



Registrar

National Electric Power Regulatory Authority Islamic Republic of Pakistan

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No. NEPRA/TRF-383/WAPDA (Hydro)-2017/19079-19081
November 22, 2017

Subject: Determination of the Authority in the matter of Bulk supply Tariff for WAPDA Hydroelectric for Financial Year 2017-18 [Case No. NEPRA/TRF-383/WAPDA(Hydro)-2017]

Dear Sir,

Please find enclosed herewith the subject Determination of the Authority (41 pages) along with Additional Note of Mr. Himayat Ullah Khan, Member NEPRA (12 pages) in Case No. NEPRA/TRF-383/WAPDA(Hydro)-2017.

2. The Determination is being intimated to the Federal Government for the purpose of notification in the official gazette pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997).

3. Order of the Authority's Determination needs to be notified in the official gazette.

Enclosure: As above

(Syed Safeer Hussain)

Secretary
Ministry of Energy
'A' Block, Pak Secretariat
Islamabad

CC:

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



National Electric Power Regulatory Authority
NEPRA, Islamabad

. Determination of Bulk Supply Tariff for WAPDA Hydroelectric
Financial Year 2017-18

November 22, 2017

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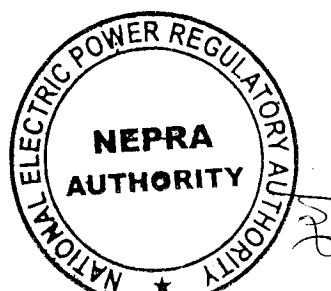
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Background

- 1) The Pakistan Water and Power Development Authority (WAPDA) is a statutory body established through an Act of Parliament in February 1958. WAPDA Power Wing Hydroelectric is operating under Generation License granted by the Authority in 2004. At present WAPDA holds generation license for its Twenty Four Hydel power projects having aggregate generation capacity of 17,360 MW out of which, five hydel power projects having aggregate capacity of 10,458 MW are under construction, whereas, nineteen hydel power stations with generation capacity of 6,902 MW are active.
- 2) WAPDA Hydroelectric (hereinafter referred as "the Petitioner") filed a tariff petition for determination of Bulk Supply tariff for FY 2017-18 for sale of power to CPPA(G), pursuant to NEPRA Tariff Standards and Procedure) Rule, 1998 (Tariff Rules).

Summary of the Petition

- 3) The Petitioner contended that due to change in its revenue requirement for FY 2017-18, worked out on the audited Financial Statements for FY 2015-16, six months (Jul-Dec) actual numbers for FY 2016-17, projected numbers for last six months (Jan-June) of 2016-17 and full 2017-18, have formed the basis for the petition which are as under:-
 1. Increase in Regulatory Assets Base from Rs. 276,960 Mln to Rs. 455,710 Mln due to capital expenditures on rehabilitation/replacement of aged generation plants and acquisition of new fixed assets as well as due to more capital investment in the under development hydropower projects.
 2. Projected increase in O&M cost for FY 2-17-18 against O&M determined by NEPRA for FY 2015-16
 3. Increase in Depreciation charges for FY 2017-18 against the Depreciation determined for FY 2015-16 due to transfer of Tarbela 4th Ext and Golen gol hydropower projects in operation.
 4. Debt/Equity ratio of 28:72 and WACC of 16.26% has been worked out for Hydel Power Stations as against Debt/Equity ratio of 70:30 and WACC of 14.6 % allowed in tariff determination for FY 2015-16
 5. Debt/Equity ratio of 75:25 and ACC of 14.10% has been worked out for Hydel Power development projects as against Debt/Equity ratio of 80:20 and WACC of 14.6% allowed in tariff determination for FY 2015-16.
 6. Other income from NEPRA regulated business activities has been projected as Rs. 300 Mln for FY 2017-18 against Rs. 1,001 Mln determined by NEPRA for FY 2015-16.
 7. Regulatory Revenue Gap of Rs. 32,049 Mln (Rs. 14,830 Mln for FY 2015-16 and Rs. 17,219 Mln for FY 2016-17) has arisen due to allowing inadequate revenue requirement based upon estimates and delayed determination and notification of tariff.
- 4) The Petitioner requested for determination of its tariff for FY 2017-18; breakup whereof is reproduced as under:-





Cost of Power Sales Tariff for FY 2017-18				
		2017-18		Applicability
		Jul-Mar	Apr-Jun	
		Based on 6,902 MW	Based on 8,418 MW	
Regular Tariff				
Variable Charges	(Rs/kWh)	0.0216	0.0216	On Total Generation
Fixed Charges	(Rs/KW/M)	1,103.0712	904.4282	On Total Generation Capacity
Recovery Of Revenue Gap				
Variable Charges	(Rs/kWh)	0.0477	0.0477	On Total Generation
Fixed Charges	(Rs/KW/M)	367.5808	301.3863	On Total Generation Capacity

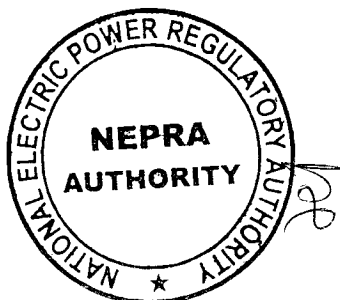
- 5) The Petitioner also requested for cost plus hydel levies margin for 2017-18 which includes IRSA charges, Water Use Charge and Net Hydel Profits for the Provinces of Khyber Pakhtunkhwa and Punjab as per details provided in para 8.7 of its petition.

Proceedings:

- 6) In terms of rule 4 of the Rules, the Petition was admitted by the Authority on April 04, 2017. In compliance of the provisions of sub-rules (5) & (6) of the Rule 4 and Rule 5 of the Rules, notices of admission and hearing were sent to the parties which were considered to be affected or interested. An advertisement in this regard was also published in the leading national newspapers with the title and brief description of the petition on April 11, 2017; inviting filing of replies, objections, comments or intervention request from any interested or affected person.
- 7) Separate notices were also sent to the Provincial Governments seeking their recommendations, as required under Section 7(5) of the Regulation of generation, transmission and distribution of Electric Power Act 1997. (hereafter referred as NEPRA Act)
- 8) In response five (05) intervention request were received from the following:
- Barrister Asghar Khan, Barrister, Lincoln's Law Chamber dated April 13, 2017.
 - Tariq Ahmad Khan, Consumer dated April 24, 2017.
 - Humayun Saifullah Khan, Ex-MNA and Ex-District Nazim dated April 24, 2017 and May 12, 2017
 - The Government of Khyber Pakhtunkhwa through the Secretary, Energy and Power Department, KPK
 - Anwar Kamal Law Associates (AKLA) dated May 30, 2017
- 9) Summary of the respective contentions of the interveners is given hereunder:-

i. Barrister Asghar Khan:

- Under the Constitution of Islamic Republic of Pakistan, 1973, WAPDA Hydroelectric cannot pass on the Net Hydel Profit (NHP) to the consumers through the tariff.
- NHP is to be calculated by deducting expenses from the revenues as allowed in the rate base and it in itself cannot be converted into the rate base and passed on to the consumers.



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- The Constitutional intent and prescription for determination of NHP and its collection cannot be modified by the CCI, Federal Government, WAPDA and or NEPRA.
- 50% of the proposed increase in tariff is due to NHP which is not a prudent utility practice and should not be included in the rate base of the consumer tariff.
- WAPDA Hydel has not submitted any of the previous calculations, actual generation and sales figures, that would reflect the actual tariff charged to the consumers in the previous years, actual rate of NHP passed on to the consumers and its comparison to the present proposed tariff.
- WAPDA Hydel has not submitted any cost calculations and revenue generation in relation to individual power stations duly backed up by audited reports or regulatory accounts which are in contravention of Article 162 of the Constitution.
- NEPRA is not conferred with any powers and functions to covert NHP into tariff, rates, charges and other terms and conditions for supply of electric power services by WAPDA Hydel.
- WAPDA Hydel is attempting to modify the "Kazi" formula without the sanction of the CCI which is the competent forum.

ii. Tariq Ahmad Khan:

- The Debt: Equity ratio of WAPDA Hydro is skewed towards Equity as opposed to debt, which raises the weighted average cost of capital for purposes of the ROA calculation, thereby reducing profit/increasing tariff. This ratio needs to be reviewed in the light of best practice and NEPRA needs to insist that WAPDA cap equity investment at a maximum of 30% and show their managerial capability by arranging cheaper financing, thereby reducing the burden on the Profit & Loss.
- The Return on Equity of 17% is high considering today's market.
- The delay in payments of NHP to provinces and the mounting up of arrears as a result, has resulted in the taking of loans by WAPDA. It is unfair for consumers who are now expected to be paying for these loans.
- The rate of NHP cannot be fixed and needs to be reviewed annually to take account of inflation and other economic factors. WAPDA Hydel should base all calculations on the Kazi formula as nobody, other than the CCI is empowered to allow a deviation.

iii. Humayun Saifullah Khan:

- The Petition is deviating from the "Kazi" formula.
- WAPDA has 24 hydel power stations and therefore licenses and tariffs should be separate for each power generation company.
- Any capping of the tariff at Rs.1.10/kWh is both irrelevant and illegal under the Constitutional provisions.
- The adopted methodology of Return on Assets to calculate the profits is not compatible to sharing actual net hydel profits with the province/s and therefore any methodology used has to take into account the profits that are to be distributed to the province(s).



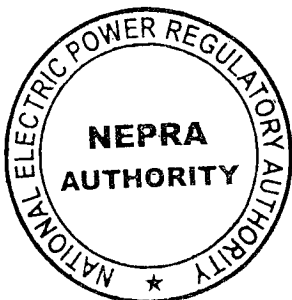
- Under the constitution it is mandatory and obligatory for the Federal Government or any of its undertaking to pay and distribute such hydel profit to the relevant province.
- Under the Constitution the CCI is the authorized body to decide the rate of bulk supply revenue.
- NEPRA remains subservient to the CCI policies and decisions in all respective areas unless it was challenged in the Parliament. While NEPRA has now its own Act and Rules and Procedures, it cannot circumvent or deviate from the directions of the CCI.
- In order to work out revenue at bus bars all costs on the other side of the bus bar like transmission and distribution cost cannot be taken under revenue.
- When the Kazi formula talks about the "Bus Bar", it is more than obvious that the formula is talking about an individual hydro station.

iv. The Government of Khyber Pakhtunkhwa:

- Instead of the current methodology of determining bulk tariff for all WAPDA stations, each of the 19 stations of WAPDA should have separate license for which NEPRA should allow a tariff that is representative of prudent operating cost.
- WAPDA should provide the detailed break up of cost of each power station. This would enable the provincial government to have a clear idea of operating cost of power stations located in the KPK province.
- The federal government has lent loans to WAPDA at a prohibitively expensive fixed rate of 17.5%, which puts additional burden on electricity consumer therefore, this policy needs to be revised.
- Profit implies revenue minus expense. A fixed rate @ Rs 1.10 per unit levied on uniform basis negates the concept of Net Hydel profit and is in total contradiction to the Article 161 (2) of the constitution.
- The revised approved NHP rate of Rs 1.10 per unit is not a permanent arrangement.
- CCI in its decision dated 2.1.1991 adopted the A.G.N. Kazi methodology for calculation of NHP for the province. The provincial government therefore, requests the Authority to implement A.G.N Kazi methodology as approved by CCI in letter and spirit.

v. Anwar Kamal Law Associates:

- The decision made by the CCI will impact the economy of Pakistan adversely.
- The CCI is not a forum of Technical, Financial, Economic and Legal professionals. Before implementing the decision of CCI, NEPRA is requested to move a summary for the CCI and give detailed briefing to the CCI on the economic and political issues which may arise as a consequence of implementation of this decision.
- NEPRA should determine plant-wise tariff for WAPDA, in order to show a clear picture of the costs of old and new hydropower projects to the consumers.



- If while living in one Federation, someone wants to increase the price of a Federally-governed commodity, the consumers should be given the right to buy the commodity from anywhere and from any source which is cheaper for them.
- It needs to be noted that the only advantage of Hydro Power was that it carried no fuel cost and if we fix the price of water which is producing electricity in its flow in a manner similar to any other fuel, it may not be feasible and their use as 'a must run Plant' may not be justifiable from the end-consumers perspective.

10) The Petitioner also filed rejoinder as to the objections so raised by the interveners.

11) The pleadings so available on record were examined by the Authority and after examining the pleadings, the Authority considered it appropriate to conduct a hearing to arrive at a just and informed decision. Therefore, in terms of rule 9(1) of the Tariff Standards and Procedure Rules, 1998, the Authority decided to hold a hearing and for the purposes of hearing, following issues were framed to be considered and discussed during the hearing:-

1. Whether annual estimated production of 33,151 GWh each for FY 2015-16 and of 33,598 GWh (including 710 GWh for Tarbela 4th Ext. and 150 GWh for Golen Gol) for FY 2017-18 based on existing as well as incoming hydropower stations is justified?
2. Whether Petitioner's request for adjustment of Rs.32, 049 Mln (Rs.14, 830 Mln for FY 2015-16, and Rs. 17,219 Mln for FY 2016-17 on account of Regulatory Revenue Gap is justified?
3. Whether the O&M cost of Rs. 14,542 million requested by the Petitioner for FY 2017-18 is justified?
4. Whether the Petitioner's claim of total Regulatory asset base amounting to Rs 455,710 million is justified?
5. Whether the proposed Other Income of Rs. 300 million for FY 2017-18 is justified?
6. Whether the proposed depreciation charge and Jira rental amounting to Rs. 5,951 million is justified?
7. Whether the proposed WACC of 16.26% for Hydel Power Stations and 14.10% for Hydel Power Development Projects are justified?
8. Whether continuing with the existing tariff methodology for WAPDA hydroelectric tariff determination is justified?
9. Whether there should be one bulk license and tariff for WAPDA Hydroelectric 19 operating Hydel stations and 5 upcoming Hydel projects or 24 individual licenses and tariffs
10. Whether NHP can be converted into a fixed rate of Rs 1.10 per KWh keeping in view clause 161 (2) of the Constitution?
11. Whether Constitution intent and prescription of determination of NHP and its collections can be modified by the CCI, Federal Government, WAPDA or NEPRA?
12. Whether NHP related payment to Provinces should be passed on to consumers through the Petitioner's tariff
13. Whether the Petitioner has submitted all cost calculations and revenue generation of individual power stations duly backed by audited report or regulatory accounts?
14. Whether WAPDA is deviating from Kazi Formula while making payment to Provinces on account of NHP without sanction of the CCI?
15. Whether NHP calculation can be made with existing tariff structure wherein, all the units cost are clubbed together?





16. Whether the requested Net Hydel Profit (NHP) of Rs 121.275 billion proposed to be paid to Province of Punjab and Khyber Pakhtunkhwa and also to AJK is justified.

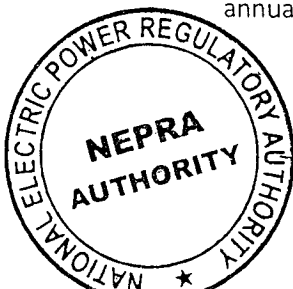
Hearing:

- 12) Hearing in the matter was conducted on June 08, 2017 at NEPRA Tower, Islamabad for which prior notices were served upon the parties. The Petitioner and some of the interveners were present in the hearing. The Chief Minister Government of KPK, Minister of Energy Government of KPK, ex MNA Mr Humayun Saifullah, Nighat Orakzai, Hayat Sikander Sherpao and Members Parliament including section of Media and general public also participated in the hearing.
- 13) The Petitioner was represented by Mr Anwarul Haq, General Manager (Finance)/Acting Member Finance. A detailed presentation was given on behalf of Petitioner in support of its contentions raised through the petition. Some of the interveners also argued and discussed their respective points of view.
- 14) Arguments heard and record perused. Having considered the respective submissions of the parties, issue-wise finding of the Authority is as under:-

Issue No. 1

Whether annual estimated production of 33,151 GWh each for FY 2015-16 and of 33,598 GWh (including 710 GWh for Tarbela 4th Ext. and 150 GWh for Golen Gol) for FY 2017-18 based on existing as well as incoming hydropower stations is justified?

- 15) The Petitioner submitted that owing to better availability and discharge of water from Dams, the actual generation during FY 2015-16 is recorded as 33,151 GWh which is higher than the generation estimated by NEPRA for said period. The Petitioner has suggested estimated generation for 2017-18 to be 33,598 GWh. When confronted as to what are the basis for said estimate, the Petitioner replied that said estimates is taken keeping in view the following factors:
- a) Average of last five-year generation.
 - b) Forecasted hydrology situation in the related year.
 - c) Additional generation from commissioning of Tarbela 4th Ext. (T4) and Golen Gol projects for the proportionate period at estimated utilization factors of the generating units after commissioning.
- 16) While reviewing the petition, the Authority observed that the projected net generation of at least two projects indicated in tariff petition (i.e. Jinnah and Khan Khwar) is not correct.. The Jinnah Hydel Power Project has produced a maximum generation of 297 GWh annually so far as compared to 463 GWh projected for which the clarification was sought from the Petitioner for such significant variations.
- 17) The Petitioner in response stated that due to technical reasons both Jinnah and Khan Khwar hydel power stations remained on forced shut down for a considerable time in FY 2015-16. However, the faults have now been removed and it is expected that the full generating capacity will be restored during 2017-18.
- 18) Having considered the Petitioner's clarification, the claimed installed capacity and expected annual generation is considered reasonable and is therefore accepted. In case there is change



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in estimated generation numbers for FY 2016-17 and FY 2017-18, the relevant components of tariff shall be adjusted accordingly.

Issue- 3

Whether the O&M cost of Rs. 14,542 million requested by the Petitioner for FY 2017-18 is justified?

19) WAPDA hydroelectric has submitted in its Petition that its O&M expenses comprises of Employees Cost, Repair & Maintenance and Administration Cost. The rationale provided by the Petitioner for the claimed amounts under each sub-head is given hereunder:

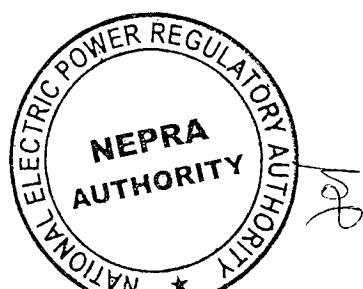
- a) Employees Costs include:
 - I. Employee salary & wages which are projected for sanctioned manpower while taking into consideration an increase of 15% over FY 2016-17 to cater for annual increments and Ad-hoc budgetary increases expected to be announced by the Federal Government in the upcoming budget;
 - II. Employees benefits comprising different allowances are projected with a 5% increase over FY 2016-17; and
 - III. Retirement benefits, which are projected with 10% increase over the forecasted charge for FY 2016-17 as per the Actuarial Valuation Report.
- b) Most of the Power Generation Plants, Civil Structures and Buildings of WAPDA Hydroelectric are very old and periodic repair & maintenance is necessary to ensure their smooth running. Repair and Maintenance expenses are projected to carryout daily, weekly and annual preventive routine repair & maintenance of Power Generation and General Plant & Assets as well as Civil structures & other Physical Properties scheduled for proper up-keeping of these Fixed Assets and to cater for the effect of inflation.
- c) Administration costs are projected with 10% increase over FY 2016-17 forecasted expenses which mainly include Management charges, security contracts, vehicle running costs and hydrology monitoring costs.

