



Registrar

# National Electric Power Regulatory Authority Islamic Republic of Pakistan

NEPRA Tower, Attaturk Avenue (East), G-5/1, Islamabad.  
Ph: +92-51-9206500, Fax: +92-51-2600026  
Web: www.nepa.org.pk, E-mail: registrar@nepa.org.pk

No. NEPRA/IPT-07/14677-14679  
September 14, 2018

Subject: **Determination of the Authority in the matter of Tariff Proposal submitted by Central Power Purchasing Agency Guarantee Limited (CPPA-G) for Import of 30.4 MW from Jagran-I Hydro Power Project in AJ&K [Case # NEPRA/IPT-07]**

Dear Sir,

Please find enclosed herewith the subject Determination of the Authority (08 pages) in Case No. NEPRA/IPT-07.

2. The Determination 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 / Approved Rates and Terms and Conditions of the Authority's Determination need to be notified in the official Gazette.

Enclosure: As above

  
14 09 18  
( 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 IN THE MATTER OF TARIFF PROPOSAL SUBMITTED BY  
CENTRAL POWER PURCHASING AGENCY GUARANTEE LIMITED (CPPA-G)  
FOR IMPORT  
OF 30.4 MW FROM JAGRAN-I HYDRO POWER PROJECT IN AJ&K**

**1. Background:**

1.1 In term of Regulation 3 of NEPRA Import of Electric Power Regulations 2017 (IEPR-2017), Central Power Purchasing Agency (Guarantee) Limited (herein referred to as CPPA-G or the Buyer) has filed an application before NEPRA seeking determination of rates proposed by Power Development Organization (herein referred to PDO or the Seller), Government of Azad Jammu & Kashmir (AJ&K) for its Jagran –I hydropower project.

**2. Salient Feature of the Tariff Proposal:**

2.1 Salient features of the tariff proposal are as under:

- The construction of 30.4 MW Jagran-I Hydropower project was undertaken in the year 1994 by the AJK Power Development Organization (Former AJK Hydro Electric Board “**HEB**”) through an Annual Development Program of GoAJK and International donor agency of Sweden.
- The project was completed and commissioned in October 2000 with National Grid (132 KV Grid Station) at Muzaffarabad. Salient technical feature of the project is tabulated below:

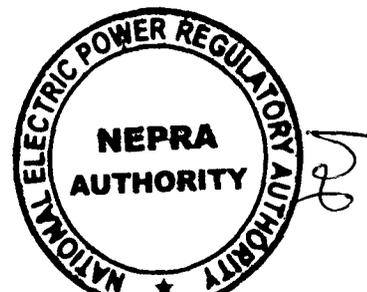
Design Discharge:	15 m <sup>3</sup> / Sec
Net Head:	244 m
Gross Head:	253 m
Type of turbine :	Double jet Pelton
Plant Factor	49.5 %
Installed capacity	30.4 MW
No. Of Units:	5 Nos.
Annual Energy	132 GWh

- PDO and CPPA-G both agreed that identical tariff mechanism for purchase of energy from 30.4 MW Jagran Power Station and sale of bulk energy to AJ&K may be adopted to proceed further for signing of PPA.
- The existing bulk energy sale tariff for AJK as indicated by the seller is Rs.2.59/kWh.

**3. Proceedings:**

3.1 Under Regulation 3(6) of import of Power Regulations, 2017, the application of CPPA (G) was admitted on April 11, 2018. As per Regulation 4 of import of Power Regulation, 2017, upon admission of the petition, The Procedure provided in NEPRA Tariff Rules, 1998 is to be followed. Accordingly,

*RM*  
*[Signature]*



salient feature of the tariff proposal were advertised in the national newspaper on May 30, 2018, seeking filing of replies, intervention request and comments by any interested of affected person. In response, no written comments or intervention request were submitted. It was also decided to conduct a hearing in the matter for which following issues were framed to be considered during the hearing:

- I. **Whether the “identical tariff mechanism” proposed by the seller whereby tariff will be revised as per the bulk sale tariff for AJK is justified?**
- II. **What is the expected duration of import of power?**
- III. **What is the demand that is going to be met through the proposed Import of Power?**
- IV. **Whether CPPA-G has any reservations regarding the Tariff Proposal?**

