National Electric Power Regulatory Authority

Islamic Republic of Pakistan

Registrar

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No. NEPRA/R/ADG(Trf)/IPT-13/ 33724-28 October 06, 2023

Subject: **Decision of the Authority in the matter of Tariff Proposal Submitted by Islamabad Electric Supply Company Ltd. (IESCO) for Procurement of Power from the 3.2 MW Rehra Hydropower Project located in AJK (Case No. NEPRA/IPT-13)**

Dear Sir,

Please find enclosed herewith subject Decision of the Authority (total 20 Pages) in Case No. NEPRA/IPT-13.

2. The Decision is being intimated to the Federal Government for the purpose of notification in the official Gazette pursuant to Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 within 30 days from the intimation of this Decision. In the event the Federal Government fails to notify the subject tariff Decision or refer the matter to the Authority for reconsideration, within the time period specified in Section 31(7), then the Authority shall notify the same in the official Gazette pursuant to Section 31(7) of NEPRA Act.

Enclosure: As above

(Engr. Mazhar Iqbal Ranjha)

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

CC:

1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.
3. Chief Executive Officer, Islamabad Electric Supply Company, IESCO Head Office Street 40 Sector G-7/4, Islamabad.
4. Chairman, Azad Jammu and Kashmir Power Development Organization PDO Complex, Upper Chattar Muzaffarabad.

DECISION OF THE AUTHORITY IN THE MATTER OF TARIFF PROPOSAL SUBMITTED BY ISLAMABAD ELECTRIC SUPPLY COMPANY LTD. (IESCO) FOR PROCUREMENT OF POWER FROM THE 3.2 MW REHRA HYDROPOWER PROJECT LOCATED IN AJK

1. Islamabad Electric Supply Company Ltd. (hereinafter referred to as the "Petitioner" or IESCO) vide letter dated April 11, 2022, submitted the tariff proposal for the 3.2 MW Rehra Hydropower plant (hereinafter referred to as "the Project" developed by the Power Development Organization (hereinafter referred as the "Project Developer or PDO") formerly named as Hydro Electric Board (hereinafter referred as "HEB") Azad Jammu & Kashmir for consideration in conformity with the provision of NEPRA (Tariff Standards & Procedures) Rules, 1998 and NEPRA (Import of Electric Power) Regulations, 2017.

2. As per the tariff proposal, the Project is located at Rehra, Tehsil and District Bagh, AJK (about 4 km upstream of the confluence of Rerah Nullah with Mahl river). The Project was developed by HEB in July 2014 which is now PDO and is currently operated and maintained by PDO. The plant is connected to a 132kV grid station at Bagh through an 11kV transmission line of 8 km and supplies electricity to the Local Area of Bagh city and adjacent areas. A levellized tariff of Rs. 3.377/kWh has been claimed for the instant Project.

PROCEEDINGS

3. The tariff proposal was admitted by the Authority admitted on April 25, 2022, and the salient features of the tariff proposal were published in daily newspapers inviting filing of replies, intervention requests, or comments. It was also decided to conduct a hearing on the matter on July 26, 2022, at 10:00 AM.

4. Notice of the hearing was also published in the national newspaper on July 02, 2022. The tariff proposal was also uploaded on the NEPRA website for review by stakeholders. In response to the notice of hearing, no intervention request was submitted, However, Central Power Purchasing Agency Guarantee Limited (CPPA-G) vide letter dated July 25, 2022, submitted written comments which were forwarded to the Petitioner for the response. The comments of CPPA-G and the response of the PDO are incorporated in this determination under the relevant issue.

5. The hearing was attended by the representatives of IESCO, AJK Power Development Organization, CPPA-G and other stakeholders. During the hearing, the Authority directed IESCO and PDO to submit the monthly progress status of interconnection and related transmission infrastructure so that power from these projects is procured without any technical bottlenecks. In view thereof, a letter dated August 3, 2022, followed by a reminder letter dated October 6, 2022,

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directing IESCO and PDO to comply with the directions of the Authority by submitting the monthly progress report henceforth. However, no response was submitted.

6. After the hearing, PDO vides various correspondence dated August 01, 2022, September 09, 2022 & December 20, 2022, and submitted written responses on certain issues including on the list of issues, agreements/contracts regarding the civil works and E&M & source of funds.

ISSUES FOR HEARING

7. Based on the information, documents and evidence available with the Authority, the issue-wise discussion and determination of the Authority is as under:

Issue No# 01: Whether the plant Capacity of 3.2 MW and annual net generation of 18.510 GWh claimed by the Petitioner are justified?

Issue No# 10 Whether auxiliary consumption of 0.032 MW (1%) of the project, is justified?