20) A summary of the amounts claimed by the Petitioner in its instant petition under the head of O&M expenses is given hereunder:

(Million in Rs.)

Component of Revenue Requirement	Projected for FY 2017-18	Projected for FY 2016-17	Audited for FY 2015-16	Determined for FY 2015-16
Employee's salaries & benefits	5,019	4,256	3,614	3,188
Postretirement benefits	4,815	4,309	4,039	3,832
Repair & Maintenance (Fixed)	262	114	56	1,316
Repair & Maintenance	1,511	1,283	1,132	
Administrative expenses	2,935	2,672	2,286	1,751
Total	14,542	12,634	11,127	10,087

21) The Authority in its Determination in the matter of Bulk supply Tariff for WAPDA Hydroelectric for Financial Year 2015-16 dated November 13, 2015 (hereinafter referred to as "the Determination") directed the Petitioner that



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“106) ...in the next tariff petition, the Petitioner shall ensure that it presents its tariff petition based on the individual stations and the detail breakup of the cost of upcoming power projects along with assumptions/basis duly certified from a reputable audit firm.”

22) In compliance with the Authority’s direction in the Determination, the Petitioner submitted the plant-wise break-up of the claimed O&M cost of its 19 hydro power stations.

23) **Employee’s Salaries & Benefits:** Following is a break-up of amount claim on this account;

(Million in Rs.)

Employee’s Salaries & Benefits	2017-18	2016-17	2015-16
	Projected	Projected	Audited
Salaries and Wages	4,124	3,451	3,026
Employee Benefits	895	805	588
Total Employee’s Salaries & Benefits	5,019	4,256	3,614

24) In its Petition, WAPDA hydroelectric submitted that 15% increase in employee salary & wages was assumed representing 5% for annual increment and 10% Ad-hoc increase expected [at the time] to be announced by the Federal Government in the budget 2017-18. Further, the Petitioner claimed that upon commissioning of Tarbela 4th extension (T4) and Golen Gol hydro power stations, O&M cost— which mainly comprising employees' salaries and benefits—have been proportioned and factored in the revenue requirement. The Petitioner further clarified that breakup of Salaries & Wages in terms of Basic pay, ad-hoc relief and other Allowances is calculated on the basis of actual/audited figures for FY 2015-16, whereas breakup for FY 2016-17 is worked out on the basis of Jul-Mar (09 months) actual and Apr-Jun (03 months) on provisional data. In Budget for FY 2017-18, GoP has announced the revision of pay scales by merging ad-hoc reliefs into the basic pay, detail of which is not yet available hence tentative figure for FY 2017-18 is projected accordingly.

25) As per the audited annual accounts for the FY 2016, the actual cost on account of employee salaries and benefits is Rs. 3,614 million, which includes Rs. 3,026 million for salaries and wages and Rs. 588 million for employee benefits. It may be observed that for FY 2016, the existing number of employee in WAPDA were 8,046 as to 7,697 in FY 2015. In the last determination the revenue requirement of Petitioner was based considering the number of employees as 7,488. The Actuarial Valuation Report for the year ended 2016 states that serving/active employees were only 7,670 however the number of employees as mentioned in the Actuarial Valuation Report are those which are eligible for post-retirement benefits; rest of the employees are either on daily wages or have not yet become eligible for post-retirement benefits.

26) It is important to mention here that in the last determination, cost of a total of 7488 employees was assessed on the basis of 6902 MW installed capacity. The Petitioner has submitted that after the scheduled Commercial Operation Date of Tarbela 4th Extension and Golen Gol Hydro Power Project in last quarter of FY 2017-18, the installed capacity of WAPDA Hydroelectric will be enhanced from 6,902 to 8,418 MW. The Authority carefully reviewed methodology of applying a fixed MW per employee ratio while assessing year to year total number of employees and their salaries and benefit. It may be observed that there is not a strong linear relationship between capacity of a hydro power station and the number of employees needed to run that station and by using such benchmark, any large hydro power plant induction would virtually increase the number of employees and their cost whereas, actually strength of the employee may remain the same. Tarbela 4th extension is expected to



be commissioned in FY 2017-18 which will certainly require increase in employee cost. On an average, total monthly salary of employees of Petitioner works out to be about 37,431 which is considerably on the lower side as compared to in the private sector Hydro IPPs. Albeit XWDISCO are in different segment of the electricity value chain having different make up of technical vs non-technical staff but it was once a part of a combined WAPDA and follows government pay-scale. The allowed average monthly salary of two of the largest DISCOs in terms of employee strength i.e., LESCO and PESCO for FY 2015-16 is approx. in the range of Rs 36,500 to 40,000 which is similar to the Petitioner's actual average monthly salary for the same year. Therefore, any reduction due to application of any benchmark will further reduce the actual cost. In view thereof, it is decided to allow actual employee cost of Rs 3,614 million for FY 2016-17. Similarly Rs 4,256 and Rs 5,019 million have been approved for FY 2016-17 and FY 2017-18 respectively which will be subject to adjustment at actual on the basis of audited accounts of respective years provided the actual costs are less than the budgeted cost requested by the Petitioner.

- 27) **Post-Retirement Benefits:** Following information has been submitted by the Petitioner under this head;

Million Rs.

Post-Retirement Benefits	2017-18	2016-17	2015-16
Serving and Retired Employees	Budgeted	Provisional	Audited
Total	4,815	4,309	4,039

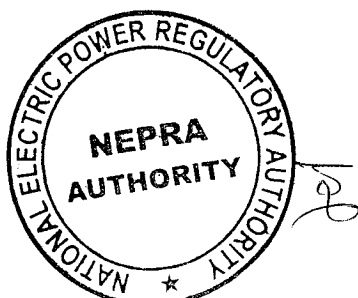
- 28) The Petitioner has submitted that Retirement benefits have been projected with 10% increase over the forecasted charge for FY 2016-17 as per the Actuarial Valuation Report, to cater for normal budgetary increase and increase in pension due to new retirements during the year. It is pertinent to mention here that employees' post-retirement benefits claimed by WAPDA hydroelectric are based upon Projected Unit Credit ("PUC") Cost Method in line with IAS-19 (employee benefits).
- 29) As per audited accounts for FY 16 WAPDA hydroelectric has 8,046 active/serving employees all of whom are entitled to post retirement benefits, and 7,670 retired employees/pensioners to whom post-retirement benefits payments are disbursed. It may be mentioned here that in its last determination the Authority allowed this cost not only for the retired employees but also for serving employees, keeping in view the fact that contribution to retirement benefits fund is essential for WAPDA to ensure regular payments to its employees after they retire from service.
- 30) The Authority considers that the claim of the Petitioner to allow this cost both for retired and serving employees is justified and therefore, decided to allow the same; however this cost shall be subject to adjustment at actual for FY 2016-17 and FY 2017-18 on the basis of audited accounts of the respective years. In view thereof, the following is being assessed on account of Post-Retirement Benefits:

Million Rs.

Head	2017-18	2016-17	2015-16
Post-Retirement Benefits	4,815	4,309	4,039

- 31) **Repair & Maintenance (R&M):** The Petitioner requested the following under Repair and Maintenance (R&M) :

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Million Rs.

Repair and Maintenance	2017-18	2016-17	2015-16
	Projected	Projected	Audited
Variable Portion			
Fuel Charges	57	45	25
Repair & Maintenance	1,454	1,238	1,107
Total	1,511	1,283	1,132
Fixed Portion			
Insurance	51	50	46
Consultancy	211	64	10
Total	262	114	56
Grand Total	1,773	1,397	1,188

- 32) The Petitioner has submitted that most of the Power Generation Plants, Civil Structures and Buildings of WAPDA Hydroelectric are very old and require periodic repair & maintenance to ensure smooth running. Repair and Maintenance expenses are projected to carryout day to day routine repair and annual preventive maintenance of Power Generation unit, General Plant & Assets as well as Civil structures & other Physical Properties. The same are 17% higher than last year's R&M expenses. This includes 10% impact of inflation in the price of spare parts used in the maintenance and 7% due to extra repair for old age factor.
- 33) In the Determination read with decision of the Authority in the matter of motion for leave for review on the determination of bulk Supply of Tariff — WAPDA 2015-16 dated January 8, hereafter read as "the Review Decision", the Petitioner was allowed Rs 1,196 million and Rs 1,316 million for FY for FY 2014-15 and 2015-16 respectively which was subject to adjustment at actual. The reason for actual allowance of R&M cost rather than on the basis of a benchmark was recorded in the subsequent Review Decision wherein it was noted that "...there are old power plants in the fleet of the Petitioner which require constant repair and maintenance. The Authority in past has been allowing R&M cost on actual basis and therefore agrees with the pray of the Petitioner to remove the cap on R&M cost allowed to the Petitioner."
- 34) The Petitioner has now provided the final audited accounts for these two years which indicated that actual R&M expenses during FY 2014-15 were higher than allowed, i.e. Rs. 1,570 Million, whereas the actual R&M expenses during FY 2015-16 were lower than allowed, i.e. Rs. 1,188 million. There is a gap of Rs 374 million between allowed vs. actual for FY 2014-15 (1570-1196) which has been adjusted in the Petitioner's tariff along with the actual cost of Rs 1,188 million on account of R&M for FY 2015-16.
- 35) In view of all the above, the amount as claimed by the Petitioner FY 16, FY 17 and FY 18 is being allowed which shall be subject to adjustment as per actual on the basis of audited accounts for respective years.

Million Rs.

Head	2017-18	2016-17	2015-16	FY 2014-15
Repair & Maintenance	1,773	1,397	1,188	1570

- 36) **Admin Cost:** Following information has been submitted by the Petitioner for the claim of this account;







Heads	2017-18	2016-17	2015-16
	Projected	Projected	Audited
Survey and Experiment	500	500	265
Dams and Hydrology Monitoring Cost	565	514	460
Power, Gas and Water	332	301	277
Management/Authority Overheads	751	683	657
Vehicle Running Expenses	220	200	185
NEPRA Fees	244	237	230
Other Admin Expense	323	237	213
Grand Total	2,935	2,672	2,286

37) The Petitioner has submitted that Admin Costs are projected with 10% indexation over FY 2016-17 forecasted admin expense which mainly include Management charges, security contracts, vehicle running costs and hydrology monitoring costs. The sub-head of survey and experiment account relates to the hydro planning division established by WAPDA which carries out surveys and investigations on regular basis for identification of viable project sites. The Authority in its Determination allowed Survey and Experiment cost as part of O&M based on the view that although such expense relates to new power projects, they are of recurring in nature therefore, need to be expensed out in the yearly profit & loss account without being capitalized.

38) The Petitioner was allowed administrative expenses of Rs. 2,303 million for FY 2015-16, considering actual expenses on this account during FY 2013-14 by giving an annual increase of 10% during FY 2014-15 and FY 2015-16. The audited statements show that the Admin expenses actually incurred are lower than allowed, i.e. Rs. 2,094 million against 2,152 million allowed for FY 2015 and Rs. 2,286 million against Rs. 2,303 million allowed for FY 2016.

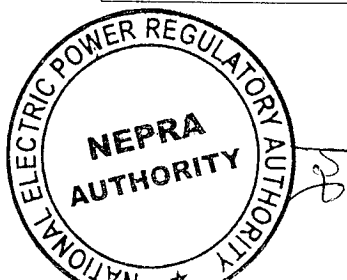
39) In the Determination, it was observed that the administrative expenses are almost entirely local expenses and can be controlled with efficient operations. Therefore, instead of allowing actual expenses, 10% inflation based indexation was allowed on year to year basis. However, the latest statistics show that inflation is in fact much lower than 10%. The actual inflations has now reduced from previous approx. 10% to about 4.25% [average of FY 2016 & 2017] Accordingly the following Admin cost have been assessed:

Million Rs.

Head	2017-18	2016-17	2015-16
Admin Cost	2,485	2,383	2,286

40) Recapitulating all the above discussion in respect of the operation and maintenance cost, following has been worked out;

Component of Revenue Requirement	2017-18		2016-17		2015-16		
	Requested	Allowed	Requested	Allowed	Determined	Requested	Allowed
Employee's salaries & benefits	5,019	5,019	4,256	4,256	3,188	3,614	3,614
Postretirement benefits	4,815	4,815	4,309	4,309	4,193	4,039	4,039
Repair & Maintenance (Total)	1,773	1,773	1,397	1,397	1,316	1,188	1,188
Administrative expenses	2,935	2,485	2,672	2,383	2,301	2,286	2,286
Total	14,542	14,092	12,634	12,345	10,998	11,127	11,127



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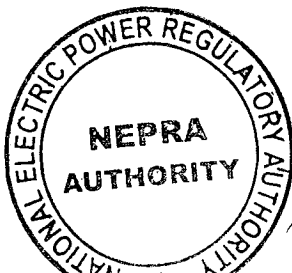


Determination of Bulk Supply Tariff for WAPDA Hydroelectric Financial Year 2017-18

41) The following is the O&M cost allowed for the Petitioner's 21 power stations.

O&M Expenses	TARBELA			MANGLA			HPS WARSAK		
	Audited	Forecast	Projected	Audited	Forecast	Projected	Audited	Forecast	Projected
	2016	2017	2018	2016	2017	2018	2016	2017	2018
	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
For the FY ended on 30th Jun									
Employees Cost									
Salaries and Wages	935.78	1,083.78	1,246.35	512.45	588.81	677.13	253.62	292.27	336.11
Employees Benefits	176.64	255.50	268.28	137.37	196.30	206.11	56.46	67.49	70.86
Retirement Benefits	1,652.00	1,773.00	1,950.30	803.00	855.00	940.50	408.00	432.00	475.20
Sub.total	2,764.42	3,112.29	3,464.93	1,452.82	1,640.11	1,823.74	718.08	791.76	882.18
Repair and Maintenance	325.35	384.33	482.60	241.75	285.84	304.00	127.07	139.38	143.40
Admn. Expenses									
Dams and Hydrology Monitoring Cost	290.31	285.42	297.99	43.36	42.81	44.70	10.16	9.97	10.41
Survey and Experiment	134.00	224.70	213.27	38.00	63.72	60.48	9.00	15.09	14.32
Power, Gas and Water	105.71	96.89	101.16	69.38	67.73	70.71	47.85	58.14	60.70
Management/Authority Overheads	281.32	260.96	272.45	95.40	88.50	92.40	43.74	40.57	42.36
Vehicle Running Expenses	55.63	54.96	57.38	34.80	34.70	36.23	11.61	9.78	10.22
NEPRA Fees	115.89	106.47	104.08	33.32	30.61	29.93	8.10	7.44	7.27
Other Operating Expenses	114.52	102.60	111.98	29.09	28.83	31.47	7.75	11.30	12.33
Admn. Expenses	1,097.38	1,131.99	1,158.32	343.34	356.90	365.91	138.21	152.30	157.61
G.total	4,187.14	4,628.61	5,105.85	2,037.92	2,282.85	2,493.65	983.36	1,083.44	1,183.19
Variable O&M (5%)	209.36	231.43	255.29	101.90	114.14	124.68	49.17	54.17	59.16
Fixed O&M (95%)	3,977.79	4,397.18	4,850.55	1,936.02	2,168.71	2,368.97	934.20	1,029.26	1,124.03
Total	4,187.14	4,628.61	5,105.85	2,037.92	2,282.85	2,493.65	983.36	1,083.44	1,183.19

O&M Expenses	HPS CHITRAL			HPS K. GARHI			HPS DARGAI		
	Audited	Forecast	Projected	Audited	Forecast	Projected	Audited	Forecast	Projected
	2016	2017	2018	2016	2017	2018	2016	2017	2018
	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
For the FY ended on 30th Jun									
Employees Cost									
Salaries and Wages	18.54	21.42	24.63	28.27	31.63	36.38	54.11	57.72	66.38
Employees Benefits	1.77	2.50	2.63	2.72	2.86	3.00	9.28	10.75	11.29
Retirement Benefits	8.00	8.00	8.80	24.00	27.00	29.70	51.00	54.00	59.40
Sub.total	28.31	31.92	36.06	54.99	61.49	69.08	114.39	122.47	137.07
Repair and Maintenance	5.23	6.31	6.51	1.69	4.28	8.33	14.66	24.00	26.00
Admn. Expenses									
Dams and Hydrology Monitoring Cost	-	-	-	-	-	-	-	-	-
Survey and Experiment	-	-	-	-	-	-	1.00	1.68	1.59
Power, Gas and Water	0.28	0.28	0.29	0.10	0.10	0.10	0.60	0.69	0.72
Management/Authority Overheads	0.34	0.31	0.32	1.15	1.07	1.12	2.00	1.86	1.94
Vehicle Running Expenses	0.59	0.46	0.48	0.30	0.28	0.29	0.58	0.49	0.51
NEPRA Fees	0.03	0.03	0.03	0.13	0.12	0.12	0.67	0.62	0.60
Other Operating Expenses	0.77	0.80	0.87	0.83	0.73	0.79	1.61	1.79	1.96
Admn. Expenses	2.00	1.87	1.99	2.52	2.29	2.42	6.46	7.12	7.32
G.total	35.55	40.11	44.55	59.20	68.07	79.83	135.51	153.59	170.38
Variable O&M (5%)	1.78	2.01	2.23	2.96	3.40	3.99	6.78	7.68	8.52
Fixed O&M (95%)	33.77	38.10	42.33	56.24	64.66	75.84	128.73	145.91	161.87
Total	35.55	40.11	44.55	59.20	68.07	79.83	135.51	153.59	170.38



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Determination of Bulk Supply Tariff for WAPDA Hydroelectric Financial Year 2017-18

