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National Electric Power Regulatory Authority Islamic Republic of Pakistan

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No. NEPRA/R/ADG(TRF)/TRF-537/Shishi-2020/39590-39592

October 22, 2021

Subject: Decision of the Authority in the matter of Tariff Petition filed by Pakhtunkhwa Energy Development Organization (PEDO) in respect of 1.875 MW Shishi Hydropower Plant at Chitral (Case No. NEPRA/TRF-537/Shishi-2020)

Dear Sir,

Please find enclosed herewith the subject Decision of the Authority along with Annex-I (14 Pages) in Case No. NEPRA/TRF-537/Shishi-2020.

2. The Decision is being intimated to the Federal Government for the purpose of notification in the official gazette pursuant to Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

3. The Order along with Reference Tariff Table (Annex-I) is to be notified in the official Gazette.

Enclosure: As above

(Syed Safer Hussain)

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

CC:

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



DETERMINATION OF AUTHORITY IN THE MATTER OF TARIFF PETITION FILED BY PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION (PEDO) IN RESPECT OF 1.875 MW SHISHI HYDROPOWER PLANT AT CHITRAL

Background:

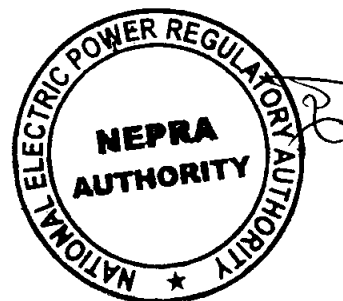
1. Pakhtunkhwa Energy Development Organization (hereinafter referred to as the "PEDO" or "the petitioner") through Nasir Absar Consulting filed a tariff petition vide its letter dated April 28, 2020 for determination of reference generation tariff under NEPRA (Tariff Standards & Procedure) Rules, 1998 in respect of 1.875 MW Shishi Hydropower Plant ("the Project") located at Darosh, Chitral. The petitioner has requested for the approval of levelized tariff of PKR. 4.723/kWh over the tariff control period of 30 years from Commercial Operations Date i.e. December 18, 2009.

Key information of the Project submitted by the petitioner:

2. The petitioner submitted that the Project is located at Darosh, Chitral executed by PEDO, funded through annual development program of Government of Khyber Pakhtunkhwa ("GoKPK"), Power department. The main objective of the project was to install three (3) Hydro-electric turbo generating sets of 625 kW replacing the old generating plant of 300 kW capacity of the same locality to meet the electricity demand of the lower Chitral area. The electricity generated is being provided to the public of Darosh Town as well as other surrounding village.
3. The petitioner informed that the project was originally approved by Provincial Development Working Party in April 1996. The implementation of the project was scheduled through the provincial annual development plan in 1996. However, due to financial constraint sufficient allocation/releases could not be made during the period 1996-2000. Consequently, not only the Project was delayed but it resulted in enhanced project cost due to abnormal escalation of market prices and devaluation of Pak Rupee. Due to which, the PC-I was revised and approved.
4. The petitioner submitted that an agreement was signed on February 14, 2002 effective from December 20, 2001 between Sarhad Hydel Development Organizations ("SHYDO") now PEDO and Peshawar Electric Supply Company ("PESCO or Power Purchaser") for the purchase of power from Reshun Hydel Power Station at 33kV Judilasht Chitral sub-station. The billing rate agreed was PKR. 1.40/kWh on take and pay basis. As per clause 7 (a) of the said agreement, the rate for energy and terms of agreement shall be reviewed after every five (05) years mutually by both the parties.
5. The petitioner further submitted that another agreement for swapping the distribution network of Booni/Darosh between SHYDO and PESCO was signed. The agreement also stated that "Energy generated at Shishi hydel station will be sold to PESCO as and when required by PESCO @ PKR. 1.40/kWh on the same terms and conditions as agreed on the case of purchase of power from Reshun Powerhouse". Later, through the letter by PESCO dated September 17, 2008 SHYDO/PEDO has accepted the sale of power @ PKR. 3/kWh. On February 20, 2010, it was agreed between the parties (PESCO & SHYDO/PEDO) that "the purchase of power from Shishi

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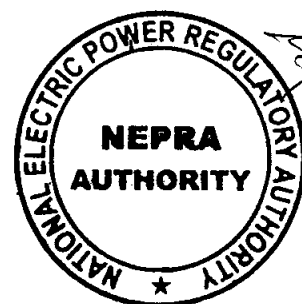
Powerhouse will be made @ PKR. 3/kWh under the same agreement till the proper tariff is determined by NEPRA.

