



**National Electric Power Regulatory Authority**  
Islamic Republic of Pakistan

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**Registrar**

No. NEPRA-03/WAPDA-98/172


March 27, 1999

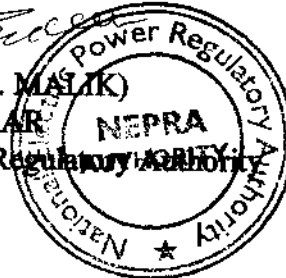
Ch. Irshad Ahmad  
Secretary  
Ministry of Law and Justice  
Islamabad

**SUBJECT: WAPDA PETITION 03/98**  
**Intimation of Determination of Tariff pursuant to Section 31(4)**  
**of the Regulation of Generation, Transmission and**  
**Distribution of Electric Power Act, (XL of 1997)**

Please find enclosed the determination of the Authority in connection with the WAPDA Petition 03/98.

2. The determination is being intimated to the Federal Government for the purposes of notification of the approved tariff in the official gazette pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997), and rule 16(11) of the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998.
3. Please note that only the Annex to the determination needs to be notified in the official gazette.
4. The approval of the tariff is subject to the terms and conditions set out in paragraph 7(i) through (iii) of the determination.

  
(FARYAD H. MALIK)  
REGISTRAR  
National Electric Power Regulatory Authority



Copy to:

1. Mr. Ashfaq Mahmood, Special Secretary Finance
2. Syed Shahid Husain, Secretary M/o Water and Power
3. Mr. Khalid Jawed, Secretary Finance



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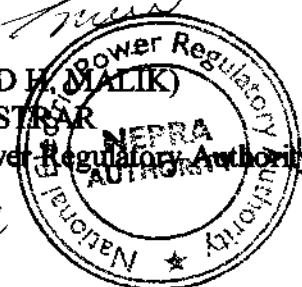
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**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY**

27<sup>th</sup> March, 1999

WAPDA TARIFF PETITION 03/98

**TARIFF DETERMINATION**

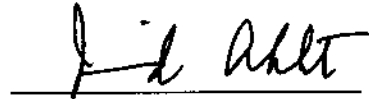
**The Water and Power Development Authority**

**Petitioner**

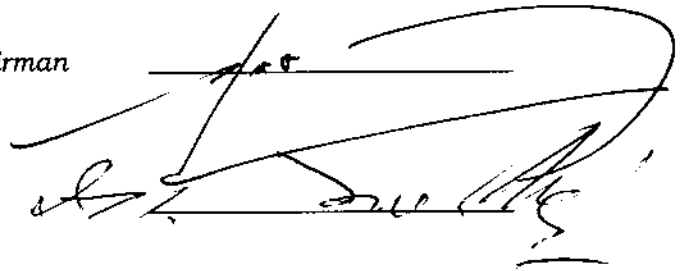
1. **Pak China Fertilizer Limited**
2. **Senior Citizens Association of Pakistan**
3. **Farmers Associates of Pakistan**
4. **All Pakistan Textile Mills Association**
5. **Ittehad Chemicals Limited**
6. **Mohammad Hussain & Sons (Private) Limited**
7. **Caustic Soda Manufacturers Association**
8. **Islamabad Citizens Committee**
9. **Education for All Society**
10. **Association of Builders and Developers**

**Interveners**

*Javid Akhter, Chairman*



*Sardar Mohammad Sharif Khan, TSt., Vice Chairman*



*Fakhruddin Mallick, Member (Finance)*



*Mr. Saeed Akhtar Niazi, Member (Technical)*



## Contents List

1. Determination
2. Annex – Rate Schedule under the second revised petition
3. Intimation of approved tariff to the Federal Government pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997)
4. Record of Proceedings (not included)

1. WAPDA filed a petition for increase of its tariffs on 21<sup>st</sup> December, 1998 (hereinafter referred to as the "original petition") seeking an average tariff raise of 10.96% to cover its projected cash deficit of Rs.15.377 billion during the period 1<sup>st</sup> March, 1999 to 28<sup>th</sup> February, 2000 (hereinafter referred to as the "test year"). The original petition was filed pursuant to the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998 (hereinafter referred to as the "Rules"). The Authority admitted the original petition and ordered a public hearing to be held for its determination. The Authority received a large number of intervention requests and comments from the public and consumer groups. Leave to intervene was granted to 10 applicants on the basis of the contents of their intervention requests. The intervention requests declined were treated as comments and formed part of the record of the proceedings and have been considered by the Authority in making this determination. The interveners provided very able assistance during the proceedings, and their participation brought out many relevant aspects which might not have gained prominence in their absence. It is expected that the public enthusiasm and knowledgeable assistance provided during the proceedings would remain a regular feature in the functioning of the Authority. The hearing was held from 15<sup>th</sup> to 24<sup>th</sup> March, 1999.