O&M Expenses

	HPS JABBAN			GHAZI BAROTHA			HPS CHASHMA		
	Audited	Forecast	Projected	Audited	Forecast	Projected	Audited	Forecast	Projected
For the FY ended on 30th Jun	2016	2017	2018	2016	2017	2018	2016	2017	2018
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	31.58	37.63	43.27	466.65	536.33	616.78	261.27	288.54	331.82
Employees Benefits	4.15	5.23	5.49	90.74	103.57	108.75	49.36	82.26	86.37
Retirement Benefits	18.00	19.00	20.90	467.00	499.00	548.90	322.00	338.00	371.80
Sub.total	53.73	61.86	69.66	1,024.39	1,138.90	1,274.43	632.63	708.79	789.99
Repair and Maintenance	4.34	13.13	39.00	119.70	132.80	151.07	222.83	218.75	231.00
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	-	-	-	102.58	100.74	105.18	13.49	11.59	12.10
Survey and Experiment	1.00	1.68	1.59	52.00	87.20	82.76	7.00	11.74	11.14
Power, Gas and Water	0.01	0.50	0.53	29.20	14.75	15.40	20.18	26.78	27.96
Management/Authority Overheads	2.44	2.26	2.36	110.10	102.13	106.63	56.57	52.47	54.78
Vehicle Running Expenses	0.60	2.12	2.21	36.08	33.59	35.07	28.64	23.90	24.95
NEPRA Fees	0.73	0.67	0.66	48.32	44.39	43.40	6.13	5.63	5.51
Other Operating Expenses	0.51	11.84	12.92	23.32	13.60	14.84	12.12	13.81	15.07
Admn. Expenses	5.30	19.07	20.27	401.60	396.40	403.28	144.13	145.93	151.52
G.total	63.37	94.06	128.93	1,545.69	1,668.10	1,828.77	999.58	1,073.47	1,172.51
Variable O&M (5%)	3.17	4.70	6.45	77.28	83.41	91.44	49.98	53.67	58.63
Fixed O&M (95%)	60.20	89.35	122.49	1,468.41	1,584.70	1,737.34	949.60	1,019.80	1,113.88
Total	63.37	94.06	128.93	1,545.69	1,668.10	1,828.77	999.58	1,073.47	1,172.51

O&M Expenses

	HPS JINNAH			HPS GOMAL ZAM			HPS KHAN KHWAR		
	Audited	Forecast	Projected	Audited	Forecast	Projected	Audited	Forecast	Projected
For the FY ended on 30th Jun	2016	2017	2018	2016	2017	2018	2016	2017	2018
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	108.83	96.10	110.51	27.42	44.53	51.21	79.98	90.24	103.78
Employees Benefits	10.31	14.83	15.57	1.94	2.64	2.77	12.42	12.95	13.60
Retirement Benefits	64.00	66.00	72.60	15.00	16.00	17.60	18.00	19.00	20.90
Sub.total	183.14	176.92	198.68	44.36	63.17	71.58	110.40	122.19	138.27
Repair and Maintenance	25.32	76.37	32.00	3.22	15.93	26.67	55.81	31.87	61.87
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	-	-	-	-	-	-	-	-	-
Survey and Experiment	4.00	7.60	7.21	1.00	2.57	2.44	3.00	5.03	4.77
Power, Gas and Water	0.65	0.63	0.66	-	0.01	0.01	0.55	0.53	0.55
Management/Authority Overheads	8.04	7.46	7.78	1.64	1.52	1.59	12.72	11.80	12.32
Vehicle Running Expenses	3.65	3.67	3.83	1.24	1.20	1.25	2.40	3.14	3.28
NEPRA Fees	3.20	2.94	2.87	0.58	0.53	0.52	2.40	2.20	2.16
Other Operating Expenses	7.35	9.31	10.16	1.20	1.64	1.79	4.33	4.40	4.81
Admn. Expenses	26.89	31.61	32.53	5.66	7.47	7.60	25.40	27.11	27.89
G.total	235.35	284.90	263.21	53.25	86.57	105.85	191.61	181.17	228.03
Variable O&M (5%)	11.77	14.25	13.16	2.66	4.33	5.29	9.58	9.06	11.40
Fixed O&M (95%)	223.58	270.66	250.05	50.58	82.25	100.56	182.03	172.11	216.63
Total	235.35	284.90	263.21	53.25	86.57	105.85	191.61	181.17	228.03



84

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Determination of Bulk Supply Tariff for WAPDA Hydroelectric Financial Year 2017-18

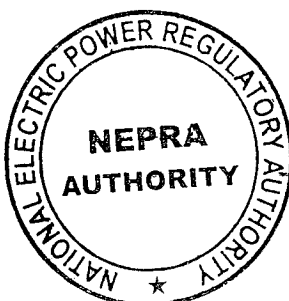
O&M Expenses

	HPS SHADIWAL			HPS NANDIPUR			HPS CHICHOKI		
	Audited	Forecast	Projected	Audited	Forecast	Projected	Audited	Forecast	Projected
For the FY ended on 30th Jun	2016	2017	2018	2016	2017	2018	2016	2017	2018
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	30.00	35.78	41.15	44.18	50.80	58.42	30.20	35.31	40.61
Employees Benefits	6.94	8.98	9.43	7.98	11.38	11.95	1.59	2.21	2.32
Retirement Benefits	27.00	29.00	31.90	48.00	52.00	57.20	33.00	36.00	39.60
Sub.total	63.94	73.77	82.48	100.16	114.18	127.57	64.79	73.52	82.53
Repair and Maintenance	1.91	6.35	55.66	3.14	13.60	31.67	7.30	8.13	37.00
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	-	0.03	0.03	-	-	-	-	-	-
Survey and Experiment	1.00	1.68	1.59	1.00	1.68	1.59	1.00	1.68	1.59
Power, Gas and Water	0.11	0.11	0.12	0.41	0.39	0.41	0.18	0.18	0.19
Management/Authority Overheads	2.63	2.44	2.55	4.86	4.51	4.71	2.39	2.21	2.31
Vehicle Running Expenses	1.10	1.59	1.66	1.75	1.90	1.98	1.95	1.90	1.99
NEPRA Fees	0.47	0.43	0.42	-	-	-	0.43	0.40	0.39
Other Operating Expenses	1.11	1.36	1.49	1.30	1.57	1.71	1.42	1.59	1.73
Admn. Expenses	6.41	7.64	7.85	9.32	10.04	10.40	7.37	7.95	8.19
G. total	72.26	87.75	145.99	112.62	137.82	169.64	79.46	89.61	127.72
Variable O&M (5%)	3.61	4.39	7.30	5.63	6.89	8.42	3.97	4.48	6.39
Fixed O&M (95%)	68.65	83.37	138.69	106.99	130.93	161.16	75.49	85.13	121.33
Total	72.26	87.75	145.99	112.62	137.82	169.64	79.46	89.61	127.72

O&M Expenses

	HPS ALLAI KHWAR			HPS DUBAIR KHWAR			HPS RASUL		
	Audited	Forecast	Projected	Audited	Forecast	Projected	Audited	Forecast	Projected
For the FY ended on 30th Jun	2016	2017	2018	2016	2017	2018	2016	2017	2018
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	45.34	48.21	55.44	48.64	54.74	62.96	36.70	43.66	50.21
Employees Benefits	4.45	8.49	8.91	5.56	7.79	8.18	7.85	8.25	8.66
Retirement Benefits	17.00	18.00	19.80	13.00	14.00	15.40	42.00	44.00	48.40
Sub.total	66.79	74.70	84.15	67.20	76.53	86.54	86.55	95.91	107.27
Repair and Maintenance	10.47	11.66	41.75	0.95	4.22	49.97	10.97	13.96	40.02
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	-	2.85	2.98	-	4.70	4.91	-	-	-
Survey and Experiment	5.00	8.38	7.96	5.00	8.38	7.96	1.00	1.68	1.59
Power, Gas and Water	0.40	0.38	0.40	0.79	0.47	0.49	0.10	0.10	0.10
Management/Authority Overheads	12.78	11.86	12.38	13.37	12.40	12.95	4.57	4.24	4.43
Vehicle Running Expenses	2.05	1.98	2.06	0.76	1.35	1.41	1.06	1.17	1.22
NEPRA Fees	4.03	3.70	3.62	4.33	3.98	3.89	0.73	0.67	0.66
Other Operating Expenses	1.51	1.74	1.90	1.10	2.03	2.22	2.07	1.74	1.90
Admn. Expenses	25.77	30.90	31.30	25.35	33.32	33.82	9.54	9.60	9.90
G. total	103.04	117.25	157.20	93.50	114.08	170.33	107.05	119.46	157.19
Variable O&M (5%)	5.15	5.86	7.86	4.67	5.70	8.52	5.35	5.97	7.86
Fixed D&M (95%)	97.89	111.39	149.34	88.82	108.37	161.81	101.70	113.49	149.33
Total	103.04	117.25	157.20	93.50	114.08	170.33	107.05	119.46	157.19

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Determination of Bulk Supply Tariff for WAPDA Hydroelectric Financial Year 2017-18

O&M Expenses

	HPS RENALA			TARBELA 4th Ext.			GOLEN GOL		
	Audited	Forecast	Projected	Audited	Forecast	Projected	Audited	Forecast	Projected
For the FY ended on 30th Jun	2016	2017	2018	2016	2017	2018	2016	2017	2018
Employees Cost	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Salaries and Wages	12.00	13.79	15.86	-	-	135.00	-	-	20.00
Employees Benefits	0.72	0.88	0.92	-	-	45.00	-	-	5.00
Retirement Benefits	9.00	10.00	11.00	-	-	70.00	-	-	5.00
Sub.total	21.72	24.67	27.79	-	-	250.00	-	-	30.00
Repair and Maintenance	6.60	6.02	4.85	-	-	-	-	-	-
Admn. Expenses	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)	(Mln Rs)
Dams and Hydrology Monitoring Cost	-	-	-	-	-	-	-	-	-
Survey and Experiment	1.00	1.68	1.59	-	-	-	-	-	-
Power, Gas and Water	0.17	0.17	0.18	-	-	-	-	-	-
Management/Authority Overheads	0.59	0.55	0.58	-	-	-	-	-	-
Vehicle Running Expenses	0.60	0.58	0.61	-	-	-	-	-	-
NEPRA Fees	0.13	0.12	0.12	-	-	-	-	-	-
Other Operating Expenses	0.73	1.03	1.12	-	-	25.40	-	-	16.93
Admn. Expenses	3.23	4.12	4.18	-	-	25.40	-	-	16.93
G.total	31.55	34.81	36.82	-	-	275.40	-	-	46.93
Variable O&M (5%)	1.58	1.74	1.84	-	-	13.77	-	-	2.35
Fixed O&M (95%)	29.98	33.07	34.98	-	-	261.63	-	-	44.58
Total	31.55	34.81	36.82	-	-	275.40	-	-	46.93

Issue # 4

Whether the Petitioner's claim of total Regulatory Asset Base (RAB) amounting to Rs 455,710 million is justified?

Issue # 6

Whether the proposed depreciation charge and Ijara rental is justified?

Issue # 7

Whether the proposed WACC of 16.26% for Hydel Power Stations and 14.10% for Hydel Power Development Projects are justified?

42) According to the Petitioner, Return on Regulatory Asset Base (RAB) is worked out at Weighted Average Cost of Capital (WACC) with following variables:

- Average RAB has been worked out net of revaluation on the Average of Net Fixed Assets in operation after taking into effect additions in Fixed Assets, depreciation charges and disposal of Fixed Assets as well as the additional investment made by WAPDA in CWIP of under-development projects during the year.
- Additions in Fixed Assets in operation during FY 2017-18 comprise of Capital Expenditures (CAPEX) for Rehabilitation and Refurbishment of Power Generation Plants & Assets as well as acquisition of new Assets & Civil Works as per the activities planned and mentioned in respect of each formation separately.
- Financing of average RAB through average debt and equity as well as debt to equity ratio.
- Return on Equity @ 17% and cost of debt as per the loan agreements.
- Weighted Average Cost of Capital (WACC) to calculate Return on RAB.



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Generation Stations

43) The Petitioner has submitted that Nineteen (19) of its hydel power stations having installed capacity of 6,902 MW are currently in operation, whereas, two (2) projects; 1,410 MW Tarbela 4th Extension and 106 MW Golen Gol Hydropower, will start commercial operation during FY 2017-18. Resultantly, in-operation installed capacity of WAPDA will increase from 6,902 to 8,418 MW. In its RAB for Power Stations the Petitioner has claimed total Average Net Fixed Assets in operation of Rs 186,994 million, Rs 184,160 million and Rs 232,702 million for FY 2015-16, FY 2016-17 & FY 2017-18 respectively. The following information has been submitted by the Petitioner regarding the claimed Depreciation and Ijara Rental:

Description	2017-18	2016-17	2015-16
	Projected	Projected	Audited
Depreciation (At Carrying Cost)	5,951	5,435	5,718
Ijara Rental	2,589	3,460	3,611
Total	8,540	8,895	9,329

44) The Petitioner has claimed an increase in Depreciation charges for FY 2017-18 against the Depreciation determined for FY 2015-16 due to the expected transfer of Tarbela 4th Ext and Golen Gol hydropower projects into operational assets during FY 2017-18. The Petitioner has stated that depreciation charges have been worked out based on the carrying cost of

the Fixed Assets at the approved rates without taking into effect the revaluation of Fixed Assets. The Petitioner has also submitted a breakup of station wise depreciation charged from its books. The audited statements for FY 2015-16 have been relied upon to verify the claimed amount for FY 2015-16. A noticeable increase in depreciation has been noted in the claimed amount for FY 2017-18 which is mainly due to the expected addition of Tarbela 4th Ext and Golen Gol hydropower projects which will be transferred from Current Work in Progress to Operational Assets by the last quarter of FY 2017-18.

45) As per the Petitioner Ijara Rentals of SUKUK-II and SUKUK-III pertaining to Tarbela Hydel Power Station has been taken as per the agreed terms of Ijara Rental Agreements. As per the audited statements, Ijara-II will be fully retired by 13 July 2017, whereas Sukuk III will be retired by 14 October 2021. The amount on this account for the FY 2015-16 has been verified from audited accounts and found correct. The projections for FY 2016-17 and 2017-18 on this account were also found reasonable therefore allowed to the Petitioner subject to adjustment at actual on the basis of audited accounts of respective years.

46) Keeping the aforesaid in view, the following depreciation and Ijara Rental amounts are determined.

Description	2017-18		2016-17		2015-16	
	Requested	Allowed	Requested	Allowed	Requested	Allowed
Depreciation	5,951	5,961	5,435	5,445	5,718	5,728
Ijara Rentals	2,589	2,589	3,460	3,460	3,611	3,611
Total	8,540	8,550	8,895	8,905	9,329	9,339

47) To assess RAB of each of 19 generation power station the Annual Audited Accounts for FY 2015-16 and also ledger entries are relied upon. The Petitioner provided a break-up of the stations wise gross fixed asset (at cost), depreciation (after netting off the effect of

- revaluation) and the resultant net fixed assets of each station (after subtracting the depreciation at cost from the gross fixed assets at cost). Accordingly Regulatory Asset Base of each power station has been assessed for FY 2015-16, FY 2016-17 & FY 2017-18.
- 48) The Petitioner has submitted that the Debt/Equity ratio of 28:72 and WACC of 16.26% has been worked out for Hydel Power Stations as against Debt/Equity ratio of 70:30 and WACC of 14.6% allowed in tariff determination for FY 2015-16. The Debt portion has been verified from Annual Audited Accounts for FY 2015-16.
- 49) Mr. Tariq Ahmed Khan, one of the interveners was of the view that the debt to equity ratio proposed by Petitioner is skewed towards equity which increases the WACC for the purpose of calculating Return on Asset. Mr Khan has further stated, that RoE claim of 17% is too high considering today's market. The Intervener point is valid and is in accordance with the benchmark debt equity ratio allowed by NEPRA in the power sector which ranges from 70:30 to 80:20. With regards to RoE of 17% it may be observed that NEPRA allows 20% IRR based US\$ return to small hydro projects in the private sector and 17% to medium size hydro projects in the private sector. The requested RoE of 17% is thus on lower side. Further, 17% RoE allowed is in Pak Rs basis and not in US\$ terms. The RoE of 17% to hydro projects is quite reasonable keeping in view the investment to be undertaken by the Petitioner for development of new hydropower projects. Accordingly, RoE of 17% have been used for computing WACC for the Petitioner's existing as well as under construction hydro power projects.
- 50) As a result thereof, the assessment for Return on Investment for each Power Station for FY 2015-16, FY 2016-17 & FY 2017-18 has been based on the benchmark debt equity ratio of 70%:30% (80%:20% for Tarbela 4th Extension and Golen Gol) instead of the claimed one. The overall assessed ROI of all stations combined for FY 2015-16, FY 2016-17 & FY 2017-18 works out as Rs. 26,578 Million, Rs. 26,110 Million and Rs 28,202 Million respectively as against the claimed ROI of Rs. 30,340 Million, Rs. 30,028 Million & Rs. 37,838 Million. Following is the comparison for assessed vs. requested WACC based return for the Petitioner's generating stations:

	FY 2015-16		FY 2016-17		FY 2017-18	
	Requested	Allowed	Requested	Allowed	Requested	Allowed
Average Assets	186,994	187,150	184,160	184,415	232,702	232,947
Depreciation	5,718	5,728	5,599	5,445	5,951	5,961
Average Loan	34,238	35,377	29,013	29,844	64,813	73,163
Average Equity	152,756	151,773	155,147	154,570	167,889	159,785
Cost of Debt	12.77%	12.27%	12.59%	12.56%	14.34%	14.47%
Cost of Equity	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%
ROI	30,340	26,578	30,028	26,110	37,838	28,202
WACC	16.23%	14.20%	16.31%	14.16%	16.26%	12.11%

- 51) For Development projects the Petitioner submitted the following:

DEVELOPMENT PROJECTS:

- 52) Modified Generation License of WAPDA includes five (5) under-development Hydel Power Projects having aggregate installed capacity of 8,298 MW, which is being termed as "Development Block". The Petitioner submitted that during FY 2017-18, 106 MW Golen Gol Hydropower and 1,410 MW Tarbela 4th Extension are scheduled to start commercial

operations at different dates, whilst development work on the remaining under-development projects with installed capacity of 6,782 MW, mentioned below, will continue as per schedule.

