Hydroelectric from applying the new tariff for the whole agreement year. As a result, a revenue gap accrued due to the difference between the amounts billed under the old tariff and those that would have been billed under the new tariff, which has been claimed in this tariff petition.

FY 2023-24

i. Since the tariff for FY 2022–23 was notified by NEPRA on July 26, 2024 therefore, WAPDA could not bill power sale invoices at new NEPRA determined tariff for whole FY 2023-24. Consequently, a revenue gap has accrued for the full FY 2023–24, resulting from the difference between the power sale invoices at the new and old rates.

ii. The prudently incurred actual O&M expenses and ROI of power stations and power projects for FY 2023-24 are higher than those allowed by NEPRA in its Tariff Determination of FY 2022-23.

FY 2024-25

i. NEPRA notified WAPDA's tariff for FY 2022-23 on July 26, 2024, consequently a revenue gap accrued for the period from 1st July 2024 to 25th July 2024, due to difference between power sale invoices at new and old rates.

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ii. The provisional figures of O&M expenses and ROI of power stations and power projects for FY 2024-25 are higher than those allowed by NEPRA in its Tariff Determination of FY 2022-23.

Foregoing above, calculations for Regulatory Revenue Gap are shown in the Table below:

TABLE-17

CONSOLIDATED Revenue Gap	(Mln Rs)			
	2022-23	2023-24	2024-25	TOTAL
NEPRA Determined				
O&M	23,961	23,961	23,961	
Depreciation (At Carrying Cost)	7,494	7,494	7,494	
Ijara Rental	-	-	-	
Return on Investment	29,453	29,453	29,453	
Provision for Future Development	36,771	36,771	36,771	
Misc. Income	(536)	(536)	(536)	
Total	97,143	97,143	97,143	
Accrued as per Audited/Provisional				
O&M	23,961	30,665	36,374	
Depreciation (At Carrying Cost)	7,494	7,924	8,611	
Ijara Rental	-	-	-	
Return on Investment	29,453	31,582	32,294	
Provision for Future Development	36,771	59,783	78,408	
Misc. Income	(536)	(772)	(772)	
Revenue Gap	-	-	-	
	97,143	129,182	154,915	
Revenue Gap				
O&M	-	6,704	12,413	
Depreciation (At Carrying Cost)	-	430	1,117	
Ijara Rental	-	-	-	
Return on Investment	-	2,129	2,841	
Provision for Future Development	-	23,012	41,637	
Misc. Income	-	(236)	(236)	
Revenue Gap	-	-	-	
	-	32,039	57,772	
Total Revenue Gap				
NEPRA det. Revenue (To be Billed)	97,146	97,144	97,143	
Sales Revenue (Actually Billed)	74,794	73,145	93,940	
Gap due to late notification	22,352	23,999	3,203	
(+) Gap (Audited-NEPRA det)	-	32,039	57,772	
Total Revenue Gap Accrued	22,352	56,038	60,975	
(-) Rev. Gap provisionally determined	-	-	-	
R. Gap Claim for this Petition	22,352	56,038	60,975	139,366

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HYDEL RELATED CHARGES

1- NET HYDEL PROFIT (NHP)

NEPRA in its tariff determination of WAPDA for FY 2022-23, notified interim Regular NHP rates for provinces Khyber Pakhtunkhwa and Punjab at Rs.1.548/kWh and Rs.1.474/kWh, respectively, subject to adjustment if any in the light of Council of Common Interests ("**CCI**") decision. In the instant Tariff Modification Petition NHP rates for FY 2025-26 has been proposed same as last determined and notified by NEPRA pending decision by CCI on NHP indexation.

2- WATER USAGE CHARGES (WUC)

NEPRA in its tariff determination of WAPDA for FY 2022-23, notified WUC rate for AJ&K at Rs.1.10/kWh along with future indexation in line with NHP indexation. However, pending decision by CCI on NHP indexation WUC rate has been proposed without change for FY 2025-26 in the instant TMP.

3- IRSA CHARGES

In the tariff determination of WAPDA for FY 2022-23, NEPRA determined IRSA Charges at the rate of Rs.0.005 per kWh for managing water for hydro power generation to be paid by WAPDA in terms of MoW&P's S.R.O. (1)/2011 dated 25th August 2011 **(Annex-16)** and S.R.O. (1)/2017 dated 10th Feb 2017 **(Annex-17).** Since there is no change in the rate of IRSA Charges made by the Federal Government, it is proposed that the present rate of IRSA charges may be continued for FY 2025-26.

4- REVENUE REQUIREMENTS HYDEL LEVIES FOR FY 2025-26

Revenue Requirements of Hydel Levies comprising regular NHP, WUC and IRSA charges for FY 2020-23 has been projected as under:

Table-18

Hydel Levies

	NEPRA Determined for FY 2022-23	Requested for FY 2025-26
Regular	Mln.Rs	Mln.Rs
NHP- Govt. of KP	30,027	29,526
NHP- Govt. of Punjab	11,867	11,596
WUC Govt. of AJK	4,222	5,085
Total	46,116	46,207
IRSA	156	158
Total Hydel Levies - Regular	**46,272**	**46,365**
Arrears of NHP		
Govt. of KP	19,054	
Govt. of Punjab	5,267	
WUC Arrears	354	
Total Arrears of NHP/WUC	**24,675**	-
Total Hydel Levies	**70,947**	**46,365**

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RELIEF SOUGHT

NEPRA is requested to approve the following revised Bulk Supply Tariff of WAPDA Hydroelectric power stations for FY 2025-26 and recommend to MoWR for notification in the Official Gazette.

Table-19

WAPDA Hydroelectric Tariff for FY 2025-26

Sr.No.	Power Stations	Location/ Province	Capacity	NEO	Wapda Tariff			Hydel Levies Tariff		
					Variable Rate	Fixed Rate	Revenue Gap	NHP Regular	WUC	IRSA
			MW	GWh	Rs/kWh	Rs/kW/M	Rs/kW/M	Rs/kWh	Rs/kWh	Rs/kWh
1	Tarbela	KPK	3,474	12,224	0.063	1,340.13	1,147.41	1.548	-	0.005
2	Warsak	KPK	242	954	0.160	1,985.59	1,632.12	1.548	-	0.005
3	Duber Khawar	KPK	130	563	0.280	2,914.40	1,777.35	1.548	-	0.005
4	Allai Khawar	KPK	121	444	0.261	2,511.39	1,379.16	1.548	-	0.005
5	Khan Khawar	KPK	72	235	0.475	3,464.08	2,921.54	1.548	-	0.005
6	Jabban	KPK	22	130	0.299	3,805.91	840.48	1.548	-	0.005
7	Dargai	KPK	20	86	0.245	2,685.68	2,667.67	1.548	-	0.005
8	Kuram Garhi	KPK	4	15	0.856	6,276.85	6,573.52	1.548	-	0.005
9	Chitral	KPK	1	2	2.560	12,175.38	16,634.24	1.548	-	0.005
10	Tarbela 4th Ext.	KPK	1,407	4,250	0.165	1,778.41	1,317.05	1.548	-	0.005
11	Golen Gol	KPK	108	123	1.831	4,290.90	3,004.40	1.548	-	0.005
12	Gomal Zam	KPK	17	48	1.252	6,612.67	10,073.89	1.548	-	0.005
13	Ghazi Barotha	PUJNAB	1,447	6,667	0.092	1,661.74	1,111.60	1.474	-	0.005
14	Chashma	PUNJAB	183	833	0.275	2,972.37	2,468.93	1.474	-	0.005
15	Jinnah HPP	PUNJAB	95	216	0.731	3,608.54	4,532.03	1.474	-	0.005
16	Rasul	PUNJAB	22	59	0.314	2,349.00	1,952.83	1.474	-	0.005
17	Nandipur	PUNJAB	14	34	0.546	3,136.14	3,487.20	1.474	-	0.005
18	Shadiwal	PUNJAB	13	28	0.606	3,060.63	3,235.68	1.474	-	0.005
19	Chichoki	PUNJAB	13	28	0.497	2,700.91	2,615.60	1.474	-	0.005
20	Renala Khurd	PUNJAB	1	2	3.039	9,793.68	13,185.01	1.474	-	0.005
21	Mangla	AJK	997	4,623	0.113	1,819.92	1,501.13	-	1.100	0.005
		Total	8,400	31,563						

Water & Power Development Authority LAHORE

RESERVATION OF RIGHTS AND FURTHER SUBMISSIONS

WAPDA respectfully submits that the reliefs, justifications, and positions set out in this Petition are without prejudice to its right to present additional arguments, facts, or evidence as may become necessary during the course of proceedings. WAPDA further reserves the right to seek any supplementary, amended, or alternative relief, in accordance with the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, the Tariff (Standards and Procedure) Rules, 1998, and all other applicable laws, regulations, or directions issued by the Authority. WAPDA may also submit such further pleadings or documents as may be required or permitted by the Authority in the interest of a fair and just determination.

SPECIFIC REQUEST – CARVE-OUT FOR WHEELING ARRANGEMENT TO MARI ENERGY'S SPV (SKY47)

WAPDA has received a Letter of Intent (LOI) dated 29th May 2025 **(Annex-18)**, from Sky47 a Special Purpose Vehicle (SPV) of Mari Energy, intimating that they are developing data centers of strategic and commercial importance with the request to facilitate the supply of electricity for these data centers by WAPDA from its existing hydel generation facilities, by initially carving out 10 MW from the generation portfolio which may progressively be increased to 20 MW. The dedicated capacity is proposed to be supplied to Sky47 through a wheeling arrangement to facilitate the development of critical infrastructure by Sky47.

WAPDA believes that this limited carve-out is in the broader interest of the sector and will serve as a practical demonstration of the wheeling framework's implementation, for which there has been considerable industry anticipation. Moreover, it will also serve as a pilot case for operationalizing Competitive Trading Bilateral Market (CTBM) reforms with the expectation that NEPRA will be determining a formal wheeling charge framework in the near future.

Therefore, WAPDA agreed in principle to the proposal and is considering to enter into a Memorandum of Understanding ("MoU") with Sky47 to arrange requisite internal, procedural and regulatory approvals, including NEPRA's consent, provided that WAPDA's existing Bulk Generation License and position under the Power Purchase Agreement ("PPA") with CPPA-G remains unchanged with respect to the sale of its entire energy and capacity.

WAPDA as a supplement to the instant TMP, specifically request concurrence of NEPRA for the proposed carve-out of up to 20 MW from WAPDA's contracted capacity for supply to Sky47 under a wheeling arrangement which aligns with broader CTBM reforms, without any revision/alteration in the current Bulk Generation License of WAPDA.

General Manager Finance (F)
WAPDA, Wapda House, Lhr.

Tariff Petition FY 2025-26 - Detail of Annexures

Annex. No:	Description
1	PPA with NTDC later Novated to CPPA(G) on 01.10.2015
2	WAPDA Authority Approval dated 20.05.2025
3	Station wise Revenue Requirement for FY 2025-26
4	Station wise O&M Costs
5	Acturial Valuation Reports FY 2023-24
6	Power Station wise major repair & maintenance activities
7	ADB Inflation Rate for FY 2024-25 & FY 2025-26
8	MoW&P Officer Order No.4(4)/2010-B&F dated 15.08.2011 for payment of AOH
9	Power Station wise detail of Depreciation Charges
10	Detail of ROI - Hydel Power Stations
11	Soft Copy of 1st Revised PC-I of Dasu HPP
12	Soft Copy of Planning Commission "Manual for Development Projects" (Page # 65)
13	Letter to MoWR for Extension in Time for Rehabilitation of Mangla HPS
14	Letter with Soft Copy of 1st Revised PC-I of Warsak Rehabilitation submitted to MoWR
15	Project wise detail of ROI- Hydel Power Projects
16	MOWR S.R.O. (1)/2011 dated 25.08.2011
17	MOWR S.R.O. (1)/2011 dated 10.02.2017
18	Letter of Intent (LOI) from Sky47 an SPV of Mari Energy dated 29.05.2025
19	Annual Accounts FY 2023-24
20	Six Months Accounts FY 2024-25

Annex – 1

Annex- 1

THE PAKISTAN WATER AND POWER DEVELOPMENT A

AND

NATIONAL TRANSMISSION AND DESPATCH COMPANY

AND

CENTRAL POWER PURCHASING AGENCY (GUARANTEE)

AMENDMENT NO 3 TO THE POWER PURCHASE AGREEMENT DATED 24TH JANUARY 20

MADE AT ISLAMABAD,
ISLAMIC REPUBLIC OF PAKISTAN
ON, - 01 OCTOBER 2015

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AMENDMENT NO 3 TO POWER PURCHASE AGREEMENT

(this "Agreement") is made as of the October

The Pakistan Water & Power Development Authority, a statutory corporation established pursuant to the Pakistan Water & Power Development Authority Act of 1958 and authorized licensee of generating hydroelectric power with its principal office located at WAPDA House, Lahore (herein referred to as the "WAPDA" which expression shall, where the context so permits, include its successors in interest and permitted assigns);

AND

National Transmission and Despatch Company Limited, a public limited company incorporated under the laws of Pakistan, with its principal office at WAPDA House, Shahrah-e- Quaid-e- Azam, Lahore, Pakistan (herein referred to as the "NTDC" which expression shall, where the context so permits, include its successors in interest and permitted assigns);

AND

Central Power Purchasing Agency (Guarantee) Limited, a company incorporated under the laws of Pakistan, with its principal office at 6th Floor, Shaheed-e-Millat Secretariat, Jinnah Avenue, Blue Area, Islamabad (herein referred to as the "CPPA-G" which expression shall, where the context so permits, include its successors in interest and permitted assigns).

(The WAPDA, NTDC and the CPPA-G are hereinafter referred to individually as a "Party" and collectively as the "Parties").

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RECITALS:

WHEREAS: -

1 NTDC and WAPDA entered into the Power Purchase Agreement dated 24th January 2011 (the "PPA") for the sale and purchase of Installed Capacity and Net Electrical Output of all WAPDA Power Stations, and any future power stations that may be developed and commissioned by WAPDA, pursuant to the terms and conditions set forth therein, including NTDC provision of transmission and system operation services

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NTDC is a government-owned company, incorporated Companies Ordinance, 1984 vide Certificate of Incorporation of 1998-99 and operating under transmission license no TL/01, 31-12-2002, as amended from time to time (the "NTDC Transmiss License"), issued by the National Electric Power Regulatory Authority ("NEPRA"), in terms of which the NTDC Transmission License the following operations to NTDC:

a. Market Operations, i.e.:

(i) Central Power Purchasing Agency ("CPPA"); and

(ii) Contract Registrar and Power Exchange Administrator ( ), and

b. System Operations, i.e.:

(i) System Operator (SO); and

(ii) Transmission Network Operator (TNO).

3 CPPA-G is a government-owned guarantee limited company, incorporated under the Companies Ordinance, 1984 vide Certificate of Incorporation No. 0068608 of 2009.

4. In view of the Government of Pakistan Policy (GOP Policy), the Market Operations and System Operations of NTDC have been bifurcated and the Market Operations have been vested in CPPA-G, in consequence of which NTDC and CPPA-G have entered into an Administrative Agreement on 3rd June 2015 ("the Administration Agreement") in accordance with which the CPPA-G will perform and under take the Market Operations with respect to the Portfolio PPAs described in the Schedule II to the Administration Agreement, whereas the function of System Operations will remain with NTDC.

5. Pursuant to recent Power Sector Reforms regarding operationalization of CPPA-G as Market Operator, the Transmission Licence of NTDC stands modified. Since the CPPA-G has become functional and has entered into Power Purchase and Agency Agreement dated 3rd June 2015 ("PPAA") contractual arrangement with the ex-WAPDA DISCOs for power procurement on their behalf and CPPA G has been authorized as Market Operator by NEPRA hence is now solely responsible for implementing and administering the power market in accordance with Market Operation (Registration, Standards and Procedures) Rules, 2015 and the Commercial Code.

6. Pursuant to Section 16.2. of the PPA, WAPDA and NTDC as the parties to the PPA intend to amend the PPA and add CPPA-G as a party to the PPA

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IN WITNESS WHEREOF the Parties have executed and delivered this Agreement at Islamabad, Pakistan as of the date first above written, in supersession of the Amendment Agreement signed in Islamabad on October 21, 2015.

Central Power Purchasing Agency (Guarantee) Limited

By: _____
Title: Chief Executive Officer

National Transmission and Despatch Company Limited

By: Muhammad Abdullah
Title: Managing Director

The Pakistan Water & Power Development Authority

By: _____
Title: MEMBER (Power)

Witness: _____
Name: _____

Witness: _____
Name: _____

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Annex – 2

Telephone: 99202224
Fax : 99202030

PAKISTAN
WATER AND POWER DEVELOPMENT AUTHORITY

746-WAPDA House Lahore

SECRETARY

No.S/AD(Coord)03003/MTG/ 1672-75
Dated 02-06 .2025

GM (Fin) Power
GM (Hydel) Ops.
Dy. GM (Fin) Power
CE(Hydel) Ops.

Sub: **Minutes of Authority Meeting Held on May 20, 2025**

Following decision(s) were made by Authority, in its meeting held on May 20, 2025 in respect of item note relating to your organization:

Ex-Agenda

Item-22: Finance: Authorization for Filing Bulk Supply Tarif Modification Petition for FY 2025-26 for sale of Power from WAPDA Hydel Power Stations

Discussion

22.1 GM (Fin) Power & GM (Hydel) Ops briefed that WAPDA is performing operation, maintenance and development of Hydel power resources in Pakistan under Generation License (No. (Hydel)/05/2004 granted by NEPRA in 2004 for 30 years, and seek approval of modification in its tariff from NEPRA on year-to-year basis.

22.2 In this regard, last Tariff Modification Petition (TMP) was filed by WAPDA on 14.05.2022 for FY 2022-23, which was determined by NEPRA on 06.09.2023. Being aggrieved on various aspects of NEPRA decision, WAPDA filed Motion for Leave for Review on 18.09.2023 against which NEPRA issued its revised decision on 06.06.2024 considering the audited accounts up to June, 2023. However, the tariff became effective from 26.07.2024 i.e., the date of notification by NEPRA.

22.3 The Annual Revenue Requirement for FY 2025-26 has since been increased considerably from that determined by NEPRA for FY 2022-23. In view of this a fresh TMP for FY 2025-26 with actual numbers of FY 2023-24, Provisional numbers of FY 2024-25 and Estimated numbers of FY 2025-26 has been prepared for submission to NEPRA as per NEPRA Tariff Standard & Procedure Rules, 1998.

22.4 A comparison of Component wise numbers allowed by NEPRA for FY 2022-23 and requested in TMP for FY 2025-26 is as under:

WAPDA's Revenue Requirment

Revenue Components	NEPRA Determined for FY 2022-23	Requested for FY 2025-26
	(Mln Rs)	(Mln Rs)
O&M Expenses	23,961	39,592
Depreciation (Repayment of Loan & Equity)	7,494	8,668
Return on Investment-H/P stations	29,453	32,011
Return on Investment-H/P Projects	36,771	99,642
Deduction for Misc. Income	(535)	(772)
Sub.total	97,144	179,141
Regulatory Revenue Gap	22,816	139,366
Revenue Requirement WAPDA	119,960	318,507

Pakistan Water & Power Development Authority LAHORE

22.5 In order to finalize and file the TPM with NEPRA, WAPDA Authority has to nominate its authorized representatives to submit and sign individually or jointly, the documents necessary in support of this TMP and appear before NEPRA to represent WAPDA Authority during proceedings of this TMP.

22.6 WAPDA currently does not have specific in-house legal expertise related to Tariff matters. Therefore, it is beneficial for WAPDA to engage legal consultancy firm having relevant experience to effectively handle Power Sector Regulations, Commercial matters & Power Purchase Agreements (PPA) and defend WAPDA during proceedings of TMP in NEPRA. In this regard, previously in the matter of WAPDA's Motion of leave for review (MLR) against NEPRA decision dated 06.09.2023, Director (Legal) WAPDA hired the services of M/s RIAA Barker & Gillette on emergency basis due to time limitation of ten (10) day for filing review motion in NEPRA. The firm effectively defended WAPDA's case before NEPRA, addressing critical financial, legal, and regulatory aspects, which resulted in favorable revision of NEPRA's decision.

22.7 GM (Fin) Power & GM (Hydel) Ops solicited approval of Authority for the following:

a. Filing TMP in NEPRA for **FY 2025-26** and authorize following officers of WAPDA to submit and sign individually or jointly, the documents necessary in support of this TMP and appear before NEPRA and represent WAPDA Authority during proceedings of this TMP:
   - General Manager Finance (Power)
   - General Manager (Hydel Operation)
   - General Manager (Hydel Development)
   - General Manager (Hydro Planning)
   - General Manager (C&M) Water
   - Director Legal (WAPDA)

b. Director (Legal) WAPDA, to formally engage a suitable Legal Consultancy Firm with demonstrated expertise of Power Sector Regulations, Commercial matters & Power Purchase Agreements, following all applicable procedures, to represent WAPDA in NEPRA during tariff proceedings, as explained at Para- 22.5 & 22.6 above; and

c. Payment of applicable NEPRA's fee for filing the tariff petition.

Decision

22.8 Keeping in view the recommendations of GM (Fin) Power & GM (Hydel) Ops, Authority accorded approval to the proposals at Para 22.7 above.

Further necessary action may be taken and implementation status be intimated to this Secretariat within a fortnight for information of the Authority.

02.06.2025

(Fakharuzzaman Ali Cheema)
Secretary WAPDA

LAHORE

Annex – 3

Power Station Wise Revenue Requirement

Tarbela

	Unit	FY 2023-24 Audited (Mln Rs)	FY 2024-25 Provisional (Mln Rs)	FY 2025-26 Estimated (Mln Rs)
Operating Data				
Installed Capacity	(MW)	3,474	3,474	3,474
Generation (Net Electrical Output)	(Gwh)	13,293	12,748	12,224
Plant Factor	(%)	44%	42%	40%
Revenue Requirement				
O&M	(Mln Rs)	10,382	12,188	13,197
Depreciation (At Carrying Cost)	(Mln Rs)	481	481	481
Return on Investment	(Mln Rs)	1,427	1,706	1,879
Provision for Future Development	(Mln Rs)	24,724	32,427	41,209
Misc. Income	(Mln Rs)	(127)	(127)	(127)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**36,887**	**46,675**	**56,639**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				6,941
FY - 2023-24 - Audited				18,705
FY - 2024-25 - Provisional				22,187
Total Revenue Gap				**47,833**
Total Revenue Requirement with Rev. Gap				**104,472**
Total Revenue Requirement of Tarbela				104,472

Warsak Rehabilitation

	Unit	FY 2023-24 Audited (Mln Rs)	FY 2024-25 Provisional (Mln Rs)	FY 2025-26 Estimated (Mln Rs)
Operating Data				
Installed Capacity	(MW)	242	242	242
Generation (Net Electrical Output)	(Gwh)	775	832	954
Plant Factor	(%)	37%	39%	45%
Revenue Requirement				
O&M	(Mln Rs)	2,225	2,652	2,881
Depreciation (At Carrying Cost)	(Mln Rs)	47	47	47
Return on Investment	(Mln Rs)	133	132	135
Provision for Future Development	(Mln Rs)	1,722	2,258	2,870
Misc. Income	(Mln Rs)	(15)	(15)	(15)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**4,112**	**5,074**	**5,918**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				730
FY - 2023-24 - Audited				1,847
FY - 2024-25 - Provisional				2,161
Total Revenue Gap				**4,739**
Total Revenue Requirement with Rev. Gap				**10,656**
Total Revenue Requirement of Warsak Rehab				10,656

Dubair Khawar

	Unit	FY 2023-24 Audited (Mln Rs)	FY 2024-25 Provisional (Mln Rs)	FY 2025-26 Estimated (Mln Rs)
Operating Data				
Installed Capacity	(MW)	130	130	130
Generation (Net Electrical Output)	(Gwh)	454	476	563
Plant Factor	(%)	40%	42%	50%
Revenue Requirement				
O&M	(Mln Rs)	427	517	569
Depreciation (At Carrying Cost)	(Mln Rs)	350	350	350
Return on Investment	(Mln Rs)	2,301	2,264	2,234
Provision for Future Development	(Mln Rs)	922	1,209	1,536
Misc. Income	(Mln Rs)	(2)	(2)	(2)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**3,998**	**4,337**	**4,686**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				899
FY - 2023-24 - Audited				1,142
FY - 2024-25 - Provisional				721
Total Revenue Gap				**2,762**
Total Revenue Requirement with Rev. Gap				**7,448**
Total Revenue Requirement of Dubair Khawar				7,448

Pakistan Water & Power Development Authority LAHORE.

1/7

Allai Khawar

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	121	121	121
Generation (Net Electrical Output)	(Gwh)	457	395	444
Plant Factor	(%)	43%	37%	42%
Revenue Requirement				
O&M	(Mln Rs)	464	562	619
Depreciation (At Carrying Cost)	(Mln Rs)	318	318	318
Return on Investment	(Mln Rs)	1,443	1,409	1,381
Provision for Future Development	(Mln Rs)	858	1,125	1,429
Misc. Income	(Mln Rs)	(0)	(0)	(0)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**3,083**	**3,413**	**3,747**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				331
FY - 2023-24 - Audited				794
FY - 2024-25 - Provisional				870
Total Revenue Gap				**1,994**
Total Revenue Requirement with Rev. Gap				**5,742**
Total Revenue Requirement of Allai Khawar				5,742

Khan Khawar

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	72	72	72
Generation (Net Electrical Output)	(Gwh)	246	207	235
Plant Factor	(%)	39%	33%	38%
Revenue Requirement				
O&M	(Mln Rs)	806	980	1,097
Depreciation (At Carrying Cost)	(Mln Rs)	211	211	211
Return on Investment	(Mln Rs)	966	946	933
Provision for Future Development	(Mln Rs)	509	667	848
Misc. Income	(Mln Rs)	(5)	(5)	(5)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**2,487**	**2,799**	**3,084**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				416
FY - 2023-24 - Audited				1,059
FY - 2024-25 - Provisional				1,032
Total Revenue Gap				**2,507**
Total Revenue Requirement with Rev. Gap				**5,591**
Total Revenue Requirement of Khan Khawar				5,591

Jabban

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	22	22	22
Generation (Net Electrical Output)	(Gwh)	116	141	130
Plant Factor	(%)	61%	74%	68%
Revenue Requirement				
O&M	(Mln Rs)	273	329	365
Depreciation (At Carrying Cost)	(Mln Rs)	121	121	121
Return on Investment	(Mln Rs)	310	299	291
Provision for Future Development	(Mln Rs)	155	203	259
Misc. Income	(Mln Rs)	(1)	(1)	(1)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**859**	**952**	**1,034**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				(10)
FY - 2023-24 - Audited				66
FY - 2024-25 - Provisional				164
Total Revenue Gap				**220**
Total Revenue Requirement with Rev. Gap				**1,254**
Total Revenue Requirement of Jabban				1,254

Pakistan Water & Power Development Authority LAHORE.

Dargai

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	20	20	20
Generation (Net Electrical Output)	(Gwh)	63	69	86
Plant Factor	(%)	37%	40%	50%
Revenue Requirement				
O&M	(Mln Rs)	325	389	427
Depreciation (At Carrying Cost)	(Mln Rs)	3	3	3
Return on Investment	(Mln Rs)	10	10	11
Provision for Future Development	(Mln Rs)	139	183	232
Misc. Income	(Mln Rs)	(21)	(21)	(21)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**456**	**564**	**653**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				144
FY - 2023-24 - Audited				252
FY - 2024-25 - Provisional				231
Total Revenue Gap				**627**
Total Revenue Requirement with Rev. Gap				**1,280**
Mark up on advance NHP paid to provinces				-
Total Revenue Requirement of Dargai				1,280

Kurrm Garhi

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	4	4	4
Generation (Net Electrical Output)	(Gwh)	16	17	15
Plant Factor	(%)	46%	50%	45%
Revenue Requirement				
O&M	(Mln Rs)	171	208	228
Depreciation (At Carrying Cost)	(Mln Rs)	5	5	5
Return on Investment	(Mln Rs)	20	22	28
Provision for Future Development	(Mln Rs)	28	36	46
Misc. Income	(Mln Rs)	(1)	(1)	(1)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**223**	**272**	**307**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				72
FY - 2023-24 - Audited				127
FY - 2024-25 - Provisional				109
Total Revenue Gap				**308**
Total Revenue Requirement with Rev. Gap				**614**
Total Revenue Requirement of Kurrm Garhi				614

Chitral

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	1	1	1
Generation (Net Electrical Output)	(Gwh)	2	2	2
Plant Factor	(%)	24%	27%	32%
Revenue Requirement				
O&M	(Mln Rs)	92	112	123
Depreciation (At Carrying Cost)	(Mln Rs)	1	1	1
Return on Investment	(Mln Rs)	3	3	3
Provision for Future Development	(Mln Rs)	6	8	11
Misc. Income	(Mln Rs)	(0)	(0)	(0)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**102**	**124**	**138**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				55
FY - 2023-24 - Audited				76
FY - 2024-25 - Provisional				49
Total Revenue Gap				**180**
Total Revenue Requirement with Rev. Gap				**318**
Total Revenue Requirement of Chitral				318

Pakistan Water & Power Development Authority LAHORE.

Tarbela 4th Extension

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	1,407	1,407	1,407
Generation (Net Electrical Output)	(Gwh)	4,642	4,454	4,250
Plant Factor	(%)	38%	36%	34%
Revenue Requirement				
O&M	(Mln Rs)	1,542	1,803	1,952
Depreciation (At Carrying Cost)	(Mln Rs)	1,939	2,627	2,627
Return on Investment	(Mln Rs)	9,044	9,970	9,623
Provision for Future Development	(Mln Rs)	10,014	13,133	16,690
Misc. Income	(Mln Rs)	(163)	(163)	(163)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**22,375**	**27,370**	**30,729**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				3,233
FY - 2023-24 - Audited				8,522
FY - 2024-25 - Provisional				10,482
Total Revenue Gap				**22,237**
Total Revenue Requirement with Rev. Gap				**52,966**
Total Revenue Requirement of Tarbela 4th Extension				52,966

Golen Gol

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	108	108	108
Generation (Net Electrical Output)	(Gwh)	175	128	123
Plant Factor	(%)	19%	14%	13%
Revenue Requirement				
O&M	(Mln Rs)	268	328	362
Depreciation (At Carrying Cost)	(Mln Rs)	806	806	863
Return on Investment	(Mln Rs)	3,310	3,228	3,418
Provision for Future Development	(Mln Rs)	766	1,005	1,278
Misc. Income	(Mln Rs)	(151)	(151)	(151)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**5,000**	**5,217**	**5,770**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				1,475
FY - 2023-24 - Audited				1,769
FY - 2024-25 - Provisional				638
Total Revenue Gap				**3,883**
Total Revenue Requirement with Rev. Gap				**9,653**
Total Revenue Requirement of Golen Gol				9,653

Gomal Zam

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	17	17	17
Generation (Net Electrical Output)	(Gwh)	25	28	48
Plant Factor	(%)	17%	19%	32%
Revenue Requirement				
O&M	(Mln Rs)	393	478	525
Depreciation (At Carrying Cost)	(Mln Rs)	114	114	114
Return on Investment	(Mln Rs)	640	646	662
Provision for Future Development	(Mln Rs)	121	159	202
Misc. Income	(Mln Rs)	(94)	(94)	(94)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**1,174**	**1,303**	**1,409**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				417
FY - 2023-24 - Audited				997
FY - 2024-25 - Provisional				642
Total Revenue Gap				**2,055**
Total Revenue Requirement with Rev. Gap				**3,464**
Total Revenue Requirement of Gomal Zam				3,464

Pakistan Water & Power Development Authority LAHORE.

Ghazi Barotha

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	1,447	1,447	1,447
Generation (Net Electrical Output)	(Gwh)	6,466	6,642	6,667
Plant Factor	(%)	51%	52%	53%
Revenue Requirement				
O&M	(Mln Rs)	4,080	4,866	5,297
Depreciation (At Carrying Cost)	(Mln Rs)	1,651	1,651	1,651
Return on Investment	(Mln Rs)	5,714	5,562	5,415
Provision for Future Development	(Mln Rs)	10,298	13,507	17,164
Misc. Income	(Mln Rs)	(58)	(58)	(58)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**21,685**	**25,528**	**29,470**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				2,249
FY - 2023-24 - Audited				7,639
FY - 2024-25 - Provisional				9,414
Total Revenue Gap				**19,302**
Total Revenue Requirement with Rev. Gap				**48,772**
Total Revenue Requirement of Ghazi Barotha				48,772

Chashma

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	183	183	183
Generation (Net Electrical Output)	(Gwh)	974	909	833
Plant Factor	(%)	61%	57%	52%
Revenue Requirement				
O&M	(Mln Rs)	2,117	2,525	2,765
Depreciation (At Carrying Cost)	(Mln Rs)	849	849	849
Return on Investment	(Mln Rs)	1,143	1,074	1,045
Provision for Future Development	(Mln Rs)	1,303	1,709	2,172
Misc. Income	(Mln Rs)	(71)	(71)	(71)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**5,343**	**6,086**	**6,760**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				839
FY - 2023-24 - Audited				2,422
FY - 2024-25 - Provisional				2,164
Total Revenue Gap				**5,425**
Total Revenue Requirement with Rev. Gap				**12,185**
Total Revenue Requirement of Chashma				12,185

Jinnah

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	95	95	95
Generation (Net Electrical Output)	(Gwh)	205	156	216
Plant Factor	(%)	25%	19%	26%
Revenue Requirement				
O&M	(Mln Rs)	738	893	979
Depreciation (At Carrying Cost)	(Mln Rs)	411	411	411
Return on Investment	(Mln Rs)	1,868	1,819	1,771
Provision for Future Development	(Mln Rs)	679	890	1,132
Misc. Income	(Mln Rs)	(4)	(4)	(4)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**3,691**	**4,010**	**4,289**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				337
FY - 2023-24 - Audited				2,541
FY - 2024-25 - Provisional				2,310
Total Revenue Gap				**5,188**
Total Revenue Requirement with Rev. Gap				**9,477**
Total Revenue Requirement of Jinnah				9,477

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Rasul

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	22	22	22
Generation (Net Electrical Output)	(Gwh)	72	49	59
Plant Factor	(%)	38%	26%	31%
Revenue Requirement				
O&M	(Mln Rs)	245	297	325
Depreciation (At Carrying Cost)	(Mln Rs)	7	7	7
Return on Investment	(Mln Rs)	37	38	39
Provision for Future Development	(Mln Rs)	154	202	256
Misc. Income	(Mln Rs)	(0)	(0)	(0)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**443**	**543**	**627**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				97
FY - 2023-24 - Audited				195
FY - 2024-25 - Provisional				214
Total Revenue Gap				**506**
Total Revenue Requirement with Rev. Gap				**1,134**
Total Revenue Requirement of Rasul				1,134

Nandipur

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	14	14	14
Generation (Net Electrical Output)	(Gwh)	36	32	34
Plant Factor	(%)	31%	27%	28%
Revenue Requirement				
O&M	(Mln Rs)	268	325	355
Depreciation (At Carrying Cost)	(Mln Rs)	3	3	3
Return on Investment	(Mln Rs)	9	9	11
Provision for Future Development	(Mln Rs)	96	126	160
Misc. Income	(Mln Rs)	(3)	(3)	(3)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**374**	**461**	**526**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				137
FY - 2023-24 - Audited				231
FY - 2024-25 - Provisional				197
Total Revenue Gap				**565**
Total Revenue Requirement with Rev. Gap				**1,091**
Total Revenue Requirement of Nandipur				1,091

Shadiwal

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	13	13	13
Generation (Net Electrical Output)	(Gwh)	36	37	28
Plant Factor	(%)	31%	32%	25%
Revenue Requirement				
O&M	(Mln Rs)	236	285	313
Depreciation (At Carrying Cost)	(Mln Rs)	4	4	4
Return on Investment	(Mln Rs)	17	22	30
Provision for Future Development	(Mln Rs)	94	123	157
Misc. Income	(Mln Rs)	(1)	(1)	(1)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**349**	**434**	**502**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				111
FY - 2023-24 - Audited				209
FY - 2024-25 - Provisional				193
Total Revenue Gap				**513**
Total Revenue Requirement with Rev. Gap				**1,015**
Total Revenue Requirement of Shadiwal				1,015

Pakistan Water & Power Development Authority LAHORE.

Chichoki

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	13	13	13
Generation (Net Electrical Output)	(Gwh)	30	25	28
Plant Factor	(%)	27%	22%	25%
Revenue Requirement				
O&M	(Mln Rs)	200	241	263
Depreciation (At Carrying Cost)	(Mln Rs)	4	4	4
Return on Investment	(Mln Rs)	11	12	14
Provision for Future Development	(Mln Rs)	92	120	153
Misc. Income	(Mln Rs)	(1)	(1)	(1)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**305**	**375**	**432**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				89
FY - 2023-24 - Audited				162
FY - 2024-25 - Provisional				153
Total Revenue Gap				**405**
Total Revenue Requirement with Rev. Gap				**837**
Total Revenue Requirement of Chichoki				837

Renala

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	1	1	1
Generation (Net Electrical Output)	(Gwh)	2	2	2
Plant Factor	(%)	18%	20%	21%
Revenue Requirement				
O&M	(Mln Rs)	81	98	107
Depreciation (At Carrying Cost)	(Mln Rs)	1	1	1
Return on Investment	(Mln Rs)	3	3	3
Provision for Future Development	(Mln Rs)	7	9	12
Misc. Income	(Mln Rs)	(1)	(1)	(1)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**92**	**111**	**123**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				46
FY - 2023-24 - Audited				67
FY - 2024-25 - Provisional				45
Total Revenue Gap				**158**
Total Revenue Requirement with Rev. Gap				**281**
Total Revenue Requirement of Renala				281

Mangla

	Unit	FY 2023-24	FY 2024-25	FY 2025-26
		Audited	*Provisional*	*Estimated*
		(Mln Rs)	*(Mln Rs)*	*(Mln Rs)*
Operating Data				
Installed Capacity	(MW)	997	997	997
Generation (Net Electrical Output)	(Gwh)	5,173	4,556	4,623
Plant Factor	(%)	59%	52%	53%
Revenue Requirement				
O&M	(Mln Rs)	5,332	6,299	6,842
Depreciation (At Carrying Cost)	(Mln Rs)	596	596	596
Return on Investment	(Mln Rs)	3,174	3,121	3,085
Provision for Future Development	(Mln Rs)	7,096	9,306	11,826
Misc. Income	(Mln Rs)	(53)	(53)	(53)
Total Revenue Requirement w/o Rev. Gap	**(Mln Rs)**	**16,145**	**19,269**	**22,297**
Regulatory Revenue Gap				
FY - 2022-23 - Audited				3,743
FY - 2023-24 - Audited				7,217
FY - 2024-25 - Provisional				6,999
Total Revenue Gap				**17,959**
Total Revenue Requirement with Rev. Gap				**40,256**
Total Revenue Requirement of Mangla				40,256

Pakistan Water & Power Development Authority LAHORE.

Annex – 4

O&M Expenses

For the FY ended on 30th June	Tarbela			Warsak			Dubair		
	Audited	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	2,328	3,027	3,390	681	886	992	172	224	251
Employees Benefits	435	500	540	163	188	203	18	21	22
Retirement Benefits	5,065	5,825	6,174	1,059	1,218	1,291	134	154	164
Sub.Total	**7,828**	**9,352**	**10,105**	**1,903**	**2,291**	**2,485**	**324**	**399**	**436**
R&M	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Fuel Charges	6	6	7	2	2	2	1	1	1
Repair and Maintenance	390	467	561	64	77	92	38	46	55
Insurance	9	9	10	2	2	2	5	5	5
Consultancy	-	-	-	-	-	-	-	-	-
Sub.Total	**404**	**483**	**578**	**67**	**80**	**96**	**44**	**52**	**61**
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	515	545	578	9	9	10	0	0	0
Survey and Experiment	224	237	252	16	17	18	8	9	9
Power, Gas and Water	315	334	354	76	80	85	1	1	2
Management/Authority Overheads	536	643	701	73	88	96	23	27	30
Vehicle Running Expenses	156	166	176	27	29	30	7	8	8
NEPRA Fees	109	116	122	8	8	9	4	4	5
Corporate Social Responsibility (CSR)	43	45	48	4	4	4	5	5	5
Other Operating Expenses	252	267	283	43	46	48	11	11	12
Sub.Total	**2,150**	**2,354**	**2,515**	**255**	**280**	**300**	**60**	**66**	**71**
G.Total	**10,382**	**12,188**	**13,197**	**2,225**	**2,652**	**2,881**	**427**	**517**	**569**

O&M Expenses

For the FY ended on 30th June	Allai			Khan			Jabban		
	Audited	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	189	245	275	295	384	430	102	133	149
Employees Benefits	26	30	32	37	42	46	13	15	16
Retirement Benefits	145	167	177	205	236	250	72	83	88
Sub.Total	**360**	**443**	**484**	**538**	**663**	**726**	**187**	**231**	**253**
R&M	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Fuel Charges	0	0	0	1	1	2	-	-	-
Repair and Maintenance	42	50	60	199	239	286	43	51	61
Insurance	5	6	6	2	2	2	4	4	5
Consultancy	-	-	-	-	-	-	-	-	-
Sub.Total	**47**	**56**	**67**	**202**	**242**	**290**	**47**	**55**	**66**
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	2	2	2	4	4	4	1	1	1
Survey and Experiment	8	8	9	5	5	5	1	1	2
Power, Gas and Water	1	1	2	2	2	2	0	0	0
Management/Authority Overheads	25	30	32	34	40	44	11	13	14
Vehicle Running Expenses	6	6	7	10	10	11	3	3	3
NEPRA Fees	4	4	4	2	2	3	1	1	1
Corporate Social Responsibility (CSR)	1	2	2	1	1	1	0	0	0
Other Operating Expenses	10	10	11	9	10	10	22	23	24
Sub.Total	**56**	**63**	**68**	**66**	**75**	**80**	**39**	**43**	**46**
G.Total	**464**	**562**	**619**	**806**	**980**	**1,097**	**273**	**329**	**365**

O&M Expenses

For the FY ended on 30th June	Dargai			Kurram Garhi			Chitral		
	Audited	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	111	144	162	76	99	111	43	56	63
Employees Benefits	20	22	24	8	9	10	3	3	3
Retirement Benefits	121	139	148	69	79	84	37	43	45
Sub.Total	**252**	**306**	**334**	**154**	**188**	**205**	**83**	**102**	**112**
R&M	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Fuel Charges	-	-	-	-	-	-	-	-	-
Repair and Maintenance	29	35	42	6	7	8	3	4	5
Insurance	-	-	-	0	0	0	0	0	0
Consultancy	-	-	-	-	-	-	-	-	-
Sub.Total	**29**	**35**	**42**	**6**	**7**	**8**	**3**	**4**	**5**
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	3	3	3	0	0	0	0	0	0
Survey and Experiment	1	1	1	0	0	0	0	0	0
Power, Gas and Water	3	3	3	0	0	0	0	0	0
Management/Authority Overheads	11	13	14	5	6	7	3	3	4
Vehicle Running Expenses	2	2	2	2	2	2	1	1	1
NEPRA Fees	1	1	1	0	0	0	0	0	0
Corporate Social Responsibility (CSR)	1	1	1	1	1	1	0	0	0
Other Operating Expenses	23	24	26	4	4	4	1	1	1
Sub.Total	**43**	**48**	**51**	**12**	**13**	**14**	**5**	**6**	**7**
G.Total	**325**	**389**	**427**	**171**	**208**	**228**	**92**	**112**	**123**

Pakistan Water & Power Development Authority LAHORE.

O&M Expenses

For the FY ended on 30th June	Tarbela 4th Ext.			Golen Gol			Gomal Zam		
	Audited	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	322	418	468	137	178	200	179	232	260
Employees Benefits	74	85	92	17	20	21	26	30	33
Retirement Benefits	625	719	762	38	44	47	118	136	144
Sub.Total	1,021	1,222	1,322	193	242	268	323	398	437
R&M	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Fuel Charges	2	2	2	1	1	1	6	7	7
Repair and Maintenance	49	59	71	19	23	28	20	24	29
Insurance	43	45	48	7	8	8	1	1	1
Consultancy	-	-	-	-	-	-	-	-	-
Sub.Total	93	106	121	27	32	37	28	32	38
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	45	48	51	1	1	1	6	7	7
Survey and Experiment	91	96	102	7	7	8	1	1	1
Power, Gas and Water	0	0	0	1	1	1	1	2	2
Management/Authority Overheads	156	187	204	20	23	26	14	17	19
Vehicle Running Expenses	18	19	20	7	7	8	11	12	12
NEPRA Fees	44	47	50	3	4	4	1	1	1
Corporate Social Responsibility (CSR)	17	18	19	3	3	3	2	2	2
Other Operating Expenses	56	59	63	7	8	8	6	7	7
Sub.Total	427	475	509	48	54	58	43	47	51
G.Total	1,542	1,803	1,952	268	328	362	393	478	525

O&M Expenses

For the FY ended on 30th June	Ghazi Barotha			Chashma			Jinnah		
	Audited	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	1,350	1,755	1,966	719	935	1,047	309	402	451
Employees Benefits	233	268	290	170	195	211	41	48	51
Retirement Benefits	1,607	1,848	1,959	662	762	807	279	320	340
Sub.Total	3,190	3,871	4,214	1,551	1,892	2,065	629	770	842
R&M	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Fuel Charges	11	12	13	14	15	17	3	3	4
Repair and Maintenance	108	130	156	149	179	215	33	39	47
Insurance	11	11	12	9	10	11	13	13	14
Consultancy	-	-	-	-	-	-	-	-	-
Sub.Total	130	153	181	173	204	242	48	56	65
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	108	115	121	65	69	73	0	0	0
Survey and Experiment	93	99	105	12	13	13	6	7	7
Power, Gas and Water	58	61	65	136	144	153	0	0	0
Management/Authority Overheads	260	312	341	80	96	104	28	34	37
Vehicle Running Expenses	96	102	108	57	60	64	10	11	12
NEPRA Fees	45	48	51	6	6	6	3	3	3
Corporate Social Responsibility (CSR)	18	19	20	4	4	4	2	2	2
Other Operating Expenses	80	85	90	35	37	39	11	11	12
Sub.Total	760	842	902	394	428	457	60	67	73
G.Total	4,080	4,866	5,297	2,117	2,525	2,765	738	893	979

O&M Expenses

For the FY ended on 30th June	Rasul			Nandipur			Shadiwal		
	Audited	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26	FY 2023-24	FY 2024-25	FY 2025-26
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	96	125	140	109	142	159	97	126	141
Employees Benefits	6	7	7	12	13	14	23	27	29
Retirement Benefits	108	124	131	121	139	147	84	97	102
Sub.Total	210	256	279	242	294	321	204	249	272
R&M	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Fuel Charges	-	-	-	0	0	0	1	1	1
Repair and Maintenance	17	20	24	9	11	14	13	16	19
Insurance	0	0	0	0	0	0	0	0	0
Consultancy	-	-	-	-	-	-	-	-	-
Sub.Total	17	20	24	9	11	14	14	16	19
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	1	1	1	1	1	1	1	1	1
Survey and Experiment	1	1	2	1	1	1	1	1	1
Power, Gas and Water	0	0	0	1	1	1	1	1	1
Management/Authority Overheads	8	10	11	8	9	10	8	10	10
Vehicle Running Expenses	3	3	3	3	3	4	4	4	4
NEPRA Fees	1	1	1	0	0	0	0	0	0
Corporate Social Responsibility (CSR)	0	0	0	0	0	0	0	0	0
Other Operating Expenses	4	4	4	3	3	3	3	3	3
Sub.Total	19	21	22	17	19	21	18	20	22
G.Total	245	297	325	268	325	355	236	285	313

Pakistan Water Authority Development LAHORE.

