



✓ TRF-142
MF

National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

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E-mail: registrar@nepra.org.pk

No. NEPRA/TRF-142/WAPDA(Hydro)-2009/2531-2534
September 17, 2010

Subject: Determination of the Authority in the Matter of Tariff Petition of WAPDA Hydroelectric for approval of Bulk Supply Tariff for FY 2009-10 [Case # NEPRA/TRF-142/WAPDA(Hydro)-2009(4)]
Intimation of Determination of Tariff pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997)

Dear Sir,

Please find enclosed the subject Determination of the Authority (30 pages) in Case No. NEPRA/TRF-142/WAPDA(Hydro)-2009(4).

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

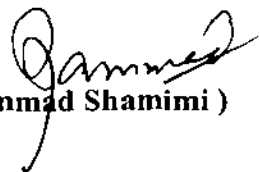
3. Please note that only Order of the Authority at para 46 of the Determination relating to the fixed charge and variable charge needs to be notified in the official gazette.

Enclosure: As above

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

CC:

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


(Hammad Shamimi)



**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
(NEPRA)**

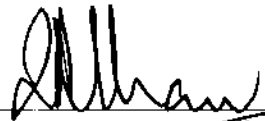
Case No. NEPRA/TRF-142/WAPDA (Hydro) – 2009(4)
September _____, 2010

Petitioner

WAPDA Hydroelectric, Water and Power Development Authority (WAPDA),
713-WAPDA House, Lahore

Authority

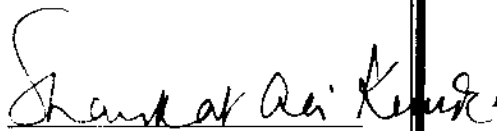
Zafar Ali Khan
Member


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Maqbool Ahmad Khawaja
Member



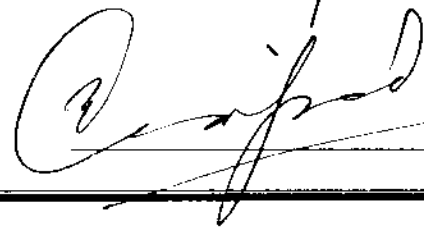
Shaukat Ali Kundi
Member

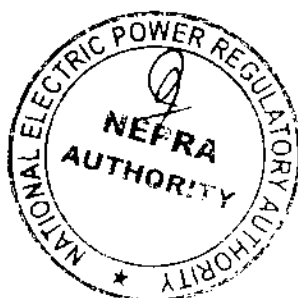

15.09.2010

Ghiasuddin Ahmed
Vice Chairman/Member


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Khalid Saeed
Chairman





Determination of the Authority
in the matter of Tariff Petition of WAPDA Hydroelectric
for approval of Bulk Supply Tariff for FY 2009-10
(Case No. NEPRA/TRF-142/WAPDA (Hydro)-2009(4))

WAPDA Hydroelectric (hereinafter called "the Petitioner") filed a Tariff Petition (hereinafter called "the Petition") before the National Electric Power Regulatory Authority (hereinafter called "the Authority") on October 03, 2009 under Rule 3 of the NEPRA Tariff Standards & Procedure Rules, 1998 (hereinafter called the "Tariff Rules") for determination of Bulk Supply Tariff for the financial year 2009-10 in respect of its hydropower plants with an aggregated capacity of 6,444 MW.

Summary of the Petition

2. The Petitioner submitted that its existing tariff was approved by the Authority for the financial year 2007-08 without providing any escalation or indexation mechanism for the coming years. Due to various factors its current revenue requirement has increased substantially necessitating upward revision in its bulk supply tariff. The Petitioner in its submission has sought relief in respect of the following.

a. Impact on the O&M of the Organization

The Petitioner submitted that due to revision in the salaries and allowances of employees and the inflationary impact on other O&M expenses, its overall O&M cost has increased significantly. Moreover, due to power cable failure incident at Mangla Power Station which is an eye opener event and which triggered a drive at other hydel power stations to undertake before hand repair works to ensure their 100% availability, resulting in extraordinary increase in repair and maintenance cost. The Petitioner requested that its O&M cost component of tariff may be increased from Rs. 3119 million allowed for FY 2007-08 to Rs. 5500 million for FY 2009-10.

b. Increase in Asset Base

The Petitioner submitted that it was allowed Return on Assets (ROA) of Rs. 16424 million based on its approved Regulatory Asset Base (RAB) of Rs. 135.29 billion. In view of its comprehensive investment program approved by the government of Pakistan (GoP) the cost of its fixed assets has increased significantly thus requiring revision of its regulatory asset base.

c. Rate of Return

The Petitioner stated that the Authority in its last determination has provided the Return on Assets (ROA) at the rate of 12.14 % which was calculated on the basis of Weighted Average Cost of Capital (WACC) by assuming 50:50 debt equity ratio as against actual 42:58 debt equity ratio. The Petitioner has requested that its rate of return should be based on its actual cost of debt and equity which in the instant case is 13.1% and 17% respectively. On this basis the Petitioner has requested for 15.025% rate of return as against the existing rate of return of 12.14%.



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d. Regulatory Revenue Gap

The Petitioner submitted that the Authority vide para 41 (iv) of its last determination dated June 27, 2007 for WAPDA Hydroelectric had allowed that any over/under recovery of revenue requirement due to the variation in actual Net Electric Output from the estimated amount of 28,550 GWh would be adjusted at the time of next tariff determination. The Petitioner has therefore requested for an adjustment of accumulated amount of Rs. 1282 million for the financial years 2007-08 and 2008-09 on account of shortfall in revenue due to lower net electrical out put than the approved figure of 28550 GWh

e. Tariff Structure-Impact of GST

The Petitioner stated that it has to pay GST on its sale of net electrical out put to NTDC. According to Section 3, Sub Section (1) clause (a) Chapter II of Sales Tax Act 1990, amended through Finance Act, 2008, GST is levied on variable charge (EPP) which is set at 30% of its total revenue requirement. Thus, the output GST remains higher than the input GST of WAPDA Hydroelectric which affects its cash flows adversely. The Petitioner further stated that 95% of its total cost is fixed in nature and only 5% is the variable cost, whereas its approved tariff has been apportioned between fixed and variable in the ratio of 70% and 30% respectively. The Petitioner has therefore requested that overall tariff be apportioned between fixed and variable charge in the ratio of 95% and 5% respectively which is a reality.

3. On the basis of above, the Petitioner submitted the following breakup of costs for its total revenue requirement of Rs. 39050 million and proposed tariff for the financial year 2009-10.

Costs/revenue requirement	Existing (Rs. Mln)	Proposed (Rs. Mln)
O&M Costs	3,119	5,500
Depreciation	5,309	3,431
Water Use Charge (WUC)	720	720
Net hydel profit (NHP)	6,000	6,000
Dividend Income	(2,191)	(2,191)
Return on Assets	16,424	24,308
Net revenue gap-FY- 2008, FY-2009		1,282
Total	20,381	39,050
Tariff:		
Fixed Charge - Rs./kW/Month	265.96	479.75
Variable Charge - Ps/kWh	30.87	6.84

4. The Authority admitted the Petition on October 29, 2009. Pursuant to the admission of the Petition, separate notices were sent to the person/parties who in the opinion of the Authority were likely to be affected or interested in the Petition. As per sub-rule (6) of Rule 4 of the Tariff Rules, the Authority also directed to publish an advertisement in the daily newspapers containing title and brief description of the Petition and for information & invitation to all the stakeholders for their participation in the tariff setting process, either



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through their comments or becoming a party to the case as Interveners. The Notice of Admission was accordingly published in the daily newspapers on October 29, 2009.

5. In response to the Notice of Admission, following two Intervention Requests were received:

1. Intervener No.1.
Finance Secretary, Government of Khyber Pakhtunkhwa
Through their legal counsel
Shumail Ahmad Butt & Amjad Sohail Agha (Advocates)
2. Intervener No.2.
Dr. Qazi Ahmed Kamal
Karachi Chamber of Commerce and Industry (KCCI)

6. The Intervention Request of Finance Secretary, Government of Khyber Pakhtunkhwa was also accompanied with an Application for Condonation of Delay, *inter alia*, on the grounds that the Finance Department, Government of Khyber Pakhtunkhwa was engaged in the ongoing 7th National Finance Commission; the Intervention Request should not be ousted on the technicalities as valuable rights of the Applicant/Intervener are attached with the Petition; no hearing has been made by the Authority; and the allowing of Intervention Request will not prejudice anyone including WAPDA. The Authority considered the request of the intervener under the Tariff Rules and decided to allow the Intervention. The Intervention Request from KCCI was also allowed by the Authority.

7. In addition, the Government of Punjab through Chief Engineer (Power), Irrigation & Power Department, and Faisalabad Electric Supply Company Limited through Finance Director filed comments on the Petition in terms of Rule 8 of the Tariff Rules.

8. The Authority in terms of Rule 9 of the Tariff Rules decided to convene hearing on the Petition. It is pertinent to mention here that with the aim to give ample opportunity to the interveners and commentators and other stakeholders to actively & meaningfully participate in the hearing and assist the Authority in arriving at a just and informed decision/determination, the Authority conducted three hearings on the following dates:

1. 15 December 2009
2. 25 January 2010
3. 19 April 2010

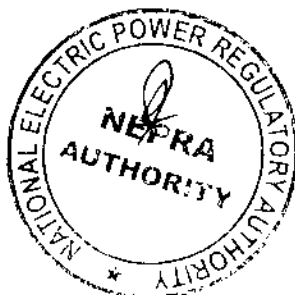
9. The intervener No.1 attended all the hearings while the intervener No.2 attended only first hearing. The commentators also attended all the hearings.