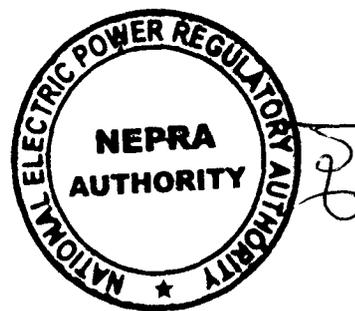
3.2 Hearing in the matter was held on June 07, 2018 wherein representative of the PDO, Private Power Infrastructure Board (PPIB), Bridge Factor, PESCO, NTDC participated. The Buyer (CPPA-G), however didn't participate in the hearing and informed vide its letter dated 06.06.2018 that

*“Due to prior commitments and official engagement, participation and representation of CPPA in the mentioned above hearing couldn't be made possible. CPPA will provide written reply on any query or comments of Authority.”*

3.3 A separate notice was sent post hearing to CPPA-G to submit its reply. Accordingly CPPA G submitted its response on July 13, 2018, the summary of which is indicated hereunder:

- The Authority should satisfy itself on the account obligation/assumption as required under Rule 3 of IPR 2017. Authority guidance is solicited for the treatment of instant plant and all other similar cases under IPR 2017.
- The procurement of power under IPR 2017 should be subject to the function of overall demand of the system and the generation mix that satisfies the overall objective matrix of the policy frameworks
- The Authority may also review the case in light of Generation rules which includes short term and long-term forecast for capacity requirement as well as tariffs and its impact on pool price.
- Hydrological risk should be borne by Project Company.
- The applicable framework obligates NTDCL/DISCO for assuming/settling interconnection part of the agreement which needs to be taken up by these organizations
- A quantum may be decided through formulation of requisite tool so that small hydro and other renewable technology can be procured for each spot years.

3.4 During the hearing, the seller has offered sale of electric power @ 2.59/kWh on Take and Pay basis.



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3.5 Having examined the record and the arguments raised during the hearing; issue wise findings of the Authority is as under:

**4. Issue#1 Whether the “identical tariff mechanism” proposed by the seller whereby tariff will be revised as per the bulk sale tariff for AJK is justified?**

4.1 At the outset it is important to understand the “identical tariff mechanism” and how it could impact the Project tariff in the future. This mechanism essentially ensures that the rate at which three DISCOs (IESCO, PESCO & GEPCO) used to sell power to AJK Electricity department should be the same at which PDO owned power plants sell power to the aforesaid DISCOs. This bulk supply rate is currently fixed at 2.59 per kWh.

4.2 The Authority considered that Rs 2.59 per kWh was arrived as a result of Mangla Raising Agreement dated June 27, 2003, wherein a standing committee was to determine a rate of power sale to AJK by the Government of Pakistan. This agreement was signed between GOP, Go AJK and WAPDA. Clause 5.2 sub clause (a) & (b) state that;

*At present the GOP has fixed the rate of Rs 4.20 per kWh for AJK. The WAPDA shall bear Rs 0.71 on the basis of 17% losses. The Government shall pay Rs 2.44 and the Ministry shall pick up Rs 1.05 as subsidy, In case of budgetary constraints of the Government, The Ministry shall pick up the additional liability of Rs 0.12. This rate shall be deemed to have become effective from September 2002 and shall be frozen till September 2003”*

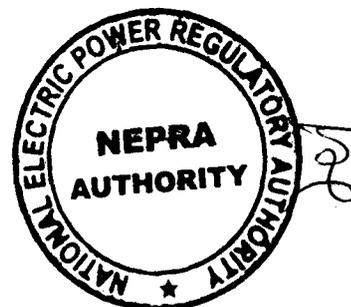
*“The future Tariff (beyond September 2003) for the Azad Jammu and Kashmir shall be fixed by the Government of Pakistan on the recommendation of the standing subcommittee already notified by the Ministry of KANA & SAFRON vide notification No.F.3/10/92 P&B dated 6<sup>th</sup> June, 2003.”*

4.3 Subsequently, the supply of power to AJK was agreed at Rs 2.59 per kWh in a subcommittee meeting dated 11.09.2003 headed by Secretary Water and Power.

4.4 The Authority is aware that if Rs 2.59 per kWh is allowed under identical mechanism then this rate may not remain fixed and may turn out to be imprudently high. Further, the seller has to substantiate the rates being proposed in its proposal and there may be no concept of granting some upfront rates. Therefore, the request of PDO to allow bulk sale at Rs 2.59 per kWh to be adjusted on the basis of changes in the average bulk sale rate is not prudent/justified hence rejected.