O&M Expenses

For the FY ended on 30th June	Chichuki			Renala			Mangla		
	Audited	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*	*Audited*	*Provisional*	*Estimated*
	FY 2023-24	**FY 2024-25**	**FY 2025-26**	**FY 2023-24**	**FY 2024-25**	**FY 2025-26**	**FY 2023-24**	**FY 2024-25**	**FY 2025-26**
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	77	100	112	33	42	47	1,426	1,854	2,076
Employees Benefits	2	3	3	6	7	7	438	503	544
Retirement Benefits	95	109	115	29	34	36	2,276	2,618	2,775
Sub.Total	**174**	**211**	**230**	**68**	**83**	**91**	**4,140**	**4,975**	**5,394**
R&M	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Fuel Charges	-	-	-	-	-	-	8	9	10
Repair and Maintenance	8	10	12	5	6	8	213	256	307
Insurance	0	0	0	-	-	-	10	10	11
Consultancy	-	-	-	-	-	-	0	0	0
Sub.Total	**8**	**10**	**12**	**5**	**6**	**8**	**231**	**275**	**328**
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	3	3	3	0	0	0	235	249	264
Survey and Experiment	1	1	1	0	0	0	64	68	72
Power, Gas and Water	1	1	1	0	0	0	224	237	251
Management/Authority Overheads	6	7	8	2	3	3	219	262	286
Vehicle Running Expenses	4	5	5	3	4	4	83	88	94
NEPRA Fees	0	0	0	0	0	0	31	33	35
Corporate Social Responsibility (CSR)	0	0	0	0	0	0	12	13	14
Other Operating Expenses	3	3	3	1	1	1	92	98	103
Sub.Total	**18**	**20**	**21**	**7**	**8**	**9**	**960**	**1,049**	**1,120**
G.Total	**200**	**241**	**263**	**81**	**98**	**107**	**5,332**	**6,299**	**6,842**

Pakistan Water & Power Development Authority LAHORE.

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Annex – 5

TRT Associates
Actuaries & Management Consultants

Ref. No. 000421/24

September 7, 2024

General Manager (Finance) Power
Pakistan Water & Power Development Authority (WAPDA)
Room No. 713
WAPDA House
LAHORE

Subject: *Report on IAS -19 Disclosures as at 30.06.2024*

Dear Sir,

Please find attached Valuation Report containing IAS-19 disclosures (based on the revised version of IAS-19) for the Pension Scheme of WAPDA Hydroelectric for the year 2023–24.

Please, do not hesitate in contacting us if you have any queries regarding the Report.

Yours faithfully,

Tanveer Alam

TANVEER ALAM
Associate of the Society of Actuaries, USA
Associate of Pakistan Society of Actuaries
CEO & Consulting Actuary
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Pakistan Water & Power Development Authority LAHORE.

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TRT Associates
Actuaries & Management Consultants

September 7, 2024

VALUATION REPORT

WAPDA HYDROELECTRIC

PENSION SCHEME - DISCLOSURES AS PER THE REQUIREMENTS OF THE REVISED VERSION OF INTERNATIONAL ACCOUNTING STANDARD – 19 AS AT 30.06.2024

Not to be distributed to third parties, except auditors and senior management, without the prior written approval of TRT-Associates

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Pakistan Water & Power Development Authority LAHORE.

Pakistan Development Authority LAHORE

Executive Summary

1. Purpose of the Report

The Actuarial Report provides accounting entries/disclosures in respect of the Pension benefits provided by WAPDA Hydroelectric. The disclosures are prepared in accordance with the requirements of the revised version of International Accounting Standard 19 (IAS-19).

The objective of the Report is to assist the Entity in preparing its annual accounts. Therefore, the figures in this report should be used for reporting purposes only and not for the funding of benefits.

2. Valuation Data

A summary of the data used for the valuation is as follows:

Active Employees

Category	Number of Employees	Pensionable Salary
Permanent Employees	9,433	Rs.356,022,276
Employees on Deputation	92	Rs.6,309,280

Pensioners

Number of Pensioners	Pension	CMA	Orderly Allowance	Total
10,630	Rs.429,648,065	Rs.33,435,700	Rs.6,100,000	Rs.469,183,765

3. Amount to be Recognised in Profit & Loss Account for the Current Year

Rs.000's

	2023-24	2022-23
Amount to be recognized as expense during the year	11,078,628	9,269,508

4. Amount to be Recognised in Other Comprehensive Income (OCI)

Rs.000's

	2023-24	2022-23
Amount to be recognized in OCI during the year	28,382,996	6,944,724

5. Statement of Financial Position as at the End of Year

Rs.000's

	2023-24	2022-23
Amount to be recognised as Net Defined Benefit (i.e. Pension) Liability as at June 30th End of the Year	93,674,121	59,548,352

Pakistan Water & Power Development Authority LAHORE.

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6. Reconciliation of Liability

Rs.000's

	2023-24	2022-23
Opening Net Defined Benefit Liability	59,548,352	62,696,550
Expense Chargeable to P&L during the year	11,078,628	9,269,508
Amount Chargeable to OCI during the year	28,382,996	6,944,724
Benefits paid during the year	(5,374,137)	(19,362,430)
Depotationists' Contributions received during the year	38,282	-
Closing Net Defined Benefit Liability	**93,674,121**	**59,548,352**

Rs.000's

	2023-24	
Category	**P&L Charge**	**Liability**
Permanent Employees	6,130,881	51,346,133
Employees on Deputation	72,796	785,627
Pensioners	4,874,951	41,542,361
Net Defined Benefit Liability	**11,078,628**	**93,674,121**

Note: It has been assumed that the Pension Fund Assets will first offset Pensioners' Liability.

Rs.000's

	P&L Charge
Employees on Deputation	**2023-24**
Service Cost	49,635
Depotationists' Contributions received during the year	(38,282)
Interest on Defined Benefit Obligation	61,443
Amount to be Recognized as P&L Charge	**72,796**

Rs.000's

	P&L Charge
Category	**2024-25**
Permanent Employees	8,567,338
Employees on Deputation	126,297
Pensioners	6,955,897
Net Defined Benefit Liability	**15,649,532**

Pakistan Development Authority LAHORE.

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Main Report

Key Information

Date of Valuation

The valuation is conducted, using the prescribed Actuarial Method, as at June 30, 2024.

Pension Benefits

A summary of the Pension Benefits provided by WAPDA Hydroelectric is given in Appendix-II of the Report.

Risks Associated with the Pension Scheme

- The Entity provides Pension benefits to its regular staff.
- The Pension Scheme is a partially funded Scheme.
- There is no minimum funding requirement for Pension Benefit Scheme.
- The main risk of Pension Benefit Scheme is that the accrued benefits may not be paid when they fall due. The Pension Benefit liability reflected in the Company's Accounts provides a reasonable security of the accrued rights because it is likely that the accrued Pension benefits could be considered as high priority debt in case of insolvency of the sponsor.
- The Pension Benefit Scheme is a defined benefit scheme.
- **Interest rate risk** - The present value of the defined benefit liability is calculated using a discount rate determined by reference to the market yields at the end of the reporting period on high quality corporate bonds, or where there is no deep market in such bonds, by reference to market yields on government bonds. Currencies and terms of bond yields used must be consistent with the currency and estimated term of the post-employment benefit obligations being discounted. A decrease in bond interest rates will increase the liability, and vice versa.
- **Salary rate risk** - The present value of the defined benefit liability is calculated by reference to the future salaries of plan participants. As such, an increase in the salary of the plan participants will increase the liability and vice versa.
- **Pension rate risk** - The present value of the defined benefit liability is calculated after taking into account the future pension growth of plan participants. As such, an increase in the pension growth rate of the plan participants will increase the liability and vice versa.

Pakistan Water and Power Development Authority LAHORE.

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- **Withdrawal rate risk -** The present value of the defined benefit liability is calculated by reference to the best estimate of the withdrawal rate / attrition rate of plan participants. As such, an increase in the withdrawal rate may increase/decrease the liability and vice versa depending on the age-service distribution of the exiting employees.
- **Mortality rate risk -** The present value of the defined benefit liability is calculated by reference to the best estimate of the mortality of plan participants during employment. An improvement in the mortality rates of the participants may increase the liability.

Valuation Data

The data used for the valuation has been checked for any inaccuracies. However, no audit of the data has been conducted. The details are as follows:

Active Employees

Category	Number of Employees	Pensionable Salary
Permanent Employees	9,433	Rs.356,022,276
Employees on Deputation	92	Rs.6,309,280

Pensioners

Number of Pensioners	Pension	CMA	Orderly Allowance	Total
10,630	Rs.429,648,065	Rs.33,435,700	Rs.6,100,000	Rs.469,183,765

Method & Assumptions

Valuation Method Used

IAS-19 mandates Projected Unit Credit (PUC) Method (which is an Actuarial Technique) to determine the present value of defined benefit obligations, current service cost and past service cost. The same method is used in the underlying valuation.

Assumptions

The economic and demographic assumptions used in the valuation are unbiased, mutually compatible and best estimates as per the requirements of IAS-19. Financial assumptions are based on market expectations as at the valuation date. These assumptions are as follows:

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Discount Rate

The market of high quality corporate bonds is not deep enough in Pakistan. Therefore, discount rate is based on market yields on government bonds as at the valuation date. In general, the duration of Pension liabilities is significantly long. Government bonds of similar duration are not available. It may be appropriate to assume same reinvestment interest rate as can be earned at the currently available government bonds. Thus the discount rate used for the valuation is 14.00% per annum. This rate is consistent with the relevant guidelines of the Pakistan Society of Actuaries.

Rate of Growth in Salary

Pensionable Salary includes Basic Pay, Special Pay, Qualification Pay and Senior Post Allowance. In view of the market expectations and long-term monetary policy of the State Bank regarding inflation, it has been assumed that the average rate of long-term future Salary increases will be 13.00% per annum.

Rate of Pension Increase

Keeping in view assumptions regarding future interest rate/discount rate, inflation and rate of salary growth, it has been assumed that the monthly pension will increase at an average rate of 7.00% per annum.

Mortality, Withdrawal, Disability Retirement Rates

The base mortality rates used for the valuation are based on SLIC (2001-05) Mortality Table.

The mortality rates used for active employees are based on SLIC (2001-05) Mortality Table with 1 year set-back. The mortality rates used for surviving pensioners (i.e. self) are based on SLIC (2001-2005) with 1 year set-back.

The mortality rates used for widows are based on SLIC (2001-2005) with 4 year set-back.

It has been assumed that the children receiving pensions will survive till their maximum eligible age.

The mortality rates used are adjusted to reflect mortality improvements occurred since the preparation of underlying Mortality Table. However, no future mortality improvements have been taken into account.

The rates for withdrawal from service and retirement on ill-health grounds are based on industry/country experience. These rates are given in the Appendix-I.

Pakistan Water & Power Development Authority LAHORE.

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Comparison of Assumptions with previous Financial Year

The change in assumptions for discount rate, salary growth rate and pension increase rate is as follows:

	2023-24	2022-23
Discount rate	14.00%	16.00%
Expected rate of salary increase in future years	13.00%	15.00%
Expected rate of future pension increases	7.00%	9.00%

The gaps between economic assumptions are critical for the actuarial valuation of Pension benefits. The most important differences in this respect are between:

- discount rate and salary increase rate
- discount rate and pension increase rate

Any changes in these gaps can generate significant gain/loss during the inter-valuation period.

	2023-24	2022-23
Difference between Discount rate & Salary increase rate	1%	1%
Difference between Discount rate & Pension increase rate	7%	7%

The critical gap between discount rate and salary increase rate as at 30.06.2024 is one percentage point (1%) which is consistent with previous year's assumptions.

The critical gap between discount rate and pension increase rate as at 30.06.2024 is seven percentage points (7%) which is consistent with previous year's assumptions.

Actuarial Gain/Loss Recognition

The amount of gains/losses has been charged immediately to Other Comprehensive Income as per the provisions of the revised version of IAS-19.

Pension Fund Assets

The Entity has provided market value of the Pension Fund Assets of **Rs. 31,704.677** million (all invested in banks) as at 30.06.2024.

Amount of Investment	Accrued Interest	Fair Value of Assets
10,000,000	1,087,500	11,087,500
14,356,000	-	14,356,000
6,131,496	129,681	6,261,177
30,487,496	**1,217,181**	**31,704,677**

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IAS-19 Disclosures

All figures given in this section are in Pak Rupees and in 000's:

Statement of Financial Position

	2022-23	2021-22
Present Value of Defined Benefit Obligations as at 30th June	86,293,253	72,696,550
Less Fair Value of Plan Assets	(26,744,901)	(10,000,000)
Defined Benefit Liability as at 30th June	**59,548,352**	**62,696,550**

Reconciliation of Present Value of Defined Benefit Obligations

	2023-24	2022-23
Present Value of Defined Benefit Obligations as at 30th June BoY	86,293,253	72,696,550
Service Cost (Current Service Cost + Past Service Cost + Gains/Losses on Settlements)	2,191,194	1,847,361
Interest on Defined Benefit Obligation	13,166,618	9,872,147
Benefits Paid during the Year	(5,374,137)	(4,362,430)
Contribution received from Deputationists	38,282	-
Actuarial (Gains)/Losses	29,063,588	6,239,625
Present Value of Defined Benefit Obligations as at 30th June EoY	**125,378,798**	**86,293,253**

Reconciliation of Fair Value of Plan Assets

	2023-24	2022-23
Fair Value of Plan Assets as at 30th June BoY	26,744,901	10,000,000
Entity's Contribution (Contribution = Payments)	5,374,137	19,362,430
Interest Income for the Year	4,279,184	2,450,000
Benefits Paid during the Year	(5,374,137)	(4,362,430)
Return on Plan Assets excluding Interest Income	680,592	(705,099)
Fair Value of Plan Assets as at 30th June EoY	**31,704,677**	**26,744,901**

Amount Chargeable to Profit & Loss for the Current Year

	2023-24	2022-23
Service Cost	2,191,194	1,847,361
Net Interest on Net Defined Benefit Liability (Asset)	8,887,434	7,422,147
Total Amount Chargeable to P&L Account	**11,078,628**	**9,269,508**

Punjab Water & Power Development Authority LAHORE.

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Remeasurements of Net Defined Benefit Liability

	2023-24	2022-23
Actuarial (Gains)/Losses due to changes in Demographic Assumptions	-	-
Actuarial (Gains)/Losses due to changes in Financial Assumptions	(845,109)	784,085
Actuarial (Gains)/Losses due to experience adjustments	29,908,697	5,455,540
Return on Plan Assets	(680,592)	705,099
Effect of Changes in Asset Ceiling	-	-
Amount Chargeable to Other Comprehensive Income (OCI)	**28,382,996**	**6,944,724**

Statement of Financial Position as at End of the Year (EoY)

	2023-24	2022-23
Present Value of Defined Benefit Obligations as at 30th June EoY	125,378,798	86,293,253
Less Fair Value of Plan Assets	(31,704,677)	(26,744,901)
Net Defined Benefit Liability as at 30th June EoY	**93,674,121**	**59,548,352**

Expense Chargeable to Profit & Loss for the Next Year

	2024-25	2023-24
Service Cost (Current Service Cost + Past Service Cost + Gains/Losses on Settlements)	2,529,796	2,191,194
Net Interest Cost on Net Defined Benefit Liability	13,114,377	8,887,434
Total Amount Chargeable to P&L Account for the Next Year	**15,644,173**	**11,078,628**

Reconciliation of Net Defined Benefit Liability

	2023-24	2022-23
Net Defined Benefit Liability as at BoY	59,548,352	62,696,550
Cost Chargeable to P&L during the Year	11,078,628	9,269,508
Cost Chargeable to OCI	28,382,996	6,944,724
Direct Benefit Payments made during the Year	(5,374,137)	(19,362,430)
Contribution received from Deputationists	38,282	-
Net Defined Benefit Liability as at EoY	**93,674,121**	**59,548,352**

	2023-24	2022-23
Average Expected Remaining Working Lifetime of Members	10 Years	10 Years
Average duration of the liabilities (actives + pensioners)	19 Years	20 Years

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Sensitivity Analysis for PVDBO

	Discount Rate + 1%	Discount Rate - 1%	Salary Increase + 1%	Salary Increase - 1%
30.06.2024	103,779,761	151,469,387	138,497,896	113,503,790

	Pension Increase Rate + 1%	Pension Increase Rate - 1%
30.06.2024	151,473,109	103,781,036

Tanveer Alam

TANVEER ALAM
Associate of the Society of
Actuaries, USA

Pakistan Water & Power Development Authority LAHORE.

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Appendix-I

Age	Death Rate	Withdrawal Rate	Ill-health Rate	Age	Death Rate	Withdrawal Rate	Ill-health Rate
20	0.000958	0.07172	0.00000	53	0.008244	0.00506	0.00162
21	0.000974	0.06694	0.00000	54	0.009150	0.00506	0.00185
22	0.000991	0.06216	0.00000	55	0.010135	0.00506	0.00210
23	0.001011	0.05738	0.00000	56	0.011198	0.00506	0.00238
24	0.001032	0.05260	0.00000	57	0.012336	0.00506	0.00268
25	0.001057	0.04782	0.00000	58	0.013544	0.00506	0.00300
26	0.001084	0.04472	0.00000	59	0.014813	0.00506	0.00335
27	0.001115	0.04219	0.00000	60	0.000000	0.00000	0.00000
28	0.001150	0.03910	0.00000				
29	0.001190	0.03628	0.00000				
30	0.001235	0.03347	0.00003				
31	0.001287	0.03094	0.00005				
32	0.001345	0.02869	0.00008				
33	0.001413	0.02644	0.00010				
34	0.001489	0.02391	0.00013				
35	0.001577	0.02138	0.00015				
36	0.001678	0.01941	0.00018				
37	0.001793	0.01716	0.00020				
38	0.001924	0.01519	0.00023				
39	0.002075	0.01294	0.00026				
40	0.002248	0.01069	0.00030				
41	0.002445	0.00957	0.00034				
42	0.002671	0.00872	0.00039				
43	0.002928	0.00760	0.00045				
44	0.003221	0.00647	0.00051				
45	0.003554	0.01069	0.00058				
46	0.003932	0.00956	0.00066				
47	0.004360	0.00900	0.00074				
48	0.004842	0.00788	0.00084				
49	0.005384	0.00675	0.00095				
50	0.005991	0.00619	0.00109				
51	0.006668	0.00563	0.00124				
52	0.007418	0.00563	0.00142				

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Appendix-II

Summary of the Benefit Structure of WAPDA Hydroelectric Pension Scheme

The Pension Scheme Members of WAPDA Hydroelectric are entitled to the following pension benefits on normal and early retirement, death and disability as at the valuation date:

Normal Retirement Pension

The normal retirement age is 60 years.

If service is less than 5 years:

- Nil Benefit

If service is greater than 5 and less than 10 years:

- A lump sum gratuity is payable. The rate of gratuity is calculated as per the following formula:

  Gratuity = Last Drawn Pensionable Salary x Pensionable Service

If service is greater than 10 years:

- The rate of pension at normal retirement age is 7/300 of the last drawn pensionable salary for each year of service subject to a maximum service period of 30 years. The maximum pension amount is thus limited to 70% of the last drawn pensionable salary.

  The employees can surrender up to a maximum of 35% of the gross pension in lieu of a lumpsum-commuted value. The commuted value at age 60 shall be calculated as per the following formula:

  Commuted Value = 12.3719 x amount of pension surrendered x 12

Retiree receives fully indexed gross pension after the expiry of Years of Commutation.

Early Retirement Pension

Early retirement is applicable on the completion of 25 years of continuous service.

- The rate of pension at early retirement age is 7/300 of the last drawn pensionable salary for each year of service subject to a maximum service period of 30 years. The maximum pension amount is thus limited to 70% of the last drawn pensionable salary.

  The employees can surrender up to a maximum of 35% of the gross pension in lieu of a lumpsum-commuted value.

Death in Service

If service is less than 5 years:

- Nil

If service is greater than 5 and less than 10 years:

Pakistan Water & Power Development Authority LAHORE.

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- A lump sum gratuity is payable. The rate of gratuity is calculated as per the following formula:

  Gratuity = 1.5 x Last Drawn Pensionable Salary x Service

If service is greater than 10 years:

- The basic pension shall be 7/300 of the last drawn pensionable salary for each year of service subject to a maximum service period of 30 years

  Widow's Pension = 75% x basic pension

  Widow's pension is paid to eligible children in case of death of the widow. Eligible children are defined as legal male child under the age of 21 years and legal unmarried daughter.

  In addition to the above, the widow is entitled to 25% of the commuted value of gross pension. The age based commutation factors are set out in the table (later in this Appendix).

Death after Retirement

In case of death after retirement, the widow is entitled to receive 75% of the pension being received by the retiree.

Widow's pension is paid to eligible children in case of death of the widow. Eligible children are defined as legal male child under the age of 21 years and legal unmarried daughter. In the absence of widow and eligible children, the pension is payable to the dependents (such as parents, widow daughter etc.) for the remaining guaranteed period only.

Ill-health Pension

If service is less than 5 years:

- Nil

If service is greater than 5 and less than 10 years:

- A lump sum gratuity is payable. The rate of gratuity is calculated as per the following formula:

  Gratuity = 1.5 x Last Drawn Pensionable Salary x Service

If service is greater than 10 years:

- The basic pension is 7/300 of the last drawn pensionable salary for each year of service subject to a maximum service period of 30 years.

  The employees can surrender up to a maximum of 35% of the gross pension in lieu of a lumpsum-commuted value.

Pakistan Water Development Authority LAHORE.

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In recent years some pension increases are not only allowed to those already receiving pensions but continue to be applied to future retirees: this means that new retirees receive these increases right from their first monthly pension. The employees who will retire from service on or after July 1, 2024 will receive pension increases at the rates of 15%, 7.5% PLUS 17.5%. This works out to an overall increase of 45.26%.

Commutation Table

Following is the age – based commutation table showing commutation factors at ages 20 – 60.

Age	Commutation Factors	Age	Commutation Factors	Age	Commutation Factors
20	40.5043	36	28.3362	52	17.0050
21	39.7341	37	27.5908	53	16.3710
22	38.9653	38	26.8482	54	15.7517
23	38.1974	39	26.1009	55	15.1478
24	37.4307	40	25.3728	56	14.5602
25	36.6651	41	24.6406	57	13.9888
26	35.9006	42	23.9126	58	13.4340
27	35.1372	43	23.1840	59	12.8953
28	34.3750	44	22.4713	60	12.3719
29	33.6143	45	21.7592		
30	32.8071	46	21.0538		
31	32.0974	47	20.3555		
32	31.3412	48	19.6653		
33	30.5869	49	18.9841		
34	29.8343	50	18.3129		
35	29.0841	51	17.6526		

Pakistan Water & Power Development Authority LAHORE.

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Ref. No. 000430/24

September 11, 2024

General Manager (Finance) Power
Pakistan Water & Power Development Authority (WAPDA)
Room No. 713
WAPDA House
LAHORE

Subject: *Report on IAS -19 Disclosures as at 30.06.2024*

Dear Sir,

Please find attached Valuation Report containing IAS-19 disclosures (based on the revised version of IAS-19) for the Post-Retirement Medical Benefit Scheme of WAPDA Hydroelectric for the year 2023–24.

Please, do not hesitate in contacting us if you have any queries regarding the Report.

Yours faithfully,

Tanveer Alam

TANVEER ALAM
Associate of the Society of Actuaries, USA
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Pakistan Water Development Authority LAHORE

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TRT Associates
Actuaries & Management Consultants

September 11, 2024

VALUATION REPORT

WAPDA HYDROELECTRIC

POST-RETIREMENT MEDICAL BENEFIT SCHEME - DISCLOSURES AS PER THE REQUIREMENTS OF THE REVISED VERSION OF INTERNATIONAL ACCOUNTING STANDARD – 19 AS AT 30.06.2024

Not to be distributed to third parties, except auditors and senior management, without the prior written approval of TRT-Associates

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TRT Associates
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Pakistan Water & Power Development Authority
LAHORE.

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Executive Summary

1. Purpose of the Report

The Actuarial Report provides accounting entries/disclosures in respect of the Post-Retirement Medical Benefits provided by WAPDA Hydroelectric. The disclosures are prepared in accordance with the requirements of the revised version of International Accounting Standard 19 (IAS-19).

The objective of the Report is to assist the Entity in preparing its annual accounts. Therefore, the figures in this report should be used for reporting purposes only and not for the funding of benefits.

2. Valuation Data

A summary of data used for the valuation is as follows:

	2023-24
Active Employees	9,433
Pensioners	10,630

Number of Pensioners receiving CMA	Monthly CMA
6,337	Rs.33,435,700

3. Amount to be Recognised in Profit & Loss Account for the Current Year

Rs.000's

	2023-24	2022-23
Amount to be recognized as expense during the year	995,807	810,515

4. Amount to be Recognised in Other Comprehensive Income (OCI)

Rs.000's

	2023-24	2022-23
Amount to be recognized in OCI during the year	3,654,784	97,536

5. Statement of Financial Position as at the End of Year

Rs.000's

	2023-24	2022-23
Amount to be recognised as Net Defined Benefit (i.e. Post-Retirement Medical Benefits) Liability as at June 30th	10,005,772	6,097,062

Pakistan Water & Power Development Authority LAHORE.

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6. R econciliation of Liability

Rs.000's

	2023-24	2022-23
Opening Net Defined Benefit Liability	6,097,062	5,714,842
Expense Chargeable to P&L during the year	995,807	810,515
Amount Chargeable to OCI during the year	3,654,784	97,536
Benefits paid during the year	(741,881)	(525,831)
Closing Net Defined Benefit Liability	**10,005,772**	**6,097,062**

Rs.000's

	P&L Charge	
Category	**2023-24**	**2022-23**
Active Employees	185,301	169,473
Pensioners	810,506	641,042
Total	**995,807**	**810,515**

Rs.000's

	Liability	
Category	**2023-24**	**2022-23**
Active Employees	1,660,924	928,284
Pensioners	8,344,848	5,168,778
Total	**10,005,772**	**6,097,062**

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Main Report

Key Information

Date of Valuation

The valuation is conducted, using the prescribed Actuarial Method, as at June 30, 2024.

Post-Retirement Medical Benefits

A summary of the benefit structure of Post-Retirement Medical Benefit provided by WAPDA Hydroelectric is given in Appendix-II of the Report.

Risks Associated with the Post-Retirement Medical Benefit Scheme

- The Entity provides Post-Retirement Medical Benefits to all of its regular employees.
- The Post-Retirement Medical Benefits Scheme is an un-funded Scheme. In general, there is no practice in the local market to have a funded Post-Employment Medical Benefit Scheme.
- There is no minimum funding requirements for a Post-Retirement Medical Benefit Scheme which leads to relatively less secured Post-Retirement Medical Benefits. The Post-Retirement Medical Benefits liability reflected in the Entity's Accounts provides a reasonable security of the accrued rights.
- The Post-Retirement Medical Benefit Scheme is categorised as a post-employment defined benefit scheme in accordance with the provisions of IAS-19.
- The liabilities of the scheme are sensitive to the increases in medical cost incurred by retirees in future.

Valuation Data

The data used for the valuation has been checked for any inaccuracies. However, no audit of the data has been conducted. The details are as follows:

Active Employees	9,433
Pensioners	10,630

Number of Pensioners receiving CMA	Monthly CMA
6,337	Rs.33,435,700

Water & Power Development Authority PAKISTAN LAHORE.

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Method & Assumptions

Valuation Method Used

IAS-19 mandates Projected Unit Credit (PUC) Method (which is an Actuarial Technique) to determine the present value of defined benefit obligations, current service cost and past service cost. The same method is used in the underlying valuation.

Assumptions

The economic and demographic assumptions used in the valuation are unbiased, mutually compatible and best estimates as per the requirements of IAS-19. Financial assumptions are based on market expectations as at the valuation date. These assumptions are as follows:

Discount Rate

The market of high quality corporate bonds is not deep enough in Pakistan. Therefore, discount rate is based on market yields on government bonds as at the valuation date. In general, the duration of Post-Retirement Medical Benefit liabilities is significantly long. Government bonds of similar duration are not available. It may be appropriate to assume same reinvestment interest rate as can be earned at the currently available government bonds. Thus the discount rate used for the valuation is 14.00% per annum. This rate is consistent with the relevant guidelines of the Pakistan Society of Actuaries.

Post-Retirement Medical Cost

Detailed following data (gathered over a long period) is generally required related to pensioners to develop sickness rates and estimate medical costs:

- medical costs incurred by a sick retiree/beneficiary (along with their ages) in a year
- cost incurred by each retiree/beneficiary per Hospital/Dispensaries visit
- number of visits by each retiree/beneficiary to Hospital/Dispensaries in a year
- number of retirees/beneficiaries (along with their ages) utilizing medical facility in a year

In the absence of relevant information, an appropriate approach would be to take average medical cost by diving total retirees' medical cost by the total number of retirees/beneficiaries. This method assumes that every retiree/beneficiary family utilises medical facility at the average cost. The same approach is adopted in this report.

The average Annual Medical Cost per current retiree's family works out to **Rs.69,791.27** (Benefits Paid / Total Pensioners = 741,881,183/ 10,630) for 2023-24.

It has been deemed appropriate to assume **Rs.69,791.27** as average Annual Medical Cost per retiree (or beneficiary family) as at the valuation date.

Rate of Growth in Post-Retirement Medical Cost & Cash Medical Allowance

Cost of Post-Retirement Medical Benefits for a retiree/beneficiary increases both with his/her age and due to inflation. It has been deemed appropriate to assume that the average rate of growth in Post- Retirement Medical cost due to increase in age and inflation (combined) will be 14.00% per annum. 25% increase was provided in CMA in 2015. No increase was provided in CMA thereafter. It has been assumed that CMA will not increase in future.

It has been assumed that 65% of the total Medical Cost of Pensioners will relate to CMA. Therefore, it has been deemed appropriate to assume an annual combined growth rate of **4.9%** (0.65*0.0 + 0.35*0.14) for post-retirement medical cost.

Mortality, Withdrawal, Disability Retirement Rates

The mortality rates used for active employees are based on SLIC (2001-05) Mortality Table. The previous actuarial valuation was based on EFU (61-66) Mortality Table.

The mortality rates used for Pensioners are adjusted to reflect mortality improvements occurred. However, no future mortality improvements have been taken into account.

The rates for withdrawal from service and retirement on ill-health grounds are based on industry/country experience. These rates are given in the Appendix-I.

Comparison of Assumptions with previous Financial Year

The change in economic assumptions as compared with previous year's basis is as follows:

	2023-24	2022-23
Discount rate	14.00%	16.00%
Weighted Expected rate of increase in Post-Retirement Medical cost in future years	4.90%	5.60%
Expected rate of increase in Cash Medical Allowance in future years	-	-

The gaps between economic assumptions are critical for the actuarial valuation of Post-Retirement Medical Benefits. The most important difference in this respect is between Discount Rate and the rate of increase in Post-Retirement Medical Benefits cost. Any changes in this gap can generate significant gain/loss during the inter-valuation period.

Actuarial Gain/Loss Recognition

The amount of gains/losses has been charged immediately to Other Comprehensive Income as per the provisions of the revised version of IAS-19.

Pakistan Water & Power Development Authority LAHORE.

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IAS-19 Disclosures

All figures given in this section are in Pak Rupees and in 000's:

Statement of Financial Position as at Beginning of the Year (BoY)

	2022-23	2021-22
Present Value of Defined Benefit Obligations as at 30th June	6,097,062	5,714,842
Less Fair Value of Plan Assets	-	-
Defined Benefit Liability as at 30th June BoY	**6,097,062**	**5,714,842**

Reconciliation of Present Value of Defined Benefit Obligations

	2023-24	2022-23
Present Value of Defined Benefit Obligations as at 30th June BoY	6,097,062	5,714,842
Service Cost (Current Service Cost + Past Service Cost + Gains/Losses on Settlements)	79,628	47,245
Interest on Defined Benefit Obligation	916,179	763,270
Benefits Paid during the Year	(741,881)	(525,831)
Actuarial (Gains)/Losses	3,654,784	97,536
Present Value of Defined Benefit Obligations as at 30th June EoY	**10,005,772**	**6,097,062**

Amount Chargeable to Profit & Loss for the Current Year

	2023-24	2022-23
Service Cost	79,628	47,245
Net Interest on Net Defined Benefit Liability (Asset)	916,179	763,270
Total Amount Chargeable to P&L Account	**995,807**	**810,515**

Remeasurements of Net Defined Benefit Liability

	2023-24	2022-23
Actuarial (Gains)/Losses due to changes in Demographic Assumptions	-	-
Actuarial (Gains)/Losses due to changes in Financial Assumptions	1,422,623	347,052
Actuarial (Gains)/Losses due to experience adjustments	2,232,161	(249,516)
Return on Plan Assets	-	-
Effect of Changes in Asset Ceiling	-	-
Amount Chargeable to Other Comprehensive Income (OCI)	**3,654,784**	**97,536**

Water & Power Development Authority Pakistan LAHORE.

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Statement of Financial Position as at End of the Year (EoY)

	2023-24	2022-23
Present Value of Defined Benefit Obligations as at 30th June EoY	10,005,772	6,097,062
Less Fair Value of Plan Assets	-	-
Net Defined Benefit Liability as at 30th June EoY	**10,005,772**	**6,097,062**

Expense Chargeable to Profit & Loss for the Next Year

	2024-25	2023-24
Service Cost (Current Service Cost + Past Service Cost + Gains/Losses on Settlements)	92,107	79,628
Net Interest Cost on Net Defined Benefit Liability	1,400,808	916,179
Total Amount Chargeable to P&L Account for the Next Year	**1,492,915**	**995,807**

Reconciliation of Net Defined Benefit Liability

	2023-24	2022-23
Defined Benefit Liability as at BoY	6,097,062	5,714,842
Cost Chargeable to P&L during the Year	995,807	810,515
Cost Chargeable to OCI	3,654,784	97,536
Benefit Paid during the Year	(741,881)	(525,831)
Net Defined Benefit Liability as at EoY	**10,005,772**	**6,097,062**

	2023-24	2022-23
Average Expected Remaining Working Lifetime of Members	10 Years	10 Years
Average duration of the liabilities (actives + pensioners)	19 Years	20 Years

Sensitivity Analysis for PVDBO

	Discount Rate + 1%	Discount Rate - 1%	Medical Cost Increase + 1%	Medical Cost Increase - 1%
30.06.2024	8,282,279	12,088,182	12,087,914	8,282,177

Tanveer Alam

TANVEER ALAM
Associate of the Society of
Actuaries, USA

Water & Power Development Authority Pakistan LAHORE.

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Appendix-I

Age	Death Rate	Withdrawal Rate	Ill-health Rate	Age	Death Rate	Withdrawal Rate	Ill-health Rate
20	0.000958	0.07172	0.00000	53	0.008244	0.00506	0.00162
21	0.000974	0.06694	0.00000	54	0.009150	0.00506	0.00185
22	0.000991	0.06216	0.00000	55	0.010135	0.00506	0.00210
23	0.001011	0.05738	0.00000	56	0.011198	0.00506	0.00238
24	0.001032	0.05260	0.00000	57	0.012336	0.00506	0.00268
25	0.001057	0.04782	0.00000	58	0.013544	0.00506	0.00300
26	0.001084	0.04472	0.00000	59	0.014813	0.00506	0.00335
27	0.001115	0.04219	0.00000	60	0.000000	0.00000	0.00000
28	0.001150	0.03910	0.00000				
29	0.001190	0.03628	0.00000				
30	0.001235	0.03347	0.00003				
31	0.001287	0.03094	0.00005				
32	0.001345	0.02869	0.00008				
33	0.001413	0.02644	0.00010				
34	0.001489	0.02391	0.00013				
35	0.001577	0.02138	0.00015				
36	0.001678	0.01941	0.00018				
37	0.001793	0.01716	0.00020				
38	0.001924	0.01519	0.00023				
39	0.002075	0.01294	0.00026				
40	0.002248	0.01069	0.00030				
41	0.002445	0.00957	0.00034				
42	0.002671	0.00872	0.00039				
43	0.002928	0.00760	0.00045				
44	0.003221	0.00647	0.00051				
45	0.003554	0.01069	0.00058				
46	0.003932	0.00956	0.00066				
47	0.004360	0.00900	0.00074				
48	0.004842	0.00788	0.00084				
49	0.005384	0.00675	0.00095				
50	0.005991	0.00619	0.00109				
51	0.006668	0.00563	0.00124				
52	0.007418	0.00563	0.00142				

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Authority

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Appendix-II

Summary of the Benefit Structure of WAPDA Hydroelectric Post-Retirement Medical Benefit Scheme

WAPDA Hydroelectric provides Free Medical benefits to its pensioners.

The level of Post-Retirement Medical Benefit for a retiree (or beneficiaries) depends on whether the retiree opted for Cash Medical Allowance during service or not.
Pensioners eligible for full medical benefits are allowed to use all medical and surgical facilities available at WAPDA Hospitals and Dispensaries. Specialist consultation is also provided if considered necessary by WAPDA Medical Officer.

Retirees can opt to take Cash Medical Allowance (CMA) in accordance with their BPS.

Retirees who opted CMA are entitled to the following benefits only:

- In-door hospital treatment in case of acute illness or accident
- Consultation from WAPDA Medical Officer (or a Specialist if considered necessary by WAPDA Medical Officer)
- X-rays and Pathological tests
- Dental treatment

Employees having disease requiring prolonged treatment may revise CMA, subject to the approval by Medical Board, and become entitled to full Post-Retirement Medical benefits.

TRT Associates
Actuaries & Management Consultants

Ref. No. 000435/24

September 14, 2024

General Manager (Finance) Power
Pakistan Water & Power Development Authority (WAPDA)
Room No. 609, WAPDA House
LAHORE

Subject: *Report on IAS -19 Disclosures as at 30.06.2024*

Dear Sir,

Please find attached Valuation Report containing IAS-19 disclosures (based on the revised version of IAS-19) for the Leave Encashment Benefit Scheme of WAPDA Hydroelectric for the year 2023–24.

Please, do not hesitate in contacting us if you have any queries regarding the Report.

Yours faithfully,

Tanveer Alam

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Pakistan Water & Power Development Authority LAHORE.

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TRT Associates
Actuaries & Management Consultants

September 14, 2024

VALUATION REPORT

WAPDA HYDROELECTRIC

LEAVE ENCASHMENT BENEFIT SCHEME - DISCLOSURES AS PER THE REQUIREMENTS OF THE REVISED VERSION OF INTERNATIONAL ACCOUNTING STANDARD – 19 AS AT 30.06.2024

Not to be distributed to third parties, except auditors and senior management, without the prior written approval of TRT-Associates

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Pakistan Water & Power Development Authority LAHORE.

Executive Summary

1. Purpose of the Report

The Actuarial Report provides accounting entries/disclosures in respect of the Leave Encashment Benefit (categorised as Other Long Term Employee Benefit under IAS-19) provided by WAPDA Hydroelectric. The disclosures are prepared in accordance with the requirements of the revised version of International Accounting Standard 19 (IAS-19).

The objective of the Report is to assist the Entity in preparing its annual accounts. Therefore, the figures in this report should be used for reporting purposes only and not for the funding of benefits.

2. Valuation Data

The number of active employees and their total eligible salaries is as follows:

Number of Members	Total Eligible Salaries
9,433	Rs.356,022,276

3. Amount to be Recognised in Profit & Loss Account for the Current Year

Rs.000's

	2023-24	2022-23
Amount to be recognized as expense during the year	399,699	381,537

4. Statement of Financial Position as at the End of Year

Rs.000's

	2023-24	2022-23
Amount to be recognised as Net Defined Benefit (i.e. Leave Encashment Benefit) Liability as at June 30th End of the Year	1,605,127	1,390,440

5. Reconciliation of Liability

Rs.000's

	2023-24	2022-23
Opening Net Defined Benefit Liability	1,390,440	1,177,064
Expense Chargeable to P&L during the year	399,699	381,537
Benefits paid during the year	(185,012)	(168,161)
Closing Net Defined Benefit Liability	**1,605,127**	**1,390,440**

Pakistan Water & Power Development Authority LAHORE.

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Main Report

Key Information

Date of Valuation

The valuation is conducted, using the prescribed Actuarial Method, as at June 30, 2024.

Leave Encashment Benefit

A summary of the benefit structure of Leave Encashment Benefits provided by WAPDA Hydroelectric is given in Appendix-II of the Report.

Risks Associated with the Leave Encashment Benefit Scheme

- The Entity provides Leave Encashment Benefit to all of its regular employees.
- The Leave Encashment Benefit Scheme is an un-funded Scheme. This mean that the cost incurred by WAPDA on providing this benefit is not paid from any Fund.
- The Leave Encashment Benefit liability reflected in the Entity's Accounts provides a reasonable security of the accrued rights.
- The Leave Encashment Benefit Scheme is categorised as Other Long Term Employee Benefit in accordance with the provisions of IAS-19. The benefit is based on the last drawn salary. Therefore, liabilities of the scheme are sensitive to the increases in salaries.

Valuation Data

The information of the accumulated leave balances of the active employees of WAPDA Hydroelectric was not available as at the Valuation date.

Generally, the accumulated leave balances of all employees reach the maximum limit of 365 days at the time of retirement.

If we consider the average entry age of employees as 25 years and assume that employees accumulate leave balances of 365 during their average service of 35 years, the annual leave accumulation of each employee works out to 9 days.

In order to carry out the Actuarial Valuation, we have multiplied 9 days with the past service of each active employee to estimate their accumulated leave balances as at the valuation dates.

The number of active employees and their total eligible salaries is as follows:

Number of Members	Total Eligible Salaries
9,433	Rs.356,022,276

LAHORE

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Method & Assumptions

Valuation Method Used

IAS-19 mandates Projected Unit Credit (PUC) Method (which is an Actuarial Technique) to determine the present value of defined benefit obligations, current service cost and past service cost. The same method is used in the underlying valuation.

Assumptions

The economic and demographic assumptions used in the valuation are unbiased, mutually compatible and best estimates as per the requirements of IAS-19. Financial assumptions are based on market expectations as at the valuation date. These assumptions are as follows:

Discount Rate

The market of high quality corporate bonds is not deep enough in Pakistan. Therefore, discount rate is based on market yields on government bonds as at the valuation date. The discount rate used for the valuation is 14.00% per annum as at 30.06.2024. These rates are consistent with the relevant guidelines of the Pakistan Society of Actuaries.

Rate of Growth in Eligible Salary

Eligible Salary includes Basic Pay, Special Pay, Qualification Pay and Senior Post Allowance. In view of the market expectations and long-term monetary policy of the State Bank regarding inflation, it has been assumed that the average rate of long-term future Salary increases will be 13.00% per annum.

Average Leave Utilization and Accumulation

The information of the accumulated leave balances of the active employees of WAPDA Hydroelectric was not available as at the Valuation date.

In order to carry out the Actuarial Valuation, we have assumed an average annual accumulation of 9 days which means an average utilization of 21 days.

The average accumulated leave balances, based on the above assumptions, works out to 120 days as at the valuation date.

Leave Encashment Benefit Payments

The information of leave encashment benefit payments was provided by the Entity.

It has been assumed that 100% of the retirees will take leave encashment benefit.

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Mortality, Withdrawal, Disability Retirement Rates

The mortality rates used for active employees are based on SLIC (2001-05) Mortality Table.

The rates for withdrawal from service and retirement on ill-health grounds are based on industry/country experience.

Comparison of Assumptions with previous Financial Year

	2023-24	2022-23
Discount rate	14.00%	16.00%
Expected rate of salary increase in future years	13.00%	15.00%

Actuarial Gain/Loss Recognition

According to IAS-19, any actuarial gains/losses arising during the year are recognised immediately in P&L for the current year through remeasurements of the net defined benefit liability (asset).

Pakistan Water & Power Development Authority LAHORE.

IAS-19 Disclosures

All figures given in this section are in Pak Rupees and in 000's:

Statement of Financial Position as at Beginning of the Year (BoY)

	2022-23	2021-22
Present Value of Defined Benefit Obligations as at 30th June	1,390,440	1,177,064
Less Fair Value of Plan Assets	-	-
Defined Benefit Liability as at 30th June BoY	**1,390,440**	**1,177,064**

Reconciliation of Present Value of Defined Benefit Obligations

	2023-24	2022-23
Present Value of Defined Benefit Obligations as at 30th June BoY	1,390,440	1,177,064
Service Cost (Current Service Cost + Past Service Cost + Gains/Losses on Settlements)	89,810	47,143
Interest on Defined Benefit Obligation	207,669	147,553
Benefits Paid during the Year	(185,012)	(168,161)
Actuarial (Gains)/Losses	102,220	186,841
Present Value of Defined Benefit Obligations as at 30th June EoY	**1,605,127**	**1,390,440**

Amount Chargeable to Profit & Loss for the Current Year

	2023-24	2022-23
Service Cost	89,810	47,143
Net Interest on Net Defined Benefit Liability (Asset)	207,669	147,553
Remeasurements Cost	102,220	186,841
Total Amount Chargeable to P&L Account	**399,699**	**381,537**

Remeasurements of Net Defined Benefit Liability

	2023-24	2022-23
Actuarial (Gains)/Losses due to changes in Demographic Assumptions		
Actuarial (Gains)/Losses due to changes in Financial Assumptions	(1,058)	-
Actuarial (Gains)/Losses due to experience adjustments	103,278	186,841
Return on Plan Assets	-	-
Effect of Changes in Asset Ceiling	-	-
Remeasurements Cost	**102,220**	**186,841**

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Statement of Financial Position as at End of the Year (EoY)

	2023-24	2022-23
Present Value of Defined Benefit Obligations as at 30th June EoY	1,605,127	1,390,440
Less Fair Value of Plan Assets	-	-
Net Defined Benefit Liability as at 30th June EoY	**1,605,127**	**1,390,440**

Reconciliation of Net Defined Benefit Liability

	2023-24	2022-23
Defined Benefit Liability as at BoY	1,390,440	1,177,064
Cost Chargeable to P&L during the Year	399,699	381,537
Benefits Paid during the Year	(185,012)	(168,161)
Net Defined Benefit Liability as at EoY	**1,605,127**	**1,390,440**

Amount Chargeable to Profit & Loss for the Next Year

	2024-25	2023-24
Service Cost	96,522	89,810
Net Interest on Net Defined Benefit Liability (Asset)	224,718	207,669
Remeasurements Cost	-	102,220
Total Amount Chargeable to P&L Account	**321,240**	**399,699**

	2023-24	2022-23
Average Expected Remaining Working Lifetime of Members	10 Years	10 Years
Average duration of the liabilities	10 Years	10 Years

Sensitivity Analysis for PVDBO

	Discount Rate + 1%	Discount Rate - 1%	Salary Increase + 1%	Salary Increase - 1%
30.06.2024	1,453,083	1,773,037	1,773,081	1,453,101

Tanveer Alam

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Associate of the Society of Actuaries, USA

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Appendix-I

Age	Death Rate	Withdrawal Rate	Ill-health Rate	Age	Death Rate	Withdrawal Rate	Ill-health Rate
20	0.000958	0.07172	0.00000	53	0.008244	0.00506	0.00162
21	0.000974	0.06694	0.00000	54	0.009150	0.00506	0.00185
22	0.000991	0.06216	0.00000	55	0.010135	0.00506	0.00210
23	0.001011	0.05738	0.00000	56	0.011198	0.00506	0.00238
24	0.001032	0.05260	0.00000	57	0.012336	0.00506	0.00268
25	0.001057	0.04782	0.00000	58	0.013544	0.00506	0.00300
26	0.001084	0.04472	0.00000	59	0.014813	0.00506	0.00335
27	0.001115	0.04219	0.00000	60	0.000000	0.00000	0.00000
28	0.001150	0.03910	0.00000				
29	0.001190	0.03628	0.00000				
30	0.001235	0.03347	0.00003				
31	0.001287	0.03094	0.00005				
32	0.001345	0.02869	0.00008				
33	0.001413	0.02644	0.00010				
34	0.001489	0.02391	0.00013				
35	0.001577	0.02138	0.00015				
36	0.001678	0.01941	0.00018				
37	0.001793	0.01716	0.00020				
38	0.001924	0.01519	0.00023				
39	0.002075	0.01294	0.00026				
40	0.002248	0.01069	0.00030				
41	0.002445	0.00957	0.00034				
42	0.002671	0.00872	0.00039				
43	0.002928	0.00760	0.00045				
44	0.003221	0.00647	0.00051				
45	0.003554	0.01069	0.00058				
46	0.003932	0.00956	0.00066				
47	0.004360	0.00900	0.00074				
48	0.004842	0.00788	0.00084				
49	0.005384	0.00675	0.00095				
50	0.005991	0.00619	0.00109				
51	0.006668	0.00563	0.00124				
52	0.007418	0.00563	0.00142				

Appendix-II

Summary of the Benefit Structure of WAPDA Hydroelectric Leave Encashment Benefit Scheme

WAPDA Hydroelectric provides Leave Encashment Benefit to its employees.

Employees of WAPDA Hydroelectric are entitled to receive 48 days earned leave per annum. The un-utilized leave are accumulated subject to a maximum of 365 days. The un-utilized accumulated leave are en-cashed at the time of leaving Company service.