- 53) The Authority in the Determination directed the Petitioner that its next tariff petition should be based on the Individual stations with the detailed breakup of the cost of upcoming power projects along with assumptions/basis duly certified from a reputable audit firm.
- 54) The Petitioner accordingly submitted the requisite information and project wise assessment of annual return on Investment in the instant Petition. A perusal of the information provided by the Petitioner would reveal that
- 55) the Petitioner estimates to have only 3 power projects under construction by FY 2017-18 and onwards, while two (2) projects, Golan Gol (108MW) and Tarbela 4th extension (T4) (1410 MW) will be operational in the last quarter of FY 2017-18 and will be transferred to fixed assets. The following table illustrate the brief of the projects:

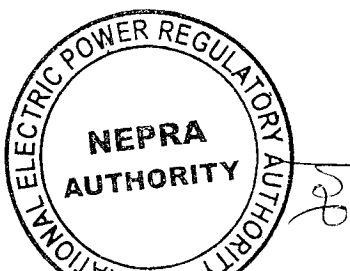
Sr.No.	Hydropower Project	Installed Capacity	Expected COD
1	Diamir Basha Dam	12*375=4500MW	FY 2026-27
2	Dassu-Stage 1	6*360=2160 MW	FY 2022-23
3	Keyal Khwar	2*64=128 MW	FY 2020-21
4	Tarbela 4th Extension	3*470=1410 MW	Aug,2017
5	Golan Gol	3*36=108 MW	Dec,2017

Diamir Basha Dam

- 56) In the last Determination, the Authority decided to apportion the cost of the project to water and power in a ratio of 60% & 40%, respectively w.e.f FY 2014, similar to the ratio of apportionment approved for Tarbela power project.
- 57) Moreover, in the Review Decision, the Authority was of the view that Diamir Basha Dam (DBD) is a multi-purpose project and parking the total cost of the project into power sector is not justified. However, it was clarified in the said decision that the percentages that have been used for apportionment are provisional which may be reconsidered in future on the basis of relevant documents to be submitted by the Petitioner in the next tariff petition.
- 58) While reviewing the project information submitted by the Petitioner it is noted that the dam will be built first and power house construction will start somewhere in FY 2017-18, meaning thereby that, to this date, most of the expenditure incurred on this project would be for the construction of the dam. This understanding has not been reflected in the Petition and the dam cost has been included in the requested tariff. Upon inquiry the Petitioner submitted that Federal Government has not yet issued any clear cut policy directions regarding the apportionment of DBD and it's financing. According to the Petitioner, to date all the funding provided by Federal Government for land acquisition of DBD is in the form of Cash Development Loans on which interest cost is also charged from WAPDA annually. The Authority is of the view that the cost of capital on Diamir Basha project incurred so far should not be a part of the Petitioner's tariff and therefore being disallowed at this stage. However, the Petitioner may submit documentary evidence regarding the cost of Diamir Basha project, pertaining to generation facility, for consideration of the Authority in the future.

Dassu Hydropower Project

- 59) The total expenditure on this project was verified from the audited accounts for FY 2015-16. The Petitioner also submitted the provisional accounts and trial balance ending June 29, 2017.



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This revealed that the Petitioner spent a total of Rs 16.922 billion excluding Interest During Construction (IDC) on the project under different heads. Since the project is already awarded and it is expected that the pace of activities will be increased in FY 2018. Hence the Petitioner will incur similar level of capital expenditure. In view thereof Rs 16.922 billion and Rs 31 billion is allowed for Capex of Dasso project for FY 2016-17 and FY 2017-18 respectively. This will be subject to adjustment at actual based on audited accounts in the next tariff petition.

- 60) Dasso project is at a stage where actual physical construction has already commenced. Which means the source of funding issues has largely been resolved. Therefore it would be appropriate that at this stage, COD milestone is fixed. The Petitioner claimed that the last unit of the project will be completed by June 2023. If letter of award dated December 2016 to the contractor is taken as construction start date then this project is expected to be completed in about 6.5 years which is a reasonable time for a project of this scale. The Petitioner is therefore, directed to make sure the project is completed within the stipulated time beyond that no IDC and Return of Equity During Construction (RoEDC) shall be allowed to the Petitioner. This could be subject to adjustment in case delays occur beyond the control of the Petitioner in such case, reasons for delays needs to be submitted to NEPRA in writing along with relevant record.

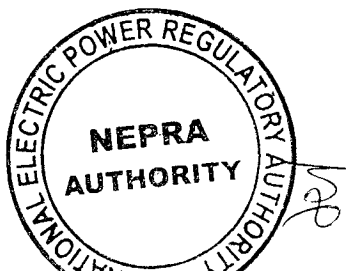
Keyal Khwar Hydropower Project

- 61) The Petitioner submitted that the project is located in Keyal Khwar in Kohistan District. The Petitioner was asked to submit provisional accounts ending December 30, 2016 and latest Trial Balance for the project to know the actual capital expenditure on the Kheyal Khwar project. The Petitioner submitted the provisional accounts and trial balance ending June 29, 2017. This revealed that the Petitioner spent a total of Rs 265 million excluding IDC on the project under different heads in the FY 2016-17 and not the Rs 2533 million the Petitioner expected to incur in the same year i.e., FY 2016-17. Since these additions are always subject to adjustment at actual the Authority has decided to allow the expenditure indicated in the Trial balance for FY 2016-17, and the same amount is being allowed for FY 2017-18.
- 62) The Petitioner claimed that the project will be operational by 12.08.2020 which means the project is expected to be completed in four years if contract award date of 13.08.2016 is assumed as construction start date. The Petitioner is therefore, directed to make sure the project is completed within the stipulated time beyond that no IDC and RoEDC shall be allowed to the Petitioner. This could be subject to adjustment in case delays occur beyond the control of the Petitioner in such case, reasons for delays needs to be submitted to NEPRA in writing along with relevant record.

Tarbela 4th Extension Hydropower Project (1410 Mw) Units 15 ~ 17

- 63) According to the Petitioner, the Project involved detailed design, preparation of tender documents, PC-I and installation of three units of 470 MW each with total capacity of 1410 MW at Tarbela on existing Tunnel-4. The main Dam, intakes and tunnel are already available. The works is thus limited to construction of Power House, Penstock, extension of Switchyard and installation of Electrical & Mechanical equipment etc.
- 64) The operation of generating units as per original and revised schedule is as follows:

Sr. No.	Unit No.	Original Date	Revised date
1	1 st Generating Unit	March 27, 2017	August 14, 2017
2	2 nd Generating Unit	April 28, 2017	February 20, 2018



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3	3 rd Generating Unit	May 31, 2017	March 20, 2018
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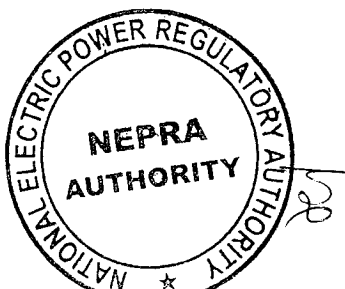
- 65) The Petitioner expects that the project will be operational by end of FY 2017-18 and the entire expected Capital Working In Progress (CWIP) cost of Rs. 74,874 million will be booked into fixed operational asset. The Petitioner was asked to submit provisional accounts ending December 30, 2016 and latest Trial Balance for the project to know the actual capital expenditure incurred on the T-4 project. The Petitioner submitted the provisional accounts and trial balance ending June 29, 2017. This revealed that the Petitioner spent a total of Rs 24,367 million excluding IDC on the project on different heads in the FY 2016-17 and not the Rs 21,513 million the Petitioner expected to incur in the same year totalling accumulated CWIP of T4 at Rs 56,998 million. The remaining balance Rs. 17,848 million has been assumed to be spent in FY 2017-18. The above net additions for Financial FY2016-17 and FY 2017-18 will be subject to adjustment based on audited accounts.
- 66) The Petitioner has informed that this project will be operational in Apr-Jun 2018. The Petitioner is directed to make sure the project is completed within the said time period beyond that the Petitioner shall not be entitled to receive IDC and RoEDC on the cost of funds for this project.

Golen Gol Hydropower Project (108mw)

- 67) The Petitioner stated that this Project is located in District Chitral on Golen Gol Nullah a tributary of Mastuj River, in Khyber Pakhtunkhwa.
- 68) As of June 30, 2016 total Capex incurred on the project was Rs 13,635 million. For FY 2016-17 the Petitioner estimated to spend around Rs 2,229 million and Rs 9,120 million for FY 2017-18. The Petitioner expects that the project will be operational by end of FY 2017-18 and the entire expected CWIP cost of Rs 24,984 million will be booked into fixed operational asset. The Petitioner was asked to submit provisional accounts ending December 30, 2016 and latest Trial Balance for the project to know the actual capital expenditure incurred on the Golen Gol project. The Petitioner submitted the provisional accounts and trial balance ending June 29, 2017. This revealed that the Petitioner spent a total of Rs 4,936 million excluding IDC on the project on different heads in the FY 2016-17 and not the Rs 2,229 million the Petitioner expected to incur in the same year totalling accumulated CWIP of Golen Gol at Rs 18,570 million. The remaining balance 6,647 million (25,217 – 18,570 million) has been assumed to be spent in FY 2017-18. The above net additions for Financial FY2016-17 and FY 2017-18 will be subject to adjustment based on audited accounts.
- 69) The Petitioner has informed that this project will be operational in Apr-Jun 2018. The Petitioner is directed to make sure the project is completed within the said time period beyond that the Petitioner shall not be entitled to receive IDC and RoEDC on the cost of funds for this project.

OTHER PROJECTS:

- 70) The Petitioner in its RAB for Power Project has also included total Capex of Rs 7,213 million for FY 2015-16 under the "other projects" head and assumed no addition in CAPEX for FY 2016-17 & FY 2017-18.
- 71) From the perusal of Annual Audited Account FY 2015-16 as submitted by the Petitioner it reveals that the breakup of the Capex of Rs 7,213 million comprises of Bunji, Mangla up-gradation and others.



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- 72) Based on the discussion in the previous paras and previously established benchmarks, the ROI for FY 2015-16, FY 2016-17 & FY 2017-18 has been worked out as Rs. 981 Million, Rs. 997 Million and Rs 997 Million respectively as against the claimed ROI of Rs.1,130 Million, Rs.1,150 Million & Rs.1,150 Million.

Issue Of Relent Loan

- 73) In its intervention request, the GoKPK raised the issue that the Federal Government financed WAPDA's power stations by obtaining a combination of foreign currency loans and local loans or cash development loans. The Federal Government then relent these loans to WAPDA at a fixed rate of up to 17.5%, which is prohibitively expensive as compared to latest KIBOR of 6.5%. The GoKPK contested that the high cost of relent loans puts additional burden on electricity consumer therefore, this policy needs to be revised and WAPDA should only be allowed cost of debt on these loans which are market based.
- 74) In response WAPDA has submitted that this is a policy matter and should be taken up with the relevant Ministry of Federal Govt. However, WAPDA submitted that pursuant to concerted efforts and requests of WAPDA, Federal Govt. has revised the interest rates on relent foreign loans downwards to 12% (including ERC, Spread and Fixed Admin Charges) for Autonomous Bodies including WAPDA in the revised relending policy dated 08.09.2016.
- 75) The financial data submitted by WAPDA has been perused, and it is observed that numerous foreign relent loans appear in the financial statements FY 2015-16 of WAPDA. It may further be observed that as of June 30, 2016 WAPDA had Rs 145.766 billion loan outstanding out of which 44% is relent while 52% is Cash Development Loan (CDL) and the remaining 3% is direct loan. The Petitioner has taken foreign relent loans for both the existing operational power stations and also for upcoming hydro projects. The Petitioner subsequently submitted status of foreign loans for its projects as on April, 2017. As per the submitted information, the mark-up rates for these loans range between 0.75% and 3.2% (fixed), whereas, the relending rates paid by WAPDA for these loans are 15% to 17%, which is very high when compared to the lending rates for commercial local loans as well as commercial foreign loans. It has been observed that the Petitioner is paying foreign currency exchange rate fee in the range of 6%-7% on most of these loans.
- 76) Notwithstanding the above, the Authority considers that interest payments, whether they are for commercial loans or relent loans, are an obligatory cash flow liability for the Petitioner. Therefore, establishing the cost of debt on industry norms for the instant tariff Petition may create unnecessary burden for the Petitioner, as it may not be able to renegotiate/ refinance its relent loans in time.
- 77) Under section 7 of the NEPRA Act, the Authority shall, as far as practicable, protect the interests of consumers and companies providing electric power services In view of the aforementioned, the Authority hereby directs the Petitioner to submit summary to the GoP for modification of the relending rates at actual terms & conditions available to GoP, so that in the next Petition, the cost of debt can be reduced and its benefit can be passed on to the consumer.
- 78) From what has been discussed above, the summary of Projects' Return on Investment (RoI) being allowed for the Petitioner is given hereunder:





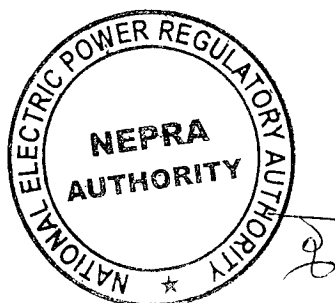
Description	FY 2015-16	FY 2016-17	FY 2017-18
	Total	Total	Total
Capital WIP (OB) (Rs.Mln)	43,239	65,294	111,784
Addition Capital WIP (Rs. Mln)	22,989	46,490	41,759
Less Capitalization (Rs.Mln)	933		100,062
Capital WIP (CB) (Rs. Mln)	65,294	111,784	53,481
Average WIP	54,267	88,539	82,633
Debt Ratio (Actual)	76.17%	83%	75%
Equity Ratio (Actual)	23.83%	17%	25%
Debt Ratio (Allowed)	76.12%	77.06%	78.57%
Equity Ratio (Allowed)	23.88%	22.94%	21.43%
Cost of Debt (Allowed)	15.45%	15.39%	15.07%
Cost of Equity (Allowed)	17.00%	17.00%	17.00%
WACC	15.82%	15.76%	15.48%
Total Debt (Rs million)	41,308	68,227	64,921
Cost of Debt (Rs million)	6,380	10,501	9,784
Return on Investment (Allowed)	8,583.09	13,953.74	10,795.99
Return on Investment (Requested)	14,642.57	23,214.83	31,471.99

Issue No. 5

Whether the proposed Other Income of Rs. 300 million for FY 2017-18 is justified?

- 79) In support of its claimed other income of Rs. 300 million for FY 2017-18, the Petitioner submitted that Other Income of Rs.300 million for FY 2017-18 is projected on the basis of actual misc. income during FY 2015-16 accruing from “**assets other than financial assets**” which mainly comprising amortization of grants and income from sale of scrap. The Repair & Maintenance activities financed through grant are included in R&M expenses which correspondingly offset through amortization of grant as other income.
- 80) The Petitioner claimed adjustment of Rs.300 million under the head of other income for the FY 2015-16 against the Authority’s determined amount of Rs. 1000 million. The amount of Rs 300 million comprises of Amortization of grant of Rs. 112.106 Million, Income from lease of other property of Rs. 82.856 Million, Miscellaneous Income of Rs. 99.905 Million, Income from non-utility operation of Rs. 1.871 Million, Interest Income-advance to staff of Rs. 1.059 Million, Sale of Scrap of Rs .0051 Million and sale of stores of Rs. 1.863. The Petitioner has assumed the same amount of Rs. 300 Million for FY 2016-17 & FY 2017-18.
- 81) The Authority has accepted other income amounting to Rs 300 million as requested and verified from audited account for FY 2016. For FY 2017 and FY 2018 an annual 10% increase have been allowed. Other income will be adjusted on actual in the next tariff petition. The other income has been proportionated on the basis of capacity of each power station in order to show its impact in the tariff of each power station.

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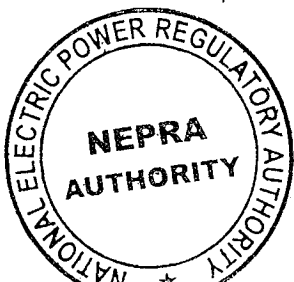
Issue # 8

Whether continuing with the existing tariff methodology for WAPDA hydroelectric tariff determination is justified?

Issue # 9

Whether there should be one bulk license and tariff for WAPDA hydroelectric's 19 operating Hydel stations and 5 upcoming Hydel projects or 24 individual licenses and benefits?

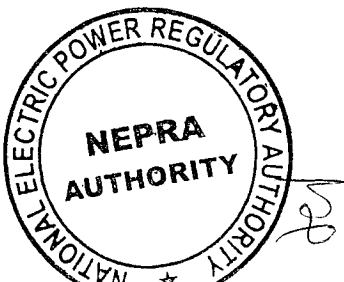
- 82) With regards to issue # viii, the Petitioner submitted that Section-25 of WAPDA Act provides that the WAPDA shall ordinarily sell power in bulk and being licensee of NEPRA gets its bulk power sale tariff determined from NEPRA. The tariff methodology adopted by NEPRA for WAPDA hydroelectric, involves the assessment and recovery of prudent cost-of-service in line with Section-17(3) of NEPRA Tariff Standards and Procedure Rules-1998. The projected revenue requirement is trued up in each succeeding petition based upon the established prudence of cost-of-service through audited accounts for that particular financial year. The different tariff methodology of formula-based tariffs that are designed to be in place for more than one year is also provided in Section-17(3) of NEPRA Tariff Standards and Procedure Rules-1998. NEPRA determine multiyear tariffs for power projects developed by IPPs for a fixed duration and those projects are to be transferred to the respective Province after the end of concession period under **BOOT** approach. Therefore, existing methodology/mechanism of year to year determination of tariff for WAPDA may be continued because it allows WAPDA to discharge its statutory duties. According to the Petitioner the existing tariff methodology for WAPDA Hydroelectric is well thought and justified. It is in practice in many other countries also. Moreover, lenders have deeply scrutinized the Tariff methodology of WAPDA during their internal appraisals and found it more appropriate than IPPs. One of the interveners, i.e., the Government of KPK (GoKPK) is of the view that NEPRA has allowed WAPDA to operate 19 existing and build 5 new hydro power stations under one bulk supply license since 2004. Similarly, WAPDA has been allowed to charge a tariff that is based on the average cost of all the power stations and projects. This type of tariff and license regime has not been allowed to any public or private sector entity. Each power station has a different Operation and Maintenance cost which is financed through a distant capital structure i.e. debt and equity. A bulk tariff mixes the unique cost profile of each power station into one basket which is against the principle of transparency. Each of 19 stations should have separate license for which NEPRA should allow a tariff that is representative of prudent operating cost. Similarly, the 5 future power stations especially, the bigger one like Diamir Basha and Dassu should be given a separate license and tariff.
- 83) For issue No. (ix), , it is submitted on behalf of the Petitioner that it is a statutory body, which was established through an Act of Parliament in February 1958 (WAPDA Act 1958) for integrated and rapid development and maintenance of water and power resources of the country. Since its inception, WAPDA has been developing the new power projects with multiple sources of financing. WAPDA as the most important factor of financing of Capital cost of the new development project withdraw loan amount from the lenders on actual need basis during the Construction period and reinvest the equity of existing power project redeemed through monthly billing. This mitigates the negative carry effect in the Capital Cost and is beneficial both for WAPDA and to the consumers. WAPDA need not to get more loans to pay off IDC and Power Sales rate works out low by excluding IDC Cost and ROEDC as the consumer pays it during construction period of the project. If separate licenses are granted to 5 upcoming Hydel Power Projects and their tariffs are determined likewise IPPs, WAPDA will





not be able to recover ROI during construction period, ultimately completion of Mega Projects would suffer further delays for shortage of financing. This may be realized that constitution of mega Hydel project involves higher capital investment and gestation period than thermal generation units. It is therefore, one bulk license and determination of tariff for 24 licensed projects may be continued as per existing practice.