Submissions of the Interveners:

Intervener No.1

10. The main grounds of intervention were as follows:

- (a) the Petition contains a number of objectionable premises and considerations besides being incompetently filed;



- (b) Net Hydel Profit (NHP) is capped at Rs.06 billion with the aim to delay payments of future NHP as awarded by the Arbitration Tribunal based on Kazi Committee Methodology (KCM) or even on the compounded yearly indexation of 10%;
- (c) NHP is treated as an expense in the Petition which is against the Generally Accepted Accounting Principles (GAAP) and in clear disregard and infraction of Council of Common Interest (CCI) decisions, Presidential Orders, WAPDA's own commitments and Federal Government's acceptance of NHP claim;
- (d) Other components of tariff such as O&M cost, Return on Assets (ROA) and adjustment of past years revenue gap are considerably on the higher side and therefore unreasonable; and
- (e) the Petition is not adequately detailed and does not furnish information for justification of increase in tariff.

11. The Authority vide its letter No.NEPA/R/TRF-142/WAPDA(Hydro)-2009/135 dated December 9, 2009 forwarded the grounds of intervention to the Petitioner for comments/reply. The Petitioner accordingly filed comments on January 19, 2010 which were again forwarded to the Intervener for information.

12. The gist of the comments was that the Petitioner refuted all the grounds of intervention. The Petitioner submitted that the petition has been filed by the General Manager, Finance (Power) who is duly authorized by the WAPDA Authority to file petition for revision of WAPDA Hydroelectric tariff with the Authority. Regarding the capping of NHP, the Petitioner submitted that upon the directions of GoP, WAPDA is making ad-hoc payment of Rs. 6 billion annually as an interim arrangement. This was lastly clarified by Ministry of Finance, to NEPRA vide letter No.F.5(15)CF.1/2003-04/464 dated May 06, 2004. Moreover, the Ministry of Water & Power has been requested to intimate the latest position in this regard. With regard to the treatment of NHP as an expense, the Petitioner submitted that the understanding in this regard is not correct. In order to reach at sale price, intended profit margin has to be added into cost of sale. The sale price of any product is fixed/determined on the following mathematical equation:

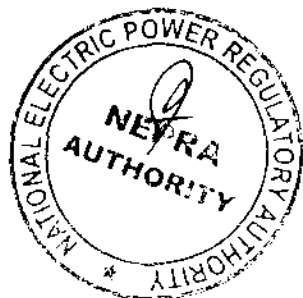
Cost of sale + profit margin = Sales

13. From the above it is evident, if profit margin from the existing level is increased the sale price will naturally be increased, hence price of the product will also be increased. Regarding the violation of CCI decisions and Presidential Orders, the Petitioner submitted that WAPDA is making the payment of Rs.06 billion as an ad-hoc arrangement.

Intervener No.2.

14. The intervener submitted that KCCI is representing 16,000 businesses that are its members and is the largest chamber of Pakistan. Karachi receives a large portion of its power needs (upto 700 MW) from WAPDA. Because of this it feels that it is directly affected by this tariff increase request. The main grounds of intervention are as follows:

- (a) The latest ordinance issued by the President, requires the determination of tariff on quarterly basis rather than on yearly basis;



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- (b) No O&M is actually being done by the Petitioner---Mangla power breakdown is an example of it;
- (c) The Rate of Return as demanded by the Petitioner is not rational. There is no comparison of the Petitioner vis-à-vis the new projects to which the Authority is giving higher rate of return; and
- (d) Regulatory Revenue gap and impact of GST cannot be a basis for increase in tariff rather these are inefficiencies of the Petitioner.

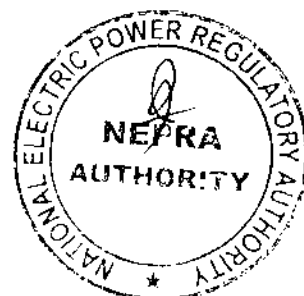
15. The comments of the Intervener No 2 were also forwarded to the Petitioner vide our letter No. NEPRA/TRF-142/WAPDA (Hydro)-2009/03 dated January 20, 2010 for its response. The Petitioner vide its letter No. GMF/CPCC/4525/453-54 dated January 23, 2010 provided its reply to the intervener with a copy to the Authority, while defending its position as mentioned hereunder;

16. As per NEPRA Act each Licensee should have its tariff determined by NEPRA. The tariff once determined by NEPRA and notified by the GoP remains valid till next revision is approved by NEPRA and notified. The Petitioner stated that it will file tariff revision petition on quarterly basis, if NEPRA directs in this behalf. Regarding concerns on the issue of O&M the Petitioner submitted that the fault at Mangla Power Station was unusual and internal check system worked instantly when the fault occurred. However, more time was taken to remove faulty cable due to their non availability in the stock which could not be maintained due to paucity of funds. The Petitioner stated that its O&M expenses were determined by NEPRA based upon actual spending during previous years which were very low because of non-availability of funds. However, WAPDA has prepared medium term Balancing Modernization and Replacement (BMR) plans which caters for carrying out timely maintenance and replacing the out lived parts. This is the reason that its projected O&M cost for FY 2009-10 seems to be on higher side as compared to last year's suppressed expense on plant maintenance.

17. Regarding point No. (c) above the Petitioner submitted that increase in Regulatory Asset Base (RAB) from Rs. 135 billion as determined by the Authority in 2007 to Rs. 161 billion projected this time is mainly due to capital expenditures on its ongoing hydropower projects such as Khan Khawar Allai Khawar, Dubair Khawar and Jinnah Hydropower projects which are near to completion and will be come operative within a year. These projects have been financed through loans which require repayment as well as return thereon at market rate. The WAPDA Hydroelectric projects are financed by Government of Pakistan through foreign relent loans and subordinate debts in place of equity investment, therefore WAPDA is obliged to redeem all capital cost along with defined return on investment. The effective rate of the aforementioned loans is quite comparable to the return on equity offered to the hydropower IPPs as the lending rate offered to WAPDA is always inclusive of the foreign exchange risk as well as other allied costs during construction of the project and disbursement of the loans.

18. With regard to point (d) above the Petitioner stated that hydel energy being the cheapest in the economic dispatch order is always on continuous dispatch at its full available capacity. Further hydel generation of WAPDA hydroelectric depends upon the water indents allowed by IRSA. Less generation in the preceding years was not due to inefficiency on the part of WAPDA because plants were available but the planned energy production could not

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be attained due to restricted release of water by IRSA. Tariff petition of WAPDA hydroelectric is based upon facts and present nature of business. WAPDA hydroelectric is not a profit making organization and petition of WAPDA hydroelectric is focused to recover costs.

Comments of Government of Punjab:

19. The Finance Department of the Government of Punjab submitted that WAPDA tariff petition is based on an overall tariff determination for the entire WAPDA hydro electric system. This is against the requirements of NEPRA for tariff determination wherein a tariff has to be determined independently for each hydroelectric station based on the costs at the bus bar. In order to get a higher return approved from the Authority, WAPDA Hydroelectric has not only lumped all costs of its Hydro electric stations together but has also petitioned that the returns to WAPDA Hydroelectric should be calculated on a Return on Assets basis rather than Return on Equity. No information on initial GoP equity has been provided. The Government of Punjab also demanded following information from the Petitioner:

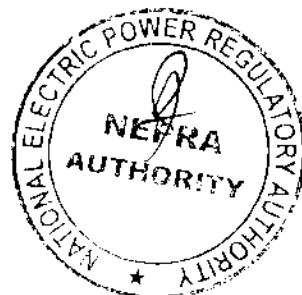
- (a) Net value of each station as of date of petition with complete details of all loans taken and outstanding with repayment profile and contribution as equity by the GoP upto COD.
- (b) Last 5 years Net costs per station in detail giving all fixed and variable operating, annual and major maintenance costs, insurance costs and other allowable costs under NEPRA Act.
- (c) Each station dependable capacity and the last 10 years hydrology, power generation and dispatch history alongwith any projections of hydrology and generation for the next 12 months.
- (d) Projected station wise costs for tariff determination period and their basis.

20. The comments of Government of Punjab were forwarded to the Petitioner vide letter No.CE(P)7207/2009 dated 26-12-2009 who filed its comments thereon vide letter No.GMF/CPCC/4525/410-11 dated 18-01-2010. The reply of the Petitioner is as follows:

“WAPDA Hydroelectric has applied for determination of bulk supply tariff for the 4th time. If petition for bulk supply tariff for hydroelectric station under WAPDA is against the requirements of NEPRA, WAPDA would not have been allowed tariff in the first instance. As such, petition has been filed truly in line with NEPRA Tariff Standards and Procedure Rules, 1998. In fact, Finance Department has intermingled provisions under Section 161(2) of the Constitution with NEPRA rules.

As per the NEPRA Tariff Standards and Procedure Rules, 1998, tariff should include rate of return on the Capital investment. The assets of WAPDA Hydroelectric are mainly financed through either direct or GoP subordinate loans. Further it is pragmatic in order to avoid spikes in yearly tariff, Return on Assets is allowed instead of ROE for the developing/expanding organizations like WAPDA Hydroelectric. ROE is generally allowed to the organizations of which projects have been completed and no addition is expected during the operation of the plant. Moreover, all the information as demanded by the Finance Department (a to d) was provided by the Petitioner to the commentator.

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Comments of FESCO:

21. FESCO submitted that during FY 2007-08, the average tariff of WAPDA Hydroelectric was Rs.1.01/kWh, whereas, the same was increased by 4.95% in FY 2008-09 due to increase in revenue by Rs. 546 million. The proposed revenue increased by Rs.10,037 million while comparing it with the last year revenue. Moreover, average tariff has increased by 29.24% in FY 2009-10. The main factors contributing to this increase are:

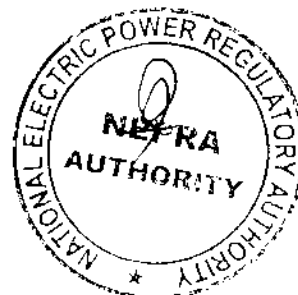
- (a) O & M expenses are showing a rise of 76.3% amounting to Rs.2,381 million without reasonable justification.
- (b) The increase in rate of ROA by 2.88% from 12.14% to 15.02% leaving an impact of Rs.24,308 million from Rs.16,424 million on ROA which is 48% increase.
- (c) Due to low actual generation as compared to NEPRA estimates for FY 2007-08 and FY 2008-09 an amount of Rs.1,282 million has been added in tariff as revenue gap.
- (d) For FY 2008-09, actual depreciation charged is Rs.3,431 million against Rs.5,309 million determined by NEPRA in FY 2007-08 leaving margin of Rs.1,878 million but no relief was provided for higher depreciation allowance.
- (e) Fixed component has been changed significantly from 70% to 95%. It is a huge burden on consumer.
- (f) While determining the rate of ROA, ROE investment has been taken as 17% which is again a high rate boosting the burden on consumers.