The Employees are also entitled to take Leave Preparatory to Retirement (LPR) of one year retirement.

A general practice of the employees is to take leave encashment benefit on monthly/quarterly/semi-annually basis in the last year before retirement which is equivalent to rendering additional service during LPR.

The Leave Encashment Benefit is calculated as follows:

Accumulated Leave Balance x (Eligible Salary / 30)

TRT Associates
Actuaries & Management Consultants

Ref. No. 000436/24

September 14, 2024

General Manager (Finance) Power
Pakistan Water & Power Development Authority (WAPDA)
Room No. 713
WAPDA House
LAHORE

Subject: *Report on IAS -19 Disclosures as at 30.06.2024*

Dear Sir,

Please find attached Valuation Report containing IAS-19 disclosures (based on the revised version of IAS-19) for the Post-Retirement Free Electricity Scheme of WAPDA Hydroelectric for the year 2023–24.

Please, do not hesitate in contacting us if you have any queries regarding the Report.

Yours faithfully,

Tanveer Alam

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Associate of Pakistan Society of Actuaries
CEO & Consulting Actuary
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Pakistan Water & Power Development Authority LAHORE.

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TRT Associates
Actuaries & Management Consultants

September 14, 2024

VALUATION REPORT

WAPDA HYDROELECTRIC

POST-RETIREMENT FREE ELECTRICITY SCHEME - DISCLOSURES AS PER THE REQUIREMENTS OF THE REVISED VERSION OF INTERNATIONAL ACCOUNTING STANDARD – 19 AS AT 30.06.2024

Not to be distributed to third parties, except auditors and senior management, without the prior written approval of TRT-Associates

Pakistan Water & Power Development Authority LAHORE.

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Pakistan Water & Power Development Authority LAHORE.

Pakistan Water & Power Development Authority LAHORE.

Executive Summary

1. Purpose of the Report

The Actuarial Report provides accounting entries/disclosures in respect of the Post-Retirement Free Electricity provided by WAPDA Hydroelectric. The disclosures are prepared in accordance with the requirements of the revised version of International Accounting Standard 19 (IAS-19).

The objective of the Report is to assist the Entity in preparing its annual accounts. Therefore, the figures in this report should be used for reporting purposes only and not for the funding of benefits.

2. Valuation Data

A summary of the data used for the valuation is as follows:

	2023-24
Active Employees	9,433
Pensioners	10,630

3. Amount to be Recognised in Profit & Loss Account for the Current Year

Rs.000's

	2023-24	2022-23
Amount to be recognized as expense during the year	548,948	471,203

4. Amount to be Recognised in Other Comprehensive Income (OCI)

Rs.000's

	2023-24	2022-23
Amount to be recognized in OCI during the year	(276,010)	(293,193)

5. Statement of Financial Position as at the End of Year

Rs.000's

	2023-24	2022-23
Amount to be recognised as Net Defined Benefit (i.e. Post-Retirement Free Electricity) Liability as at June 30th	3,366,163	3,196,719

Pakistan Water & Power Development Authority LAHORE

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6. Reconciliation of Liability

Rs.000's

	2023-24	2022-23
Opening Net Defined Benefit Liability	3,196,719	3,102,176
Expense Chargeable to P&L during the year	548,948	471,203
Amount Chargeable to OCI during the year	(276,010)	(293,193)
Benefit paid during the year	(103,494)	(83,467)
Closing Net Defined Benefit Liability	**3,366,163**	**3,196,719**

Rs.000's

Category	2023-24	2022-23
Active Employees	880,315	866,354
Pensioners	2,485,848	2,330,365
Total	**3,366,163**	**3,196,719**

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Main Report

Key Information

Date of Valuation

The valuation is conducted, using the prescribed Actuarial Method, as at June 30, 2024.

Post-Retirement Free Electricity

A summary of the benefit structure of Post-Retirement Free Electricity provided by WAPDA Hydroelectric is given in Appendix-II of the Report.

Risks Associated with the Post-Retirement Free Electricity Scheme

- The Entity provides Post-Retirement Free Electricity to all of its regular employees.
- The Post-Retirement Free Electricity Scheme is an un-funded Scheme. This mean that the cost incurred by WAPDA on providing this benefit is not paid from any Fund.
- The Post-Retirement Free Electricity liability reflected in the Entity's Accounts provides a reasonable security of the accrued rights.
- The Post-Retirement Free Electricity Scheme is categorised as a post-employment defined benefit scheme in accordance with the provisions of IAS-19. The liabilities of the scheme are sensitive to the increases in electricity cost in future.

Valuation Data

The data used for the valuation has been checked for any inaccuracies. However, no audit of the data has been conducted. The details are as follows:

	2023-24
Active Employees	9,433
Pensioners	10,630

Method & Assumptions

Valuation Method Used

IAS-19 mandates Projected Unit Credit (PUC) Method (which is an Actuarial Technique) to determine the present value of defined benefit obligations, current service cost and past service cost. The same method is used in the underlying valuation.

Pakistan Water & Power Development Authority LAHORE.

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Assumptions

The economic and demographic assumptions used in the valuation are unbiased, mutually compatible and best estimates as per the requirements of IAS-19. Financial assumptions are based on market expectations as at the valuation date. These assumptions are as follows:

Discount Rate

The market of high quality corporate bonds is not deep enough in Pakistan. Therefore, discount rate is based on market yields on government bonds as at the valuation date. In general, the duration of Post-Retirement Free Electricity liabilities is significantly long. Government bonds of similar duration are not available. It may be appropriate to assume same reinvestment interest rate as can be earned at the currently available government bonds. Thus the discount rate used for the valuation is 14.00% per annum. This rate is consistent with the relevant guidelines of the Pakistan Society of Actuaries.

Rate of Growth in Electricity Cost

Cost of Post-Retirement Free Electricity for a retiree/beneficiary is expected to increase in excess of inflation growth and general salary increases. It has been deemed appropriate to assume that the average rate of growth in Post- Retirement Electricity cost will be 13.00% per annum as.

Post-Retirement Free Electricity Cost

The retirees and their dependants are entitled to 50% of the free electricity facility as compared to the active employees.

In the absence of relevant information, an appropriate approach would be to take average electricity cost (by dividing total retirees' electricity cost by the total number of retirees/beneficiaries) to determine Post-Retirement Electricity Benefit liability for actives and pensioners. This method assumes that every retiree/beneficiary utilises electricity facility at the average cost. The same approach is adopted in this report.

As per the information provided by the entity in respect of pensioners' related Electricity Cost, the average cost per retiree family works out to Rs.9,736/- (Benefits Paid / Total Pensioners = 103,493,712 / 10,630) as at 30.06.2024. This average amount is significantly lower than the average costs used in the previous valuations.

Therefore, it has been deemed appropriate to use the same average Electricity Cost per retiree family of Rs.9,736/-.

It has been assumed that each retiree (self/beneficiary) family is receiving electricity benefit equal to above calculated average cost as at the valuation date.

Pakistan Water Development Authority LAHORE.

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Mortality, Withdrawal, Disability Retirement Rates

The mortality rates used for active employees are based on SLIC (2001-05) Mortality Table. The previous actuarial valuation was based on EFU (61-66) Mortality Table.

The mortality rates used for Pensioners are adjusted to reflect mortality improvements occurred. However, no future mortality improvements have been taken into account.

The rates for withdrawal from service and retirement on ill-health grounds are based on industry/country experience.

Withdrawal Rates have been reduced for ages from 20 to 44 due to changes in economic environment. These rates are given in the Appendix-I.

Comparison of Assumptions with previous Financial Year

The change in economic assumptions as compared with previous year's basis is as follows:

	2023-24	2022-23
Discount rate	14.00%	16.00%
Expected rate of increase in Post-Retirement Free Electricity cost in future years	13.00%	15.00%

The gaps between economic assumptions are critical for the actuarial valuation of Post-Retirement Free Electricity benefits. The most important difference in this respect is between Discount Rate and the rate of increase in Post-Retirement Free Electricity cost. Any changes in this gap can generate significant gain/loss during the inter-valuation period.

The critical gap between discount rate and Post-Retirement Free Electricity cost increase rate as at 30.06.2024 is one percentage point (1%) which is consistent with previous year assumptions.

Since the critical gap between economic assumptions is same as used in the previous year, therefore, there will be no significant actuarial gain/loss as at 30.06.2024 due to changes in economic assumptions.

Actuarial Gain/Loss Recognition

The amount of gains/losses has been charged immediately to Other Comprehensive Income as per the provisions of the revised version of IAS-19.

Pakistan Water & Power Development Authority LAHORE.

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IAS-19 Disclosures

All figures given in this section are in Pak Rupees and in 000's:

Statement of Financial Position as at Beginning of the Year (BoY)

	2022-23	2021-22
Present Value of Defined Benefit Obligations as at 30th June	3,196,719	3,102,176
Less Fair Value of Plan Assets	-	-
Defined Benefit Liability as at 30th June BoY	**3,196,719**	**3,102,176**

Reconciliation of Present Value of Defined Benefit Obligations

	2023-24	2022-23
Present Value of Defined Benefit Obligations as at 30th June BoY	3,196,719	3,102,176
Service Cost (Current Service Cost + Past Service Cost + Gains/Losses on Settlements)	45,752	42,741
Interest on Defined Benefit Obligation	503,196	428,462
Benefits Paid during the Year	(103,494)	(83,467)
Actuarial (Gains)/Losses	(276,010)	(293,193)
Present Value of Defined Benefit Obligations as at 30th June EoY	**3,366,163**	**3,196,719**

Amount Chargeable to Profit & Loss for the Current Year

	2023-24	2022-23
Service Cost	45,752	42,741
Net Interest on Net Defined Benefit Liability (Asset)	503,196	428,462
Total Amount Chargeable to P&L Account	**548,948**	**471,203**

Remeasurements of Net Defined Benefit Liability

	2023-24	2022-23
Actuarial (Gains)/Losses due to changes in Demographic Assumptions	-	-
Actuarial (Gains)/Losses due to changes in Financial Assumptions	(594)	571
Actuarial (Gains)/Losses due to experience adjustments	(275,416)	(293,764)
Return on Plan Assets	-	-
Effect of Changes in Asset Ceiling	-	-
Amount Chargeable to Other Comprehensive Income (OCI)	**(276,010)**	**(293,193)**

Pakistan Water Development Authority LAHORE.

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Statement of Financial Position as at End of the Year (EoY)

	2023-24	2022-23
Present Value of Defined Benefit Obligations as at 30th June EoY	3,366,163	3,196,719
Less Fair Value of Plan Assets	-	-
Net Defined Benefit Liability as at 30th June EoY	**3,366,163**	**3,196,719**

Expense Chargeable to Profit & Loss for the Next Year

	2024-25	2023-24
Service Cost (Current Service Cost + Past Service Cost + Gains/Losses on Settlements)	52,526	45,752
Net Interest Cost on Net Defined Benefit Liability	471,263	503,196
Total Amount Chargeable to P&L Account for the Next Year	**523,789**	**548,948**

Reconciliation of Net Defined Benefit Liability

	2023-24	2022-23
Defined Benefit Liability as at BoY	3,196,719	3,102,176
Cost Chargeable to P&L during the Year	548,948	471,203
Cost Chargeable to OCI	(276,010)	(293,193)
Benefits Paid during the Year	(103,494)	(83,467)
Net Defined Benefit Liability as at EoY	**3,366,163**	**3,196,719**

	2023-24	2022-23
Average Expected Remaining Working Lifetime of Members	10 Years	10 Years
Average duration of the liabilities (actives + pensioners)	19 Years	20 Years

Sensitivity Analysis for PVDBO

	Discount Rate + 1%	Discount Rate - 1%	Electricity Cost Increase + 1%	Electricity Cost Increase - 1%
30.06.2024	2,786,342	4,066,732	4,066,642	2,786,307

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Actuaries, USA

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Appendix-I

Age	Death Rate	Withdrawal Rate	Ill-health Rate	Age	Death Rate	Withdrawal Rate	Ill-health Rate
20	0.000958	0.07172	0.00000	53	0.008244	0.00506	0.00162
21	0.000974	0.06694	0.00000	54	0.009150	0.00506	0.00185
22	0.000991	0.06216	0.00000	55	0.010135	0.00506	0.00210
23	0.001011	0.05738	0.00000	56	0.011198	0.00506	0.00238
24	0.001032	0.05260	0.00000	57	0.012336	0.00506	0.00268
25	0.001057	0.04782	0.00000	58	0.013544	0.00506	0.00300
26	0.001084	0.04472	0.00000	59	0.014813	0.00506	0.00335
27	0.001115	0.04219	0.00000	60	0.000000	0.00000	0.00000
28	0.001150	0.03910	0.00000				
29	0.001190	0.03628	0.00000				
30	0.001235	0.03347	0.00003				
31	0.001287	0.03094	0.00005				
32	0.001345	0.02869	0.00008				
33	0.001413	0.02644	0.00010				
34	0.001489	0.02391	0.00013				
35	0.001577	0.02138	0.00015				
36	0.001678	0.01941	0.00018				
37	0.001793	0.01716	0.00020				
38	0.001924	0.01519	0.00023				
39	0.002075	0.01294	0.00026				
40	0.002248	0.01069	0.00030				
41	0.002445	0.00957	0.00034				
42	0.002671	0.00872	0.00039				
43	0.002928	0.00760	0.00045				
44	0.003221	0.00647	0.00051				
45	0.003554	0.01069	0.00058				
46	0.003932	0.00956	0.00066				
47	0.004360	0.00900	0.00074				
48	0.004842	0.00788	0.00084				
49	0.005384	0.00675	0.00095				
50	0.005991	0.00619	0.00109				
51	0.006668	0.00563	0.00124				
52	0.007418	0.00563	0.00142				

Pakistan Water & Power Development Authority LAHORE.

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Appendix-II

Summary of the Benefit Structure of WAPDA Hydroelectric Post-Retirement Free Electricity Scheme

WAPDA Hydroelectric provides Free Electricity benefits to its pensioners.

The free electricity to which a retired employee (or his /her spouse) is entitled depends upon the employee's basic pay scale (BPS) at the time of leaving entity's service.

The rate of the benefit is 50% of the number of units to which he/she was entitled during active service, the following table shows the BPS wise number of units allowed per month for a retiree:

BPS at Retirement	Free Electricity Units Allowed Per Month
1-4	50
5-10	75
11-15	100
16	150
17	225
18	300
19	440
20	550
21	650
22	650

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Annex – 6

GHAZI BAROTHA POWER COMPLEX

1. INTRODUCTION

Ghazi Barotha Power Station is located near Village Barotha, 63 km downstream of Tarbela and about 10 km West of Attock city. Its installed capacity is 1450 MW with 05 Units of 290 MW each. It is a run of river Project with small storage for peaking. The details of the Power Station showing installed capacity and dates of commissioning are given as under:

UNIT NO.	INSTALLED CAPACITY (MW)	MAKE		COMMISSIONING PERIOD
		TURBINE	GENERATOR	
1-5	5 x 290 = 1450	Voith Hydro Germany	Mitsui / Toshiba, Japan	2003-04
TOTAL	1450			

2. ENERGY STATISTICS

DESCRIPTION	2022-23	2023-24	2024-25 (ACTUAL & FORECAST)	2025-26 (ESTIMATED)
Net Electrical Output (GWh)	6,534.846	6,886.475	5,621.810 (till to date)	6,600
Plant Utilization Factor %	54.22	51.31	48.74	51.96
Plant availability Factor %	90.69	73.63	87.75	90.69

3. MANPOWER (2024-25)

GB	CATEGORIES							
	OPERATIONAL & TECHNICAL	CIVIL INFRASTRUCTURE MAINTENANCE		ACCTS & ADMIN	SECURITY	TPT	EDUCATION & ALLIED STAFF	G. TOTAL
		TECH NICAL	NON-TECHNICAL					
	436	07	91	32	05	63	70	704

4. REPAIR AND MAINTENANCE:

3.1 Preventive & Corrective Maintenance

- Daily / weekly Maintenance of all units and allied Equipment's.
- Monthly Maintenance of all units and allied equipment's.
- Annual/Biennial Maintenance of the units.

3.2 Annual / Biennial Maintenance Hours (including Monthly & scheduled Maintenance)

Unit No.	Unit-1	Unit-2	Unit-3	Unit-4	Unit-5	Total
2022-23	621.25	897.52	607.48	932.92	948.03	4007.20
2023-24	933.92	594.67	891.72	600.58	567.47	3558.35
2024-25 (Actual & Forecast)	851.08	923.62	594.25	653.30	1184.27	4226.52

Balochistan Water & Power Development Authority LAHORE.

2025-26 (Estimated)	1004.00	644.00	1004.00	644.00	644.00	3940.00

3.3 MAJOR R & M OF POWER GENERATION ASSETS

A. ACTIVITIES COMPLETED ACTUAL (FY 2023-24)

EME (P)

- Biennial maintenance of units 01 & 03
- Annual maintenance of units 02, 04 & 05

EME (AUX)

- Biennial maintenance of units 01 & 03
- Annual maintenance of units 02, 04 & 05

EME (S/Y)

- Annual maintenance of 500KV equipment Bay 01 to Bay 6 (circuit breakers, dis-connectors and earth switches etc) carried out.
- Annual maintenance of Shunt reactor 01 (Gatti-01) 500 KV T/line carried out.
- Annual maintenance of 220KV equipment Dia 01 & Dia 02 (circuit breakers, dis-connectors and earth switches etc) carried out.
- Annual maintenance of AC CU # 8, AC CU # 9 & AC CU # 10 carried out.
- AC shield and fixed contacts of DSW B6Q32 replaced.
- Breaking unit of 500 KV CB B6Q3 was replaced.
- Sealing ring of SF6 density monitor of 500 KV Circuit Breaker B1Q3 replaced with spare one.

P&IE

- Biennial maintenance of units 01 & 03
- Annual maintenance of units 02, 04 & 05
- Annual maintenance of Shunt reactor-01&02 (testing of Buchholz, Pressure Relief Vent, Winding & Oil temperature).
- Tarbela I&II, Rawat I&II and Gatti-I&II transmission lines new protection Settings of protection relays were updated as per recommended by NEPRA at Terbela-I, Terbela-II, and Rawat-I are implemented and tested.
- Testing of protection relays of Generator & Generator Transformer including REG-216 (Set: I&II) [Generator Reverse Power, Overcurrent Relay, Generator Negative Sequence, Generator Differential, Generator Transformer Differential, Under Impedance, Overvoltage, etc.] and static protective relays [REF1, REF2, etc.].
- Testing of Unit Transformer protection relay RET-316 [Differential and Over-Current Stage-I].
- Testing of thermal protections of generator transformer including (Buchholz, Pressure Relief Vent, HV& LV Winding, Oil and cooler (1&2) Temperatures, OLTC Buchholz, Shutter valve etc.
- Testing of shaft current monitoring system

C&IE

- Biennial maintenance of units 01 & 03
- Annual maintenance of units 02, 04 & 05

MME (P)

- Biennial maintenance of units 01 & 03
- Annual maintenance of units 02, 04 & 05

MME (AUX.)

- Biennial maintenance of units 01 & 03

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- Annual maintenance of units 02, 04 & 05

B. ACTIVITIES PROVISIONAL (FY 2024-25)

EME (P)

- Biennial maintenance of units 02, 04 & 05
- Annual maintenance of units 01 & 03
- Replacement of Faulty Generator Transformer of Unit No. 05 (Yellow Phase) with Spare one Vide PTW # 423/24 dated 02-08-2024.
- Replacement of Faulty Generator Transformer of Unit No. 01 (Blue Phase) with Spare one Vide PTW # 65/25 dated 01-02-2025.

EME (AUX)

- Biennial maintenance of units 02, 04 & 05
- Annual maintenance of units 01 & 03
- Replaced power cable of Intake and Tail Regulator Gantry Crane
- Lighting system of indoor and outdoor enhanced

EME (S/Y)

- Annual maintenance of 500KV equipment Bay 01 to Bay-6 (circuit breakers, dis-connectors and earth switches etc) carried out.
- Annual maintenance of Shunt reactor 02 (Gatti-02) 500 KV T/line carried out.
- Annual maintenance of 220KV equipment Dia 01 & Dia 02 (circuit breakers, dis-connectors and earth switches etc) carried out.
- Annual maintenance of AC CU # 8, AC CU # 9 & AC CU # 10 carried out.
- Tuning device of wave trap installed on Tarbela-01 500 KV T/line replaced.
- AC shield and fixed contacts of DSW B1Q32 replaced.
- Spring charging motor of 220 KV Circuit Breaker D2Q3 of red phase was replaced with spare one.
- Annual maintenance of Shunt reactor 01 (Gatti-01) 500 KV T/line will be carried out in June 2025.

P&IE

- Biennial maintenance of units 02, 04 & 05
- Annual maintenance of units 01 & 03

Following important activities were carried out:

- Functional testing of Distance Protection Set-I (REL-531) & Distance Protection Set-II (LZ96a), Overvoltage Definite (High Stage, Low Stage & Inverse Time), Earth Fault and 3-Phase Overcurrent Protection Relay was carried out at Gatti-I&II and Rawat-I&II Transmission lines.
- Cross Trip Scheme for Transmission Line Gatti-I and Gatti-II along with Generator 01 & 02 was been Implemented, tested and verified by NTDC team under the supervision of TSG NTDC team in coordination with NTDC (A.M) Rawat and NTDC Telecom and is kept in service
- 01 No. faulty Trip-Lockout Relay and Auto-Recloser relay at Rawat-II Transmission Line replaced with new spare one

Following important activities were carried out during Annual/Biennial Maintenance:

- Testing of protection relays of Generator & Generator Transformer including REG-216 (Set: I&II) [Generator Reverse Power, Overcurrent Relay, Generator Negative Sequence, Generator Differential, Generator Transformer Differential, Under Impedance, Overvoltage, etc.] and static protective relays [REF1, REF2, etc.].
- Testing of Unit Transformer protection relay RET-316 [Differential and Over-Current Stage-I].

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- Testing of thermal protections of generator transformer including (Buchholz, Pressure Relief Vent, HV& LV Winding, Oil and cooler (1&2) Temperatures, OLTC Buchholz, Shutter valve etc.
- Testing of shaft current monitoring system
- After Fire incident at AVR Panel following replacement had been carried out during the fault rectification:

S. No.	ITEMS	DESIGNATION	QUANTITY
1	Thyristor Bridge	Excitation Panel 2GD, 2EE, 1ER Panel	01 No.
2	Convertor Electronics		01 No.
3	Ventilation Fan Block		01 No.
4	Limit Switch for isolator		01 No.
5	Door Limit Switch		02 Nos.
6	AC O/V Protection Unit		01 No.
7	DC O/V Protection Unit		01 No.
8	Temperature Sensors LF24+PT100 +Transducer		01 No. Each
9	Indication Panel UNS0674		01 No.
10	AC MCB's		02 Nos.
11	Thermostat ITR 79		01 No.
12	Measuring Coils		03 Nos.
13	Power Supply 220VDC / 24VDC / 48VDC MURR		01 No.
14	Resistor FWT60-500		01 No.
15	Flexible Serial Cable 16 Core		24 meters
16	DB-15 Connector for flexible Serial Cable Male/Female		03 Pairs
17	Coaxial cable (Flexible)		25 Meters
18	T-Connector for Coaxial Cable		01 No.
19	Coaxial Cable Connector		04 Male
20	Control cable 7 core 1.5 mm^2		20 Meter
21	Flexible cable single core 2.5 mm^2		01 Roll
22	Panel ventilation grills		10 No.
23	Aux contacts for ventilation fan MCB's NC 4A		02 Nos.

REPLACEMENT OF GENERATOR TRANSFORMERS

- The replacement of the faulty transformer at Yellow-phase Generator Transformer # 05 with a spare one. Comprehensive testing and verification from source to DCS were conducted on all mechanical protections (Buchholz relay, PRDs, OLTC Protection Relay, HV, LV and oil Dial Type thermometer etc. etc.) related circuits. The results of these tests were found satisfactory. Additionally, the status signals (Cooler # 1 & 2, Oil Level Indicator etc.) were inspected and found functioning normal.
- The replacement of the faulty transformer at Blue-ϕ Generator Transformer # 01 with a spare one was carried out. Comprehensive testing and verification from source to DCS were conducted on all mechanical protections (Buchholz relay, PRDs, OLTC Protection Relay, HV, LV and oil Dial Type thermometer etc. etc.) related circuits. The results of these tests were found satisfactory. Generator Transformer differential relay was tested and found normal.

C&IE

- Biennial maintenance of units 02, 04 & 05
- Annual maintenance of units 01 & 03

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MME (P)

- Biennial maintenance of units 02, 04 & 05
- Annual maintenance of units 01 & 03
- Changing of shaft seal wearing ring on the Unit 01

MME (AUX.)

- Biennial maintenance of units 02, 04 & 05
- Annual maintenance of units 01 & 03

CIVIL

- R&M of Internal water supply system in residential buildings of Power Complex Colony Barotha
- AM & R of Non-Residential Buildings in Power Complex Colony Barotha.
- AM & R of Residential Buildings in Power Complex Colony Barotha, Attock for category A, B, C, D & E (I, II, III, IV & V).
- Improvement of play grounds/Lawns including open gym equipment at Power Complex Colony Barotha.
- Carpeting / Maintenance of selected portion Internal Roads and construction of bituminous speed breakers at Power Complex Colony Barotha.
- Rehabilitation of boundary walls of houses at Power Complex Colony Barotha.
- Renovation of Director (Const.) M&E Room, XEN (E&M) Division, RE (Mech), accounts all rooms and XEN (PCC) in main office of Power Complex Colony Barotha.
- Renovation of Jamia Masjid of Power Complex Colony Barotha.
- Special Repair & Maintenance of wash rooms of residential buildings at Power Complex Colony Barotha for Category A&B.
- Renovation of wash rooms of hostels at Power Complex Colony Barotha.

C. ACTIVITIES PLANNED (FY 2025-26)

EME (P)

- Replacement of Repaired Generator Transformer with installed unit.
- Annual Maintenance of Unit No. 02, 04, 05.
- Biennial Maintenance of Unit No. 01, 03.
- Overhauling of Tap Changer of Generator Transformers (R, Y, B Phases) for any one Unit.
- Overhauling of Generator Circuit Breaker of any two units.
- O&M/Upgradation of 450 tons and 145 tons' cranes.

EME (AUX)

- Replacement of battery banks at Power Complex.
- Power cable replacement of 100-ton Draft Tube Gantry Crane.
- Annual Maintenance of units 02, 04 and 05.
- Biennial Maintenance of units 01 and 03.

EME (S/Y)

NAME OF EQUIPMENT		PROPOSED ANNUAL MAINTENANCE MONTH
Shunt Reactor – 01		June 2026
Shunt Reactor – 02		July 2026
500KV Circuit Breakers	B1Q1	Feb-26
	B1Q2	
	B1Q3	
	B2Q1	

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NAME OF EQUIPMENT		PROPOSED ANNUAL MAINTENANCE MONTH
	B2Q2	
	B3Q1	
	B2Q3	March-26
	B3Q2	
	B3Q3	
	B4Q1	Oct-2026
	B5Q1	
	B6Q1	
	B5Q3	
	B6Q3	
	B4Q2	Nov-2026
	B4Q3	Nov-2026
	B5Q2	
	B6Q2	
220KV Circuit Breakers	D1Q1	April- 2026
	D1Q2	
	D1Q3	
	D2Q1	
	D2Q2	
	D2Q3	
HVAC (AC-CU No. 8)		Dec-2025
HVAC (AC-CU No. 9)		Jan-2026
HVAC (AC-CU No. 10)		Feb-2026

P&IE

- Biennial maintenance of units 01 & 03
- Annual maintenance of units 02, 04 & 05
- Replacement of Distance Protection Set-I relay with new one at Rawat-II Transmission Line
- Up-Gradation of Generator protection system at Unit-0I & 02
- Upgradation of 500kV Switchyard relays
- Annual Maintenance of Shunt reactors (1 & 2).

C&IE

- Biennial maintenance of units 01 & 03
- Annual maintenance of units 02, 04 & 05
- Upgradation / Supply, installation, testing & commissioning of DCS System on turnkey basis

MME (P)

- Biennial maintenance of units 01 & 03
- Annual maintenance of units 02, 04 & 05
- Overhauling of the station air compressor
- Replacement of wicket gate stems and bushes of units 01 & 04
- Replacement of the shaft seal wearing ring on Unit 5
- Replacement of the fire firefighting system compressor (procurement is in process)

MME (AUX.)

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POWER HOUSE

- Complete painting and R & M works of 08 Nos. stop gates at transformer deck.
- Major repair / overhauling of Gentry Crane installed at transformer deck.
- Maintenance of Fire Fighting compressors installed at Switchyard,

INTAKE SIDE

- Annual mechanical maintenance of HPUCM (PIGs) of Units 02, 04 and 05.
- Biennial mechanical maintenance of HPCUM (PIGs) of Units 01 and 03.
- Complete painting and R&M works of 08 Nos. Bulkhead gates.

TAIL REGULATOR

Annual Mechanical Maintenance and painting of HPUCM and Tail Regulator gates # 03.

CIVIL

- Construction of Parking Shed at Officer Hostels' (15 & 20 -Bed) entrance at Power Complex Colony Barotha
- AM & R of Non- Residential Buildings at Power Complex Colony Barotha
- Renovation of Play/Cricket Grounds including walking track at Power Complex Colony Barotha
- AM & R of Residential Buildings in Power Complex Colony Barotha, Attock for category A, B, C, D & E (I, II, III, IV & V)
- R&M of Internal water supply system in residential buildings of Power Complex Colony Barotha
- Carpeting / Maintenance of Selected Portion Internal Roads and construction of bituminous speed breakers at Power Complex Colony Barotha
- Repair & Maintenance of wash rooms of residential buildings at Power Complex Colony Barotha for Category – C
- Construction / Upraising of PCC Colony boundary wall at Dong Fong Store side
- Renovation of Main Gate including hydraulic barrier & UVSS at Power Complex Colony Barotha
- Construction of Shed for Janazagah at Power Complex Colony Barotha
- Repair of foot path of power Complex Colony

Operation Engineer
GB Barotha Attock

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GHS:-

Manpower (2023-24)

GB	Categories							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	TPT	Education & Allied Staff	G.Total
		Technical	Non-Technical					
	436	07	91	32	05	63	70	704

Manpower (2025-26)

GB	Categories							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	TPT	Education & Allied Staff	G.Total
		Technical	Non-Technical					
	436	07	91	32	05	63	70	704

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MANGLA POWER STATION

INTRODUCTION

Mangla Power Station is located on River Jhelum at Mangla about 10 Km away from Mirpur and 30 Km from Jhelum city having 10 Units of 100 MW each (except Unit No. 3 ~ 6 having rated capacity of 135 MW each after their Refurbishment / Up-gradation). The Power Station was completed in different phases from 1967 to 1994. After Refurbishment / Up-gradation, Unit No. 5 & 6 and 3 & 4 were commissioned in 2022 & 2024 respectively. The details of the Power Station showing installed capacity, make and dates of commissioning are given as under:

Dam Type	Embankment Dam
Reservoir Live Storage Capacity	7.276 MAF
Max Operating Level	1242 ft SPD
Min operating Level	1050 ft SPD
Total installed capacity	940 MW

Unit No.	Installed capacity (MW)	Make			Commissioning Dates
		Turbine	Generator	Transformer	
1	Unit No. 01 & 02 are under shutdown w.e.f 30.11.24 & 09.11.24 respectively for their refurbishment / up-gradation by M/s GE (Hydro) under MRP.				
2					
3	2x135=270	G.E (Hydro) France	G.E (Hydro) France	Chint (China)	08-12-2024
4					03-12-2024
5-6	2x135=270	G.E (Hydro) France	G.E (Hydro) France	Chint (China)	01-04-2022
7	2x100=200	ACEC Belgium	Hitachi Japan	Italtrafo	25.05.1981
8				Skoda	22.07.1981
9	2x100=200	Skoda Czech	Skoda Czech	Skoda Czech	24.09.1993
10					06.07.1994
Total	940				

1. ENERGY STATISTICS

Description	2023-24	2024-25 (Forecasted)	2025-26 (Estimated)
Net Electrical Output (GWH)	5173.255	4600.000	5200.000
Plant Utilization Factor (%)	68.75	58.00	65.00
Plant Availability factor (%)	92.79	91.67	92.00

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2. REPAIR & MAINTENANCE

2.1 ANNUAL MAINTENANCE

- Daily / Weekly Maintenance of all Units and Allied Equipment.
- Monthly Maintenance of all Units and Allied Equipment. It involves shutdown of the Units for 4 hrs.
- Annual Maintenance of Units in each year on alternate basis, it involves shut down of the units for 20-30 days (Approximately).
- Annual Maintenance Hours (including biennial, Monthly and scheduled maintenance)

Unit No.	1	2	3	4	5	6	7	8	9	10
2023-24 (Actual)	34.53	258.12	Under Refurbishment		642.72	689.18	557.58	272.10	1032.50	1061.5
2024-25 (Provisional)	25.66	15.10	48.17	4.00	544.62	654.88	43.92	43.42	234.6	509.09
2025-26 (Projected)	Under Refurbishment		600	600	50	50	600	600	600	50

2.2 MAJOR R& M OF POWER GENERATION ASSETS ACTIVITIES COMPLETED

2023-24

- Biennial Maintenance of Unit No. 05, 06, 07, 09 & 10 along with associated equipment was carried out, according to the prescribed schedule.
- Unit No. 03 & 04 remained under shutdown w.e.f 20-04-2022 for their Refurbishment / Up-gradation under MRP.
- Replacement of GSU T/F No. 02 due to fault on existing Savigliano Transformer was carried out.
- Annual maintenance of 138 MVA, 220/132 kV Interconnector Transformer No. 01, 02 & 03 were carried out according to prescribed schedule.
- Annual maintenance of 7.5 MVA, 132 kV Station Transformer No. 01 & 02 were carried out according to prescribed schedule.

2024-25

COMPLETED

- Annual / Biennial Maintenance of Unit No. 05, 06 & 10 along with associated equipment was carried out according to the prescribed schedule.
- Unit No. 03 & 04 remained under shutdown w.e.f 20-04-2022 for their refurbishment / up-gradation under MRP. After their refurbishment / up-gradation both the units were made available for commercial operation in Dec, 2024.
- Annual maintenance of 138 MVA, 220/132 kV Interconnector Transformer No. 01, 02 & 03 were carried out according to prescribed schedule.
- Annual maintenance of 7.5 MVA, 132/11 kV Station Transformer No. 01 & 02 were carried out according to prescribed schedule.
- Major over hauling was of 220 kV CB D14Q2 was carried out.

ON GOING

Refurbishment / Up-gradation of Unit No. 1 & 2 is in process under MRP.

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TO BE COMPLETED

Procurement of 01 No. Hiace Van and 01 No. Mini Bus as replacement of old vehicles will be carried out during the FY 2024-25.

2025-26

- Annual / Biennial Maintenance of Unit No. 03, 04, 07, 08 & 09 along with associated equipment was carried out according to the prescribed schedule.

- Refurbishment / Up-gradation of Unit No. 01 & 02 will be carried out under Mangla Refurbishment Project.
- Annual maintenance of 138 MVA, 220/132 kV Interconnector Transformer No. 01, 02 & 03 will be carried out according to prescribed schedule.
- Annual maintenance of 7.5 MVA, 132/11 kV Station Transformer No. 01 & 02 will be carried out according to prescribed schedule.
- Annual maintenance of 3.8 MVA, 13.2/11 KV Station Service Transformer No. 03 & 05 will be carried out.
- Refurbishment / Up-gradation of Unit No. 09 & 10 will be carried out after the availability of Unit No. 01 & 02 after refurbishment / up-gradation under Mangla Refurbishment Project.

2.3 CIVIL WORKS

GENERATION / GENERAL PLANT ASSETS

2023-24 (COMPLETED)

- Improvement of drainage system.
- Plantation.
- Procurement of Water Storage Tanks for Bungalows.

2024-25 (PROVISIONAL)

- R&M of Residential Building & Servant Quarters (Completed).
- Masjid Parking Shed & Partition (Completed).
- R&M of WAPDA Model High School (Completed).
- R&M of Non-Residential buildings (Completed).
- R&M of Boundary wall Baral Village Side including uprising (Completed).
- Jungle Clearance & Plantation (Completed).
- Improvement of Drainage System (Work in process).
- Petty Purchases & Misc. works (In process).
- Consumables items for Baral colony & WAPDA Model High School (Tender in process).
- R&M of Residential Building Washrooms Tiles, Windows Grills and Roof Treatment (Work in process).
- R&M of Residential Buildings Electrification, Plumbing and Painting (Work in process).
- Renovation of Complaint Office Baral (Work in process).
- Renovation of Ladies hostel (Work in process).
- Renovation of park (Work in process).
- Renovation of Masjid (Work in process).
- Uprising of boundary wall of residential buildings (Work in process)
- Booster pump access road, boundary wall & Roof Treatment (Work in process).
- Spare motors/pumps for booster pumps (Work in process).
- Pardah Wall around jungle area (Work in process).
- Spare motors & Storage Tanks for bungalows (In process).
- T&P Items for complaint office (Completed).
- PVC wall paneling at Officers Hostel (In process).
- Procurement of Tractor tyres (Completed).

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2025-26 (PLANNED)

- Rest House Renovation Misc. Activity (Baral Colony) Phase-I.
- Water filtration plant at Baral Colony.
- Plantation at Baral Colony.
- Improvement of Drainage & Sewerage System of Baral Colony.
- Chemical Treatment water tanks at Baral Colony.
- R&M of Residential Building Electrification i.e., Wiring & Main DP upgradation Phase-I.
- R&M of Residential Building Drawing, Dining's Aluminum Windows, Roof Treatment Phase-I.
- R&M of Servant Quarters, Wiring upgradation, Door Replacement, & Construction of Pardah wall Phase-I.

- R&M of Boundary Wall Baral Village Side, Phase-II.
- Uprising of Boundary Wall of Residential Buildings Phase-II.
- Pardah Wall around Jungle area at Baral Colony Phase-II.
- Rest House Renovation Baral Colony Phase-II.
- Extension of 2 bedrooms houses to 3 bedrooms Phase-I.
- Extension of the Ladies Portion at Jamia Masjid Baral.
- The development of a commercial market / essential shops.
- The establishment / enhancement of the Colony Grounds. Landscaping, Jogging Track, Laser Leveling & Grass Plantation.
- Baral Colony Streets Lighting System upgradation.
- Open Gym in Park at Baral Colony.
- Construction of general washrooms/ Ablution Area & Separation of share washrooms of officer's rooms at Officers Hostel Baral.
- Road Sidesways upgradation Nallas Filling, Road side Stones and Development of fruit farming in the area between B20 and B21.
- Construction of Sitting Sheds, Benches, & Fountain at Baral Colony.
- Booster Pump Automation, CCTV and Boundary Wall.
- Out sourcing of colony sanitation, chowkidars & upgradation of dustbins for colony.
- Procurement of Automated Mechanized, Garbage & Waste Colleting & Disposal Truck.
- Procurement of Loader rikshaw for Baral Colony.
- Construction of new washrooms, water fountain, installation of outdoor lights and renovation of existing washrooms.
- Procurement of 01 No. Electric Bike for Baral Complaint Office.

Manpower 2023-24

HPS Mangla	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non-Technical					
	296	02	25	78	4	33	30	468

Manpower 2024-25

HPS Mangla	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non-Technical					
	291	02	23	75	4	30	29	454

Manpower 2025-26

HPS Mangla	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non-Technical					
	292	02	25	76	5	29	31	460

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OPERATION ENGINEER
Power Station Mangla

CHASHMA HYDEL POWER STATION

INTRODUCTION

Chashma Hydel power station is located on right abutment of Chashma barrage District Mianwali. It is low head plant having eight (08) generating units of 23 MW each and total capacity is 184 MW.

Plant Type	=	Run of River
Live Storage	=	0.311 MAF
Max Operating Level	=	197.80 masl
Min Operating Level	=	193.50 masl

The installed capacity, make and years of commissioning of generating units are as under: -

Unit #	Installed Capacity (MW)	Make			Commissioning Years
		Turbine	Generator	Transformer	
01	23	Fuji Japan	Fuji Japan	GEC Alsthom, France	29.05.2001
02	23	Fuji Japan	Fuji Japan	GEC Alsthom, France	30.04.2001
03	23	Fuji Japan	Fuji Japan	GEC Alsthom, France	11.04.2001
04	23	Fuji Japan	Fuji Japan	GEC Alsthom, France	28.03.2001
05	23	Fuji Japan	Fuji Japan	GEC Alsthom, France	21.03.2001
06	23	Fuji Japan	Fuji Japan	GEC Alsthom, France	19.02.2001
07	23	Fuji Japan	Fuji Japan	GEC Alsthom, France	23.12.2000
08	23	Fuji Japan	Fuji Japan	GEC Alsthom, France	23.12.2000
Total	184				

1. ENERGY STATISTICS

Description	2023-24 (Actual)	2024-25 (Provisional)	2025-26 (Projected)
Net Electrical Output (GWh)	978.863	909.056	776.129
Plant Utilization Factor (%)	60.56	56.40	48.15
Plant Availability Factor (%)	80.41	79.75	68.70

2. REPAIR & MAINTENANCE

2.1. ANNUAL MAINTENANCE HOURS:

- Daily/ Weekly Maintenance of all units and allied equipment's.
- Monthly Maintenance of all units and allied equipments.it involves shutdown for 3 Hours.
- Annual Maintenance of 08 units .it involves shutdown of the units for 25-30 Days.
- ANNUAL MAINTENANCE HOURS (Including Annual, Monthly & Scheduled Maintenance)

Unit #	1	2	3	4	5	6	7	8	Total
2023-24 (Actual)	34.58	0.00	758.17	1611.82	862.27	45.57	854.27	564.17	**4730.85**
2024-25 (Provisional)	795.85	0.00	551.90	800.18	477.70	696.93	17.18	524.08	**3863.83**
2025-26 (Projected)	636.00	0.00	636.00	0.00	636.00	636.00	636.00	636.00	**3816.00**

Note: Unit # 02 is under PTW for major overhauling since 05.03.2021.

2.2. MAJOR WORKS R&M OF POWER GENERATION ASSETS ACTIVITIES COMPLETED:

2023-24	• Annual Maintenance of units # 03, 04, 05, 07 & 08 along with their associated equipment were carried out according to the prescribed schedule. • Replacement of generator guide bearing of Unit # 04 • Replacement of steel wire ropes for the TRCM & mobile crane, slings & travelling trolley bearings of gantry crane.

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	• LC for the variation order of additional scope of work & services regarding major overhaul of U#02 was established.

2024-25	**Completed** • Annual Maintenance of units #, 01, 03, 04, 05, 06 & 08 along with their associated equipment were carried out according to the prescribed schedule. • Replacement of Shaft Seals. • 11 KV auxiliary breaker Installed at Unit No. 08. • Installation of new submersible pump for ground water. • Contractor remobilized and first lot of spares of Unit#02 received. **On Going** • Machining & painting of Unit # 02 parts at HMC. • Upgradation of Distance Protection Relays. • Admin approval for major overhaul of Unit 04. **To be Completed** • Supplementary agreement regarding supply of generator rotor poles of unit no. 02 shipped.

2025-26 **(Projected)**	• Installation , testing & commissioning of unit # 02. • Major Overhaul of Unit # 04. • Procurement of Complete Runner Hub. • Upgradation of 132 KV Gas Insulated Switchgear. • Installation, testing & commissioning of transformer monitoring system and 132KV GIS bay conditioning monitoring system along with spares. • Procurement of Distribution Valves.

2.3. CIVIL WORKS
GENERATION/ GENERAL PLANT ASSETS
ACTIVITIES COMPLETED:

2023-24	• Completion of construction of 72 Nos. Washroom in Cat-IV Houses. • White wash of officer hostel • Repair and White wash of Cat. III houses 29-40 in CHP Colony • Provision of 11kV cable in CHP Colony • Renovation of WAPDA Rest House in CHP Colony.

2024-25	**Completed** • Renovation of Recreation Centre including white wash • Construction of 02 Nos. Ground water wells for supply of water to Power House **To be completed** • Construction of Cementous almirahs of Cat. I, II, III & IV houses. • Raising of boundary wall campus II • Repair and patch work of colony road • Providing and fixing of razor wire on boundary wall and tuff tile WAPDA Boys High School

2025-26 **(Projected)**	• Construction of Store building at Power House. • Construction of Staff Hostel. • Construction of 04 Nos. Cat. II houses • Construction of parking shed in Colony • Construction of Overhead Water Tank in Colony. • Renovation of Colony Masjid • Replacement of Water supply line from main line to CAT-III, CAT-IV, & CAT-V Houses.

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- Complete Cleaning and necessary repair works of Sewerage lines.
- Upgradation of Playground

MANPOWER (2023-24)

HPS	CATEGORIES							
	Operational & Technical	Civil Infrastructure		Account & Admin	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non-Technical					
Chashma	185	9	25	40	87	37	22	405

MANPOWER (2024-25)

HPS	CATEGORIES							
	Operational & Technical	Civil Infrastructure		Account & Admin	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non-Technical					
Chashma	185	9	25	41	87	37	22	406

MANPOWER PROJECTED (2025-26)

HPS	CATEGORIES							
	Operational & Technical	Civil Infrastructure		Account & Admin	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non-Technical					
Chashma	185	9	25	41	90	37	22	409

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Resident Engineer
Chashma Hydel Power Station

LAHORE

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TECHNICAL AND MAN POWER DATA IN RESPECT OF KHAN KHWAR HYDEL POWER STATION (KKHPS) WAPDA BESHAM

1. INTRODUCTION:

Khan Khwar Hydro Power Station is located on the river Khan Khwar, a right tributary of river Indus in district Shangla Tehsil Besham Khyber Pukhtoon Khwa. The project area is accessible by road and is at distance of 330 km from Islamabad and 350 Km from Peshawar.

The installed capacity, contractor name, date of commissioning and completion, and data of installed equipment etc. are given as under

1.	Civil Contractor	SINO HYDRO
2.	E&M Contractor	DONG FANG
3.	PC-1 Cost	5362.705 M
4.	Actual Cost	10732.788M
5.	Annual Energy as PC-1	306 GWH
6.	Installed Capacity	72 MW
7.	No of Units	Three (2X34) MW 1X4 MW
8.	Turbine types	2 Francis, 1 Pelton
9.	Transformer	2X40 MVA & 1X10MVA
10.	Transmission line	2X132 KV
11.	Commissioning Date	Unit 01 Oct, 19,2010. Unit 02 Oct, 04,2010 unit 03 July 2012
12.	Mini: &Maxi: Reservoir level	820.5-825.3 Masl

2. ENERGY STATISTIC:

Description	2023-24 (Actual)	2024-25 (Provisional)	2025-26 (Planned)
Net Electrical Output (GWH)	246 GHW	306 GWH	306 GHW
Plant Utilization Factor (%)	39.75	48.52	48.52
Plant Availability Factor %	91.97	88.58	88.58

3. REPAIR & MAINTENANCE

- Daily / weekly maintenance of all 03 Nos. Units & allied equipment.
- Monthly Maintenance of all units & allied equipment's, it also involves 058 hrs unit's shutdown.
- Annual Maintenance of all 03 no. units & allied Equipment's are carried out each year.
- Annual Maintenance hours ((including Annual Monthly & Scheduled Maintenance)

Unit No.	Unit No. 01	Unit No. 02	Unit No. 03
2023-24 Actual	697.99	705.93	699.58
2024-25 Forced/ Provisional	698.82	698.45	698.48
2025-26 Estimated / Planned	697.65	697.65	699.64

Pakistan Water & Power Development Authority LAHORE.

Assistant Resident Engineer (O&M)
Khan Khwar Power Station
WAPDA Besham

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4. MAJOR R&M OF POWER GENERATION ASSETS ACTIVATES COMPLETED

2023-24 (Actual / Completed)

- HVAC System, a new pipeline along with water tank has been installed.
- Annual Maintenance of Unit No. 01,02 & 03.
- Replacement of Runner of Unit No. 02
- HVAC Descaling of Chiller, Colling tower and both AHUs has been done.
- Restoration of Colling water system into soft starter of main Unit No. 01.
- Extension of already CCTV system of Power house.