- 84) In its corrigendum, the Petitioner submitted that the powers and duties of WAPDA laid down under Section-8 (1) of WAPDA Act-1958 state that with the approval of Federal Govt. WAPDA is to execute the development projects of Water & Power resources of the country on a unified and multi-purpose basis. According to the Petitioner, when NEPRA came into being in 1997 WAPDA was doing O&M of 12 hydel power stations and constructing the Chashma and Ghazi Barotha hydel power projects. Section-24 of NEPRA Act-1997 provides that except WAPDA and SHYDO (currently PEDO) a generation, transmission or distribution license shall not be granted to any person unless it is a company registered under the Companies Ordinance, 1984, which implies that WAPDA will continue its functions as per its powers and duties laid down in WAPDA Act-1958 on unified and multi-purpose basis. Therefore, under the afore mentioned statutes, NEPRA issued a Bulk Generation License (revised from time to time) to WAPDA for aggregated installed capacity of 17,359.96 MW which comprise 6,902 MW for 19 Hydel Power Stations in operation and 10,458 MW for 5 under construction Hydel Power Projects and determine tariff for Bulk Supply of Power from WAPDA Hydel Power Stations under the provisions of NEPRA Act to ensure the recovery of prudent cost-of-service in line with Section-17(3) of NEPRA Tariff Standards and Procedure Rules-1998. . Separate license and determination of tariff is required for the power utilities operated as stand-alone entity and the same is in conflict with mandate of WAPDA under WAPDA Act-1958., if WAPDA generation license is split into 24 Power Projects.
- 85) Having gone through the respective submission of the parties, it may be observed that WAPDA is a unique organization that is mandated to develop the hydropower and water resources of the country under the WAPDA Act. Therefore, in addition to running existing power station, the Petitioner is also mandated to build new ones in the public sector. In the current methodology, cost of capital in the shape of Return on investment related to CAPEX spent on projects are made a part of tariff unlike IPP wherein IDC and RoEDC are accumulated till the later achieves COD. In case of IPPs, the amount of IDC and RoEDC becomes amplified because of effect of compounding during the construction time, as a result it increases the resultant levelized tariff. In case of WAPDA Hydroelectric, this doesn't happen as IDC and RoEDC which essentially is the cost of capital are paid during the construction period hence once projects become operational these cost do not form part of WAPDA's RAB. In the opinion of the Authority this model is better than IPP's. Therefore, If projects are issued separate licenses it will have two drawbacks; firstly that its levelized cost of electricity will increase due to reasons stated above and secondly that the large hydro like Dassu will face difficulties in raising financing as lenders are much comfortable in a model where the interest taken on the loan is paid back to them annually rather than post CoD. Large hydro can have construction time stretched for more than 5 years as well. The existing methodology have few draw backs for instance, limited checks in case of delays etc. This can be improved if COD milestone are given failing which penalties are imposed and also to disallow the cost of funds of projects. It may also to be pointed out that in case of public sector generation companies (Gencos i.e., NPGCL, JPCL, CPGCL etc.,) bulk licenses have been issued. The tariffs of these Gencos however, are determined in a way that capacity part remained the same of each Genco irrespective of number of units, while fuel cost component have been separately



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identified for each unit within each GENCO on the basis of unit wise operating cost and efficiencies.

86) Further, the existing methodology is in accordance with applicable Rules for instance, Tariff Standard and Procedure Rule 1998 state that licensee should be allowed reasonable Return on Investment so that it can continue making investment in generation business. The relevant excerpt of the decision is hereunder:

17 (3) (i) *tariffs should allow licensees the recovery of any and all costs prudently incurred to meet the demonstrated needs of their customers, provided that, assessments of licensees, prudence may not be required where tariffs are set on other than cost - of - service basis, such as formula-based tariffs that are designed to be in place for more than one years;*

(ii) *tariffs should generally be calculated by including a depreciation charge and a rate of return on the capital investment of each licensee commensurate to that earned by other investments of comparable risk;*

(iii) ***Tariffs should allow licensees a rate of return which promotes continued reasonable investment in equipment and facilities for improved and efficient service;***

87) The existing methodology can certainly be continued if Petitioner's overall revenue requirement under different heads can be traced to individual power plants and based on which a prudent cost with NEPRA's approved benchmarks is applied without the need for issuing separate licenses. This determination is a step forward to bring more transparency and data disclosure with regards to the Petitioner's prudent revenue requirement of each power station and project. Moreover for the purpose of clarity and allocation of realistic costs during construction, IDC & RoE during construction of upcoming projects are being capitalized as a separate head. After COD the impact of IDC & ROEDC shall be adjusted against tariff component of depreciation. This is in line with Rule 17(3) (xiii) of Tariff Standards and Procedure Rules 1998, which requires that, "tariff should be comprehensible, free of misinterpretation and shall state explicitly each component thereof."

88) In view of the aforesaid discussion, the Authority is of the view that the existing practice of one bulk license for Petitioner will be continued. However, since prudent cost of funds of projects in the shape of return on investment have to be given for continued investments which have been allowed and are apportioned to each power station on the basis of capacity. Accordingly, the component for development of future projects is being determined and indicated as separate tariff component.

Issue # 13

Whether the Petitioner has submitted all cost calculation and revenue generation of individual power stations duly backed by audited report or regulatory accounts?

89) The Petitioner informed that it has submitted all the relevant data/documents related to individual power station and Power Project to NEPRA for respective financial years which has been prepared on the basis of audited accounts for the related financial year.

90) Barrister Asghar Khan as an intervener submitted that, WAPDA Hydel has not submitted any cost calculations and revenue generation in relation to individual power stations duly backed up by audited reports or regulatory accounts which are in contravention of Article 162 of the Constitution.





- 91) Tariq Ahmed Khan also stated that the Petitioner has not submitted any of the previous calculations, actual generation and sales figures, that would reflect the actual tariff charged to the consumers in the previous years, actual rate of NHP passed on to the consumers and its comparison to the present proposed tariff, and the basis of agreements reached with the governments of the KPK and Punjab.
- 92) As per M/s Anwar Kamal Law Associates, NEPRA must determine the plant wise generation tariff so that each hydro plant has its separate tariff. Further stated that it needs to be noted that consumers have already paid the capital cost of big Hydropower projects like Tarbela, Mangla, Warsak, Gazi Barotha etc. and to determine the individual tariff of individual hydropower plant will depict a clear picture to the consumer otherwise it will tantamount to concealing the fact.
- 93) The Authority reviewed the submissions of the Petitioner and the intervener and considers that the Petitioner has submitted the details of costs of power projects separately and also submitted Annual Audited Accounts FY 2015-16, relevant ledgers and other detail in support thereof. There were certain clarifications and information which were sought subsequently from the Petitioner which were later submitted and based on the available information individual power station tariff has been worked out.

Issue # 10

Whether NHP can be converted into a fixed rate of Rs 1.10 per KWh keeping in view clause 161 (2) of the Constitution?

Issue # 11

Whether Constitution intents and prescription of determination of NHP and its collection can be modified by the CCI, Federal Government, WAPDA or NEPRA?

Issue # 12

Whether NHP related payment to Provinces should be passed on to consumers through the Petitioner's tariff?

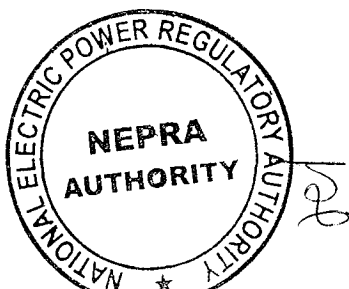
Issue # 14

Whether WAPDA is deviating from Kazi Formula while making payment to provinces on account of NHP without sanction of the CCI

Issue# 15

Whether NHP calculation can be made with the existing tariff structure wherein, all the units cost are clubbed together?

- 94) On the above mentioned issues, the Petitioner submitted that Article 161 (2) of the Constitution provides a methodology of computation of NHP in descriptive form that has to be translated by putting the numbers in the variables. Therefore, determination of NHP rates per unit is in accordance with the intent of the Constitution. According to the Petitioner, in fact, the determination of per unit NHP rate of Rs 1.1 per unit has made the determination of sale rate at bus bar easy and accordingly, net profit can be calculated on monthly basis that can be payable to the Provinces. Otherwise if NHP is to be determined in absolute monetary terms, then Provinces will have to wait till finalization of the accounts at the end of each financial year to receive net profits. The Kazi Committee Methodology (KCM) since its adoption in January 1991 by CCI remained controversial owing to divergent interpretation of



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Govt. of KPK and WAPDA hence it can't be applied. The Petitioner informed that to resolve the issue, the Federal Govt. and GoKP signed an MoU dated 25.02.2016, which was concurred by the CCI in its decision dated 29.02.2016 wherein regular NHP @ Rs.1.10/ kWh was fixed and payment of Rs. 70.0 billion was agreed as full and final settlement. The same was later included by NEPRA in the tariff of WAPDA Hydroelectric and notified in official Gazette by the Federal Government on 24.06.2016. As per directions imparted at para-iii of CCI decision dated 29.02.2016, Govt. of Punjab (GoPb) submitted NHP claim on the analogy of GoKP, which was also approved by the CCI in its decision dated 16.12.2016. The Petitioner pointed out that it has proposed NHP payable to the provinces in its tariff petition for revision of bulk supply of power for FY 2017-18 on the basis of above said two latest decisions of the CCI, which is the ultimate authority under the constitutional provision to do so. The Petitioner further submitted that Net Hydel Profit has to be added to the Petitioner's cost of generation which implies that its impact will have to be passed on to consumers and that NHP calculation can be made with existing tariff structure as done by NEPRA in previous determinations.

95) Mr. Shumail Ahmad Butt, Advocate Supreme Court appeared on behalf of the Govt. of Khyber Pakhtunkhwa and argued that under 7(5) of the NEPRA Act 1997, NEPRA is bound to take recommendations of Provincial Government before determining Hydro Power project tariff. While explaining Govt of KPK position on Net Hydel Profit (NHP), he referred to the article 161(2) of the Constitution of Pakistan and the explanation therein. He briefed about the history of NHP, including Kazi Committee Methodology approved by CCI and he also explained the contents of Presidential Order no. 3 of 1991 which put Federal Government as a guarantor for payment of NHP to the Provinces. He clarified that the rate of Rs 1.1 per kWh is an interim arrangement which may not be used as a final settlement of NHP computation. Learned Counsel for the Govt of KPK produced a copy of correction in the CCI decision dated 16.12.16 wherein the word "and onward" was omitted on the insistence of Government of KPK for application of interim rate of Rs 1.1 per unit for NHP calculation. Learned Counsel further submitted that as per KCM the total NHP to be paid to Provincial government works out to be Rs 91 billion while taking a NHP rate of Rs 5.38 per unit. It was requested on behalf of the Govt. of KPK that NEPRA should implement A.G.N Kazi methodology in letter and spirit and allow NHP to the Province as per the calculation mentioned therein.

96) Barrister Asghar Khan one of the interveners argued that NHP as projected by WAPDA hydroelectric at a rate of Rs 1.1 per unit in its tariff petition is unconstitutional on the ground that Net Hydel Profits have to be calculated in accordance with express and mandatory provision of article 161(2) of the Constitution. The Petitioner cannot convert NHP profit into a rate base as it is an absolute amount. Barrister Asghar asserted that the Constitutional intent and prescription for determination of NHP and its collection cannot be modified by the CCI, Federal Government, WAPDA and or NEPRA. Any such action will be violation of the Constitutional provisions and will be nullity in the eyes of law. Barrister Asghar Khan also objected to the KPK calculation of NHP with an argument that the consumers has already paid the consumer end tariff of Rs. 11/ kWh and the consumer should not be burdened by treating it as pass through item otherwise it will result in unjust enrichment of the public sector at the cost of the consumers. He also stated that the retrospective application of NHP is contrary to the law, constitutional provisions and fundamental rights of the consumers. He further pointed out that the Petitioner is attempting to modify the "Kazi" formula without the sanction of CCI which is the competent forum.

97) Mr. Humayun Saifullah also appeared as an intervenor with the request to implement the Kazi committee formula for calculating NHP as the Kazi formula is the methodology approved by



Council of Common Interests and it cannot be changed unless done by joint sitting of Parliament. He also asserted that the entire NHP should be distributed in cash revenue to the respective provinces. Mr. Humayun Saifullah argued that as per approved "Kazi" formula, the tariff cannot be fixed or capped at a certain level. Therefore, any capping of the tariff at Rs.1.10/kWh is irrelevant and illegal.

- 98) On these issues, the intervener Mr. Tariq Ahmad Khan objected to applying a fixed rate of Rs 1.1 per unit for calculation of NHP payment to the Provinces and asserted that this rate cannot be fixed and needs to be reviewed annually to take account of inflation and other economic factors. He further pointed out that the Petitioner should base all calculation related to NHP on the Kazi formula as nobody other than CCI is empowered to allow a deviation from the earlier approved formula. For this purpose NHP has to be calculated for each hydro power station independently and it can't be computed on the existing methodology wherein all the units are clubbed together under one generation license. He was of the opinion that the existing method is in violation of Article 161 (2) of the Constitution.
- 99) As per written submissions filed by Anwar Kamal Law Associate (AKLA), the NHP was considered and decided in the CCI and the present process is only a stage of implementation. He however, informed that this decision will impact the economy of Pakistan adversely and will set a principle which will be adopted by Punjab and the AJ&K. He informed that Hydro plants are cheaper because it has no fuel cost and if price of water is fixed, it will increase its tariff and from the consumer stand point, their use as a must run plants thus become unjustifiable. AKLA opined that CCI is not a forum of technical, financial, economic and legal professionals and suggested that NEPRA should move a summary to CCI and give a detailed briefing on the economic and political issues which may arise as a consequence of the implementation of present [CCI] decision.
- 100) The Authority has carefully gone through the respective submissions of the parties. For Net Hydel Profit, Article 161 (2) of the Constitution is relevant which is reproduced hereunder:-

161 (2) The net profits earned by the Federal Government or any undertaking established or administered by the Federal Government for the bulk generation of power at a hydroelectric station shall be paid to the province in which the hydroelectric station is situated.

Explanation: "Net Profit" shall be computed by deducting from the revenues accruing from the bulk supply of power from the bus-bars of a hydroelectric station at a rate to be determined by the Council of Common Interests (CCI), 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 overheads and provision for reserves.

- 101) It is abundantly clear from perusal of the Article 161 (2) of the Constitution that computation of NHP shall be in accordance with a rate to be determined by CCI. This matter is exclusively under the purview of CCI and no other authority or body can make a determination on the subject matter. This fact has also been recognized by the Supreme Court of Pakistan in the Gadoon Textile Mills case. This view is also subscribed by interveners and commentators and they have in unison asserted that the CCI is the relevant forum and its decision may be implemented.
- 102) Having said that the subject matter of Net Hydel Profit has remained controverted since the CCI's original decision in January 1991 whereby it approved the methodology of





calculation of net hydel profits from bulk generation of electricity proposed by the A.G.N Kazi Committee. CCI in its subsequent decisions dated 12-09-1993, 22-05-1997 and 22-12-1998 determined that net hydel profits payable to the Provinces under the Constitution would not fall below the level which the Provinces would have been entitled to, had the concerned amendments of law not taken place in order to implement the privatization process of combined WAPDA. This was to give an assurance to the Provinces that any calculation made under the Kazi Committee Methodology (KCM) for determination of NHP shouldn't fall below the pre-privatization levels NHP.

- 103) The issue again arose in 2006, when an arbitration award was granted in the matter of dispute between the Province of KPK and Federal Government regarding computation of NHPs for FY 1991/92 to 2004/05. The KPK Government was awarded an amount of Rs. 110,101 million vide arbitral award dated 09-10-2006. NHP for the stated period was computed year wise based on arbitrary application of 10% on the then 1992 net hydel profit calculated on KCM. Although each member wrote their own argument for and against KCM, all agreed with an award which was based on an impromptu methodology without applying KCM year-wise for the disputed award period i.e. FY 1991/92 to 2004/5 in letter and spirit. This means KCM remained disputed and arbitration tribunal couldn't apply KCM in its entirety.
- 104) Subsequently, on 25-02-2016, an MOU was signed between the Federal Government and the Government of KPK w.r.t arrears under Net Hydel Profits. The MoU stipulated a recovery methodology wherein, recovery of arrears would be undertaken in 4 instalments of Rs. 25 billion (for FY 2016) and Rs. 15 billion (for FYs 2017, 18 and 19) under a methodology that expressly departed from the KCM. Upon reviewing the matter, CCI, in its decision dated 29-02-2016, gave its 'concurrence' to the MOU signed between the Federal and KPK Government. Subsequently, CCI approved an alternative Net Hydel Profit in its decision dated 16.12.16 stipulating that "Payment of NHP to Government of Punjab @ Rs. 1.10 per unit on the analogy of Government of KPK generated from Hydel Power Station located in Punjab for the FY 2016-17 and onwards". During the hearing, the Govt of KPK informed that it had objected to the said decision of the CCI and "...asked for deletion of the words "and onwards" underlined above as these were temporary/interim arrangement and not permanent to cover the coming periods."
- 105) The issue of interpretation and application of the KCM has consistently arisen in subsequent disputes and the CCI has continually departed from the KCM in favour of alternative arrangements. This shows that CCI in these cases repealed the KCM as it being impractical. The CCI later amended its decision dated 02.05.2017 by omitting the words "and onwards", thereby creating further uncertainty regarding whether the approved methodology is interim or permanent in nature.
- 106) It is pertinent to mention that the Authority in its previous determinations for the years 2004, 2006, 2010, 2011, 2013 and 2015, has maintained a consistent stance to this effect. All these determinations have attained the finality as no party has ever challenged any of such determinations before the Court of law. It is further observed that the Govt. of Khyber Pakhtunkhwa has consistently been participating in the proceedings of determination of tariff for WAPDA Hydroelectric as an intervener since 2004 but has never challenged any of NEPRA's determinations on the issue of implementation of the KCM.