22. FESCO finally requested the Authority to review WAPDA Hydroelectric tariff and adjust the revenue requirement because extra pass through burden on consumers or to Government in form of subsidy is not justified.

23. Keeping in view the objections, observation and comments of the interveners and commentators, the Authority framed the following issues for discussion in the hearing:

- a) Whether the Tariff Petition of WAPDA Hydroelectric has been competently filed?
- b) Whether annual estimated production of 28,550 GWh for FY 2009-10 is justified?
- c) Whether Petitioner's request for adjustment of Rs. 1,282 million in the Tariff due to less recovery of revenue in the FY 2007-08 and FY 2008-09 is justified?
- d) Whether the requested increase in cost/revenue requirement has been projected on the basis of the audited financial statements for FY 2008-09?
- e) Whether Petitioner's request for increase in the O&M expense is justified?
- f) Whether the proposed Weighted Average Cost of Capital (WACC) of 15.025 % on the basis of 13.1% cost of debt and 17% cost of equity against the approved WACC of 12.14% is justified?
- g) Whether Petitioner's request for increase in the Regulatory Assets Base (RAB) is justified?
- h) Whether Petitioner's request to apportion Fixed and Variable part of tariff in the ratio of 95% & 5% respectively against the determined ratio of 70% & 30% is justified?
- i) Whether constitutional obligation of the Petitioner to pay Net hydel profit to the Provinces has been fully taken care of and whether the requested amount of Rs. 6,000 million for NWFP and 720 million for AJK is justified?

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24. The public hearing of the Petition was held on December 15, 2009. During the hearing various objections on different issues of the petition were raised by the commentators as well as the interveners. The Authority observed that the Petitioner was not fully prepared to adequately address the issues raised by the participants of the hearing. The Petitioner sought further time to respond to the issues pointed out by the interveners as well as commentators. The Authority, therefore, decided to adjourn the hearing until the next date of hearing to be decided by the Authority and advised the Petitioner to give its response in writing directly to the interveners and commentators on their comments/objections on the petition.

25. Pursuant to publication of notice in the national newspapers and intimation in writing to all the major stakeholders, the next hearing of the Petition was held on January 25, 2010 at main NEPRA office building Islamabad. The hearing was attended by representatives from PEPCO, FESCO, the interveners and the Petitioner. The issues framed by the Authority for the hearing were discussed one by one. The intervener representing Government of Khyber Pakhtunkhwa presented views of the government of Khyber Pakhtunkhwa on the issue of Net Hydel Profit payable to the province according to the Article 161(2) of the Constitution of Islamic Republic of Pakistan. The intervener stated that it requires further information and necessary documents from the Petitioner on this issue to frame his detailed comments on the issue for submission to the Authority. The intervener provided a list of data/documents required from the Petitioner. The Authority considered the request of the Intervener and directed the Petitioner for provision of necessary information to the Petitioner. The Intervener also requested for a third hearing of the Petition for detailed discussion on the issue of NHP under the constitutional provision and obligations of the Petitioner for payment of NHP to the province of Khyber Pakhtunkhwa which has a direct bearing on the tariff requested by the Petitioner. The Authority, therefore, adjourned the hearing until the next hearing for discussion on the issue of NHP.

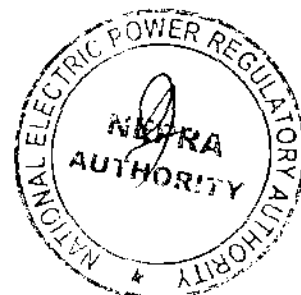
26. The third hearing of the Petition was held on April 19, 2010. The legal counsel of the intervener representing government of Khyber Pakhtunkhwa gave its detailed presentation on the issue of net hydel profit whereby it asserted that as per the constitutional provision it is responsibility of the WAPDA Hydroelectric and not any other agency to make full payment of the net hydel profit to the provinces. The issue will be discussed at length at the appropriate place in the ensuing paragraphs.

27. Based on comments offered by the interveners, commentators and submissions of the Petitioner, the aforementioned issues of the petition have been discussed one by one in the following paragraphs:-

28. **Whether the Tariff Petition of WAPDA Hydroelectric has been competently filed?**

28.1 Responding to the issue whether the instant petition has been competently filed or not, the Petitioner submitted that it has filed its petition in accordance with Rule 3 of the NEPRA Tariff Standards and Procedure Rules 1998 and complied with all the requirements of NEPRA rules. The Petitioner submitted that he is a duly authorized representative of WAPDA Hydroelectric to file a petition before the Authority. In support the Petitioner also provided a copy of the approval by the WAPDA authority.

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28.2 None of the commentators and the Intervener objected on the petition being not competently filed. The Authority observed that the Petitioner has complied with requirements of the NEPRA Rules and, therefore, holds that the Petition has been competently filed.

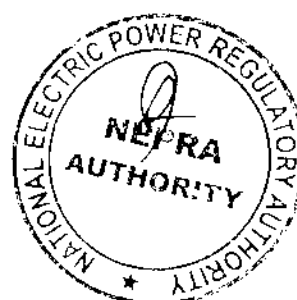
29. Whether annual estimated production of 28,550 GWh for FY 2009-10 is justified?

29.1 WAPDA Hydroelectric has estimated 28550 GWh as its net annual energy production from its all hydel power plants for the financial year 2009-10. There has been no addition in its existing generation capacity since last determination of the Authority made on June 27, 2007. The estimated net annual energy production (NEP) proposed by the Petitioner is therefore the same as approved by the Authority in its aforementioned determination. The energy production of WAPDA Hydroelectric is primarily dependent on availability of water in the reservoirs (Dams) which is controlled and regulated by the Indus River System Authority (IRSA), Government of Pakistan on the basis of quota/irrigation requirements of the provinces. Therefore, the Petitioner has little control over variation in energy production on year to year basis.

29.2 The actual power station-wise net production for the last five years and projected by the Petitioner for FY 2010 is given hereunder;

Power Station	2005 (GWh)	2006 (GWh)	2007 (GWh)	2008 (GWh)	2009 (GWh)	Projected 2010 (GWh)
Tarbela	12303	15667	16045	14867	13946	14650
Mangla	4009	5308	5942	4568	4636	5400
Warsak	1053	1002	1005	1026	986	910
Ghazi Barotha	6268	6954	6845	6490	6410	6200
Chashma	1093	952	1137	980	1088	1062
Rasul	58	74	82	33	71	35
Dargai	138	147	148	145	107	155
Malakand	138	143	54	0	0	0
Nandipur	27	39	39	28	35	35
Shadiwal	31	35	32	43	36	47
Chichoki	20	31	31	17	25	31
Kurram Garhi	16	15	16	17	13	17
Renala Khurd	4	3	3	3	3	3
Chitral	4	4	4	5	5	5
Total	25161	30374	31384	28222	27363	28550

29.3 It is quite evident from the above table that the actual energy production of the Petitioner for the last two years (FY 2008 & FY 2009) has been lower than the approved net energy production of 28550 GWh, whereas it was considerably higher in the financial years 2006 & 2007. The major variation of NEP has been witnessed at Tarbela, Mangla and Ghazi Barotha hydropower stations which are fed from water reservoirs (Dams) and therefore, completely dependent on the regulated water releases from their reservoirs. Considering that the requested NEP of 28550 GWh for FY 2010 is quite achievable in view of the past years actual results, therefore, accepted.



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30. Whether Petitioner's request for adjustment of Rs. 1,282 million in the Tariff due to less recovery of revenue in the FY 2007-08 and FY 2008-09 is justified?

30.1 The Petitioner has stated that due to lower actual net energy production (NEP) in FY 2007 and FY 2008 from the approved annual NEP of 28550 by the Authority in its last determination dated June 27, 2007, it has experienced a shortfall in its revenue requirement to the extent of Rs. 1282 million. In support of its claim the Petitioner has referred to para 41 (iv) of the last determination of the Authority whereby it has been stated that "Any over/under recovery of revenue requirement due to the variation of actual Net Electrical Output from the estimated amount of 28550 GWh will be adjusted at the time of next tariff determination".

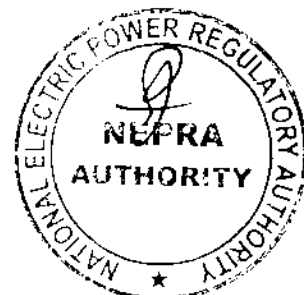
30.2 The Intervener No. 2 representing KCCI showed its reservations over the Petitioner's request for adjustment of regulatory revenue gap of the past years stating that this cannot be a basis for increase in tariff as it is reflective of an inefficiency of the Petitioner for not achieving the energy target set by the Authority. Almost similar comments were offered by other commentators such as FESCO.

30.3 The Authority considers that adjustment of shortfall in the revenue due to less than approved NEP as well as other factors may be looked into thoroughly and any resultant variation in cost/revenue either upward or downward be adjusted in the tariff of WAPDA Hydroelectric. The review of actual results for the financial years 2008 and 2009 revealed that while there was a shortfall in the actual total revenue of WAPDA Hydroelectric for the aforementioned years from the approved revenue requirement of Rs. 29,381 million, there has been a corresponding reduction in the operating costs as well.

30.4 The actual results for FY 2007-08 and FY 2008-09 revealed that while there was a total shortfall of Rs. 1,282 million in the actual sales revenue for these years from the approved annual revenue assessment of Rs.29,381 million, there was an overall net reduction of Rs. 1,356 million in its actual operating costs for the aforementioned financial years, leaving Rs. 74 million as over recovered cost, to be adjusted in the tariff of the Petitioner for FY 2010 as detailed hereunder.