2024-25 (Provisional / Completed)

- New Colling water pump No. 02 has been installed.
- New Governor oil pump along with relief valve has been installed of Unit No. 03
- Replaced the rubber seal at weir site BOGs 01,02 & 04.
- Annual Maintenance of Unit No. 01,02 & 03.
- Refurbishment of Deflector carried out of Unit No. 03.
- Replaced the hydraulic cylinder seals with new One of draft tube gate of Unit No. 02.
- Replacement of power transformer 40 MVA.
- Replacement of GST transformer 10 MVA.
- Installation of battery bank at weir site.
- Replacement of submersible pumps 17 KW & 22 KW of LD and Dewatering Tank.
- Replacement of 55 KW motor of cooling water system of Unit No. 01.
- Testing & Calibration of energy meters.

2025-26 (Planned)

- Replacement and repair work of radial bearing of Unit no. 03.
- Replacement of operation/ maintenance seals of MIV.
- Installation of PLCs in weir site & power house.
- Restoration of MIV system into PLC & HMI.
- Extension of Sprinkle system of transformer.

5. GENERAL/ CIVIL WORKS

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(2024-25) (TO BE COMPLETED)

- Construction of Masjid at Khan Khwar Power Station.
- Construction of road light poles at weir site access road.
- Replacement of staff hostel china camp doors.
- Construction of chain link fence with steel post from KKH boundary wall to switch yard.
- Construction of transformer deck in 132 KV switch yard.
- Construction of road light pols in camp area.
- Construction of 02 nos. watch towers in main gate of camp area and power house.
- Renovation of rest house.
- Renovation of weir site control room building.
- Extension of existing boundary wall along R.H.S of KKHPS reservoir
- Renovation of staff hostel mess.

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Assistant Resident Engineer (O&M)
Khan Khwar Power Station
WAPDA Besham

(2025-26) (PLANNED)

- Repair & Maintenance of boundary of power house and weir site.
- Renovation of rest house first floor.
- Renovation of Security breaks-02.
- Renovation of chief office building.
- Installation of tauf tiles in front of hostels.
- Renovation of china camp hostel.
- Renovation of Senior hostel.
- Construction of new sewerage / drainage system for colony.
- Construction of staff hostel.
- Uprising of boundary wall around camp area.
- Construction of boundary wall along PTDC hotel.
- Construction of streel grated doors.
- Construction of PCC road from senior hostel front to overhead water tank.
- Rehabilitation of weir site Access road.

6. Manpower (2023-24)

HPS	CATEGORIES							
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	Grand Total
		Technical	Non-Technical					
Khan Khwar HPS WAPDA Besham	81		9	5	3	9		107

(2024-25)

HPS	CATEGORIES							
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	Grand Total
		Technical	Non-Technical					
Khan Khwar HPS WAPDA Besham	81		9	5	3	9		107

(2025-26)

HPS	CATEGORIES							
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	Grand Total
		Technical	Non-Technical					
Khan Khwar HPS WAPDA Besham	81		9	5	3	9		107

Pakistan Water & Power Development Authority LAHORE.

Resident Engineer (O&M)
Khan Khwar Power Station
WAPDA Besham

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TARBELA POWER STATION

Tarbela power station is located on right bank of river Indus at Tarbela in Distt. Swabi about 100 KM North West of Islamabad having 14 generating units with total installed capacity of 3478 MW. It is the biggest Hydel Power Station which was completed in four different phases during the period from 1977 to 1993. Salient technical features are as under:

Dam Type	=	Earth and Rock filled
Reservoir Capacity		
Live Storage	=	5.7281 MAF
Height	=	485 Ft. (above river bed)
Max Operating Level	=	1550 Ft.SPD
Min Operating Level	=	1402 Ft.SPD
Total installed capacity	=	3478 MW

The installed capacity, make and dates of commissioning of the Power Station are given as under.

Unit No.	Installed capacity (MW)	Make			Commissioning Dates
		Turbine	Generator	Transformer	
1-4	4x 175=700	Hitachi Japan	Hitachi Japan	J-Schneider France	1977
5-8	4x175=700	DEW Canada	CGE Canada	5&6 ASEA Canada 7-Hitachi Japan 8-Chinese (Shen Yang Transformer Co.)	1982
9-10	2x175=350	DBS Canada	Hitachi Japan	Jeumont-France	1985
11-14	4x432=1728	DBS Canada	Siemen-ABB Germany	Ansaldo Italy	1992-93
Total	3478				

1. ENERGY STATISTICS

Description	2023-24	2024-25 (Forecast)	2025-26 (Estimated)
Net Electrical Output (GWh)	13293	12798	12373
Plant Utilization factor (%)	43.75	42.22	40.78
Plant Availability Factor (%)	88.14	93.46	89.55

2. REPAIR & MAINTENANCE

2.1 ANNUAL MAINTENANCE

- Daily / Weekly Maintenance of all Units and Allied Equipments.
- Monthly Maintenance of all Units and Allied Equipments. It also involves shutdown of the Unit for 5-hrs.
- Biennial Maintenance of 5 Units from Units 1-10 each year on alternate basis whereas Annual Maintenance of Units 11-14 in each year. It involves shutdown of the units for 25-30 days.
- Annual Maintenance Hours (Including Biennial, Monthly & Scheduled Maintenance).

Unit No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
2023-24 (Actual)	1052.60	331.89	986.28	973.07	324.25	1179.92	739.27	47.51	741.35	74.20	2192.15	2201.48	1888.38	1750.17	14482.52
2024-25 (Provisional)	47.58	751.35	911.24	44.35	673.29	51.35	56.06	747.69	244.74	896.30	936.22	905.89	825.87	862.30	7954.23
2025-26 (Projected)	775	60	60	775	60	4350	775	60	775	60	655	655	655	655	10370

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2.2 MAJOR R&M OF POWER GENERATION ASSETS

Activities completed

2023-24

- Biennial Maintenance of Unit No. 01, 03, 04, 06, 07 & 09
- Annual Maintenance of Unit No. 11, 12, 13 & 14
- Inspection of newly installed runner of Unit No.05
- Replacement of Excitation system of Units (11-14).
- Replacement of Valves of Main Cooling Water System of Units (11-14).
- Repair works of Draft Tube of Unit No.11.
- Tunnel No.03 / (Units 11-14) remained shut down for 42-days for replacement of raised intake Trash Racks by PD T-4th Ext. HP.

2024-25

Completed

- Biennial Maintenance of Unit No. 02, 03, 05, 08 & 10
- Annual Maintenance of Unit No. 11, 12, 13 & 14
- Installation of Numerical Distance Relays, Breaker Failure Relays, Over Current Relays, Tripping lock out relays and substation Automation system of 220/500 KV Transmission lines.
- Repair works of Draft Tube of Unit No.11-14.

2025-26

Planned

- Biennial Maintenance of Unit No. 01, 04, 07 & 09.
- Annual Maintenance of Unit No. 11, 12, 13 & 14.
- Complete replacement of Stator winding of unit No.06 & Biennial Maintenance.
- Inspection/ Repair works of Draft Tube of Unit No.11-14.

2.3 Civil works

GENERATION / GENERAL PLANT ASSETS.

ACTIVITIES COMPLETED

2023-24

- Roof Treatment
- Rehabilitation of Courtyard Walls
- Repair & Maintenance of Main Road from Service Station
- AM & R Painting Works
- Replacement of Deteriorated Ward Robes
- Renovation of Rooms, Toilets, Kitchen
- Construction of Security wall around Residential Buildings
- PCC of Streets
- Construction of Protection Wall around Civil Division
- Construction of Washroom RBC Dispensary
- Establishment of Canteen in Power House
- R&M Works at Bachelor Officers Hostel in RVC
- Replacement of Sewerage Lines
- Replacement of Wooden Cabin

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2024-25

Civil works

Activities in progress

- Fencing of Land in front of GIK and Tipu Sultan / T-4 Colony
- Concreting of Store Yard & Store Building Tarbela.
- Construction of Boundary Wall of Residential Buildings at Right Bank Colony Tarbela
- PCC of E&M Office Yard/Sewerage Plant at Right Bank Colony Tarbela
- Tough Tiles/PCC of Street in T-4 Residential Colony Tarbela

- RCC/Asphalt Road Repair/Resurfacing/marking etc. inside Switchyard (1-14)
- Replacement of Gravel at Switchyard of TPS Tarbela
- Repair/Rehabilitation of Courtyard Walls Dangerously Tilted of Residential Buildings at Right Bank Colonies Tarbela
- Replacement of Water Supply Pipe Lines in RVC/RBC at Right Bank Colony Tarbela.
- Repair/Maintenance of Internal Road inside Colonies at Right Bank Colonies Tarbela.
- Rehabilitation of Existing boring at Pump No. 01 RBC at Right Bank Colony Tarbela.
- Replacement of Rusted G.I Sewerage Pipe Lines near Tipu Sultan/RBC at Right Bank Tarbela.
- AM&R of Residential Building at RBC Tarbela
- Replacement of Deteriorated Wire Guaze/Doors/Wars Robes at RBC Tarbela
- Earth Filling/Levelling and Dressing at Right Bank Tarbelain School/Main Road at RBC Tarbela
- Renovation of Pehure Rest House at RBC Tarbela.
- CCTV Camera and Establishment of Monitoring inside Colony
- Replacement of 01 No. 75HP submersible Pump for RBC Colony
- Installation of flood lights with poles at RVC/RBC/Play grounds
- Replacement of rusted HT/LT Wire and other items RBC Colony
- Roof Treatment of Residential/Non Residential Buildings at RBC
- R&M of Non Residential Buildings
- Rehabilitation of Swimming Pool
- Repair of washrooms in F&G type quarter
- Providing & Fixing Overhead Plastic Water Tanks for Residential Building at Right Bank Colony Tarbela
- Replacement of Electric Board Main/Sub Main Boards of Residential Buildings at RBC Tarbela
- R&M/Up-gradation of Sewerage System of Right Bank Colonies Tarbela
- AM&R of Residential Building T-4 Colony at RBC Tarbela
- AM&R Painting Works, of Non-Residential Buildings, i.e RBC, RVC and Ghousia Masjids at Right Bank Colonies Tarbela

2025-26

Civil works
Activities to be planned

- Procurement of Dustbins of Steel Structure was per site requirement
- Renovation of RVC Mosques and White Marble flooring
- Providing Safety Grill in D-type & E Type Houses
- Kitchen Toilet Flooring in Remaining Residential Houses
- Replacement of Internal water supply lines in JOB D-type
- Procurement of furniture for Civil and E&M sewerage plant
- Procurement of Fans for Residential & non-residential buildings
- Procurement of small BMT for Colony Division
- Procurement of T&P items for E&M Division
- Installation of Single Phase Electric Meters in Servant Quarters
- Providing & Fixing Overhead Plastic Water Tanks for Residential Building at Right Bank Colony Tarbela
- Providing & Fixing Overhead Plastic Water Tanks for non-Residential Building at Right Bank Colony Tarbela
- Installation of Street Lights Poles & fixtures in different locations at grounds and colonies
- Procurement of LED bulbs for E&M Divisions
- Installation of CCTV Cameras inside colonies at different Locations
- Repair of Fans & geysers
- Replacement of Electric boards in residential buildings
- AM&R of Residential Building at RBC Tarbela

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- Replacement of Deteriorated Wire Gauze/Doors/Wars Robes at RBC Tarbela
- Renovation of Store building of Civil Complaint office
- Replacement of Windows to Aluminum windows in residential buildings A, B, C types bungalows
- Replacement of Windows to Aluminum windows in Bachelor Officer Hostel
- R&M of Non-residential Buildings (officer club, schools etc.)
- Replacement of external water supply pipelines at RBC
- Replacement of Electric boards in Non-Residential buildings
- Procurement of annual Spares for Civil and E&M division
- Replacement of Rusted PVC cables at RBC
- Repair of Transformers Pumps, motors, valves etc. at RBC
- Floor tiling inside A, B and C Type Houses Complete
- Improvement of Kitchens & washrooms inside E, F and G Type Quarters
- Repair/Replacement of Plinth Protections in residential Houses
- PCC inside Residential Buildings & Quarters
- Roof treatment of Residential Buildings
- Improvement of Chowks inside colony
- Rehabilitation of grounds and construction/providing walking tracks
- Renovation of offices & washrooms in Powerhouse

Manpower (2023-24)

HPS	CATEGORIES							
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non-Technical					
Tarbela	814	04	152	55	6	93	77	1201

Manpower (2024-25)

HPS	CATEGORIES							
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non-Technical					
Tarbela	814	04	152	55	6	93	77	1201

Manpower-Projected (2025-26)

HPS	CATEGORIES							
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non-Technical					
Tarbela	814	04	152	55	6	93	77	1201

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2. Hydel Power station Shadiwal

Introduction

Hydel Power Station Shadiwal has been installed & commissioned during the year 1961 near the Village Shadiwal at about 15 KM far from Gujrat city having installed capacity of 13.5 MW.

Installed Capacity

Description	Unit No. 1	Unit No. 2
Installed Capacity (M.W)	6.75	6.75
Generator Make	General Electric Company Ltd.	General Electric Company Ltd.
Turbine	Dominion Engineering work Ltd.	Dominion Engineering work Ltd.
Transformer	Pioneer Electric Ltd.	Pioneer Electric Ltd.

1. ENERGY STATISTICS (M. KWh)

Description	FY 2022-23	FY 2023-24	FY 2024-25 (Forecast)	FY 2025-26 (Estimated)
Net Energy Output (NEO)	32.45	36.34	39.34	40.00
Plant Utilization factor (%)	28.02	31.30	33.82	35.00
Plant Availability factor (%)	94.67	94.68	94.67	94.68

2. Repair & Maintenance

2.1 Annual MAINTENANCE

- Daily/weekly inspection and maintenance of both units # 01 & 02 and its associated equipment were carried out by Electrical/ Mechanical maintenance staffs.
- Annual maintenance of Units 01 & 02 every year. It involves shutdown of both units for 19 days.
- Monthly maintenance of both units and associated equipment.
- Annual and monthly maintenance Hours.

FY	Unit # 01	Unit # 02
2022-23	490	490
2023-24	488	490
2024-25 (Forecast)	487.5	487.5
2025-26 (Estimated)	478	478

2.2 Major R&M of power generation ASSETS and CIVIL WORKS

2022-23 (Completed)

- Annual maintenance of both units and allied equipment.
- R&M of Residential / Non Residential Buildings through Departmental
- Replacement of DC cable of exciter to Gen pole of unit # 01.
- Power transformer oil seal replace of T # 04 (5 MVA).
- Paint work completes of both unit's interior and exterior.
- Construction of 01 # Cat-II Bungalow.
- Construction of 02 # Cat-IV Quarter

2023-24 (Completed)

- Annual maintenance of both units and allied equipment.
- R&M of Residential / Non Residential Buildings through Departmental
- Installation of 40 # Street Light Pole in Power House and colony.
- Installation of 02# CCTV Camera.
- Procurement of CT/PT.
- Procurement of 95mm 4-Core Cable.
- Loader Rickshaw.
- HP Lazier Jet Printer, Colour Printer & Scanner from T4
- Construction of 02 # Quarter Cat-IV Quarter.
- Development of Walking/Jogging Track in Recreational Park.
- Construction of Sports Grounds.
- Providing & Laying of Tuff Tiles Around RE Office.
- R&M of Power House Main Store Building, Compound Wall & Verndah (Flooring & Roofing)
- Providing & Laying of Tuff Tiles on alleyway of Cat-IV&V (Old quarters)

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2024-25 (Completed)

- Annual maintenance of both units and allied equipment.
- Spillway gates seal replace.
- R&M of Existing Platform at Spillway.
- Procurement of BDV.
- Procurement of 60-HP Motor.
- Procurement of Scissor Lift.
- Procurement of 02 # Spilt Type AC (DC Invertor)
- 04 # CCTV Camera.
- 02 # E-Bikes.
- Paint Work in Store, Mechanical Workshop and overhead Crane in Machine hall.
- Desiltation of upstream side.
- R&M of Residential / Non Residential Buildings through Departmental.
- R&M of Existing Sewerage Line.
- Construction of Reception Hut.
- Construction of Fiber Parking Shed.
- Construction of 02 # Cat-IV Quarter.
- R&M of Existing Road in front of Cat-IV Quarters (New)

2025-26 (Planned)

- Annual maintenance of both units and allied equipment.
- Air Compressor (Portable) 300PSI.
- 40mm 4-Core Flexible Cable.
- 02 Nos 2MP/4MP Camera.
- Furniture and Fixtures.
- AC (Split Type) DC Invertor 2-Ton.
- Replacement of Toyota Hiace.
- Construction of 02 # Quarter Cat-IV.
- R&M of Residential / Non Residential Buildings through Departmental.
- Desiltation of upstream water channel.
- Silt ejector gear system repair during annual cannel closer.
- R&M/Fencing of Existing Boundary Wall of Power House & Colony.
- Boring & Installation of Tube-well
- Construction of Overhead Water Tank.
- Construction of Sitting Area in Sports Ground/Play area.

MANPOWER (2022-23)

HPS Shadiwal	CATEGORIES							
	Operational &Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	Gross Total
		Technical	Non-Technical					
	50	4	20	11	19	4	3	111

MANPOWER (2023-24)

HPS Shadiwal	CATEGORIES							
	Operational &Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	Gross Total
		Technical	Non-Technical					
	50	4	20	11	19	4	3	111

MANPOWER (2024-25)

HPS Shadiwal	CATEGORIES							
	Operational &Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	Gross Total
		Technical	Non-Technical					
	50	4	20	11	19	4	3	111

MANPOWER (2025-26)

HPS Shadiwal	CATEGORIES							
	Operational &Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	Gross Total
		Technical	Non-Technical					
	50	4	20	11	19	4	3	111

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ALLAI KHWAR HYDEL POWER STATION

INTRODUCTION:

Allai Khwar Hydropower Project is one of Three High Head Projects identified by SHYDO in collaboration with GTZ (a German Firm) under "Vision- 2025 and approved on 17 Jan 2001. The Project is located on Allai Khwar (Allai Nullah, a left bank tributary of River Indus in District Battagram of Khyber Pakhtunkhwa Province having 02 generating units with total Installed capacity of 121MW. It is 245 km from Islamabad and 330 km from Peshawar on famous Silk Route Karakuram Highway (KKH).

The salient features of Power Station are tabulated below:

Dam Type	▪ Roller Compact Concrete
Dam Height	▪ 51 m
Dam Length	▪ 88 m
Reservoir Capacity	▪ 915 AF
Maximum Operating level	▪ 1239 masl
Minimum Operating level	▪ 1231 masl
Total Installed Capacity	▪ 121 MW

Unit No.	Installed Capacity (MW)	Make			Commissioning dates
		Turbine	Generator	Transformer	
01	60.5	M/s Andritz Hydro Gmbh Austria	M/s Andritz Hydro Gmbh Austria	Liaoning Efacec Electrical Equipment Co-operation (LEEEC) Ltd, China	2013
02					

1. ENERGY STATISTICS:

Description	2023-2024	2024-2025 (Provisional)	2025-2026 (Planned)
Net Electrical Output (MKWH)	461.945814	450.485882	460.00
Plant Utilization Factor (%)	43.58	42.50	43.40
Plant Availability Factor (%)	93.53	91.97	93.89

2. REPAIR & MAINTENANCE

2.1 ANNUAL MAINTENANCE

- Daily/ weekly Maintenance of both Units and Allied Equipments.
- Monthly Maintenance of both Units and Allied Equipments. It involves shutdown of the Unit for 2.5 hrs.
- Annual Maintenance of both Units on alternate basis. It involves shutdown of the unit for 37 days.
- Annual Maintenance Hours:

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Unit No.	01	02	Total
2023-2024 (Actual)	312.58	824.5	1137.08
2024-2025 (Provisional)	660.4	762.0	1422.4
2025-2026 (Projected)	655.5	762.0	1417.5

2.2 MAJOR R&M OF POWER GENERATING ASSETS
ACTIVITIES COMPLETED
2023-2024

- Operation and Maintenance seals of Unit#02 Main inlet valve (MIV) replaced during annual maintenance.
- Annual maintenance of both Units #01 & 02 has been carried out.

2024-2025
Completed

- Annual maintenance of both Units #01 & 02 has been carried out.
- Dehydration of both main transformers (MT#01 & 02) and Auto transformers (AT#01 & 02) has been carried out during annual maintenance.
- All 06 number nozzles of Unit #01 were replaced with new one.
- Replacement of dewatering valve of Unit#01.
- Replacement of By-pass valve of Unit#02.
- Replacement of 02 No. 500AH Battery bank of powerhouse and 01 No. 150AH of Weir site.
- Replacement of 37kW Submersible pump at weir site.
- Installation, testing and commissioning of 05 Ton mono rail crane at weir site.

2025-2026

- All 06 number nozzles of Unit #02 will be replaced with new one after carrying out due inspection.
- Annual maintenance of both Units #01 & 02.

2.3 Civil Works
GENERATION / GENERAL PLANT ASSET

2023-2024

- Construction of 16 room Bachelor officer hostel at Allai Khwar residential camp is under progress.
- Installation of pre-fabricated rooms at security checks post near Jambera Village.
- Roof treatment of weir site and switchyard control building.
- Construction of 2000ft. fence at weir site.

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2024-2025

- Construction of 16 room bachelor officer hostel at Allai Khwar residential camp is completed.
- Construction of Mosque at AKPS camp is in progress.

- Construction of Mosque at AKPS camp is in progress.
- Repair of pressure tunnel.

2025-2026

- R&M of powerhouse access road.
- Construction of Fence phase#2 at weir site.
- R&M of Security barrack and check post.

Manpower (2023-2024)

HPS	CATAGORIES						
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Total
		Technical	Non-Technical				
Allai	113	10	12	8	5	-	148

Manpower (2024-2025)

HPS	CATAGORIES						
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Total
		Technical	Non-Technical				
Allai	113	10	12	8	80	-	223

Manpower (2025-2026)

HPS	CATAGORIES						
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Total
		Technical	Non-Technical				
Allai	113	10	12	8	80	-	223

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- Repair of pressure tunnel has been carried out successfully.
- R&M of Residential camp
- Construction of 3000 ft. fence Phase-II is going to be commenced.

2025-2026

- R&M of powerhouse access road.
- R&M of Security barrack and check post.

Manpower (2024-2025)

HPS	CATAGORIES						
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Total
		Technical	Non-Technical				
Allai	114	09	12	8	80	-	223

Manpower (2025-2026)

HPS	CATAGORIES						
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Total
		Technical	Non-Technical				
Allai	114	09	12	8	80	-	223

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Resident Engineer (O&M)
AKPS, WAPDA, Allai 15/05/2025

DUBER KHWAR POWER STATION

INTRODUCTION

Duber Khwar Power Station is located at Pattan Valley approximately 320 KMs away from Islamabad having 2 generating units with total installed capacity of 130 MW. The installed capacity, make and dates of commissioning of the Power Station are given as under:

Dam Type	=	Concrete Gravity
Reservoir Capacity	=	0.536 Million m^3
Live Storage	=	0.370 Million m^3
Height	=	1218 Masl
Max Operation Level	=	1218 Masl
Min Operation Level	=	1209 Masl
Total Installed Capacity	=	130 MW

The installed capacity, make and dates of commissioning of the Power Station are given as under:

Unit No.	Installed Capacity (MW)	Make			Commissioning Date
		Turbine	Generator	Transformer	
1-2	2 x 65 = 130	Andritz Hydro	VATECH Hydro	LEEEC	2014

1. ENERGY STATISTICS

Description	2019-20	2020-21	2021-22	2022-23	2023-24
Net Electrical Output Targeted 595 (GWh)	609.39	640.80	616.95	494.98	453.75
Plant Utilization Factor (%)	53.70	56.49	54.36	43.63	39.90
Plant Availability Factor (%)	69.16	64.54	67.66	52.62	56.15

2. REPAIR & MAINTENANCE

2.1 ANNUAL MAINTENANCE

- Daily / Weekly Maintenance of all Units and Allied Equipment.
- Monthly Maintenance of all Units and Allied Equipment.
- Annual Maintenance Hours (Including Biannual, Monthly & Schedule Maintenance).

Unit No. / Year	1	2	Total
2019-20	581.85	851.85	1433.7
2020-21	445.54	412.87	858.41
2021-22	628.83	509.3	1138.13
2022-23	835.68	1126	1961.58
2023-24	397.67	626.57	1024.24

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2.2 MAJOR R&M OF POWER GENERATION ASSETS ACTIVITIES COMPLETED

2019-20

- Replacement of Nozzles Seat Rings and Needle Tips of Unit No. 01 & 2.

2020-21

- Maintenance/Replacement of Working Seal of MIV Unit No. 01.
- Cleaning of Field and Armature windings of Unit No. 01 & 02.
- Repair of Main Transformer of Unit No. 01 after flash / damages.

2021-22

- Maintenance/Replacement of Working Seal of MIV Unit No. 02.

2022-23

- Replacement of Nozzle Seat Rings and Needle Tips of Unit No. 01 & 02.
- Replacement of Pelton Runner of Unit No. 01.
- Welding and Rehabilitation Works on Pelton Runner of Unit No. 01.
- Replacement of Bypass Valve of Unit No. 02.

2023-24

- Maintenance/Replacement of Working seal of MIV Unit No. 01.
- Welding and Rehabilitation Works on Pelton Runner of Unit No. 01 & 02.
- Replacement of Seat Rings and Needle Tips of Unit No. 01 & 02.
- Replacement of 4 Way valve along with pipes Unit No. 01.
- Replacement of De-watering valve of Unit No. 01.
- Repair and Maintenance of HVAC System.
- Flushing of Reservoir.
- Bottom Outlet Gates Seals replacement at Weir Site.

2024-25

- Replacement of Maintenance Seal of Unit No. 02.
- Replacement of Nozzle Seat Rings and Needle Tips of Unit No. 01 & 02.
- Welding and Rehabilitation Works on Pelton Runner of Unit No. 01 & 02.
- Flushing of Reservoir.

To be completed

- Replacement of Pelton Runner of Unit No. 02.

2.3 Civil Works

GENERATION / GENERAL PLANT ASSETS.
ACTIVITIES COMPLETED.

2022-23

- Construction of Temporary Mosque (with used pre-fabricated sheets).
- Paint Works at Power House.

2023-24

- Paint works of Staff Hostel and Officers Camp.

- Construction of Main Gate and Boundary Wall around Andritz camp and officers hostel area.
- Construction of 2 Main Gates and Chain Link Fence around Control Building at Weir Site.
- Construction of Parking Shed.
- Conversion of Old Mess Building into Admin Block.
- Installation of Tuff Tiles around Staff Hostel and Passage way from Power House To Staff Hostel.
- Repair and Maintenance of Main Water Tank.
- Filling and Plantation of Korean Grass in front of Power House.
- Installation of Tuff Tiles at Officers Camp.
- Fixing of Marble Floor around Admin Block.
- Fixing of Fiber Shed around Admin Block.
- Restoration / Rehabilitation of 12.1 KMs access road to Weir Site.

2024-25 (Completed)

- Repair and Maintenance of Wash Rooms at Security Camp.
- Installation of Tuff Tiles around Staff Hostel.
- Installation of Railing around Staff Hostel.
- Plantation of Korean Grass in front of Admin Block and around Power House.
- Boring and Installation of 2 No. Tube Wells for Drinking and Domestic Use Water.
- Draining / Draining Nullah along with Palas road and Power House to Indus River.
- Repair and Maintenance of Security Camp.
- Renovation of Offices and Reception.
- Paint works at Power House and Residential Buildings.

To Be Completed

- Construction of 16 Bed Officers Hostel (works on progress).
- Installation of Split ACs at Staff Hostel (tender opened and withheld due to austerity measures).
- Procurement of Furniture and Fixtures (tender opened and withheld due to austerity measures).
- Construction of Indoor Game Hall.
- Construction of Reception Hut Near Main Gate.
- Construction of Mosque.
- Construction of Overhead Water Supply Tank.
- Repair and Maintenance of Keyal Khwar Colony.
- Re-Paint works of Staff Hostel.
- Construction of Boundary Wall around Security Camp.
- Laying and Installation of Tuff Tiles.
- Repair and Maintenance of Dam and Reservoir.
- Repair and Maintenance of Tunnels, Head/Tail Race.
- Rehabilitation/Repairing Water Supply and Sewerage.
- Rehabilitation of old Parking Shed at Officer and Staff Hostel.

- Repair and Maintenance of 6 No Wash Rooms at Weir Site and Surge Tunnels.
- Stone Masonry Rip rap wall near Staff Hostel.

Manpower (2024-25)

HPS	CATAGORIES					
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Grand Total
		Technical	Non-Technical			
Duber Khwar	85	2	19	18	7	131

Manpower as approved (2025-26)

HPS	CATAGORIES					
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Grand Total
		Technical	Non-Technical			
Duber Khwar	85	2	19	21	72	199

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2.4
Civil/Generation/G. Plant Assets Works

FY 2025-26
Planned

- Filling,Leveling,Dressing and Grassing Plot near Staff and Officer Hostel and Security Camp and Back side of Old Hostel
- R&M of keyal colony
- Stone masonary Rip Rap Wall near Staff Hostel
- Partition for Record Room at HVAC Floor
- R&M of Consumable,Plantion,Decoration,Renvoation,Misc Items for Civil Structure Residential and Non Residential Buildings
- R&M Of Six Nos.Rooms and Wahrooms at Weir and Surge Tunnels
- Routine R&M of Residential and non-Residential Buildings
- Rehibltion of Old Parking Shed at Officer and Staff Hostel
- Temprary Restoration of Access Road to Weir Site
- Rehbilation/Repairing Water Supply and Sewerage Lines
- HVAC Spare Parts
- R&M of Transmission Equipment
- Slip Rings
- Up Gradation of Control Room SCADA Software and PC Hardware
- Different Types of Motors
- 220 v AC/220 V DC Charger Unit

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- Repair and Maintenance of 6 No Wash Rooms at Weir Site and Surge Tunnels.
- Stone Masonry Rip rap wall near Staff Hostel.

Manpower (2023-24)

HPS	CATAGORIES					
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Grand Total
		Technical	Non-Technical			
Duber Khwar	85	2	19	18	7	131

Manpower (2024-25)

HPS	CATAGORIES					
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Grand Total
		Technical	Non-Technical			
Duber Khwar	85	2	19	18	7	131

Manpower as approved (2025-26)

HPS	CATAGORIES					
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Grand Total
		Technical	Non-Technical			
Duber Khwar	85	2	19	21	72	199

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Resident Engineer (O&M)
Duber Khwar Power Station
WAPDA Pattan

GOMAL ZAM HYDEL POWER STATION

INTRODUCTION

Gomal Zam Hydel Power Station having capacity 17.4 MW (02 Nos. units of 8.7 MW) is located on Khajuri Kach on Gomal river in South Waziristan Tribal District, which is situated west of districts of Tank of Khyber Pakhtunkhwa Province.

Unit No.	Installed capacity (MW)	Make			Commissioning date
		Turbine	Generator	Transformer	
1	8.5	M/s Nanning, China	M/s Nanning, China	M/s Harbin, China	25.06.2013
2	8.5	M/s Nanning, China	M/s Nanning, China	M/s Harbin, China	26.06.2013
Total	**17.4**				

1. Energy Statistics

Description	2023-24 (Actual)	2024-25 (Provisional)	2025-26 (Planned)
Net electrical output (GWh)	25.34	14.87	39.83
Plant Utilization factor %	51.05	13.88	27.47
Plant Availability factor %	17.45	49.88	49.88

2. Repair & Maintenances

2.1 Annual Maintenance

- Daily / weekly maintenance of all units and allied equipments.
- Monthly maintenance of all units and allied equipment.
- Annual maintenance
- Annual maintenance hours (including Biannual, Monthly & Schedule Maintenance)

Unit #	1	2	Total
2023-24 (Actual)	---	3167	3167
2024-25 (Provisional)	---	307	307
2025-26 (Projected)	300	300	600

2.2 Major R&M of Power Generation Assets

Activities completed

2023-24

- Annual maintenance of Unit # 02
- Monthly maintenance
- Major overhauling of Unit # 02 including replacement of poles

2024-25

- Annual maintenance of Unit # 02
- Monthly maintenance
- Replacement of rotor pole of Unit # 02

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To be completed

- Installation of protection relays
- Installation of PLCs & HMIs

2.3 **Civil Work**

Generation / General Plant Assets

2023-24

- Annual maintenance
- Monthly maintenance
- Cleaning works at dam & powerhouse after passing of flood

2024-25 – Activities completed

- Repair of roofs of bachelor hostel, construction of boundary wall around bungalows & placement of sewerage line
- Retrieval of radial / emergency gate of Dam site
- Filling of cracks at powerhouse & dam body.
- Widening / clearance of access road to powerhouse
- Cleaning works at dam & powerhouse after passing of flood

To be completed

- Hydrographic survey of reservoir
- Topographic survey of road, hostel etc
- Construction of security wall & FCL bunkers
- Construction of shed to cover the exposed installation of powerhouse
- Repair of radial / emergency gate
- Repair / replacement works as recommended by Dams Safety Organization

Manpower (2024-25)

HPS	CATEGORIES							
	Operational & Technical	Civil Infrastructure		Accounts & Admn	Security	Transport	Education & Allied staff	G. Total
		Technical	Non-Technica					
Gomal Zam HPS	76	9	39	17	24	10	--	175

Manpower Projected (2025-26)

HPS	CATEGORIES							
	Operational & Technical	Civil Infrastructure		Accounts & Admn	Security	Transport	Education & Allied staff	G. Total
		Technical	Non-Technica					
Gomal Zam HPS	76	9	39	17	24	10	--	175

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Resident Engineer
HPS Gomal Zam

2.4
Civil/Generation/G. Plant Assets Works

FY 2025-26
Planned

- Repair/replacement of 11KV, 400 V power cable from powerhouse to hostel
- Cleaning works at powerhosue, dam & hostels etc
- Renovation of bachelor hostel
- Tiling works at Dam / powerhouse / hostel etc
- Repair DG Sets (250 KVA) for Dam (weir site)
- Dam Instruments ,Earthquake monitor, pendulum, theodolite machine, current meter, SQ2A Digital electric, V-notch, dip meter, drone camara, wireless-walkie talky system, CCTV cameras etc
- Crack filling, draings chowking, seepage control, instrument repair and replacment of hydrology and sedimentation works, seismicity contorl measures of Main Dam and alllied structures
- Repair works & Spares of emergency / vertical gate, hydraulic hoist system, bottom outlet gates, bottom seals of gates, counter weights, link rods etc
- Procurement of Instruments, electrical items & communications
- Repair/replacement of pipe line / pumps / gagues at EL-634 of Dam
- Repair/replacement of pipe line / pumps / gagues at EL-634 of Dam
- Solenoid electric drain valve, vibration sensors, water flow monitor, generator air breke, break pad solenoid valves, solenoid vavle, shaft seal, transformer oil surface
- Upgradation of HVAC plant at powerhouse
- Procurement of Mechanical items for powerhouse & dam
- Purchase of 132KV power cables, GIS spares, SF6 Gas alongwith gas charging system, testing equipments for GIS, surge arrestors,voltage transformer 132KV (VT), Coupling capacitor, Surge arrestor monitor, post insulators, CVT, VT & allied Switchyard equipments

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Revised. m-Power FY 25-26

PROVISION OF TECHNICAL AND MANPOWER DATA IN RESPECT OF RENALA POWER STATIONS FOR FILING OF TARIFF PETITION FOR FY 2025-26 IN NEPRA

1. Introduction

This report has been prepared in compliance with the requirements of the National Electric Power Regulatory Authority (NEPRA). The data herein pertains to the technical, operational, and manpower aspects of the Renala Power Stations.

2. General Information

Item	Details
Name of Power Station	Renala Khurd Hydel Power Station
Location	Renala Khurd, District Okara, Punjab, (30.8828° N, 73.5980° E)
Owner/Operator	WAPDA – Hydel Power Wing
Date of Commissioning	1925
Installed Capacity	1.1 MW
Connection Type	11kV Feeder to a village (off-grid/island mode)
Plant Type	Run-of-River (Canal-Based)

3. Technical Data

3.1 Plant Configuration

No. of Generating units	**05 Nos**
Manufacturer	English electric
Type	Synchronous generator with horizontal shaft, salient pole
MVA Rating	275 KVA
Rated Out Put	220 KW
Power Factor	0.8
No. of Phases	3
Speed	600 RPM
Frequency	50
Voltage	3.3 KV

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3.2 Generation Data (M. Kwh)

Description	FY 2022-23	FY 2023-24	FY 2024-25(Forecast)	FY 2025-26(Estimated)
Net Energy Output (NEO)	1.73	1.60	1.71	1.75
Plant Utilization factor (%)	18.71	17.35	18.08	19.50
Plant Availability factor (%)	94.81	94.74	93.18	94.23

4. MANPOWER DATA

Manpower (2023-24)

CATEGORISE							
OPERATIONAL & TECHANICAL	CIVIL INFRASTRUCTURE MAINTENANCE		ACCOUNTS ADMN	SECURITY	TRANSPORT	EDUCATION & ALLIED STAFF	G.TOTAL
	TECHANICAL	NON-TECHNICAL					
20	-	-	7	7	1	-	35

Manpower (2024-25)

CATEGORISE							
OPERATIONAL & TECHANICAL	CIVIL INFRASTRUCTURE MAINTENANCE		ACCOUNTS ADMN	SECURITY	TRANSPORT	EDUCATION & ALLIED STAFF	G.TOTAL
	TECHANICAL	NON-TECHNICAL					
21	-	-	7	7	1	-	36

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Manpower-Projected (2025-26)

CATEGORISE							
OPERATIONAL & TECHANICAL	CIVIL INFRASTRUCTURE MAINTENANCE		ACCOUNTS ADMN	SECURITY	TRANSPORT	EDUCATION & ALLIED STAFF	G.TOTAL
	TECHANICAL	NON-TECHNICAL					
21	-	-	7	7	1	-	36

5. Operation and Maintenance (O&M)

- Daily / weekly routine checking inspection & Electrical & Mechanical maintenance of all units.
- Routine checking and cleaning of all relays, relay panels, energy meters etc. installed in control room, and at other locations of power house were carried out by Electrical maintenance staff as per prescribed check sheets.
- Annual maintenance of Units 01,02,03,04 & 05 every year. It involves shutdown of All units for 19 days.
- Annual and monthly maintenance Hours.

FY	Unit # 01	Unit # 02	Unit # 03	Unit # 04	Unit # 05
2022-23	454	454	454	454	454
2023-24	462	462	462	462	462
2024-25 (Forecast)	598	550	598	598	598
2025-26(Estimated)	505	505	505	505	505

6. ANNUAL MAINTENANCE/ TECHNICAL AND CIVIL WORKS

2022-23

- R&M of offices/colony
- De-silting of Power Channel.
- Re-babbiting of turbine bearing.
- Re-babbiting of generator bearing.
- Routine maintenance of generating units.
- Routine R&M of office equipment.
- Routine R&M of tools & plans.
- Routine R&M of communication equipment.

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- Routine R&M of Misc. Equipment
- Routine R&M of Furniture & Fixture.

2023-24

- Supply / installation of street lights poles at WAPDA Colony Renala Khurd.
- Supply and installation of street lights poles at HPS Renala.
- Routine R&M of office equipment.
- Routine R&M of tools & plants.
- Routine R&M of communication equipment.
- Routine R&M of Misc. Equipment.
- R&M Computers & Ancillary equipment.
- Water supply Boring of residential colony of HPS Renala.
- Routine maintenance.
- Technical consultancy & survey of HPS Renala.

2024-25 (ongoing and recently completed)

- Re-Babbting & Machining journal thrust turbine bearing of unit no. 03.
- Repairing of speed increaser gear assembly of unit no. 05.
- Providing & laying of tuff tile in front of ARE office Building, R&M of Mechanical & Electrical workshop.
- Desiltation of Power Chanel from upstream side of Power house.
- Street light poles in Power house & WAPDA Colony.

Planned for 2025-26

- Replacement of Sewerage System of Residential Quarters.
- R&M of E-Type & F-Type 22 Nos. Quarters.
- Fixing of Tuff Tiles in front of Residential Quarters.
- Providing & Fixing of tuff tile of in front of cat-iv and cat-v quarters and Bungalow.
- Concrete flooring of power house upstream left bank at HPS Renala power channel.
- Construction of new House
- Construction of office
- Annual maintenance and routine maintenance of generating units
- To install a 200kva distribution transformer in WAPDA colony

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JINNAH HYDEL POWER STATION

INTRODUCTION:

Jinnah Hydel Power Station is located on the right bank of Jinnah Barrage, to utilize the water head and surplus river water after irrigation for power generation. Power house is located on Indus River, 5km away from upstream township of Kalabagh, Distt: Mianwali. It is low head plant having eight (08) pit type Kaplan (horizontal) turbines of 12 MW each its total capacity is ***96 MW and renewable annual energy generation of 688.27 GWh*** at generation cost/kWh as USC 3.341 with transmission **(as per PC-I)**. The detail of the Power Station regarding installed capacity, make and dates of commissioning are appended below:

Unit No. (1~8)	Installed Capacity (MW) 8x12=96	Make			
		Turbine	Generator	Transformer	Contract Type
Total	96	VA Tech: Austria	DEC (Dong Fang Electrical Machinery Co. Ltd.)	SHAANXI HANZHONG TRANSFORMER CO.LTD CHINA	EPC

1. ENERGY STATISTICS

Description	2022-23	2023-24	2024-25 upto Apr-25	2025-26 (Estimated)
Net Electrical Output (MKWH)	206.7015	205.1231	111.6215	175
Plant Utilization Factor (%)	25.30	25.00	13.75	21.35
Plant Availability Factor (%)	56.77	45.72	29.14	43.87

2. REPAIR & MAINTENANCE

2.1 ANNUAL MAINTENANCE

- Daily / Weekly Maintenance of all Units and Allied Equipment.
- Monthly Maintenance of all Units and Allied Equipment. It involves shutdown of the Unit for 5-hrs.
- Annual Maintenance of all Units and Allied Equipment. It also involves shutdown of the Unit for 25 days.
- Annual Maintenance Hours (Including Annual, Monthly, Annual Thal canal closure and scheduled Maintenance).

Unit No.	1	2	3	4	5	6	7	8	Total
2022-23	16.42	0.00	826.67	1595.03	0.00	81.48	527.03	1244.57	4291.20
2023-24	615.60	0.00	700.47	37.87	0.00	609.77	3.55	0.00	1967.25
2024-25 upto Apr-25	557.55	0.00	1019.03	0.00	0.00	778.23	1838.22	0.00	4180.28
2025-26 (Estimated)	1375	-	1375	-	-	775	1375	-	4900

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2.2 MAJOR R&M OF POWER GENERATION ASSETS

ACTIVITIES COMPLETED 2022-23

- Annual Maintenance of Unit No. 3, 4, 7 and 8.

2023-24

- Annual Maintenance of Unit No. 1, 3 and 6
- Replacement of rubber seals of runner cone and sliding ring/shaft seal of unit-7.
- Removal of already fallen structure of trash rack components like grating bars from stop log pit of unit # 4, 6 & 8 by hiring the services of Divers.

2024-25

- Annual Maintenance of Unit No. 1, 3 and 6.
- The faulty distance relay MICOM of 132kV Transmission Line No. 02 (JHPS-Marri Daudkhel) was replaced and energized the line.
- The damaged rotor of unit No. 7 was replaced with Unit No. 8 and brought back the Unit No. 7 on bar.
- Procurement case of new speed increasing gearbox for Unit No. 2 & 5 is processed and release of CFE is awaited.
- Case for technical study for rehabilitation of trash rack system with M/s KS&EW Karachi is completed. Contract will be signed after submission of 10% performance security by the contractor.
- Supply, installation testing and commissioning of one set of Runner Blade of Unit No. 8 is processed. Acceptance of evaluation of the Proforma Invoice of M/s Andritz Hydro by Authority is in process.
- Restoration of generator space heaters and dust collectors of the available generating units 1, 3, 6 & 7.
- Restoration of Control Panel of Cooling water system Block No. 04.
- Restoration of Muhr Crane Trash Rack Cleaning Machine is under progress
- Repair of damaged rotor poles of unit No. 7 is in progress.

To be completed

- Inspection of runner blades assembly/turbine pits of unit # 3 & 4 by hiring the services of divers

2025-26

- Annual Mechanical Maintenance of unit # 1, 3, 4, 6 & 7.
- Replacement of speed increaser gear unit of unit # 2 & 5.
- Replacement of runner blades of unit # 8.
- Rehabilitation of Intake trash racks of Unit # 1~8.

2023-2024

Works Completed;

- Weather Shield Paint Work of High School Building, Colony Mosque, Admin Office, Officer Bachelor Hostel and Rest House WAPDA (O&M) Colony JHPS.
- Development of Cricket Ground WAPDA (O&M) Colony JHPS.
- Distempering of High School Building, Officer Bachelor Hostel and Rest House.
- False Ceiling and Wall Panelling of WAPDA Colony Mosque and RE Office.
- Replacement of Rest House Aluminium Doors and Graphic works.
- Construction of RO Plant of WAPDA Colony JHPS.
- Construction of Security Watch Tower around Rest House WAPDA O&M Colony.
- White Wash of Power House Boundary Wall and Allied Services.
- Providing of Water Supply line of Colony to Power House.
- Water proofing of existing Transport Building.

2024-2025

Works Completed;

- Painting and Distempering of Central Control Room (CCR) building & Allied offices of JHPS.
- R&M Works of Central Control Room (CCR) raised floor.
- Replacement of CCR blind vertical curtains and Allied Offices.

Works in Progress

- Construction of 01 No Cat-III House.
- Construction of High School building fallen boundary Wall.
- Construction of Power House Boundary Wall.
- Construction of 03 Nos Cat-V House.
- Construction of 01 No Cat-II House.
- Development of Football Ground WAPDA (O&M) Colony JHPS.
- Establishment of P&I & EME Office at Power House of JHPS.

2025-2026

Works Planned

- Construction of CAT-IV 02 No. Residences of Colony.
- Construction of Parking Shed of Colony.
- Construction of Family Park of Colony.
- Construction of Ware house building (02 No.) of Power House.
- Construction of Transport Pool and Canteen of Power House.
- Construction of 30 Bed Staff Hostel of Colony.
- R&M Works of Colony Roads.
- Construction of RCC Slab Cover over open drain cover of Colony.
- Compound Wall of Admin Office and XEN Civil office.
- Providing and laying of Tuff tiles in front of Admin office, XEN Civil office, and Rest House.
- Paint and Distemper of Residential/Non-residential Buildings of Colony.
- Development of plots around Rest House area of Colony.
- Energization of 11 KV Feeder of Colony from FESCO.
- Extension of Chain Link Fence of Colony.

Manpower (2021-22):

HPS	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Education/ Para Medical & Allied Staff	G. Total
		Technical	Non-Technical					
HPS Jinnah	104	3	45	14	128	13	23	330

Manpower (2022-23):

HPS	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Education/ Para Medical & Allied Staff	G. Total
		Technical	Non-Technical					
HPS Jinnah	105	3	45	14	128	13	23	331

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Resident Engineer
JHPS, Kalabagh

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MANPOWER (2023-24):

Formation	Operational & Technical	Civil Infrastructure Maintenance		Accounts Admn	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
HPS Jinnah	104	3	45	14	128	13	23	330

MANPOWER (2024-25):

Formation	Operational & Technical	Civil Infrastructure Maintenance		Accounts Admn	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
HPS Jinnah	104	3	45	14	128	13	23	330

MANPOWER (2025-26): (Projected)

Formation	Operational & Technical	Civil Infrastructure Maintenance		Accounts Admn	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
HPS Jinnah	104	3	46	14	128	13	23	331

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Assistant Director (HR&Admn)

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CHICHOKI HYDEL POWER STATION

INTRODUCTION

Chichoki Hydel Power station is located at the Upper Chenab Canal (UCC) near Saikhum Adda, District Sheikhupura. It is located at 20 km from Tehsil Muridke and District Sheikhupura. The power station has a total capacity of 13.2 MW with three generating units of 4.4 MW each.

