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National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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No. NEPRA/PAR-107/12813-12815
October 16, 2014

Subject: Decision of the Authority in the matter of Motion for Leave for Review filed by NTDC against Decision of the Authority regarding Procurement of Power from 640 MW Azad Pattan Hydropower Project located in the State of Azad Jammu & Kashmir [Case # NEPRA/PAR-107]

Dear Sir,

In continuation of this office letter No. NEPRA/PAR-107/1051-1053 dated January 30, 2014 whereby decision of the Authority in the matter of Power Acquisition Request filed by National Transmission and Despatch Company Ltd. (NTDC) in respect of 640 MW Azad Pattan Hydropower Project was sent. Please find enclosed herewith the decision of the Authority along with Annex-I & II (15 pages) in the matter of Motion for Leave for Review filed by NTDC against NEPRA's decision dated 30.01.2014 in Case No. NEPRA/PAR-107.

2. The Decision is being intimated to the Federal Government for the purpose of notification in the official gazette in accordance with the provisions of Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997).
3. Please note that para 16 of the Decision along with Annex-I & II needs to be notified in the official Gazette.

Enclosure: As above


(Naveed Illahi Shaikh) 16/10/14

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

CC:

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

Decision of the Authority in the matter of Motion For Leave For Review filed by NTDC against decision of the Authority regarding Procurement of Power from 640 MW Azad Pattan Hydropower Project located in the State of Azad Jammu & Kashmir

National Transmission and Despatch Company (hereinafter referred to as "NTDC") filed motion for leave for review under Rule 16(6) of the NEPRA Tariff (Standards & Procedure) Rules 1998 and Regulation 3(2) of the NEPRA (Review Procedure) Regulations 2009, against decision of the Authority dated January 30, 2014 for procurement of power from 640-MW Azad Pattan hydropower project. The said review motion, after fulfillment of procedural requirements, was admitted by the Authority in its meeting held on May 15, 2014 and was scheduled for hearing to provide an opportunity to NTDC to explain and establish the case. Besides that, it was decided to provide an opportunity to all major stakeholders and offer their comments either in favor or against the review petition. Accordingly written notices were sent to all major stakeholders on July 8, 2014. The hearing of review motion was held on July 16, 2014 which was attended by the project sponsors, the Petitioner, PPIB and other stakeholders.

Brief background

2. Azad Pattan hydropower project is a run-of-river hydropower project with gross installed capacity of 640-MW. The scheme proposes 61 M head, design discharge of 1200 m³/sec with four vertical Francis turbines of 160 MW each to make up total installed capacity of 640 MW. It is located in Village Muslimabad, about 7 km upstream of the Azad Pattan bridge, in district Sudhnoti, Azad Jammu & Kashmir. Due to location of the project in AJ&K, the request of NTDC for procurement of power and approval of feasibility stage tariff was processed under the NEPRA Interim Power Procurement (Standards & Procedure) Regulations 2005 ("IPPRs"). The Authority through its decision dated January 30, 2014 granted permission to NTDC for procurement of power from the Azad Pattan hydropower project as well as approved feasibility stage tariff (Advance Tariff) of Rs. 5.1989/kWh (US cents 5.3050/kWh) levelized for 30 years tariff control period, under regulation 4(2) of the IPPR, with directions to negotiate Power Acquisition Contract for approval of the Authority.

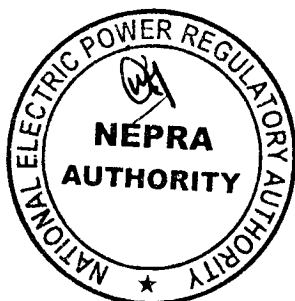
3. **Submissions of NTDC**

3.1 NTDC through its review motion has raised the following issues which have been considered by the Authority as discussed hereunder.

4. **Whether NEPRA can do due diligence of negotiated terms and costs indicated on PAR filed by NTDC?**

4.1 NTDC submitted that NEPRA was required to approve Power Acquisition request along with Advance Tariff as indicated in the feasibility study of the project duly approved by the Panel of Experts appointed by PPIB and already negotiated project costs by NTDC in accordance with Regulation (4) 2 of the IPPR 2005. Whereas the NEPRA has granted power acquisition permission and has reduced the feasibility study level costs and therefore the decision of the Authority is not in line with the IPPR 2005. NTDC in this regard has referred to Regulation 4(2) of the NEPRA IPPR 2005 which states;

"In case of procurement of power from a hydel/coal generation company including a foreign company, the Authority shall allow an advance tariff, based on a feasibility study report duly endorsed by the PPIB/Power Purchaser for negotiating a power acquisition contract to be approved by the Authority under these regulations"



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15/10/2014

4.2 The Authority has considered the contention of NTDC and noted that provisions of the aforementioned regulation provides a basis and an eligibility criteria for processing the power acquisition requests and approving advance tariff based on approved feasibility of the hydropower projects. It however does not imply that the Authority shall allow all project costs and agreed terms and parameters. In the opinion of the Authority, the feasibility studies of hydropower projects generally are based on rough estimates of costs by the consultants which are not necessarily reflective of market realities. The Authority also observed that it is the mandate of the Authority to conduct the due diligence of all terms and conditions including the tariff agreed between the parties and can only allow prudent and reasonable costs. Therefore, NTDC's contention that NEPRA should approve project cost as provided in the approved feasibility in terms of regulation 4(2) of IPPR 2005 is not maintainable and cannot be considered.