Cost Component	Approved 2007-08 (Rs. Mln)	Actual 2007-08 (Rs.Mln)	Actual 2008-09 (Rs. Mln)
O&M cost	3,119	2,742	3,235
NHP/WUC	6,720	6,685	6,695
Depreciation	5,309	5,355	5,398
Other Income (KAPCO Dividend + Misc. receipts)	(2,191)	(3,474)	(2,078)
Total	12,957	11,308	13,250
Overall cost reduction		1,649	(293)

30.5 The Authority has, therefore, decided to adjust Rs. 74 million in the revenue requirement of the Petitioner for the financial year 2010, which basically represents the net decrease in actual costs over the approved cost for the financial year 2008 and 2009, after netting off the effect of revenue shortfall due to lower net energy production for the aforementioned years.



31. Whether the requested increase in cost/revenue requirement has been projected on the basis of the audited financial statements for FY 2008-09?

31.1 The Petitioner has submitted its tariff petition on the basis of projected costs and its annual revenue requirement for FY 2009-10. In support of the projected costs, it provided unaudited financial statements for FY 2008-09. The review of financial statements revealed various inconsistencies in the treatment of Ijara financing/Sukuk bonds worth Rs. 16,000 million issued by the Petitioner for development of its ongoing hydropower projects. Further the amount of Assets and Liabilities shown in its financial statements did not provide a true and fair view of its own operations after unbundling of WAPDA. The issue was raised by the Interveners as well as other commentators in their comments and also discussed in the public hearings of the Petition.

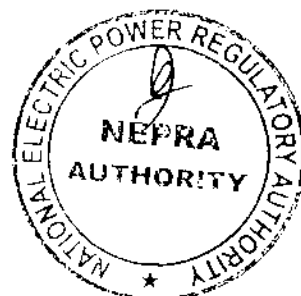
31.2 The Authority observed that in order to reasonably assess the Petitioner's cost for various components such as O&M cost, depreciation, regulatory asset base (RAB) etc, and thus its annual revenue requirement for the financial year 2009-10, it is required that its financial statements for the immediate last two years should be audited by an independent reputable firm of Chartered Accountants. Similar observations of the Authority were made in its last determination issued on June 27, 2007 at Para 41 (vi) whereby the Authority had categorically directed the Petitioner to maintain separate accounts for its operations and its next tariff petition should be based on accounts duly audited by an independent audit firm. The Authority took a serious note of the fact that the Petitioner had not complied with directions of the Authority for audit of its accounts by an independent firm of Chartered Accountants.

31.3 The Authority, however, decided that the instant tariff petition of WAPDA Hydroelectric shall be decided on the basis of its duly audited accounts for the year 2008-09 by an independent auditor. Accordingly, the Petitioner was directed vide our letter No. NEPRA/TRF-142/WAPDA(Hydro)-2009/944 dated February 02, 2010, to appoint an independent firm of Chartered Accountants for an audit of its financial statements for the year 2008-09 and re-submission of the same within two months for examination of the Authority. As per the Petitioner, the auditors were appointed on March 06, 2010, to carry out the aforementioned task within a stipulated period of two months.

31.4 The Petitioner through its letter No. GMFP/CPCC/960-61 dated July 15, 2010 informed that its consultants required further time to complete the assignment. The Petitioner through the same letter provided a copy of its financial statements for FY 2008-09 duly audited by the Auditor General of Pakistan, who is legally the auditor of the Petitioner under the WAPDA Act. The Petitioner further requested the Authority to process its tariff petition on the basis of its revised duly audited financial statements for FY 2008-09.

31.5 The financial statements of WAPDA Hydroelectric for FY 2008-09 were examined and found that the Auditor General of Pakistan in its report has raised various observations/qualifications on its accounts, reproduced as hereunder:

1. *The Authority has revised its accounting estimate in respect of depreciation of assets subject to finance lease. In this respect, I have not been able to ascertain the basis on which the life of the assets was reduced to 15 years from 30 years and the rate of depreciation increased to 7% from 3.5%. Moreover, by its nature,*



the revision of the estimate does not relate to prior periods and is not the correction of an error. In view of the forgoing, the depreciation expense pertaining to the comparative financial year cannot be revised.

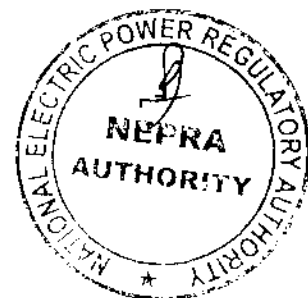
2. *According to the management, accounting policies have been adopted as disclosed in the notes forming part of these financial statements. Further, the Accounting Manual applies to these financial statements as the Authority has not adopted any other Accounting Standards in accordance with international best practices. In my opinion, the Authority has no defined accounting policies. Moreover, above referred policies cannot be termed as accounting policies, as these do not fulfill the definition, recognition, measurement and structured representation requirements of financial position and financial transactions.*
 3. *The closing balance of accounts payable in respect of associated undertakings does not reconcile with the balances confirmed by them. Therefore, in my opinion the balance of accounts payable may have been understated by Rs. 19,995 million and overstated by Rs. 19 million as no information pertaining to reconciling items was made available.*
 4. *The assets subject to Ijarah Agreement with Sukuk II company, amounting to Rs. 8,000 million have been accounted for in compliance with the requirements of Islamic Financial Accounting Standard (IFAS-2). The terms and conditions of the Ijarah Agreement signed between the Authority and Sukuk – II company do not comply with the prerequisite conditions of the standard pertaining to the definition of Ijarah. Therefore, in my opinion the authority cannot adopt IFAS-2 to account for the transaction in its books of accounts. In view of the forgoing, the balance of fixed assets, capital work in progress and deferred liability is required to be restated.*
 5. *In my opinion, except for the effect of adjustments as mentioned in paragraph 1 & 4 above, and adjustments (if any), which I might have determined to be necessary, had I been able to verify the completeness and accuracy of the account balances as stated in paragraph 1 to 3 above:*
 - (a) *These financial statements properly present, in all material respects, the financial position of the Authority as at 30 June 2009 and the results of its operations for the year then ended in accordance with the stated accounting policies of the Government of Pakistan.*
 - (b) *The sums expended have been applied, in all material respects, for the purposes authorized and have, in all material respects, been booked to the relevant accounts.*
32. The Petitioner through its subsequent letter No. GMFP/CPCC/4525/1054-57 dated August 08, 2010, provided an initialed copy of audit report of its independent auditors (Ernst & Young, Ford Rhodes Sidat Hydar Chartered Accountants) who were appointed by the Petitioner on directions of the Authority. According to the auditors report, the auditors have expressed their qualifications on the accuracy and treatment of certain items of fixed and current assets as well as payable and receivable balances. The following qualifications have been raised by the auditors.

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- a) as referred to in note 12 to the accompanying financial statements, included in other payables, an amount of Rs. 4,377 million and an amount of Rs. 2,128 million included in short term liabilities remained unverified due to the non-availability of direct confirmation from relevant third parties and sufficient supporting documents respectively. Further, an amount of Rs. 5,267 million, representing differences in direct confirmations received from relevant third parties, could not be verified due to the absence of appropriate relevant reconciliations;
- b) we have not been able to satisfy ourselves as to the accuracy of the post retirement employee benefits expense for the year ended 30 June 2009, as well as liability of the Hydroelectric towards post retirement employee benefits as on balance sheet date, as actuarial valuation of such benefits had never been carried out;
- c) we could not ascertain classification of operating fixed assets of Ghazi Barotha Power Station having book value of Rupees 75,497 million as the breakup of such assets duly reconciled with the accounting records of the Hydroelectric was not made available to us. We also could not reconcile the results of our physical verification of operating fixed assets with underlying records due to lack of adequate records. Further, the Hydroelectric has depreciation policy to charge full year depreciation in the year of purchase and no depreciation in the year of disposal which is inconsistent with the requirements of IAS-16 "Property, Plant and Equipment" and its related impact on the financial statements could not be quantified;
- d) operating fixed assets of certain formations were revalued in 2005 and 2008 having book value of Rs. 1,140 million and Rs. 12 million resulting in revaluation surplus amounting to Rs. 11,310 million and Rs. 7,988 million respectively which is contrary to requirements of IAS 16 "Property, Plant and Equipment" which requires revaluation of entire class of such assets;
- e) included in capital work in progress as on 30 June 2009 is an amount Rs. 2,495 million on account of cost incurred for feasibility studies in respect of defunct projects, which had not been charged to income statement as required by IAS-16 "Property, Plant and Equipment";
- f) as referred to in note 18 to the financial statements, the Hydroelectric held forty five percent shareholding in KAPCO and thirty percent shareholding in First Credit investment Bank Limited and twenty five percent shareholding in Lakhra Coal Development Company Limited which qualify for accounting as an associate as per requirements of IAS 28 "Investment in Associates". However, this investment is being carried as cost in contrast to equity method. Due to the non availability of the relevant records, we were not able to quantify the financial impact on the financial statements. Similarly, WAPDA First Sukuk Company Limited, WAPDA Second Sukuk Company Limited, and Neelum Jhelum Hydropower Company (Private) Limited, subsidiaries of the Hydroelectric, have not been consolidated contrary to requirements of IAS 27 "Consolidated and Separate Financial Statements".



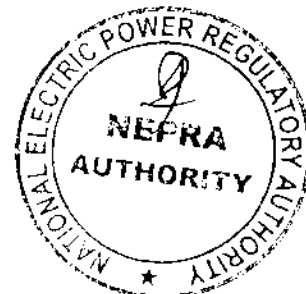
- g) we were not appointed as auditors of the Hydroelectric until 30 June 2009 and thus could not observe the counting of stores, spare parts and loose tools, as referred to in note 23 to the financial statements as the balance sheet date. Moreover, the accounting policy in respect of valuation of the stores, spare parts and loose tools has not been complied with in these financial statements. We also observed that the Hydroelectric is in practice of recording stores in store value ledger inclusive of sales tax. Due to aforementioned reasons, we were unable to satisfy ourselves concerning the quantities, conditions and valuation of such inventions;
- h) included in trade debts an amount of Rs. 5,873 million which remained unverified due to the non-availability of sufficient supporting documents and direct confirmation from concerned debtor;
- i) included in advances, and other receivables is an amount of Rs. 133 million which has not been acknowledged by corporate entities in direct confirmations. In the absence of the reconciliations along with relevant supporting documents the said differences remained unverified. Further, we were not able to confirm directly and amount Rs. 2,078 million from relevant third parties and were not able to verify the said balance through alternate procedures;
- j) included in advances and other receivables, inter office current account, cash and bank balances, trade and other payables and other income, are amounts of Rs. 726 million, Rs. 4,944 million, Rs. 605 million, Rs. 417 million and Rs. 57 million respectively relating to office of Chief Resident Representative Karachi providing services to different power generation and transmission companies which were remained unverified;
- k) we have been unable to review the events subsequent to the balance sheet date as those events pertain to a period of more than twelve months since the close of the financial year. However, we have been provided management's representation that no events and transactions occurred after the balance sheet date to the present time which would materially affect the financial statements and the related disclosures for the year ended 30 June 2009.