2. The original petition was not prepared strictly in the manner required for the determination of the tariff in accordance with the provisions of rule 17(3) of the Rules. While indicating its rate base and the projected rate of return thereon, the petitioner has based the request for tariff increase mainly on its cash requirements.

reasons stated in paragraph 3, and given the facts that this is the first petition of its kind and the practice of the petitioner in the past of evaluating its tariff revisions on the basis of its cash requirements, the Authority decided to proceed with the consideration of the petition on cash requirement basis. This exception is being made only once, and no further petitions will be entertained by the Authority unless based on a calculation of the asset base and the requested rate of return thereon, except where the Authority allows the implementation of formula based tariffs when petitions may be entertained for resetting or recalculation of the elements comprised in the tariff formulas.

3. The loan agreements entered into by the petitioner, we understand, contain covenants which constrain the petitioner to calculate its tariff revisions on the basis of its cash requirements. The basis of calculation for the cash deficit in the original petition also translates into "return on assets basis". The rate of return indicated at Annex-6/1 of the original petition is 18.5% for the financial year ending 30<sup>th</sup> June, 2000. While no evidence was led during the proceedings in respect of the reasonableness of this rate of return in comparison with the rate of return on investments of comparable risk, as required under rule 17(3) (ii) of the Rules, we hold that the given rate of return is not by any means unreasonable. We refer in this context, as a benchmark, to the prevalent return ranging between 16-18% for risk free investment in government securities. The evidence led during the proceedings was directed at the issues related to the cash requirements of the petitioner for the test year. This determination is being made accordingly.

4. At the pre-hearing conference held on 13<sup>th</sup> March 1999 pursuant to rule 9(8) of the Rules, the Authority settled the issues relevant for the determination of the original petition. The list of issues comprises part of the record of the proceedings. We proceed to deal with the evidence led in relation to the issues in the context of the Statement of Calculation (Cash Terms) appended as Annex -1 with the original petition.
  
5. During the proceedings, the petitioner filed a motion for the revision of the original petition. The Presiding Officer ruled to grant the motion for the reasons stated in the transcript of the proceedings dated 20<sup>th</sup> March, 1999. We have reviewed the ruling of the Presiding Officer and uphold the same. The original petition was thereafter revised in terms requested by the petitioner (hereinafter referred to as the "revised petition"). The proceedings continued on and after the 20<sup>th</sup> March on the basis of the revised petition.
  
6. On 26<sup>th</sup> March, the petitioner filed a motion for further revision of the tariffs requested in the revised petition, in an amount which exceeds the tariff raise requested in the revised petition, but remains below the level requested in the original petition. This latest revision sought is referred to hereinafter as the "second revised petition". During the evidence in the proceedings subsequent to the acceptance of the revised petition, the petitioner had stated that the cash deficit of Rs. 10.288 billion for the test year would be met through rescheduling of its liabilities, which included the debts owed to the Government. However, the motion filed for the acceptance of the second revised petition states that, contrary to the petitioner's expectations, its cash deficit is now being met only partly through the rescheduling of its liabilities,

leaving a deficit of Rs. 5.22 billion for the test year which the petitioner seeks to recover through further increase over and above the tariff requested in the revised petition. The petitioner has also stated that the failure by it to revise the tariff in terms of the second revised petition would cause it to be in breach of its covenants with its lenders. The latter reason cannot be taken cognisance of at this stage. The petitioner ought to have realised the consequences of reduction of tariff under its loan agreements prior to filing of the revised petition. The former reason, however, needs discussion. Whether the petitioner ought to be allowed to recover the deficit through increase in tariff contrary to its stance stated during the proceedings is a question which can only be addressed under participation of all the parties to the proceedings.

