



National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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Registrar

No. NEPRA/TRF-153/PHPL-2010/4843-4845

July 1, 2011

Subject: **Decision of the Authority in the matter of Motion for Leave for Review filed by Punjnad Hydropower (Pvt.) Ltd. against Tariff Determination of the Authority dated December 08, 2010 (Case No. NEPRA/TRF-153/PHPL-2010) Intimation of Decision of Tariff pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997)**

Dear Sir,

In continuation of this office letter No. NEPRA/TRF-153/PHPL-2010/4357-4359 dated December 8, 2010 whereby determination of the Authority in the matter of petition filed by Punjnad Hydropower (Pvt.) Ltd. was sent. Please find enclosed herewith the decision of the Authority along with Annex-I (07 pages) in the matter of Motion for Leave for Review filed by Punjnad Hydropower (Pvt.) Ltd. on January 18, 2011 against NEPRA's determination dated 08.12.2010 in Case No. NEPRA/TRF-153/PHPL-2010.

2. The Decision of the Authority is being intimated to the Federal Government for the purpose of notification in the official Gazette pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997) read with Rule 16(11) of the National Electric Power Regulatory Authority Tariff (Standards and Procedure) Rules, 1998.

3. Please be informed that the Order of the Authority earlier intimated vide para 22 of the Authority's determination dated December 8, 2010, stands modified/amended to the extent as detailed in para 11 of the subject decision of the Authority along with Annex-I. Please note that Order of the Authority at para 11 along with Annex-I is required to be notified in the official Gazette. The Annex-I of this decision will replace the Annex-I of the earlier determination dated 08.12.2010.

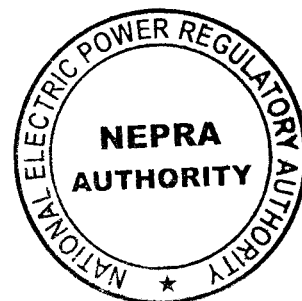
Enclosure: As above

(Syed Safer Hussain)

Secretary
Ministry of Water & Power,
'A' Block, Pak Secretariat
Islamabad.

CC:

1. Secretary, Cabinet Division, Cabinet Block, Islamabad.
2. Secretary, Ministry of Finance, Islamabad.





**DECISION OF THE AUTHORITY IN THE MATTER OF MOTION FOR LEAVE FOR REVIEW
FILED BY PUNJNAD HYDROPOWER (PRIVATE) LIMITED AGAINST
TARIFF DETERMINATION OF THE AUTHORITY DATED DECEMBER 08, 2010**

1. **Background**

- 1.1 Punjnad Hydropower (Pvt.) Limited (hereinafter referred to as "Punjnad") vide letter dated January 17, 2011 filed motion for leave for review (hereinafter referred to as "review motion") in pursuance of rule 16 (6) of the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998 (hereinafter referred to as the "Tariff Rules") against the tariff determination of the National Electric Power Regulatory Authority (hereinafter referred to as the "Authority") dated December 08, 2010.
- 1.2 As per rule 16(6) of the Tariff Rules the review motion is required to be filed within ten days of service of the final order, determination or decision of the Authority, however the review motion was filed by Punjnad on 18 January, 2011 i.e. after the lapse of ten days of service of the final determination. Punjnad vide its letter no. PHPL/2011/2558 dated January 20, 2011 requested the Authority for condoning delay in submission of the review motion.