6. PEDO, on October 19, 2012, submitted the generation license application to NEPRA. The generation license was issued by NEPRA on September 04, 2013 for a period of 26 years from the date of its issuance.
7. Summary of the key information of the Project provided by the petitioner is as follows:

Project details	Shishi Hydropower Project
Sponsors	Pakhtunkhwa Energy Development Organization
Power purchaser	Peshawar Electric Supply Company
Project location	Darosh Town Chitral KPK
Name of stream	On Shishi river, tributary of Chitral river near Darosh town
Land area	40 Kanal
Plant Life	30 years from COD
Design discharge	3m ³ /S
Gross head	85.6m
Net head	84.7 m
Capacity	1.875 MW
Type of turbine	Francis Turbines, 600 rpm
No of units	3*625
Plant capacity factor	90%
Auxiliary load	2%
Annual net energy generation @ 90% Plant Factor	13.038 GWh
Construction period	55 Months
Consultants	Nasir Absar Consulting
Project cost	PKR in millions
EPC cost	
Civil works	182.686
Electro-mechanical equipment	115.025
Total EPC	297.711
Non-EPC Cost	
Land acquisition	6.779
Construction of transmission line	3.028
Owner administration	23.202
Total Non EPC Cost	33.009
Total project cost	330.720
Financing structure	Debt: 0% : Equity: 100%
WACC	13.75%
Operations and Maintenance cost	PKR. 20 million/annum

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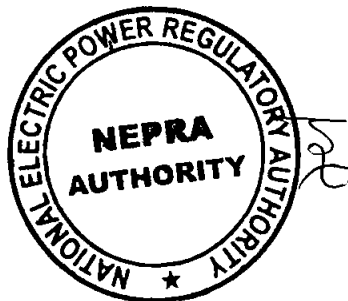


8. During the proceeding of the petition, the petitioner informed that two PC-I were approved by ECNEC, first PC-I dated October 13, 2005 was approved with the cost of PKR 286.580 million and second PC-I dated April 11, 2011 was approved with additional cost of PKR 67.722 million resulting in a total project cost of PKR 354.302 million. The breakup of the approved costs as per PC-I is given hereunder:

1 st PC-I for construction of project	PKR in million
Preliminary Works including Land Acquisition	7.40
Civil Works	72.77
Steel Works & Accessory	18.04
Electrical Equipment & Accessories	44.89
Mechanical Equipment & Accessories	72.14
Residential Building	14.60
Construction of T&D Line	3.00
Sub Total (A)	232.84
Office Expenses and Others (B)	22.86
Administration @ 1% of (A)	2.33
Provision for Contingencies & W/C Establishment @ 0.5% of (A)	1.16
Consultancy Charges 1% of (A)	2.33
Escalation @ 6.5% for 2 nd and 13% of (A+B) for 3 rd and 4 th Year	25.07
Sub Total (C)	30.89
Grand Total	286.58

2 nd PC-I for construction of office and residential building	PKR in million
Civil Works	60.490
Escalation	5.562
Furnishing of office and house	1.000
Service charges (PHYDO) head office @1% of total cost	0.6705
Total	67.7225
Total Project Cost	354.302

9. The petitioner however requested a total project cost of PKR 330.72 million which according to the petitioner is based on the actual expense incurred. According to the petitioner PC-I costs are merely an estimate and the tariff sought is of the COD stage where all costs are to be on actual and not to be based on estimation.
10. The petitioner has also submitted PC-IV i.e. completion report with regard to the construction of office and residential building, as per which the actual cost incurred for the construction of office and residential building is PKR 64.863 million as against PC-2 approved cost of PKR 67.72 million. However, no completion report with regard to construction of the project has been submitted by the petitioner. On query, the petitioner submitted that the PC-IV of the Project is not available since the project has been commissioned in 2009. However, the petitioner stated that all the payment evidence has been provided which includes the payment approvals and the claimed project cost is based on payment evidence.