8. The Project Developer submitted the plant factor has been taken from the feasibility study report (part of PC-I) which is derived from the hydrology available in the Rerah Nullah. The calculations are tabulated below:

Installed Capacity	3.2 MW
Auxiliary Consumption	(1%) 0.032 MW
Net Capacity	3.168 MW
Plant Factor	66.7%
Gross Annual Energy	18.697 GWh
Net Annual Energy	18.510 GWh

9. CPPA-G submitted "*The approved feasibility study has not been attached with the tariff proposal and neither the approval of panel of expert is attached. Therefore, this office is unable to comment on the plant capacity and annual plant factor. The Authority may look into the matter after reviewing the documents of POE. However, the Plant factor proposed by the project company is 66.7%, which seems to be optimal based on the fact that the plant will be operated in the Take and Pay regime*".

10. CPPA-G further submitted that the auxiliary consumption during the normal operation is not more than 0.5% of the total capacity and the Authority has already considered 0.5% auxiliary consumption in the case of 10.2 MW Jabori HPP, therefore, the auxiliary consumption for this Project may be aligned with Jabori HPP.

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11. In response to the comments of CPPA-G, PDO replied as "The feasibility study report being part of approved PC-I, has already been submitted to NEPRA along with the tariff proposal. The calculations of annual generation have been submitted in response to the issues for public hearing.

12. PDO further submitted that "the Auxiliary consumption is in-line with the allowable consumption to other hydropower Projects. NEPRA in its different tariff determinations to hydropower projects has allowed 1% of auxiliary consumption".

13. The Authority assessed the submitted documents by PDO and based on the information available in the submitted documents, the following annual energy, capacity and auxiliary consumption are considered for tariff calculations:

Installed Capacity	3.2 MW
Gross Annual Energy	19.85 GWh
Auxiliary Consumption	0.5%

14. Based on the aforementioned parameters, the Authority has calculated the net annual energy of 19.751 GWh with a plant factor of 70.81 % and the same has been approved.

Issue No # 02
Whether a construction period of 36 months is justified?

15. In the tariff proposal, PDO has submitted that *"36 months of construction period was assumed at the time of development of feasibility study report. However, the construction work depends on lot of factors e.g. availability of funds, environment etc. The following major factors contributed to the extension of the construction period:*

    i. *Release of funds from the Government. As the Project was developed through the funding under Annual Development Plan. The delay in the release of funds from the government results in the delayed appointment of contractors.*
    ii. *The major flood in the year 2010 also contributed to the extended construction period.*
    iii. *Right of way – land acquisition was also one of the challenges faced by the department, which overall contributed to the construction period.*

16. CPPA-G vide letter dated July 25, 2022, submitted *"the Company claimed the construction period of 36 months, which is on the higher side. It is highlighted that the construction period of such small hydel project may be considered up to 24 months. As recently NEPRA has allowed the construction period of 30 months in the case of 10.2 MW Jabori*

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HPP, which is double in capacity and required more civil works. Therefore, Authority may rationalize the construction period of the project".

17. In response to the comments of CPPA-G, PDO responded that "*the construction period has been approved under the PC-I (approved by the relevant departments! Authority). The construction period of hydropower projects does not depend upon the installed capacity but relates to the project components and the geographical location of the Project. In the recent determination of 1.875 MW Shishi HPP has allowed 48 months of construction period".*

18. The Authority has considered the submissions of PDO with respect to the construction period and is of the considered opinion that the construction period of 36 months is closer to the construction period of similar projects and the same has also been approved in the submitted PC-I, therefore, the same has been approved.

Issue No: 03
Whether the total Project cost of Rs. 417.269 million claimed by the Petitioner is justified?

19. In the tariff proposal, PDO has claimed Rs. 417.269 million as the total Project cost and the following breakup has been provided:

Item	**Total (PKR Million)**
i. Civil Works	183.581
ii. Electro-Mechanical Equipment	113.50
iii. Land Acquisition	11.50
iv. Other Development Cost	42.857
v. Transmission line	10.00
Base Project Cost	**361.438**
v. Interest During Construction	55.831
Total Project Cost	**417.269**

20. PDO further provided the bifurcation of each cost item of the Project costs, which are discussed below:

Civil Works Cost:

21. As per the documents submitted by PDO, seven (07) agreements for civil works were signed and executed with different contractors, the details of each lot contract are tabulated below:

22. Regarding the civil works cost, CPPA-G vide letter dated July 25, 2022, submitted that "*the Company shared the cost submitted in the head of civil work, which includes escalations in each head covered under the civil works, which requires some clarification from the Project Company. However, it is pointed out that the*

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Project has already been commissioned and has a finalized cost of civil work, which needs to be substantiated by documentary evidence (as-built drawings) verified by the third party. Any escalation in cost occurred due to a delay in commissioning on part of the Company (PDO) or Contractor may not be allowed in the project cost for tariff calculation.

23. In response, PDO stated that the civil works cost is based on the agreements executed with different contractors, the details of which have been provided and were approved by the relevant government departments.