2. **Proceedings**

- 2.1 The Authority after considering the review motion and request of Punjnad for condoning delay in submission of the review motion, decided to grant a pre-admission hearing to Punjnad. Accordingly a pre-admission hearing was held on February 09, 2011 in which Punjnad presented its case. The Authority felt that some of the technical issues relating to tariff are not clear to Punjnad, hence the Authority directed the relevant professionals of the Authority to hold a meeting with Punjnad and explain to them some of the aspects of mechanism for tariff calculation. The professionals, accordingly held the meeting and clarified different aspects of mechanism for tariff calculation.
- 2.2 After the pre-admission hearing the Authority vide letter no. NEPRA/TRF-153/PHPL-2010/1159 dated February 17, 2011 directed Punjnad to confirm in writing whether there are any computational errors as pointed out in their review motion which need to be rectified by the Authority. Punjnad vide their letter no. PHPL/2010/2574 dated February 26, 2011 responded to this communication and reiterated some of the grounds already raised in the review motion.
- 2.3 The Authority after consideration of the grounds raised by Punjnad in its review motion, reiterated in its letter no. PHPL/2010/2574 dated February 26, 2011 and submissions made in the preadmission hearing, condoned the delay in submission of the review motion and admitted the review motion on March 29, 2011. The Authority accordingly decided to hold a hearing in the subject matter. Punjnad vide their letter no. PHPL/2011/2608 dated April 01, 2011 requested the Authority not to hear the case till the end of April, 2011. The hearing was accordingly fixed for April 27, 2011 and letters of invitation were sent to the key stakeholders.



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2.4 Subsequent to the fixation of hearing date, Punjnad vide their letter no. PHPL/2011/2703 dated April 22, 2011 again requested the Authority that since its General Manager who is looking after the Punjnad project is on leave abroad, therefore the date of hearing may be rescheduled for 2nd week of May 2011. The Authority accepted this request of Punjnad and rescheduled the hearing to May 12, 2011. Stakeholders were also communicated about the rescheduling of hearing date.

2.5 The hearing was held according to the revised schedule on May 12, 2011 which was attended by representatives of Punjnad, Punjab Power Development Board (hereinafter referred to as "PPDB") and Central Power Purchasing Agency (hereinafter referred to as "CPPA").

3. Issues

3.1 The review motion was based on the following grounds:

- i. Net capacity assessed by the Authority
- ii. Cost of working capital
- iii. Interest during construction
- iv. Engineering & administration cost
- v. Internal rate of return
- vi. Computational error in tariff calculation
- vii. Computational error in the feasibility study



3.2 It is pertinent to mention here that, with regard to some issues, submissions of Punjnad in the review motion are not absolutely clear. Based on Punjnad's submissions and comments of the stakeholders, issue wise discussion and decisions are given in the proceeding paragraphs.

4. Net capacity assessed by the Authority

4.1 Punjnad has submitted that there is a computational error in its tariff determination, as the Authority has accepted net capacity of 14.925 MW with 44% average annual plant factor on the basis of which net annual generation available for sale works out to 57.527 GWh instead of 57.71 GWh allowed in the tariff determination. Punjnad has requested that this computational error be rectified and necessary impact of correction be reflected in the tariff.

4.2 The Authority has noted that it had observed in the tariff determination of Punjnad that the feasibility study presented by Punjnad was not comprehensive, it contained errors, data of the feasibility study was, in some cases, not supported with the underlying schedules and there were discrepancies in the data provided in the feasibility study. In



spite of deficiencies in the feasibility study, in order to encourage private power producers for development of small hydropower projects, the Authority decided to determine tariff on the basis of information given in the feasibility study/provided by Punjnad.

- 4.3 The Authority has also found that the figure of net annual generation available for sale of 57.71 GWh was used for computation of tariff, as it was specified in the feasibility study on more than one occasion. The Authority also noted that the figure of 44% plant factor has also been specified in the feasibility study, however in the presence of specific net annual generation available for sale figure of 57.71 GWh given in the feasibility study, the figure of 44% plant factor was not considered by the Authority.
- 4.4 PPDB during the hearing supported the submission of Punjnad that its tariff should be computed on the basis of net annual generation available for sale of 57.527 GWh. On the directions of the Authority, PPDB vide letter No.MD(PPDB)/993/08/2011 dated May 16, 2011 provided the following comments on this subject:

“ ----- Based on installed capacity of 15 MW, auxiliary losses of 0.50% and plant factor of 44% as given in the feasibility study report, resultant annual net electrical output work out to be 57,526,920 kWh, which may be reckoned for ‘Feasibility Study Stage Tariff’ with respect to Punjnad Hydropower Project. -----”

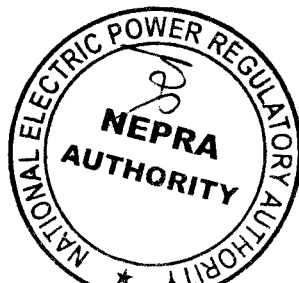
- 4.5 PPDB vide letter no. PPDB/1035/08/2011 dated May 20, 2011 added the following comments to its earlier submissions:

“In continuation to our earlier letter referred above, as desired, it is further clarified that energy generation of 57.7 Million kWh as given in the feasibility study report, is incorrect and this may kindly be taken as 57,526,920 kWh.”

- 4.6 The Authority has noted that the feasibility study of Punjnad was carried out pursuant to letter of interest issued by the Managing Director, PPDB, Irrigation & Power Department and was approved by the PPDB appointed panel of experts. Keeping in view the comments of PPDB, submissions of Punjnad and the fact that plant factor of 44% has also been mentioned in the feasibility study, the Authority has decided to accept and allow the net generation available for sale after deduction of auxiliary consumption of 57,526,920 kWh as worked out by PPDB and claimed by Punjnad.

5. Cost of working capital

- 5.1 Punjnad has requested that the working capital cost tariff component of Rs. 0.522/kWh equivalent to US cents 0.652/kWh be allowed as part of overall tariff to keep the project running smoothly. Punjnad has submitted that the project company cannot afford this cost at its own.





- 5.2 The representatives of PPDB and CPPA during the hearing did not support the working capital cost claim of Punjnad.
- 5.3 The Authority has found that the working capital cost tariff component claimed in the review motion is even higher than that included in the feasibility study. Further, the working of mismatch requiring working capital finances provided in the review motion is flawed and necessary details have not been provided, hence cannot be relied upon.
- 5.4 The Authority also observed that justification or working of this cost is not included in the feasibility study and working capital cost has not been allowed to other hydropower projects.
- 5.5 In the light of comments of the stakeholders, considerations as detailed in the tariff determination and in the preceding paragraphs, the Authority maintains its decision of not allowing working capital cost to Punjnad.

6. Interest during construction

- 6.1 Punjnad has submitted that NEPRA has capped interest rates on its borrowing as follows:

Foreign debt	:	3 months LIBOR plus 4.50%
Local debt	:	3 months KIBOR plus 3.00%

- 6.2 Punjnad has submitted that the cap on three months LIBOR and KIBOR rates is not justifiable, as the financial institutions keeping in mind the increased risk profile of the country and consequently of the projects always require higher interest rate and prefer to lend long term loans at 6 months LIBOR and KIBOR rates. Punjnad has requested that in order to achieve timely financial close and implementation of the project linkage of interest rate with 6 months LIBOR and KIBOR rates should be allowed.
- 6.3 Representative of CPPA during the hearing commented that the Authority has in most of the cases allowed linkage of interest rate with 3 months KIBOR and LIBOR rates therefore allowing the same to Punjnad is fully justified.
- 6.4 The Authority observed that Punjnad has been allowed feasibility stage reference tariff and no firm financial arrangements have yet been made by Punjnad which need to be considered by the Authority. The Authority noted that no valid grounds exist for reviewing the original decision of the Authority, therefore the Authority maintains its earlier decision.

7. Engineering & administration cost

- 7.1 Punjnad has submitted that the Engineering & Administration cost including audit @ 5% of local cost amounting to Rs.74.485 million was approved by the panel of experts in the

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feasibility study. However, the Authority in its decision has reduced this cost to 3% of local currency cost i.e. to Rs.42.361 million. Punjnad has submitted that in case of hydropower projects engineering & administration cost varies depending upon factors such as head height and in the case of run of the river hydropower project it is higher than other type of projects. Punjnad has requested the Authority to reconsider this cost and 5% of local cost amounting to Rs.74.485 million as approved by the panel of experts may be accepted.