5. **Whether the proposed Project Construction Period of six years is justified?**

5.1 NTDC submitted that the Authority in its decision of January 30, 2014 has arbitrarily reduced the project construction period from 6 years as approved in the project feasibility to 4 years which may not be practically achievable. NTDC further submitted that construction period of a hydropower project is dependent upon several variables including ground conditions, structure size and arrangement, availability of allied infrastructure at site, river diversion arrangements and construction methodology. Hence a project's construction period is estimated by experts having expertise in allied fields relevant to hydropower projects development. In case of this project M/S URS Scott Wilson, UK were hired by the sponsors for preparing the feasibility report, which was duly monitored by a Panel of Experts appointed by PPIB. Detailed construction planning was carried out in the feasibility study while taking into account the estimated time for each activity, sequencing and an allowance for climatic conditions and flood events which have a great impact on project construction.

5.2 NTDC also submitted that one of the major features of Azad Pattan project is that the site is located in a very narrow gorge with steep sides on main river (Jhelum) and limited space for construction activities - full diversion of river flows is not feasible given the geological conditions and cost considerations. Therefore, limited diversion of river flows through tunnels of technically possible sizes is planned thus entailing an over-topping phenomenon during construction period requiring additional time for site clean-up and restart of dam concrete pouring every time due to high flows during construction. Due to this peculiarity, river diversion is a major challenge for the project construction.

5.3 It has also been submitted that the reduction in the project construction period by the Authority from 6 years to 4 years will cause uncertainty and doubt in the minds of stakeholders including equity investors, EPC contractors and financial institutions and therefore will have damaging effect on further development of the project. NTDC therefore requested that the 6 years construction period as proposed in the feasibility study and duly endorsed by the POE and NTDC be reinstated and the reduction in costs made by the Authority as a result of reduction in construction period be restored.

5.4 The Authority has carefully examined the rationale and justification submitted by NTDC through its review motion as well as discussion held during the hearing. The Authority considers that though the project construction period of 4 years already allowed by the Authority is achievable, yet considering the fact that under the current practice whereby the process of EPC cost bidding is carried out on the basis of feasibility stage project design and scheme of construction activities and relied upon by the EPC bidders and well as lending institutions, therefore, any deviation at this stage from the estimated project construction period as per its approved feasibility may hamper progress of the project. The Authority has therefore decided to restore the originally proposed project construction period of 6 years at this stage, provided that all necessary measures will be undertaken by the project sponsors during the



process of competitive bidding for negotiating maximum possible reduction in the project construction period and the same shall be submitted for review by the Authority at the next stage.

6. **Whether the requested Electrical & Mechanical Equipment Cost is justified?**

6.1 NTDC submitted that the Authority has reduced E&M Equipment cost from US\$ 483.551 million to US\$ 353.155 million in its decision of January 30, 2014. NTDC submitted that E&M Equipment cost had already been reduced by US\$ 11.572 million (from US\$ 495.123 million) given in the feasibility to US\$ 483.551 million) during tariff negotiations with the project sponsors. NTDC has requested that E&M Equipment cost of US\$ 483.551 million as earlier proposed is reasonable in the current market conditions and may therefore be restored.

6.2 The Authority in its decision dated January 30, 2014 has approved US\$ 353.155 million (US\$ 0.5518 million/MW) for the Electrical and Mechanical Equipment, which was assessed on the basis of per MW cost allowed to other comparable hydropower projects. Since the cost of electrical and mechanical equipment is still to be firmed along with other components of EPC costs pursuant to EPC bidding to be carried out by the project sponsors, therefore the Authority does not find any justification for reviewing its earlier decision in the matter at this stage.

7. **Whether the requested Land Acquisition and Resettlement Cost is justified?**

7.1 NTDC submitted that it had proposed US\$ 16.448 million for land acquisition and resettlement cost based on surveys of the area, market price assessment, survey of structures involved and the number of people to be displaced and their tentative demands as provided in the approved feasibility of the project. The estimated cost is subject to adjustment at EPC and later at COD on actual; however, the resettlement cost invariably rises and if we lower the cost at this stage, there would be no benefit except a greater difference between the FS level tariff and the EPC level tariff, which is not desirable. NTDC therefore requested that proposed cost of US\$ 16.448 million may be allowed.

7.2 The Authority has assessed and approved US\$ 12.028 million for cost of land and resettlement on the basis of available information which is adjustable at COD of the project on the basis of actual upon production of verifiable documentary evidence by the petitioner. The Authority observes that NTDC's proposed cost for the aforementioned project activity is based on estimates provided in the feasibility and is not final at this stage. The Authority therefore considers that any upward revision of aforementioned cost at this stage will still require further adjustment on actual basis at COD subsequent to finalization of the process of land acquisition and resettlement and therefore does not find any justification for reviewing its earlier decision.

8. **Whether the requested cost of Lender's Advisors/Consultants is justified?**

8.1 NTDC submitted that the Authority has not allowed Lender's Advisors Cost separately as requested and proposed by the NTDC, rather this component has been included within the maximum benchmark of 3% of the capital cost allowed under the head of Financial Charges. NTDC has argued that there was different cost allocation in case of Azad Pattan HPP than the other comparable hydropower projects. Here the Legal Fees and Charges were made part of the Financial Charges (Capitalized Finance Cost) while the cost for Lender's Advisors and Consultants was shown separately. These two costs have been allowed by NEPRA in other comparable hydropower projects. NTDC submitted that if the Authority wants to adopt the methodology adopted for other hydropower projects then Azad Pattan HPP may also be allowed cost of Legal Fees and Charges in amount equivalent to 1% of the approved EPC cost. and



Lender's Advisors and Consultants cost be made part of the Financial Charges with a cap of 3% of the debt amount.