Proceedings:

11. The Authority admitted the tariff petition on June 01, 2020 for further processing. Advertisement for notice of Admission/Hearing containing salient features of the petition, hearing schedule and issues framed for hearing was published in national daily newspapers on September 12, 2020. Through the said notice NEPRA invited comments and intervention requests from the interested parties within seven (07) days of publication of notice. Tariff petition and Notice of Admission/Hearing were also hosted on NEPRA's website for information of the general public. Individual Notices of hearing were also sent to the stakeholders and the petitioner on September 15, 2020 for participation in the hearing.
12. Accordingly, hearing on the subject matter was held on September 29, 2020 (Tuesday) at 10:45 A.M. at NEPRA Tower, G-5/1, Islamabad.
13. In response to notice of admission/hearing, no comments/intervention requests have been received.

Issues framed

14. Following issues were approved by the Authority for the proceedings:
 - Whether the plant capacity and annual generation claimed by the petitioner are justified?
 - Whether the auxiliary consumption of 2% claimed by the petitioner is justified?
 - Whether the construction period of 55 months claimed by the petitioner is justified?
 - Whether the EPC cost of PKR.297.711 million claimed by the petitioner is justified?
 - Whether the Non-EPC cost of PKR. 33.009 million claimed by the petitioner is justified?
 - Whether the Operation and Maintenance costs claimed by the petitioner are justified?
Whether the indexation claimed on local/foreign O&M components during the operation period are justified?
 - Whether the Water Use Charges to be paid to Government of KPK, if applicable claimed by the petitioner as a pass-through item is justified?
 - Whether the capital structure is justified?
 - Whether the proposed WACC of 13.75% for the project is justified?
 - Whether the tariff claimed for 30 years from the date of COD i.e. (18-12-2009 as stated in petition) is justified?
15. The Authority's decisions with respect to each of the issues based on the information provided in the petition and subsequent submissions by the petitioner are given below:

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Issue No 1: Whether the plant capacity and annual generation claimed by the petitioner are justified? And whether the auxiliary consumption of 2% claimed by the petitioner is justified?

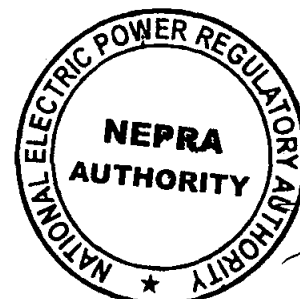
16. The petitioner has requested gross annual generation of 14.782 GWh based on a 90% plant capacity factor. The petitioner has estimated 2% auxiliary consumption. However, the petitioner has not provided any details and justifications with regard to claimed auxiliary consumption in its tariff petition.
17. Following technical features have been given in the tariff petition:

Technical Features	
Design Discharge	3m ³ /s
Gross Head	85.6m
Net Head	84.7m
Installed Capacity	1.875MW
Plant Factor	90%
Type of Turbine	Francis Turbines, 600 rpm
No. of Units	3*625
Annual Gross Energy Generated based on 90% with 365 days	14.782GWh
Auxiliary Load	2%
Annual Net Electrical Output @90% PF	13.038GWh
Plant Life	30 years

18. Subsequent to the hearing, the petitioner vide letter dated October 27, 2020 submitted that the feasibility study was conducted by professionals & key experts and made part of PC-I which was approved by the experts of PDWP. The petitioner submitted that the power plant was designed and constructed based on the detailed hydrological analysis, flood design, geological features, structures, facilities, BOQs, financial & economic analysis and environmental concerns approved in PC-I. The petitioner further submitted that the claimed auxiliary consumption is in-line with the allowable consumption to other hydropower projects. The petitioner further stated that recently, 3% of auxiliary power has been allowed to the 40.80 MW Koto hydropower project.
19. The Authority considered the submission of the petitioner and noted that the submission with regard to the 3% Auxiliary consumption allowed to the Koto HPP is incorrect. The Authority has allowed auxiliary consumption of 1% to Koto HPP.
20. The Authority keeping in view the submission of the petitioner and precedence available in the matter has decided to allow the following to the project:
- | | | |
|-----------------------|---|-----------|
| Installed Capacity | : | 1.875MW |
| Gross Annual Energy | : | 14.78 GWh |
| Net Annual Energy | : | 14.63 GWh |
| Plant Factor | : | 90% |
| Auxiliary Consumption | : | 1% |

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Issue No 2: Whether the construction period of 55 months claimed by the petitioner is justified?