24. Upon reviewing the contract documents submitted by PDO the Authority has noted that the civil works of the instant project have been divided into seven parts. Further, the contracts for each category of civil works have been awarded through soliciting tender from eligible contractors and awarded to a contractor based on the lowest rates offered. The details of the contracts are tabulated below:

Lot #	Contract Title (Civil works)	Contractor name	Signing date	Amount (PKR) Million
1.	Construction of Diversion Weir and Connecting Channel	Cade Creets Associates	17th June 2009	11.899
2.	Construction of Power Chanel (RD 00 - 001)	Rawani Construction	25th June 2009	67.052
3.	Construction of Power Chanel (RD 7001 - Forebay)	Lawari Construction Company	25th April 2009	28.904
4.	Construction of forebay, spillway channel & anchor blocks	Sarwar & Co	28th July 2009	46.555
5.	Construction of Residential Quarter	Jabran & Co	2nd May 2012	6.363
6.	Construction of protection wall	Mr. Sardar Iyas	29th November 2012	2.590
7.	Construction of approach road	Ch. Aslam & Co	2nd November 2012	0.700
Total civil works				**164.063**

25. The Authority after assessing the submitted documents noted that the claimed civil works costs of Rs. 183.581 million for the above civil works are higher as compared to the contract price of Rs. 164.063 million and for the increase, no justification has been provided by PDO, justification has been provided whether such deviation is owing to an escalation of cement, steel, labour and

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fuel. For justifying higher costs, PDO has provided only a deviation sheet for each contract amounting to Rs. 19.52 million.

26. The Authority upon reviewing the deviation sheet noted that out of the total amount of Rs. 19.52 million, Rs. 16.16 million pertains to a change in the cost of civil works due to a variation in quantity and is not supported by verifiable documentary evidence, thus the same is not justified to be considered. Further, the Authority also noted that the remaining amount of Rs. 3.36 million relates to a change in unit prices and some level of escalation may be permissible, however, the Authority noted that the signed contract explicitly states that any escalation within the 5% range of the contract price should be borne by the contractors. Thus allowing any amount on account of escalation beyond the prescribed limit is not justified, therefore the same has not been considered.

27. Recapitulating the above, the Authority hereby approves the contract cost of Rs. 164.062 million as a maximum ceiling subject to adjustment at COD and the lower of actual or allowed will be adjusted.

Electro-Mechanical Equipment:

28. PDO in its tariff proposal claimed an amount of Rs. 113.50 million on account of the E&M equipment with the following breakup:

Head	**Amount in PKR Million**
Details Engineering Design/Drawings	2.50
Supply & transporting of the complete set of electro-mechanical equipment for 2x1600 kW Rehra HPP(On a Turnkey Basis)	86.11
Erection/installation at the site	7.70
Testing & Commissioning	5.41
Defect liability period (DLP) min. 12 months	4.20
Spare Parts of the equipment installed at the site	7.58
Total E&M	**113.50**

29. The Authority noted that for an O&M a contract was signed with Sarkar Energy Limited on May 22nd, 2010 for an amount of **Rs. 113.50 million** which is inclusive of all the applicable fees, customs duties, income tax/sales tax, levies, import fees, port clearance charges, handling, local district taxes, octroi, insurance and other incidental charges as may be applicable for transportation, delivery of goods, equipment and material/spare parts to the site.

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30. Further, the Authority also noted in the contract that "*the type and quantity of spare parts suggested by the supplier shall be evaluated and finally approved by the Hydro Electric Board (HEB) amounting to* ***Rs. 7.575 million***" which means that this is not a final figure, however in the absence of any firm approval from the HEB, the same may not be justified to consider at this stage, however, at the time of COD tariff adjustment request, the Authority may be considered this cost as the max ceiling subject to adjustment at lower of actual or Rs. 7.575 million upon the provision of verifiable documentary evidence.

31. In view of the aforementioned facts, the contract price after excluding the spare parts cost of Rs. **7.575 million** works out to be **Rs. 105.925 million** has been considered as a maximum cap with only downward adjustment as per actual based on the verifiable documentary evidence at COD adjustment.

Land Acquisition:

32. In its tariff proposal, PDO has claimed an amount of **Rs. 11.5 million** on account of land acquisition and stated that this cost includes compensation for houses, trees and crops affected in the project area.

33. The Authority has observed, that claimed cost with regard to land acquisition is not substantiated by any documentary evidence. However, the Authority understands that the cost of land is an integral part of any project cost, therefore, the cost claimed by PDO amounting to Rs. 11.5 million is hereby allowed at this stage as a maximum ceiling subject to adjustment at lower of actual or allowed at COD duly substantial by verifiable documentary evidence.