8.2 The Authority in its decision dated January 30, 2014 has approved US\$ 26.583 million on account of Financial Charges which includes cost of Lender's Advisors and Consultants. NTDC through its review motion has sought approval of Legal Fees and Charges at 1% of the approved EPC cost as per Authority decision in other comparable hydropower projects. The Authority observed that NTDC had not claimed any cost under the head of legal fees and charges separately in its earlier power acquisition request. The Authority therefore considers that NTDC's request through its review motion to allow cost of legal fees and charges separately is not maintainable as the Authority, upon review motion by the petitioner, can only review its earlier decision on specific cost components claimed in the original request.

9. **Whether the requested Owner's Administration Cost is justified?**

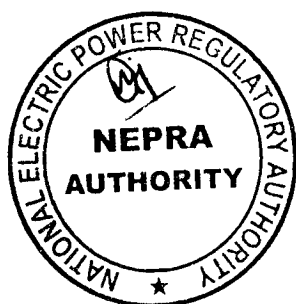
9.1 NTDC submitted that after detailed deliberations, it convinced the project sponsors not to claim administration/project development cost based on percentage of EPC cost as it has no direct & linear relationship with EPC cost and also managed to reduce the project development cost to US\$ 44.352 million (Owner's administration US\$ 25.931 million, Owner's advisors/consultants US\$ 10.75 mln and O&M Mobilization US\$ 7.671 mln). However NEPRA, while reducing the Construction period has also adjusted this cost downwards from US\$ 25.931 million to US\$ 16.955 million. The Owner's administration cost of US\$ 16.955 million is too low when compared to the much higher costs allowed by NEPRA for other similar projects. NTDC has requested that the cost of US\$ 25.931 million originally recommended by NTDC (which was a fair price) may kindly be restored.

9.2 The Authority in its earlier decision has assessed and approved US\$ 16.955 million for Owner's Administration cost which in its opinion is considered to be reasonable and comparable for a project of this size. The Authority however, notes that such costs may vary from project to project depending on project requirement of hiring professionals and staff as well as scope of activities to be performed by the team of project sponsors. The Authority therefore considers that it may review its decision at subsequent stage (EPC stage) when such cost will be known with more certainty and worked out accurately in the next stage tariff request. The Authority therefore finds no justification to review its decision at this stage.

10. **Whether the requested O&M Mobilization Cost is justified?**

10.1 NTDC submitted that the Authority has not allowed O&M mobilization cost to the feasibility stage hydropower projects due to the reason that such cost is to be reimbursed by the power purchaser based on energy delivered to it during testing and commissioning phase at mutually agreed rates in accordance with the standard provisions of the Power Purchase Agreement to be signed between the parties. NTDC explained that it has so far offered to pay only the Variable O&M cost and Water Use Charges for any energy delivered by a hydropower project prior to COD. Such variable cost of generation does not include any capital expenditure incurred to fund mobilization of O&M contractor and its expenditures during construction phase at the project site before commissioning. NTDC has therefore requested that O&M mobilization cost as negotiated by NTDC with the project company may be allowed.

10.2 The Authority has considered NTDC's request and agrees with NTDC to the extent that operating variable cost of a hydropower project is allowed under the provisions of a standard Power Purchase Agreement. With regard to capital expenditure requirement for mobilization of the O&M contractor, the



Authority is of the opinion that responsibility for payment of such cost, either as O&M mobilization advance or otherwise is agreed and fixed in the EPC contract or the O&M contract to be signed between the parties. Since the nature and responsibility of payment of O&M mobilization cost is not known at the feasibility stage, therefore the Authority has not considered this cost component in the feasibility stage hydropower projects. The Authority may, however, consider this cost component on case to case basis, including the instant case upon provision of documentary evidence to the satisfaction of the Authority at subsequent stage tariff application to be filed by NTDC. Accordingly, the request of NTDC for allowing O&M Mobilization cost at this stage is declined.

11. **Whether inclusion of estimated amount of Custom Duty and Taxes in the project cost is justified?**

11.1 NTDC submitted that estimated cost of custom duty should be included in feasibility stage tariff approved by the Authority with the proviso that the cost would be adjusted based on actual at COD. Otherwise the FS level tariff would look erroneously low and would increase at the time of COD and there would be no material benefit for not including an estimated figure of the cost at this stage.

11.2 The Authority through its decision dated January 30, 2014 has allowed cost of custom duty as a pass through cost to be adjusted in tariff on actual at COD based on verifiable documentary evidence and therefore the cost of custom duty was not included in the total project cost approved for the project at this stage.

11.3 The Authority considers that cost of custom duty and applicable taxes are pass through costs as provided in the GOP Policy for Power Generation Projects 2002 and are required to be adjusted in tariff at COD on the basis of actual upon submission of authentic documentary evidence. The Authority notes that responsibility for payment of custom duty and other applicable taxes is depended on the scope of EPC contract which in the instant case is yet to be signed between the parties. However, in order to be consistent with the previous decisions in other cases as well as NTDC's arguments during the hearing held on July 16, 2014, the Authority has decided to include estimated cost of custom duty and taxes in the overall allowed project cost. Accordingly, US\$ 28.287 million for cost of custom duty and taxes as requested by NTDC in the original request is being allowed and included in the total project cost of Azad Pattan hydropower project.

12. **Whether the proposed terms of Debt Financing are justified?**

12.1 NTDC submitted that the terms of financing proposed by the Company and agreed by NTDC were based on financing terms negotiated with similar hydropower projects which have been implemented or are being implemented; therefore the debt term requested in our FS level tariff request may not be changed as these are in any case subject to change in accordance with financing terms finalized with Lenders prior to EPC stage tariff filing.