21. The petitioner has claimed construction period of 55 months. The petitioner submitted that at the time of PC-I and tender documents, construction period of 48 months was estimated however in actual the project completed in 55 months. The reason for delay as submitted by the petitioner were delay in receiving funds and force majeure event caused by flood, earthquake etc.
22. Later vide letter dated October 27, 2020, PEDO informed that the construction of the project was started on May 10, 2004 and the project achieved its operations on December 18, 2009. Subsequently vide another communication dated June 22, 2021 PEDO submitted that the 48 months' time started from administrative approval of the revised PC-1 and the project was completed within the approved timelines.
23. The Authority considered the submission of the petitioner and decided to allow the project cost for the project construction period of 48 months as approved by ECNEC.

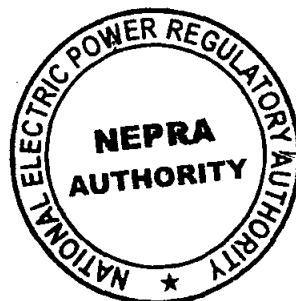
Issue No 3: Whether the EPC cost of PKR.297.711 million claimed by the petitioner is justified?

24. The petitioner has submitted that PKR. 297.711 million has been expensed out under the head of EPC cost. The breakup of the claimed EPC cost is provided as under:

EPC Cost	PKR. In million
Civil Works Cost	182.686
Electro-Mechanical Equipment Cost	115.025
Total EPC Cost	297.711

25. The petitioner has also provided year wise breakup of the civil works (during the year 2003-2011) and electro-mechanical equipment (during the year 1998-2010) expenditure in the petition.
26. Subsequent to the hearing, the petitioner vide letter dated October 27, 2020 submitted that PC-I was approved by PDWP against which the funds were allocated, in the annual development programme, and released by the Government. The petitioner submitted that before making any type of payment, the cost was approved through the procedure adopted in the Government sector. According to the petitioner, no payment without verification was made and the funds were transferred to the designated officer for making the verified invoices. PC-I, itself, is the major evidence of the funds/payments.
27. PEDO submitted that the project was constructed on self EPC mode rather being a single EPC contract different civil contractors were appointed for construction of different components. The construction works were initiated on May 10, 2004 and subsequently with the progress of the project more civil contractor were appointed. Total of 11 civil and 1 E&M contractors were appointed through bidding process. PEDO further submitted that at the time of hiring of the contractor no Federal or Provincial level Public Procurement Authority were available. As Khyber Pakhtunkhwa Public Procurement Authority was established under KP Public

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Procurement Regulatory Act, 2012 on September 2012 and rules for procurement of goods works and services were approved in February 2014. Further, the Public Procurement Regulatory Authority Act at Federal level was formed in 2002 however, rules of procurement were developed in June 2004. PEDO submitted that the bidding process started for pre-qualification of contractors. Application was received and contractors were pre-qualified based on the criteria mentioned in the pre-qualification documents. Only the pre-qualified contractors were issued tender documents. The bids were received on the issued tender documents. Evaluation was conducted by the evaluation committee. The standard contracts of Pakistan Engineering Council and approved by the board of PEDO was used for signing of contract with the bidder who stands lowest.

28. The Authority considered the submission of the petitioner. The Authority noted that as per detail submitted with regard to the actual expenditure incurred, the claimed EPC cost is PKR. 297.711 million. That includes PKR. 182.686 million for civil works and PKR. 115.025 million electro-mechanical equipment. The Authority noted that the project is delayed by 19 months. Therefore, the Authority being consistent with the past precedence in allowing cost within the allowed construction time has decided to restrict the civil works cost on prorata basis for 48 months allowed construction period. Accordingly, the allowed EPC cost (civil works cost prorated for 48 months) for the project works out to be:

EPC Cost	PKR. In million
Civil Works Cost	130.880
Electro-Mechanical Equipment Cost	115.025
Total EPC Cost	245.905

29. Further, the petitioner is hereby directed to submit all the documentary evidences at the timed of one-time adjustment application including contracts, invoices and payment evidences to NEPRA for assessment/adjustment of cost in case the actual cost based on the verified invoices/documents works out to be lower than the approved numbers.

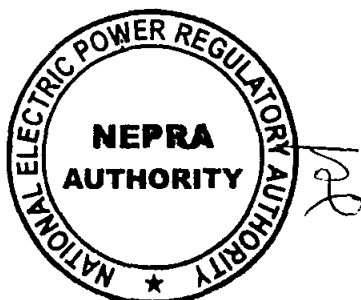
Issue No 4: Whether the Non-EPC cost of PKR. 33.009 million claimed by the petitioner is justified?