INSTALLED CAPACITY & DATE OF COMMISSIONING

Description	Unit # 01	Unit #02	Unit # 03
Installed Capacity	4.40	4.40	4.40
Date of Commissioning	Aug-1959	Jun-1959	May-1959

The details of installed unit capacity, date of commissioning and make of the major E&M equipment is as under:

Unit #	Installed Capacity (MW)	Make			Date of Commissioning
		Turbine	Generator	T/F	
1	4.4	Litostroj Ljubljana Yugoslavia	Rade Končar Yugoslavia	Rade Končar Yugoslavia	Aug-1959
2	4.4	Litostroj Ljubljana Yugoslavia	Rade Končar Yugoslavia	Rade Končar Yugoslavia	Jun-1959
3	4.4	Litostroj Ljubljana Yugoslavia	Rade Končar Yugoslavia	Rade Končar Yugoslavia	May-1959
Total	13.2	-	-	-	-

ENERGY STATISTICS

Description	2021-22	2022-23	2023-24	2024-25	2025-26 (Anticipated)
Net Electrical Output	22.594070	31.038810	30.472081	25.715109	27.455018
Plant Utilization Factor (PUF)	19.80	27.12	26.62	22.24	23.95
Plant Availability Factor (PAF)	88.20	94.26	88.33	99.40	92.55

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MAJOR R&M ACTIVITIES OF THE POWER STATION

MAJOR R&M ACTIVITIES (2023-24)

July 2023:	Replacement of Lower Guide Bearing of the Unit # 01
	Repair of electric motor of Trash Rack Cleaning Crane (TRCM)
	Repair and Machining main driving shaft of TRCM
	Replacement of magnetic contactor of TRCM
August 2023:	Repair of the bucket wheel of the TRCM
September 2023:	Replacement of carbon brushes of exciter of Unit # 02
October 2023:	Repair of fault of Unit # 01 and replacement turbine oil of thrust guide bearing and cleaning of greasing system pipelines
December 2023 to January 2024:	Annual maintenance/ overhauling of all the generating units
	Cleaning of water supply tank for plant and residential colony and its pipelines
	Paint works of trash racks of all units
	Comprehensive cleaning and paint works of switchyard
	Overhauling of Overhead bridge crane
	Repair works of turbine blades of all units
	Paint works of stay vanes of all the units
	Silt cleaning at the upstream and downstream sides of the power station
Monthly Routine Maintenance of all the generating units and the auxiliary systems has been carried out as per the schedule.	

MAJOR R&M ACTIVITIES (2024-25)

August 2023:	Repair of fault of Unit # 03 and replacement turbine oil of thrust guide bearing and cleaning of greasing system pipelines
December 2024 to January 2025:	Annual maintenance/ overhauling of all the generating units
	Cleaning of water supply tank for plant and residential colony and its pipelines
	Paint works of trash racks of all units
	Comprehensive cleaning and paint works of switchyard
	Overhauling of Overhead bridge crane
	Repair works of turbine blades of all units
	Paint works of stay vanes of all the units
	Silt cleaning at the upstream and downstream sides of the power station
Monthly Routine Maintenance of all the generating units and the auxiliary systems has been carried out as per the schedule.	

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ANTICIPATED MAJOR R&M ACTIVITIES (2025-26)

September 2025:	Overhauling of the trash rack cleaning machine (TRCM) in view of its aging and frequency of faults
December 2025 to January 2026:	Annual maintenance/ overhauling of all the generating units
	Cleaning of water supply tank for plant and residential colony and its pipelines
	Paint works of trash racks of all units
	Comprehensive cleaning and paint works of switchyard
	Overhauling of Overhead bridge crane
	Repair works of turbine blades of all units
	Paint works of stay vanes of all the units
	Silt cleaning at the upstream and downstream sides of the power station
Monthly Routine Maintenance of all the generating units and the auxiliary systems will be carried out as per the schedule and the prevailing procedures.	

MANPOWER DATA

MANPOWER (2023-24)

HPS Chichoki	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Education & Allied Staff	Grand Total
		Technical	Non-Technical					
	57	**-**	**25**	**12**	**20**	**4**	**1**	**119**

MANPOWER (2024-25)

HPS Chichoki	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Education & Allied Staff	Grand Total
		Technical	Non-Technical					
	57	**-**	**25**	**12**	**20**	**4**	**1**	**119**

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MANPOWER (2025-26)

HPS Chichoki	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Education & Allied Staff	Grand Total
		Technical	Non-Technical					
	57	**-**	**25**	**12**	**20**	**4**	**1**	**119**

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RESIDENT ENGINEER
HPS CHICHOKI

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WARSAK POWER STATION

INTRODUCTION

Warsak power station is located on the river Kabul about 30 km from Peshawar having four (4) units (1-4) of 40 MW each and two (2) units (5-6) of 41.48 MW each with total installed capacity of 242.96 MW. The power station was completed in two phases. In phase 1, units 1 to 4 were installed in 1960 and in phase 2, units 5 & 6 were installed in 1980.

The installed capacity, make and years of commissioning of generating units are as under;-

Unit No.	Installed capacity (MW)	Make			Commissioning Year
		Turbine	Generator	Transformer	
1-4	4x40=160	Dominion Canada	CGE Canada	Ferranti, Canada	1960
5-6	2x41.48=82.96	Dominion Canada	CGE Canada	Federal Pioneer, Canada	1981
Total	242.96				

1. ENERGY STATISTICS

Description	2023-24	2024-25 (Forecast)	2025-26 (Estimated
Net Electrical Output (GWh)	775.369	≥ 780.000	≥ 850.000
Plant Factor (%)	77.16	≥ 60.50*	≥72.50
Plant Availability Factor (%)	69.63**	58.43**	≥ 65**

* Calculated on the basis of installed capacity.

** Unit No.5 & 6 are under Rehabilitation.

2. REPAIR & MAINTENANCE

2.1 ANNUAL MAINTENANCE.

- Annual Maintenance of 4 units carried out each year involving shutdown of the units for 25~30 days.
- Unit No.5 & 6 are under Rehabilitation since 14-02-2024 and 02-06-2023 respectively by GE and Sinohydro.
- The unit-wise Annual Maintenance for 2023-24 (Actual), 2024-25 (Estimated), 2025-26 (Estimated) is as under:-

Unit No.	1	2	3	4	5	6	TOTAL
2023-24 (Actual)	405:15	602:45	535:40	788:40	3312:00**	8593:31**	14237:51
2024-25 (Provisional)	729:05	571:35	1205:00	686:50	8760:00**	8760:00**	20712:30
2025-26 (Projected)	744:00	744:00	744:00	744:00	8760:00**	8760:00**	20496:00

** Under Rehabilitation.
Remaining entries stand for Annual maintenance.

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2.2 MAJOR R&M OF GENERATION ASSETS ACTIVITIES COMPLETED 2023-24

Unit No.1

Annual maintenance of the unit was started on 03.11.2023 and after successful completion of maintenance unit was synchronized with the system on 06.12.2023. The following activities were carried out:

- Draft Tube gates were lowered and unit was dewatered and inspection of underwater parts was carried out.
- Shaft seal system was completely dismantled and checked. Cleaning of all of its parts was carried out by using HCl and polishing of seat was carried out in workshop. Then it was assembled again. Also all Shaft Seal high pressure manifold pipes of flushing and injection lines were thoroughly cleaned.
- Runner was found in a very bad condition due to high erosion and corrosion and also 06 no. blade pieces were found to be completely washed away from the trailing edge. Blade pieces were cut from the old runner in workshop and welded with the runner blades in the same profile. Heavy welding and then grinding was done on the runner.
- Welding and then grinding was done on Bottom ring, stay vanes and wicket gates.
- 02 no. each 3/4 inch and 1 inch ball valves were replaced with new ones on different cooling lines.
- 10 inch Dewatering Gate Valve of Draft tube was found in poor condition which was replaced with new one.
- All generator surface coolers were thoroughly cleaned.
- All the four way valves in the unit were dismantled; necessary repair work was done on it and then assembled again. 01 No. Four way valve (1-1/2 inch) was replaced with new one.
- Shaft seal, generator bearing and turbine bearing main cooling lines were cleaned.
- Sump tanks of Governor, generator bearing, turbine bearing and MIV pressure tanks were top up with a cumulative of fresh 300 liter turbine oil.
- Stator windings were cleaned with pressurized air and then with SMT oil and cotton rags.
- Annual testing and Meggering of each phase of stator windings carried out.
- Annual testing of governor oil pump, oil injection pump, inlet/Penstock pump, Ball head motor, PMG, Main filed poles and Armature carried out.

Unit No.2

Annual maintenance of the unit was started on 01.01.2024 and after successful completion of maintenance unit was synchronized with the system on 26.01.2024). The following activities were carried out:

- The shaft seal system was completely dismantled, inspected, cleaned with HCl, and the seat was polished. The high-pressure manifold pipes and flushing/injection lines were also cleaned.
- Minor welding and then grinding was done on runner, Bottom ring, stay vanes and wicket gates.
- Upon inspection, Draft tube liner of Unit No.2 was found in very poor condition. Heavy water leakage was observed from the Draft tube window. The steel liner was prepared and welded in the Draft tube to restore the original profile of the Liner. Grinding was then done after welding to reduce the surface roughness of the Liner. After the Annual maintenance of the Unit, leakage was checked during the operation and there was no leakage noticed.
- 03 No. each 3/4 inch, 1 inch and 1/2 inch ball valves were replaced with new ones on different cooling lines.

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- All generator surface coolers were thoroughly cleaned.
- Braking System of unit was inspected & found normal.
- Turbine oil drained from generator guide bearing and turbine guide bearing sump tanks and the bearings were checked and found in healthy condition.
- All the four way valves in the unit were dismantled; necessary repair work was done on it and then assembled again.
- Shaft seal, generator bearing and turbine bearing main cooling lines were cleaned.
- Sump tanks of Governor, generator bearing, turbine bearing and MIV pressure tanks were top up with a cumulative of fresh 32 liter turbine oil.
- Stator windings were cleaned with pressurized air and then with SMT oil and cotton rags.
- Annual testing and Meggering of each phase of stator windings carried out.

Unit No.3

Annual maintenance of the unit was started on 07.12.2023 and after successful completion of maintenance unit was synchronized with the system on 29.12.2023. The following activities were carried out:

- 10 inch Dewatering Gate Valve of Draft tube was found in poor condition which was replaced with new one.
- All generator surface coolers were thoroughly cleaned.
- Turbine oil drained from generator guide bearing and turbine guide bearing sump tanks and the bearings were checked and found in healthy condition.
- Shaft seal system was completely dismantled and checked. Cleaning of all of its parts was carried out by using HCl and polishing of seat was carried out in workshop. Then it was assembled again. Also all Shaft Seal high pressure manifold pipes of flushing and injection lines were thoroughly cleaned.
- Welding and then grinding was done on runner, Bottom ring, stay vanes and wicket gates.
- 02 no. each 3/4 inch and 1 inch ball valves were replaced with new ones on different cooling lines.
- All the four way valves in the unit were dismantled; necessary repair work was done on it and then assembled again. 01 No. Four way valve (1-1/2 inch) was replaced with new one.
- Shaft seal, generator bearing and turbine bearing main cooling lines were cleaned.
- Sump tanks of Governor, generator bearing, turbine bearing and MIV pressure tanks were top up with a cumulative of fresh 300 liter turbine oil.
- Stator windings were cleaned with pressurized air and then with SMT oil and cotton rags.
- Annual testing and Meggering of each phase of stator windings carried out.

Unit No.4

Annual maintenance of the unit was started on 03.11.2023 and after successful completion of maintenance unit was synchronized with the system on 06.12.2023. The following activities were carried out:

- Welding and then grinding was done on runner, Bottom ring, stay vanes and wicket gates.
- Shrouds of almost all the wicket gates were in poor condition and extensive welding and grinding work was done to restore its profile.
- 03 no. each 1/2 inch, 3/4 inch, 1 inch ball valves and 03 no. 1-1/2 inch gate valves were replaced with new ones on different cooling lines.
- All Generator Surface Coolers were thoroughly cleaned.
- Shaft seal system was completely dismantled and checked. Cleaning of all of its parts was carried out by using HCl and polishing of seat was carried out in the Main Workshop. Then it was assembled again. Also all Shaft Seal high pressure manifold pipes of flushing and

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injection lines were replaced with new ones because the old ones were found in poor condition.

- Stator windings were cleaned with pressurized air and then with SMT oil and cotton rags.
- Annual testing and Meggering of each phase of stator windings carried out.
- Turbine oil drained from generator guide bearing and turbine guide bearing sump tanks and the bearings were checked and found in healthy condition.
- All the four way valves in the unit were dismantled; necessary repair work was done on it and then assembled again.
- Shaft seal cooling lines, generator bearing and turbine bearing main cooling lines were cleaned.

Unit No.5

- Unit was shutdown for Generator Assessment Test and after that unit is Under Rehabilitation since 14.02.2024 by GE and Sinohydro.

Unit No.6

- Unit was shutdown for Generator Assessment Test and after that unit is Under Rehabilitation since 02.06.2023 by GE and Sinohydro.

- Metallic Seat and rubber seal of Tainter gate #01 replaced with new one.
- Trash racks repairing carried out during shutdown.

2024-25
(Completed)

Unit No.1

Annual maintenance of the unit was started on 31.01.2025 and after successful completion of maintenance unit was synchronized with the system on 02.03.2025. The following activities were carried out:

- Draft tube gates were lowered on dated 30.01.2025. Unit was dewatered and inspection of underwater parts was carried out.
- The complete Shaft seal assembly was dismantled during the Annual maintenance. Manifold high pressure pipes also dismantled. Cleaning of the complete shaft seal assembly carried out with HCL. The seat was sent to the workshop for repair work and machining for reuse. Cooling line of the shaft seal system was cleaned thoroughly. Also all Shaft Seal high pressure manifold pipes of flushing and injection lines were cleaned thoroughly.
- Runner was found poorly eroded upon which welding was carried out for smooth flow of water and to restore the original profile of Runner blades.
- Minor Welding works on the eroded section of the bottom ring face also carried out. The joint between bottom ring and steel liner was found eroded which was welded and then grinded. Minor welding works was also done on the Wicket gates and MS strips were welded with some of the wicket gates to minimize the gap in close position.
- Cooling lines of generator bearing dismantled and cleaned with HCL and caustic soda.
- All the four way valves on different cooling lines were dismantled; necessary repair work was done on it and then assembled again. 1 No. Gate valve (10 inch) of Surface Cooler Main cooling line and 03 No. Gates valves (1.5 inch) were also replaced with new ones.
- Turbine Oil from Sump tanks of Turbine guide bearing and Generator guide bearing drained. The whole assembly of turbine bearing was dismantled.
- All the 24 NO. Bolts (1x4 inch) with Nuts of Draft tube window were found eroded and therefore replaced with new ones.

unserviceable so it was replaced with a spare one. Also, 06 No. 1.5 inches Gate valves of Surface Coolers were replaced with new ones as the old ones were found eroded. 100 No. 1/2 inch Bolts with washers were replaced in different Surface Coolers as a part of repair and maintenance.

- Shaft seal, generator bearing and turbine bearing main cooling lines were cleaned. 20 ft. length of Shaft Seal Injection Pipe (1 inch) was replaced with new as the old was deteriorated. Also, 02 No. (1/2 inch x 5 ft.) Shaft Seal Injection Pipe was also replaced with new one.
- All parts were reassembled after carrying out necessary maintenance. Priming of the spiral case and draft tube carried out and draft tube gates were lifted and unit was successfully brought on bar on 19.12.2025.

Unit No.4

Annual maintenance of the unit was started on 31.12.2024 and after successful completion of maintenance unit was synchronized with the system on 29.01.2025. The following activities were carried out:

- Draft tube gates lowered.
- Unit dewatered.
- Unit completely dismantled.
- Runner, head cover, operating ring, turbine and guide bearing and other related components have been removed.
- Turbine guide bearing and shaft sealing system dismantled, cleaned and assembled.
- Surface coolers cleaning with the caustic soda also carried.
- Lubricating oil 210 liters added to Turbine guide bearing and generator bearing respectively.
- General cleaning of all the mechanical equipment's carried out.
- All parts were reassembled after carrying out necessary maintenance. Priming of the spiral case and draft tube carried out and draft tube gates were lifted and unit was successfully brought on bar on 29.01.2025.
- Stator windings were cleaned with pressurized air and then with SMT oil and cotton rags.
- Annual testing and Meggering of each phase of stator windings carried out.
- Annual testing of governor oil pump, oil injection pump, Inlet/Penstock pump, Ball head motor, PMG, Main filed poles and Armature carried out.

Unit No.5

- Unit was shutdown for Generator Assessment Test and after that unit is Under Rehabilitation since 14.02.2024 by GE and Sinohydro.

Unit No.6

- Unit was shutdown for Generator Assessment Test and after that unit is Under Rehabilitation since 02.06.2023 by GE and Sinohydro.

- Rubber seal and cooler seal of Unit #3 and 4 main inlet valve main disc replaced with new one.
- Dismentalling of HP and LP line of compressed air due to civil work of 2nd rehabilitation project office and installation & commissioning of new lines carried out.

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Unit No.2

Annual maintenance of the unit was started on 04.03.2025 and after successful completion of maintenance unit was synchronized with the system on 27.03.2025. The following activities were carried out:

- Draft Tube gates were lowered on dated 04.03.2025. Unit was dewatered and inspection of underwater parts was carried out.
- Shaft seal assembly was dismantled. Manifold high pressure pipes also dismantled. Cleaning of the shaft seal assembly carried out with HCL. The seat was sent to the workshop for repair and machining for reuse. 1 No. Throttle Bush, 1 No. spring, O-rings of various sizes (7 mm & 3 mm) in the Shaft seal parts were replaced with new ones as the old ones were worn out. Cooling line of the shaft seal system was cleaned thoroughly. Assembling of the shaft seal carried out after carrying out all necessary works. Also all Shaft Seal high pressure manifold pipes of flushing and injection lines were cleaned thoroughly.
- Runner was found eroded upon which welding works were carried out for smooth flow of water and to restore the original profile of Runner blades
- Minor Welding works on the eroded section of the bottom ring face also carried out. The joint between bottom ring and steel liner was found eroded which was welded and then grinded. Minor welding works was also done on the Wicket gates and MS strips were welded with some of the wicket gates to minimize the gap in close position.
- Cooling lines of generator bearing dismantled and cleaned with HCL and caustic soda. All the Surface coolers were also cleaned along with surface cooler line.
- Turbine Oil from Sump tanks of Turbine guide bearing and Generator guide bearing drained. The whole assembly of turbine bearing was dismantled. 24 No. bolts of dia=5/8 inch were replaced in the oil ring of oil sump of Turbine bearing as old one was in poor condition.
- All the 24 NO. Bolts (1x4 inch) with Nuts of Draft tube window were found eroded and therefore replaced with new ones. Also, about 10 Kg of gasket was replaced in the Draft tube and Spiral casing windows as the previous one was found in poor condition. Afterwards, Spiral case and draft tube inspection windows were closed and draft tube gates were lifted on dated 27/03/2025.

Unit No.3

Annual maintenance of the unit was started on 30.10.2024 and after successful completion of maintenance unit was synchronized with the system on 19.12.2024. The following activities were carried out:

- Upon inspection of the underwater parts, Runner was found in a very poor condition due to high erosion action of the silt. For complete balancing of the unit, Blade Pieces were casted and then welded to the runner at discharge ends. Heavy welding and then grinding was done on the runner to restore its original profile to the maximum extent in the given time frame.
- Also, welding and then grinding was done on Bottom ring, Stay vanes and wicket gates. Clearance between Wicket gates was measured and recorded and MS Strips was welded between the gaps/clearance to stop leakage of water between the Wicket gates.
- 6-inch flap valve of Unit was found in poor condition, due to which leakage was observed before Unit Shutdown, therefore it was replaced.
- Shaft seal system was completely dismantled and checked. Cleaning of all its parts was carried out by using HCL and polishing of seat was carried out in workshop then it was assembled again and also shaft seal high pressure manifold pipes of flushing and injection lines were thoroughly cleaned.
- All the generator surface coolers were thoroughly cleaned with the help of Caustic Soda. Some of the tubes of 1 No. Surface Cooler was found leaked rendering the Surface Cooler

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2025-26

- Annual Maintenance of Unit # 1, 2, 3 and 4 as per approved maintenance schedule.
- Rehabilitation of Unit # 5 and 6.
- 2nd Rehabilitation of warsak power station will be continue.

CIVIL WORKS

2023-24 (Activities Completed)

- Re-Construction of Damaged Boundary Wall.
- 05 No's Cat-V Quarters inside Wapda Colony Warsak.
- Construction of Road in Christian Colony Wapda Warsak.
- Construction of Fiber Glass Shed in Jamia Masjid, Rest House & Waiting Area.
- Construction of Compound Walls in Area-C & Rest House.
- P/F Fiber Glass Water Tanks.
- Replacement of Damaged water supply pipeline from Area-C to Main Colony.
- Renovation of Rest House.
- Rehab of CAT-III bungalows.
- Rehab of Sewerage System.
- Special Repair of Bachelor official Accommodation.

2024-25 (Activities Completed)

- Re-Construction of Damaged Boundary Wall.
- Construction of Compound Walls in Area-C & Rest House.
- Replacement of Damaged water supply pipeline from Area-C to Main Colony.
- Renovation of Rest House.
- Rehab of CAT-III bungalows.
- Rehab of Sewerage System.
- Special Repair of Bachelor official Accommodation.

2024-25
To be Completed

- Construction of Parking Shed for CE/PD Office.

2025-26 (Planned)

- Construction of New Bachelor Official Hostel inside Wapda Colony Warsak.
- Providing & Fixing of Street Light in Colony & Road Side up to Power House & Dam.
- Rehabilitation of A-Type bungalows.
- Special Repair of Non-Residential Buildings.
- R&M of FC Pickets.
- R&M of WSF Pickets.
- Replacement of Water Supply at Dam Site Area.
- R&M of SDO Civil Dam Site office.
- Repair & Painting of Bail Bridge.
- Remodelling of Water Supply System inside Colony.
- AM&R of CAT-III, IV & V type Quarters (Phase-I).
- R&M of Bachelor Officer Hostel.
- AM&R of CAT-IV & V quarters (Phase-II).
- Rehab of Sewerage system (Remaining Portion).
- Special Repair of Non Residential Buildings.
- Rehabilitation of Wapda Fortified Dispensary.
- Construction of 04 No's CAT-V Quarters.
- Construction of 01 No CAT-III bungalow.

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- Construction of Family Park.
- Construction of 01 No CAT-I bungalow.
- Constriction of 02 No CAT-II Bungalows.
- Construction of 05 No's CAT-V quarters.
- Construction of Telephone Exchange Building.
- Construction of 02 No's Security Picket at Dam Site.

MANPOWER (2024-25)

	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn.	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
HPS Warsak	183	12	99	52	245	22	–	613

MANPOWER-Projected (2025-26)

	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn.	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
HPS Warsak	183	12	99	52	245	22	–	613

Operation Engineer
Warsak Power Station

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MANPOWER (2023-24)

	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn.	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
HPS Warsak	183	12	99	52	245	22	--	613

MANPOWER (2024-25)

	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn.	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
HPS Warsak	183	12	99	52	245	22	--	613

MANPOWER-Projected (2025-26)

	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn.	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
HPS Warsak	183	12	99	52	245	22	--	613

Operation Engineer
Warsak Power Station

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CHITRAL HYDEL POWER STATION

INTRODUCTION

Chitral Hydel power station is located on Luthko River Garam Chashma road, 7 KM East of Chitral town It consists of two (02) units of 0.3 and two (02) units of 0 2 MW each. Total installed capacity is 1.0 MW.

The unit wise installed capacity, make and years of commissioning are as under;-

Unit No.	Installed capacity (MW)	Make			Commissioning Year
		Turbine	Generator	Transformer	
1-2	2 x 0.2	Ossberger Germany	A.E.G Germany	PEL, Pakistan	1975
3-4	2 x 0.3	Dress & Co. GMBH, Germany	Siemens Germany	Siemens Germany	1982
Total	1.0				

1. ENERGY STATISTICS

Description	2023-24 (Actual)	2024-25 (Provisional)	2025-26 (Estimated)
Net Electrical Output (GWh)	1.88	2.02	2.0
Plant Utilization Factor (%)	21.53	23.16	23.00
Plant Availability Factor (%)	82.01	94.71	80.59

2. REPAIR & MAINTENANCE

2.1 ANNUAL MAINTENANCE

- Daily/Weekly routine checking and maintenance of all Units and Allied Equipment.
- Monthly Maintenance of all Units and Allied Equipment. It also involves shutdown of Unit for 04 Hours.
- Major Overhauling of Units after prescribed running hours. It involves shutdown of Unit for 25-30 days.
- Annual Maintenance hours (including Monthly, scheduled maintenance and Major Overhauling) are as below:

Unit No.	1	2	3	4
2023-24 (Actual)	352	350	507	362
2024-25 (Provisional)	77	50	265	70
2025-26 (Estimated)	48	48	800	800

2.2 REHABILITATION/CAPACITY ENHNACEMENT

- PC-I for Rehabilitation / Capacity enhancement (1 MW to 5 MW) of the Power House has been approved by Ministry of Water Resources. The pre-qualification process has been completed.

2.3 MAJOR WORKS

2023-24

- HPS Chitral remained totally shutdown w.e.f 22-07-2023 to 01-08-2023 (11 days) due to heavy flood that submerged the whole power house. Thorough cleaning, drying

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and testing of all Power House equipment carried out. All defective equipment including 02 No's LT Breaker and instruments/gauges were replaced
- The AVR Card of Unit No. 04 was replaced
- Repair/Varnishing of Rotors of Units 3 & 4 carried out
- Re-winding of Pilot Exciters of Units 3 & 4 carried out

2024-25
- Unit No. 03 Generator Winding got damaged due to heavy fault and its rewinding work was carried out.

2025-26

Major Overhaul of Unit No. 3 & 4 is scheduled to be carried out

2.4 CIVIL WORKS

2023-24
- Flood Protection Wall of Power House got damaged during flood in July 2023 and it was reconstructed.
- Repair and Maintenance of Power House and office building carried out.

2024-25
- Rehabilitation of Sewerage system of Residential Colony carried out

2025-26
- Concreting of Streets of Residential Colony.
- Routine R&M Works of Residential and Non-Residential Buildings.
-

3.1 MANPOWER (2023-24)

	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non Technical					
HPS Chitral	26	1	3	3	14	2	0	49
Total	26	1	3	3	14	2	0	49

3.2 MANPOWER (2024-25)

	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non Technical					
HPS Chitral	26	1	3	3	14	2	0	49
Total	26	1	3	3	14	2	0	49

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3.3 MANPOWER -Projected (2025-26)

	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non Technical					
HPS Chitral	26	1	3	3	14	2	0	49
Total	26	1	3	3	14	2	0	49

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30/5/2025

Resident Engineer
Power Station Chitral.

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HYDEL POWER STATION KURRAM GARHI BANNU

Introduction

Kurram Garhi is situated in North West of Bannu at a Distance of 9 Kilometer. Kurram Garhi Hydel Power Stations was commissioned in 1957 by the Irrigation Department Bannu of K.P.K. Later on, it was handed over to Wapda on 05.10.1961. Its generating capacity is 4 M.W. It consists of 4 units, 02 Generators in Power Station No.1 and 02 Generators at Power Station No.2 .The 2 Stations are 4 K.M away from each other. Each unit is rated at 01 M.W.

a) No Dam, But Kurram Garhi Power House Bannu is run of River Power house through Power Channel of 520 Cusecs. Water depends mostly on rain water. The water flow is always variable.

b) The capacity of water discharge of Unit No.1 is 260 cusecs and of Unit No.2 is also of 260 cusecs. Water discharge through spillway is 40 cusecs **of HPS No.1 Kurram Garhi Bannu**.

c) The capacity of water discharge of Unit No.3 is 260 cusecs and of Unit No.4 is also of 260 cusecs. Water discharge through spillway is 40 cusecs **of HPS No.2 Kurram Garhi Bannu**.

d) Total Capacity: 04 MW

e) Number of Unit : 04 Nos. each unit 1 MW

f) Number of Transformer:
i) 01 No. Power Transformer 12.5 MVA
ii) Unit Transformer 1560 KVA = 04 Nos.
iii) Auxiliary Transformer 125 KVA = 04 Nos.

g) Frequency = 50 C/s
h) Rated RPM = 428 rpm
i) Max: Discharge. = 560 Cusecs
j) Water Discharge through M/c = 520 Cusecs.
k) Water discharge through spillway = 40 Cusecs.
l) Head = 60 Feet

m) Turbine: = Double discharge Francis type Turbine (Horizontal).
n) **Feeding Lines** =
i) 66KV National Grid.
ii) 11KV Link Line between P/Station No.1 & No.2.
iii) 11KV outgoing Daud Shah Feeder from Bus Bar of HPS No.1 Kurram Garhi Bannu to local Tribes of Muhammad Khail Wazir and villages of Daud Shah Bannuchi tribes.

Unit No.	Installed capacity in MW	Make			Date of commissioning
		Turbine	Generator	Transformer	
1-2	2 x 1 = 2.00	J.M Voith G.m.b.H	SIEMENS	SIEMENS	21.10.1957
3-4	2 x 1 = 2.00	J.M Voith G.m.b.H	SIEMENS	SIEMENS	07.02.1958
Total	4.00				

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1. **Energy Statistics**

Description	2023-24	2024-25 (up to 04/2025)	2025-26 (Estimated)
Net Electrical output (GWh)	15.834689	17.394139	15.892400
Plant Utilization Factor (%)	46.53	50.35	47.22
Plant Availability Factor (%)	68.97	68.40	68.46

2. Repair & Maintenance

2.1 Annual Maintenance, Monthly Maintenance, Weekly Maintenance & Major Overhauls (Hrs.), replacement of Penstocks to Unit No.1,2,3,4 & Installation of 11KV VCBs at HPS No.2

Unit No.	1	2	3	4
2023-24	254-00	11.50	86.00	1430.50
2024-25 (up to 04/2025)	2556-25	969.75	401.92	606.58
2025-26 (Estimated)	960-00	960-00	960-00	960-00

2.2 **MAJOR R&M OF POWER GENERATION ASSETS ACTIVITIES COMPLETED 2023-24**

a) Manufacturing, dismantling, allied civil works, installation, testing and commissioning of Penstocks to Unit No.1,2, 3&4 has been completed.
b) Old 11KV OCBs of Unit No.3, 4, 11KV Link Line and Synchronizing Panel removed and new 11KV VCBs installed to Unit No.3&4, also new synchronizing panel installed.
c) Annual Maintenance of all the units carried out.
d) Monthly Maintenance of all the units carried out.
e) Major overhaul of Unit No.4 has been carried out.
f) Governor fault as well as Runner/Keys fault of Unit No. 3 carried out.

2024-25 (Completed/Ongoing works)

a) Annual Maintenance of all the units carried out.
b) Monthly Maintenance of all the units carried out.
c) Major overhaul of Unit No.1 is under progress under PTW No.01/25 Dated: 15.01.2025, the units dismantled. Runner of unit is lying at Wapda Workshop Warsak for repair purposes. As and when the Runner received to this office, Runner will be fitted in shaft and the unit will be re-assembled.
d) Governor fault as well as Runner/Keys fault of Unit No. 3 rectified.
e) Poilet Exciter of Unit No.3 found defective , try to repair at Warsak as well as at Lahore but in vain. A Card system was purchased from Lahore and installed to Unit No.3 in place of Poilet Exciter.
f) P.T. of Yellow Phase of 11KV Link Panel blasted during tripping of 11/66KV Line at HPS No.1. New P.T. purchased and installed.
g) After flooding of water in HPS No.1 due to overflow of water by the negligence of Irrigation staff Bannu . C.T.s & bus Bar of Unit No.2 was damaged. Bus bar repaired and C.T.s replaced.

Counted Page No.3

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h) 11KV outgoing Daud Shah and 11/66 KV 66 KV Line Kurram Garhi Bannu Section tripped due to heavy jerk at 09:15 hrs. Dated: 18.03.2025 and an abnormal sound has been heard in Generator of Unit No.3. A PTW No.06/2025 Dated: 18.03.2025 issued to Foreman. After inspection It was found that 04 Nos. coils of generator are damaged and flush area of effected coils are about 36 Coils. Repair and maintenance of Generator of Unit No.3 is in progress by the staff of EME section Wapda Warsak as well as Maintenance of Kurram Garhi Power Station Bannu. The work will be completed, Insha Allah in few days.

2025-26

a) Kurram Garhi Power Station Bannu will be remain shut down, usually in January/February of each year due to annual closure of Power Channel by the Irrigation Department Bannu.
During the Canal Closure period this station will be try to complete the following works during Annual Closure in January/February - 2026.
b) Major overhaul of Unit No.2
c) Annual Maintenance of Unit No.1,3&4.
d) Monthly Maintenance of each Unit in each Month (Except shutdown days).
e) Daily and Weekly Maintenance.
f) Trimming of Trees at 11KV Generation Link Line, between both the Kurram Garhi Power Station Bannu (Distance about 06 KM). Also replacement of Disc/Pin Insulator at Poles as required.

Civil Works
Generation/General Plant Assets,
Activities completed.

2023-24

a) Fencing & Expansion of Boundary Wall at Power House No.1 & 2 has been completed.
b) Street Light for Power House No.1&2 installed.
c) Renovation of A.R.E. & Account Office has been completed.
d) Construction of Boundary Wall at back side of Colony No.2 has been completed.
e) Re-construction of Boundary Wall at HPS No.1 has been completed.
f) R&M of Badragga 06 Nos. Pickets at HPS No.1 & HPS No.2 has been completed.

2024-25

a) Construction of 03 Nos. Security Pickets at HPS No.1
b) Construction of Vehicle Shade at HPS is in progress.
c) R&M of 02 Nos. S-2 type quarters at HPS No.1
d) R&M of For-bay supporting wall at P/Station No.1 & No.2 has been completed.
e) R&M of Bypass along with supporting Beam has been completed at HPS No.1 & No.2

Counted Page No.4

Man Power 2025-26

HPS	Categories							
	Admn: Section	Electrical Section	Mechanical Section	Operation Section	Security Section	Account Section	Medical Section	G.Total
Kurram Garhi Bannu	23	5	3	30	24	2	1	88

Asstt: Resident Engineer
HPS Kurram Garhi Bannu

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2025-26

Capital Works

a) Construction of street pavement at HPS No.1 & No.2
b) Re-construction of boundary wall at HPS No.2 & Colony No.2
c) Construction of wall between PESCO Grid and Power House No.2
d) Construction of vehicle shade at HPS No.2
e) Construction of Santhry Post at Main Gate of HPS No.2
f) Construction of Bath Room at Main Gate of HPS No.1 & No.2
g) Construction of wash Room for Badragga Picket near Bungalow of A.R.E.

R&M Works

a) R&M of 02 Nos. S-2 type Quarters at HPS No.1 (Phase – I)
b) R&M of Forebay supporting wall at HPS No.2

NEW SCHEMES

a) Rising of Main Gate and Puller at HPS No.1
b) R&M of Overhead Tank at HPS No.1
c) R&M of Main Tank of Cooling Water system of HPS No.2
d) Rehabilitation of old store building (convert to XEN Office)
e) R&M of Badragga Pickets at HPS No.2
f) Procurement of Carpet for Main Mosque at HPS No.1
g) R&M of 02 Nos. S-2 type Quarters at HPS No.1 (Phase – II)

Man Power 2023-24

HPS	Categories							
	Admn: Section	Electrical Section	Mechanical Section	Operation Section	Security Section	Account Section	Medical Section	G.Total
Kurram Garhi Bannu	23	5	3	30	24	2	1	88

Man Power 2024-25

HPS	Categories							
	Admn: Section	Electrical Section	Mechanical Section	Operation Section	Security Section	Account Section	Medical Section	G.Total
Kurram Garhi Bannu	23	5	3	30	24	2	1	88

Countd.... Page No.5

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DARGAI POWER STATION

Dargai Hydroelectric Power Station is located on river swat in Dargai Malakand District at a distance of about 202 KM from Islamabad which is a Provincially Administered Tribal Area of Khyber Pakhtunkhwa. The Project lies in the Power zone of PESCO.the total installed capacity is 20 MW (04 Units 5 MW each).

Dam Type:	Run of the River
Reservoir capacity	-
Live shortage	-
Height/Head	243 Ft
Max: Operating level	524 masl
Min: Operating level	520 masl
Total Installed capacity.	20 M.W

The installed capacity make and dates of commissioning of the Power Station are given as under

Unit No.	Installed capacity (MW)	Make			Commissioning dates
		Turbine	Generator	Transformer	
01	5	S.Morgan smith Corp: USA	Westing House Elect: Corp: USA	English Elect Corp England	17.07.1951
02	5	-do-	-do-	-do-	17.07.1951
03	5	-do-	-do-	-do-	23.12.1952
04	5	-do-	-do-	-do-	23.12.1952
Total	20				

1. ENERGY STATISTICS:

Description	2023-24	2024-25	2025-26
NEO (GWh)	64.00	43.00	Under rehabilitation w.e.from 19.02.2025.
Plant Utilization Factor(%)	36.16	36.92	
Plant availability Factor (%)	91.25	94.23	

2. REPAIR AND MAINTENANCE ANNUAL MAINTENANCE

- Daily/weekly maintenance of all units and allied equipment's as per SOP & check sheets.
- Rehabilitation of Dargai Power Station is in progress. LOA for rehabilitation of Dargai Power Station has been issued on 12.07.2024 and permit to work for dismantling of Power Station has been issued on 19.02.2025 to M/S AFI & Jinlun JV.

Unit No.	1	2	3	4	Total
2023-24 (Actual)	195.35	613.55	1306.40	551.10	2668
2024-25 (Actual)	508	190.25	471.55	16.30	1186.10
2025-26 (Estimated)	Under Rehabilitation w.e.from 19.02.2025				

2.2 MAJOR R&M OF POWER GENERATION ASSETS ACTIVITIES COMPLETED.

2023-24

- Monthly maintenance of all units carried out during the as per check sheets.
- Major overhauling of unit No.2-3 was carried out w.e.from 10.11.2023 to 31.01.2024
- Annual maintenance of Unit No.1 & 4 was carried out w.e.from 05.02.2024 to 20.03.2024

2024-25

- Monthly maintenance of all units carried out during the as per check sheets.
- Annual maintenance of Unit No.1 to 4 was carried out w.e.from 05.11.2024 to 10.02.2025

2025-26

- Dargai Power Station is under rehabilitation project w.e.from 12.07.2024 to 13.07.2027 (36 months) as per approved PC-1.

1.3 Civil Works
GENERATION /GENERATION PLANT ASSETSACTIVITIES COMPLETED

2023-2024

- Renovation of Wapda Rest House HPS Dargai
- Re surfacing of colony road HPS Dargai
- Special repair of 03Nos (S-3) type Quarter HPS Dargai
- Special repair of 04Nos E type Quarter at HPS Dargai
- Construction of 2Nos Bathroom at HPS Dargai.

2024-25

- Renovation of C-type store at HPS Dargai
- AM&R of Masque HPS Dargai
- Renovation Mechanical workshop at HPS Dargai
- Raising of colony wall at HPS Dargai
- AM&R of residential building at HPS Dargai

2025-2026

To be completed

- Construction of Boundary wall around /E type Quarters at HPS Dargai
- Construction of safety wall /chain link fence tail race channel at HPS Dargai

Mainpower 2023-24

HPS	Categories							
	Operational & Technical	Civil infrastructure maintenance		Accounts & Admn	Security	Transport	Education & allied staff	G. Total
		Technical	Non tech:					
Dargai	45	07	19	16	13	02	01	103

Mainpower 2024-25

HPS	Categories							
	Operational & Technical	Civil infrastructure maintenance		Accounts & Admn	Security	Transport	Education & allied staff	G. Total
		Technical	Non tech:					
Dargai	39	06	18	16	12	02	01	94

Mainpower 2024-25-26

HPS	Categories							
	Operational & Technical	Civil infrastructure maintenance		Accounts & Admn	Security	Transport	Education & allied staff	G. Total
		Technical	Non tech:					
Dargai	35	06	06	15	12	02	01	~~75~~ 77

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RESIDENT ENGINEER
POWER STATION DIVN:
WAPDA DARGAI.

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PAKISTAN
WATER AND POWER DEVELOPMENT AUTHORITY

POWER STATION JABBAN

1. INTRODUCTION

In 1937 a 9.6 MW Hydro Power Project (3x3.2 MW) was constructed at Jabban for which a Power Tunnel (Namely Barkit Tunnel) was excavated on right side of the outlet of Benton Tunnel. In 1952 two additional units of 5.0 MW each were installed thus enhancing the capacity of Jabban Power Station to 19.6 MW.

Jabban Hydroelectric Power Station since its commissioning in 1937 had been playing a vital role in providing cheap energy to the National Grid. The Power Plant had already out lived its useful life when a fire incident on November 12, 2006 badly damaged its E&M equipment. The extent of damages was such that it was not possible to restore operation of the existing Units. In order to rehabilitate the Power House, PC-1 for Rehabilitation of Jabban Power Station was approved by ECNEC on September 19, 2007. Rehabilitation of Jabban Power Station was commenced in Feb 10, 2010 and 1st Unit started Generation in July 2013. Jabban Power Station is connected to National Grid through 132KV Jabban-Jalala & 132KV Jabban-Chakdara Grids.

Plant Type: Run of the River/Irrigation Tunnel
Tunnel Capacity: 1200 cusecs
Rated Head: 76 meters

Detail of E&M equipment given here as under please...

Unit No.	Installed Capacity (MW)	Make			Commissioning Date
		Turbine	Generator	Transformer	
1	5.5	M/s Zhejiang Jinlun Electro mechanic Co China	M/s SCHAOZHU HUNENG Electro Mechanic Ltd China	M/s SSANIBIAN SCITECH Co Ltd China	29-07-2013
2	5.5	-do-	-do-	-do-	21-10-2013
3	5.5	-do-	-do-	-do-	08-11-2013
4	5.5	-do-	-do-	-do-	04-12-2013
Total	22 MW	Annual Generation Target as per PC-1= 122 GWH			

2. ENERGY STATISTICS

Description	FY 2023-24 (Actual)	FY 2024-25 (Provisional)	FY 2025-26 (Planned)
Net Electric Output (GWH)	115.93	134.5	128.0
Plant Utilization Factor (%)	60.81	70.72	67.35
Plant Availability Factor (%)	88.04	88.54	83.30

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3. REPAIR AND MAINTENANCE

3.1 ROUTINE & MAINTENANCE ON NEED BASIS

- Daily, Weekly, Monthly Maintenance and Maintenance activities whenever needed of All Units due to suspended Heavy Sand Particles in River Swat Water.
- Daily routine checking and Maintenance activities of Allied Equipment's.
- Annual and Partial Major Overhauling.
- Annual Maintenance Hours (including Annual, Partial/Major Overhauling, monthly, scheduled and forced maintenance).

Unit No.	1	2	3	4
FY 2023-24 (Actual) (Hrs.)	1384.51	126.32	1197.37	1480.22
FY 2024-25 (Provisional) (Hrs.)	180	3305	435	95
FY 2025-26 (Planned) (Hrs.)	950	3000	950	950

3.2 MAJOR R&M OF POWER GENERATION ASSETS

FY 2023-24

ACTVITIES COMPLETED

- Partial Major Overhauling of Units No. 1, 3 and 4 which included Welding/installation of MS plates, grinding, machining and finishing of Runner, Bottom Ring, Headcover and Wicket gates.
- Daily, Weekly, Monthly Maintenance and Extensive Maintenance activities such as Cleaning of Cooling Water System and Rectification of Water Leakages etc. whenever needed of All Units due to heavy trashes/mud and Heavy suspended Sand Particles in River Swat Water.
- Daily routine checking and Maintenance activities of Allied Equipment's.

FY 2024-25

ACTVITIES COMPLETED

- Partial Major Overhauling of Unit No. 2 which included Welding, grinding, machining and finishing of Runner, Bottom Ring, Headcover and Wicket gates.
- Annual Maintenance of Unit No. 3.
- Daily, Weekly, Monthly Maintenance and Maintenance activities such as Cleaning of Cooling Water System & rectification of water leakages whenever needed of All Units due to heavy trashes/mud and Sand in River Swat Water.
- Daily routine checking and Maintenance activities of Allied Equipment's.

ON GOING

- Routine and Monthly Maintenance activities of Units along with allied equipment's and also forced maintenance if needed till June-2025 due to Heavy trashes caused by Rains in River Swat area.

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FY 2025-26
PLANNED ACTIVITIES

- Major Overhauling of Units No. 1, 3 and 4 which will include welding, grinding, machining and finishing of Runner, Bottom Ring, Head cover and Wicket gates along with replacement of Bearings with new fabricated ones and filled with white metal/machined Bearings.
- Major Overhauling of Unit No. 2 through the Workshop of Warsak Power Station and HMC-3 which will include Alignment of Stator/Rotor, Repairing of Rotor shaft, making of grooves in new runner as per Rotor shaft for dowel pins, manufacturing of new facing plates & Wearing rings for Head cover, bottom ring and Runner.
- Daily, Weekly, Monthly Maintenance and Maintenance activities such as Cleaning of Cooling Water System etc whenever needed of All Units due to heavy trashes/mud and Sand in River Swat Water.
- Daily routine checking and Maintenance activities of Allied Equipment's.

3.3 CIVIL WORKS
GENERATION / GENERAL PLANT ASSETS

FY 2023-24
ACTVITIES COMPLETED

- AM&R of Residential and Non-Residential Building i.e. Colony Masjid, Colony White wash, Admin/Account offices, Maintaining/improvement of Colony Lawns, fruit trees etc. and other necessary works at Channel side whenever needed during/after flood.
- Seasonal Labors for Cleaning of Heavy Trashes at forebay and Wild growth in Colony, Power house and Jungle Area during Monsoon Season.
- Construction of 02 Nos. Main gates along with Fixing of 02 Nos barrier at Main Gates.
- Special Repair of Damaged Retaining Wall of Tail race channel in-front of Power House.
- Construction of Fencing at Jabban Colony.
- Special repair of Beldar room at Tunnel Tail of Jabban Power Station.
- Construction of Boundary Wall at Channel side of R.E Jabban Bungalow.
- Construction/ Special Repair work of Wash Room at Jungle Security check post.
- Fence/barbed wire Repair work around the boundary of the premises.
- Repair/cleaning of Roofs of 04 Nos Cat-III type Bungalow at China camp Colony and remaining quarters also.

FY 2024-25
ACTVITIES COMPLETED

- AM&R of Residential and Non-Residential Building i.e. Colony Masjid, Colony White Wash, Admin/Account offices, Maintaining/improvement of Colony Lawns, fruit trees etc. and other necessary works at Channel side whenever needed during/after flood.
- Seasonal Labors for Cleaning of Heavy Trashes at forebay and Wild growth in Colony, Power house and Jungle Area during Monsoon Season.
- Special Repair of 08 Nos F-Type Quarters.
- Special Repair of 04 Nos E-Type Quarters.
- Renovation of Hostel at China Camp.
- Cleaning of Roofs of Residential and Non-Residential Building at JPS.

ON GOING

- Renovation of Jabban colony streets with tuff tiles and colony drains.
- Construction 01 Nos Guard Room.
- Stone Wall Repair of pedestrian pathway near R.E Residence.
- AM&R of 16 Nos. Quarters at Jabban colony.

FY 2025-26
PLANNED ACTIVITIES

- Construction of 06 Nos F-Type Quarters.
- Construction of 02 Nos. Cat-III Type Bungalow.
- Construction Of Fencing and Boundary Wall.
- Construction of 03 Nos Shop.
- Construction of Water filtration Plant.
- Hiring of Seasonal Labors for colony, power house and Fore bay cleaning.
- Special Repair of Residential Quarters.
- Special Repair of 04 Nos Subordinate Quarter.
- Improvement of Main Store Area.
- AM&R Residential and Non-Residential Building.
- Repair Damaged Silt Gate area.
- Renovation of ARE/Accounts Offices.
- Painting of Power House Building.
- Special Repair of Damaged retaining wall in tail race channel.

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3.4 MANPOWER DATA (FY 2023-24 & FY 2024-25)

HPS	CATEGORIES						
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admin	Security	Transport	G. Total
		Technical	Non – Technical				
JABBAN	61	3	36	12	39	3	154

MANPOWER DATA (PROJECTED) (FY 2025-26)

HPS	CATEGORIES						
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admin	Security	Transport	G. Total
		Technical	Non – Technical				
JABBAN	61	3	36	12	39	3	154

14/05/25

Resident Engineer
Power Station Jabban
WAPDA

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1. Hydel Power station Rasul

1 GENERAL

Rasul Hydel Power Project was initiated by Public Works Department on Feb. 01, 1945. The Government of the Punjab awarded the contract to Associated Electrical Industries (India). It is the First Hydel Power Project of Pakistan after independence. Rasul is a small Hydropower plant of **22 MW** (02 Units of 11 MW each) was put into operation on Upper Jhelum Canal at Rasul Distt Mandi Bahauddin, **Punjab** in July 1952.