12.2 The Authority in its earlier decision in the case has approved 16 years term for debt financing including 4 years project construction period for both local and foreign financing as against NTDC's proposed term of 17 years for foreign financing and 13.5 years for local financing including 6 years project construction period. The Authority in other hydropower projects at the feasibility level has approved 12 years debt repayment period excluding the project construction period.

12.3 The Authority understands that project's terms of financing with lenders will be finalized at a later stage of the project. The Authority however considers that it has already allowed 12 years of debt repayment period excluding the project construction period in other hydropower projects at the



feasibility stage so that the project sponsors are in a position to negotiate with lenders on better terms for the ultimate benefit of the consumers. The Authority in its latest determination of a hydropower project at EPC stage (870.25 MW Suki Kinari) has allowed 12 years debt repayment period excluding project construction period of 6 years as per request of the petitioner. In the Authority's opinion, debt financing at better terms can be arranged through negotiations by the project sponsors on the basis of already approved terms of foreign and local loans including premium (spread) in the instant case.

12.4 The Authority, therefore does not agree with the proposed reduction in the debt repayment period and directs the project sponsors/NTDC to make all out efforts for negotiating financing terms at the minimum benchmark of debt repayment period set for hydropower projects. Accordingly, 12 years debt repayment period for both foreign and local financing, excluding the allowed project construction period of six years as discussed in the preceding paragraphs, is approved.

13. Whether the proposed split between Fixed and Variable O&M cost is justified?

13.1 NTDC submitted that the suggested 60:40 split between the Fixed and Variable O&M cost is not realistic for hydropower projects in which the Variable O&M is almost negligible. NTDC has therefore requested that the already proposed split between Fixed and Variable O&M (i.e. 90:10) may be restored.

13.2 The Authority in its earlier decision has approved overall amount of US\$ 15.723 million on account of per annum O&M of Azad Pattan hydropower project divided between fixed and variable O&M cost in a ratio of 60% and 40% respectively in view of its decision of a comparable hydropower project located in the same area.

13.3 The Authority understands that actual split between fixed and variable O& M as well as split between local and foreign O&M component of a hydropower is not fixed rather it varies widely according to the size, selection and scope of O&M contractor as well as project specific requirements. The actual terms of O&M cost in the instant case are still to be finalized with the O&M contractor by the project sponsors.

13.4 The Authority in its latest determination of EPC stage hydropower project (Suki Kinari) has approved 80% of total approved per annum O&M cost as Fixed component and 20% as Variable component. The Authority, while considering it to be more realistic and reflective of market conditions has decided to allow the same proportion of fixed and variable in the instant case as well. Accordingly, US\$ 12.578 million for per annum Fixed O&M cost and US\$ 3.145 million for Variable O&M cost, without any change in the already approved proportion of local and foreign component, is approved.

14. Whether the proposed annual Insurance expense at 1.35% of the EPC cost is justified?

14.1 NTDC submitted that the Authority has allowed annual insurance expense at 1% of the EPC cost, whereas the same in other hydropower projects has been allowed at 1.35% of the EPC cost. NTDC has requested that annual Insurance expense in the instant case may also be allowed at 1.35% of the EPC cost.

14.2 The Authority in its recent tariff determinations for projects based on different technologies including Suki Kinari hydropower project has allowed annual insurance expense at 1% of the EPC cost, while considering the current market situation and size of the power projects. In the opinion of the Authority, the annual insurance expense at 1% of the EPC cost for a project of this size is sufficient to



meet requirements of Insurance. The Authority therefore, does not agree to NTDC's request and maintains its previous decision in the matter.

15. Whether the estimated amount of Interest During Construction (IDC) is justified?

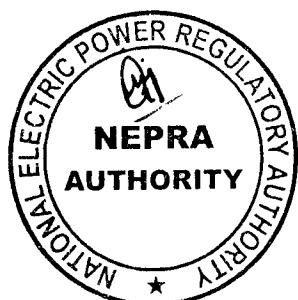
15.1 NTDC submitted that no doubt IDC will be adjusted at COD as per the actual draw downs as approved by the Authority, however as already argued for restoration of the 6 year construction period, the IDC as calculated in our FS Level Tariff/Power Acquisition Request may kindly be restored.

15.2 The Authority in its previous decision had allowed Interest during construction component on the basis of 4 years project construction period. In view of changes in the total project cost as well as project construction period as discussed in the preceding paragraphs, the amount of IDC needs to be revised on the basis of allowed parameters of debt financing. Accordingly, IDC has been reworked as US\$ 203.100 million on estimated basis and is being allowed at this stage. The IDC will be adjusted at COD as per the actual debt composition, debt drawdown and variation in the applicable 6-months LIBOR and KIBOR.

16. Based on discussion in the preceding paragraphs, NTDC is granted power acquisition permission with the following tariff (Advance Tariff) and other terms and conditions for negotiating a power acquisition contract to be approved by the Authority.