Other Development Costs:

34. In the tariff proposal, PDO has claimed an amount of **Rs. 42.857 million** with the following breakup.

S. No	Head	PKR Million
1	Custom Duties @5% of FEC of E&M	4.330
2	L/C Charges & Taxes	4.195
3	Port Clearance & Trans. @2% of FEC of E&M	1.732
4	Erection, installation & commissioning @5% of the equipment cost	5.621
5	Project Staff	8.490
6	Project Engineering & Management	7.500
7	Owner Administration	10.989
	Total Development Cost	**42.857**

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35. The Authority noted that that cost claimed under the subhead S.No. 1,2, 3 and 4 of the E&M-related equipment collectively amounting to Rs.15.87 million are part of the E&M contract therefore, claiming it again under the other development cost head is duplication and not justified, therefore, the same is not considered. The relevant extract of the E&M contract is reproduced as under:

Contract Price:

"The total contract price for the above-mentioned works shall be Rs. 113,500,000 (Rupees One Hundred Thirteen Million Five Hundred Thousand Only) as firm and final amount for the entire scope of works given in the tender document. The contract price of 113,500,00 million is inclusive of all the costs and charges as applicable fees, customs duties, income tax/ sales tax, levies, import fees, port clearance charges, handling, local district taxes, octroi, insurance and such other incidental charges as may be applicable for transportation, delivery of goods equipment and material/ spare parts of the site."

36. The cost claimed concerning the **Project Staff** by PDO in the tariff proposal also is reflected in the PC-I of the project with the following breakup:

Project Construction Management Structure

S.#	Staff	Scale	Position	Emoluments (Rs.)	Months	Amount (MRs.)
1	Project Director	B-19	1	60000	30	1800000
2	Resident Engineer (Civil)	B-18	1	40000	30	1200000
3	Assistant Engineer (Electrical)	B-17	1	30000	30	900000
4	Junior Engineer (Civil)	B-17	1	30000	30	900000
5	Sub-Engineer (Civil)	B-11	2	18000	30	1080000
6	Sub-Engineer (Electrical)	B-11	1	18000	30	540000
7	Sub-Engineer (Mechanical)	B-11	1	18000	30	540000
8	Computer operator	B-12	1	13000	30	390000
9	Office Assistant /Accountant	B-14	1	15000	30	450000
10	Driver	B-3	2	8000	30	480000
11	N.Qasid	B-1	1	7000	30	210000
						8,490,000.00

37. The Authority has relied upon the PC-I cost and the cost of Rs. 8.490 million has been considered at this stage as a maximum cap subject to adjustment at COD and lower of actual or allowed will be adjusted upon the provision of documentary evidence to the satisfaction of the Authority.

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38. The PDO has not provided any evidence/contract documents regarding the claimed cost of Rs. 7.5 million for **Project Engineering and Management** Costs, however, the same has been reflected in the submitted PC-I document, therefore, the same is considered at this stage as a maximum cap subject to adjustment at a lower of actual or allowed upon the provision of the documentary evidence to the satisfaction of the Authority at COD adjustment.

39. Regarding the **Owner Administration Cost**, claimed in the tariff proposal by PDO, has been reflected in the PC-I of the Project with the following breakup:

S.No.	Description	Rs. Million
1	Contingency @ 2 %of the cost of Civil Works	5.989
2	Vehicles	5.000
	Total	**10.989**

40. The Authority observed that the Project has already been constructed and operational and for the project at such an advanced stage, the Authority has not allowed the cost of contingency, therefore, the cost of contingency is not justified and has not been considered, however, the cost of Rs. 5 million claimed for the vehicle's is considered at the stage as maximum cap may be considered subject to adjustment at COD and lower of actual or allowed will be adjusted upon the provision of documentary evidence to the satisfaction of the Authority.

41. Recapitulating the above the following is the summary of the assessed development cost.

S. No	Head	PKR Million
1	Custom Duties @5% of FEC of E&M	0
2	L/C Charges & Taxes	0
3	Port Clearance & Trans. @2% of FEC of E&M	0
4	Erection, installation & commissioning @5% of the equipment cost	0
5	Project Staff	8.490
6	Project Engineering & Management	7.500
7	Owner Administration	5
	Total Development Cost	**20.99**

Issue # 04: Whether Transmission line cost claimed for 10 km line as a part of the generation tariff is justified?

42. In its tariff proposal, PDO requested Rs. 10.00 million to be included as part of the project's capital expenditure, specifically for the cost of the Transmission Line. PDO stated that this

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transmission line was developed solely for this project, and therefore, its cost should be considered as part of the overall project cost.

43. It is important to note that in recent cases involving hydroelectric power projects (HPPs), the Authority did not allow the inclusion of transmission costs in the project cost for HPPs whose licenses are granted solely for generation purposes. A separate license may be required for the transmission business, and therefore, the costs associated with transmission cannot be made part of the generation-related cost of the project. However, the Authority has observed that PDO developed the instant project in 2014, and an 11 KV transmission line has already been constructed for injecting electricity into the IESCO grid through a Common Delivery Point (CDP). The Authority acknowledges that PDO is a government entity of the Government of AJ&K, which falls outside the jurisdiction of Pakistan. Therefore, the requirement of obtaining separate licenses for generation and transmission may not apply to PDO's projects. Considering this, not allowing the already incurred transmission line cost may deprive PDO of a legitimate expense. Thus, the Authority has decided to provisionally allow the claimed cost of Rs. 10.00 million for 11 KV transmission line, serving the purpose of transmitting power from the Rehra and Qadirabad hydropower projects. However, this provisional cost will be considered as the maximum cap and will be subject to adjustment at a lower value based on the actual or allowed cost, upon the submission of appropriate documentary evidence to the satisfaction of the Authority at the time of the commercial operation date (COD) adjustment.