4.5 To determine the tariff of the project on prudent cost basis, the PDO was directed vide letter dated July 04, 2018 to provide among other, the actual cost of the project, cost of funds such as interest rates, RoE and Capital structure, O&M cost etc. In response, the PDO submitted a modified PC-I with the revised total project cost of Rs 4,646.8 million. This included an estimated contractor liability of US\$ 2.45 million or Rs 245 million at assumed Rs to US\$ exchange rate of 100. The CDWP however approved a total project cost of Rs 4401.8 million and capped it at that level. It was noted that CDWP while approving a capped project cost of Rs 4401.8 million on January 04, 2002 recorded various observations on the project which are important to highlight:

100



*"The Member Infrastructure e, Panning Commission stated that this was an unfortunate project , wherein many things had gone wrong i.e., turnkey contract was converted in to BOQ contract , concept of project was changed , time was over run substantially, design changes were made without the approval of competent authority etc. leading to substantial increase in the cost of project."*

4.6 The project was considered again by CDWP on May 24, 2018 wherein the following decisions were taken;

- i- *The CDWP directed the Govt of AJK being sponsoring/executing agency of the project should immediately arrange to pay the agreed pending liabilities of Rs 282 million equivalent to US\$ 2.45 to the Swedish Contractor from the block allocation of PSDP for AJK through a separate PC1 approval and certify it to CDWP.*
- ii- *A certificate will be provide by the Govt. AJ&K that Ehtisab Bureau has now forwarded enquiry of the case to the court.*
- iii- *Revised PC-1 of the project will be submitted by the sponsors after including the contractual liability payment made to the Swedish Contractor for consideration of CDWP/ECNEC asap.*

4.7 It was noted that in the modified PC 1 (Year 2014) PKR to \$ exchange rate of 100 was assumed which translated this payment to Rs 245 million. The actual payment agreed in Rs terms was Rs 282 million. With this payment, revised project cost worked out to be around Rs 4,683.8 million. CDWP-ECNEC has yet to approve the revised cost inclusive of Contractor liabilities. While reviewing the total project cost it was noted that the total base cost for the project was Rs 3753.890 million excluding, IDC which amounted to about Rs 930 million and which was computed on the assumption basis.

4.8 It was further considered that PDO failed to provide any information on the outstanding loan of the project. Considering that 18 years have already passed since the project commercial operation, and the fact that PDO didn't provide data to determine the remaining loan the Authority is constrained to conclude that debt has already been paid and there is no debt servicing liability for the said project. Further no capital structure was provided to ascertain the debt and equity portion.

4.9 It was observed that although the tariff proposal was admitted under IEPR 2017 however, NEPRA's (Tariff Standards and Procedure) Rules, 1998 provide a guidance in cases where there is a lack of complete information. Section 16 (2) of National Electric Power Regulatory Authority states that *"...in case of failure by any person to comply with the directions of the Authority to provide any information or document, the Authority may either dismiss the petition or may proceed to decide the petition on the basis of available record."*

4.10 As stated above the Authority could either dismiss the said request or decide on the basis of available record. The Authority contemplated on the dismissal of the petition as the PDO/CPPAG failed to provide the complete information of the project. In the opinion of the Authority, project sponsor took eighteen years to approach the Authority for tariff approvals. If the Authority were to dismiss the request on the ground of incomplete information it would further delay the approval process which would neither be in the consumer's interest nor in the Project's interest therefore, it would be appropriate to decide the case on the basis of information given.



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4.11 For further processing of the case the Authority is required under section 4 (2) of IEPR 2017 to satisfy itself whether the rate being proposed is reasonable and prudent. In order to check the reasonability of the proposed rate of Rs 2.59 per kWh the Authority considered the available information/document submitted before the Authority. The Authority is aware that the project cost has inefficiencies built into it and there are observations noted by CDWP with regards to award of project etc. Notwithstanding the above, the Authority is also cognizant of the fact that the cost of any such inefficiencies/delays are largely built in to the debt servicing component which is neither claimed nor allowed to PDO. Its residual impact on the equity return portion, however is not significant. The project, however ought to get a return on presumed equity invested which can be calculated based on the available information while taking capital structure and return benchmark allowed to similar projects. Based on the assumed equity ratio of 30% and allowing a return of 17% (Rs based) as allowed for similar public sector hydro investment projects undertaken by WAPDA Hydroelectric, the project returns component works out as Rs 1.44 per kWh.