30. The petitioner has submitted that PKR. 33.009 million has been expensed out under the Non EPC cost head. The breakup of the claimed Non EPC cost is provided as under:

Non-EPC Cost	PKR. in million
Construction of Transmission Line	3.028
Land Acquisition	6.779
Owner Administration	23.202
Total Non EPC Cost	33.009

Construction of Transmission Line:

31. The petitioner submitted that the cost of constructing the transmission line was PKR. 3.028 million. Subsequently, vide letter dated October 27, 2020, the petitioner submitted that the cost of transmission line had been borne by the project and no cost has been re-imbursed by the power purchaser.




32. The Authority has noted that the petitioner did not submit any detail with regard to the length and construction of the transmission line including the final responsibility with regard to construction of the line and reimbursement of cost of transmission line by the power purchaser.
33. The Authority in other Hydro power project has provided that in case the power purchaser refuses to reimburse the cost and to carryout O&M services of purchaser's Interconnection facilities, then the sponsor at the time of project COD or earlier will submit cost details and request the Authority for the issuance of tariff and special purpose transmission license (if required) in order to carry out the aforesaid O&M services. In view thereof, in the instant case also the Authority approves the same mechanism and the cost of PKR. 3.028 million on account of cost of transmission line is not allowed to be included in the project's cost at this stage.

Land Acquisition:

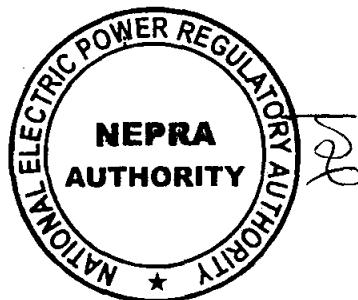
34. The petitioner has submitted that PKR. 6.779 million has been expensed out for acquiring total of 40 kanals for the project. Out of 40 kanals, 32 kanals consists of civil structure, 4 kanals consists of residential colony and remaining pertains to site office. The petitioner has also submitted year wise expenditure for land acquisition from 1998 till 2010.
35. The Authority has considered the submission of the petitioner with regard to the land acquisition and decided to allow the claimed land cost of PKR 6.779 million as maximum cap subject to adjustment at the time of COD tariff adjustment based on authentic documentary evidence to the satisfaction of Authority.

Owner Administration:

36. The petitioner submitted that the cost incurred under this head was PKR.23.202 million. The petitioner submitted that this cost has been expensed out under different heads i.e., payroll, vehicles, furniture, stationery, rent, head office charges, etc. for the period of 12 years from 1997. The petitioner has also submitted year wise expenditure under owner administration.
37. Since the allowed construction time period has been restricted to 48 months accordingly the Authority has decided to allow the owner administration cost on prorata basis for 48 months. In view thereof the allowed owner administration cost works out PKR. 16.622 million as a maximum cap which shall be subject to adjustment in case the actual cost based on the verifiable documentary evidence works out to be lower than the approved numbers at COD tariff adjustment.
38. The total Non-EPC cost including actual land cost of PKR. 6.779 million works out to be PKR. 23.401 million.
39. Based on the above discussions, the approved project cost is tabulated below:

Project Cost Items	PKR in million
Civil works cost	130.880
Electro-mechanical equipment cost	115.025
EPC Cost	245.905
Land acquisition	6.779
Owner administration	16.622
Non EPC cost	23.401
Total project cost	269.306

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Issue NO 5: Whether the Operation and Maintenance costs claimed by the petitioner are justified? Whether the indexation claimed on local/foreign O&M components during the operation period are justified?

40. The petitioner has submitted that an average expense of PKR. 16.15 million per annum has been spent during the years 2009-2019. The petitioner submitted that the O&M cost includes cost of O&M contractor, salaries, security staff, generation license fee, purchase of spare parts, purchase of mechanical equipment, furniture, repair of a vehicle, POL, Flood damages, AM&R, etc. The petitioner also submitted details of actual O&M expenses in its petition.
41. The petitioner further submitted that the annual O&M cost for onward years is estimated at PKR 20 million keeping in view the inflation factor and the O&M cost allowed to other hydropower projects of similar nature. Further, the petitioner has claimed that 50% of the total O&M cost as a fixed and 50% as a variable. The breakup of the claimed O&M cost is given as under:

O&M Cost	Year (1-10)		Year (11-30)	
	PKR in million	PKR/kWh	PKR in million	PKR/kWh
Fixed O&M	8.08	0.617	10	0.763
Variable O&M	8.08	0.617	10	0.763
Total O&M	16.16	1.234	20	1.526

42. The petitioner submitted that the local part of O&M cost will be adjusted on account of inflation (CPI). The foreign component of O&M shall be indexed to the USD exchange rate variation and US CPI. Quarterly adjustment for local inflation and exchange rate variation will be made on 15th July, 15th October, 15th January & 15th April respectively on the basis of the latest available information with respect to CPI (notified by the Federal Bureau of Statistics).
43. The Authority considered the submission of the petitioner and noted that the claimed O&M cost of PKR. 20 million per annum is on the higher side than the O& M cost of PKR 4.097 million approved by ECNEC. Further, the Authority observed that the O&M cost of PKR. 4.097 million/annum as approved by ECNEC also includes O&M cost of PKR. 0.558 million for transmission line which should not be made part of O&M cost of generating unit and transmission cost are to be dealt separately from cost of this project. Accordingly, the O&M cost net of O&M cost of T&D line works out PKR 3.539 million /annum is hereby allowed.
44. Further, with regard to bifurcation of O&M cost into foreign and local cost components. The Authority noted that the petitioner did not submit any information with regard to foreign currency expenses in O&M cost. In addition, the annual O&M cost approved in PC-I is also in rupee term therefore the Authority has decided to allow 100% of the O&M cost in local currency subject to annual N-CPI indexation.

Issue No 6: Whether the Water Use Charges to be paid to Government of KPK, if applicable claimed by the petitioner as a pass-through item is justified?

45. The petitioner has submitted that the water use charges (WUC) have not been considered in the calculation of tariff. However, if applicable the same will be paid to the Government of KPK and shall be allowed as a pass-through item.

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46. The Authority noted that the instant project does not fall under Power Generation Policy 2015. Therefore, no WUC is required to be paid by the petitioner to the Province. Hence, the issue stands addressed.

Issue No 7: Whether the claimed Capital structure is justified? Whether the proposed WACC of 13.75% for the project is justified?

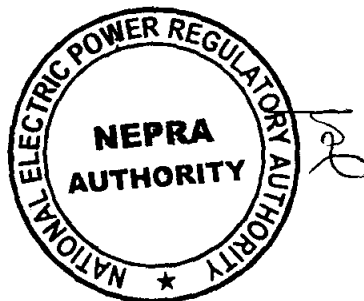
47. The petitioner has submitted that no amount has been received in the form of debt from any bank or any other financial institution. The petitioner informed that the project was funded through the annual development plan of GoKPK under which all funds were provided to PEDO for the development of the project. The petitioner submitted that two PC-1s were approved and funds were released. The details of which are provided as under:

Description	Amount PKR in million
Expenses from funds of first approved PC-1 (13-10-2005) for the construction of Project	265.857
Expenses from funds of second approved PC-1 (11-04-2011) for the construction of office & residential buildings	64.863
Total Project Capital Cost	330.720

48. The petitioner submitted that the return for the project is calculated based on the following guideline and precedents available for the hydropower:

- NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018 dated June 19, 2018 provides that for hydel projects, Debt: Equity shall be approved in the range of 80:20 to 75:25. In case of a capital structure with equity exceeding 30% of total capital cost, the Authority shall treat equity in excess of 30% of total capital cost as debt.
- In the tariff determination of 2 MW Birmogh Golen hydro power project dated May 21, 2018, the Authority observed that no amount was received in the form of debt from any bank or any other financial institution. Therefore, the Authority allowed tariff by including a depreciation charge and a rate of return in capital investment commensurate to that earned by other investments of comparable risk. The Authority allowed 9.41% as cost of capital to the project based on return on equity of 17% on 30% assumed equity and cost of debt of KIBOR +0% on 70% assumed debt.

49. In view of the foregoing, the petitioner has claimed Weighted Average Cost of Capital (WACC) of 13.75% by taking debt-equity ratio of 70:30. The cost of equity is taken as 17% as allowed to other hydropower projects and the cost of debt is taken as KIBOR + 0%. The petitioner submitted that KIBOR as of December 2009 was 12.35%.