Qualified opinion

Except for the effects of such adjustments, if any, as might have been determined to be necessary had we been able to satisfy ourselves in respect of matters stated in paragraphs (b), (c), (d), (e) and (f) above and the effect of the matters stated in paragraph (a), (c) (g), (h), (i), (j) and (k) above on these financial statements, in our opinion, the financial statements give a true and fair view of the financial position of the Hydroelectric as of 30 June 2009, and of its financial performance, its cash flows for the year then ended in accordance with approved international accounting standards as applicable in Pakistan.

Without further qualifying our opinion, we would like to draw attention to note 16 to the financial statements which states that the ultimate outcome of the contingencies arising from matters discussed in note 16 to the financial statements, (note 16 pertains to fraudulent transfer of SUKUK-I bonds worth Rs. 180 million & GST refund claim of Rs. 4269 million), cannot presently be

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determined, and, hence pending the resolution thereof, no provision for the same has been made in the financial statements.

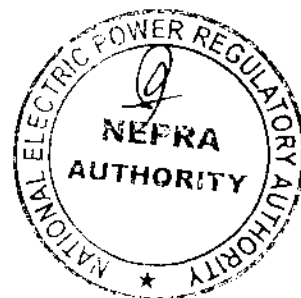
33. The Authority has carefully examined the revised and restated financial statements of the Petitioner for the year 2008-09 duly audited by the both auditors i.e. the Auditor General of Pakistan as well as external independent Auditors (Ernst & Young) and observed that concerns of the Authority as expressed in the preceding paragraphs with regard to reliability of figures provided in its financial statements for FY 2008-09 have also been revalidated by the both aforementioned auditors in the form of their qualifications on the accounts of the Petitioner. It was also observed by the Authority that different opinion was expressed by the both auditors on the accounting treatment by the Petitioner of SUKUK-I and SUKUK-II bonds together worth Rs. 16,000 million, in its financial statements for FY 2008-09.

34. The Authority understands that in view of the auditors' qualifications on financial statements of the Petitioner for the year 2008-09, it is difficult to rely on figures provided in its aforementioned financial statements and to reasonably assess and determine correct revenue requirement of WAPDA Hydroelectric for the financial year 2009-10. Nevertheless, the Authority considers that barring qualifications of auditors on accounting treatment of SUKUK-I and SUKUK-II bonds which may have its bearing on the depreciation and Regulatory Asset Base components of tariff, the revenue assessment for other tariff components such as O&M cost, WUC/NHP etc may not have a material impact on tariff if the figures are revised subsequently by the Petitioner in view of the auditors qualifications. The Authority further considers that the tariff determination of WAPDA Hydroelectric can not be put on hold and further delayed for provision of accurate and reliable accounts, which has already been delayed for the aforesaid reason by four months over a stipulated period of six months under the NEPRA Tariff Rules.

35. In view of the above, the Authority has no other option except to base its assessment for various tariff components while relying on the financial statements prepared by the WAPDA Hydroelectric for the year FY 2008-09. The Petitioner, however, is advised to submit duly audited accounts for FY 2009-10 without material qualifications of the auditors at the latest for review by the Authority. The Petitioner may, however, if required, seek a fresh tariff determination for the next financial year based on the aforesaid audited financial statements.

36. **Whether Petitioner's request for increase in the O&M expense is justified?**

36.1 The Petitioner submitted that due to successive revisions in the salaries by the Government of Pakistan as well as high inflationary impact, its O&M cost has increased substantially over the past two years. The Petitioner stated that it plans to fill up 1499 sanctioned vacant posts to operate its power plants efficiently. It has been further stated that due to power cable failure incident at Mangla Power Station, it has to undertake extra ordinary repair works at other hydel power stations to avert occurring of such incident in future and ensure 100% availability of its power plants. The Petitioner has, therefore, requested Rs. 5500 million on account of its annual O&M cost for FY 2009-10 against the approved cost for FY 2007-08 of Rs. 3119 million as per determination of the Authority made on June 27, 2007.



36.2 The following O&M cost broken down into three major categories has been provided by the Petitioner:

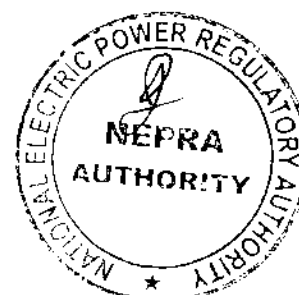
O&M Cost	Amount (Rs. Mln)
Employees cost	3039
Admn Expenses	691
Repair & maintenance	1770
Total	5500

36.3 The Interveners of the case as well as commentators (FESCO and CPPA) objected to the substantial raise in O&M cost sought by the Petitioner. FESCO in its comments submitted that O&M cost requested by the Petitioner is about 76.3% higher than the existing approved O&M cost of Rs. 3119 million which is not justified. The Interveners submitted that no justification and relevant details for the requested amount of O&M cost has been provided along with the Petition.

36.4 The O&M cost of WAPDA Hydroelectric comprises of three basic components i.e. Salary & wages, repair and maintenance cost of its hydel power stations and the general establishment, administrative and office expenses. Comparison of actual O&M cost for the last two years as per its financial statements shows that there has been significant increase in the salaries and wages and other general administrative expenses as well as repair and maintenance expenses as hereunder:

O&M Cost	Actual 2007-08 (Rs. Mln)	Actual 2008-09 (Rs. Mln)
Salaries, wages & benefits	1874	2137
Repairs and maintenance	217	531
Power, light, gas and water	196	224
Insurance plant & equipment	33	37
Administration & general Expenses & other overheads	422	306
Total	2742	3235

36.5 It is quite evident from the above tables that the overall actual O&M cost of WAPDA Hydroelectric for the last two years i.e. FY 2008 & FY 2009 was quite close to the approved O&M cost of Rs. 3119 million, but increased substantially for the salaries & wages and the repair and maintenance cost components. The Authority understands that Government of Pakistan has revised and substantially increased the salaries and wages of employees in the last two years. Similarly there has been a significant inflation as well as exchange rate variation affecting the cost of imported spare parts and other repair & maintenance costs. The Authority therefore, considers that in order to keep the Petitioner financially viable so that it can meet with its emergent requirements of repair and maintenance of its power plants as well as its obligations to payment of salaries and wages of its employees, it is pertinent to review its existing approved O&M cost at this stage as discussed hereunder.



Salaries & Wages

36.6 The actual amount of salaries and wages of the Petitioner for FY 2009 was Rs. 2137 million comprising pay & allowances, employees benefits and employees retirement costs. The GoP announced 20% increase in the pay of employees in its federal budget for FY 2009-10, effective from July 2009. Considering that 50% of the total salaries & wages comprises of basic pay and the balance 50% the allowances and other benefits of the employees, the amount on account of salaries and wages of the Petitioner, incorporating the aforesaid increase in the pay, has been assessed Rs. 2351 million.

Repair & Maintenance

36.7 The Petitioner has estimated an amount of Rs. 1770 million on account of repair and maintenance cost for FY 2010. According to the information provided by the Petitioner, the requested amount of repair & maintenance has been estimated under two different major heads/activities. The amount estimated for the routine repair and maintenance for FY 2009-10 is Rs. 446 million, whereas it has budgeted Rs. 1324 million for the massive repair and replacement works to be carried out by the Petitioner at its hydel power stations under the proposed Balancing, Modernization and Replacement (BMR) program to meet the following objectives:

- i) to increase plant availability of its older power plants through major repair & maintenance works;
- ii) to restore the de-rated capacity of its hydel power plants;
- iii) to build up bare minimum stock of spares;
- iv) to prevent accidents (like Mangla cable) in future; and
- v) augmentation of the system.

36.8 The examination of the information provided by the Petitioner revealed that it has not given any comprehensive plan along with the time schedule for carrying out its BMR program. Further, the Petitioner has not provided any justification nor it has quantified the benefits in terms of additional available capacity and/or additional net electrical output along with the additional revenue that will be generated to justify such a heavy investment by it under the BMR program. In view of the aforementioned, the Petitioner's request for Rs. 1324 million for carrying out a massive repair and replacement works under its BMR program can not be accepted as such. However, considering the fact that the Petitioner being owner and operator of about 14 small and big hydropower stations, which provide the cheapest source of energy, contributing annually about 28% of total generation from all other sources in the country, should be provided sufficient funds for proper maintenance, availability and reliability of its hydel power generating units. The Authority further considers that occurring of incidents like cable breakdown at Mangla, are not at all acceptable when there is already an acute shortage of power in the country.

36.9 The actual repair and maintenance cost as per the audited financial statements of WAPDA Hydroelectric for 2008-09 were Rs. 531 million. Taking the actual expenditure for FY 2008-09 as reference and increasing it by 15% per annum for the normal inflation the amount for the routine repair and maintenance expense works out to Rs. 611 million and

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therefore allowed. In order for the Petitioner to carry out its BMR program, the Authority has decided to allow further amount of Rs. 500 million on provisional basis against its demand of Rs. 1324 million. The Petitioner may seek review of its BMR cost upon submission of its detailed BMR program along with full justification and rationale for approval of the Authority in its next tariff petition to be filed by the Petitioner.

Other O&M costs

36.10 Other O&M costs comprises of insurance costs, utilities charges and general & administration expenses, utility and vehicle expenses, traveling and communication expenses and other overheads. The actual expenditure under this head of account for the year 2008-09 was Rs. 567 million. Adding 15% on account of normal inflation, the assessed O&M cost for FY 2010 works out to be Rs. 652 million and is being allowed to the Petitioner.