7. However, it may be pointed out that the basis of the revised petition is a fundamental, and in our view rational, shift in the marketing strategy of the petitioner. The shift in the marketing strategy is discussed in detail below. Briefly, the petitioner proposes to enhance its revenues through a decrease in tariff keeping in view the projected consequent stimulation in demand. It may not be advisable to compel the petitioner to operate with the deficit of Rs. 5.22 billion stated in the second revised petition, as it may prevent the implementation of the new marketing strategy and the consequent increase in consumption. On the other hand, the principles of natural justice require the participation of all the parties before the increase sought in the second revised petition is allowed. In the circumstances, adopting the reasons stated for the ruling of the presiding officer whereby he allowed the revised petition, we allow the motion for acceptance of the second revised petition subject to and in accordance with the following conditions:

*h k*



- i) the second revised petition is accepted and the rates and the rate structure stated therein is approved in terms of the Annex hereto;
- ii) a public hearing shall be held no later than twenty one days following the date of this determination for the interveners in the proceedings to present their views in opposition or in support, as the case may be, of the difference in rates between the revised petition and the second revised petition;
- iii) the petitioner shall provide security in the form of an undertaking to refund the sum of Rs. 5.22 billion being the difference between the revenues under the revised petition and the second revised petition, should it be determined following the public hearing that the increase in the tariffs to recover the additional Rs. 5.22 billion is not justifiable in view of the evidence of the petitioner that it would meet its entire cash deficit of Rs. 10.28 billion under the revised petition through non-tariff measures.

8. The order for refund protection for the customers is made pursuant to rule 4(7) of the Rules. While the said rule empowers the Authority to exercise the power conferred therein at the time of admission of a petition, we are of the view that there is no substantive difference in this context between the acceptance of a motion for revision of a petition and the admission of a new petition; we ought to strive to preserve the continuity of the proceedings and the evidence presented therein, rather than force the petitioner to withdraw from the proceedings and file a new

9. We hold that the power under rule 4(7) is to be exercised very sparingly, and only in compelling circumstances. We also hold that, in the future, such compelling circumstances ought to be no less than the operational sustainability or commercial survival of the petitioner.
10. With the above background, we proceed to set out our determination on the issues framed during the pre-hearing conference, which are equally relevant to the revised petition and the second revised petition. However, this determination is not intended to pre-determine the outcome of the public hearing ordered to be held pursuant to and in terms of sub-paragraph (ii) of paragraph 7.

#### SHIFT IN THE MARKETING STRATEGY OF THE PETITIONER

11. The basis of the revised petition is a fundamental shift in the marketing strategy of the petitioner. During the proceedings, the interveners led evidence tending to show that further increase in tariffs was likely to be counter-productive and that the petitioner should aim to increase its revenues through increase in sales rather than through increasing the rates charged. The APTMA, Pak China Fertilizer Company Limited (PCFL), Mr. Javed Rashid as the Authority's expert witness, The Steel Melters Association (SMA), The Caustic Soda Manufacturers Association (CSMA) and Ittehad Chemicals Limited (ICL) tendered evidence and cross-examined the petitioner on the lines that any further increase in tariffs would lead to further loss of industrial load and increased shift to self-generation. PCFL submitted Exhibit 1-B in evidence to demonstrate that the average annual industrial tariff increase from

1991 to 1998 was 20.8% which, according to PCFL, was phenomenal and un-witnessed any where in the world. This evidence remains un-rebutted by the petitioner.

12. The average percentage increase in real terms in tariffs has been much higher than the average rate of inflation from the year 1988 to 1998 as set out in Table 1 (figures taken from the WAPDA Power System Statistics, 22<sup>nd</sup> Issue, March 1998).