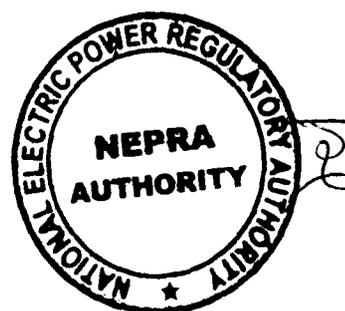
4.12 In order to compute O&M component of the project, PDO was directed to provide the actual operation and maintenance cost of the project. PDO informed that the Government of AJK provides an annual budget of Rs308 million to PDO to cover the O&M cost of a total of 57 MW power plants operated by it. On a proportional basis, 35 MW Jagran –I power plant's O&M budget works out at Rs 164 million or approx. Rs ~1.24 per kWh at annual benchmark energy of 132.5 gWh as mentioned in the PC1. In order to assess the prudence of the O&M cost, the O&M cost of similar size projects in the public sector which have an operational history have been compared. It was also considered that the transmission line maintenance is also the responsibility of PDO hence O&M cost for the Project should include an additional portion to cover transmission O&M. In view of the above, the Authority considers Rs 1.20 per kWh as a reasonable tariff component to cover the annual O&M.

4.13 With respect to Insurance component, PDO informed that the complex is not insured. So the assessment of insurance component is required.

4.14 Based on the above discussion, by combining the return component of Rs 1.44 per kWh and O&M component of Rs 1.20 per kWh, the total tariff works out as Rs 2.64 per kWh. The requested and agreed tariff of Rs 2.59 per kWh is slightly lower than Rs 2.64 per kWh, hence, Rs 2.59 per kWh being reasonable is approved. The Authority also noted that the payment regime agreed between PDO and CPPA-G is on the basis of take and pay arrangement, the same is therefore being allowed.

4.15 The Authority observed that a mechanism should be given for a periodic indexation as being allowed to all IPPs. Accordingly, it has been decided that within the agreed rate of Rs 2.59 per kWh, Rs 1.20 per kWh related to O&M component shall be indexed on an annual basis with CPI (yearly averaged). This tariff, however shall have no relation with respect to any change in the bulk sale of power to AJK government which may change in future.

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**5. Issue # 2 What is the expected duration of import of power?**

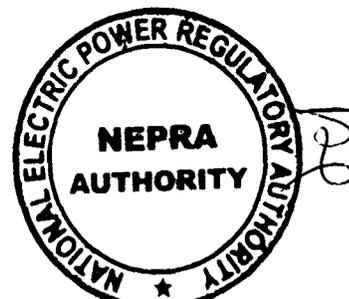
5.1 The Applicant is required to clearly state the proposed duration of the import of power, as stipulated in Regulation 3 of the IEPR-2017. No specific duration of import of power was proposed by the Applicant. PDO however, during the hearing stated that the duration of import of power from the power station stands over a period of 35 years out of which 18 years have already passed. If 35 years is assumed, the duration of import of power works out as 17 years. The Authority allows hydro project tariff for a 30 year control period. To be consistent with the rest of the hydro power determinations the Authority hereby allows CPPAG to import power from Jagran for 12 years or till the completion of thirty years of project life.

**6. Issue # 3 What is the demand that is going to be met through the proposed Import of Power?**

6.1 As per Regulation 3(c) of the IEPR-2017, a tariff proposal shall be accompanied with details of the demand which is going to be met through the proposed Import of Power. On this issue, no specific comments were furnished by CPPA G which could have exactly stated the demand in MW to be met through the proposed import of Power. The PDO informed during the hearing that 30.4 MW is connected to the national grid system, therefore, an average energy of 132.5 GWh is being added to the National grid annual. The Authority considers that the project already supplies power to the national grid for many years and its energy is reflected in the CPPA G power procurement. In view of the given information this issue stands addressed.