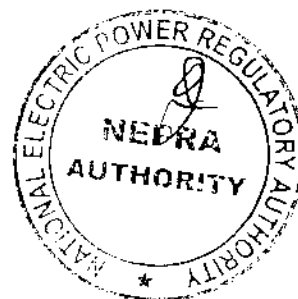
37. Recapitulating the consolidated amount of O&M cost allowed to the Petitioner as per the foregoing paragraphs calculates to Rs. 4114 million as against the Petitioner's demand of Rs. 5500 million.

38. **Whether the proposed Weighted Average Cost of Capital (WACC) of 15.025 % on the basis of 13.1% cost of debt and 17% cost of equity against the approved WACC of 12.14% is justified?**

38.1 The Petitioner was allowed 12.14% rate of return on Regulatory Assets by the Authority as per its last determination issued on June 27, 2007. The rate of return was calculated on the basis of weighted average cost of capital (WACC) using CAPM model taking 11.49% as cost of debt and 12.79% as cost of equity in a proportion of 50:50 for debt and equity respectively. The Petitioner has now proposed a WACC of 15.025% based on 13.1% cost of debt (based on six month KIBOR) and 17% cost of equity assuming debt/equity ratio of 42:58.

38.2 The higher rate of return proposed by the Petitioner has been objected by the interveners as well as other commentators. The Intervener No. 1 in its comments stated that rate of return proposed by the Petitioner is on higher side and unreasonable. The Intervener No. 2 in its comments submitted that the Petitioner has sought increase in its rate of return while comparing its rate of return with the IPPs, which is not justified as it can not match the efficiency of its machines with those of IPPs. The Intervener further stated that the Petitioner should approach GoP for reduction in the markup rates of foreign indirect loans, rather than seeking increase in the rate of return by 25% from 12% already allowed by the Authority to 15.025% which has no justification. The government of Punjab in its comments stated that the Petitioner should be allowed return based on its equity rather than the regulatory assets as most of its investment in the new hydel power projects is made through direct or indirect foreign loans at comparatively soft terms and its own equity.

38.3 The Petitioner in response to the above objections of interveners and the commentators submitted that for a rate of return it should not be discriminated over the IPPs, as the return earned by it is invested in the on-going and upcoming hydropower projects which is the cheapest source of energy, unlike those of IPPs where the entire return earned by



them is distributed among its shareholders in the form of dividends. It was further stated by the Petitioner that the effective markup rate on foreign relent loans is quite close to the rate of return allowed to IPPs as these loans include the foreign exchange risks along with other allied cost for disbursement during the project construction period.

38.4 The Authority considers that it is desirable to allow the Petitioner an adequate rate of return on its investments so that it can earn sufficient funds for investment in its on-going hydropower projects as well as provide an incentive for it to undertake and develop new hydropower projects in the future, which is the cheapest form of energy and essentially required to keep electricity at an affordable price for the consumers through a better mix of hydel energy in the system.

38.5 The Authority further considers that an appropriate method and basis generally accepted everywhere for allowing a rate of return in the case of the Petitioner which is an expanding organization, is the weighted average cost of capital (WACC). The Authority has already allowed the Petitioner and others such as distribution companies a rate of return based on the weighted average cost of capital. The WACC basically comprises of the following three components which have been discussed separately for the Petitioner in the ensuing paragraphs:

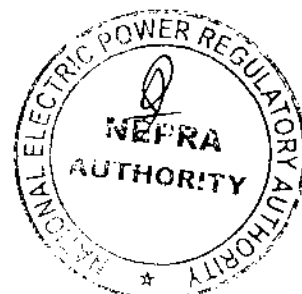
- i) Cost of Debt
- ii) Cost of Equity
- iii) Debt/Equity ratio.

Cost of Debt

38.6 The cost of debt for the Petitioner can be assessed from the actual amount of interest/markup paid by it during a year on the average outstanding balance of loans. According to the audited financial statement of the Petitioner for the year 2008-09 its actual average cost of debt based on its average outstanding amount of loans Rs. 63098 million has been worked out as 9.70% as per details given hereunder;

	2008-09 Rs Mln
Opening balance	64235
Debt (Repayment)	(4819)
New loans acquired	2545
Closing balance	61961
Average loan balance	63098
Financial Charges paid	6121
Cost of debt (Rate)	9.70%

38.7 It is expected that there will not be much variation in the cost of debt for the financial year 2009-10 as most of the loans have already been procured for its ongoing schemes of new hydropower projects, some of which are near to completion and at commissioning stage. The Authority has, therefore, decided to allow the Petitioner 9.70% on account of debt cost for the financial year 2009-10.



Cost of Equity

38.8 The Petitioner has proposed 17% as the cost of equity in its working for WACC. The Authority had allowed 12.79% as equity cost using a CAPM model on the basis of a risk free rate of 10.25%, a beta of 0.33 and a market risk premium of 7%.

38.9 The Petitioner submitted that it should not be discriminated over rate of return with other hydropower IPPs who have been allowed 17% return on equity. The Authority considers that there is a case for the Petitioner to expect the same return on its equity as has already been allowed to hydropower IPPs for the following reasons;

- i) the risk associated with development/construction of hydropower projects is the same for the public and the private sector.
- ii) the return on investment to be earned by the Petitioner is to be reinvested for development of new hydropower projects, unlike those of IPPs where the entire amount of return is distributed among its shareholders.

38.10 In view of the above, the Authority considers that the existing practice of allowing the Petitioner its cost of equity on the basis of CAPM model should be discontinued for the future as it does not provide a fair basis for working out cost of equity in the given situation where the power market is not yet well established. Further the market index used in the CAPM formula such as value of beta and market risk premium do not represent market risk associated with the hydropower projects. In order to be consistent and avoid any discrimination with the public sector hydel organization, the Authority has therefore decided to allow 17% cost of equity to the Petitioner which is the same rate as allowed to other hydropower IPPs.

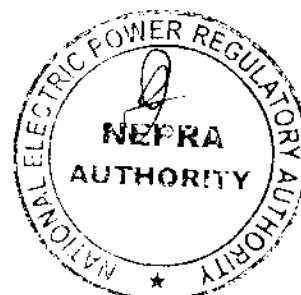
Debt/Equity Ratio

38.11 The Petitioner has worked out its WACC as 15.025% while assuming a Debt to equity ratio of 42 % and 58% respectively. The Authority in its last two determinations for the Petitioner has allowed 50% debt and 50% equity for working out WACC. According to the actual figures provided in its financial statements for FY 2008 and FY 2009, the ratio of debt and equity employed to finance the Regulatory Assets works out to be 48:52 and 45:55 respectively. The debt/equity ratio of 45:55 based on the latest audited accounts of the Petitioner for the year 2008-09 is, therefore, approved for FY 2009-10.

38.12 In view of the above, the WACC for the Petitioner works out to be 13.715%. Based on the aforementioned rate of return and the Regulatory Assets Base of Rs.143,054 million (as determined in the next section), the approved return (RORB) for the financial year 2009-10 works out to be Rs.19,620 million and therefore being allowed to the Petitioner.

39. Whether Petitioner's request for increase in the Regulatory Assets Base (RAB) is justified?

39.1 The Petitioner has proposed a Regulatory Asset Base (RAB) of Rs.161,787 million including Rs. 51,368 million on account of the amount of Work in Progress. The proposed RAB has been worked out on the basis of projections for the financial year 2009-10. The



Authority has allowed RAB of Rs. 135,426 million in its last determination for WAPDA Hydroelectric worked out on the basis of average of the opening and closing amount of Fixed Assets in Operation including the amount of Work in Progress. The RAB now proposed by the Petitioner shows 19.5% increase over the previous approved amount of Rs. 135,426 million. On the basis of proposed RAB of Rs. 161787 million and ROR of 15.025% it has claimed an annual return of Rs. 24,308 million and included in its total revenue requirement of Rs. 39,050 million.

39.2 The higher return on RAB has been objected by the interveners and commentators of the Petitioner stating that increase in tariff sought by the Petitioner merely on account of increase in RAB without commensurate increase in its efficiency is not justified. Responding to the aforementioned objections, the Petitioner submitted that it is producing hydropower energy for the last 30 to 40 years at an average annual plant capacity factor of around 50%, which is considered to be a reasonable efficiency rate for hydropower. The Petitioner further stated that operational efficiency of WAPDA Hydroelectric power plants is within standard limits of the manufacturers and quite comparable to the hydropower IPPs.

39.3 In opinion of the Authority, the return on investment in the case of expanding utilities such as the Petitioner, unlike other hydropower IPPs, is allowed on the basis of RAB as all investment made by it in the new hydropower projects is financed through long term debt and small portion of its own equity. Therefore the return per annum allowed to WAPDA Hydroelectric based on its equity will not provide sufficient funds to the Petitioner to meet its obligations for payment of interest on the debt and for investment in its capital development program for the future. The Authority, therefore, considers that the Regulatory Asset Base which basically represents the capital employed by the Petitioner for the revenue generating assets comprising the net amount of fixed assets in operation and the amount invested in the ongoing projects (capital work in progress) is comparatively more suitable & appropriate basis for calculating the return to be earned by the Petitioner.

39.4 According to the audited financial statements of the Petitioner for FY 2008 and FY 2009, the value of its net fixed assets in operation along with value of work in progress was as follows.