2. OPERATIONAL STATISTICS

2.1 INSTALLED CAPACITY

Description	Unit No. 1	Unit No. 2
Installed Capacity (M.W)	11.0	11.0
Generator Make	M/s British Thomson Houston B.TH England	M/s British Thomson Houston B.TH England
Turbine	M/s Boving and Company LTD England **(Kaplan)**	M/s Boving and Company LTD England **(Kaplan)**
Transformer	M/s British Thomson Houston B.TH England	M/s British Thomson Houston B.TH England

2.2 ENERGY STATISTICS (M.KWh)

Description	FY 2022-23	FY 2023-24	FY 2024-25 (Forecast)	FY 2025-26 (Estimated)
Net Energy Output (NEO)	54.13	72.24	35.50	45.00
Plant Utilization factor (%)	29.53	38.76	30.00	35.50
Plant Availability factor (%)	27.98	71.15	34.50	48.00

ANNUAL AND MONTHLY MAINTENANCE HOURS.

Years	Unit # 01	Unit # 02
2022-23	1236.00	1249.50
2023-24	1252.50	1883.43
2024-25 (Forecast)	1230.00	1230.00
2025-26 (Estimated)	1230.00	1230.00

GENERATION/MAINTENANCE WORKS/GENERAL PLANT ASSETS/CIVIL WORKS

2022-23

- Monthly and Annual O&M of all the available generating units and the major power station heavy machinery was carried out as per check sheets as a part of routine preventive maintenance.
- Tender for Drilling / Boring of Pump House & Construction of Pump House opened on 10.05.2022 and evaluation is under process.
- Replacing of Stuffing Box Rubber Seals as needed.
- Rehabilitating of Turbine Guide Bearing as needed.
- Repairing/Rehauling of Huan Box.

2023-24

- Annual Maintenance of Unit No. 1 & 2 carried out during annual canal closure as per prescribed check sheet
- The cleaning of Stator Core ducts for Unit No. 1 & 2 has been meticulously conducted and thoroughly inspected.

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- The replacement of T.G.B (Turbine Guide Bearings), seals, sleeves, and Huan Box for both units has been successfully completed.
- The colony feeder was relocated to the best and shortest possible location
- The replacement of Gland Packing for the Penstock expansion joints of Unit No. 1 has been effectively executed.
- Bitumen coating on the expansion joint of the Spillway concrete has been completed.
- De-Siltation of the Intake Area has been carried out.
- Annual maintenance of both units and allied equipment.
- R&M of Residential / Non-Residential Buildings through Departmental.
- Installation of 40 # Street Light Pole in Power House and colony.
- Installation of 02# CCTV Camera.
- Procurement of CT/PT.
- Procurement of 95mm 4-Core Cable.

2024-25

- Monthly O&M of all the available generating units and the major power station heavy machinery was carried out as per check sheets as a part of routine preventive maintenance.
- Replacing of Stuffing Box Rubber Seals as needed.
- Repairing of Huan Box.
- Rehabilitating of Turbine Guide Bearing as needed.
- Replacing/Repairing of Shaft sleeves as needed.
- Annual Maintenance of Unit No. 1 & 2 carried out during annual canal closure as per prescribed check sheet.
- Major Electrical Maintenance of Unit No.02 Generator Stator winding 02. No Coils replaced.
- The replacement of Gland Packing for the Penstock expansion joints of Unit No. 1 and 2 has been effectively executed.
- Dehydration of oil for 11 KV Breakers, Governor Sump tank, and Bearing tank has been successfully completed.
- Welding, Grinding, and surface finishing of the Chamber along with Runner Blades of unit # 01 & 02.
- The testing of protection relays was meticulously conducted by the SE (SHPS) Mangla team, ensuring reliable operation.
- Switchyard Transformers Maintenance Cleaned bushes and tightened plates for optimal functionality.
- Tree Plantation Campaign.
- R&M of Residential / Non-Residential Buildings through Departmental.
- Installation of Street Lights in Power House and colony.
- Installation, Repair& Maintenance of CCTV Cameras.
- Rehabilitation work of Spillway Escape Channel.
- Replacement of Spillway Gates Rubber Seals
- Bitumen filling in the expansion joint of the Spillway concrete has been completed
- Changed steel roof a/w buckle of Spillway Gate No.01.
- De-Siltation of the Intake Area has been carried out.
- R&M of Trash Diverter.
- Interior Painting of P/H Machine Room.
- Exterior Paint / Rehabilitation Of Power House Building.
- Renovation of declared Rest House
- Procurement of Tractor, Trolley and allied equipment.
- Procurement of E-Bikes.
- Major Mechanical Maintenance of Unit No.1 Oil Leakage from turbine runner blade oil seal rectification is in progress.

2025-26

- Annual maintenance of both units and allied equipment.
- Haun Box for Both Units
- Brake Pads for both units
- Carbon bushes for both units
- Extension/Raising of Boundry Wall PH & Colony
- Fencing / Boundry Wall of WAPDA Open Land Area
- Parking Shed in Office, Colony & Power House

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- Children and Family Park with walking track
- Community/Recreational center (Shops etc)
- Footpath along with Road in Colony
- Painting of machine hall E&M Equipment's and Cranes.
- R&M Sewerage / Drainage System of Colony
- Repair of Store Building in PH
- Construction of Pump House Room
- Construction of Reception Hut at PH Gate
- Repair of Roads in PH
- Repair and Maintenance of E&M Workshop in PH
- Renovation/R&M of Colony Mosque
- R&M of spillway room
- Procurement of Machinery for Tractor
- Desiltation from Intake side of Power House/channel
- Major Repair of Cat-iv Colony
- Major Repair of Cat-v
- Major Repair of Cat-G
- Major Repair of C-1 Houses in Colony
- R&M of Road from Office to Colony
- Renovation/R&M of RE Office
- R&M of Trash Diverter.
- De-siltation from Intake side of Power House/channel

ACTUAL

MANPOWER (2023-24):-

HPS	Categories							
	Operation & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
Rasul	58	--	38	10	20	4	2	132

PROVISIONAL

MANPOWER (2024-25):-

HPS	Categories							
	Operation & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
Rasul	58	--	38	10	20	4	2	132

PLANNED

MANPOWER (2025-26):-

HPS	Categories							
	Operation & Technical	Civil Infrastructure Maintenance		Accounts & Admin	Security	Transport	Education & Allied Staff	G.Total
		Technical	Non-Technical					
Rasul	58	--	38	10	20	4	2	132

Pakistan Water & Power Development Authority LAHORE.

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3. NANDIPUR HYDEL POWER STATION

INTRODUCTION

Nandipur Hydel power station is located on Upper Chenab Canal (UCC) about 10 Km from Gujranwala city on Gujranwala–Sialkot Road. The Salient features and unit wise installed capacity, make and years of commissioning are as under; -

Installed Capacity: 13.8 MW
No of Units: 03 Nos
Turbine Type: Vertical Kaplan
Rated Head: 22 ft
Feeding Canal: Upper Chenab Canal (Run of River)

Unit No.	Installed capacity (MW)	Make			Commissioning Year
		Turbine	Generator	Transformer	
1-3	3x4.6 (13.8)	Litostroj Yugoslavia	Rade Koncar Yugoslavia	Rade Koncar Yugoslavia	1963

1. ENERGY STATISTICS

Description	FY 2023-24 (Actual)	FY 2024-25 Provisional)	FY 2025-26 (Projected)
t Electrical Output (GWh)	36.10	24.36	30.23
ant Factor (%)	30.57	24.19	27.38
ant Availability Factor (%)	71.7	90.6	91%

Note:

1- FY 2024-25 (Provisional) data is based on actual generation figures up to April 2025.

2- FY 2025-26 (Projected) figures are based on the average of the past two years data.

2. REPAIR & MAINTENANCE

2.1 ANNUAL MAINTENANCE

- Annual Maintenance of all 03 units carried out. It involves shut down of unit for 15-20 days
- The unit wise Annual Maintenance Schedule including monthly and scheduled for 2023-24, 2024-25 & 2025-26 is as under:

Unit No.	1	2	3
FY 2023-24 (Actual)	09 Hrs	607 Hrs	690 Hrs
FY 2024-25 (Provisional)	510/75 Hrs	513/55 Hrs	441/75 Hrs
FY 2025-26 (Projected)	400 Hrs	550 Hrs	600 Hrs

Note:

1- FY 2024-25 (Provisional) data is based on actual Planned Maintenance Hours up to April 2025.

2- FY 2025-26 (Projected) figures are on estimate basis.

2.2 MAJOR WORKS

2023-24 (Actual)

- Replacement of Lower Guide Bearing of Unit#3
- Rectification of Oil Leakage Fault at Unit#1.
- Replacement of Lower Guide Bearing of Unit#1
- Replacement of damaged Labyrinth seal with new one of Unit#1
- Replacement of Pilot Exciter Coil at Unit#3
- Annual maintenance of Units, Generators, Transformers, Trash Racks, Switchyard, Spillway during annual canal closure.
- Main Exciter Interpole of Unit#2 was repaired.
- Replacement of Trash Crane Bucket.

2024-25 (Provisional)

- Annual maintenance of Units, Generators, Transformers, Trash Racks, Switchyard, Spillway during annual canal closure.
- Replacement of Governor Synchronous / Reaction motor of Unit#1.

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2025-26 (Planned)

- Annual maintenance of Units, Generators, Transformers, Trash Racks, Switchyard, Spillway during annual canal closure.
- Replacement of Lower Guide Bearing of Unit #2.

2.3 CIVIL WORKS

2023-24 (Actual)

- Paint Work in Colony of all Quarters.
- R&M of Quarters and Non-Residential Buildings.
- Extension of Fiber Shed in Mosque
- R&M of Filtration Plant in Colony.
- Repair of Wooden Platform at Spillway
- Repair work of Colony Roads.
- Ceiling Panelling work at Resthouse.
- Desiltation of Powerhouse Power Channel.

2024-25 (Provisional)

- Tile work in Masjid Walls. (Completed)
- R&M of Recreation Centre. (Completed)
- R&M of Colony Quarters. (Completed)
- Grouting work at Spillway Channel. (Completed)
- Desiltation of Powerhouse Power Channel. (Completed)
- Cleaning of Old Sewerage Line of Colony (Completed)
- Exterior and Interior paint of Power House (Under Process)
- Grouting on Residentials and Non Residential Buildings (Completed)

2025-26 (Planned)

- Construction of 02 Nos Cat-IV Quarters
- Construction of 04 Nos Washroom
- Widening of Colony Main Road
- Construction of Bachelors Hostel (12 Rooms)
- Construction of Room & Tubewell Bore with Motor
- Desiltation of Powerhouse Power Channel.

MANPOWER (FY 2023-24) ACTUAL

HPS	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non Technical					
RE Nandipur	64	2	28	11	22	4	2	133
Total	**64**	**2**	**28**	**11**	**22**	**4**	**2**	**133**

MANPOWER (FY 2024-25) PROVISIONAL

HPS	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non Technical					
RE Nandipur	64	2	28	11	22	4	2	133
Total	**64**	**2**	**28**	**11**	**22**	**4**	**2**	**133**

MANPOWER (FY 2025-26) PROJECTED

HPS	CATEGORIES							
	Operational & Technical	Civil Infrastructure Maintenance		Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non Technical					
RE Nandipur	64	2	28	11	22	4	2	133
Total	**64**	**2**	**28**	**11**	**22**	**4**	**2**	**133**

TARBELA 4TH EXTENSION POWER STATION

INTRODUCTION

Tarbela 4th Extension power station is located on Tunnel No. 4 of Tarbela Dam at right bank of river Indus in District: Swabi about 100 KM North West of Islamabad having 03 generating units with total installed capacity of 1410 MW and Annual Energy Generation as per **PC-1 is 3840 MkWh.**

Unit No.	Installed capacity (MW)	Make			Commercial Operation dates (COD)
		Turbine	Generator	Transformer	
15	470	Voith	Voith	ALSTOM	22.10.2018
16	470	Voith	Voith	ALSTOM	30.06.2018
17	470	Voith	Voith	ALSTOM	02.03.2018

1. ENERGY STATISTICS

Description	2023-24 (Actual)	2024-25 (Provisional)	2025-26 (Planned)
Net Electrical Output (GWh)	4641.46	3761.042*	3840
Plant Utilization Factor (%)	37.67	36.64*	31.08
Availability Factor (%)	82.31	87.85*	71.24

❖ Note: FY 2024-25 (Provisional) data is up to 30 April 2025.

2. REPAIR & MAINTENANCE

- Annual Maintenance of all Units.
- Daily / Weekly Maintenance of all Units and Allied Equipments.
- Monthly Maintenance of all Units and Allied Equipments.
- Schedule Outage due to Project Activities by CE/ PD T4 HPS.

3. Outages Hours

Unit No.	15	16	17
2023-24 (Actual)			
(O&M) Activates	538.18	548.3	560.47
Project Activates	799.563	967.67	1165.75
(2024-25) (Provisional)			
(O&M) Activates	537.87	534.35	526.69
Project Activates	644	192.03	176.16
(2025-26) (Projected)	1100	1100	1100

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4. MAJOR R&M OF POWER GENERATION ASSETS

ACTIVITIES COMPLETED

2023-24

- Modification / Relocation of Rotor field supporting block of Unit No. 17.
- Replacement of Unit No. 16 Air Gap Sensor by CE/PD T4.
- Replacement of old trash rack being contractual obligation under T4 HPP by CE/PD T4.
- Unit No. 15 relocation of existing 500 KV Tower No 1C by CE/PD T4.
- Annual Maintenance of all three units.
- Monthly Maintenance of all three units.

2024-25

COMPLETED

- Testing of Low-level Outlet (LLO) being contractual obligation under T4 HPP by CE/PD T4. Tunnel – 04 Shutdown for inspection of LLO Gates and Branches contractual obligation under T4 HPP by CE/PD T4. After inspection of LLO Gates and Branches it was decided to carry out some concrete work as remedial measure but the same is not executed up until now.
- Partial discharge Monitoring Preparation, Calibration and test of all three units carried out.
- Load variation and Load rejection test for warranting and alarm limits of statistic part vibration of all three units carried out. By T4 HPP by CE/ PD T4.
- Dismantling of existing tower 1C and relocation / errection of new tower 1C.
- Annual Maintainenace & Monthly Maintenance of all three Units.

2025-26

(Planned)

- Annual Maintainenace of all three Units.
- Monthly Maintainenace of all three Units.
- Wet Commissioning testing of Low Level Outlet.
- Capacity Testing of All three Units.

MANPOWER 2023-24 (Actual)

O&M 4th Ext. HPS Tarbela	CATEGORIES					
	Operational & Technical	Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
	251	-	-	-	-	251

MANPOWER 2024-25 (Provisional)

O&M 4th Ext. HPS Tarbela	CATEGORIES					
	Operational & Technical	Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
	289	51	2	32	25	399

MANPOWER 2025-26 (Planned)

O&M 4th Ext. HPS Tarbela	CATEGORIES					
	Operational & Technical	Accounts & Admn	Security	Transport	Education & Allied Staff	G. Total
	289	51	2	32	25	399

GOLAIN GOL HYDEL POWER STATION ,CHITRAL

Introduction:

Golain Golain Gole Hydel Power Station is located about 2 Km upstream of Koghuzi Village at the left bank of Golain Gol River in the District of Chitral-Pakistan ,25 km from Town of Chitral, having three generating Units of 36 MW each with a total installed capacity of 108 MW.
The installed capacity, make and dates of commissioning of the Generating Units are given as under:

Unit No.	Installed Capacity	Make			Commissioning Dates
		Turbine	Generator	Transformer	
1.	36 MW	Pelton Wheel Type Turbine	3- Phase Synch. Gen. Andritz Hydro, Austria	Step-up T/F 11/132 Kv,45MVA Shandong Dachi China	23-01-2018
2.	36 MW	Pelton Wheel Type Turbine	3- Phase Synch. Gen. Andritz Hydro, Austria	Step-up T/F 11/132 Kv,45MVA Shandong Dachi China	23.10.2019
3.	36 MW	Pelton Wheel Type Turbine	3- Phase Synch. Gen. Andritz Hydro, Austria	Step-up T/F 11/132 Kv,45MVA Shandong Dachi China	23.10.2019

1. ENERGY STATISTICS:

Description	2023-2024	2024-2025(Forecast)	2025-2026(Estimated)
Net Electrical Output(M.KWH)	178.08375	≥ 180.0	≥ 180.0%
Plant Factor (%)	66.04	≥ 65%	≥ 65%
Plant Availibity Factor (%)	95.27 %	≥ 95%	≥ 95%

2. REPAIR AND MAINTENANCE

2.1 ANNUAL MAINTENANCE

- Annual Maintenance of Unit no 1 carried out from 02/10/2024 to 26/10/2024 (25 Days).
- Annual Maintenance of Unit no 2 carried out from 01/12/2024 to 25/12/2024 (25 Days).
- Annual Maintenance of Unit no 3 carried out from 01/11/2024 to 25/11/2024 (25 Days)

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UNIT NO.	1	2	3	Total
2023-2024 (Actual)	557.05	628.20	548.15	1733.40
2024-2025 (Provisional)	653.50	588.00	698.50	1940.40
2025-2026 (Projected)	600.00	600.00	600.00	1800.00

2.2 MAJOR R&M OF GENERATION ASSETS

ACTIVITIES COMPLETED (2023-2024)

UNIT NO .1

Annual maintenance of the unit was started on 02/10/2023 and after successful completion of maintenance unit was synchronized with system on 26/10/2023.The following activities were carried out:

- Checked and cleaned working/maintenance seal filters.
- Checked and cleaned governor cooling water heat exchanger.
- Physical checked of runner buckets carried out.
- Break pad inspection and working checked and found satisfactory.
- All bearings oil level checked.
- Painting of nozzles carried out.
- Power transformer#1 a/w auxiliary electrical equipment checked and cleaned all electrical parts, connections, housing etc.
- Measured the length of slip ring carbon brushes and noted for record.
- Checked all protection instruments.

UNIT NO .2

Annual maintenance of the unit was started on 01/03/2024 and after successful completion of maintenance unit was synchronized with system on 24/03/2024. The following activities were carried out:

- Checked and cleaned working/maintenance seal filters.
- Checked and cleaned governor cooling water heat exchanger.
- Physical checked of runner buckets carried out.
- Break pad inspection and working checked and found satisfactory.

- All bearings oil level checked.
- Painting of nozzles carried out.
- Power transformer#2 a/w auxiliary electrical equipment checked and cleaned all electrical parts, connections, housing etc.
- Measured the length of slip ring carbon brushes and replaced 20 nos of slip ring carbon brushes.
- Checked all protection instruments.

UNIT NO. 3

Annual maintenance of the unit was started on 01/11/2023 and after successful completion of maintenance unit was synchronized with system on 24/11/2023. The following activities were carried out:

- Checked and cleaned working/maintenance seal filters.
- Checked and cleaned governor cooling water heat exchanger.
- One ball valve ½ inch for nozzle leakage tank replaced.
- Physical checked of runner buckets carried out.
- Break pad inspection and working checked and found satisfactory.
- All bearings oil level checked.
- Painting of nozzles carried out.
- Power transformer#3 a/w auxiliary electrical equipment checked and cleaned all electrical parts, connections, housing etc.
- Measured the length of slip ring carbon brushes and noted for record.
- Checked all protection instruments.

2024-2025 (COMPLETED)

UNIT No. 1

Annual maintenance of the unit was started on 03/10/2024 and after successful completion of maintenance unit was synchronized with system on 26/10/2024. The following activities were carried out:

- Replace working seal filter.
- Nozzle no 3 gland seal found broken and leakage stopped.
- Checked and cleaned governor cooling water heat exchanger.
- Physical checked of runner buckets carried out.

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- Break pad inspection and working checked and found satisfactory.
- All bearings oil level checked.
- Painting of nozzles carried out.
- Power transformer#1 a/w auxiliary electrical equipment checked and cleaned all electrical parts, connections, housing etc.
- Measured the length of slip ring carbon brushes and noted for record.
- Checked all protection instruments.

UNIT No. 2

Annual maintenance of the unit was started on 01/12/2024 and after successful completion of maintenance unit was synchronized with system on 25/12/2024. The following activities were carried out:

- Checked and cleaned working/maintenance seal filters.
- Checked and cleaned governor cooling water heat exchanger.
- Physical checked of runner buckets carried out.
- Break pad inspection and working checked and found satisfactory.
- All bearings oil level checked.
- Painting of nozzles carried out.
- Power transformer#2 a/w auxiliary electrical equipment checked and cleaned all electrical parts, connections, housing etc.
- Measured the length of slip ring carbon brushes for record.
- Checked all protection instruments.

UNIT No. 3

Annual maintenance of the unit was started on 01/11/2024 and after successful completion of maintenance unit was synchronized with system on 25/11/2024. The following activities were carried out:

- Checked and cleaned working/maintenance seal filters.
- Checked and cleaned governor cooling water heat exchanger.
- Physical checked of runner buckets carried out.
- Break pad inspection and working checked and found satisfactory.
- All bearings oil level checked.

- Painting of nozzles carried out.
- Power Transformer #3 A/W auxiliary electrical equipment checked and cleaned all electrical parts, connections, housing etc.
- Measured the length of slip ring carbon brushes and noted for record.
- Checked all protection instruments.

(2025-2026)

Annual Maintenance of Unit #1, 2 and 3 as per approved maintenance schedule.

SCADA ISSUES:

- Unit No.01 SCADA issue was investigates and resolved by replacement of main CPU card i.e CP-2014
- Other SCADA faults due to Moxa Ethernet switch configurations also resolved and Moxa Ethernet switch is in process of procurement.
- Open/close mechanism of 132kv breaker E3Q2 rectified on 24/08/2024 by replacing auxiliary control switch with new one.
- Main exciter of unit No 01 rectified on 27/08/2024. (Panel components of unit no 01 thyristor bridge panel of excitation system was thoroughly checked and found one no thyristor faulty. Whole thyristor pair with heat sink replaced with spare one from main store).

Project Works/Intake Works:

- Technical assistance in restoration of 132 KV T/L at Lawari top was provided to PD Office GGHPP.
- 11 KV supply for intake restored from external source of Sarhad Rural Support Program (SRSP, an NGO operating small Hydel Power Stations in collaboration with Govt of KPDP).
- All debris material was Leveled/removed from intake which entered to our water flow channels/ponds/structure during high flow season of 2023-24.

Rock Fall Incident inside Power House Machine Hall (2025):

- Rock fall incident occur which damaged the oil Mist Extraction filter of running unit # 02.The same unit shut down on emergency basis and after assembling the Oil Mist Extraction filter, unit started and synchronized with the system,

Dated: 20-01-2025

Monitoring and Surveillance (August 2024):

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- The observations of monitoring and surveillance team of WAPDA visited GGHPS. Some observations related to our office were resolved, the progress on other issues are in progress, the rest of issues are related to other offices which resolution/rectifications are still awaited.

1-Mechanical Works

1.1 Completed Works (2024-25)

- Clamping Mechanism of intake Flushing gates design modified to ensure smoothe opening of gates, the design modification is successful and working smoothly during last 03 flushing operation.

1.2 Planned (2025-26)

- Hoisting Mechanism for downstream & up stream stop logs of sand trap gates.
- Speed of Flushing and intake gates is to be increased by modifying gear box.
- Sand trap gate hollow design will be converted to solid shaft.
- Procurement of heavy Machinery for day to day Operational activities i.e Tractor, Dumper, Excavator, snow blower.

2- Electrical & Communication:

Planned (2025-26)

- CCTV cameras installation in Power house, Switchyard, Intake and colony is planned.
- Local telephone facility extension from power house to colony.
- Walkie talkie communication facility between different sites of GGHPS.
- Installation of Flow meters on individual generating units.
- Installation of Energy meters for 11 KV.

3-CIVIL WORKS

2023-2024(Activities completed)

- R&M of XEN (C) office.
- Playground leveling.

2024-2025

- R&M of Rest House (Work is in progress and will be completed latest by 30/06/2025)
- R&M of Wapda colony Jamia Masjid (Work is in progress and will be completed latest by 30/06/2025)

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MANPOWER (2023-24)

	CATEGORIES							
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admn.	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non- technical					
GGHPS Chitral	59	02	15	12	13	--	--	101

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2024-2025

- Establishment of Mini Children Park in O&M colony.
- Establishment of Mini Family Park in O&M colony.
- Establishment of Recreational Point on the river side of O&M colony.
- Construction of Stands for spectators along playground.

In NIT Process Under CSR

- Erecting of Fencing towards river side of colony.
- Construction of parking shed in O&M colony (In NIT Process)

2025-2026 (Planned)

- R&M of WAPDA Primary School.
- R&M of WAPDA Dispensary.
- Construction of jogging Track in O&M colony.

MANPOWER (2024-2025)

	CATEGORIES							
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admn.	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non- technical					
GGHPS Chitral	57	21	17	21	15	Nil (MME section undertake the responsibilities of Transport	5	~~108~~ 136

MANPOWER-Projected (2025-2026)

	CATEGORIES							
	Operational & Technical	Civil infrastructure Maintenance		Accounts & Admn.	Security	Transport	Education & Allied Staff	G. Total
		Technical	Non-Technical					
GGHPS Chitral	99	21	17	21	15	-	5	178*

*Request for posting of vacant posts of technical and non-technical staff has already been submitted and is mandatory requirement of O&M as per approved PC-1. Of this power house of WAPDA.

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RE GG HPS WAPDA Chitral

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B-48 Wapda House, Lahore.

No. 1282-91/GMFP/Admn/EG-286/GMFP

Dated 11 SEP 2023

OFFICE ORDER

Mr. Jamil Akhtar, Member (Power) WAPDA being the competent authority has accorded approval for continued retention of following 231 Nos. posts in respect of the office of G.M.F.(Power) WAPDA for the financial year 2023-24 :-

Sr.No.	Nomenclature of the Post	BPS	No. of posts
(A)	**G.M.FINANCE (POWER)**		
1.	G.M. Finance (Power)	20	1
2.	Assistant Private Secretary	16	1
3.	Junior Clerk	11	1
4.	Driver	06	1
5.	Naib Qasid	01	2
6.	Khalasi	01	1
	Sub-Total:		7
(B)	**DEPUTY GENERAL MANAGER FINANCE (POWER)**		
1(i)	Dy. G.M. Finance (Power)	20	1
2	APS	16	1
3	Junior Clerk	11	1
4	Naib Qasid	01	1
	Sub-Total (i)		4
	(ii) Computer/IT Section		
1.	Deputy Director (P/SA)	18	1
2.	Assistant Director (P/SA)	17	3
3.	Naib Qasid	01	2
	Sub-Total:		6
	Sub-Total (i+ii)		10

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(C) MANAGER ACCOUNTS & FINANCE (ADMN) POWER

(i) Admn Section

1.	Manager Accounts & Finance	19	1
2.	Dy. Manager Accounts & Finance	18	1
3.	Assistant Manager Accounts & Finance	17	1
4.	Accounts Officer	16	4
5.	Assistant Private Secretary	16	1
6.	Accounts Assistant	15	9
7.	Stenographer Grade-II	14	1
8.	Junior Clerk	11	3
9.	Driver	06	4
10.	PPC Machine Operator	05	1
11.	Naib Qasid	01	5
	Sub-Total (i)		**31**

(ii) GAD Section

1.	Dy. Manager Accounts & Finance	18	1
2.	Accounts Officer	16	2
3.	Accounts Assistant	15	4
4.	Stenographer Grade-II	14	1
5.	Junior Clerk	11	1
6.	Naib Qasid	01	1
	Sub-Total (ii)		**10**

(iii) Project Section

1.	Assistant Manager Accounts & Finance	17	1
2.	Accounts Officer	16	1
3.	Accounts Assistant	15	7
4.	Junior Clerk	11	1
5.	Naib Qasid	01	2
6.	Dak Runner	01	1
	Sub-Total (iii)		**13**
	Sub-total (i+ii+iii)		**54**

(D) MANAGER ACCOUNTS & FINANCE (HEAD QUARTER)

(i) Banking Section

1.	Manager Accounts & Finance (HQ)	19	1
2.	Dy. Manager Accounts & Finance	18	1
3.	Assistant Manager Accounts & Finance	17	1
4.	Accounts Officer	16	2
5.	Assistant Private Secretary	16	1
6.	Accounts Assistant	15	7
7.	Stenographer Grade-II	14	1
8.	Junior Clerk	11	2
9.	Driver	06	1

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10.	Daftri	02	1
11	Naib Qasid	01	4
	Sub-Total (i)		**22**

(ii) Loan Section

1.	Assistant Manager Accounts & Finance	17	1
2.	Accounts Officer	16	3
3.	Accounts Assistant	15	3
4.	Junior Clerk	11	1
5.	Naib Qasid	01	1
	Sub-Total (iii)		**9**

(iii) Accounts Section

1.	Assistant Manager Accounts & Finance	17	1
2.	Accounts Officer	16	3
3.	Accounts Assistant	15	7
4.	Junior Clerk	11	1
5.	Naib Qasid	01	2
	Sub-Total (iv)		**14**
	Sub-Total (i+ii+iii)		**45**

(E) WAPDA CORPORATE FINANCE ORGANIZATION

(i) Bond Section

1.	Manager Accounts & Finance	19	1
2.	Dy. Manager Accounts & Finance	18	1
3.	Assistant Manager Accounts & Finance	17	3
4.	Accounts Officer	16	1
5.	Accounts Assistant	15	6
6.	Stenographer Grade-II	14	1
7.	Junior Clerk	11	1
8.	Driver	06	1
9.	PPC Machine Operator	05	1
10	Naib Qasid	01	3
	Sub-Total		**19**

(ii) Structured Finance Cell

1.	Dy.G.M.F/Head of SFC	20	1
2.	Team Leader SFC = Manager	19	2
3.	Str.Fin.Analyst = Dy. Manager	18	3
4.	Assistant Private Secretary	16	2
5.	Accounts Assistant	15	2
6.	Junior Clerk	11	1
7.	Driver	06	2
8.	Naib Qasid	01	5
	Sub-Total		**18**
	Grand Total-E(i+ii)		**37**

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(F) MANAGER ACCOUNTS & FINANCE (CORPORATE PLANNING)

(i) Corporate Planning Section

1.	Manager Accounts & Finance (CP)	19	1
2.	Dy. Manager Accounts & Finance (CP)	18	2
3.	Assistant Manager Accounts & Finance (CP)	17	3
4.	Assistant Private Secretary	16	1
5.	Accounts Assistant	15	2
6.	Stenographer Grade-II	14	1
7.	Junior Clerk	11	1
8.	Naib Qasid	01	3
	Sub-Total (i)		**14**

(ii) Consolidation Section

1.	Dy. Manager Accounts & Finance	18	1
2.	Assistant Manager Accounts & Finance	17	1
3.	Accounts Officer	16	1
4.	Accounts Assistant	15	3
5.	Stenographer Grade-II	14	1
6.	Junior Clerk	11	1
7.	Naib Qasid	01	1
	Sub-Total (ii)		**9**
	(Sub-Total (i+ii+)		**23**

(G) MANAGER ACCOUNTS & FINANCE (HYDEL DEVELOPMENT)

(i) Budget Section

1.	Manager Accounts & Finance	19	1
2.	Dy. Manager Accounts & Finance	18	1
3.	Assistant Manager Accounts & Finance	17	2
4.	Accounts Officer	16	2
5.	Assistant Private Secretary	16	1
6.	Accounts Assistant	15	9
7.	Stenographer Grade-II	14	1
8.	Junior Clerk	11	2
9.	Driver	06	2
10.	Naib Qasid	01	3
	Sub-Total (i)		**24**

(ii) Foreign Loan Section

1.	Dy. Manager Accounts & Finance	18	1
2.	Assistant Manager Accounts & Finance (Foreign Loan)	17	1
3.	Assistant Manager Accounts & Finance (Foreign Exchange)	17	1
4.	Accounts Assistant	15	3
5.	Stenographer Grade-II	14	2
6.	Junior Clerk	11	2
7.	PPC Machine Operator	05	1
8.	Naib Qasid	01	3
	Sub-Total (ii)		**14**
	Sub-Total (i+ii)		**38**

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(H) MANAGER ACCOUNTS & FINANCE (TAXES)

1.	Manager Accounts & Finance (Taxes)	19	1
2.	Dy. Manager Accounts & Finance	18	2
3.	Assistant Manager Accounts & Finance	17	2
4.	Accounts Officer	16	2
5.	Accounts Assistant	15	3
6.	Stenographer Grade-II	14	2
7.	Naib Qasid	01	5
	Sub-Total		**17**
	Grand Total(A+B+C+D+E+F+G+H)		**231**

DY. MANAGER (A & F) ADMN POWER
WAPDA HOUSE LAHORE.

c.c.to:

1. Director General (CM) S&C WAPDA House Lahore.
2. Director General (CM) P&F WAPDA House Lahore.
3. Director (O&M) WAPDA, WAPDA House Lahore.
4. Manager A&F (CP) WAPDA House Lahore.
5. SO to Member (Power) WAPDA House Lahore.
6. Dy. Manager Accounts & Finance (GAD) WAPDA House Lahore.
7. Accounts Officer (Admn.II) Wapda House Lahore.
8. APS to GMF(P) 713-Wapda House Lahore.
9. APS to Dy. GMF (P), 315-WAPDA House Lahore.

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Vertical ✓ Horizontal ✗

→ C Dy. G.M.

→ G.M

→ Mention No. of post.

→ Total

→ Expand.

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General Manager Finance (Power)
B-48 Wapda House, Lahore.

No. 3038-46 /GMFP/Admn/EG-286/GM(HO) Dated 18 DEC 2023

OFFICE ORDER

Mr. Jamil Akhtar, Member (Power) WAPDA being competent authority has been pleased to accord approval to the continued retention of the following posts of the office of General Managers (Hydel) Operation/ Development Wapda Lahore for the financial year 2023-24:

Sr.No.	Nomenclature of the Post	BPS	No.of Posts
(A)	GENERAL MANAGER (HYDEL OPERATION)		
1	G.M.(Hydel Opr)	20	01
2	Assistant Private Secretary	16	01
3	Qasid	02	01
4	Naib Qasid	01	01
	Sub-Total - A		04
(B)	DIRECTOR (ADMN) HYDEL		
1	Director (Admn)	19	01
2	Assistant Director (Admn)	17	01
3	Assistant Private Secretary	16	01
4	Senior Superintendent	16	01
5	Data Entry Operator	15	01
6	Assistants	15	05
7	Stenographer Grade-II	14	01
8	Sr.Clerk	13	02
9	Junior Clerk	11	04
10	Driver (one for each road worthy vehicle)	06	19
11	PPC Operator	05	01
12	Naib Qasid	01	04
	Sub-Total - B		41
(C)	CHIEF ENGINEER (HYDEL) OPERATION		
1	Chief Engineer	20	01
2	Director/S.E.	19	01
3	Dy.Directors/XEN	18	02
4	A.D./AXEN	17	01
5	AXEN (Mech/Elect)	17	02

Pakistan Water & Power Development Authority LAHORE.

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Sr.No.	Nomenclature of the Post	BPS	No.of Posts
6	Assistant Private Secretary	16	01
7	Assistant	15	01
8	Librarian	14	01
9	Stenographer Grade-II	14	01
10	Tech Assistant/Sub-Eng.(E/M)	14	01
11	Draftman Grade-B	13	01
12	Senior Clerk	13	01
13	Junior Clerk	11	01
14	Tracer	07	01
15	Qasid	02	01
16	Naib Qasid	01	03
	Sub-Total - C		20
(D)	**General Manager (Hydel Development)**		
1	G.M.(Hydel Development)	20	01
2.	XEN	18	02
2	Assistant Private Secretary	16	01
3	Qasid	02	01
4	Khalasi/Naib Qasid	01	01
	Sub-Total - D		06
(E)	**CHIEF ENGINEER (HYDEL) DEVELOPMENT**		
1	Chief Engineer	20	01
2	Director/S.E.	19	02
3	Dy.Director/XEN	18	03
4	Assistant Director / AXEN	17	03
5	Assistant Private Secretary	16	02
6	Senior Superintendent	16	01
7	Assistant	15	01
8	Stenographer Grade-II	14	01
9	Sr.Clerk	13	01
10	Junior Clerk	11	02
11	PPC Operator	05	01
12	Naib Qasid	01	04
	Sub-Total - E		22
(F)	**GENERAL MANAGER (COORD) POWER**		
1	General Manager	20	01
2	Director/S.E.	19	01
3	Dy.Director /XEN	18	01
4	Supervisor (Data Entry)	16	02
5	Jr.Clerk	11	01
6	Naib Qasid	01	03
	Sub-Total		09
(G)	**DIRECTOR (CIVIL) HYDEL**		
1	Director	19	01
2	Assistant Director/AXEN	17	01
3	Assistant Private Secretary	16	01
4	Sr.Superintendent	16	01
5	Sub-Engineer (Civil)	14	01
6	Sr.Clerk	13	01
7	Jr.Clerk	11	01

Pakistan Water Power Development Authority LAHORE

Sr.No.	Nomenclature of the Post	BPS	No.of Posts
8	Driver	06	01
9	Naib Qasid	01	03
10	Chowkidar	01	01
11	Sanitory Worker	01	01
	Sub-Total		13
(H)	MANAGER ACCOUNTS & FINANCE (HYDEL)		
1	Manager Accounts & Finance (Hydel) Opr.	19	01
2	Dy. Manager (Accounts & Finance)	18	01
3	Assistant Manager (Accounts & Finance)	17	05
4	Accounts Officer	16	05
5	Assistant Private Secretary	16	01
6	Cashier	15	01
7	Accounts Assistants	15	28
8	Stenographer Grade-II	14	01
9	Jr.Clerk	11	07
10	Driver (one for each road worthy vehicle)	06	02
11	Plain Paper Copier Operator	05	01
12	Daftri	02	01
13	Naib Qasid	01	09
14	Barkandaz	01	01
15	Chowkidar	01	02
16	Sanitary Worker	01	01
	Sub-Total		67
	Grand Total		182

DY.MANAGER(A&F) ADMN POWER
WAPDA HOUSE LAHORE.

c.c.to:

1. General Manager (Hydel) Operation Wapda House Lahore.
2. Director General (CM) S&C, WAPDA House, Lahore.
3. Manager Accounts & Finance (Hydel) Wapda House Lahore.
4. Manager Accounts & Finance (CP) Wapda House Lahore.
5. Director (O&M) WAPDA House Lahore.
6. Dy. Manager Accounts & Finance (GAD) Wapda House Lahore.
7. Dy. Director (P/SA) WAPDA House Lahore.
8. SO to Member (Power) Wapda House Lahore.
9. APS to GMF (P) 713-Wapda House Lahore.

PAKISTAN
WATER AND POWER DEVELOPMENT AUTHORITY

Telephone 9202211/3159

Telegrams WAPDA LAHORE

Office of the
General Manager Finance (Power)
B-48 Wapda House, Lahore.

No. 2910-21 /GMFP/Admn/EG-286/GM(HO) Dated 11 DEC 2024

OFFICE ORDER

Mr. Jamil Akhtar, Member (Power) WAPDA being competent authority has been pleased to accord approval to the Annual continued retention of following posts of the office of CE/Director General (Purchase & Disposal) WAPDA under G.M. (Coord) Power WAPDA Lahore for the financial year 2024-25:

Pakistan Water & Power Development Authority LAHORE.

Sr. No.	Nomenclature of the Post	BPS	No. of Posts
1	2	3	4
1	Chief Engineer /Director General	20	1
2	Assistant Private Secretary	16	1
3	Naib Qasid	1	1
	Sub Total		3
	Purchase & Verification Directorate		
1	Director (Purchase & Verification)	19	1
2	Deputy Director (Purchase)	18	1
3	Deputy Director (Verification)	18	1
4	Assistant Director (Purchase)	17	1
5	Sub Engineer	14	2
6	Stenographer Grade-II	14	1
7	Junior Clerk	11	1
8	Naib Qasid	1	1
	Sub Total		9
	Disposal & Store Directorate		
1	Director (Disposal & Store)	19	1
2	Deputy Director (Disposal & Store)	18	1
3	Assistant Director (Disposal)	17	1
4	Assistant Director (Store)	17	1
5	Stenographer Grade-II	14	1
6	Senior Clerk	13	2
7	Naib Qasid	1	1
	Sub Total		8

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Sr. No	Nomenclature of the Post	BPS	No. of Posts
	Accounts Section		
1	Accounts Officer	16	1
2	Accounts Assistants	15	1
	Sub Total		2
	Admn Section		
1	Assistant Director (Admn)	17	1
2	Sub Engineer	14	1
3	Senior Clerk	13	1
4	Driver	06	4
5	Sanitory Worker	1	1
	Sub Total		8
	GRAND TOTAL		30

DY.MANAGER(A&F) ADMN POWER
WAPDA HOUSE LAHORE.

10/12/24 11/12 11/12/24

c.c.to:

1. General Manager (Hydel) Operation/Development Wapda House Lahore.
2. General Manager (Coordination) WAPDA House Lahore.
3. Chief Engineer/Director General (P&D) WAPDA Sunny View Lahore.
4. Director General (CM) S&C, WAPDA House, Lahore.
5. Manager Accounts & Finance (Hydel) Wapda House Lahore.
6. Manager Accounts & Finance (CP) Wapda House Lahore.
7. Director (O&M) WAPDA House Lahore.
8. Dy. Manager Accounts & Finance (GAD) Wapda House Lahore.
9. Dy. Director (P/SA), WAPDA House Lahore.
10. SO to Member (Power) Wapda House Lahore.
11. Accounts Officer. (Admn.II) of this office.
12. APS to GMF(P) 713-Wapda House Lahore.

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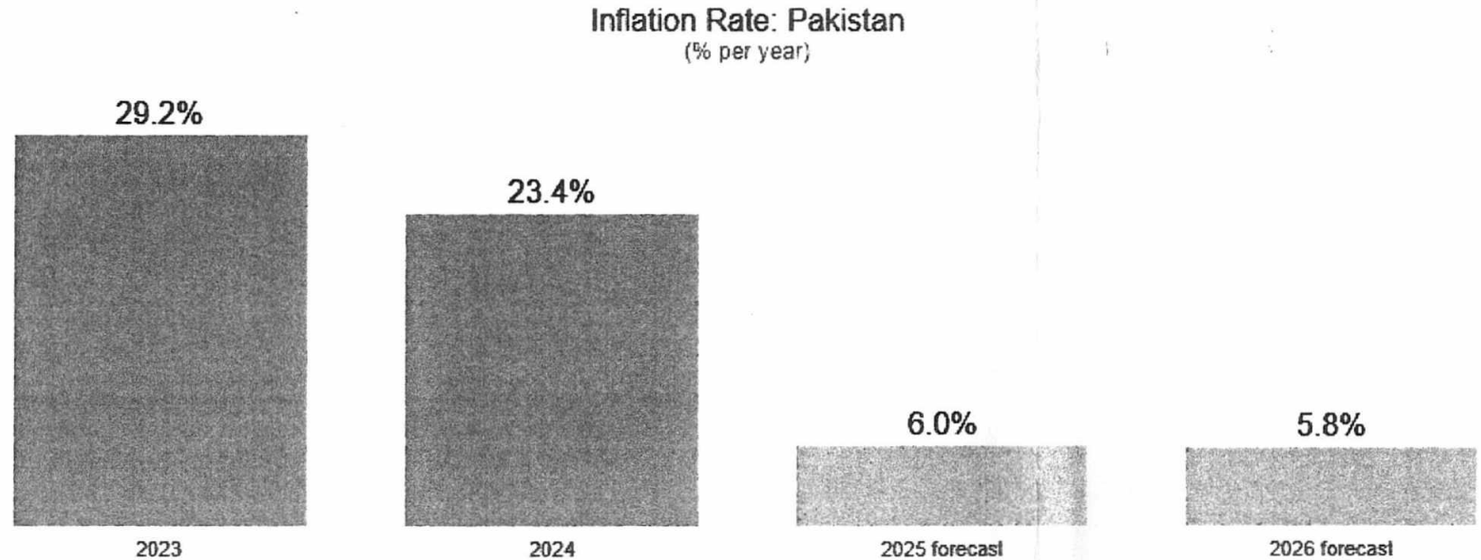
Annex – 7

GDP Growth | Inflation | Per Capita GDP



Source: Asian Development Bank. 2025. *Asian Development Outlook April 2025*.

Pakistan Water & Power Development Authority LAHORE.

Annex – 8

Member (Finance)
No. 2262
Date 20-8-11
WAPDA

No.4(4)/2010-B&F
Government of Pakistan
Ministry of Water and Power
****

Islamabad 15th August, 2011.

To

The Chairman, WAPDA,
WAPDA House,, Lahore

SUBJECT: SUPERVISORY OVERHEADS/AUTHORITY OVERHEADS CHARGES-WAPDA.

I am directed to refer to your letter No. C/2011/MF/90 dated 18.7.2011 on the subject cited above and to convey the approval of Competent Authority for revision of overhead structure as under;

	Water	Power	
-Supervisory Overheads.	1.4%	Supervisory Overheads	0.5%
-Authority Overheads	0.8% -	Authority Overheads:-	
		-Hydropower Dev. Projects	1%
		-Hydropower Operational Formations.	5%. 6.0%
	2.2%		6.5%

(Dost Muhammad)
Accounts Officer (B&F)
Tele. 9201024

Pakistan Water & Power Development Authority LAHORE.

Pakistan Water & Power Development Authority LAHORE.

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Annex – 9

Depreciation Charges Project Wise Portfolio			Mln Rs.
	FY 2023-24	FY 2024-25	FY 2025-26
Asset Category	Depreciation For the Year	Depreciation For the Year	Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	1,503.02	1,557.13	1,557.13
Power Genereation	3,841.21	4,297.67	4,297.67
Transmission Line	706.16	606.72	606.72
Dams & Reservoir	1,404.25	1,527.74	1,584.39
General Plant & Assets	322.62	462.75	462.75
Office Equipment	117.42	118.70	118.70
Furniture & Fixtures	15.29	16.16	16.16
Transport Equipment	13.50	24.02	24.02
Other Assets	0.15	0.15	0.15
Total	**7,923.63**	**8,611.04**	**8,667.68**

Tarbela

	FY 2023-24	FY 2024-25	FY 2025-26
Asset Category	Depreciation For the Year	Depreciation For the Year	Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	98.14	98.14	98.14
Power Genereation	192.35	192.35	192.35
Transmission Line	0.07	0.07	0.07
Dams & Reservoir	52.99	52.99	52.99
General Plant & Assets	26.82	26.82	26.82
Office Equipment	3.49	3.49	3.49
Furniture & Fixtures	3.84	3.84	3.84
Transport Equipment	2.16	2.16	2.16
Other Assts	-	-	-
Total	**379.86**	**379.86**	**379.86**

Warsak

	FY 2023-24	FY 2024-25	FY 2025-26
Asset Category	Depreciation For the Year	Depreciation For the Year	Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	-	-	-
Power Genereation	8.14	8.14	8.14
Transmission Line	31.04	31.04	31.04
Dams & Reservoir	-	-	-
General Plant & Assets	-	-	-
Office Equipment	5.38	5.38	5.38
Furniture & Fixtures	0.91	0.91	0.91
Transport Equipment	1.12	1.12	1.12
Other Assts	0.15	0.15	0.15
Total	**46.73**	**46.73**	**46.73**

Dubair Khawar

	FY 2023-24	FY 2024-25	FY 2025-26
Asset Category	Depreciation For the Year	Depreciation For the Year	Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	22.33	22.33	22.33
Power Genereation	103.44	103.44	103.44
Transmission Line	87.05	87.05	87.05
Dams & Reservoir	135.77	135.77	135.77
General Plant & Assets	1.09	1.09	1.09
Office Equipment	0.28	0.28	0.28
Furniture & Fixtures	0.15	0.15	0.15
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**350.11**	**350.11**	**350.11**

Pakistan Water & Power Development Authority LAHORE.