- 7.2 The Authority after due deliberation observed that costs of Punjnad are not firm at this stage and decided that the Authority will consider to allow this cost up to maximum of 5% of the Authority approved local project cost at COD stage, provided Punjnad is able to establish to the satisfaction of the Authority that this cost has been prudently incurred. The request of Punjnad has therefore been declined and the earlier decision of the Authority is hereby maintained.

8 Internal rate of return

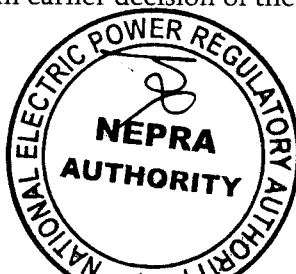
- 8.1 Punjnad has submitted that after scrutiny and analysis of return on equity as allowed by the Authority, they were unable to understand how the requirement of 17% IRR is fulfilled. Punjnad has submitted that IRR according to their working amounts to 9% as against 17% allowed by the Authority. Punjnad has requested the Authority to recheck the calculation and allow 17 % IRR during the term of contract and accordingly adjust return on equity tariff component.

- 8.2 After the preadmission hearing, on the directions of the Authority, relevant professionals of the Authority held a meeting with the representatives of Punjnad and explained to them the mechanism for IRR computation. Subsequent to this meeting Punjnad has not pressed this issue in its latest letter no. PHPL/2010/2574 dated February 26, 2011 nor in the hearing. The Authority therefore feels that the issue has been clarified to the satisfaction of Punjnad, consequently, the Authority maintains its earlier decision on this issue.

9 Computational error in tariff calculation

- 9.1 Without going into details of the nature of computational error or highlighting the fact that computational error was committed in the calculation of which tariff component, Punjnad has submitted that calculating tariff on the same basis as of the Authority a computational error is noted in tariff calculation. According to Punjnad levelized tariff for 30 years works out to Rs. 6.6155/kWh as against Rs. 6.5971/kWh allowed by the Authority. Punjnad has requested the Authority to recheck the tariff calculation and adjust the tariff accordingly.

- 9.2 After meeting the relevant professionals of the Authority as explained above, Punjnad has not pressed this issue in its letter no. PHPL/2010/2574 dated February 26, 2011 nor in the hearing. Hence no change in earlier decision of the Authority is being made.



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10 Computational error in the feasibility study

10.1 Punjnad in its review motion has also raised the issue of disallowance of Rs. 6.710 million in the project cost, under the heading of 'intake weir – stone for main weir', due to computational error. However, Punjnad has not raised any fresh ground for consideration of the Authority nor has agitated this issue in its latest letter no. PHPL/2010/2574 dated February 26, 2011 or in the hearing. Hence this request of Punjnad is not allowed and the earlier decision of the Authority on this issue is hereby maintained.

11. ORDER

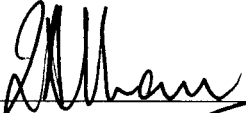
Pursuant to Rule 16 (11) of the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998 the following modifications/amendments shall be made in the order of the Authority dated 08 December, 2010 (hereinafter referred to as 'original order'):

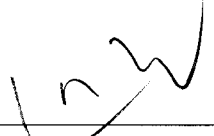
A. At page 14 of the tariff determination, clause 22 i) shall be substituted with the following:

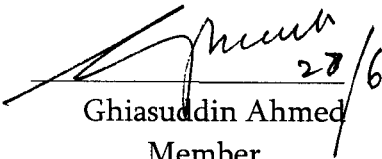
"i) The reference tariff has been calculated on the basis of net capacity of 14.925 MW and benchmark annual energy production of 57,526,920 KWh."