	----- Billion Rupees-----	
	<u>FY 2008</u>	<u>FY 2009</u>
Net Fixed Assets in Operation	118.362	114.546
Work in Progress	<u>20.193</u>	<u>27.207</u>
Total	<u>138.555</u>	<u>141.753</u>

39.5 It can be observed from the above, that there has been no increase in the fixed assets of the Petitioner in the previous years while there was a significant increase in the amount of work in progress, which shows that no new hydropower station has yet come into operation. The same position is however, expected for the financial year 2009-10 as well. The Petitioner has undertaken quite a few hydropower projects which are at different stages of completion. The new hydropower projects namely Khan Khwar, Allai Khwar, Dubair Khwar and Jinnah are near to completion and expected to be completed and commissioned in the financial year 2010-11. Review of the financial statements of the Petitioner for the last three years revealed that on average the per annum increase in the work in progress component was in the range



of Rs. 7000 million to Rs. 8000 million and therefore quite reasonable to assume the same trend for the next financial year as well. Based on figures provided in the audited financial statements of the Petitioner for the year 2008-09 and adding to this the expected amount of capital work in progress for FY 2009-10, the RAB for the Petitioner works out Rs. 143,054 million and allowed as detailed below:

	Regulatory Asset Base (RAB)	2009-10 (Rs. Mln)
	Net Fixed Assets in Operation as on June 30, 2009	114,546
	Add Capital Work in Progress	27,207
A.	Total	141,753
	Add; expected increase in CWIP for FY 2009-10	8,000
	Less; estimated depreciation charge for FY 2009-10	(5,398)
B.	Regulatory Assets as on June 30, 2010	144,355
C.	Average Regulatory Asset Base (RAB) (A+B)/2	143,054

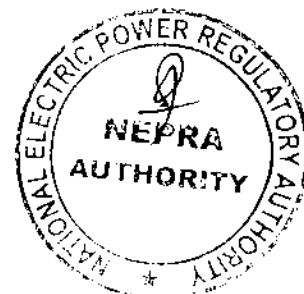
Depreciation Charge

40. The capital cost of the hydel power stations of the Petitioner is to be recovered through depreciation charge in tariff. The Petitioner was allowed Rs. 5309 million as depreciation charge for FY 2008 as per determination of the Authority issued on June 27, 2007. The actual depreciation charges for FY 2008 and FY 2009 as per the audited financial statements of the Petitioner were Rs.5355 million and Rs. 5398 million respectively. The depreciation charge for these years was inclusive of Rs. 1456 million and Rs. 1502 million on account of lease rentals for SUKUK-II bonds issued by the Petitioner against assets of Tarbela Power Station for financing of its ongoing hydropower projects. Subject to qualifications expressed by the auditors (Auditor General and Ernst & Young) and accordingly any change by the Petitioner on the accounting treatment of SUKUK-I and SUKUK-II which may have its effect on the amount of RAB as well as expected depreciation, the Petitioner is allowed Rs 5398 million on account of depreciation charge for the financial year 2009-10 which in fact is the actual depreciation charge for FY 2008-09 as no change, for the time being, is expected in the year 2009-10.

Other Income

41. The Petitioner has claimed Rs. 2191 million on account of dividend from KAPCO in which it has 46% shares as equity and other miscellaneous receipts/income. The Petitioner has proposed the same amount under the other income as previously approved by the Authority. According to the audited financial statements for FY 2009, the amount on account of other income was Rs.2078 million, comprising Rs. 1791 million on account of dividend income from KAPCO and Rs. 287 million on account of other miscellaneous receipts. The Authority considers that amount of other income expected to be earned by the Petitioner in the financial year 2009-10 will not vary much from the actual figures of FY 2009, therefore, the same amount of Rs. 2078 million is included in the revenue requirement of the Petitioner for FY 2009-10.

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42. **Whether Petitioner's request to apportion Fixed and Variable part of tariff in the ratio of 95% & 5% respectively against the determined ratio of 70% & 30% is justified?**

42.1 The Petitioner was allowed two part tariff comprising a variable charge in terms of Ps/kWh and a fixed charge expressed in Rs/kW/Month like other IPPs. The Authority in its determination dated May 2004 and subsequent determinations dated January 06, 2006 and dated June 27, 2007 has approved a tariff structure for the Petitioner whereby the total annual revenue requirement of the Petitioner was allocated into variable charge and fixed charge in a ratio of 30% and 70% respectively. The Authority while giving a rationale on this account at para 40 of its determination dated May 24, 2004 stated that:

"If the entire sale rate is allowed to be recovered through fixed charges, the risk of low production is transferred entirely to the consumer; on the other hand if the entire charges are allowed to be recovered through a variable charge the risk of low production and consequent inadequate revenues is transferred to the service provider as well as the provinces receiving net hydel profits. The Authority has, therefore, split up the sale rate in a manner that the risk of lower production is shared between the consumers, service providers and recipients of hydel profits such that 70% of the sale rate is recovered through fixed charges and 30% is recovered through variable (energy) charge".

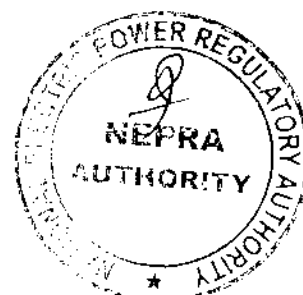
42.2 The Petitioner in the instant tariff petition has proposed that its overall revenue requirement may be apportioned into variable and fixed part in the ratio of 5% and 95% respectively. In support of its claim it has been stated that except for water use charges to be paid to Government of AJ&K on the basis of units produced at Mangla power station and some portion of repair & maintenance cost, all other cost of the Petitioner is fixed in nature. The Petitioner has, therefore, requested that its tariff should be structured in accordance with the actual pattern and nature of its costs, rather than any other consideration, to streamline its cash flows which in the instant case is 5% variable and 95% Fixed.

42.3 The Interveners as well as other commentators in their submissions did not favor Petitioner's request for restructuring its total tariff from the existing 30% as variable charge & 70% as fixed charge to the Petitioner's proposed 5% variable part and 95% fixed part of tariff.

42.4 It is an established fact that major portion (about 95%) of operating costs in the case of hydropower plants is fixed in nature while only 5% comprising water use charge and small portion of repair & maintenance cost can be attributed to variable cost. The Authority has already allowed 95% of the total cost to be recovered in fixed installments in the case of hydropower IPPs.

42.5 The Authority understands that the risk of low production is also applicable in the case of hydropower IPPs. In the case of the Petitioner, the generation from its power plants is dependent on availability of water, which is regulated by IRSA, an independent agency of GOP. Therefore, practically the Petitioner cannot vary its generation from the regulated water flows. Further, generation from hydropower sources is given priority for dispatch by the system operator (NPCC) and ranked in the "must run" category.

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42.6 In addition, the Petitioner, in support of its claim has also referred to the issue of General Sales Tax (GST) levied on the variable part of tariff which at present is 30% of its total tariff. According to the Petitioner, it has to pay sales tax on its net electrical output whereas there is insignificant amount of input tax to be adjusted against its output tax. Consequently its cash flows are adversely affected.

42.7 The Authority observed that actual composition of fixed and variable portion of its total cost and thus revenue requirement is around 95% fixed in nature, which has also been confirmed from the break up of costs and its annual revenue requirement requested by the Petitioner. It was also noted by the Authority that actual net energy production of the Petitioner over the last 5 years fluctuated between 3% to 9.5% on a year to year basis, which was mainly due to variation in the regulated water flows and, therefore, not in control of the Petitioner. Further, the GoP Policy for Power Generation Projects 2002 provides for Hydrological risk to be borne by the power purchaser. The financial impact of hydrological risk in the case of IPPs set up on the run-of-river hydropower projects is much more than in the case of the Petitioner where there are regulated steady water flows. The Authority therefore, considers that request of the Petitioner to apportion its total tariff in the ratio of 5% for variable cost and 95% for fixed cost is justified, hence approved.

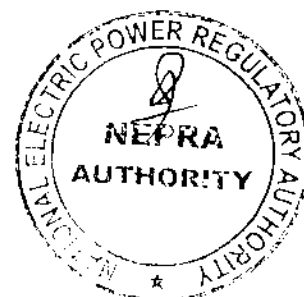
43. **Whether constitutional obligation of the Petitioner to pay Net hydel profit to the Provinces has been fully taken care of and whether the requested amount of Rs. 6,000 million for NWFP and 720 million for AJK is justified?**

43.1 The Petitioner submitted in the Petition that at present the Petitioner is making payment of Rs.6,000 million on account of NHP to the government of Khyber Pakhtunkhwa as an interim arrangement. The Petitioner assumed that this arrangement is expected to continue till such time the same is determined by the CCI in respect of each hydroelectric power station in operation. Therefore for FY 2009-10 the amount of Rs.6,000 million has been assumed for the payment of NHP.

43.2 The Intervener No. 1 i.e. Government of Khyber Pakhtunkhwa showed strong reservations on the proposed amount of Rs.6,000 million by the Petitioner as its obligation for payment of NHP to the province of Khyber Pakhtunkhwa. The Intervener during the hearings held on January 15, 2010 and April 19, 2010 argued in detail on the constitutional obligation of WAPDA Hydroelectric to pay NHP to Khyber Pakhtunkhwa.

43.3 Before discussing further it would be in the fitness of the things to see the constitutional provision, which deals with the NHP. Article 161(2) of the Constitution of Pakistan is therefore reproduced below for ready reference:

"Article 161(2). Natural gas and hydroelectric power. : The net profits earned by the Federal Government, or any undertaking established or administered by the Federal Government from the bulk generation of power at a hydro-electric station shall be paid to the Province in which the hydro-electric station is situated."



Explanation.—For the purpose of this clause “net profits” shall be computed by deducting from the revenues accruing from the bulk supply of power from the bus-bars of a hydro-electric station at a rate to be determined by the Council of Common Interests, the operating expenses of the station, which shall include any sums payable as taxes, duties, interest or return on investment, and depreciations and element of obsolescence, and over-heads, and provision for reserves ”

43.4 The Intervener while discussing the constitutional provision argued that since the words ‘Federal Government, or any undertaking established or administered by the Federal Government’ has been used therefore it is WAPDA which is responsible to pay the NHP to the provinces as it is an undertaking established and administered by the Federal Government.

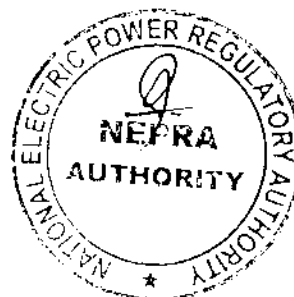
43.5 The intervener also stated the historical developments that occurred with respect to the NHP. He explained to the Authority that no action on the above constitutional provision was taken during the period 1973-1986. Thereafter the matter was brought before the National Finance Commission (NFC) in 1986, which constituted a committee commonly known as Kazi Committee. The committee gave its report in 1987 on the methodology for calculating the net hydel profits, which was approved by the CCI on January 12, 1991. Consequent to the approval by CCI, the President of Pakistan was pleased to make an order called “The Distribution of Electricity Profits from Hydro-Electric Stations to Provinces, Order 1991 whereby Federal Government (i.e. Water and Power Development Authority) was obligated to make payment to provinces on account of NHP.