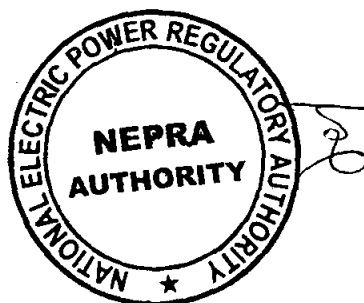


50. Later vide letter dated June 22, 2021 PEDO submitted that CCoE decision of reduced return is only applicable to projects owned by Federal Government and this current project is owned and financed by Provincial Government.
51. The Authority has considered the request of the petitioner and noted that the capital structure of 70:30 debt: equity as claimed by the petitioner is consistent with other HPP having similar nature of funding and also in line with National Electric Power Regulatory Authority (Benchmarks for Tariff Determination) Guidelines, 2018. Therefore, the claimed debt equity ratio of 70:30 being reasonable is allowed to the petitioner.
52. With regard to cost of equity the Authority has noted that the Cabinet Committee on Energy (CCoE) in its meeting held on August 27, 2020 reduced the return of public sector power generation projects to 10% for which revised tariffs have been given. The Authority is of the view that the instant project being owned by KPK government should also be treated in the same manner in terms of return and any discrimination in the level of return between federal government power plants and provincial government power plants may defeat the spirit of the decisions taken in CCoE for a reduction in overall national power tariffs. Further to above the Authority in recent GoKPK projects has allowed 10% return on equity. In view thereof the Authority in the instant case also has decided to allow 10% return on equity. With regard to the claimed interest rate of 12.35% which is about 12 years old can't be applied in the instant case as the petition has been submitted in April 2020. Therefore, the Authority has decided to allow WACC based on 3 months KIBOR rate of March 31, 2020 (7.59%). Accordingly, the WACC allowed to the petitioner works out to be 8.31% as against the claimed 13.75%.

Issue No 8: Whether the tariff claimed for 30 years from the date of COD i.e. (18-12-2009 as stated in petition) is justified?

53. The petitioner has submitted that the tariff has been calculated for the period of 30 years from Commercial Operations Date (COD) i.e., December 18, 2009. It may be noted that the project achieved COD on December 18, 2009 and Generation license was issued by the Authority on September 04, 2013 that is valid for a period of 26 years from the date of issuance of generation license, whereas the petitioner has requested determination of tariff for a period of 30 years from the date of COD (i.e. December 18, 2009) in its petition dated April 28, 2020.
54. Later vide letter dated June 22, 2021 the petitioner submitted that since the project was developed by the Government of KPK for social uplift of the area as till 2018, Shishi HPP was the only source of electricity in the tehsil Drosh, district lower Chitral and the electricity to the area was totally dependent of the Shishi HPP. PEDO submitted that the energy payments to Shishi HPP was stopped by PESCO on the basis that the NEPRA has rejected the EPA for Shishi on the plea that the tariff for the power plant was mutually decided instead of taking tariff from NEPRA and since October, 2017 the energy payment invoices are suspended by PESCO and the power plant is facing financial constraint due to accumulation of arrears. In view of the above PEDO requested to direct PESCO to reimburse the arrears for Shishi HPP as due to accumulation of the arrears since October, 2017 till date; the operation and maintenance activities for the power plant is affecting due to financial constraints. According to PEDO, a total of Rs 120.63

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million has been paid by PESCO to PEDO from COD till September 2017 and beyond which an amount of PKR 21.51 million is pending as arrear. Pertinent to refer here that this claim was not submitted by PEDO in its tariff petition.

55. The Authority has noted that the project is in operations since December 18, 2009 and the project has been selling units to the power purchaser on mutually agreed rate. Now after 11 years of operation the project has approached NEPRA for the determination of tariff. Keeping in view the above the Authority has decided to grant tariff starting from notification of this determination till the time the generation license is valid i.e. 2039. Further, since the project tariff petition has been filed in 2020 i.e. 8 years after obtaining the G.L, therefore, the petitioner shall get the WACC component on residual asset at year 2020 assuming the plant starting operation in 2013 when the plant was awarded generation license.
56. Further from the information obtained from various communication including site visit of the project, the Authority has noted that PKR 120.63 million amount paid to PEDO for the Project was made from PESCO's own resources. On a similar line, any arrear amount to be mutually agreed between the parties should also be paid from PESCO's own resources.
57. Further, the Authority has noted often that PEDO is establishing/constructing power plants without getting prior approval of license and tariff. The instant case is even worse in terms of non-compliance with NEPRA's laws, the project was commissioned in 2009, License issued in 2013 and CoD petition filed in 2020. Therefore, the Authority has decided to take up this matter separately and directs PEDO to convey to the Authority the list of a) existing operational plants and its license and tariff status b) upcoming power plants with license and tariff status.