44. The summary of the Project claimed and assessed is tabulated below:

S.No.	Description	Claimed Rs. Million	Assessed Rs. Million
1	Civil Works	183.58	164.06
2	E&M cost	113.50	105.93
	EPC cost	**297.08**	**269.99**
3	Land Acquisition	11.50	11.50
4	Other Development Cost	42.86	20.99
5	Transmission line Cost	10.00	10.00
	Total Project Cost	**361.44**	**312.48**

Issue No: 04 # Whether the claimed IRR of 17% on equity is justified?
Issue No: 05 #Whether the cost of debt claimed @ 9.15% and indexation thereon due to variation on 6-month KIBOR is justified?
Issue No: 06 #Whether a 20-year debt repayment term is justified?

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Sources of Finances:

45. Since the above issues are related to the cost of capital, therefore, for ease of decision making these are clubbed together.

46. Here, it is important to highlight that PDO in its tariff proposal submitted that the Project has been entirely funded from PDO sources through Annual Development Fund (ADP)-GOAJK. The Project Developer further stated that for tariff computation, the Project cost has been bifurcated into debt (75%) & equity (25%) based on NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018.

47. PDO submitted that "*the Project was commissioned in 2014. The IRR applicable at that year for hydropower projects is 17%. The precedent of Authority is available in the case of PEDO for 36.6 MW Daral Khawar HPP decision dated July 05, 2022. The Authority has allowed the same i.e. 17% IRR PKR-based return. The decision states*:

> ***"Therefore, a 17% PKR-based return assuming monthly cash flow with no USD indexation is thus being allowed to the project."***

48. CPPA-G submitted that "*the Company has claimed the 17% IRR for return on equity and return on equity during construction. It is highlighted that the Cabinet Committee on Energy (CCoE) in it meeting held on August 27, 2020, has reduced the returns of the public sector and in the case of WAPDA/GENCO, the return is considered as 10% with no US indexation. Furthermore, keeping in view the government decision, the Authority has allowed the return of 10% in the case of PEDO projects. Therefore, the return of the PDO project may be aligned with the CCoE decision and already approved tariffs of Authority for provincial government hydropower plants*"

49. In response to comments of CPPA-G, PDO submitted that "*CCOE decision is only applicable on the public sector projects funded by Federal Government of Pakistan specifically WAPDA hydroelectric, GENCOs, and Nuclear Power Plant. The ROE must be higher than the interest on local currency long-term bonds, which is approx. 13.554% for 20 years, to incentives to invest in developing local hydropower resources. Furthermore, the Authority has increased the ROE from 10% to 13% in recent determinations of 40.8 MW Koto HPP, 11.8 MW Karora HPP, and 10.2 MW Jabori HPP*".

50. Regarding the debt repayment period PDO in the tariff proposal has requested debt servicing components for 20 years period and with regards to the cost of the debt has stated that "*since the project was commissioned in July 2014, therefore the 6-month KIBOR (10.17%) as of July-2014 has been applied.*" Further, PDO has also requested KIBOR indexation according to the NEPRA mechanism.

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51. In addition to the above PDO has claimed interest during construction (IDC) and return on equity during construction (ROEDC) for 3 years (36 months).

52. CPPA-G submitted that "*Since the PDO is entirely financing the Project from its own sources (ADP-GOAJK) and using an opportunity cost of fund, therefore, instead of claimed rate, the interest rate may be rationalized to SBP financing schemes available to renewable energy at a flat rate of 6% for debts. It is also suggested that debt: equity shall be approved in the range of 80: 20 instead of the assumed debt: equity ratio of 75: 25 by the PDO in order to pass on the relief to electricity consumers.*

53. In response to comments of CPPA-G, PDO submitted that "*the interest rate of SBP financing scheme is only applicable to projects who have secured financing from the SBP. The Project was executed before the SBP financing scheme therefore, the interest rate of SBP financing is not applicable. Moreover, the NEPRA tariff guidelines 2018 allows the 2.5% spread over KIBOR, in light of this the claimed cost of Debt is already in reasonability*".

54. CPPPA-G also submitted that "*according to the benchmark for Tariff Determination guidelines, 2018 issued by the Authority, in case of renewable energy projects eligible for securing debt financing under the revised SBP financing scheme for renewable energy, debt repayment period shall not exceed 12 years*".