Tariff Components	Year 1-12	Year 13-30	Indexation
Variable Charge (Rs/kWh)			
Variable O&M - Local	0.1006	0.1006	CPI
Water Use Charge	0.1500	0.1500	CPI
Fixed Charge (Rs/kW/M)			
Fixed O&M - Local	96.6505	96.6505	CPI
Fixed O&M - Foreign	64.4336	64.4336	PKR/US\$, US CPI
Insurance	103.2599	103.2599	PKR/US\$
Debt Service	1391.2495	-	LIBOR, KIBOR, PKR/US\$
Return on Equity	623.1446	662.3880	PKR/US\$
Return on equity during construction (ROEDC)	424.3614	424.3614	PKR/US\$

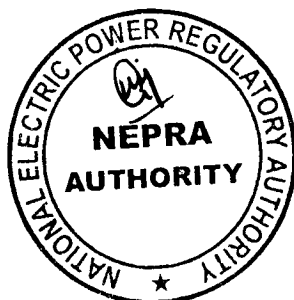
- i. The Advance tariff has been calculated on the basis of net contracted capacity of 637.696 MW and net annual energy production of 3064.00 GWh.
- ii. In the above tariff, no adjustment for Carbon Emission Reduction receipts (CERs) has been accounted for. However, upon actual realization of CERs, the same shall be distributed between the Power Purchaser and the project company in accordance with the GOP Policy for Power Generation Projects 2002 as amended from time of time.
- iii. The above tariff is applicable for a period of thirty (30) years on BOOT basis commencing from Commercial Operation Date (COD).
- iv. Debt service will be paid in the first 12 years of commercial operation of plant after COD.
- v. Redemption of equity has been allowed after 12 years of commercial operation of the plant.



- vi. The Petitioner is entitled to adjustment of cost reopeners and cost escalation in the civil works. Such adjustment will be allowed subject to provision of the required information/data in accordance with the Mechanism for Determination of Tariff for Hydropower Projects approved by NEPRA.
- vii. The reference PKR/Dollar rate has been assumed at 1 USD = 98 PKR.
- viii. The component wise tariff is indicated at Annex-I
- ix. Debt Servicing Schedule is attached as Annex-II

I. **One Time Adjustment**

- a. The Principal repayment and the cost of debt will be adjusted at COD as per the actual borrowing composition and LIBOR/KIBOR at the relevant date.
- b. Interest During Construction (IDC) will be adjusted at COD on the basis of actual debt composition, debt drawdown of loan (not exceeding the amount allowed by the Authority) and applicable 6-months LIBOR & KIBOR during the project construction period of 72 months (6 years) approved by the Authority.
- c. The specific items of project cost to be paid in foreign currency (i.e. US\$) will be adjusted at COD on account of actual variation in exchange rate over the reference PKR/US\$ exchange rate of Rs. 98.00 on production of verifiable documentary evidence to the satisfaction of the Authority.
- d. Duties and/or taxes, not being of refundable nature, imposed on the company up to the commencement of its commercial operations for the import of its plant, machinery and equipment will be adjusted on actual basis at COD, upon production of verifiable documentary evidence to the satisfaction of the Authority.
- e. Cost of land and resettlement US\$ 12.028 million will be adjusted in accordance with the Hydropower Mechanism based on authentic documentary evidence at COD.
- f. Insurance during construction will be adjusted at COD based on actual subject to the maximum of 2.40% of the adjusted and approved EPC cost upon production of verifiable documentary evidence to the satisfaction of the Authority.
- g. Financial charges will be adjusted at COD on the basis of actual subject to the maximum of 3% of the total debt allowed (excluding the impact of interest during construction and financial charges) on production of authentic documentary evidence.
- h. Return on Equity (ROE) and Return on Equity During Construction (ROEDC) will be adjusted at COD on the basis of actual equity injections and PKR/US\$ exchange rate variation (within the overall equity allowed by the Authority at COD) during the project construction period allowed by the Authority.
- i. The reference tariff table shall be revised at COD while taking in to account the above adjustments. The Petitioner shall submit its request to the Authority within 90 days of COD for necessary adjustments in tariff.



II. Pass-Through Items

No provision for income tax has been accounted for in the tariff. If the power producer is obligated to pay any tax, the exact amount paid by the power producer (the Company) shall be reimbursed by the Power Purchaser to the Company on production of original receipts. This payment shall be considered as pass-through payment (Rs/kW/M) spread over a twelve (12) months period in addition to fixed charges in the reference Advance Tariff.

Withholding tax on dividends is also a pass through item just like other taxes as indicated in the government Guidelines. Withholding tax shall be paid @ 7.5% of the return on equity (including return on equity during construction). The Power Purchaser shall make payment on account of withholding tax at the time of actual payment of dividend subject to maximum of 7.5% of 17% equity according to the following formula:

$$\text{Withholding Tax Payable} = \{[17\% * (E_{(Ref)} - E_{(Red)})] + \text{ROEDC}_{(Ref)}\} \times 7.5\%$$

Where:

$E_{(Ref)}$	=	Adjusted Reference Equity at COD
$E_{(Red)}$	=	Equity Redeemed
$\text{ROEDC}_{(Ref)}$	=	Adjusted Reference Return on Equity during Construction

In case the Company does not declare a dividend in any particular year or only declares a partial dividend, then the difference in the withholding tax amount (between what has been paid in that year and the total entitlement as per the Net Return on Equity) would be carried forward and accumulated so that the Company is able to recover the same as a pass through item from the Power Purchaser in future on the basis of the total dividend payout.

III. Hydrological Risk

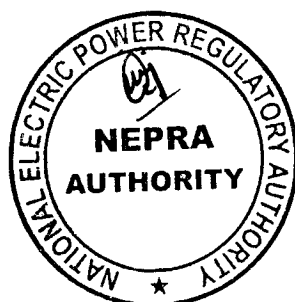
Hydrological Risk shall be borne by the Power Purchaser in accordance with the GoP Policy for Power Generation Projects 2002.