- 107) In summation, it is evident that the KCM has been amended, revised, enhanced, curtailed and even outright rejected in various disputes and for various parties. The CCI itself has approved other methodologies for calculating Net Hydel Profits and invalidated the KCM from time to time, leaving the subject matter open to dispute.
- 108) Hence, in the given situation, it is re-iterated that it is the constitutional forum of CCI which is mandated to determine the amounts of Net Hydel Profit as per the provisions of Constitution of Pakistan and resultantly, any dispute relating to the application or determination of Net Hydel Profits, or the underlying methodology for calculation of the same, would remain within the exclusive domain of the CCI. NEPRA cannot by any stretch of imagination assume the CCI's Constitutional jurisdiction and provide a determination on the subject matter and for this very reason the Authority directed the Petitioner in 2015 determination to approach CCI to seek guidelines for determination of NHP.
- 109) From perusal of the record, it is apparent that WAPDA has failed to consult and seek approval of the CCI on the impugned issue. This constitutes violation of the explicit directions of the Authority and applicable law. Hence, the Authority reserves the right to initiate appropriate action in accordance with law. From the perusal of latest decision of CCI after deletion of words i.e. onwards it may be considered that there will be no payment of NHP beyond 2016-17. Despite the aforesaid, the Authority feels that payment of NHP to the provinces of KPK and Punjab at the rate of Rs. 1.10/KWh has established a threshold for making payment in this regard; therefore in the absence of clear decision from the CCI stopping payment of NHP beyond FY 2016-17 may create constitutional problem. In view thereof, the Authority considers it appropriate to allow payment of NHP to the Province of Khyber Pakhtunkhwa and Punjab @ Rs. 1.10/KWh with 5% annual indexation as mentioned in the previous determination for FY 2015-16 subject to adjustment if any subsequent to final resolution of the issue by CCI which is the competent forum on subject of NHP.
- 110) Further NHP is to be calculated for each hydro station separately and thus it can't be fixed. Thus the contention of interveners i.e., Govt of KPK, Barrister Asghar, Tariq Ahmed Khan and Humayun Saifullah that NHP payment can't be fixed at a flat rate of Rs 1.10 per unit is correct. But the fact of the matter is that said rate was agreed to be paid and duly endorsed by the CCI for a specific period. It is also to be noted that according to the constitution the NHP has to be paid from the profit earned by the Federal Government or any undertaking established or administered by the Federal Government for the bulk generation of Power at a hydroelectric station. The NHP of Rs. 1.10/KWh was not given out of the profits earned by WAPDA hydroelectric but were allowed as a pass through and were recovered from the end consumes; as per the decision of CCI.
- 111) On the issue of recovery of NHP related cost from the consumers, it may be observed that NEPRA determines generation transmission and distribution tariff of the individual licensee in accordance with the relevant provision of NEPRA Act and rules made therein. This means that the licensee recover from consumers what is determined by NEPRA and not otherwise. All the previous NHP payment whether at Rs 6 billion per annum or @ Rs 1.1 per kWh were allowed on interim basis. Similarly, it may very well be argued that KPK NHP arrear amount of Rs 70 billion, previously allowed to the Petitioner, in pursuance to CCI decision was not assessed as



billion, previously allowed to the Petitioner, in pursuance to CCI decision was not assessed as per the express provisions of Constitution. Therefore, all previous inclusion of NHP amount in Petitioner's tariff was not a profit neither as per Constitution nor as per accounting standard. In fact it was a levy or a charge, therefore, any such charge if added into WAPDA hydroelectric tariff then it will be in a position to recover it from consumer and pay it to the provinces. If it is not added then the Petitioner will recover all allowed items of revenue requirement except NHP. Therefore, whether such amounts should be recovered from the consumers or to be paid by the generation units out of profits so earned; the same is to be decided by the Council of Common Interest which is the apex body for the subject.

112) Further Barrister Asghar Khan has said that NHP related payment can't be recovered from Consumer and at the same time he is proposing that KCM should instead be used. Government of KPK has presented certain NHP number on the basis of KCM which works out to be about Rs 91~ billion which on average works about Rs 5.38/kWh as presented during the hearing. If NHP is profit then it has to be earned. The Government of KPK has not clearly indicated and proved which entity has earned this profit whether WAPDA, CPPA-G, DISCOs etc. if KCM is applied now, it will have to be recovered from consumers because under the existing regulatory tariff regime, there is no such item as KCM related NHP profit which is parked at either the Petitioner's end or some other Licensee books. In view thereof, barrister Asghar Khan point becomes invalid and essentially becomes contradictory, when he states that NHP can't be recovered from consumers but at the same time he is proposing KCM for computing NHP which can't be paid to the Provinces unless it is recovered from the consumers by increasing the Tariff of relevant hydel stations correspondingly.

113) On the issue of whether NHP be calculated on the existing structure, it may be pointed out that the plant wise generation data is to be provided by the Petitioner whenever it files a bulk supply tariff petition. Therefore, if a fixed NHP rate of Rs 1.10/kWh is assumed then clearly, NHP calculation can be done as per the existing framework. In the last Determination exact NHP payment to KPK was computed based on individual power station located in KPK. Therefore, the NHP can be computed based on the existing mechanism with additional data disclosure relating to each station, however, this will be subject to a decision given by the Council of Common Interest.

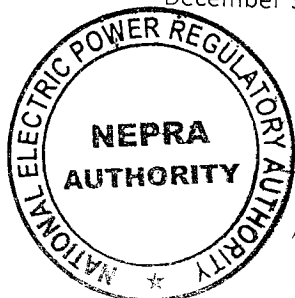
Issue# 16

Whether the requested Net Hydel Profit (NHP) of Rs.121.275 billion proposed to be paid to Province of Punjab and Khyber Pakhtunkhwa and also to AJK is justified?

114) According to the Petitioner, Cost Plus Hydel Levies Margin amounting to Rs.121.275 billion proposed in the petition is justified based upon the following facts and supporting documents attached with the Tariff Petition:

- i- The CCI decision dated 29.02.2016, NEPRA determinations dated 13.11.2015, 08.01.2016 and 25.05.2016 and GoP notifications dated 07.03.2016 and 24.06.2016 for Govt. of KP.
- ii- The CCI decision dated 16.12.2016 for Govt. of Punjab.
- iii- GoP Power Policy 2015 dated 03.04.2015.

115) The Petitioner submitted that it is required to make the payment to the Government of Punjab for Rs. 82.71 billion as arrears of NHP, duly approved by CCI and it will be the full and final settlement of the claim of Govt. of Punjab as on June, 2016. To settle Rs. 38.12 billion, WAPDA would issue irrevocable promissory note of one year duration to Govt. of Punjab by December 31, 2016. The issuance of this promissory note will not be contingent upon tariff.



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The balance of Rs.44.59 billion will be paid in three equal instalments after tariff determination by CCI/NEPRA as follows:

- Rs 14.86 billion in FY 2017-18
- Rs 14.86 billion in FY 2018-19
- Rs 14.86 billion in FY 2019-20

116) The Petitioner informed that Payment of NHP to Government of Punjab has been based at a rate of 1.10 per unit pursuant to the CCI decision dated 16.12.16 for FY 2016-17 and onwards. As per the CCI decision related to payment of arrear amount to Province of Punjab, the Petitioner on 10th January 2017 has already issued the Promissory Note in the favor of Government of Punjab which is backed by GoP guarantee under ECC decision dated 11th January, 2017.

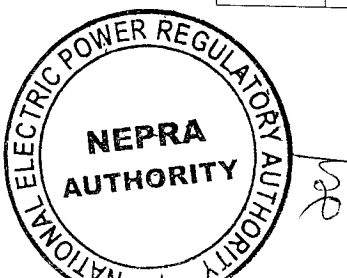
117) The Petitioner provided the following working for amount of Rs 121.275 billion NHP payment:

Cost Plus Hydel Levies Margin	Claimed FY 2017-18
Govt. of KP	20,786
Govt. of Punjab	9,526
Govt. of AJ&K	2,547
IRSA	168
Total Regular Hydel Levies (i)	33,027
Arrears of NHP	
Govt of KP	
Interest on Rs.25 Bln Loan	1,444
2015-16	9,298
2017-18	15,000
Total Arrear KPK	25,742
Govt. of Punjab	
2016-17	9,526
1st Instalment (Rs. 38.12 Bln)	38,120
2nd Instalment (Rs. 14.86 Bln)	14,860
Total Arrear Punjab	62,506
Total Arrears of NHP (ii)	88,248
Total Hydel Levies (Regular + Arrears) (i+ii)	121,275

NHP Payment to Government of KPK

118) Under this head the Petitioner claimed a total of Rs 46,528 million under the following head

Items	NHP Payment to KPK	Rs million
Item#1	KPK's power plant generation @ Rs 1.1/unit FY 2017-18	20,786
Item#2	Interest cost for raising Rs 25 billion NHP arrear	1,444
Item#3	Left over NHP @ 1.10 not recovered due to delay in Notification	9,298
Item#4	Fixed Instalment of arrear payment	15,000
	Total	46,528



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- 119) **Item #1:** is the NHP payment computed based on the estimated generation of KPK located power plants at a rate of Rs 1.10 per unit. In the Determination the expected generation for FY 2015-16 from these plants were 17,004 GWh. For FY 2017-18 the Petitioner expects to add two new stations namely T4 and Golen gol in its station fleet and expect that the generation will increase by about 11% to 18,896 gWh. As a result NHP payment has expected to increase from previous 18704 million to 20786 million. This time the Petitioner has used the same rate of Rs 1.1/unit.
- 120) According to CCI decision dated 16.12.2016, Rs 1.1/kWh as NHP rate was also applicable on Punjab based power plants for payment to Province. The relevant excerpt of the CCI decision is hereunder:
- “Payment of NHP to Government of Punjab @ 1.1 per unit on the analogy of Government of KPK, generated from Hydel Power Station located in Punjab for the FY 2016-17 and onwards”
- 121) During the hearing, Government of KPK informed that it had objected to the said decision of the CCI and “...asked for deletion of the words “and onwards” underlined above as these were temporary/interim arrangement and not permanent to cover the coming periods.”
- 122) The matter has already been discussed in detail in Issue No. 10. As per the latest decision of CCI dated 16-12-2016, it transpires that CCI has allowed payment of NHP arrears amounting to Rs. 82.7 billion to the province of Punjab on the analogy of NHP payment of arrears to the province of KPK where it has not determined any rate for NHP payment for the current year as well for the future. Despite the aforesaid, the Authority feels that payment of NHP to the provinces of KPK and Punjab at the rate of Rs. 1.10/KWh has established a threshold for making payment in this regard; therefore in the absence of clear decision from the CCI stopping payment of NHP beyond FY 2016-17 may create constitutional problem. In view thereof, the Authority considers it appropriate to allow payment of NHP to the Province of Khyber Pakhtunkhwa and Punjab @ Rs. 1.10/KWh with 5% annual indexation as mentioned in the previous determination subject to adjustment if any subsequent to final resolution of the issue by CCI which is the competent forum on subject of NHP. Accordingly, an estimated amount of Rs 21,825 million has been allowed at the rate of indexed rate of Rs 1.16 per kWh which shall be subject to adjustment at actual on the basis of actual generation of the Petitioner’s power plants located in the Province of KPK.
- 123) **Item#2:** related to interest cost of payment of Rs 25 billion arrear amount. It may be noted that as per the CCI decision dated February 29, 2016, the Petitioner was required to pay Rs. 25 billion to GoKPK by end of the current FY 2015-16. Accordingly, WAPDA in consultation with Ministry of Finance and Ministry of Water & Power arranged a bank loan for payment of NHP which carried an interest cost which now stand at Rs 1444 million. This issue was earlier raised by the Petitioner in the previous Tariff Petition and Authority had declined to allow Rs 1444 million which has now been estimated to be Rs 1.8 billion. The Authority in the Decision date May 25, 2016 gave the following reasoning for denying the same cost:

“It may be noted that the Petitioner revenue requirement approved for FY 2016 is ~ Rs 89 billion. The revenue requirement covers the expense and WACC based return on investment. Therefore, the Petitioner doesn’t have the capacity to pay the 25 billion in the current FY to KPK out of his own revenue stream. If the Petitioner is required to pay the arrear amount of Rs 25 billion in the current fiscal year to Go KPK through a loan, then as a matter of principle, interest cost will be a prudent and justifiable cost which would be risen due to

implementation of the CCI decision for which the Petitioner cannot be held liable. Having said that, in our opinion, since the Federal Government has already agreed to include the interest charge through CCI, in the agreed NHP arrears of Rs 70 billion in the coming period, therefore, Rs 1.875 billion or actual interest cost may be allowed when the backing of CCI becomes available. As CCI undisputedly, is the right forum to deal in the matter related to NHP payable to the provinces including matters related to NHP financing cost. In view thereof, the request for allowance of interest cost amounting to Rs 1.875 billion is disallowed."

124) Since NEPRA has already given a principal decision in the matter therefore, the interest cost of arrear payment of Rs 25 billion is not being allowed to the Petitioner.

125) **Item#3** related to the residual NHP payment to KPK for FY 2015-16. In the last determination, NHP to KPK was computed @ Rs 1.1/kWh which then amounted to Rs 18704 million. This decision was issued in November but notified in March 07, 2016. For almost 8 months from July 2015 to March 06, 2016 the tariff for FY 2015-16 could not be applied hence the Petitioner paid KPK on the basis of previous fixed rate of 6 billion. This is the left over amount which now stand @ Rs 9298 million which is reasonable and justified therefore, is being allowed as such. Following is the working detail:

Arrear	Generation gWh	Rs./KWh	Rs million
Generation from 1st July to 06 March	12,180	1.1	13,398
Less: Already Paid 6000x246/360)			4,100

126) **Item #4** related to remaining instalment of Rs 70 billion NHP arrear to KPK approved by the Authority as per the following schedule in its decision dated May 25, 2016.

Inst. #	WAPDA Hydro Electric Tariff	Rs/kW/Month	Applicability
1	NHP payable to KPK for FY 2016 (Rs 25 billion)	301.8274	12 months from the date of notification
2	NHP payable to KPK for FY 2017 (Rs 15 billion)	181.0964	12 months from the date of notification
3	NHP payable to KPK for FY 2018 (Rs 15 billion)	181.0964	July 01, 2017 to June 30, 2018
4	NHP payable to KPK for FY 2019 (Rs 15 billion)	181.0964	July 01, 2018 to June 30, 2019

127) This is the third instalment amounting to Rs 15 billion on account of KPK's NHP arrear amount for which the abovementioned schedule has already been given and is required to be recovered in FY 2017-18. Thus Rs 15 billion arrear instalment has been allowed to the Petitioner and apportioned on the basis of capacities of KPK located power plants. The 4th or the last instalment of Rs 15 billion payable in the Financial Year 2019 has been included in the tariff after one year of notification of this tariff, beyond which this amount shall cease to exist.

NHP Payment to Government of Punjab

128) Under this head the Petitioner claimed a total of Rs 72,032, million in the following head

Items.	NHP Payment to Punjab	Rs in million
Item#1	Punjab based power plant generation @ Rs 1.1/unit FY 2016-17	9,526

Item#2	Punjab based power plant generation @ Rs 1.1/unit FY 2017-18	9,526
Item#3	Punjab Arrear first Instalment	38,120
Item#4	Punjab Arrear first Instalment	14,860
	Total	72,032

129) **Item # 1 & 2:** According to CCI decision dated 16.12.2016 Rs 1.1/kWh as NHP rate was also applicable on Punjab based power plants for payment to Province of Punjab. The relevant excerpt of the CCI decision is hereunder:

“Payment of NHP to Government of Punjab @ 1.1 per unit on the analogy of Government of KPK, generated from Hydel Power Station located in Punjab for the FY 2016-17 and onwards”

130) Based on the above decision the Petitioner requested Rs 9,526 million for FY 2016-17 and FY 2017-18 while assuming generation from Punjab based Hydel station to be 8660 GWh. As discussed in the earlier paragraphs, the CCI in its latest decision has deleted the word “and onward” therefore, in the absence of clear decision from the CCI, stopping payment of NHP beyond FY 2016-17 may create constitutional problem. In view thereof the Authority considers it appropriate to allow payment of NHP @ Rs. 1.10/KWh to the Province of Punjab subject to adjustment if any subsequent to final resolution of the issue by CCI. Therefore, an estimated amount of Rs 10,002 million under the head of NHP @ indexed rate of Rs 1.16 per kWh is allowed for FY 2017-18 which shall be subject to adjustment at actual on the basis of actual generation of the Petitioner’s power plants located in the Province of Punjab. For FY 2016-17, the Petitioner has shared actual generation from Punjab based Power plants accordingly, NHP @ Rs 1.10 per unit for the same year works out to be Rs 8,985 million at actual generation of 8,168 gWh.

131) **Item # 3&4:** in the CCI decision dated 16.12.2016 the following was decided w.r.t Punjab NHP arrear:

- The claim of Government of Punjab for Rs. 82.71 billion as arrears of NHP, duly endorsed by WAPDA will be the full and final settlement of GoPb claim (as on June, 2016).
- To settle Rs. 38.12 billion, WAPDA would issue irrevocable promissory note of one year duration to GoPb by December 31, 2016. The issuance of this promissory note will not be contingent upon tariff.
- The balance Rs.44.59 billion will be paid in three equal instalments after tariff determination by CCI/NEPRA as follows:
 - Rs 14.86 billion in FY 2017-18
 - Rs 14.86 billion in FY 2018-19
 - Rs 14.86 billion in FY 2019-20
 - WAPDA would file a Tariff petition for recovery of the above arrears

132) The Authority in its decision dated May 25, 2016 in the matter of Tariff Petition filed by WAPDA Hydroelectric for payment of NHP and arrears to province of Khyber Pakhtunkhwa allowed the recovery of NHP as decided by Council of Common Interest (CCI). In the instant petition, the amount claimed regarding payment to Punjab on account of Net Hydel Profit is again decided by CCI, which is the apex body. This payment is to be made till the end of FY 2016-17 as per the decision of CCI. Keeping in view the decision of CCI, it has been decided to allow the arrear amount to Punjab as well in accordance with the schedule approved by the

CCI. The total amount has thus been apportioned on the basis of capacities of Punjab located power plants. Further, the Petitioner has requested that since for Rs 38.1 billion, a promissory note in favour of Govt of Punjab has already been issued which will expire on December 31, 2017 therefore, the Petitioner requested that it may be allowed to recover the same amount by December 31, 2017. The Petitioner request was considered and it was observed that the amount requested is very huge and its recovery only in remaining calendar year months of about 4 months will significantly increase its tariff and thus would be burdensome for end consumer. It is always advisable to recover this amount in 12 months to decrease its burden on consumers. Therefore, the Petitioner request for recovery of 38.1 billion by the end of December 2017 is unjustified therefore, rejected. The Petitioner however has been allowed to recover this amount in next 12 months after which this component of Tariff will cease to exist.