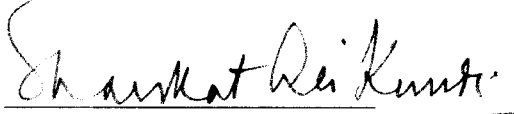
B. The reference tariff table attached as Annex-1 to the original order shall be substituted with the Annex-1 attached to this decision of the Authority on the review motion.

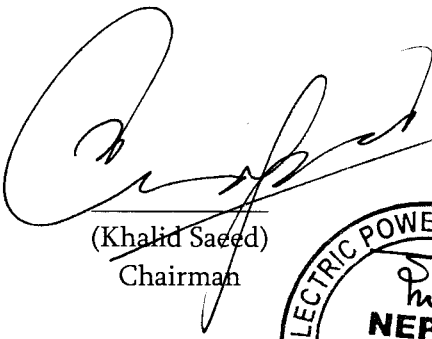
AUTHORITY

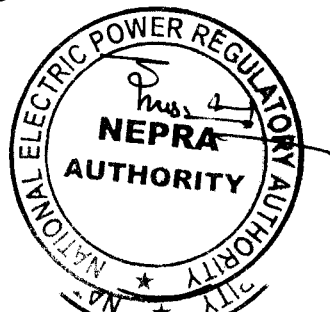

Zafar Ali Khan 23/6/11
Member


Maqbool Ahmad Khawaja
Member


Ghiasuddin Ahmed 28/6
Member


Shaukat Ali Kundi 29.06.2011
Vice Chairman


(Khalid Saeed)
Chairman



PUNJNAD HYDROPOWER (PVT.) LIMITED
REFERENCE TARIFF

Year	Variable O&M		Water Use Charge	Fixed O&M		Insurance	Return on Equity (ROE)	ROE During Construction	Withholding Tax @7.5%	Loan Repayment	Interest Charges	Tariff
	Local	Foreign	Rs. / kWh	Local	Foreign	Rs. / kW/m	Rs. / kW/m	Rs. / kW/m	Rs. / kW/m	Rs. / kW/m	Rs. / kW/m	Rs. / kWh
	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kW/m	Rs. / kW/m	Rs. / kW/m	Rs. / kW/m	Rs. / kW/m	Rs. / kW/m	Rs. / kW/m	Rs. / kW/m	Rs. / kWh
1	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	460.7152	129.6409	44.2767	705.8919	952.8244	8.3909
2	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	460.7152	129.6409	44.2767	770.0999	888.6164	8.3909
3	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	460.7152	129.6409	44.2767	840.5112	818.2051	8.3909
4	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	460.7152	129.6409	44.2767	917.7464	740.9699	8.3909
5	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	460.7152	129.6409	44.2767	1,002.4891	656.2272	8.3909
6	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	460.7152	129.6409	44.2767	1,095.4927	563.2236	8.3909
7	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	460.7152	129.6409	44.2767	1,197.5874	461.1290	8.3909
8	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	460.7152	129.6409	44.2767	1,309.6882	349.0281	8.3909
9	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	460.7152	129.6409	44.2767	1,432.8038	225.9125	8.3909
10	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	460.7152	129.6409	44.2767	1,568.0459	90.6704	8.3909
11	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
12	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
13	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
14	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
15	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
16	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
17	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
18	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
19	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
20	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
21	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
22	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
23	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
24	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
25	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
26	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
27	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
28	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
29	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
30	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	481.5567	129.6409	45.8398	-	-	3.2965
Levelized Tariff	0.0910	0.0910	0.1500	109.4105	27.3526	158.4376	467.9720	129.6409	44.8210	659.2890	421.8807	6.6171

Levelized tariff for comparison purposes only at exchange rate of 80 PKR / US \$ translates to cents 8.2714/kwh

Reference net capacity = 14.925 MW.

Reference annual energy production = 57,526, 920 KWh.

Withholding tax tariff component calculated above is provisional and should be paid after recalculating it in accordance with the mechanism prescribed in the order.