IV. Indexation

The following indexation shall be applicable to the reference tariff:

i) Indexation applicable to O&M

The Variable O&M cost is based on local currency. The Fixed O&M cost is based on 60% local and 40% foreign expense. The local component of O&M will be adjusted on account of Inflation (CPI), whereas the foreign component of O&M will be adjusted on account of Rupee/Dollar exchange rate variation and US CPI. Quarterly adjustment for local inflation, foreign inflation and exchange rate variation will be made on 1st July, 1st October, 1st January & 1st April respectively on the basis of the latest available information with respect to local CPI general (notified by Federal Bureau of Statistics Pakistan), US CPI (notified by US bureau of labor statistics) and revised TT & OD Selling rate of US Dollar (notified by the National Bank of Pakistan). The mode of indexation will be as under:



a. Fixed O&M

$$F O\&M_{(LREV)} = O\&M_{(LREF)} * CPI_{(REV)} / 185.180$$

$$F O\&M_{(FREV)} = O\&M_{(FREF)} * USCPI_{(REV)} / 231.407 * ER_{(REV)} / 98$$

Where:

- $F O\&M_{(LREV)}$ = The revised applicable Fixed O&M local component of tariff indexed with CPI (General).
- $F O\&M_{(FREV)}$ = The revised applicable Fixed O&M foreign component of tariff indexed with US CPI and exchange rate variation.
- $O\&M_{(LREF)}$ = The reference fixed O&M local component of tariff for the relevant period.
- $O\&M_{(FREF)}$ = The reference fixed O&M foreign component of tariff for the relevant period.
- $CPI_{(REV)}$ = The Revised Consumer Price Index (General) for the relevant month.
- $CPI_{(REF)}$ = The Consumer Price Index (General) of September 2013 notified by the Pakistan Federal Bureau of Statistics.
- $US CPI_{(REV)}$ = The Revised US Consumer Price Index (All Urban Consumers) notified by the Bureau of Labor Statistics.
- $US CPI_{(REF)}$ = Reference US CPI (All Urban Consumers) notified by the Bureau of Labor Statistics for the month of September 2013.
- $ER_{(REV)}$ = The revised TT and OD selling rate of US dollar as notified by the National Bank of Pakistan.

b. Variable O&M

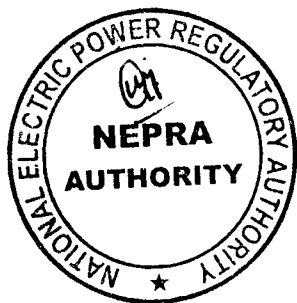
$$V O\&M_{(LREV)} = O\&M_{(LREF)} * CPI_{(REV)} / 185.180$$

Where:

- $V O\&M_{(LREV)}$ = The revised applicable Variable O&M local component of tariff indexed with CPI.
- $O\&M_{(LREF)}$ = The reference variable O&M local component of tariff for the relevant period.
- $CPI_{(REV)}$ = The Revised Consumer Price Index (General) for the relevant month.
- $CPI_{(REF)}$ = The Consumer Price Index (General) of September 2013 notified by the Federal Bureau of Statistics.
- $US CPI_{(REV)}$ = The Revised US Consumer Price Index (All Urban Consumers) notified by the Bureau of Labor Statistics.
- $US CPI_{(REF)}$ = Reference US CPI (All Urban Consumers) notified by the Bureau of Labor Statistics for the month of September 2013.
- $ER_{(REV)}$ = The revised TT and OD selling rate of US dollar as notified by the National Bank of Pakistan.

ii) Water Use Charges

Water Use Charge will be paid on units delivered basis and will be indexed with Consumer Price Index (General) annually from the date of COD. The first such



adjustment shall be due after one year of commercial operation from COD, according to the formula:

$$WUC_{(REV)} = WUC_{(REF)} * CPI_{(REV)} / 185.180$$

Where;

$WUC_{(REV)}$ = The revised Water Use Charge component of tariff indexed with Consumer Price Index (CPI).

$WUC_{(REF)}$ = The reference Water Use Charge component of tariff for the relevant period.

$CPI_{(REV)}$ = The Revised Consumer Price Index (General) for the relevant month.

$CPI_{(REF)}$ = The Consumer Price Index (General) of September 2013 notified by the Federal Bureau of Statistics.

iii) Insurance

Insurance cost component of tariff, in case insurance is denominated in foreign currency, will be adjusted on account of PKR/US\$ exchange rate variation at COD and thereafter on an annual basis at actual subject to the maximum of 1.0% of the EPC cost on production of authentic documentary evidence by the Petitioner.

iv) Adjustment for LIBOR/KIBOR variation

- a) The interest part of fixed charge component of foreign debt will remain unchanged throughout the term except for the adjustment due to exchange rate variation and variation in 6 months LIBOR, while spread of 4.75% on LIBOR remaining the same, according to the following formula:

$$\Delta I = P_{(REV)} * (LIBOR_{(REV)} - 0.55\%) / 2$$

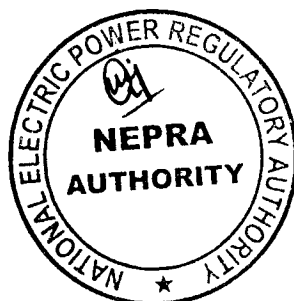
Where;

ΔI = the variation in interest charges applicable corresponding to variation in six-month LIBOR. ΔI can be positive or negative depending upon whether $LIBOR_{(REV)} >$ or $< 0.55\%$. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each period under adjustment applicable on bi-annual basis.

$P_{(REV)}$ = the outstanding principal (as indicated in the attached debt service schedule to this order at Annex-II) on a semi-annual basis at the relevant calculations dates.