43.6 Pursuant to decision of the Government of Pakistan to un-bundle WAPDA into separate legal entities and consequent amendment in the WAPDA Act, 1958, the CCI in its decision dated May 25, 1997 and subsequent decision dated December 22, 1998 decided that hydel profits payable to the province under the Constitution would not fall below the level which the Province would have been entitled to, had the amendment in WAPDA Act, 1958 not taken place.

43.7 The Government of Khyber Pakhtunkhwa agitated the issue again in the 6th NFC meeting held on December 13, 2003, and proposed constitution of an Arbitration to resolve the issue. The CCI agreed to the proposal and the Arbitration Tribunal was constituted. The Tribunal announced its decision on October 19, 2006 whereby it awarded Rs.110.101 billion with markup of 10% per annum thereon, as NHP for the period 1992-2005 payable by WAPDA to the Province in five equal installments. The first such installment was due within three months from the date of Award and thereafter each subsequent year by 31st December till the entire amount with markup is paid.

43.8 WAPDA, while not agreeing to the decision of the Tribunal, filed a civil Suit in the Court of Senior Civil Judge, Islamabad on December 10, 2006 challenging the decision of the Tribunal and thereby the validity and effect of the Award. The provincial government also challenged the decision of the Arbitration Tribunal in the Supreme Court of Pakistan which is pending decision of the Apex Court.

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43.9 The Federal Government through its decision taken in a meeting held on August 09, 1992 chaired by the Minister for Finance and participated among others, by the Chief Minister NWFP and Mr. A.G.N. Kazi, then Deputy Chairman Planning Commission ensured a minimum payment of Rs.6,000 million to the Government of Khyber Pakhtunkhwa, by directing WAPDA to open and maintain a separate account with National Bank of Pakistan (NBP). The NBP was advised by WAPDA to release Rs. 500 million every month to the Government of NWFP as payment of net hydel profit.

43.10 The Intervener also submitted that after CCI, NEPRA is the only Authority to determine NIIP. NEPRA should perform its role as it is the apex body after CCI.

44. Submissions of the Petitioner

44.1 The Petitioner submitted that CCI is the Authority to determine the rate of sale of power at the bus bar after deducting certain deductibles which have been mentioned in the Constitution. NEPRA is the sole authority to determine the tariff in terms of the NEPRA Act and Tariff Rules, 1998. The tariff is determined by the Authority after analyzing that the cost is prudently incurred by the licensee or not?

44.2 With regard to the NHP, the Petitioner submitted that it is very clear under Article 161(2) of the Constitution that CCI is the only body to determine the rate of sale of power at the bus bar. The Petitioner categorically stated that CCI has not yet determined the rate. As an interim arrangement, on the directions of Government of Pakistan, the Petitioner provided a fix amount of Rs.6.0 billion in its first tariff petition to the Authority in 2004. The Authority at that time sought comments from Government of Khyber Pakhtunkhwa, Government of Punjab and Government of Pakistan. The GoP through its letter No.F.5(15)-CF.I/2003-04/464 dated May 06, 2004 clarified that it is just an interim arrangement because CCI has not yet determined the rate, therefore an amount of Rs.6.0 billion should be put as an interim arrangement. Since CCI has not determined the rate till-to-date, the Petitioner has put this figure in the Petition.

44.3 The Petitioner further submitted that NHP is a pass through item. It refuted the argument of the Intervener that NHP cannot be a pass-through item. In its argument, it explained that the existing tariff is based on the revenue requirement of Rs.29.3 billion out of which 23.381 billion is the operating cost while Rs.6.0 billion is the NHP. Now if the NIIP is increased to some other amount, the Petitioner does not have the capacity to pay that amount until and unless it is included in its revenue requirement.

44.4 With regard to the payment of Rs.110 billion to Government of Khyber Pakhtunkhwa, the Petitioner submitted that the Federal Government is giving this amount from its own sources. In this regard, the Petitioner also referred to the minutes of the meeting issued by the Finance Division vide letter No.1(11)CF-I(P)/2008-09 dated November 23, 2009. Para 4 of the minutes of the meeting states as follows:

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"With a view to bury the past controversy and promote the cordial relationship between Federal and the provinces, it was decided by the Finance Minister that Federal Government/Finance Division will compensate, through grant in aid, the NWFP Govt. in lieu of the principal portion of the past liability of Net Hydel Profit upto 2004-05 i.e. Rs.110.0 billion payable to NWFP, without prejudice to the positions taken by the either side and without entering into controversy of the validity of the Arbitral Tribunal Award. As for the mark up on Net Hydel profit upto 2004-05 and (ii) & (iii) above, it was decided that the Technical Committee already constituted to deliberate upon the issue will submit their recommendations in the matter within 30 days."

44.5 The Authority thoroughly considered the submission of the intervener and the Petitioner and found that there is no change in the status of NHP from the previous determination of the Authority. The issue of NHP is *sub-judice* before the Civil Court, Islamabad and the Honorable Supreme Court of Pakistan. No decision as of today has been announced by the court. The Federal Government has made the payment to the province of Khyber Pakhtunkhwa from its own sources and without prejudice to the position of WAPDA and the government of Khyber Pakhtunkhwa. Under Article 161(2) of the Constitution, CCI is the only forum to decide the issue. The Authority has got no power to decide or pass any order on this issue. The CCI has not delegated this power to the Authority. In this regard the Authority analyzed Article 153 of the Constitution, which creates the CCI and Article 154 of the Constitution, which describes the function and rules of procedures to be followed by the CCI. Clause (5) of Article 154 provides that until [Majlis-e-Shoora (Parliament)] makes provisions by law in this behalf, the Council may make its rules of procedure. The Council has made its rules entitled as 'Rules of Procedure of the Council of Common Interests'. Rule 8 of the Rules of Procedure provides the procedure for preparation of summaries, which is given below for ready reference:

"A summary for the Council shall indicate—

- (a) The name of the sponsoring Federal Division or Department of the Provincial Government.*
- (b) Subject of the Summary.*
- (c) Name and designation of the officer forwarding the Summary (Secretary/additional Secretary incharge in the case of Federal Divisions and Chief Secretary/Additional Chief Secretary in the case of Provincial Government.*
- (d) The date of submission."*

44.6 This afore-referred rule clearly explains that only Federal Division or department of Provincial Government can take the matter to the CCI and even NEPRA cannot take the issue to CCI. The Authority also considered that in its determination for WAPDA Hydroelectric dated May 19, 2004 following observations were recorded by the Authority:

"The Authority further observes that CCI while deciding to adopt the methodology proposed by the Kazi Committee approved the principle as well as its future applicability but did not consider the need to specify any organization, committee or

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any department of the Government to calculate the net hydel profit for the future years. The Federal government or any of its ministries or offices has so far not been able to achieve an agreement on the quantum of net hydel profits and the matter is still being discussed in the meetings of the National Finance Commission. However, maintaining the existing arrangement, as an interim measure, the Authority is including Rs. Six Billion in the Revenue Requirement of WAPDA as payment obligation of WAPDA in respect of payment of net hydel profit to the NWFP province till such time the same is determined by CCI in respect of each hydroelectric power station in operation."

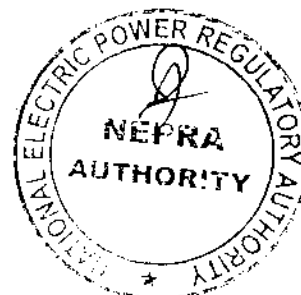
44.7 A similar position was taken by the Authority at para 24 in its subsequent determination of WAPDA Hydroelectric dated January 06, 2006 whereby the Authority in its decision on the issue of NHP decided as follows:

"The Government of NWFP has requested that the net hydel profit be paid to it in arrears for the past years. The Government of Punjab requested that net hydel profits from the hydel power stations located in Punjab be paid to it in accordance with Article 161(2) of the Constitution of Islamic Republic of Pakistan. The above recommendations were considered by the Authority and decided that no change in its position taken in its determination of May 24, 2004 is warranted and leaves the issue of net hydel profit to be decided by the Council of Common Interests."

44.8 In view of the above the Authority decides that no change has taken place w.r.t. NHP and therefore allows an amount of Rs. 6,000 million to be included in the revenue requirement of the Petitioner as an interim arrangement till such time the same is decided by CCI.

45. Recapitulating, the approved cost for various components of tariff and thus the revenue requirement of WAPDA Hydroelectric for the financial year 2009-10 is given hereunder;

Revenue Requirement	Rs Mln.
O&M Cost	4,114
Depreciation	5,398
NHP/WUC	6,720
Other Income	(2,078)
Return on Regulatory Assets	19,620
Adjustment – Regulatory gap	(74)
Total Revenue Requirement	33,700



46. **Order:**

- i. Subject to adjustment on account of determination of net hydel profits by CCI, WAPDA is allowed to charge the Central Power Purchasing Agency (CPPA) within the National Transmission and Despatch Company (NTDC) the following rate, as two part tariff, for sale of bulk power measured at the bus bar of its hydro electric power stations connected directly or indirectly to the transmission system of NTDC.

Fixed Charge = Rs. 414.02 per kW per month of installed capacity

and

Variable charge = Paisa 5.90 per kWh delivered.

- ii. Any over/under recovery of cost/revenue requirement due to the variation of actual Net Energy Production (NEP) from the estimated amount of 28,550 GWh will be adjusted at the time of next tariff determination.
- iii. WAPDA Hydroelectric is directed to submit its annual accounts for FY 2009-10 within a period of six months, duly audited by the auditors without material qualifications for review by the Authority. WAPDA Hydroelectric may, however, seek review of tariff based on the aforementioned audited accounts (if required) for the next financial year.
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