Water Use Charge Payment to Government of A.J.K

133) In this regards the Petitioner submitted that in past it has been making payment of Water Usage Charges (WUC) to AJK as agreed in the MoU signed at the time of Mangla Dam Raising Project @ Rs.0.15 per kWh on generation of power from Mangla Power Station in line with the GoP Power Policy 2002. Now in the GoP Power Policy 2015, the rate of WUC has been revised and enhanced to Rs.0.425 per kWh. The Petitioner therefore proposed that, rate of WUC payable to AJK on generation from Mangla Power Station during FY 2017-18 may be revised and an amount of Rs 2547 million may be allowed.

134) It may be noted that the revision in WUC from Rs 0.15 to 0.425 per unit has only been revised for IPPs in GoP Power Policy 2015. The Petitioner has not submitted any documents which state that this revision applies to public sector projects like Mangla. In the absence of clear decision of the competent forum in the matter of revision in WuC for Mangla, NEPRA can't unilaterally revise the rate from Rs 0.15 to 0.425 per units. Therefore, WuC has been allowed to the Petitioner at the previous rate of 0.15 per unit which correspond to a total payment of Rs 899 million against Rs 2547 million requested. This amount of Rs 899 million has been made part of revenue requirement of Mangla power station.

IRSA Charges

135) Ministry of Water & Power, Government of Pakistan vide S.R.O. (1)/2011 dated 25th August 2011 has levied IRSA Charges at the rate of Rs.0.005 per kWh for managing water for hydro power generation to be paid by WAPDA which were kept at the same rate vide and S.R.O. (1)/2017 dated 10th Feb 2017.

136) This IRSA amount is allowed to the Petitioner since 2011 in accordance with the above-mentioned S.R.O therefore, the Rs 168 million has been allowed as requested by the Petitioner.

137) Summary of requested vs. allowed cost under NHP, WuC and IRSA is indicated hereunder:

Payments to Provinces/AJ&K/IRSA	FY 2017-18	
	Claimed	Assessed
Govt. of KP (NHP)	20,786	21,825
Govt. of Punjab (NHP)	9,526	10,002
Govt. of AJ&K (WuC)	2,547	899
IRSA Charge	168	168
Total Regular Payments (i)	33,027	32,895



Determination of Bulk Supply Tariff for WAPDA Hydroelectric Financial Year 2017-18

Arrears of NHP		
<u>Govt of KP</u>		
Interest on Rs.25 Bln Loan	1,444	-
2015-16	9,298	9,298
2017-18	15,000	15,000
Total Arrear KPK	25,742	24,298
<u>Govt. of Punjab</u>		
2016-17	9,526	8,985
1st Installment (Rs. 38.12 Bln)	38,120	38,120
2nd Installment (Rs. 14.86 Bln)	14,860	14,860
Total Arrear Punjab	62,506	61,965
Total Arrears of NHP (ii)	88,248	86,263
Total (Regular Payments + NHP Arrears) (i+ii)	121,275	119,158

Issue-2: Whether Petitioner's request for adjustment of Rs.32,049 Mln (Rs.14, 830 Mln for FY 2015-16, and Rs. 17,219 Mln for FY 2016-17 on account of Regulatory Revenue Gap is justified?

- 138) According to the Petitioner, Regulatory Revenue Gap arising due to following variables:
- Delayed determination of tariff by NEPRA and subsequently delayed Gazette notification of NEPRA determined tariff.
 - The prudently incurred actual O&M expenses were higher than those estimated by NEPRA while determining the annual revenue requirement for FY 2015-16.
 - Actual additions to the Regulatory Assets Base were higher than the estimates made while determining tariff by NEPRA.

	2015-16			2016-17		
	NEPRA Determined Notified by GoP 07-03-16	Audited	Rev. Gap 2012-13	NEPRA Determined Notified by GoP 07-03-16	Forecast	Rev. Gap 2011-12
Annual Revenue Requirement						
O&M	11,000	11,127	127	11,000	12,634	1,634
Depreciation (At Carrying Cost)	5,599	5,718	119	5,599	5,435	(164)
Lease Rental	3,574	3,611	37	3,574	3,460	(114)
Return on Investment - Power Stations	27,535	30,340	2,805	27,535	30,028	2,493
Return on Investment - Power Projects	10,547	14,643	4,096	10,547	23,215	12,668
Other Income	(1,001)	(300)	701	(1,001)	(300)	701
Total Revenue Gap	57,254	65,139	7,885	57,254	74,473	17,219
Revenue Gap (proportionated)*	4,467	4,467	-	7,266	7,266	-
	61,721	69,606	7,885	64,520	81,739	17,219
Less: Billing of Revenue	61,721	54,776	6,945	64,520	64,520	-
Total Revenue Gap	-	14,830	14,830	-	17,219	17,219

- 139) The Authority has already made its decisions regarding various year wise costs claimed by the Petitioner in the preceding paras of this determination. Further, sales revenue of the Petitioner is being adjusted on actual basis. Accordingly regulatory revenue gap of the



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Determination of Bulk Supply Tariff for WAPDA Hydroelectric Financial Year 2017-18

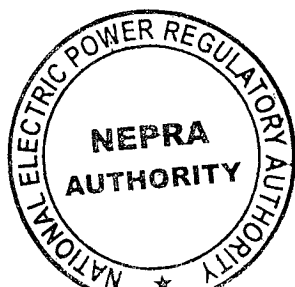
Petitioner, assessed by the Authority, for the financial year 2015-16 and financial year 2016-17 is as follows:

	2015-16			(Mln Rs)		
	NEPRA Determined	Audited	Rev. Gap 2015-16	NEPRA Determined	Forecast	Rev. Gap 2016-17
	Notified by GoP			Notified by GoP		
Annual Revenue Requirement						
O&M	11,000	11,127	127	11,000	12,345	1,345
Depreciation (At Carrying Cost)	5,599	5,728	129	5,599	5,445	(154)
Ijara Rental	3,574	3,611	37	3,574	3,460	(114)
Return on Investment - Power Stations	27,535	26,578	(957)	27,535	26,110	(1,425)
Return on Investment - Power Projects	10,547	8,583	(1,964)	10,547	13,954	3,407
Other Income	(1,001)	(300)	701	(1,001)	(330)	671
Total Revenue Gap	57,254	55,328	(1,926)	57,254	60,984	3,730
Revenue Gap (proportionated)*	3,911	3,911	-	7,822	7,822	-
Less: Billing of Revenue	61,165	59,239	(1,926)	65,076	68,806	3,730
Total Revenue Gap	61,165	54,776	6,389	65,076	65,076	-
		4,463	4,463		3,730	3,730

NEPRA Allowed Revenue Gap Apportionment*		Total Gap	11,733
Tariff Applicable: 07, Mar to 30, Jun 2016	(4 months)	2015-16	3,911.00
01, Jul to 30, Jun 2017	(8 months)	2016-17	7,822.00
			11,733.00
Revenue Gap	FY 2015	FY 2015-16	FY 2016-17
Misc. heads	374	4,463	3,730
KPK NHP		9,298	
Punjab NHP			8,985
Arrear Punjab		38,120	14,860
Total	374	51,881	27,575

140) In view of discussions in the preceding paragraphs, the total revenue requirement of the Petitioner approved for the financial year 2017-18 is as follows:

Power Stations	TARBELA	MANGLA	WARSAK	CHITRAL	K. GARHI	DARGAI	JABBAN
Capacity (MW)	3,478	1,000	243	1	4	20	22
Net Electrical Output at bus bar (GWh)	15,284	5,992	1,021	4	16	100	120
Revenue Requirement (Rs million)							
Total O&M	5,106	2,494	1,183	45	80	170	129
Depreciation	366	906	79	2	0	3	121
Ijara Rentals	2,589						
Return on Investment	1,400	3,358	214	6	8	15	547
Other Income	(150)	(43)	(10)	(0)	(0)	(1)	(1)
Provision for Future Hydro Investments	3,969	1,141	277	1	5	23	25
KPK NHP Arrear 3rd Inst. (15 billion)	12,752	-	891	4	15	73	81
Revenue Gap Rs million							
FY 2014-15							
O&M (R&M)	188	54	13	0	0	1	1
FY 2015-16							
MSc	2,249	647	157	1	3	13	14
Punjab NHP Arrear 1st Inst.	-	-	-	-	-	-	-
KPK NHP @ 1.1/kWh Remaining balance	7,905	-	552	2	9	45	50
Total FY 2015-16	10,153	647	709	3	12	58	64
FY 2016-17							
MSc	1,880	540	131	1	2	11	12
Punjab NHP @ 1.1/kWh	-	-	-	-	-	-	-
Punjab NHP Arrear 2nd Inst.	-	-	-	-	-	-	-
Total FY 2017-18	1,880	540	131	1	2	11	12
Total Revenue Gap Rs million	12,221	1,241	854	4	14	70	77
Average Sale Revenue (Rs/kWh)							
	4	2	5	16	9	5	9
Total Revenue Requirement	38,254	9,097	3,487	61	121	354	980
Hydel Related Charges							
NHP/WUC (Rs/kWh)	1.16	0.15	1.16	1.16	1.16	1.16	1.16
IRSA Charges (Rs/kWh)	0.005	0.005	0.005	0.005	0.005	0.005	0.005



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Determination of Bulk Supply Tariff for WAPDA Hydroelectric Financial Year 2017-18

Power Stations	GAZI BAROTHA	CHASHMA	JINNAH	GOMAL ZAM	KHAN KHWAR	ALLAI KHWAR	DUBAIR KHWAR
Capacity (MW)	1,450	184	96	17	72	121	130
Net Electrical Output at bus bar (GWh)	6,910	1,055	463	50	269	595	627
Revenue Requirement (Rs million)							
Total O&M	1,829	1,173	263	106	228	157	170
Depreciation	1,737	443	412	178	379	557	102
Ijara Rentals							
Return on Investment	8,857	1,468	1,446	1,102	1,416	2,312	3,988
Other Income	(63)	(8)	(4)	(1)	(3)	(5)	(6)
Provision for Future Hydro Investments	1,655	210	110	20	82	138	148
KPK NHP Arrear 3rd Inst. (15 billion)	-	-	-	-	264	444	477
Revenue Gap Rs million							
FY 2014-15							
O&M (R&M)	79	10	5	1	4	7	7
FY 2015-16							
MSc	938	119	62	11	47	78	84
Punjab NHP Arrear 1st Inst.	30,810	3,910	2,040	-	-	-	-
KPK NHP @ 1.1/kWh Remaining balance	-	-	-	-	164	275	295
Total FY 2015-16	31,748	4,029	2,102	11	210	353	380
FY 2016-17							
MSc	784	99	52	9	39	65	70
Punjab NHP @ 1.1/kWh	7,262	922	481	-	-	-	-
Punjab NHP Arrear 2nd Inst.	12,011	1,524	795	-	-	-	-
Total FY 2017-18	20,056	2,545	1,328	9	39	65	70
Total Revenue Gap Rs million	51,883	6,584	3,435	22	253	425	457
Average Sale Revenue (Rs/kWh)	11	11	13	29	11	8	10
Total Revenue Requirement	65,898	9,869	5,662	1,426	2,619	4,027	5,337
Hydel Related Charges							
NHP/WUC (Rs/kWh)	1.16	1.16	1.16	-	1.16	1.16	1.16
IRSA Charges (Rs/kWh)	0.005	0.005	0.005	0.005	0.005	0.005	0.005
TARIFF (Plant-wise) Without Revenue Gap							
Variable rate (Rs/kWh)	0.089	0.146	0.229	1.384	0.375	0.254	0.339
Fixed Charges (Rs/kWh/Month)	1,365.140	2,013.338	2,436.476	6,298.284	2,526.798	2,281.541	2,896.7
Hydel Related Charges							
NHP/WUC (Rs/kWh)	1.16	1.16	1.16	-	1.16	1.16	1.16
IRSA Charges (Rs/kWh)	0.005	0.005	0.005	0.005	0.005	0.005	0.005

Power Stations	RASUL	SHADIWAL	NANDIPUR	CHICHOKI	RENALA	Tarbela 4	Golen Gol
Capacity (MW)	22	14	14	13	1	1,410	106
Net Electrical Output at bus bar (GWh)	122	34	40	33	3	710	150
Revenue Requirement (Rs million)							
Total O&M	157	146	170	128	37	275	47
Depreciation	4	1	1	1	1	468	156
Ijara Rentals							
Return on Investment	34	12	13	9	3	1,481	487
Other Income	(1)	(1)	(1)	(1)	(0)	(61)	(5)
Provision for Future Hydro Investments	25	16	16	15	1	3,404	1,092
KPK NHP Arrear 3rd Inst. (15 billion)	-	-	-	-	-	-	-
Revenue Gap Rs million							
FY 2014-15							
O&M (R&M)	1	1	1	1	0		
FY 2015-16							
MSc	14	9	9	8	1		
Punjab NHP Arrear 1st Inst.	467	297	297	276	21	-	-
KPK NHP @ 1.1/kWh Remaining balance	-	-	-	-	-	-	-
Total FY 2015-16	482	307	307	285	22	-	-
FY 2016-17							
MSc	12	8	8	7	1		
Punjab NHP @ 1.1/kWh	110	70	70	65	5	-	-
Punjab NHP Arrear 2nd Inst.	182	116	116	108	8	-	-
Total FY 2017-18	304	194	194	180	14	-	-
Total Revenue Gap Rs million	787	501	501	465	36	-	-
Average Sale Revenue (Rs/kWh)	9	21	19	20	27	9	13
Total Revenue Requirement	1,006	676	699	617	77	5,567	1,778
Hydel Related Charges							
NHP/WUC (Rs/kWh)	1.16	1.16	1.16	1.16	1.16	1.16	1.16
IRSA Charges (Rs/kWh)	0.005	0.005	0.005	0.005	0.005	0.005	0.005
TARIFF (Plant-wise) Without Revenue Gap							
Variable rate (Rs/kWh)	0.079	0.234	0.228	0.207	0.676	0.152	0.228
Fixed Charges (Rs/kWh/Month)	1,386.229	1,588.2	1,721.925	1,522.004	3,898.915	121.455	511.836
Hydel Related Charges							
NHP/WUC (Rs/kWh)	1.16	1.16	1.16	1.16	1.16	1.16	1.16
IRSA Charges (Rs/kWh)	0.005	0.005	0.005	0.005	0.005	0.005	0.005



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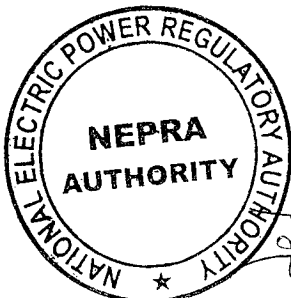
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Order

- Subject to adjustment on account of determination of net hydel profits, WAPDA Hydroelectric (Petitioner) is allowed to charge the Central Power Purchasing Agency Guarantee Limited (CPPA-G) the following tariff of each plant at the bus bar of its hydroelectric power stations connected directly or indirectly to the transmission system of NTDC.

Sr.No.	Power Stations	With Revenue Gap				Without Revenue Gap			
		Variable Rate	Fixed Rate	(WUC)/(NHP)	(IRSA)	Variable Rate	Fixed Rate	(WUC)/(NHP)	(IRSA)
		Rs/kWh	Rs/kWh/Month	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh/Month	Rs/kWh	Rs/kWh
1	TARBELA	0.030	905.411	1.16	0.005	0.030	517.484	1.16	0.005
2	MANGLA	0.056	730.138	0.15	0.005	0.056	531.611	0.15	0.005
3	WARSAK	0.072	1,170.801	1.16	0.005	0.072	782.874	1.16	0.005
4	CHITRAL	0.655	4,839.034	1.16	0.005	0.655	4,451.107	1.16	0.005
5	K. GARHI	0.273	2,422.136	1.16	0.005	0.273	2,034.210	1.16	0.005
6	DARGAI	0.094	1,434.931	1.16	0.005	0.094	1,047.004	1.16	0.005
7	JABBAN	0.332	3,559.548	1.16	0.005	0.332	3,171.621	1.16	0.005
8	GHAZI BAROTHA	0.089	3,751.739	1.16	0.005	0.089	1,365.140	1.16	0.005
9	CHASHMA	0.146	4,399.936	1.16	0.005	0.146	2,013.338	1.16	0.005
10	JINNAH	0.229	4,823.075	1.16	0.005	0.229	2,436.476	1.16	0.005
11	GOMAL ZAM	1.384	6,496.811	-	0.005	1.384	6,298.284	-	0.005
12	KHAN KHWAR	0.375	2,914.725	1.16	0.005	0.375	2,526.798	1.16	0.005
13	ALLAI KHWAR	0.254	2,669.468	1.16	0.005	0.254	2,281.541	1.16	0.005
14	DUBAIR KHWAR	0.339	3,284.646	1.16	0.005	0.339	2,896.719	1.16	0.005
15	RASUL	0.079	3,772.828	1.16	0.005	0.079	1,386.229	1.16	0.005
16	SHADIWAL	0.234	3,974.775	1.16	0.005	0.234	1,588.176	1.16	0.005
17	NANDIPUR	0.228	4,108.524	1.16	0.005	0.228	1,721.925	1.16	0.005
18	CHICHOKI	0.207	3,908.603	1.16	0.005	0.207	1,522.004	1.16	0.005
19	RENALA	0.676	6,285.514	1.16	0.005	0.676	3,898.915	1.16	0.005
20	Tarbela 4	0.152	322.654	1.16	0.005	0.152	121.455	1.16	0.005
21	Golen Gol	0.228	1,370.610	1.16	0.005	0.228	511.836	1.16	0.005

- The tariff with Revenue Gap/prior year adjustment as indicated above, shall be applicable for a period of one year from date of its notification by GoP, after which the tariff without Revenue Gap/prior year adjustment shall be applicable.
- Any over/under recovery of cost/revenue requirement due to factors beyond control of the Petitioner will be adjusted, after due consideration by the Authority, at the time of next tariff determination.




Determination of Bulk Supply Tariff for WAPDA Hydroelectric Financial Year 2017-18

4. The order is to be intimated to the Federal Government for notification in the official gazette under section 31 (4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

Additional note regarding
to issue NO. 8-19 is attached.
12/11/17
Himayat Ullah Khan
19.10.17
Member

AUTHORITY

(Maj. (R) Haroon Rashid)
Member
22/11/17

(Syed Masood ul Hassan Naqvi)
Member
20/10/2017

(Saifullah Chattha)
Member/Vice Chairman
20.10.2017

(Brig. (R) Tariq Saddozai)
Chairman
22/11/17



22/11/17



Additional Note

Issue # 8: Whether continuing with the existing tariff methodology for WAPDA hydroelectric tariff determination is justified?