TABLE 1

YEAR	CONSUMER PRICE INDEX		ELECTRICITY RATES	INCREASE IN RATES IN REAL TERMS
	VALUE	% TERMS		
1988	75.64	100	100	100
1993	121.5	160.63	157.9	93.3
1998	204.5	270.36	440.12	162.79
<b>INCREASE IN REAL TERMS IN ELECTRICITY TARIFFS FROM 93-98 = 174.5%</b>				

13. The petitioner has acknowledged in the revised petition that the large industrial customers have resorted to self-generation to the tune of 400 MW. We are of the view that the actual figure may be much higher. The reason for this is understood to be the lower self-generation costs in comparison with the rates charged by the petitioner for equivalent supply. During the evidence prior to the revision of the original petition, the petitioner was reluctant to provide any figures as to the quantum of the load lost by the petitioner to self-generation and the corresponding savings being made by the self-generators. APTMA submitted a comparative

table of savings through self-generation as Exhibit I-4-G in the proceedings. While the petitioner was hesitant during the proceedings to accept the calculations stated in Exhibit I-4-G, it did not offer any other calculations to rebut the contents of Exhibit-I-4-G. In view of this evidence, we hold that all parties are agreed that further increase in tariffs is likely to increase the practice of self-generation. We are also inclined to accept the contents of Exhibit I-4-G, which has not been rebutted.

14. The key issue therefore is prevention of loss of further load to self-generation. The consequences of further raise in industrial tariffs would be drastic for the petitioner, the industry as well as for the national economy due to further private investment in self-generation, which is economically inefficient; all the more so given the surplus capacity available with the petitioner. The figure of the surplus capacity has been stated by the petitioner at 3000 MW in the revised petition. The rational measure in this scenario would be the utilisation of the surplus capacity of the petitioner instead of further investment in self-generation. We understand that it was for the foregoing reasons that the petitioner decided to reduce the tariffs in the revised petition.
  
15. The revenues from the industrial customer class comprise the backbone of the petitioner's financial viability. The petitioner has projected a sales growth of 17.5% in the industrial class if the tariffs are lowered to the level stated in the revised petition (this figure has not been changed by the petitioner in the second revised petition despite a raise in industrial tariffs over the rates given in the revised petition). The basis for these calculations according to the petitioner is a load growth study of the past few years and represents the most conservative results of the calculations. While

the basis of these calculations has not been provided, we are inclined to accept that a lowering of tariffs is required to:

- i) prevent further loss of industrial load to self-generation;
- ii) recover some of the load lost on account of closure of the industrial units where the cost of electricity comprises a major component of the input costs; and
- iii) avoid economic inefficiency arising out of the use of small scale self-generation and the use of high speed diesel oil as fuel.

16. We have no reason to differ from the analysis of the petitioner that any increase in tariffs is likely to be counter-productive. However, the petitioner would have to undertake aggressive marketing measures to implement the new marketing strategy. We direct the petitioner in this regard to connect all the pending industrial load within three months of the date of this determination.

17. The econometric forecast developed by the experts of the Authority (comprising part of the record) indicate that a lowering of tariffs would lead to an increase in consumption by the industry. The forecast demonstrates that for the period between 1980 and 1991, there has been a steady industrial load growth when the increase in industrial tariffs was in line with the increase in the consumer price index. However, from 1993 onwards the industrial consumption took a dip when the increase in the industrial tariffs outstripped the increase in the consumer price index (refer to Table 1). The projections demonstrate that if the growth in the industrial

load is to be maintained consistent with the pre-1993 trend, the industrial tariffs would need to be lowered.

18. Equally relevant in this context are the tariff standards prescribed under rules 17(3) (vii) and (ix) which require the identification of the cross-subsidies and their elimination over a reasonable transition period. During the evidence lead by APTMA, it is clearly demonstrated that the cost-of-service for the industrial consumers ought to be lower than the tariffs applicable to them. While the petitioner admitted that no cost-of-service study has been carried out by it to adequately reflect the costs of service to the respective consumer groups, they agreed in principle not only that tariffs should be based on cost-of-service but also that the tariffs paid by the industrial sector comprised a huge cross-subsidy to other consumer groups. Annex F of WAPDA's letter dated 2<sup>nd</sup> February 1999 in response to the Authority's information direction indicates that in years 1996-98 the subsidy being provided by industry amounted to Rs. 10.6 billion which is the highest amongst all the consumers. Any further increase in the industrial tariff would cause further distortion in the inter-group subsidy structure, which will be in clear violation of the tariff standards stated above.
19. We therefore hold that there is no reason for not acknowledging the underlying strategy of the petitioner in the reduction of industrial tariffs. As the evidence led during the proceedings has only been directed at the factum of increase per-se as opposed to the quantum of increase, we are of the view that the corresponding increase in other consumers' tariffs is justifiable for the removal of cross-subsidies. While the proposed average reduction of approximately 8.4% in the industrial tariffs may not be adequate to completely remove the cross-subsidy, it allows for a transition