- b) The interest part of fixed charge component of local debt will remain unchanged throughout the term except for the adjustment due to variation in 6 months KIBOR, while spread of 3.25% on KIBOR remaining the same, according to the following formula:

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 9.50\%) / 2$$



Where;

ΔI = the variation in interest charges applicable corresponding to variation in six-month KIBOR. ΔI can be positive or negative depending upon whether KIBOR_(REV) > or < 9.50%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each period under adjustment applicable on bi-annual basis.

$P_{(REV)}$ = the outstanding principal (as indicated in the attached debt service schedule to this order at Annex-II) on a semi-annual basis at the relevant calculations dates.

v) Return on Equity

Return on equity (ROE) as well as Return on Equity during Construction (ROEDC) component of tariff shall be adjusted for variation in PKR/US\$ exchange rate according to the following formula:

$$\begin{aligned} ROE_{(REV)} &= ROE_{(REF)} * ER_{(REV)}/ER_{(REF)} \\ ROEDC_{(REV)} &= ROEDC_{(REF)} * ER_{(REV)}/ER_{(REF)} \end{aligned}$$

Where;

$ROE_{(REV)}$ = Revised Return on Equity component of tariff expressed in Rs/kW/M adjusted with exchange rate variation.
 $ROEDC_{(REV)}$ = Revised Return on Equity during Construction component of tariff in Rs/kW/M adjusted with exchange rate variation.
 $ROE_{(REF)}$ = Reference Return on Equity component of tariff expressed in Rs/kW/M for the relevant period.
 $ROEDC_{(REF)}$ = Reference Return on Equity during Construction component of tariff expressed in Rs/kW/M for the relevant period.
 $ER_{(REV)}$ = Revised TT and OD selling rate of US dollar as notified by the National Bank of Pakistan.
 $ER_{(REF)}$ = Reference TT and OD selling rate of US dollar.

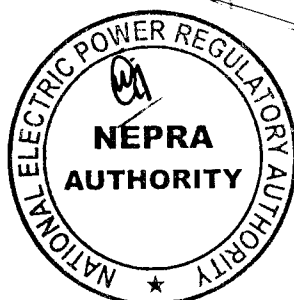
Note: -

Adjustment on account of inflation, foreign exchange rate variation and LIBOR/KIBOR variation will be approved by the Authority within fifteen working days after receipt of complete required information by the petitioner upon its request for adjustment in tariff in accordance with the requisite indexation mechanism stipulated hereinabove.

V. Other Terms and Conditions of Tariff

Design & Manufacturing Standards:

Hydel Power Generation system shall be designed, manufactured and tested in accordance with the latest IEC standards or other equivalent standards. All plant and equipment shall be new and of standard quality.



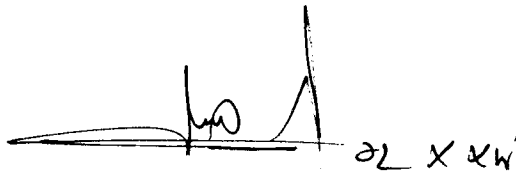
Power Curve of the Hydel Power Complex:

The power curve of the Hydel Power plant shall be verified by the Power Purchaser, as part of the Commissioning tests according to the latest IEC standards and shall be used to measure the performance of the hydel generating units.

Emissions Trading/Carbon Credits:

The Petitioner shall process and obtain emissions/carbon credits expeditiously and credit the proceeds to the Power Purchaser as per the policy issued by the Federal Government.

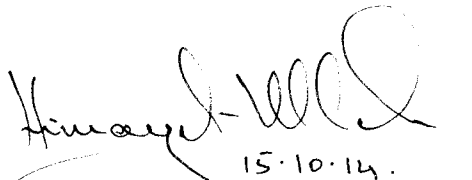
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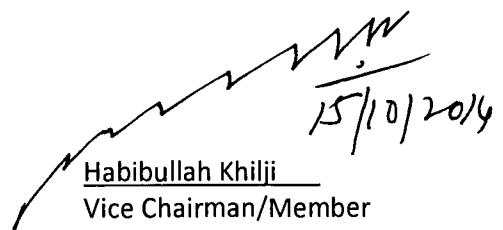
Khawaja Muhammad Naeem
Member



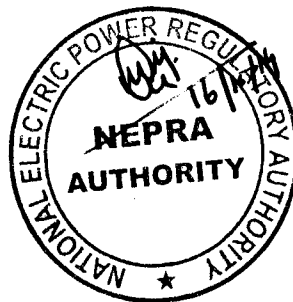
Major (Rtd) Haroon Rashid
Member



Himayat Ullah Khan
Member



Habibullah Khilji
Vice Chairman/Member



**AZAD PATTAN HYDROPOWER PROJECT
ADVANCE TARIFF - (REVIEW MOTION)**

Year	Variable O&M Local	Water Use Charge	Fixed O&M Local	Fixed O & M Foreign	Insurance	Return on Equity	ROE During Construction	Loan Repayment	Interest Charges	Total Tariff
	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. / kWh
1	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	613.2113	778.0382	7.0016
2	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	654.4205	736.8290	7.0016
3	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	698.9320	692.3175	7.0016
4	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	747.0662	644.1833	7.0016
5	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	799.1800	592.0695	7.0016
6	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	855.6704	535.5791	7.0016
7	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	916.9802	474.2693	7.0016
8	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	983.6030	407.6465	7.0016
9	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	1,056.0901	335.1594	7.0016
10	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	1,135.0572	256.1923	7.0016
11	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	1,221.1926	170.0569	7.0016
12	0.1006	0.1500	96.6505	64.4336	103.2599	623.1446	424.3614	1,315.2665	75.9830	7.0016
13	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
14	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
15	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
16	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
17	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
18	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
19	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
20	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
21	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
22	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
23	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
24	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
25	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
26	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
27	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
28	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
29	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
30	0.1006	0.1500	96.6505	64.4336	103.2599	662.3880	424.3614			3.6249
Levelized Tariff	0.1006	0.1500	96.6505	64.4336	103.2599	634.0232	424.3614	612.6004	392.9826	6.0655

Levelized Tariff (1-30 years) discounted at 10% per annum = US Cents 6.1893/kWh at reference exchange rate of 1US\$=Rupees 98.00.