Allai

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	39.71	39.71	39.71
Power Genereation	128.90	128.90	128.90
Transmission Line	76.17	76.17	76.17
Dams & Reservoir	70.95	70.95	70.95
General Plant & Assets	1.57	1.57	1.57
Office Equipment	0.27	0.27	0.27
Furniture & Fixtures	0.10	0.10	0.10
Transport Equipment	0.07	0.07	0.07
Other Assts	-	-	-
Total	**317.72**	**317.72**	**317.72**

khan Khawar

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	40.09	40.09	40.09
Power Genereation	67.82	67.82	67.82
Transmission Line	55.33	55.33	55.33
Dams & Reservoir	41.46	41.46	41.46
General Plant & Assets	4.84	4.84	4.84
Office Equipment	0.36	0.36	0.36
Furniture & Fixtures	0.97	0.97	0.97
Transport Equipment	0.13	0.13	0.13
Other Assts	-	-	-
Total	**211.00**	**211.00**	**211.00**

Jabban

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	19.21	19.21	19.21
Power Genereation	100.89	100.89	100.89
Transmission Line	0.55	0.55	0.55
Dams & Reservoir	-	-	-
General Plant & Assets	0.31	0.31	0.31
Office Equipment	0.12	0.12	0.12
Furniture & Fixtures	0.06	0.06	0.06
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**141.13**	**141.13**	**141.13**

Dargai

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	1.72	1.72	1.72
Power Genereation	0.02	0.02	0.02
Transmission Line	-	-	-
Dams & Reservoir	-	-	-
General Plant & Assets	1.27	1.27	1.27
Office Equipment	0.11	0.11	0.11
Furniture & Fixtures	0.16	0.16	0.16
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**3.28**	**3.28**	**3.28**

Pakistan Water & Power Development Authority LAHORE.

KURRAM GARHI

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	0.57	0.57	0.57
Power Genereation	4.31	4.31	4.31
Transmission Line	-	-	-
Dams & Reservoir	-	-	-
General Plant & Assets	0.21	0.21	0.21
Office Equipment	0.05	0.05	0.05
Furniture & Fixtures	0.05	0.05	0.05
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**5.19**	**5.19**	**5.19**

Chitral

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	0.67	0.67	0.67
Power Genereation	0.04	0.04	0.04
Transmission Line	-	-	-
Dams & Reservoir	-	-	-
General Plant & Assets	0.02	0.02	0.02
Office Equipment	0.13	0.13	0.13
Furniture & Fixtures	0.02	0.02	0.02
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**0.88**	**0.88**	**0.88**

Tarbela 4

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	390.89	445.00	445.00
Power Genereation	1,182.90	1,639.36	1,639.36
Transmission Line	100.46	1.03	1.03
Dams & Reservoir	47.31	170.80	170.80
General Plant & Assets	207.48	347.61	347.61
Office Equipment	1.77	3.05	3.05
Furniture & Fixtures	0.84	1.71	1.71
Transport Equipment	7.69	18.21	18.21
Other Assts	-	-	-
Total	**1,939.35**	**2,626.76**	**2,626.76**

GOLEN GOL

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	57.76	57.76	57.76
Power Genereation	256.50	256.50	256.50
Transmission Line	354.62	354.62	354.62
Dams & Reservoir	118.64	118.64	175.28
General Plant & Assets	17.90	17.90	17.90
Office Equipment	0.71	0.71	0.71
Furniture & Fixtures	0.13	0.13	0.13
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**806.25**	**806.25**	**862.90**

Pakistan Water Authority Development LAHORE.

GOMAL ZAM

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	10.90	10.90	10.90
Power Genereation	40.27	40.27	40.27
Transmission Line	-	-	-
Dams & Reservoir	62.08	62.08	62.08
General Plant & Assets	0.55	0.55	0.55
Office Equipment	0.35	0.35	0.35
Furniture & Fixtures	0.16	0.16	0.16
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**114.31**	**114.31**	**114.31**

Ghazi Barotha

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	502.87	502.87	502.87
Power Genereation	531.91	531.91	531.91
Transmission Line	-	-	-
Dams & Reservoir	600.43	600.43	600.43
General Plant & Assets	11.99	11.99	11.99
Office Equipment	1.05	1.05	1.05
Furniture & Fixtures	2.60	2.60	2.60
Transport Equipment	0.14	0.14	0.14
Other Assts	-	-	-
Total	**1,650.98**	**1,650.98**	**1,650.98**

CHASHMA

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	137.09	137.09	137.09
Power Genereation	658.74	658.74	658.74
Transmission Line	-	-	-
Dams & Reservoir	36.18	36.18	36.18
General Plant & Assets	14.96	14.96	14.96
Office Equipment	0.35	0.35	0.35
Furniture & Fixtures	1.83	1.83	1.83
Transport Equipment	0.28	0.28	0.28
Other Assts	-	-	-
Total	**849.43**	**849.43**	**849.43**

Jinnah

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	144.94	144.94	144.94
Power Genereation	236.11	236.11	236.11
Transmission Line	0.87	0.87	0.87
Dams & Reservoir	22.12	22.12	22.12
General Plant & Assets	6.56	6.56	6.56
Office Equipment	0.24	0.24	0.24
Furniture & Fixtures	0.32	0.32	0.32
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**411.17**	**411.17**	**411.17**

Pakistan Water & Power Development Authority LAHORE.

Rasul

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	3.83	3.83	3.83
Power Genereation	0.24	0.24	0.24
Transmission Line	-	-	-
Dams & Reservoir	1.34	1.34	1.34
General Plant & Assets	1.18	1.18	1.18
Office Equipment	0.14	0.14	0.14
Furniture & Fixtures	0.08	0.08	0.08
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**6.79**	**6.79**	**6.79**

NANDIPUR

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	1.21	1.21	1.21
Power Genereation	0.22	0.22	0.22
Transmission Line	-	-	-
Dams & Reservoir	-	-	-
General Plant & Assets	0.37	0.37	0.37
Office Equipment	0.59	0.59	0.59
Furniture & Fixtures	0.16	0.16	0.16
Transport Equipment	0.87	0.87	0.87
Other Assts	-	-	-
Total	**3.43**	**3.43**	**3.43**

SHADIWAL

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	2.36	2.36	2.36
Power Genereation	0.35	0.35	0.35
Transmission Line	-	-	-
Dams & Reservoir	-	-	-
General Plant & Assets	0.81	0.81	0.81
Office Equipment	0.15	0.15	0.15
Furniture & Fixtures	0.14	0.14	0.14
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**3.80**	**3.80**	**3.80**

Chichoki

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	1.33	1.33	1.33
Power Genereation	1.21	1.21	1.21
Transmission Line	-	-	-
Dams & Reservoir	-	-	-
General Plant & Assets	0.68	0.68	0.68
Office Equipment	0.10	0.10	0.10
Furniture & Fixtures	0.01	0.01	0.01
Transport Equipment	0.20	0.20	0.20
Other Assts	-	-	-
Total	**3.53**	**3.53**	**3.53**

Pakistan Water Authority LAHORE.

RENALA

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	0.44	0.44	0.44
Power Genereation	-	-	-
Transmission Line	-	-	-
Dams & Reservoir	-	-	-
General Plant & Assets	0.87	0.87	0.87
Office Equipment	0.06	0.06	0.06
Furniture & Fixtures	0.05	0.05	0.05
Transport Equipment	-	-	-
Other Assts	-	-	-
Total	**1.41**	**1.41**	**1.41**

MANGLA

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	26.97	26.97	26.97
Power Genereation	326.85	326.85	326.85
Transmission Line	-	-	-
Dams & Reservoir	214.98	214.98	214.98
General Plant & Assets	23.13	23.13	23.13
Office Equipment	1.72	1.72	1.72
Furniture & Fixtures	2.29	2.29	2.29
Transport Equipment	0.52	0.52	0.52
Other Assts	-	-	-
Total	**596.47**	**596.47**	**596.47**

Others

Asset Category	FY 2023-24 Depreciation For the Year	FY 2024-25 Depreciation For the Year	FY 2025-26 Depreciation For the Year
Free Hold Land	-	-	-
Building & Civil Works	-	-	-
Power Genereation	-	-	-
Transmission Line	-	-	-
Dams & Reservoir	-	-	-
General Plant & Assets	0.00	0.00	0.00
Office Equipment	100.04	100.04	100.04
Furniture & Fixtures	0.44	0.44	0.44
Transport Equipment	0.33	0.33	0.33
Other Assts	-	-	-
Total	**100.80**	**100.80**	**100.80**

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Annex – 10

RAB - Power Station Wise

Tarbela

	Mln Rs.	Mln Rs.	Mln Rs.
	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**8,959**	**12,492**	**13,146**
Additions			
Other Addition/Purchased/(Deletion)	4,625	1,135	2,441
New Cost transferred from CWIP			
Total Addition	**4,625**	**1,135**	**2,441**
(Deletions)			
Depreciation on Fixed Assets	(481)	(484)	(484)
Transfer/Adjustment	(611)	-	-
Total Deletion	**(1,092)**	**(484)**	**(484)**
Net Fixed Assets in Operation (Closing)	**12,492**	**13,142**	**15,102**
Average Net Fixed Assets in Operation	10,725	12,817	14,124

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	10,725	12,819	14,126
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	10,725	12,819	14,126
Financing of RAB			
Average Debt	7,508	8,973	9,888
Average Equity	3,218	3,846	4,238
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**1,427**	**1,706**	**1,879**

Warsak

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**1,010**	**987**	**1,000**
Additions			
Other Addition/Purchased/(Deletion)	24	59	71
New Constructions(from CWIP)			
Total Addition	**24**	**59**	**71**
(Deletions)			
Depreciation on Fixed Assets	(47)	(47)	(47)
Transfer/Adjustment	-	-	-
Total Deletion	**(47)**	**(67)**	**(67)**
Net Fixed Assets in Operation (Closing)	**987**	**1,000**	**1,024**
Average Net Fixed Assets in Operation	998	993	1,012

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	998	993	1,012
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	998	993	1,012
Financing of RAB			
Average Debt	699	695	708
Average Equity	300	298	304
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**133**	**132**	**135**

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Dubair

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**17,463**	**17,133**	**16,897**
Additions			
Other Addition/Purchased/(Deletion)	21	114	133
New Constructions(from CWIP)	-	-	-
Total Addition	**21**	**114**	**133**
(Deletions)			
Depreciation on Fixed Assets	(350)	(350)	(350)
Transfer/Adjustment	-	-	-
Total Deletion	**(350)**	**(350)**	**(350)**
Net Fixed Assets in Operation (Closing)	**17,133**	**16,897**	**16,680**
Average Net Fixed Assets in Operation	17,298	17,015	16,788

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	**FY 2023-24**	**FY 2024-25**	**FY 2025-26**
	Audited	*Provisional*	*Estimated*
Average RAB	17,298	17,015	16,788
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	17,298	17,015	16,788
Financing of RAB			
Average Debt	12,108	11,910	11,752
Average Equity	5,189	5,104	5,037
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**2,301**	**2,264**	**2,234**

Allai

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**11,003**	**10,694**	**10,481**
Additions			
Other Addition/Purchased/(Deletion)	9	105	117
New Constructions(from CWIP)	-	-	-
Total Addition	**9**	**105**	**117**
(Deletions)			
Depreciation on Fixed Assets	(318)	(318)	(318)
Transfer/Adjustment	-	-	-
Total Deletion	**(318)**	**(318)**	**(318)**
Net Fixed Assets in Operation (Closing)	**10,694**	**10,481**	**10,281**
Average Net Fixed Assets in Operation	10,849	10,588	10,381

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	10,849	10,588	10,381
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	10,849	10,588	10,381
Financing of RAB			
Average Debt	7,594	7,411	7,267
Average Equity	3,255	3,176	3,114
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**1,443**	**1,409**	**1,381**

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Khan

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**7,363**	**7,158**	**7,057**
Additions			
Other Addition/Purchased/(Deletion)	6	109	122
New Constructions(from CWIP)	-	-	-
Total Addition	**6**	**109**	**122**
(Deletions)			
Depreciation on Fixed Assets	(211)	(211)	(211)
Transfer/Adjustment	-	-	-
Total Deletion	**(211)**	**(211)**	**(211)**
Net Fixed Assets in Operation (Closing)	**7,158**	**7,057**	**6,968**
Average Net Fixed Assets in Operation	7,261	7,107	7,012

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	7,261	7,107	7,012
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	7,261	7,107	7,012
Financing of RAB			
Average Debt	5,082	4,975	4,909
Average Equity	2,178	2,132	2,104
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**966**	**946**	**933**

Jabban

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**2,763**	**2,652**	**2,574**
Additions			
Other Addition/Purchased/(Deletion)	10	43	52
New Constructions(from CWIP)	-	-	-
Total Addition	**10**	**43**	**52**
(Deletions)			
Depreciation on Fixed Assets	(121)	(121)	(121)
Transfer/Adjustment	-	-	-
Total Deletion	**(121)**	**(121)**	**(121)**
Net Fixed Assets in Operation (Closing)	**2,652**	**2,574**	**2,505**
Average Net Fixed Assets in Operation	2,707	2,613	2,539

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	2,707	2,613	2,539
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	2,707	2,613	2,539
Financing of RAB			
Average Debt	1,895	1,829	1,778
Average Equity	812	784	762
Cost of Debt (%age)	12.07%	12.07%	12.07%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**11.45%**	**11.45%**	**11.45%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**310**	**299**	**291**

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Dargai

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**73**	**71**	**78**
Additions			
Other Addition/Purchased/(Deletion)	2	11	16
New Constructions(from CWIP)	-	-	-
Total Addition	**2**	**11**	**16**
(Deletions)			
Depreciation on Fixed Assets	(3)	(3)	(3)
Transfer/Adjustment	0	-	-
Total Deletion	**(3)**	**(3)**	**(3)**
Net Fixed Assets in Operation (Closing)	**71**	**78**	**91**
Average Net Fixed Assets in Operation	72	75	84

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	72	75	84
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	72	75	84
Financing of RAB			
Average Debt	50	52	59
Average Equity	22	22	25
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**10**	**10**	**11**

Kurrm Garhi

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**145**	**150**	**187**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	10	42	53
New Constructions(from CWIP)	-	-	-
Total Addition	**10**	**42**	**53**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(5)	(5)	(5)
Transfer/Adjustment	-	-	-
Total Deletion	**(5)**	**(5)**	**(5)**
Net Fixed Assets in Operation (Closing)	**150**	**187**	**235**
Average Net Fixed Assets in Operation	148	169	211

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	148	169	211
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	148	169	211
Financing of RAB	0	0	0
Average Debt	103	118	148
Average Equity	44	51	63
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**20**	**22**	**28**

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Chitral

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**22**	**22**	**22**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	1	1	5
New Constructions(from CWIP)	-	-	-
Total Addition	**1**	**1**	**5**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(1)	(1)	(1)
Transfer/Adjustment	-	-	-
Total Deletion	**(1)**	**(1)**	**(1)**
Net Fixed Assets in Operation (Closing)	**22**	**22**	**25**
Average Net Fixed Assets in Operation	22	22	24

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	22	22	24
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	22	22	24
Financing of RAB	0	0	0
Average Debt	15	15	16
Average Equity	7	7	7
Cost of Debt (%age)	14.72%	14.72%	14.72%
ROE (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**3**	**3**	**3**

Tarbela 4th Extension

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**56,739**	**72,457**	**69,972**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	17,050	142	153
New Constructions(from CWIP)	-	-	-
Total Addition	**17,050**	**142**	**153**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(1,939)	(2,627)	(2,627)
Transfer/Adjustment	607	-	-
Total Deletion	**(1,332)**	**(2,627)**	**(2,627)**
Net Fixed Assets in Operation (Closing)	**72,457**	**69,972**	**67,497**
Average Net Fixed Assets in Operation	64,598	71,214	68,734

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	64,598	71,214	68,734
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	64,598	71,214	68,734
Financing of RAB	0	0	0
Average Debt	51,678	56,971	54,988
Average Equity	12,920	14,243	13,747
Cost of Debt (%age)	15.00%	15.00%	15.00%
ROE (%age)	10.00%	10.00%	10.00%
WACC (%age)	**14.00%**	**14.00%**	**14.00%**
Debt/Equity Ratio	**80:20**	**80:20**	**80:20**
(Return on Investment ROI)	**9,044**	**9,970**	**9,623**

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Golen Gol

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**27,392**	**26,596**	**25,940**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	10	150	3,891
New Constructions(from CWIP)	-	-	-
Total Addition	**10**	**150**	**3,891**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(806)	(806)	(863)
Transfer/Adjustment	-	-	-
Total Deletion	**(806)**	**(806)**	**(863)**
Net Fixed Assets in Operation (Closing)	**26,596**	**25,940**	**28,968**
Average Net Fixed Assets in Operation	26,994	26,268	27,454
Grant Opening Balance	3,773	3,622	3,471
During the year	-	-	-
Transfer / Amortization	151	151	151
Grant Closing Balance	3,622	3,471	3,320
Average Grant	3,697	3,546	3,395
Weighted Average Cost of Capital (WACC)			

WACC for Hydel Power Station

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	26,994	26,268	27,454
Less: Financing of RAB through Grant	3,697	3,546	3,395
RAB for Return Purpose	23,296	22,721	24,059
Financing of RAB	0	0	0
Average Debt	18,637	18,177	19,247
Average Equity	4,659	4,544	4,812
Cost of Debt (%age)	15.26%	15.26%	15.26%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**14.21%**	**14.21%**	**14.21%**
Debt/Equity Ratio	**80:20**	**80:20**	**80:20**
(Return on Investment ROI)	**3,310**	**3,228**	**3,418**

Gomal Zam

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**6,659**	**6,547**	**6,567**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	2	134	151
New Constructions(from CWIP)	-	-	-
Total Addition	**2**	**134**	**151**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(114)	(114)	(114)
Transfer/Adjustment	-	-	-
Total Deletion	**(114)**	**(114)**	**(114)**
Net Fixed Assets in Operation (Closing)	**6,547**	**6,567**	**6,604**
Average Net Fixed Assets in Operation	6,603	6,557	6,585
Grant Opening Balance	1,842	1,748	1,655
During the year	-	-	-
Transfer / Amortization	94	94	94
Grant Closing Balance	1,748	1,655	1,561
Average Grant	1,795	1,701	1,608
Weighted Average Cost of Capital (WACC)			

WACC for Hydel Power Station

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	6,603	6,557	6,585
Less: Financing of RAB through Grant	1,795	1,701	1,608
RAB for Return Purpose	4,808	4,855	4,978
Financing of RAB	0	0	0
Average Debt	3,365	3,399	3,484
Average Equity	1,442	1,457	1,493
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**640**	**646**	**662**

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Ghazi Barotha

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**58,782**	**57,203**	**55,697**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	65	145	172
New Constructions(from CWIP)	-	-	-
Total Addition	**65**	**145**	**172**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(1,651)	(1,651)	(1,651)
Transfer/Adjustment	7	-	-
Total Deletion	**(1,644)**	**(1,651)**	**(1,651)**
Net Fixed Assets in Operation (Closing)	**57,203**	**55,697**	**54,218**
Average Net Fixed Assets in Operation	57,992	56,450	54,958

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	57,992	56,450	54,958
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	57,992	56,450	54,958
Financing of RAB	0	0	0
Average Debt	40,594	39,515	38,470
Average Equity	17,398	16,935	16,487
Cost of Debt (%age)	9.79%	9.79%	9.79%
ROE (%age)	10.00%	10.00%	10.00%
WACC (%age)	**9.85%**	**9.85%**	**9.85%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**5,714**	**5,562**	**5,415**

Chashma

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**11,090**	**10,283**	**9,787**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	42	353	809
New Constructions(from CWIP)	-	-	-
Total Addition	**42**	**353**	**809**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(849)	(849)	(849)
Transfer/Adjustment	0	-	-
Total Deletion	**(849)**	**(849)**	**(849)**
Net Fixed Assets in Operation (Closing)	**10,283**	**9,787**	**9,747**
Average Net Fixed Assets in Operation	10,687	10,035	9,767

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	10,687	10,035	9,767
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	10,687	10,035	9,767
Financing of RAB	0	0	0
Average Debt	7,481	7,024	6,837
Average Equity	3,206	3,010	2,930
Cost of Debt (%age)	11.00%	11.00%	11.00%
ROE (%age)	10.00%	10.00%	10.00%
WACC (%age)	**10.70%**	**10.70%**	**10.70%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**1,143**	**1,074**	**1,045**

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Jinnah

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**14,225**	**13,849**	**13,489**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	35	51	61
New Constructions(from CWIP)	-	-	-
Total Addition	**35**	**51**	**61**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(411)	(411)	(411)
Transfer/Adjustment	-	-	-
Total Deletion	**(411)**	**(411)**	**(411)**
Net Fixed Assets in Operation (Closing)	**13,849**	**13,489**	**13,138**
Average Net Fixed Assets in Operation	14,037	13,669	13,313

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	14,037	13,669	13,313
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	14,037	13,669	13,313
Financing of RAB	0	0	0
Average Debt	9,826	9,568	9,319
Average Equity	4,211	4,101	3,994
Cost of Debt (%age)	14.72%	14.72%	14.72%
ROE (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**1,868**	**1,819**	**1,771**

Rasul

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**283**	**279**	**287**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	3	15	22
New Constructions(from CWIP)	-	-	-
Total Addition	**3**	**15**	**22**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(7)	(7)	(7)
Transfer/Adjustment	-	-	-
Total Deletion	**(7)**	**(7)**	**(7)**
Net Fixed Assets in Operation (Closing)	**279**	**287**	**303**
Average Net Fixed Assets in Operation	281	283	295

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	281	283	295
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	281	283	295
Financing of RAB	0	0	0
Average Debt	197	198	207
Average Equity	84	85	89
Cost of Debt (%age)	14.72%	14.72%	14.72%
ROE (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**37**	**38**	**39**

Pakistan Water and Power Development Authority LAHORE.

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Nandipur

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**66**	**65**	**73**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	3	12	17
New Constructions(from CWIP)	-	-	-
Total Addition	**3**	**12**	**17**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(3)	(3)	(3)
Transfer/Adjustment	0	-	-
Total Deletion	**(3)**	**(3)**	**(3)**
Net Fixed Assets in Operation (Closing)	**65**	**73**	**86**
Average Net Fixed Assets in Operation	65	69	80

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	65	69	80
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	65	69	80
Financing of RAB	0	0	0
Average Debt	46	48	56
Average Equity	20	21	24
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**9**	**9**	**11**

Shadiwal

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**117**	**143**	**193**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	30	53	65
New Constructions(from CWIP)	-	-	-
Total Addition	**30**	**53**	**65**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(4)	(4)	(4)
Transfer/Adjustment	0	-	-
Total Deletion	**(4)**	**(4)**	**(4)**
Net Fixed Assets in Operation (Closing)	**143**	**193**	**254**
Average Net Fixed Assets in Operation	130	168	223

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	130	168	223
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	130	168	223
Financing of RAB	0	0	0
Average Debt	91	118	156
Average Equity	39	50	67
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**17**	**22**	**30**

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Chichuki

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**82**	**81**	**94**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	3	17	22
New Constructions(from CWIP)	-	-	-
Total Addition	**3**	**17**	**22**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(4)	(4)	(4)
Transfer/Adjustment	-	-	-
Total Deletion	**(4)**	**(4)**	**(4)**
Net Fixed Assets in Operation (Closing)	**81**	**94**	**113**
Average Net Fixed Assets in Operation	81	88	104

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	81	88	104
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	81	88	104
Financing of RAB	0	0	0
Average Debt	57	61	73
Average Equity	24	26	31
Cost of Debt (%age)	14.72%	14.72%	14.72%
ROE (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**11**	**12**	**14**

Renala

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**20**	**21**	**21**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	3	2	6
New Constructions(from CWIP)	-	-	-
Total Addition	**3**	**2**	**6**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(1)	(1)	(1)
Transfer/Adjustment	-	-	-
Total Deletion	**(1)**	**(1)**	**(1)**
Net Fixed Assets in Operation (Closing)	**21**	**21**	**25**
Average Net Fixed Assets in Operation	20	21	23

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Average RAB	20	21	23
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	20	21	23
Financing of RAB	0	0	0
Average Debt	14	15	16
Average Equity	6	6	7
Cost of Debt (%age)	14.72%	14.72%	14.72%
ROE (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**3**	**3**	**3**

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Mangla

	FY 2023-24	FY 2024-25	FY 2025-26
	Audited	*Provisional*	*Estimated*
Fixed Assets in Operation (At Historical Cost)			
Net Fixed Assets in Operation (Opening)	**24,115**	**23,601**	**23,313**
Additions	-	-	-
Other Addition/Purchased/(Deletion)	82	308	340
New Constructions(from CWIP)	-	-	-
Total Addition	**82**	**308**	**340**
(Deletions)	-	-	-
Depreciation on Fixed Assets	(596)	(596)	(596)
Transfer/Adjustment	-	-	-
Total Deletion	**(596)**	**(596)**	**(596)**
Net Fixed Assets in Operation (Closing)	**23,601**	**23,313**	**23,056**
Average Net Fixed Assets in Operation	23,858	23,457	23,184

Weighted Average Cost of Capital (WACC)

WACC for Hydel Power Station	FY 2022-23	FY 2022-23	FY 2022-23
	Projected	*Projected*	*Projected*
Average RAB	23,858	23,457	23,184
Less: Financing of RAB through Grant	-	-	-
RAB for Return Purpose	23,858	23,457	23,184
Financing of RAB	0	0	0
Average Debt	16,701	16,420	16,229
Average Equity	7,157	7,037	6,955
Cost of Debt (%age)	14.72%	14.72%	14.72%
R0E (%age)	10.00%	10.00%	10.00%
WACC (%age)	**13.31%**	**13.31%**	**13.31%**
Debt/Equity Ratio	**70:30**	**70:30**	**70:30**
(Return on Investment ROI)	**3,174**	**3,121**	**3,085**

Pakistan Water & Power Development Authority LAHORE.

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Annex – 11

Annex – 12

Annex – 13

PAKISTAN
WATER AND POWER DEVELOPMENT AUTHORITY

738 WAPDA House,
Lahore, Pakistan
Phone: 042-99202225
Fax : 042-99202486
APS/M(P)/ 11148-51
Dated: 17.01.2025

Member (Power)

The Secretary
Ministry of Water Resources, GoP,
6-Ataturk Avenue, G-5/1, Islamabad

Attn: Mr. Saleem Sajid, Deputy Chief (Dev.)

Subject: **Mangla Refurbishment Project (MRP) – Extension in Implementation Period**

The generating units of Mangla Hydel Power Station had outlived their useful lifespan, so WAPDA has undertaken Mangla Refurbishment Project to ensure reliable operations for another 35–years lifecycle, upgrading to the latest technologies, and enhancing the per Unit capacity (from 100 MW to 135 MW) by availing of the improved hydrology in post Mangla Dam raising scenario.

PC–1 of the Project received the approval of ECNEC on 31 December 2013 for a total cost of $483.558 million (i.e. eq. PKR 52,224.307 million) with its implementation period ending in Feb.2025. It was conceived that the Project would be implemented through eleven (11) Contract Packages and a Consultancy Services Agreement.

G.M/P.D MRP has mentioned that so far four (04), out of the eleven (11) contract packages, are complete, while the work on six (06) remaining packages has made substantial progress as produced in the table:

PACKAGE	SCOPE	CONTRACTOR	STATUS
P1+7	Turbine–Generators 1–6	GE Hydro France	In progress (92%)
P2	Powerhouse Cranes	Zirva-ISIK-Petrocon	Complete & Closed
P3A	Transformers 3–6	Chint China	Complete & Closed
P3B	Transformers 1–2	BTW China	Complete
P3C	Transformers 9–10	Chint China	In progress, scheduled completion June 2025
P4	Inlet Valves Supplies	Kokusai Japan	Complete & Closed
P5	BoP – Mechanical	Zhejiang Orient China	In progress (92%)
P6+8	BoP – Electrical & Controls	Sinohydro China	In progress (52%)
P9	Switchyard	CAMCE China	In progress (91%)
P10	Turbine–Generators 7–8	(to be awarded)	Consultancy hiring in process
P11	Turbine–Generators 9–10	GE Hydro France	In progress (61%)
Consultancy	(MWH–NESPAK–ACE)	MRPS–JV	In place

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The overall Physical Progress of the Project is 69%, while the overall financial progress is 56%. The project is financed by a USAID grant, two AFD loans, and WAPDA equity.

The status of financing is produced below:

FINANCING	GRANT/LOAN		STATUS
USAID	USD 150 million	(Grant)	100% grant realized in the Assignment Account, to be spent for contractual payments until completion of the Project.
AFD	EUR 90 million	(Loan-1)	€ 60 million drawn, credit facility agreement valid until April 2026
	EUR 80 million	(Loan-2)	€ 80 million committed, starting Q1 2026, with 5–year grace period
WAPDA	PKR 20,495 million	(Equity)	To Cover Local Currency Requirements esp. duties & taxes

As evident from the above status, 100% financing for USAID–funded activities has been secured, and the same will remain available till completion of the Project. The other financer i.e. AFD has already extended the term of their existing (sovereign) loan till April 2026 and is carrying out an appraisal of loan on the basis of the latest project timeline, i.e. in line with the extended implementation period. The baseline project implementation schedule and tentative revised schedule are attached **(Annex-I)**. The Contractual timelines show that the Project will be completed by FY 2028–29.

It is relevant to mention that there is no change in the scope of the project, and its cost is also within the allowable band as per the Original PC–1. However, the implementation period needs an extension until FY 2028–29, for which the case on the prescribed proforma is enclosed **(Annex-II)**.

As per Manual for the Development Projects-2024 of Ministry of Planning, Development & Special Initiatives, under Sr. (iii) of *"Extension in Implementation Period"* states that in case of the federally administered development projects, further extension in the execution period will be granted by the DDWP of the ministry/ division concerned based on reasons of delay in execution, irrespective of the approving forums **(Annex-III)**.

It is relevant to mention that earlier in October-2024 the matter for extension in implementation period of MRP was taken up with the MoWR, GoP. However, the MoWR responded vide letter No. 1(237)2012-AC dated: 19.11.2024 **(Annex-IV)** that as per approved PC-I the implementation period of the project is 11 years, which is expiring in February, 2025 and it was further added that the case for extension be resubmitted in January-2025.

Foregoing in view, it is therefore, requested that approval of DDWP to extend the implementation period of the Mangla Refurbishment Project up to 30.06.2029 may kindly be arranged.

DA:/As above

(Jamil Akhtar)
Member (Power)
17/01/25

CC:-

- General Manager Hydel (Development) WAPDA, 105 – WAPDA House, Lahore.
- GM/PD Mangla Refurbishment Project, Mangla.
- SO to Member (Power) WAPDA, 738-Wapda House Lahore.

Pakistan Water & Power Development Authority LAHORE.

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Mangla
Refurbishment
Project

PD (MRP) u.o No. 842
Dated: 16/09/2024

Subject: EXTENSION IN IMPLEMENTATION PERIOD – MANGLA REFURBISHMENT PROJECT

1. As the generating units of Mangla Hydel Power Station had outlived their useful lifespan, WAPDA has undertaken Mangla Refurbishment Project to ensure reliable operations for another 35–years lifecycle, upgrading to the latest technologies, and enhancing the per Unit capacity (from 100 MW to 135 MW) by availing of the improved hydrology in post Mangla Dam raising scenario.

2. PC–1 of the Project received the approval of ECNEC on 31 December 2013 for a total cost of $483.558 million (i.e. eqPKR 52,224.307 million) with its implementation period ending in 2023–24. It was conceived that the Project would be implemented through eleven (11) Contract Packages and a Consultancy Services Agreement.

3. Currently, four (04) out of the eleven (11) contract packages are complete, while the work on six (06) remaining packages has made substantial progress as produced in the table:

PACKAGE	SCOPE	CONTRACTOR	STATUS
P1+7	Turbine–Generators 1–6	GE Hydro France	In progress (90%)
P2	Powerhouse Cranes	Zirva-ISIK-Petrocon	Complete & Closed
P3A	Transformers 3–6	Chint China	Complete & Closed
P3B	Transformers 1–2	BTW China	Complete
P3C	Transformers 9–10	Chint China	In progress, scheduled completion June 2025
P4	Inlet Valves Supplies	Kokusai Japan	Complete & Closed
P5	BoP – Mechanical	Zhejiang Orient China	In progress (91%)
P6+8	BoP – Electrical & Controls	Sinohydro China	In progress (50%)
P9	Switchyard	CAMCE China	In progress (91%)
P10	Turbine–Generators 7–8	(to be awarded)	Consultancy hiring in process
P11	Turbine–Generators 9–10	GE Hydro France	In progress (56%)
Consultancy	(MWH–NESPAK–ACE)	MRPS–JV	In place

The overall Physical Progress of the Project is 67%, while the overall financial progress is 53%. The Contractual timelines show that the Project will be completed by FY 2028–29.

4. The project is financed by a USAID grant, two AFD loans, and WAPDA equity. The status of financing is Produced below:

FINANCING	GRANT/LOAN	STATUS
USAID	USD 150 million (Grant)	100% grant realized in the Assignment Account, to be spent for contractual payments until completion of the Project.
AFD	EUR 90 million (Loan-1)	€ 60 million drawn, credit facility agreement valid until April 2026
	EUR 80 million (Loan-2)	€ 80 million committed, starting Q1 2026, with 5–year grace period
WAPDA	PKR 20,495 million (Equity)	to Cover Local Currency Requirements esp. duties & taxes

As evident from the above status, 100% financing for USAID–funded activities has been secured, and the same will remain available till completion of the Project. The other financer i.e. AFD has already extended the term of their existing (sovereign) loan till April 2026 and is carrying out an appraisal of Loan on the basis of the latest Project Timeline, i.e. in line with the Extended Implementation Period.

Pakistan Water & Power Development Authority LAHORE

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Mangla
Refurbishment
Project

EXTENSION IN IMPLEMENTATION PERIOD – MANGLA REFURBISHMENT PROJECT

5. The need for an extension in the implementation period is produced hereunder:

   i. Currently, six (06) Contracts are underway with their Contractors mobilized and substantial progress has been made. Extension in the Implementation Period is imperative for completion of the Projects.

   ii. The Project is a unique large–scale refurbishment project of a power station without shutting it down. Only 01 tunnels (02 turbines) is shut down at a time for the refurbishment works, while the remaining eight (08) units / four (04) tunnels remain available and operational for generation/ irrigation respectively.

   iii. As the Project Activities are being carried out in the same facility where the Operations/Maintenance of the remaining units takes place, sharing of space, supplies (power, station air, water) and lifting equipment makes the Project complicated.

   iv. The Contracts are awarded on an assessed–condition basis. If an unforeseen deterioration is observed upon dismantling, additional remedial/corrective measures are undertaken to ensure that the generating units maintain a reliable operation for another lifecycle of ~35 years.

   v. Due to the limitations of Workshops in Pakistan, some of such repair/refurbishment/remedial activities are carried out offshore (through temporary export), which takes time not only in marine transit but also due to the exhaustive documentation as not all the records of the equipment are readily available.

   vi. Bidding of Main Package (P1) was annulled and re–tendering was resorted that resulted in the lapse of 16 months.

   vii. Other challenges include delay in issuance of import FIs at NBP, delay in issuance of foreigners' movement NOCs from MoI, and delay in FC payments to the Contractors due to SBP procedures and limited Rupees Cover allocation.

6. There is no Change in the Scope of the Project, and its Cost is also within the allowable band as per the Original PC–1. However, the **implementation period needs an extension until FY 2028–29, for which the case on the prescribed proforma is enclosed**. (**Annex**)

7. Apropos, O/o General Manager Hydel (Development) may please be approached to take up the Case for Extension in the Implementation Period in respect of Mangla Refurbishment Project with Ministry of Water Resources for its approval from Department Development Working Party (DDWP).

16.09.2024

Assistant Executive Engineer
Mangla Refurbishment Project

8. **XEN (MRP)**
9. **SE/PE (MRP)** *Post Vacant*
10. **GM/PD (MRP)**

The case is forwarded/recommended to be taken up with MoWR for its approval from DDWP as solicited in para-7, please.

16/09/24

11. G.M. Hydel Development.

Pakistan Water & Power Development Authority LAHORE.

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GOVERNMENT OF PAKISTAN
Planning Commission
Ministry of Planning, Development & Reform
(Public Investment Authorization Section)
****

EXTENSION IN EXECUTION PERIOD OF DEVELOPMENT PROJECTS FROM DDWP ~~/ CDWP / ECNEC~~

Name of sponsoring Ministry / Agency: Ministry of Water Resources, Government of Pakistan
Name of Executing Agency: General Manager Hydel (Development)
Water and Power Development Authority (WAPDA)
Sector / sub-sector: Renewable Energy / Hydropower

(PKR. in million)

1	**Name of the Project:**	Refurbishment & Up-Gradation of Generating Units of Mangla Power Station		
2	**Location:**	Mangla Hydroelectric Power Station, Mirpur, Azad Jammu & Kashmir.		
3	**Date of Approval:**	**DDWP**	**CDWP**	**ECNEC**
	(a) Original:	–	–	31 December 2013
	(b) Last revised, if any:	–	–	–
4	**Approved Cost:**	**Total**	**Local**	**FEC**
	(a) Original: (Equivalent)	$483.558 million (eqPKR 52,224.307m)	$189.773 million (PKR 20,495.455m)–40%	$293.786 million (eqPKR 31,728.853m)–60%
	(b) Last revised, if any:	–	–	–
5	**Objectives**	• Refurbishment & Upgradation of the existing generating units and auxiliary Systems of Mangla Hydroelectric Power Station to maintain the utilization of low-cost hydropower at Mangla and to provide reliable and consistent power to the National Grid for another 35 years life cycle. • To enhance the capacity and power production of Mangla Power Station from 1000 to 1310 MW by equipment upgrades, modernization and replacements as required for achieving the enhanced output. • Modernization of the Balance of Plant (BOP), Switchyard and peripheral equipment by replacements and refurbishments as proposed in the Feasibility Study to overcome the existing problems due to aging of equipment		
6	**Commencement date**	**As per Original PC-I**	**Actual**	
		2013–14	29 August 2016	
7	**Completion Date**	**As per Original / Revised PC-I**	**Expected**	
		30 June 2024	30 June 2029	

8 **Year-wise financial phasing, releases, and utilization**

Fiscal Year	Phasing as per Approved PC-I (latest)		PSDP Allocation		Actual Amount Released		Actual Utilization	
	Total	FEC	Total	FEC	Total	FEC	Total	FEC
1	2	3	4	5	6	7	8	9
2013-14	821.166	639.655					144.433	–
2014-15	6,036.380	4,657.816					345.417	305.087
2015-16	7,241.944	5,419.621	3,395	2,170	–	–	347.658	217.208
2016-17	7,847.950	5,674.487	3,995	1,411	–	–	1,122.059	1031.849
2017-18	3,155.864	1,810.642	3,478	800	–	–	2,676.870	2,116.330
2018-19	7,205.571	4,590.714	4,985	840	–	–	2,642.925	1,379.174
2019-20	7,189.206	4,094.340	5,577	1,500	–	–	4,603.027	3,747.577
2020-21	6,286.188	3,022.358	5,024	1,200	–	–	5,447.409	3,471.909
2021-22	2,555.705	982.183	3,028	772	–	–	4,044.565	3,334.311
2022-23	2,303.819	707.467	3,299	1,200	–	–	4,219.642	3,061.937
2023-24	1,580.513	129.569	4,010	1,000	–	–	6,429.690	4,118.314
Total	**52,224.307**	**31,728.853**	**36,791**	**10,893**	–	–	**32023.695**	**22,783.696**

Pakistan Water & Power Development Authority LAHORE.

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9 Itemized cost as per approved PC-I and utilization (major items)

PACKAGE	SCOPE	CONTRACTOR	PC-I Provision	Cumulative utilization up-to-date	Balance Funds required
1	2	3	4	5	6
P1	Turbine–Generators 5–6	GE Hydro France	**6,091.36**	**10,190.685**	**6743.065**
P7	Turbine–Generators 1–4	GE Hydro France	**10,842.39**		
P2	Powerhouse Cranes	Zirva-ISIK-Petrocon	**188.86**	**394.174**	**-205.314**
P3	Power Transformers	Chint/BTW China	**3,336.92**	**744.228**	**2592.692**
P4	Turbine Inlet Valves	Kokusai Japan	**582.12**	**734.582**	**-152.462**
P5	BoP – Mechanical	Zhejiang Orient China	**3,412.19**	**1,972.040**	**1,440.150**
P6	BoP – Electrical	Sinohydro China	**3,358.51**	**1,608.034**	**2,848.036**
P8	Control, Instr, Protection	Sinohydro China	**1,097.56**		
P9	Switchyard	CAMCE China	**964.89**	**1,555.396**	**-590.506**
P10	Turbine–Generators 7–8	(to be awarded)	**5,633.27**	–	**5,633.270**
P11	Turbine–Generators 9–10	GE Hydro France	**5,710.97**	**3,394.363**	**2,316.607**
	Engineering & Supervision	MWH-NESPAK-ACE	**inclusive**	**4,571.270**	**-4,571.270**
	Project Management		**inclusive**	**778.746**	**-778.746**
	Custom Duties		**inclusive**	**2,971.864**	**-2,971.864**
	IDC		**11,005.25**	**3,108.292**	**7,896.958**
Total			**52,224.31**	**32,023.696**	**20,200.616**

10. Physical Progress (%): 67%

PACKAGE	SCOPE	CONTRACTOR	STATUS
P1+7	Turbine–Generators 1–6	GE Hydro France	In progress (90%)
P2	Powerhouse Cranes	Zirva-ISIK-Petrocon	Complete & Closed
P3A	Power Transformers 3–6	Chint China	Complete & Closed
P3B	Power Transformers 1–2	BTW China	Complete
P3C	Power Transformers 9–10	Chint China	In progress (Completing June 2025)
P4	Turbine Inlet Valves	Kokusai Japan	Complete & Closed
P5	BoP – Mechanical	Zhejiang Orient China	In progress (91%)
P6+8	BoP – Electrical & Controls	Sinohydro China	In progress (50%)
P9	Switchyard	CAMCE China	In progress (91%)
P10	Turbine–Generators 7–8	Not Awarded	Consultancy hiring process
P11	Turbine–Generators 9–10	GE Hydro France	In progress (56%)

11 No. of previous extensions (indicate approving authority and period with dates): Nil

12 Extension required (indicate period with dates): 30th June 2029 (05 years)

13. Main reasons/justification for Extension:

- Currently, six (06) Contracts are underway with their Contractors mobilized and substantial progress has been made. Extension in the Implementation Period is imperative for completion of the Contracts.
- The Project is a unique large-scale refurbishment project of a power station without shutting it down. Only 01 tunnel (02 turbines) is shut down at a time for the refurbishment works, while the remaining eight (08) units / four (04) tunnels remain available and operational for generation/ irrigation respectively.
- As the Project Activities are being carried out in the same facility where the Operations/Maintenance of the remaining units takes place, sharing of space, supplies (power, station air, water) and lifting equipment makes the Project complicated.
- The Contracts are awarded on an assessed-condition basis. If an unforeseen deterioration is observed upon dismantling, additional remedial/corrective measures are undertaken to ensure that the generating units maintain a reliable operation for another lifecycle of ~35 years.
- Due to the limitations of Workshops in Pakistan, some of such repair/refurbishment/remedial activities are carried out offshore (through temporary export), which takes time not only in marine transit but also due to the exhaustive documentation as not all the records of the equipment are readily available.
- Bidding of Main Package (P1) faced annulment and re-tendering was resorted resulting in lapse of 16 months.

14 Bottlenecks/issues in Implementation of the Project, if any:

- Protracted processes at SBP for processing of FC Payments to Contractors
- Insufficient Rupees Cover Allocation for foreign currency payments
- Delays faced in issuance of import FIs at NBP
- Time taken in issuance of foreigners' movement NOCs from the MoI.
- Arduous security requirements (movement/residence) for foreigner expatriates esp. Chinese nationals working on the Project.

General Manager / Project Director
Mangla Refurbishment Project
WAPDA

Pakistan Development Authority LAHORE

Annex – 14

PAKISTAN

WATER AND POWER DEVELOPMENT AUTHORITY

Telephone: 042 – 99202189
Fax: 042 – 36369004
Email: gmhydeldev@hotmail.com

Office of the
General Manager (Hydel) Dev.
104 – Wapda House Lahore

No. 16681-83 / GMHD / CEHD / PR – IB – II

Dated: 09.08.2024

Secretary
Ministry of Water Resources
6 Attaturk Avenue, G – 5/1,
Islamabad

Attention: *Mr. Saleem Sajid – Deputy Chief Development MoWR*

Subject: **1ST REVISED PC-I OF WARSAK 2ND REHABILITATION PROJECT – AUGUST 2024**

Enclosed find herewith 1st revised PC-I of Warsak 2nd Rehabilitation Project for review and seeking approval from competent forum, as per practice in vogue, please.

DA: As above.

(IHSAN ULAH)
General Manager (Hydel) Dev.

Copy to:

- Member (Power) – Wapda, 738 Wapda House, Lahore.
- CE / PD Warsak 2ND Rehabilitation Project for follow-up and coordination.
- Director (Hydel) Development – II, 202 Wapda House, Lahore
- Master File.

Pakistan Water & Power Development Authority LAHORE

PC-1

WARSAK HYDROELECTRIC POWER STATION 2nd REHABILITATION (1st Revision)

ORIGINAL APPROVED COST	**PKR Million. 22,254.235/-**
1st REVISED PROPOSED COST	**PKR Million. 61,648.502/-**
ORIGINAL APPROVED GESTATION	**7 Year(s) (84 Months)** **Till October 2022**
1st REVISED PROPOSED GESTATION	**11 Year(s) & 6 Months (138 Months)** **Till February 2027**
APPROVAL FORUM	**ECNEC**

Pakistan Water & Power Development Authority LAHORE.