Order:

58. In pursuance of section 7(3)(a) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with NEPRA (Tariff Standards & Procedure) Rules, 1998, the Authority hereby determines and approves the generation tariff at Annex-I along with the terms and conditions for 1.875MW Shishi hydropower project of Pakhtunkhwa Energy Development Organization (the Petitioner) for delivery of electricity to power purchaser:
- Levellized tariff works out to be PKR. 1.595/kWh.
 - EPC cost of PKR. 245.905 million has been approved.
 - Non-EPC cost of PKR. 23.401 million including Land Acquisition cost of PKR.6.779 million and Owner Administration of PKR. 16.622 million.
 - Debt to equity ratio of 70:30 has been approved
 - WACC of 8.31% has been allowed based on KIBOR rate of 7.59% and ROE of 10%.
 - The reference tariff has been calculated on the basis of net annual benchmark energy generation of 14.634 GWh for installed capacity of 1.875MW. An auxiliary consumption has been restricted to 1%.
 - This tariff is limited to the extent of net annual energy generation of 14.634 GWh. Net annual generation supplied during a year to the Power Purchaser in excess of benchmark energy of 14.634GWh will be charged at 10% of the prevalent approved tariff



- O&M cost of PKR 3.539 million per annum has been approved.
- Construction period of 48 months has been approved.
- The above tariff is applicable for a period from the date the tariff determination will be notified till the time the generation license is valid i.e. till 2039.
- The tariff is based on Take & Pay, with must run provision.
- The component wise tariff is indicated at Annex-I.

59. **One-Time Adjustments:**

- The EPC cost of PKR 245.905 million and owner administration of PKR. 16.622 million is allowed as maximum cap which is subject to adjustment at COD tariff in case the actual cost based on the documentary evidence submitted works out to be lower than the approved numbers.
- The cost of land acquisition of PKR 6.779 million will be adjusted as per actual based on authentic documentary evidence at COD tariff.
- PEDO shall submit the request for adjustment in tariff within 90 days of issuance of this tariff determination.

60. **Indexation:**


The O&M component of tariff shall be adjusted with local N-CPI (yearly averaged) on annual basis. The first indexation of O&M component of tariff shall be done after 1 year of notification of 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.

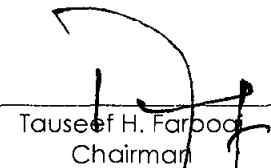
61. The order along with reference tariff table are recommended for notification by the Federal Government in the official gazette in accordance with Section 31 (4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997

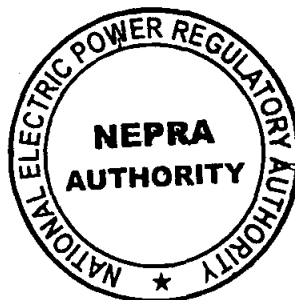
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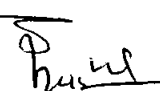

29/9/2021
Rehmatullah Baloch
Member


Engr. Maqsood Anwar Khan
Member


Engr. Rafique Ahmed Shaikh
Member


Tauseef H. Farooq
Chairman




22 x 21



Annex-I

**1.875MW Shishi Hydro Power Project
Reference Tariff**

Year	O&M	Depreciation Charge	Return on investment	Total
PKR./kWh				
1	0.242	0.690	1.042	1.974
2	0.242	0.690	0.985	1.917
3	0.242	0.690	0.928	1.859
4	0.242	0.690	0.870	1.802
5	0.242	0.690	0.813	1.745
6	0.242	0.690	0.755	1.687
7	0.242	0.690	0.698	1.630
8	0.242	0.690	0.641	1.573
9	0.242	0.690	0.583	1.515
10	0.242	0.690	0.526	1.458
11	0.242	0.690	0.469	1.400
12	0.242	0.690	0.411	1.343
13	0.242	0.690	0.354	1.286
14	0.242	0.690	0.297	1.228
15	0.242	0.690	0.239	1.171
16	0.242	0.690	0.182	1.114
17	0.242	0.690	0.125	1.056
18	0.242	0.690	0.067	0.999
Levelized Tariff	0.242	0.690	0.739	1.595

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