AZAD PATTAN HYDROPOWER PROJECT

Debt Servicing Schedule

Period	Foreign Debt					Local Debt					Annual Principal Repayment Million US\$	Annual Interest Million US\$	Annual Debt Servicing Million US\$	Annual Principal Repayment Rs./kW/M	Annual Interest Rs./kW/M	Annual Debt Servicing Rs./kW/M
	Principal Million \$	Repayment Million \$	Mark-Up Million \$	Balance Million \$	Debt Service Million \$	Principal Million \$	Repayment Million \$	Mark-Up Million \$	Balance Million \$	Debt Service Million \$						
1	643.6784	19.5315	17.0575	624.1469	36.5890	214.9990	4.0229	13.7062	210.9762	17.7291	47.8827	60.7533	108.6360	613.2113	778.0382	1,391.2495
	624.1469	20.0491	16.5399	604.0979	36.5890	210.9762	4.2793	13.4497	206.6968	17.7291						
2	604.0979	20.5804	16.0086	583.5175	36.5890	206.6968	4.5521	13.1769	202.1447	17.7291	51.1006	57.5355	108.6360	654.4205	736.8290	1,391.2495
	583.5175	21.1257	15.4632	562.3917	36.5890	202.1447	4.8423	12.8867	197.3024	17.7291						
3	562.3917	21.6856	14.9034	540.7062	36.5890	197.3024	5.1510	12.5780	192.1513	17.7291	54.5763	54.0598	108.6360	698.9320	692.3175	1,391.2495
	540.7062	22.2602	14.3287	518.4459	36.5890	192.1513	5.4794	12.2496	186.6719	17.7291						
4	518.4459	22.8501	13.7388	495.5958	36.5890	186.6719	5.8287	11.9003	180.8432	17.7291	58.3348	50.3012	108.6360	747.0662	644.1833	1,391.2495
	495.5958	23.4557	13.1333	472.1401	36.5890	180.8432	6.2003	11.5288	174.6429	17.7291						
5	472.1401	24.0772	12.5117	448.0629	36.5890	174.6429	6.5956	11.1335	168.0473	17.7291	62.4041	46.2319	108.6360	799.1800	592.0695	1,391.2495
	448.0629	24.7153	11.8737	423.3476	36.5890	168.0473	7.0160	10.7130	161.0313	17.7291						
6	423.3476	25.3702	11.2187	397.9773	36.5890	161.0313	7.4633	10.2657	153.5680	17.7291	66.8152	41.8208	108.6360	855.6704	535.5791	1,391.2495
	397.9773	26.0426	10.5464	371.9348	36.5890	153.5680	7.9391	9.7900	145.6289	17.7291						
7	371.9348	26.7327	9.8563	345.2021	36.5890	145.6289	8.4452	9.2838	137.1837	17.7291	71.6026	37.0334	108.6360	916.9802	474.2693	1,391.2495
	345.2021	27.4411	9.1479	317.7610	36.5890	137.1837	8.9836	8.7455	128.2001	17.7291						
8	317.7610	28.1683	8.4207	289.5927	36.5890	128.2001	9.5563	8.1728	118.6438	17.7291	76.8049	31.8312	108.6360	983.6030	407.6465	1,391.2495
	289.5927	28.9148	7.6742	260.6780	36.5890	118.6438	10.1655	7.5635	108.4783	17.7291						
9	260.6780	29.6810	6.9080	230.9970	36.5890	108.4783	10.8136	6.9155	97.6647	17.7291	82.4650	26.1710	108.6360	1,056.0901	335.1594	1,391.2495
	230.9970	30.4675	6.1214	200.5294	36.5890	97.6647	11.5029	6.2261	86.1617	17.7291						
10	200.5294	31.2749	5.3140	169.2545	36.5890	86.1617	12.2362	5.4928	73.9255	17.7291	88.6312	20.0048	108.6360	1,135.0572	256.1923	1,391.2495
	169.2545	32.1037	4.4852	137.1508	36.5890	73.9255	13.0163	4.7128	60.9092	17.7291						
11	137.1508	32.9545	3.6345	104.1963	36.5890	60.9092	13.8461	3.8830	47.0631	17.7291	95.3571	13.2789	108.6360	1,221.1926	170.0569	1,391.2495
	104.1963	33.8278	2.7612	70.3686	36.5890	47.0631	14.7288	3.0003	32.3343	17.7291						
12	70.3686	34.7242	1.8648	35.6444	36.5890	32.3343	15.6677	2.0613	16.6666	17.7291	102.7029	5.9331	108.6360	1,315.2665	75.9830	1,391.2495
	35.6444	35.6444	0.9446	(0.0000)	36.5890	16.6666	16.6666	1.0625	(0.0000)	17.7291						

Reference: LIBOR at 0.55% plus 4.75% spread, KIBOR at 9.50% plus 3.25% spread.