**7. Issue # 4 Whether CPPA-G has any reservations regarding the Tariff Proposal?**

7.1 The Applicant/CPPA G has forwarded the tariff proposal subject to certain reservations and qualifications. Subsequently CPPA-G submitted that it reserves its rights to raise any comments/objections/merits/demerits in any proposal subsequently during the course of application of the proposal, and also reserves right of hearing for subject proposal. CPPA didn't participate in the hearing. CPPA was directed to provide its detailed response to the issues including any reservation that have regarding the tariff proposal. In the absence of any response CPPA was sent a reminder on July 13, 2018. The Applicant accordingly submitted its response which was received on July 16, 2018. In the letter CPPA G didn't specifically submit issue wise response, however, it stated that the Authority should satisfy itself on account of obligation/assumptions as required and place in the tariff proposals. The Applicant further stated that the procurement of power under IPR 2017 should be subject to the function of overall demand of the system and the generation mix that satisfies the overall objective matrix of the policy frameworks. CPPA G further stated that the Authority may also review the case in light of NEPRA's Licensing Generation Rules and approved NEPRA's Distribution Operation/Planning Code which includes short term and long-term forecast for capacity requirement. The Authority considers the submission of CPPAG and is of the opinion that the plant is operational since 2000 and supplying power to the national grid. CPPA's



attempt to link the approval with overall demand of the system, while considering the generation mix at this belated stage is not fair and justified since CPPA G is already procuring power for many years. In view thereof, the CPPA G arguments with respect to the tariff proposal to this extent are not reasonable hence not accepted.

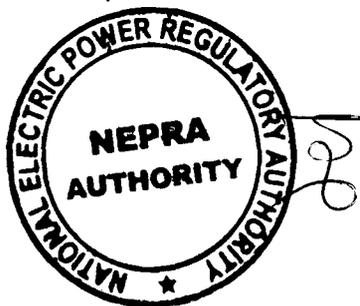
## 8. Other Issues

8.1 During the hearing the representative of PDO stated that certain claims are pending w.r.t sale of power to CPPAG. PDO subsequently informed that the arrear amount now stands at Rs 3056 million. In support, PDO provided the following working;

30.4 MW JAGRAN POWER STATION  
REVENUE GENERATION STATEMENT FROM OCTOBER 2000 TO JUNE  
2018

Sr. #	Year	Annual Energy Generated (GWh)	Purchase Rate of Bulk Energy from WAPDA Rs./KWh	Annual Revenue Generated by AJK PDO (M. Rs)
1	2000-01	61.992	1.700	105.386
2	2001-02	110.159	1.700	187.270
3	2002-03	97.220	1.700	165.274
4	2003-04	107.008	1.700	181.914
5	2004-05	83.059	1.998	165.952
6	2005-06	103.607	1.998	207.007
7	2006-07	96.386	1.998	192.579
8	2007-08	130.812	2.590	338.803
9	2008-09	126.605	2.590	327.907
10	2009-10	143.258	2.590	371.038
11	2010-11	18.469	2.590	47.835
12	2011-12	90.601	2.590	234.657
13	2012-13	137.097	2.590	355.081
14	2013-14	126.101	2.590	326.602
15	2014-15	117.575	2.590	304.519
16	2015-16	131.836	2.590	341.455
17	2016-17	115.560	2.590	299.300
18	2017-18	189.540	2.590	490.909
		1986.885		4643.488
Adjustment made upto 2009-10 (M.Rs.)				1587.383
<b>Balance Amount to be paid (M.Rs.)</b>				<b>3056.105</b>

8.2 The Authority considered the request of PDO with respect to arrear payment and is of the opinion that with the limited information provided and considering the previous decisions that have been taken with regards to the project tariff, it is not possible to determine an exact amount of arrears. It has thus been decided that the dispute to determine exact arrear payment may be mutually resolved by both CPPA G and PDO in the Power Purchase Agreement. In case of any dispute/disagreement, legal remedy could be availed ss admissible under the law.



9. **ORDER:**

9.1 The Authority, in 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 import of power by Central Power Purchasing Agency (CPPA-G) from 30.4 MW Jagran-I hydropower project:

9.1.1 The Seller is allowed to charge a tariff of Rs 2.59 per kWh on take and pay basis with must run condition

9.1.2 Out of total tariff of Rs 2.59 per kWh, a component of Rs 1.20 per kWh shall be adjusted with local CPI (yearly averaged) on annual basis.

9.1.3 The tariff shall be applicable for a period of 12 years or till 30 years of its project life.

10. The above approved rates and terms and conditions are being intimated to the Federal Government for notification. After the notification, the buyer shall execute the PPA as per the approved/notified rates and terms and conditions in the official Gazette as per Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with regulation 4(4) of the NEPRA (Import of Electric Power) Regulations, 2017.

**AUTHORITY**

  
(Saif Ullah Chattha)  
Member 14.9.2018

  
14.9.2018  
(Rehmatullah Baloch)  
Member/Vice Chairman

  
(Brig. (R) Tariq Saddozai)  
Chairman