55. In response to comments of CPPA-G, PDO responded that "*Since the Project does not fall under SBP financing scheme, the repayment period as per SBP financing is also not applicable.*

56. It was observed that in the tariff proposal, PDO has claimed interest during construction, return on equity during construction, return on equity and debt servicing components, however, no details/agreements of the funding sources have been provided, therefore, IESCO/PDO was asked vide Authority letter dated November 28, 2022, to provide documentary evidence of source of fund (debt/equity) including the cost of debt, terms of loan etc. If, the fund provided for the Project is not going to be paid back, then justify why the cost of debt/equity should be allowed and for what purpose?

57. PDO in response submitted that PDO has been established through an Act passed by the Legislative Assembly of the Azad Jammu & Kashmir and among others one of the functions of this organization is to construct, maintain and operate the powerhouse, grids, microgrids and transmission lines connected with the powerhouses. Thus the Rehra hydropower project is constructed by the PDO from the funds provided by the Government of AJK and selling electricity from these power plants will enable the PDO to be self-reliant by earning revenues and utilizing these for initiating more projects. PDO further submitted that a Fund has been established for meeting the expenses related to its functions, including but not limited to all

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administrative expenses and salaries and further stated that any/all revenue generated through the sale of power, and water use charges are credited to this fund. The amount available in the Fund may be then invested after obtaining the approval from the Board, if not required for immediate expenditure in any of the securities. PDO referred to Chapter VI of its Act which deals with the funds of the organization. The relevant provisions of the Act regarding the Fund are as under:

CHAPTER VI
FINANCE

23. Fund.- (1) There shall be a fund to be known as the Fund of the Organization vested in the Organization which shall be utilized with the approval of Board to meet charges in connection with its functions under the Act, including the payment of salaries and other remunerations to the Managing Director, Officers and employees of the Organization.

(2) The fund shall consist of,-

(a) grants made by the Government including the Federal Government;
(b) loans obtained from the Government including the Federal government;
(c) grants made by local bodies as required by the Government;
(d) sale proceeds of bonds issued under the authority of the Government;
(e) loans obtained by the Organization from commercial banks or any other source;
(f) foreign loans, grants or any other financial assistance obtained; and
(g) revenue through sale of power generated, water use charges, other than Mangla Dam and all other sums received by the Organization.

(3) The Organization may keep money in any scheduled bank or the Bank of Azad Jammu and Kashmir or a National Saving Centre with the approval of the Board.

(4) Nothing in sub-section (3) shall be deemed to preclude the Organization from investing any such moneys which are not required for immediate expenditure in any of the securities described in Section 20 of the Trusts Act, 1882 (Act II of 1882), as adopted in Azad Jammu and Kashmir or placing them in a fixed deposit with a scheduled bank or the Bank of Azad Jammu and Kashmir or a National Saving Centre with the approval of the Board.

(5) The Board shall endeavor to promote private sector in the generation, transmission and distribution of Power. For this purpose it may sponsor, promote or join private limited Companies incorporated and established under the Companies Act, 1984 (XLVII of 1984), as enforced in Azad Jammu and Kashmir.

(6) The Board may also permit the Organization to join, promote, sponsor or incorporate public limited Companies involved in the generation, transmission and distribution of power.

(7) To join other statutory or corporate bodies, involved in the generation, transmission and distribution of power.

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58. Regarding the justification of claiming ROE, ROEDC, Debt and IDC, PDO submitted that the tariff proposal of the project is submitted under the NEPRA import regulations which apply to the import of power from the territories outside the jurisdiction of Pakistan, therefore, the PDO-

AJK shall be treated an independent power producer and accordingly, ROE, ROEDC, IDC and debt repayment as allowed on a cost-plus tariff be allowed.

59. After considering the submissions, the Authority is of the view that the revenue from the sale of the instant power plant is not subject to any debt-related obligation. In similar cases i.e., 2 MW Birmogh Gol HPP and 1.875 MW Shishi HPP projects where finances were not received from any bank or financial institutions, the Authority has determined the tariff on the Weighted Average cost of Capital (WACC), by including a depreciation charge and a rate of return in capital investment to commensurate that earned by other investments of comparable risk. Thus the Authority is of the considered opinion that the nature of the Project financing of the instant Project is similar to the Birmogh & Shishi, therefore, the tariff claimed by PDO for the instant Project on the Cash Flow basis may not be prudent. Hence, the tariff methodology approved by the Authority for the referred projects is hereby approved for the instant Project.

60. The Authority considered the assumptions made by PDO regarding the bifurcation of the Project cost into 75% debt and 25% equity and is aligned with the NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018, therefore, the same has been considered.

61. Regarding the rate of return, the Authority is of the opinion that the hydropower projects carry additional risks and accordingly a reasonable return should be considered which would cover the associated risks. The Authority is also of the view that an appropriate rate of return on equity will allow for harnessing the local resource. This will not only address the issue of energy security but will address the adverse impact of climate change expectedly by replacing imported fossil fuel-based power plants. Thus the Authority considers that a PKR based 16% rate of return on the equity is reasonable and the same is hereby allowed to the instant Project without any dollar indexation. The same return was also allowed in the case of the 1.875 MW Shishi Hydropower project of PEDO, for which public funds were utilized.