Annex – 15

RAB - Projects Wise

Basha Dam - Consolidated

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	238,531	283,492	327,451
Add: Investment During the Year	44,961	43,959	62,600
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	**283,492**	**327,451**	**390,051**
Average Capital Work in Progress	261,011	305,471	358,751
Cost of Debt	10%	10%	10%
Grant Opening Balance	120,978	145,978	166,157
During the year	25,000	20,179	42,757
Transfer / Amortization	-	-	-
Grant Closing Balance	145,978	166,157	208,913
Average Grant	**133,478**	**156,067**	**187,535**

WACC for Hydel Power Project		FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	(Mln Rs)	261,011	305,471	358,751
Less: Financing of RAB through Grant	(Mln Rs)	133,478	156,067	187,535
RAB netoff Grant - A	(Mln Rs)	**127,533**	**149,404**	**171,216**
RAB - For Power Sector 49% of Average RAB of Dam Part + 100% RAB net off Grant of PGP - B	(Mln Rs)	**128,022**	**149,943**	**174,905**
RAB for Return Purpose (Min. of A&B)	(Mln Rs)	**127,533**	**149,404**	**171,216**
Financing of RAB (Through Debt & Equity)				
Average Debt	(Mln Rs)	102,027	119,523	136,973
Average Equity	(Mln Rs)	25,507	29,881	34,243
Debt/Equity Financing Ratio				
Debt	(%)	80%	80%	80%
Equity	(%)	20%	20%	20%
WACC				
Cost of Debt	(%)	10.2%	10.2%	10.2%
Return on Equity	(%)	10.0%	10.0%	10.0%
WACC	(%)	**10.1%**	**10.1%**	**10.1%**
(Return on Investment ROI)	(Mln Rs)	**12,928**	**15,145**	**17,356**

Basha Dam (Dam Part and LA&R)

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	238,531	282,998	325,813
Add: Investment During the Year	44,467	42,815	60,000
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	**282,998**	**325,813**	**385,813**
Average Capital Work in Progress	260,764	304,405	355,813
Cost of Debt	10%	10%	10%
Grant Opening Balance	120,978	145,978	165,594
During the year	25,000	19,616	39,119
Transfer / Amortization	-	-	-
Grant Closing Balance	145,978	165,594	204,712
Average Grant	**133,478**	**155,786**	**185,153**

WACC for Hydel Power Project		FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	(Mln Rs)	260,764	304,405	355,813
Less: Financing of RAB through Grant	(Mln Rs)	133,478	155,786	185,153
RAB netoff Grant - A	(Mln Rs)	127,286	148,619	170,659
RAB allowed for Power Sector 49% of Average RAB - B		**127,774**	**149,158**	**174,348**
RAB for Return Purpose (Min. of A&B)		**127,286**	**148,619**	**170,659**
Financing of RAB (Through Debt & Equity)				
Average Debt	(Mln Rs)	101,829	118,895	136,527
Average Equity	(Mln Rs)	25,457	29,724	34,132
Debt/Equity Financing Ratio				
Debt	(%)	80%	80%	80%
Equity	(%)	20%	20%	20%
WACC				
Cost of Debt	(%)	10.2%	10.2%	10.2%
Return on Equity	(%)	10.0%	10.0%	10.0%
WACC	(%)	**10.1%**	**10.1%**	**10.1%**
(Return on Investment ROI)	(Mln Rs)	**12,903**	**15,066**	**17,300**

Basha Dam (Power Generation Part)

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	-	494	1,638
Add: Investment During the Year	494	1,144	2,600
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	**494**	**1,638**	**4,238**
Average Capital Work in Progress	247	1,066	2,938
Cost of Debt	10%	10%	10%
Grant Opening Balance	-	-	563
During the year	-	563	3,638
Transfer / Amortization	-	-	-
Grant Closing Balance	-	563	4,201
Average Grant	**-**	**281**	**2,382**

WACC for Hydel Power Project		FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	(Mln Rs)	247	1,066	2,938
Less: Financing of RAB through Grant	(Mln Rs)	-	281	2,382
RAB for Return Purpose	(Mln Rs)	**247**	**785**	**556**
Financing of RAB (Through Debt & Equity)				
Average Debt	(Mln Rs)	198	628	445
Average Equity	(Mln Rs)	49	157	111
Debt/Equity Financing Ratio				
Debt	(%)	80%	80%	80%
Equity	(%)	20%	20%	20%
WACC				
Cost of Debt	(%)	10.2%	10.2%	10.2%
Return on Equity	(%)	10.0%	10.0%	10.0%
WACC	(%)	**10.1%**	**10.1%**	**10.1%**
(Return on Investment ROI)	(Mln Rs)	**25**	**80**	**56**

Pakistan Water & Power Development Authority LAHORE

Tarbela 4th Extension

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	-	-	-
Add: Investment During the Year	-	-	-
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	-	-	-
Average Capital Work in Progress	-	-	-
Cost of Debt	15%	15%	15%
Grant Opening Balance	-	-	-
During the year	-	-	-
Transfer / Amortization	-	-	-
Grant Closing Balance	-	-	-
Average Grant	-	-	-

WACC for Hydel Power Project	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	-	-	-
Less: Financing of RAB through Grant	-	-	-
	-	-	-
Financing of RAB (Through Debt & Equity)			
Average Debt	-	-	-
Average Equity	-	-	-
Debt/Equity Financing Ratio			
Debt	80%	80%	80%
Equity	20%	20%	20%
WACC			
Cost of Debt	15.0%	15.0%	15.0%
Return on Equity	10.0%	10.0%	10.0%
WACC	**0.0%**	**0.0%**	**0.0%**
(Return on Investment ROI)	-	-	-

Golen Gol

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	866	1,269	1,270
Add: Investment During the Year	403	1	2,465
Less: CWIP Transferred to Fixed Assets	-	-	(3,735)
Capital Work In Progress (Excl. IDC) Closing	**1,269**	**1,270**	**0**
Average Capital Work in Progress	1,067	1,270	635
Cost of Debt	15%	15%	15%

WACC for Hydel Power Project	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	1,067	1,270	635
Less: Financing of RAB through Grant	-	-	-
	1,067	1,270	635
Financing of RAB (Through Debt & Equity)			
Average Debt	854	1,016	508
Average Equity	213	254	127
Debt/Equity Financing Ratio			
Debt	80%	80%	80%
Equity	20%	20%	20%
WACC			
Cost of Debt	15.3%	15.3%	15.3%
Return on Equity	10.0%	10.0%	10.0%
WACC	**14.2%**	**14.2%**	**14.2%**
(Return on Investment ROI)	**152**	**180**	**90**

Dasu

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	182,795	231,674	279,022
Add: Investment During the Year	48,879	47,348	78,300
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	**231,674**	**279,022**	**357,322**
Average Capital Work in Progress	207,235	255,348	318,172
Cost of Debt	14%	14%	14%

WACC for Hydel Power Project	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	207,235	255,348	318,172
Less: Financing of RAB through Grant	-	-	-
	207,235	255,348	318,172
Financing of RAB (Through Debt & Equity)			
Average Debt	165,788	204,279	254,538
Average Equity	41,447	51,070	63,634
Debt/Equity Financing Ratio			
Debt	80%	80%	80%
Equity	20%	20%	20%
WACC			
Cost of Debt	14.2%	14.2%	14.2%
Return on Equity	10.0%	10.0%	10.0%
WACC	**13.4%**	**13.4%**	**13.4%**
(Return on Investment ROI)	**27,727**	**34,164**	**42,569**

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2/K

Keyal Khwar

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	-	-	-
Add: Investment During the Year	-	-	-
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	-	-	-
Average Capital Work in Progress	-	-	-
Cost of Debt	14%	14%	14%

WACC for Hydel Power Project

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	-	-	-
Less: Financing of RAB through Grant	-	-	-
	-	-	-
Financing of RAB (Through Debt & Equity)			
Average Debt	-	-	-
Average Equity	-	-	-
Debt/Equity Financing Ratio			
Debt	80%	80%	80%
Equity	20%	20%	20%
WACC			
Cost of Debt	14.2%	14.2%	14.2%
Return on Equity	10.0%	10.0%	10.0%
WACC	**0.0%**	**0.0%**	**0.0%**
(Return on Investment ROI)	-	-	-

Mangla Rehabilitation

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	22,519	28,075	42,085
Add: Investment During the Year	5,555	14,010	14,180
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	**28,075**	**42,085**	**56,265**
Average Capital Work in Progress	25,297	35,080	49,175
Cost of Debt	12%	12%	12%
Grant Opening Balance	17,124	22,327	25,531
During the year	5,204	3,204	1,204
Transfer / Amortization	-	-	-
Grant Closing Balance	22,327	25,531	26,735
Average Grant	**19,725**	**23,929**	**26,133**

WACC for Hydel Power Project

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	25,297	35,080	49,175
Less: Financing of RAB through Grant	19,725	23,929	26,133
	5,571	11,150	23,041
Financing of RAB (Through Debt & Equity)			
Average Debt	4,457	8,920	18,433
Average Equity	1,114	2,230	4,608
Debt/Equity Financing Ratio			
Debt	80%	80%	80%
Equity	20%	20%	20%
WACC			
Cost of Debt	12.0%	12.0%	12.0%
Return on Equity	10.0%	10.0%	10.0%
WACC	**11.6%**	**11.6%**	**11.6%**
(Return on Investment ROI)	**646**	**1,293**	**2,673**

Warsak 2nd Rehabilitation

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	3,831	9,286	16,990
Add: Investment During the Year	5,455	7,704	8,950
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	**9,286**	**16,990**	**25,940**
Average Capital Work in Progress	6,558	13,138	21,465
Cost of Debt	15%	15%	15%
Grant Opening Balance	407	696	984
During the year	288	288	288
Transfer / Amortization	-	-	-
Grant Closing Balance	696	984	1,272
Average Grant	**552**	**840**	**1,128**

WACC for Hydel Power Project

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	6,558	13,138	21,465
Less: Financing of RAB through Grant	552	840	1,128
	6,007	12,298	20,337
Financing of RAB (Through Debt & Equity)			
Average Debt	4,805	9,838	16,269
Average Equity	1,201	2,460	4,067
Debt/Equity Financing Ratio			
Debt	80%	80%	80%
Equity	20%	20%	20%
WACC			
Cost of Debt	15.0%	15.0%	15.0%
Return on Equity	10.0%	10.0%	10.0%
WACC	**14.0%**	**14.0%**	**14.0%**
(Return on Investment ROI)	**841**	**1,722**	**2,847**

Pakistan Water & Power Development Authority LAHORE

Mohmand Dam

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	133,269	175,641	212,760
Add: Investment During the Year	42,372	37,119	35,000
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	**175,641**	**212,760**	**247,760**
Average Capital Work in Progress	154,455	194,200	230,260
Cost of Debt	15%	15%	15%
Grant Opening Balance	63,568	74,531	81,731
During the year	10,963	7,200	22,846
Transfer / Amortization	-	-	-
Grant Closing Balance	74,531	81,731	104,578
Average Grant	**69,050**	**78,131**	**93,154**

WACC for Hydel Power Project

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	154,455	194,200	230,260
Less: Financing of RAB through Grant	69,050	78,131	93,154
RAB for return Purpose	85,405	116,069	137,105
Financing of RAB (Through Debt & Equity)			
Average Debt	68,324	92,855	109,684
Average Equity	17,081	23,214	27,421
Debt/Equity Financing Ratio			
Debt	80%	80%	80%
Equity	20%	20%	20%
WACC			
Cost of Debt	15.0%	15.0%	15.0%
Return on Equity	10.0%	10.0%	10.0%
WACC	14.0%	14.0%	14.0%
(Return on Investment ROI)	**11,957**	**16,250**	**19,195**

Tarbela 5th Extension

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	31,828	63,343	101,556
Add: Investment During the Year	31,516	38,213	50,000
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	**63,343**	**101,556**	**151,556**
Average Capital Work in Progress	47,585	82,450	126,556
Cost of Debt	12%	12%	12%

WACC for Hydel Power Project

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	47,585	82,450	126,556
Less: Financing of RAB through Grant	-	-	-
	47,585	82,450	126,556
Financing of RAB (Through Debt & Equity)			
Average Debt	38,068	65,960	101,245
Average Equity	9,517	16,490	25,311
Debt/Equity Financing Ratio			
Debt	80%	80%	80%
Equity	20%	20%	20%
WACC			
Cost of Debt	12.0%	12.0%	12.0%
Return on Equity	10.0%	10.0%	10.0%
WACC	11.6%	11.6%	11.6%
(Return on Investment ROI)	**5,520**	**9,564**	**14,681**

Dargai

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	-	169	1,252
Add: Investment During the Year	169	1,083	1,000
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	**169**	**1,252**	**2,252**
Average Capital Work in Progress	85	711	1,752
Cost of Debt	12%	12%	12%

WACC for Hydel Power Project

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	85	711	1,752
Less: Financing of RAB through Grant	-	-	-
	85	711	1,752
Financing of RAB (Through Debt & Equity)			
Average Debt	68	569	1,402
Average Equity	17	142	350
Debt/Equity Financing Ratio			
Debt	80%	80%	80%
Equity	20%	20%	20%
WACC			
Cost of Debt	12.3%	12.3%	12.3%
Return on Equity	10.0%	10.0%	10.0%
WACC	11.9%	11.9%	11.9%
(Return on Investment ROI)	**10**	**84**	**208**

Pakistan Water & Power Development Authority LAHORE

Chitral

Mln (Rs)

	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Capital Work In Progress (Excl. IDC) Opening	-	41	43
Add: Investment During the Year	41	2	300
Less: CWIP Transferred to Fixed Assets	-	-	-
Capital Work In Progress (Excl. IDC) Closing	**41**	**43**	**343**
Average Capital Work in Progress	20	42	193
Cost of Debt	12%	12%	12%

WACC for Hydel Power Project	FY 2023-24 Audited	FY 2024-25 Provisional	FY 2025-26 Estimated
Average RAB	20	42	193
Less: Financing of RAB through Grant	-	-	-
	20	42	193
Financing of RAB (Through Debt & Equity)			
Average Debt	16	33	154
Average Equity	4	8	39
Debt/Equity Financing Ratio			
Debt	80%	80%	80%
Equity	20%	20%	20%
WACC			
Cost of Debt	12.3%	12.3%	12.3%
Return on Equity	10.0%	10.0%	10.0%
WACC	**11.9%**	**11.9%**	**11.9%**
(Return on Investment ROI)	**2**	**5**	**23**

Pakistan Water & Power Development Authority LAHORE.

5/5

Annex – 16

TO BE PUBLISHED IN THE [illegible]
OF THE GAZETTE OF PAKISTAN [illegible]

Finance (P)
No. 1826
5-9-11

Member (Finance)
No. 2272
5-9-11

GOVERNMENT OF PAKISTAN
MINISTRY OF WATER AND POWER
******

Islamabad, the [illegible] August, 2011

NOTIFICATION

S.R.O. (I)/2011. In exercise of the powers conferred by section [illegible] of the Indus River System Authority Act, 1992 (XXII of 1992), the Federal Government, while implementing the decision of Council of Common Interest (CCI) in case No CCI.6/3/2011, dated the 1st June, 2011, is pleased to make the following rules, namely:-

1. **Short title and commencement**.- (1) These rules may be called the Financial Autonomy of Indus River System Authority Rules, 2011.

(2). They shall come into force at once.

2. **Definitions**.- (1) In these Rules, unless there is any thing repugnant in the subject or context,-

(a) "Act" means the Indus River System Authority Act, 1992 (XXII of 1992)

(b) " Advisory Committee" means the Advisory Committee of the Authority under section 9 of the Act;

(c) "Authority" means the Indus River System, Authority established under section 3 of the Act;

(d) "Fund" means the Fund of the Authority under section 16 of the Act;

(e) "PAEC" means the Pakistan Atomic Energy Commission and includes any other company, agency, department or authority dealing with atomic energy generation requiring use of water;

(f) "Power Projects" means all existing as well as upcoming hydropower projects of WAPDA, PAEC or any other agency, department, organization, authority private entity or project seeking permission to utilize water for hydro power generation;

(g) "Provinces" means the Irrigation Departments of Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan; and

(h) "WAPDA" means Water and Power Development Authority and includes any company, department, organization, or authority dealing with hydro power generation;

4 Enforcement of levies on Provinces:- (1) At the end of each cropping season, that is to say, *Kharif* (1st April to 30th September) and *Rabi* (1st October to 31st March), based on the actual utilization of water at Canal Head, the Authority shall submit a bill to the Secretaries of Provinces according to the rates specified in sub-rule (1) of rule 3.

(2) The Provinces shall be bound to release the amount of bill within thirty working days, to be deposited into the Fund.

(3) The first levy on Provinces shall be applicable with effect from the 1st April, 2011.

Enforcement of levies on WAPDA and PAEC:- (1) At the end of each quarter a financial year,. The Authority shall submit a bill to WAPDA and PAEC, based the actual units generated, according to the rates specified in sub-rule (1) of rule 3.

(2) The WAPDA and PAEC shall be bound to release the amount of bill within thirty working days at the closing of each quarter, to be deposited into the Fund.

(3) The first levy on WAPDA and PAEC shall be applicable with effect from the 1st July, 2011.

(4) Sub-rule (1), (2) and (3) shall be applicable on all hydro power generating units of WAPDA, existing as well as upcoming projects ,and shall also be applicable on all units of PAEC requiring use of water, existing (i.e. CHNSUPP C1, C2, C3 and C4) as well as upcoming projects in public or private sector and through public-private partnership.

(5) The Authority may levy No Objection Certificate fee on all new hydropower projects of Government, public or private sector and through public-private partnership.

3/3

The Manager
Printing Corporation of
Karachi.

Copy to:-

1. The Chief of Staff to the President's Secretariat, [illegible]
2. The Principal Secretary to the Prime Minister, Prime Minister's Secretariat, Islamabad.
3. The Secretary, Cabinet Division, Islamabad.
4. The Secretary, Establishment Division, Islamabad.
5. The Chairman WAPDA, WAPDA House, Lahore.
6. The Chairman, PAEC, Islamabad.
7. The Chairman, Indus River System Authority, Islamabad.
8. The Chief Secretaries, Government of the Punjab, Lahore/ Sindh, Karachi/ Khyber Pakhtunkhwa, Peshawar/Balochistan, Quetta.
9. The Secretaries, M&P Deptt: Government of the Punjab, Lahore/ Sindh, Karachi/Khyber Pakhtunkhwa, Peshawar/ Balochistan, Quetta.
10. Section Officer (Admn-I), M/O Water and Power, Islamabad with the request to send the enclosed original Notification to the Printing Corporation of Pakistan Press, Karachi for publication in the Gazette of Pakistan.
11. P.S to Secretary/Additional Secretary (Water and Power).

(NAUSHEEN MOHD.)
Section Officer (A-I)

Water & Power Development Authority LAHORE.

Water & Power Development Authority LAHORE.

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Annex – 17

TO BE PUBLISHED IN THE GAZETTE OF PAKISTAN EXTRAORDINARY

Government of Pakistan
Ministry of Water and Power
*****

Islamabad February 10, 2017

NOTIFICATION

SRO.No. (I)/2017. In exercise of powers conferred by section 21 of the Indus River System Authority Act, 1992 (XXII of 1992), the Federal Government is pleased to make the following rules namely:-

1. **Short title and commencement:-**

(1) These rules may be called the Financial Autonomy of Indus River System Authority Rules, 2017.

(2) They shall come into force at once.

2. **Definitions:-**

1) In these Rules, unless there is anything repugnant in the subject or context,-

(a) "Act" means the Indus River System Authority Act, 1992 (XXII of 1992)

(b) "Advisory Committee" means the Advisory Committee of the Authority under section 9 of the Act;

(c) "Authority" means the Indus River System Authority established under section 3 of the Act;

(d) "Fund" means the Fund of the Authority under section 16 of the Act;

(e) "PAEC" means the Pakistan Atomic Energy Commission;

(f) "Power Projects" means existing as well as upcoming hydropower projects of WAPDA and nuclear power projects of PAEC;

(g) "Provinces" means the Irrigation Department of Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan; and

(h) "WAPDA" means Water and Power Development Authority.

2) All other words and expressions used, but not defined herein, shall have the same meanings as are assigned to them under the Act.

3. **Levies by Authority:-**

1) The Authority shall collect levies from WAPDA, PAEC and Provinces in pursuance of the decision of the Council of Common Interest as per the following rates, namely:-

(a) Paisa 30 per acre foot of water released for irrigation, from provinces; and

(b) Paisa 0.5 per Kwh for managing water for hydro power generation and cooling water needs of nuclear power generation to be paid by WAPDA and PEAC.

Pakistan Water & Power Development Authority LAHORE.

Water & Power Development Authority LAHORE.

2) The levies so collected shall be deposited into the Fund and shall be utilized to meet expenses on account of salaries and other remunerations of Members, officers and staff of the Authority. Surplus funds available with IRSA so far and savings at the end of each Financial Year shall be utilized for capacity building of IRSA in consultation and according to guidelines of Ministry of Water and Power.

4. **Enforcement of levies on Provinces:-**

1) At the end of each cropping season, that is to say, *Kharif* (1st April to 30th September) and *Rabi* (1st October to 31st March), based on the actual utilization of water at Canal Head, the Authority shall submit a bill to the Secretaries of Provinces according to the rates specified in sub-rule (1) of rule 3.

2) The Provinces shall be bound to release the amount of bill, within thirty working days, to be deposited into the Fund.

3) The first levy on Provinces shall be applicable with effect from the commencement of these rules.

5. **Enforcement of levies on WAPDA and PAEC:-**

1) At the end of each quarter of a financial year, the Authority shall submit a bill to WAPDA and PAEC for managing water, based on the actual units generated, according to the rates specified in sub-rule (1) of rule 3.

2) The WAPDA and PAEC shall be bound to release the amount of bill within thirty working days at the closing of each quarter, to be deposited into the Fund.

(3) The first levy on WAPDA and PAEC shall be applicable with effect from the commencement of these rules.

(4). Sub-Rule (1), (2) and (3) shall be applicable on hydro power generating units of WAPDA, existing as well as upcoming projects and shall also be applicable on all generating units of PAEC, requiring use of water.

6. **Arbitration:-**

Any dispute regarding levies under these rules shall be referred to the Advisory Committee for arbitration thereon. In case of any un-resolved dispute, the matter will be referred to CCI whose decision shall be final

7. **Repeal:-**

The Financial Autonomy of Indus River System Authority Rules, 2011 are hereby repealed.

No.F.5(19)/2016-Water

Pakistan Water & Power Development Authority LAHORE.

Water & Power Development Authority Pakistan LAHORE.

(Zafar Mahmood)
Deputy Secretary (Water)
Tele No: 9244874

The Manager,
Printing Corporation of Pakistan Press,
Islamabad

Annex – 18

Annex-18

Islamabad, 29 May 2025
Ref No: SKY-WAPDA-2025-001

Mr. Nadeem Baloch,
General Manager (Hydel) Operations
WAPDA House, Sharah-e-Quaid-e-Azam
Lahore, Punjab, Pakistan

Subject: Procurement of Electricity from Hydro/Renewable sources under Wheeling/Competitive Trading Bilateral Contract Market (CTBCM) mechanism

Dear Sir,

Sky47 limited has been incorporated as a subsidiary of Mari Technologies Limited (MTL), which is a wholly owned subsidiary of Mari Energies Limited (formerly known as Mari Petroleum Company Limited). Mari Energies is a leading gas producer in Pakistan, holding a 29% market share and being the largest listed entity on the Pakistan Stock Exchange (PSX) in terms of market capitalization.

Sky47 Limited is in the process of establishing state-of-the-art Tier III/IV certified, mega **data centers of national and strategic importance** across Pakistan. The Company shall be transforming Pakistan's digital future with the country's first-ever ground-up data centres of this scale. One of the data center facilities is being developed in **Silicon Village, Capital Smart City (on M2 motorway near Chakri), District Rawalpindi and is planned to be commissioned in Q3 2025. The landed power requirement/connected load for this site is 5 MW (Phase 1) by Q3 2026 and another up to 5 MW (Phase 2) by Q3 2028.**

This Letter of Intent (LOI) serves as our formal application for the procurement of electricity from the Water and Power Development Authority (WAPDA) under the Wheeling (or direct Supply Model)/ CTBCM for Islamabad site.

Keeping in view the national and strategic importance of these projects, we are keen establish **an agreement with WAPDA for the supply of low-cost electricity from hydro/ renewable sources through executing an** MOU between WAPDA & Sky47 Limited (draft attached as **Annex-A).**

We trust that WAPDA will give this request due consideration in light of the project's alignment with national development goals. We eagerly await your positive response in relation to execution of the enclosed MOU and progressing with the transaction. We assure you of our full cooperation throughout the process.

Yours sincerely,

Hassan Abbas
C.E.O
Sky47 Limited

Encl: Draft MOU

Copy to:
1. Mr. Syed Irfan Rizvi, GM Finance (Power)
2. Mr. Muhammad Shehzad, Director Legal- WAPDA
3. Mr. Husnain Afzal, Staff Officer (Technical) to Chairman WAPDA

Pakistan Water & Power Development Authority LAHORE

Annex – 19

Annex – 20

PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY
(HYDROELECTRIC - NEPRA REGULATED BUSINESS)
INTERIM CONDENSED STATEMENT OF FINANCIAL POSITION
AS AT 31 DECEMBER 2024

	Note	Dec-2024 (Un-audited)	Jun-2024 (Audited)
		Rupees in thousands	
Assets			
Non - Current Assets			
Property, plant and equipment	5	1,158,646,815	1,074,875,805
Long term Investments		20,906,500	20,906,500
Long term loans and deposits	6	763,929	854,949
		1,180,317,243	1,096,637,254
Current Assets			
Stores, spares and loose tools	7	4,500,348	2,437,718
Receivable from the customer		143,611,993	137,690,419
Short term investments	8	145,233,293	40,000,000
Other receivables	9	7,563,060	4,140,059
Loan and advances	10	7,816,220	6,182,854
Prepayments		5,116	5,086
Bank balances	11	72,945,377	205,597,253
		381,675,406	396,053,389
Total Assets		1,561,992,650	1,492,690,643
Regulatory deferral account debit balances	12	94,442,560	87,019,365
Total Assets and Regulatory Deferral Account Debit Balances		1,656,435,210	1,579,710,008
Equity and Liabilities			
Equity			
Investment of Government of Pakistan		63,000,716	63,000,716
Unappropriated profits		256,198,472	232,731,389
		319,199,188	295,732,105
Non - Current Liabilities			
Long term financing	13	234,088,046	229,549,539
Deferred grants	14	266,757,252	253,177,790
Employees post employment and other benefits	15	111,689,402	107,865,555
Retention money payable		38,644,283	35,863,673
		651,178,984	626,456,557
Current Liabilities			
Trade and other payables	16	31,765,297	23,004,105
Short term borrowings	17	102,424,858	82,453,637
Payable against hydel levies		147,588,710	154,082,844
Current portion of long term financing	13	400,254,187	389,479,008
Current portion of deferred grants	14	122,339	244,678
Current portion of retention money payable		956,839	980,605
Accrued interest		2,944,808	7,276,469
		686,057,038	657,521,346
Total Liabilities		1,337,236,022	1,283,977,903
Total Equity and Liabilities		1,656,435,210	1,579,710,008
Contingencies and Commitments	18	-	-

The annexed notes from 1 to 22 form an integral part of these condensed interim financial statements.

Pakistan Water & Power Development Authority LAHORE

General Manager Finance (Power)

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PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY
(HYDROELECTRIC - NEPRA REGULATED BUSINESS)
STATEMENT OF PROFIT OR LOSS (UN-AUDITED)
FOR THE SIX MONTHS PERIOD ENDED 31 DECEMBER 2024

	Note	Six-months Period Ended 31 Dec 2024 (Un-audited)	31 Dec 2023 (Un-audited)
		-------- (Rupees in thousand) --------	
Revenue from contract with customer - net	19	56,617,923	37,817,262
Cost of revenue	20	(21,900,000)	(17,083,455)
Gross Profit		34,717,923	20,733,807
Operating expenses	21	(1,506,067)	(1,585,675)
Operating Profit		33,211,856	19,148,132
Finance and other costs		(35,094,293)	(30,921,819)
Other income		17,926,324	14,576,081
		(17,167,968)	(16,345,738)
Profit for the period before Net Movement in Regulatory Deferral Account		16,043,888	2,802,394
Net movement in regulatory deferral account	12	7,423,195	14,064,224
Net Profit for the Period		23,467,083	16,866,618

The annexed notes from 1 to 22 form an integral part of these condensed interim financial statements.

General Manager Finance (Power)

Pakistan Water & Power Development Authority LAHORE.

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PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY
(HYDROELECTRIC - NEPRA REGULATED BUSINESS)
NOTES TO THE FINANCIAL STATEMENTS
FOR THE SIX MONTHS ENDED 31 DECEMBER 2024

1. LEGAL STATUS AND OPERATIONS

1.1 Pakistan Water and Power Development Authority (WAPDA) is a body corporate, created under the Pakistan Water and Power Development Authority Act, 1958 (West Pakistan Act No. XXXI of 1958), commonly known as WAPDA Act and is fully owned by the Government of Pakistan (GoP) through Ministry of Water and Power (now Ministry of Water Recourses). The registered office of WAPDA is situated at WAPDA House, Shahrah-e-Quaid-e-Azam, Lahore, Pakistan.

The statutory mandate of WAPDA is to develop and utilize the water and power resources of Pakistan on a unified and multipurpose basis. The mandate of WAPDA also included generation, transmission and distribution of power and the construction, maintenance and operation of power houses and grids, till the year 1998. Thereafter, in line with the strategic plan approved by the Government of Pakistan, WAPDA Power Wing was restructured where by assets and liabilities relating to power distribution activities were transferred to 8 Distribution Companies (DISCOs) on 01 July 1998, generation activities (other than hydel generation activities) were transferred to 4 Generation Companies (GENCOs) and transmission activities were transferred to National Transmission and Dispatch Company (NTDC) on 01 March 1999.

WAPDA decided to segregate the operation and development of hydel power generation activities (WAPDA Hydroelectric - NEPRA regulated business) from its non core activities (non-regulated business) under NEPRA Rules, 2009. The regulated business comprises activities purely related to the hydel power generation and development.

These financial statements only represent the financial information of WAPDA Hydroelectric - NEPRA regulated business ("WAPDA Hydroelectric", "Hydroelectric" or "the entity") and have been prepared in accordance with the accounting and financial reporting framework described in Note 2

1.2 Generation License

National Electric Power Regulatory Authority (NEPRA) has issued Generation License no. GL(Hydel) /05 /2004 to WAPDA on 03 November 2004 valid for Thirty (30) years up to 2034 under section 30 of NEPRA Act 1997 for its Hydel power stations. Management expects that the generation license would be renewed upon its expiry.

1.3 Operation Hydel Power Stations

WAPDA Hydroelectric is currently generating power from following 21 hydel power stations, which have been described below along with their installed capacity as per the generation license:

Power Station	Province	Installed Capacity (MW)	Power Station	Province	Installed Capacity (MW)
- Tarbela	KPK*	3,478	- Jabban	KPK	22
- Ghazi Brotha	Punjab	1,450	- Rasul	Punjab	22
- Tarbela 4th	KPK	1,410	- Dargai	KPK	20
- Mangla	AJK**	1,000	- Gomal Zam	KPK	17
- Warsak	KPK	243	- Nandipur	Punjab	14
- Chashma	Punjab	184	- Shadiwal	Punjab	14
- Duber Khwar	KPK	130	- Chichoki	Punjab	13
- Allai Khwar	KPK	121	- Kurram Garhi	KPK	4
- Golen Gol	KPK	108	- Chitral	KPK	1
- Jinnah Hydel	Punjab	96	- Renala Khurd	Punjab	1
- Khan Khwar	KPK	72			

* Khyber Pakhtunkhwa

** Azad Jammu and Kashmir

Pakistan Water & Power Development Authority LAHORE.

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PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY
(HYDROELECTRIC - NEPRA REGULATED BUSINESS)
NOTES TO THE FINANCIAL STATEMENTS
FOR THE SIX MONTHS ENDED 31 DECEMBER 2024

1. LEGAL STATUS AND OPERATIONS

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The statutory mandate of WAPDA is to develop and utilize the water and power resources of Pakistan on a unified and multipurpose basis. The mandate of WAPDA also included generation, transmission and distribution of power and the construction, maintenance and operation of power houses and grids, till the year 1998. Thereafter, in line with the strategic plan approved by the Government of Pakistan, WAPDA Power Wing was restructured where by assets and liabilities relating to power distribution activities were transferred to 8 Distribution Companies (DISCOs) on 01 July 1998, generation activities (other than hydel generation activities) were transferred to 4 Generation Companies (GENCOs) and transmission activities were transferred to National Transmission and Dispatch Company (NTDC) on 01 March 1999.

WAPDA decided to segregate the operation and development of hydel power generation activities (WAPDA Hydroelectric - NEPRA regulated business) from its non core activities (non-regulated business) under NEPRA Rules, 2009. The regulated business comprises activities purely related to the hydel power generation and development.

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WAPDA Hydroelectric is currently generating power from following 21 hydel power stations, which have been described below along with their installed capacity as per the generation license:

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-	Warsak	KPK	243	-	Nandipur	Punjab	14
-	Chashma	Punjab	184	-	Shadiwal	Punjab	14
-	Duber Khwar	KPK	130	-	Chichoki	Punjab	13
-	Allai Khwar	KPK	121	-	Kurram Garhi	KPK	4
-	Golen Gol	KPK	108	-	Chitral	KPK	1
-	Jinnah Hydel	Punjab	96	-	Renala Khurd	Punjab	1
-	Khan Khwar	KPK	72				

* Khyber Pakhtunkhwa ** Azad Jammu and Kashmir

Pakistan Water & Power Development Authority LAHORE.

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1.4 **Project under Development**

Following major projects are under development as at reporting date:

1 Diamer Basha Dam
2 Mohmand Dam
3 Dasu Hydropower Project
4 Mangla Refurbishment
5 Keyal Khwar
6 Tarbela 5th Extension
7 Warsak 2nd Rehablitation
8 GB Projects (Attabad & Harpo)

2 STATEMENT OF COMPLIANCE

The condensed interim financial statements for the six-month period ended 31 December 2024 have been prepared in accordance with the accounting and reporting framework, which consists of:

- International Accounting Standard (IAS) 34 'Interim Financial Reporting' issued by the International Accounting Standards Board (IASB); and
- Provisions of and directives issued under the Companies Act, 2017.

Where provisions of and directives issued under the Companies Act, 2017 differ from the IFRS, the provisions of and directives issued under the Companies Act, 2017 have been followed.

3 BASIS OF PREPARATION

These condensed interim financial statements do not include all the information and disclosures required in the annual financial statements and should be read in conjunction with the annual financial statements as at 30 June 2024.

The comparative statement of financial position presented in these condensed interim financial statements has been extracted from the audited financial statement of the WAPDA Hydroelectric for the year ended 30 June 2024, whereas comparative condensed interim statement of profit or loss, has been extracted from the un-audited / unreviewed condensed interim financial statements for the six-month period ended 31 December 2023.

4 SIGNIFICANT ACCOUNTING POLICIES

The significant accounting policies and computation methods adopted for the preparation of these condensed interim financial statements are the same as those applied in the preparation of the preceding annual financial statements of the WAPDA Hydroelectric for the year ended 30 June 2024

Pakistan Water & Power Development Authority LAHORE

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11

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	Note	Dec-24 (Unaudited)	Jun-24 (Audited)
		(Rupees in thousands)	
5 PROPERTY, PLANT AND EQUIPMENT			
Operating fixed assets	5.1	258,471,539	262,486,473
Capital work in progress (CWIP)	5.2	896,362,857	806,371,687
Stores held for capitalization		3,812,419	6,017,645
		1,158,646,815	1,074,875,805

5.1 Operating fixed assets

Particulars	Dec 2024 (Unaudited)												
	Cost							Depreciation					
	Opening balance as at 01 July 2024	Direct Additions	Transferred from CWIP	(Disposals)	Adjustments	Closing balance as at 31 Dec 2024	Rate	Opening balance as at 01 July 2024	Charge for the year	(Disposals)	Adjustments	Closing balance as at 31 Dec 24	Net book value as at 31 Dec 2024
	(Rupees in thousand)						%	(Rupees in thousands)					
Freehold land	6,174,041	-		-	-	6,174,041	-	-		-	-	-	6,174,041
Building and civil works	80,475,778	26,262	-		(1,874)	80,500,166	2	24,465,571	782,699	-	(1,391)	25,246,879	55,253,287
Power generation plant assets	129,654,188	22,914	-	-	-	129,677,102	2.86-5	53,609,912	2,094,325	-	-	55,704,237	73,972,865
Transmission line equipment	14,690,230	-	-	-	-	14,690,230	4	4,334,036	287,954	-	-	4,621,990	10,068,240
Dams and reservoirs	141,397,952	-	-	-	(2,425)	141,395,527	1-1.25	31,830,025	749,730	-	-	32,579,755	108,815,772
General / plant assets	5,876,317	66,128	-	-	(469)	5,941,976	10	2,383,499	241,239	-	-	2,624,738	3,317,238
Office equipment	756,697	54,446	-	(788)		810,355	10-25	309,724	21,956	(572)	-	331,108	479,247
Furniture and fixtures	885,210	19,785	-	-	-	904,995	10	713,893	9,147	-	-	723,040	181,955
Transportation equipment	2,637,434	10,452	-	-	-	2,647,886	20	2,414,714	24,278	-	-	2,438,992	208,894
Total	382,547,847	199,987	-	(788)	(4,768)	382,742,278		120,061,374	4,211,328	(572)	(1,391)	124,270,739	258,471,539

Particulars	June 2024 (Audited)												
	Cost							Depreciation					
	Opening balance as at 01 July 2023	Direct Additions	Transferred from CWIP	(Disposals)	Adjustments	Closing balance as at 30 June 2024	Rate	Opening balance as at 01 July 2023	Charge for the year	(Disposals)	Adjustments	Closing balance as at 30 June 2024	Net book value as at 30 June 2024
	(Rupees in thousand)						%	(Rupees in thousands)					
Freehold land	6,155,219	16,801	2,021	-	-	6,174,041	-	-	-	-	-	-	6,174,041
Building and civil works	77,805,294	183,571	2,486,963	(50)	-	80,475,778	2	22,954,433	1,511,188	(50)	-	24,465,571	56,010,207
Power generation plant assets	121,057,511	70,288	5,963,772	-	2,562,617	129,654,188	2.29-4.95	49,128,564	3,874,479	-	606,869	53,609,912	76,044,276
Transmission line equipment	17,252,348	499	-	-	(2,562,617)	14,690,230	4	4,265,778	675,127	-	(606,869)	4,334,036	10,356,194
Dams and reservoirs	130,090,463	11,237	11,296,252	-	-	141,397,952	1-1.25	30,427,336	1,402,689	-	-	31,830,025	109,567,927
General / plant assets	4,233,756	189,423	1,432,302	(4)	20,840	5,876,317	10	2,044,660	338,843	(4)	-	2,383,499	3,492,818
Office equipment	517,374	243,459	-	(4,121)	(15)	756,697	10-25	256,529	57,286	(4,081)	(10)	309,724	446,973
Furniture and fixtures	842,792	42,956	-	(553)	15	885,210	10	681,731	32,660	(508)	10	713,893	171,317
Transportation equipment	2,558,452	102,998	-	(3,176)	(20,840)	2,637,434	20	2,385,977	31,360	(2,623)	-	2,414,714	222,720
Total	360,513,209	861,232	21,181,310	(7,904)	-	382,547,847		112,145,008	7,923,632	(7,266)	-	120,061,374	262,486,473

Pakistan Water & Power Development Authority LAHORE

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5.2 Capital Work In Progress (CWIP)	Note	31 Dec 2024	30 Jun 2024
		Rupees in thousands	
Opening balance		806,371,687	643,358,478
Addition in direct cost during the year		89,991,170	184,194,519
Transferred to operating fixed assets		-	(21,181,310)
Closing balance	5.2.1	896,362,857	806,371,687

5.2.1 Projects breakup movement

	Diamer Bhasha Dam	Tarbela 4th Extension	Golen Gol	Dasu Hydropower Project	Keyal Khwar	Mangla Upgradation	Mohmand Dam	Warsak 2nd Rehabilitation	Tarbela 5th Extension	GB Projects	Hydropower Training Institute	Other Projects	Total
	Rupees in thousands												
Balance as at June 30, 2023	238,530,515	17,012,753	865,840	182,795,171	3,956,955	22,519,337	133,268,910	3,831,099	31,827,515	785,777	776,760	7,187,846	643,358,478
Additions during the year	44,961,719	2,582,180	403,271	48,879,171	194,894	5,555,216	42,371,688	5,454,512	31,515,835	1,295,880	5,693	974,460	184,194,519
Transferred to operating fixed assets	-	(19,594,933)	-	-	-	-	-	-	-	-	-	(1,586,377)	(21,181,310)
Balance as at June 30, 2024	283,492,234	-	1,269,111	231,674,342	4,151,849	28,074,553	175,640,598	9,285,611	63,343,350	2,081,657	782,453	6,575,929	806,371,687
Additions during the period	28,066,236	-	57,649	21,703,270	172,549	8,585,923	9,804,477	2,208,934	18,484,408	111,511	81,684	714,527	89,991,170
Transferred to operating fixed assets													-
Balance as at December 31, 2024	311,558,470	-	1,326,760	253,377,612	4,324,398	36,660,476	185,445,075	11,494,545	81,827,758	2,193,168	864,137	7,290,456	896,362,857

5.2.2 The project-wise break up of Interest During Construction (IDC) charged to profit or loss is as follows:

IDC till June 30, 2024	100,276,867	56,032,713	16,057,434	99,579,291	1,282,323	3,044,000	11,434,567	2,002,884	5,887,271	-	-	348,163	295,945,513
IDC for the Period	7,486,824	-	506,337	14,216,637	53,465	419,883	2,772,126	224,371	1,693,333	-	-	969	27,373,946
IDC till December 31, 2024	107,763,691	56,032,713	16,563,771	113,795,928	1,335,788	3,463,883	14,206,693	2,227,255	7,580,604	-	-	349,132	323,319,459

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6 Long Term Loans and Deposits

	Note	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
		Rupees in thousands	
Loans to employees - secured	6.1	741,686	832,853
Security deposits	6.2	22,243	22,096
		763,929	854,949

6.1 Long term loans to employees against purchase of:

Plots		536,154	595,436
House buildings		270,260	309,396
Vehicles		19,891	23,131
	6.1.1	826,305	927,963
Less: Current portion shown under current assets			
Plots		53,615	59,544
House buildings		27,026	30,940
Vehicles		3,978	4,626
		(84,620)	(95,110)
		741,686	832,853

6.1.1 These represent loans provided to permanent employees and are recoverable in 120 monthly installments in respect of purchase of plot and house buildings and in 60 monthly installments for other loans. Loans against plots are secured against mortgage of land in favor of WAPDA, whereas other loans are secured against employees' balances in General Provident Fund maintained with WAPDA. Most of these loans are interest free and the management considers that discounting impact of these loans would be insignificant.

6.2 This includes Rs. 18.054 million security deposit in Chashma given to FESCO for procurement of new emergency feeders for powerhouse and CHPS 1 & 2 Colony.

7 Stores, Spares and Loose Tools

	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
	Rupees in thousands	
Stores and spares	4,122,022	2,030,653
Loose tools	378,325	407,065
	4,500,348	2,437,718

8 Short Term Investments [At amortized cost]

	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
	Rupees in thousands	
Investment in Term Deposit Receipts (TDR)	25,000,000	40,000,000
Investment in Govt. Securities (Market Treasury Bills) - Working Balance	43,960,291	-
Investment in Govt. Securities (Market Treasury Bills) - Unspent Facilities	76,273,002	-
Innovative Investment Bank Limited	200,000	215,000
	145,433,293	40,215,000
Less: Provision against investment	(200,000)	(215,000)
	145,233,293	40,000,000

8.1 These represent term deposit receipts from commercial banks and investment in Govt. Securities having maturity up to one year. These carry mark-up at 11.50% to 21.03% per annum. (June-2024: 17.11% to 22.65% per annum)

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9 Other Receivables

	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
	Rupees in thousands	
Interest receivable on bridge financing to:		
- WAPDA Water Wing	1,254,382	1,254,382
- WAPDA Coordination Wing	115,704	115,704
	1,370,086	1,370,086
Others		
- Considered good	6,192,974	2,769,973
- Considered doubtful	1,286,558	1,286,558
	7,479,532	4,056,531
	8,849,618	5,426,617
Provision against doubtful receivable	(1,286,558)	(1,286,558)
	7,563,060	4,140,059

10 Loan and Advances

	Note	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
		Rupees in thousands	
Advances to: (unsecured):			
- Chief Resident Representative Karachi (Considered good)		3,619,890	1,655,220
- Suppliers and others (Considered good)		4,053,174	4,400,426
- Employees against expenses (Considered good)		58,537	32,098
		7,731,601	6,087,744
Current portion of long term loans	6.1	84,620	95,110
		7,816,220	6,182,854

11 Bank Balances

	Note	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
		Rupees in thousands	
Direct working capital balances			
Hydroelectric's own balance - Deposit accounts		5,088,172	2,302,371
Balances held for specific utilizations:			
- Un-utilized balance of loans and grants - Current accounts	11.1	47,439,225	49,620,562
- Un-utilized balance of loans and grants - Deposit accounts	11.2	-	31,713,667
- Hydroelectric's own balance - Deposit accounts		20,417,980	121,960,653
		72,945,377	205,597,253

11.1 Un-utilized balance of loans and grants

Held in current accounts:

IDA relent loan for Dasu hydropower project	24,564	24,564
AFD relent loan for Mangla refurbishment project	1,762,774	1,643,101
IBRD relent loan for Tarbela 5th extension project	232,803	232,803
AIIB relent loan for Tarbela 5th extension project	398,258	398,258
Foreign direct loan for Dasu hydropower project	30,544,828	36,247,142
USAID grant for Mangla refurbishment project	13,075,446	9,674,143
USAID grant for Tarbela rehabilitation project	1,400,551	1,400,551
	47,439,225	49,620,562

Un-utilized balance of loans and grants

11.2 Held in deposit accounts:

Syndicated term finance facility for Dasu hydropower project	-	31,713,667

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12 Regulatory deferral Account Debit Balances

	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
	Rupees in thousands	
Balance as at July 01, 2024	87,019,365	16,344,789
Balances arising during the period	17,318,071	42,700,292
Balances arising in the year relating to previous years	-	27,974,284
Recovery / Adjustment by NEPRA	(9,894,876)	-
Net movement	7,423,195	70,674,576
Balance as at 31 Dec 2024 (Unaudited)	94,442,560	87,019,365

13 Long Term Financing

	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
	Rupees in thousands	
Foreign loans:		
- Relent from the GoP- unsecured (FRL)	251,404,305	218,458,751
- Direct - secured	68,301,860	78,004,276
- Euro Bonds - unsecured	139,391,550	139,293,350
	459,097,714	435,756,377
Local loans:		
- Cash development loans from the GoP - unsecured	78,401,233	79,733,693
- Syndicated term finance facility - secured	96,843,286	103,299,505
	175,244,519	183,033,198
Payable aginst GB Projects	238,972	238,972
	634,342,233	619,028,547
Less: current portion shown under current liabilities		
- Foreign relent loans	215,252,259	186,944,741
- Direct - secured	9,757,409	19,501,069
- Cash development loans	78,401,233	79,733,693
- Syndicated term finance facility	96,843,286	103,299,505
	400,254,187	389,479,008
	234,088,046	229,549,539

14 Deferred Grants

	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
	Rupees in thousands	
Balance as on 01 July 2024	253,422,468	211,009,369
Add: Grants received/adjusted during the period	13,579,462	42,657,777
Less: Grants amortized during the period	(122,339)	(244,678)
Closing balance	266,879,591	253,422,468
Less: Current portion shown under current liabilities	(122,339)	(244,678)
	266,757,252	253,177,790

15 Employees Post Employment and Other Benefits

	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
	Rupees in thousands	
Employee retirement benefits	111,689,402	107,865,555
	111,689,402	107,865,555

16 Trade and Other Payables

	Note	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
		Rupees in thousands	
Payables to contractors and consultants		23,521,651	16,406,124
Due to other wings of WAPDA	16.1	1,919,353	2,192,453
Due to statutory authorities		2,054,330	1,303,980
Security deposits		383,594	352,527
Accrued liabilities		119,082	253,997
Other liabilities		3,767,286	2,495,024
		31,765,297	23,004,105

16.1 Due to other wings of WAPDA

WAPDA coordination wing	2,893	2,907
WAPDA water wing	1,916,460	2,189,546
	1,919,353	2,192,453

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17 Short Term Borrowings

	31 Dec 2024 (Un-audited)	30 Jun 2024 (Audited)
	Rupees in thousands	
Power Sector Investment (PSI)	-	3,772,149
Payable GoP	102,424,858	78,681,488
	102,424,858	82,453,637

18 Commitments

18.1 Capital commitments contracted for but not incurred on the basis of throw-forward values of the Public Sector Development Programme (PSDP) as at December 31, 2024 amounted to Rs. 1,826,935 million (2024: Rs. 1.886.108 million).

18.2 Commitments under letter of credit amounts to Rs. 3,715 million. (June 2024: Rs. 2,452 million).

18.3 The commitments in respect of Euro Bonds are described below:-

	31 Dec 2024 (Un-audited)	30-Jun-24 (Audited)
	Rupees in thousands	
Not later than one year	10,454,366	10,447,001
Later than one year and not later than five years	41,817,465	41,788,005
Later than five years	15,681,549	20,894,003
	67,953,381	73,129,009

19 Revenue from Contract with Customer - Net

	31 Dec 2024 (Un-audited)	31 Dec 2023 (Un-audited)
	----- (Rupees in thousands) -----	
Revenue from Sale of electricity for:		
- Variable charges components	1,884,438	1,743,334
- Fixed charges components:		
Fixed charges	44,838,608	36,073,928
Revenue gap	9,894,876	-
	54,733,484	36,073,928
	56,617,923	37,817,262

20 Cost of Revenue

	31 Dec 2024 (Un-audited)	31 Dec 2023 (Un-audited)
	----- (Rupees in thousands) -----	
Salaries, wages and benefits	6,044,150	5,229,752
Retirement and other benefits	8,996,972	6,183,352
Repairs and maintenance	628,218	343,761
Dams inspection and monitoring cost	571,658	510,577
Power, gas and water	436,370	385,618
NEPRA fee	787,133	263,898
Insurance	206,636	60,000
Consultancy charges	134	123
Fuel charges	24,864	22,934
Return on assets to provinces	6,486	6,486
Sundry expenses	580	500
Depreciation	4,196,799	3,987,257
	21,900,000	16,994,258

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21 Operating Expenses

	31 Dec 2024 (Un-audited)	31 Dec 2023 (Un-audited)
	----- (Rupees in thousands) -----	
Management service charges	795,992	792,552
R&D - Survey and Investigation	232,214	273,927
Vehicle running expenses	234,788	224,777
Outside services employed	54,770	186,571
Travelling expenses	85,580	64,781
Office expenses	24,831	19,889
Corporate Social Responsibility	12,175	89,195
Advertisement and periodicals	10,426	7,152
Legal and professional charges	9,003	3,688
Communication	11,398	8,548
Rent, rates and taxes	33,340	2,678
Others	1,552	1,112
	1,506,067	1,674,870

22 GENERAL

Figures have been rounded off to the nearest thousand of rupee, unless otherwise stated.

General Manager Finance (Power)

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