1. The existing tariff methodology is not justified on two counts:
2. Firstly, it precludes determination of Net Hydel Profit (NHP) in accordance with Article 161(2) and its Explanation of Constitution of Pakistan, 1973. It also does not allow computation of NHP on the basis of Kazi Committee Methodology (KCM) which was duly approved by the Council of Common Interests (CCI) in its meeting dated 12th January, 1991 and reiterated in its meetings dated 12.09.1993, 25.05.1997 and 22.12.1998.
3. Secondly, it is an annual and a cost-plus based methodology rather than a multiyear revenue-minus cost based methodology. This methodology denies WAPDA the requisite space and freedom to fully finance its investment and operation & maintenance requirements.

Issue # 9: Whether there should be one bulk license and tariff for WAPDA Hydroelectric's, 19 operating Hydel stations and 5 upcoming Hydel projects or 24 individual licenses and tariffs?

4. NEPRA is allowing WAPDA to operate 19 existing and build 5 new hydro power stations under one bulk supply license, since 2004. WAPDA has been allowed to charge a single tariff that is based on the average cost of all the power stations and projects taken together. It must be appreciated that each existing power station has a different operation and maintenance cost which is financed through a distinct capital structure i.e. debt and equity. A bulk tariff mixes the

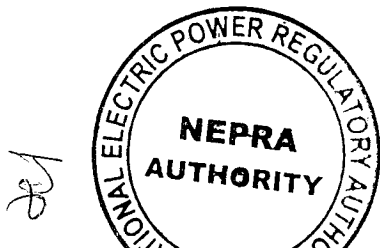
unique cost profile of each power station into one basket which is against the principle of transparency.

5. It is my opinion that, each of 19 stations should have a separate license for which NEPRA should allow a tariff that is representative of its specific and unique prudent operating costs. Similarly, the 5 future power stations especially, the bigger ones like Diamir Basha, Dasu and Neelum Jhelum should be given separate licenses and tariffs. This is absolutely essential for the sake of transparency, efficiency, accountability and effective monitoring of the performance of each hydel station. Under the existing arrangements inefficient and loss making stations are being subsidized by low cost / profit making stations.

Issue # 10: Whether NHP can be converted into a fixed rate of Rs. 1.10 per kwh keeping in view clause 161(2) of the Constitution?

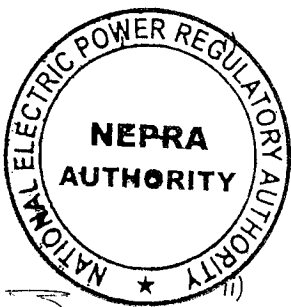
6. Article 161(2) of the Constitution provides *"The net profits earned by the Federal Government, or any undertaking established or administered by the Federal Government from the bulk generation of power at a hydro-electric station shall be paid to the Province in which the hydro-electric station is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

"Explanation.—For the purposes 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 depreciation and element of obsolescence, and over-heads, and provision for reserves."



43

7. It may be noted that the above "Explanation" provides a clear and unambiguous mechanism on the basis of which "net profit" is to be determined. It explains that, "net profit shall be computed by deducting from the revenue" of a hydro-electric station, certain operating expenses of that station.
8. There is therefore no provision in the Constitution for a pre-determined fixed rate of NHP, to be applied uniformly across the board, to all hydro power stations without taking into consideration the revenues/expenses of that particular station. Moreover, by applying a notional fixed NHP rate, certain loss making stations would also be shown generating a net profit which would not be a true reflection of the state of affairs of that station.
9. At best, a fixed NHP rate, as in the instant case, can be applied only as an interim arrangement and not as a permanent dispensation. It is evident from the minutes of the meetings of the CCI dated 29.02.2016 and 16.12.2016, that this was exactly its intent.
10. Thus the CCI in its meeting dated 29.02.2016 made the following decisions:



The CCI gave its concurrence to the MoU signed between Government of Pakistan and Government of Khyber Pakhtunkhwa on 25th February 2016 specially directing WAPDA to file a Tariff Petition as agreed in the MoU.

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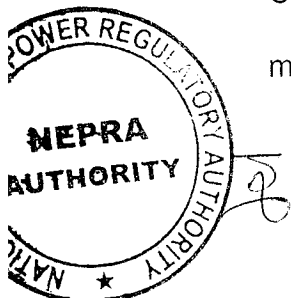
- iii) *The Government of the Punjab will submit their claim to Ministry of Water and Power for consideration in the light of said MoU.*

11. In the light of para (iii) of its decision dated 29.02.2016, the CCI approved the Summary of the MoW&P on the subject "Settlement of Net Hydel Profit (NHP)

issue between WAPDA and Government of Punjab” in its meeting dated 16.12.2016. The CCI, inter alia, approved the proposal of “*payment of NHP to Government of Punjab @ 1.10 per unit on the analogy of Government of KPK, generated from Hydel Power Stations located in Punjab for the FY 2016-17, and onwards*”

12. The Chief Minister, Khyber Pakhtunkhwa, during CCI meeting dated 16.12.2016, expressed reservations on the wordings of the minutes and asked for deletion of the words “*and onwards*”, as these referred to a “*temporary / interim arrangement and not permanent arrangement to cover coming periods.*” The CCI agreed / approved to delete the words, “*and onwards*”. It is abundantly clear from the above, that the ground on which the words, “*and onwards*” were deleted was on the basis of the reservations expressed by the Chief Minister, Khyber Pakhtunkhwa, emphasizing the temporary / interim nature of the arrangement which could not be construed to be a permanent arrangement.

13. Any attempt to use deletion of the two words, “*and onwards*”, as sufficient grounds for disallowing NHP charges as claimed in WAPDA tariff petition 2017-18 is a complete misperception of the spirit of the CCI decision and could be construed as a classic case of “lawless legality”, where the spirit of the law is not taken into consideration, while interpreting the law. It may be added that no stakeholder, at any stage whatsoever of the tariff proceedings has ever asked for stoppage of NHP payment. Neither the petitioner nor any of the interveners, commentators or Ministry of Water & Power asked for discontinuation of NHP payment. This would also amount to a violation of Article 161(2) of the Constitution, which provides that NHP “shall” be paid to the provinces. Being a mandatory stipulation of the Constitution, NHP has been regularly paid to KPK



ever since 1991 – albeit, at a provisional and capped amount of Rs. 6 billion per annum.

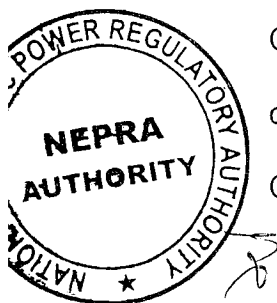
14. The Authority had earlier also expressed its concern at para 64 of tariff determination for FY 2015-16 that such interim arrangements cannot be allowed to continue in perpetuity and expressed the need for arriving at a permanent arrangement.

Issue # 11: Whether Constitution intents and prescription of determination of NHP and its collection can be modified by the CCI, Federal Government, WAPDA or NEPRA?

15. The answer to this issue is very simple. The “Constitution intent and prescription of determination of NHP and its collection” is very clearly and unambiguously spelt out in Article 161(2) and its Explanation. Any modification or amendment of the Constitution is the exclusive domain of Parliament. The CCI, Federal Government, WAPDA or NEPRA have no jurisdiction to modify the “intent and prescription of determination of NHP” as provided for in the Constitution.
16. As far as the issue of NHP is concerned, the role and intent of each institution is discussed as follows:

Role of CCI:

17. Article 161(2) dealing with NHP is an integral and important part of the Constitution of Pakistan, 1973. However, no action was taken for implementation of Article 161(2) for 13 years when the National Finance Commission (NFC) in its meeting dated November 22, 1986, constituted a committee under the chairmanship of Mr. A.G.N. Kazi, Dy. Chairman Planning Commission to determine a methodology for computation of NHP. Government



of then NWFP proposed that, *"electricity should be priced on the basis of buying rate of WAPDA from KESC, or on the basis of proposed buying rate from the private sector, or on the basis of cost of thermal generation of electricity."* The committee did not agree to the proposal. It decided that since rate of electricity was based on socio-economic considerations the best formula would be to price it according to what the consumer pays. This rate / price formed the fundamental basis of the methodology adopted by the committee. It also determined that in working net "revenue", the average system selling rate, including normal rate and FAC be taken into account, as this is what the consumer is actually paying. "Net profits" would be worked out by, deducting from revenue, establishment charges of the power house, operation and maintenance cost etc. At para 9 of the report, it also calculated the actual amount of net profit payable for the year 1984-85, thereby leaving no room for any ambiguity and further interpretations. The report of the committee was submitted to the Federal Government in January 1987. It was endorsed by the National Finance Commission on 14.02.1988. The CCI in its meeting dated 12.01.1991 approved the "methodology of calculation of net profits from bulk generation of electricity proposed by the Mr. A.G.N. Kazi Committee for past and future calculations."

18. Presidential Order No: 3 of 1991 made under Article 161(2) of the Constitution, further directed that, the NHP should be paid by WAPDA to the provinces and that the Federal Government shall guarantee these payments on a regular basis.

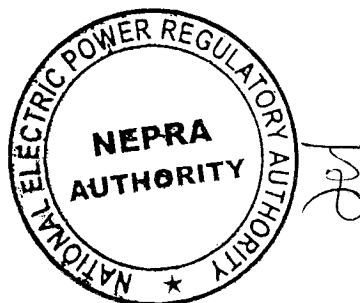
19. The CCI, further, in its decisions dated 12.09.1993, 25.05.1997 and 22.12.1998 provided repeated "categorical assurances" to the provinces regarding payment of NHP as per the Constitution of Pakistan and that the NHP amounts would not



fall below the level which the provinces would have been entitled to had restructuring of WAPDA not taken place.

20. The Supreme Court in its judgment at Para 34 in Gadoon Textile case 1997, S.C.M.R.641, determined that CCI, vide its decision dated 12-01-1991 and Presidential Order No: 3 dated 2nd June of 1991, *"has discharged its constitutional obligation as to computation of net profits for payments of the same to the Federating Units concerned."*
21. However, subsequent events, are a sad story of how the provisions of Article 161(2) of the Constitution, repeated decisions and categorical assurances of the CCI and Presidential Order 3 of 1991, were out rightly violated by different institutional stakeholders.
22. In conclusion, the fact of the matter is, that the CCI decision dated 12th January, 1991, is very much in feild as it has never been amended by CCI, nor a proposal requesting for its change/amendment has ever been submitted to CCI by the Federal Government or any Federating Unit. Moreover, Article 154 of the Constitution, which provides that, if any party is aggrieved by a decision of the CCI, it may take up the matter in a joint sitting of Parliament, has never been invoked by any party.

Role of NEPRA:

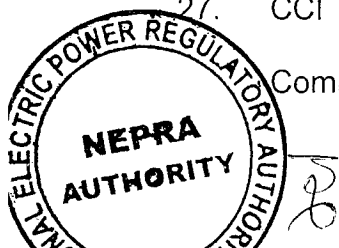


23. Article 154 of the Constitution empowers the CCI to prescribe the functions and rules of procedure in relation to matters in Part II of the Federal Legislative List that includes electricity. Thus, CCI is responsible for giving guidelines for

regulation of the power sector. In exercise of this power, the CCI approved the restructuring plan for WAPDA whereby WAPDA would retain the Water Wing, while the Power Wing would be restructured into independent power generation, transmission and distribution entities.

24. This restructuring plan, inter alia, provided for a national regulatory authority, for supervision and control of the power sector. CCI in its decision of May, 1997 approved the Restructuring Plan.
25. This decision was implemented the same year, by creating National Electric Power Regulatory Authority, through the NEPRA Act. Section 7, 31 and 45 of the Act stipulates the Authority as the entity exclusively responsible for regulating the power sector, inclusive of the sole power to determine tariff, rates, charges and other terms and conditions for sale of electric power. CCI is competent to formulate and regulate policies in relation to NEPRA and exercise supervision and control over it in accordance with Article 154 of the Constitution, including computation of NHP. Moreover, the Authority at para 66 of WAPDA tariff determination 2015-16, acknowledged the concurrent jurisdiction of CCI and NEPRA over the subject of NHP.
26. CCI has not, in any of its decisions since the creation of the Authority prescribed any limitation on NEPRA's power to determine tariff for its licensees, including the rate of sale for bulk power from Federal Government's hydel generation units. Similarly, it has not, to-date, modified, commented on or objected to any such tariff determination by the Authority.

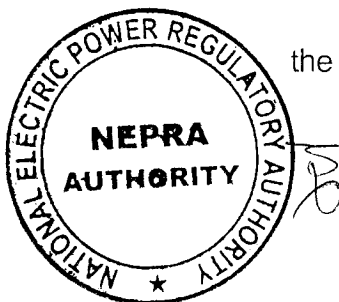
27. CCI has neither itself or through any other government entity revised the Kazi Committee mechanism for calculating net profits within the meaning of Article



161(2). It is evident that the intent is, for the regulatory authority, NEPRA, to exercise this power in accordance with the provisions of the Constitution, Section 7 of NEPRA Act and decisions of CCI dated 12.01.1991, 12.09.1993, 25.05.1997 and 22.12.1998.

Role of WAPDA and Federal Government:

28. Presidential Order No. 3 of 1991, clearly spells out the role of WAPDA and the Federal Government, in so far as the issue of NHP is concerned. The Order states that; Para 3, *"The net profits from the bulk generation of power at a hydro-electric station located in the provinces shall be paid by the concerned undertaking established or administered by the federal government (i.e. Water and Power Development Authority) to the provinces."* Para 4, *"The Federal Government shall guarantee payment of net profits to provinces concerned by the above undertaking on a regular basis."*
29. The above is self-evident and needs no further elaboration.
30. A meeting dated 9th August, 1992, on the matter of payment of hydro-electricity profits to GoNWFP was held in the office of then Finance Minister. The meeting was primarily held for two purposes:
- i) to facilitate regular NHP payments to NWFP: by making upfront payment of NHP by the Federal Government itself; by advising WAPDA to open a separate account with NBP for the purpose and to release Rs. 500 million every month to GoNWFP, irrespective of the balance available in the said account.



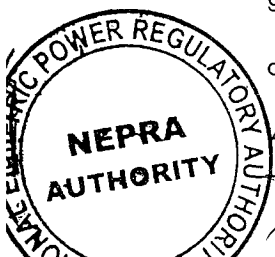
ii) to request Auditor General of Pakistan to work out certain adjustments of NHP payable to NWFP on the basis of Kazi Committee formula.

31. However, in due course of time the basic intent of the meeting got relegated to the background and amount of NHP got capped at Rs. 6 billion/annum. The capping of NHP at Rs. 6 billion did not have the approval of CCI at any stage. However NEPRA continued to tacitly endorse this capping arrangement ever since its inception, while at the same time, continuously repeating, in all its determinations, that CCI was the competent forum with respect to determination of NHP. Yet it never asked WAPDA or any other agency to refer the matter to CCI for its approval, except in WAPDA hydel tariff determination for FY 2015-16.

32. However, having said that, the role of WAPDA may need to be further clarified in view of the fact that it no longer has the mandate for billing or collection from the end consumer. These roles now lie with the distribution companies and CPPA-G.

33. I also feel that it is necessary to reproduce para 66 of WAPDA tariff determination 2015-16.

"The Authority is of the view that, notwithstanding the clear provision of NEPRA Act, the concurrent jurisdiction of CCI and NEPRA over the subject of NHP and keeping in view the past history, conflicting claims, different interpretations and acrimony surrounding this subject and the fact that it is a serious matter of a political nature affecting relations between a province and federation, the CCI may resolve the matter by issuing policy guidelines to NEPRA to determine NHP keeping in view, inter alia, CCI's earlier decisions, and ensure compliance with the provisions of the Constitution and NEPRA Act, 1997. The Authority therefore directs WAPDA to bring this matter before the CCI, through the



Ministry of Water and Power, to enable NEPRA in the determination of next year WAPDA Tariff Petition in accordance with the policy guidelines and under supervision of the CCI."

34. It is apparent that WAPDA has failed to bring the matter before the CCI. This constitutes violation of the explicit directions of the Authority and applicable law. Hence, the Authority reserves the right to initiate appropriate action in accordance with law.

Issue # 12: Whether NHP related payment to Provinces should be passed on to consumers through the Petitioner's tariff?

35. Under the interim arrangement, of fixed NHP @ Rs. 1.10/kwh indexed at 5% per annum, there is no other option but to pass on the amount of NHP to the end consumer.
36. However, having said that, it is important to point out that the end consumers are already paying Net Hydel Profit in the monthly bills. This amount is collected by the DISCOs and passed on to CPPA-G from where it is diverted towards payment to expensive power stations.
37. NHP can be defined as, the difference between the sale price / the price which the consumer pays and the generation cost of a unit of electricity, produced by a particular hydel station. If we take the case of Tarbela and Ghazi Barotha Hydropower Project (GBHPP), a unit of electricity is generated at approximately Rs. 0.64/kwh and Rs. 1.85/kwh respectively, while the consumer actually pays @ Rs. 11.45/kwh. Thus yielding Rs. 10.81/kwh and Rs. 9.60/kwh as net profit, for each station. If we take roughly 15,000 GWh produced by Tarbela and 6808 GWh by GBHPP, during 2016-17, the consumer has already paid into the system approximately Rs. 227 billion as NHP, on these two stations alone.



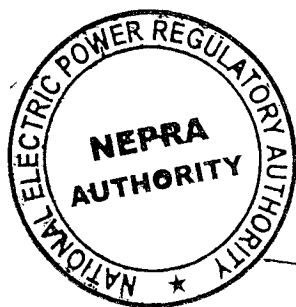
However, instead of this amount being paid to the provinces as NHP, it is being diverted towards subsidizing the power sector. This amount goes towards payments to expensive power generating units, such as, Wind (Rs. 22/kwh), Solar (Rs. 20/kwh), Bagasse (Rs. 13/kwh), IPP (HSD Rs. 22/kwh) and public sector GENCOs, at the expense of the provinces. In this way the overall national basket price of electricity is manipulated and maintained at a lower level than what would be the price if due amounts of NHP were paid to the provinces in accordance with Article 161(2) of the Constitution and CCI decisions dated 12.01.1991, 12.09.1993, 25.05.1997 and 22.12.1998.

Issue # 14: Whether WAPDA is deviating from Kazi Formula while making payment to provinces on account of NHP without sanction of the CCI?

38. The matter has already been addressed by my notes under Issue # 10, 11 & 12.

Issue # 15: Whether NHP calculation can be made with the existing tariff structure wherein, all the unit costs are clubbed together?

39. The matter already stands addressed by my additional notes under Issue # 8 to 12.



Mushtaq
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Himayat Ullah Khan
19.10.17.
(Himayat Ullah Khan)
Member (Tariff)