62. Further, the Authority has noted that since PDO is under no obligation of paying interest to the lenders, however, keeping in view the opportunity cost of funds, a rate safeguarding the interest of the consumer as well as the Project Developer will be fair, therefore the average KIBOR rate of 8.715% which based on average values of the 3-month KIBOR rate for the last nine (9) years starting from August 2013 to July 2022 has been considered which will remain fixed without any KIBOR variations.

63. Based on the 16% rate of return and KIBOR rate of 8.715% the Authority has calculated the WACC as 10.54% and the same has been approved.

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64. The Authority noted that the instant Project, PDO has claimed a tariff for 30 years from the COD period that is from July 2014, however, the tariff proposal for determining the tariff has been submitted after a gap of 8 years. In a similar delay tariff submission case of Shishi HPP which applied for tariff after a gap of 12 years, the Authority allowed tariff for the remaining period of 18 years. Therefore, the Authority has decided to approve the tariff for the instant Project for the remaining 22 years after excluding the 08 years.

65. However, the Authority in the case of other similar hydropower projects has not allowed the recovery of assets through the remaining period due to the reason as a penalty, for not timely approaching Regulator for approval of the tariff. However, in the instant case, the Authority has noted that the situation is different as the Project is located in the territory of AJ&K which is to approach NEPRA via CPPA/DISCO under the then applicable Import of Power Regulations. The Authority upon the review of the facts submitted, noted that PDO approached IESCO multiple times and even approached NEPRA for determination of its tariff as the following chronological order of events reveals:

S.No:	Description	Date
1	COD of the Project	July 2014
2	PDO approached IESCO for the interconnection	July 25, 2013
3	After meetings and correspondences and as per the requisite of IESCO PDO conducted the interconnection study through a consultant and submitted to IESCO	May 30, 2015
4	Upon the request of PDO, IESCO approached NEPRA to seek guidelines for the Purchase of Power	April 25, 2016
5	NEPRA responded to proceed in accordance with IPPR-2005	May 23, 2016
6	IESCO approved the Interconnection Study on	April 18, 2017
7	IESCO submitted the Power Acquisition Request to NEPRA	June 01, 2017

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8	NEPRA returned the PAR with the direction to resubmit the PAR under the IPPR -2017 as IPPR-2005 are no longer relevant.	January 10, 2018
9	IESCO required PDO to submit the tariff proposal	September 12, 2019
10	IESCO submitted the tariff proposal to NEPRA	April 11, 2022

66. Therefore, based on the above, the Authority has decided not to penalize PDO for the late submission of the tariff petition after many years since COD, hence the recovery of the asset has been apportioned on the remaining period.

Issue No: 07
Whether the claimed Operation and Maintenance costs and indexations thereon are justified?

67. In its tariff proposal, PDO submitted that "*The O&M cost of PKR 5.016 million per annum, as of 2008, has been taken in the tariff proposal. The cost is taken from the approved cost under PC-I. The cost claimed is already much less than the already approved O&M cost to other HPPs. The indexations be allowed to the O&M, as being allowed to other HPPs.*

68. CPPA-G submitted that *"The proposed cost for operation and maintenance of the plant may be rationalized with the O&M cost allowed by NEPRA to other comparable hydropower projects. According to the Authority's guidelines for the selection of operation and maintenance contractors by generation companies, the petitioner should conduct a transparent and competitive bidding process for the selection of an O&M contractor for this project with the approved cost as a ceiling.*

69. The Authority considers the submissions of PDO and is of the opinion that the *claim of PKR 5.016 million for the operation & maintenance of the plant is reasonable and competitive, thus the same has been hereby approved. Regarding the indexation,* the following mechanism has been approved.

Indexation:

The O&M component of the tariff shall be adjusted with local N-CPI (yearly averaged) on an annual basis. The first indexation of the O&M component of the tariff shall be done after 1 year of notification of the tariff for which the reference average N-CPI shall be calculated based on 12 months' N-CPI values prior to notification of this tariff determination and the revised N-CPI shall be the average of 12 months values of N-CPI of the first year of notification.

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Issue No: 08

Whether IESCO or CPPA-G will be responsible for the payment/settlement mechanism in the instant case?

70. PDO submitted that, *the tariff proposal has been filed through IESCO under the NEPRA Import of Electric Power Regulations, 2017. IESCO has agreed to purchase the power from the plant as mentioned in their Board approval dated 25.04.2017, provided along with the tariff proposal. Further, NEPRA in its letter No. NEPRA/Consul.(Hydro)/TRF-100/Hydel/7086-88 dated May 23, 2016, addressing to IESCO stated that An Energy Purchase Agreement may be drafted which incorporates the agreed/proposed tariff along with the rights and obligations of both parties".*

71. CPPA-G submitted that "regarding the signing of EPA by IESCO or CPPA-G, it is *submitted that Authority vide letter dated May 23, 2016, responded to IESCO, "there would be no role of CPPA-G in the instant case in the signing of the EPA and in approaching NEPRA for approval since the DISCOs are authorized to enter into PPAs/EPAs as per NEPRA rules and regulation ".Furthermore, after the commencement of Market Operations, which is expected in near future, DISCOs will sign the contract directly. Therefore, it is more appropriate for IESCO to enter into the contracts with the PDO for the said project or as decided by the Authority".*

72. The Authority has noted that IESCO didn't submit any written observations/objections. Therefore, it is expected that IESCO is to sign the contract and will be responsible for payment/settlement. However, the Authority is of the view that IESCO and PDO may settle the issue of settlement of payment at the time of signing the Power Acquisition Contract which shall be submitted to the Authority for approval

Order:

73. The Authority, in the exercise of its powers under Regulation 4(3) of the NEPRA (Import of Electric Power) Regulations, 2017, has decided to approve the following rates and terms and conditions for the import of power by Islamabad Electric Supply Company (IESCO) from 3.2 MW Rehra hydropower project of PDO.

- Levelized tariff works out to be PKR. 2.0671/kWh.
- EPC cost of PKR. 269.99 million has been approved.
- Land Acquisition cost of PKR. 11.5 million has been approved.

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- Other Developmental Cost of PKR. 20.9 million has been approved.

- Debt to equity ratio of 75:25 has been approved

- WACC of 10.54% has been allowed based on the KIBOR rate of 8.715% and ROE of 16%.

- The reference tariff has been calculated on the basis of net annual benchmark energy generation of 19.751 GWh for an installed capacity of 3.2 MW. An auxiliary consumption has been restricted to 0.5%.

- This tariff is limited to the extent of net annual energy generation of 19.751 GWh. Netannual generation supplied during a year to the Power Purchaser in excess of benchmark energy of 19.751 GWh will be charged at 10% of the prevalent approved tariff

- O&M cost of PKR 5.016 million per annum has been approved.

- A construction period of 36 months has been approved.

- The tariff will be valid for 22 years and shall be applicable from the date of notification of tariff determination.

- The tariff is based on Take & Pay.

One-Time Adjustments:

- The EPC cost of PKR 269.99 million and other developmental costs of PKR. 20.99 million is allowed as a maximum cap which is subject to adjustment at COD tariff based on the documentary evidence and the lower of actual or allowed will be considered.

- The cost of land acquisition of PKR 11.50 million will be adjusted as per actual based on the documentary evidence and the lower of actual or allowed will be considered.

- The Transmission Line cost of PKR 10 million is allowed as a maximum cap which is subject to adjustment at COD tariff based on the documentary evidence and the lower of actual or allowed will be considered.

- PDO shall submit the request for adjustment in tariff within 90 days of issuance of this tariff determination.

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Indexation:

- The O&M component of the tariff shall be adjusted with local N-CPI (yearly averaged) on an annual basis. The first indexation of the O&M component of the tariff shall be done after 1 year of notification of the tariff for which the reference average N-CPI shall be calculated based on 12 months' N-CP1 values prior to notification of this tariff determination and the revised N-CPI shall be the average of 12 months values of N-CPI of the first year of notification.

74. The order along with the reference tariff table is recommended for notification by the Federal Government in the official gazette in accordance with Section 31 (7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997

Authority

Amina Ahmed Member	Mathar Niaz Rana (nsc) Member
Engr. Rafique Ahmed Shaikh Member	Engr. Maqsood Anwar Khan Member

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REHRA HYDROPOWER PROJECT
REFERENCE TARIFF TABLE

Year	*O&M*	*Depreciation Charge*	*Return on Investment*	*Total*
	PKR/kWh			
1	0.2540	0.5394	1.6669	2.4602
2	0.2540	0.5394	1.6101	2.4034
3	0.2540	0.5394	1.5533	2.3466
4	0.2540	0.5394	1.4964	2.2898
5	0.2540	0.5394	1.4396	2.2329
6	0.2540	0.5394	1.3828	2.1761
7	0.2540	0.5394	1.3260	2.1193
8	0.2540	0.5394	1.2691	2.0625
9	0.2540	0.5394	1.2123	2.0056
10	0.2540	0.5394	1.1555	1.9488
11	0.2540	0.5394	1.0987	1.8920
12	0.2540	0.5394	1.0418	1.8351
13	0.2540	0.5394	0.9850	1.7783
14	0.2540	0.5394	0.9282	1.7215
15	0.2540	0.5394	0.8713	1.6647
16	0.2540	0.5394	0.8145	1.6078
17	0.2540	0.5394	0.7577	1.5510
18	0.2540	0.5394	0.7009	1.4942
19	0.2540	0.5394	0.6440	1.4374
20	0.2540	0.5394	0.5872	1.3805
21	0.2540	0.5394	0.5304	1.3237
22	0.2540	0.5394	0.4736	1.2669
Levelized Tariff	**0.2540**	**0.5394**	**1.2737**	**2.0671**

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