towards its complete elimination over a reasonable time period. (further discussion on this score is set out in the section marked "Tariff Structure and Cross-subsidies"). The precise quantification of the volumes of cross-subsidies and the reasonableness of the transition periods for their removal may be judged only after an adequate cost-of-service study is carried out. The petitioner is directed to conduct a cost-of-service study. The petitioner is also advised that the Authority will not admit any petition by it in the future until such time it has carried out a cost-of-service study.

20. The determinations of the Authority in respect of the issues settled during the pre-hearing conference are set out below.

**Losses**

21. The total annual losses of WAPDA system as indicated in their original petition were 26% for the year 1997-98 of which T&D losses are quoted at 23.5%. The ensuing discussion relates to the T&D losses only. The envisaged annual losses for the year 1998-99 were indicated by the petitioner at 21% entailing a reduction of 2.5% as compared to 1997-98. The target of expected losses for the year 1999-2000 and the test year were also indicated at 17.5% in the original petition. Most of the interveners pointed towards the expected improvement in the targeted figures due to the involvement of the Army. During the cross-examination of the petitioner by the Senior Citizens Foundation (SCF), the press statement of the chairman WAPDA stating that WAPDA had achieved a loss reduction of 7.2% was presented as Exhibit I-3-b in this context. The reports in the press regarding saving in peak demand of 1000 MW were also referred to in this context. It was expected of the petitioner to improve its performance with respect

to reduction in losses with the assistance of the Army. The petitioner defended the original target of losses with the contention that the Army assistance had already been taken into consideration while submitting the original petition as the new chairman WAPDA alongwith his core team were Army personnel and they had already planned to obtain the assistance of the Army.

22. The performance of the petitioner upto January 1999 indicates that there has been an increase in losses for the period of the first 7 months up to January 1999 as compared to the corresponding period of the previous year up to January 1998. Therefore, in order to achieve the target of 21%, very aggressive efforts would have to be made by the petitioner. The assistance of the Army has resulted in a 7.5% loss reduction during the month of February 1999 as referred to by the SCF. Further loss reduction may not be so easily achievable. Similarly in the year 1999-2000 it would not be unreasonable to expect a further reduction in losses of 3.5% on an overall annual basis from 21.0% to 17.5%. We acknowledge the special efforts of the Army and therefore we are inclined that the target of losses of 17.5% for the year 1999-2000 as envisaged by the petitioner may be considered achievable and, if achieved, quite commendable.

23. The petitioner has not been able to provide information regarding the separation of technical losses and pilferage due to which the level of technical losses could not be established. It goes without saying that the loss reduction programs should be directed at both the technical and pilferage losses. The petitioner was also not able to provide a detailed capital expenditure program to identify the capital expenditure expected on energy loss reduction program. The petitioner is being advised to develop a plan for energy loss



reduction, and submit to the Authority for approval as part of its investment program. It is also noted with regret that the mapping of the distribution system has been discontinued by the petitioner. The petitioner is directed to resume the mapping programs so as to maintain an accurate computerised record of the distribution system.

### **RECEIVABLES**

24. In its original petition the petitioner had indicated that its receivables at the end of FY 99-2000 (closest to the test year) would be Rs. 29.6 billion, which figure corresponds to 18% of the annual assessment.
25. The petitioner's receivables during the last 38 years have been varying from a minimum of 11.1% in 1960 to a maximum of 36.9% in 1997-98. The petitioner had further assumed that, as per its recovery plan:
- i) it shall recover 100% of outstanding dues as well as the current billing in respect of public sector connections; and
  - ii) it shall recover 98% of the current billing of private sector and in addition, recover an amount of Rs. 2 billion from outstanding dues of Rs.24.9 billion (ending 30<sup>th</sup> June, 1998) against private consumers including FATA (Rs. 2 billion), agriculture tube well Balochistan (3.4 billion) and KESC (Rs. 5.7 billion).
26. It was observed that if the above targets were achieved, the petitioner's receivables would become Rs.29.6 billion at the end of

financial year 99-2000, which would compare with previous years' figures as under:

TABLE 2

<b>S.No.</b>	<b>Financial Year</b>	<b>Progressive receivables (M Rs)</b>	<b>Progressive receivables as %age of annual billing</b>
1	1997-98	34,934	28.8
2	1998-99	24,941	17.0
3	1999-2000	29,632	18.0

27. During cross examination, the petitioner was asked to confirm the above figures and it was pointed out that as a result of recovery campaign the receivables during the financial year 99-2000 had been shown to have increased by Rs.4.7 billions in amount and by 1% as percentage of annual assessment. It was further pointed out to the petitioner that its receivables even without Army's support had been brought down to the level of 17.3% in 1987-88 and 15.9% in 1988-89. During the cross examination, the petitioner confirmed that with the Army's support the recovery rate had improved during January/February, 1999. It was accordingly proposed to the petitioner that with the Army's support it would be able to reduce the receivables at the end of financial year 99-2000 to a level of 17.0% if not less. The petitioner agreed to make all out efforts in this direction.

28. It was further pointed out to the petitioner during cross-examination by the Authority's case officers that an amount of Rs.20.38 billion was outstanding against private consumers for the period ending 31<sup>st</sup> December, 1998. The petitioner with Army's

support should be able to recover sizeable portion of this amount and not a meager amount of Rs.2 billion indicated by them in their petition. The petitioner agreed for making all out efforts to recover sizeable amount from private sector during the FY 99-2000.

29. Various interveners made the following observations with respect to receivables in their intervention requests and their presentations during the hearing:

- i) the petitioner should recover its heavy receivables instead of seeking increase in tariff;
- ii) with the induction of Army, the recovery rate had considerably improved. Therefore the petitioner would be able to reduce its receivables considerably and as such there was no justification for tariff raise;
- iii) the petitioner should get its receivables adjusted against its payables in respect of Provincial Governments and various Federal Government departments;
- iv) the petitioner should freeze the assets of defaulting consumers as per law to ensure recovery of its receivables;
- v) the petitioner should utilize its coercive powers given to it by law for recovery of its dues from public sector as well as private sector;
- vi) the petitioner's receivables from Government agencies should be settled immediately and it should be compensated in cash by the Federal Government, while Federal Government should assume full responsibility to settle these dues from other governments directly.

30. The petitioner's receivables ending December 1998 were of the order of Rs.50.3 billion (Rs. 29.9 Government plus Rs.20.4 private).

The break up of private receivables of Rs.20.4 billion is tabulated below:

TABLE 3

Sr. No.	Category	Amount (Rs. billion)
1.	FATA	2.5
2.	Agriculture T/W, Balochistan	4.0
3.	Spill over amount	2.3
4.	Deferred amount	1.1
5.	Permanently disconnected defaulters	4.6
6.	Running defaulters	5.9
7.	Total private	20.4

31. The petitioner in its revised petition agreed to bring down the receivables to 17.1% with following projections:

TABLE4

Sr. No.	Year	Receivables			
		Original Petition		Revised Petition	
		Amount (M. Rs.)	As %age of annual assessment	Amount (M. Rs.)	As %age of annual assessment
1.	1997-98	34,943	28.8	44,683	36.9
2.	1998-99	24,931	17.0	24,324	17.1
3.	1999-2000	29,632	18.0%	24,324	17.1

32. It is considered that the petitioner restrict its overall receivables to the level of 17.1% of annual billing during the financial year 1999-2000. Such level of receivables, if achieved by the petitioner, would be considered to be commendable performance.

33. We take this opportunity to hold that any increase in tariff requested on account of the inability of the petitioner (or for that matter, any other utility) to recover its receivables from the Government or its agencies will not be countenanced. There is no justification for the utilities not to recover their receivables from the Government or its agencies and to burden the consumers by seeking to meet the short fall through tariff increase.

**TARIFF STRUCTURE AND CROSS SUBSIDIES**

34. The petitioner explained during the hearing that the tariff structure had a historical base. WAPDA is a public utility and has to work in the framework of macro-economic and social policy objectives of the Government, which include insulation of the life-line and other consumers from the increases in tariff, affordability considerations, recovery of over-all cost of service and generation of sufficient cash for financing development projects.

35. It was further explained by WAPDA that the rate structure was not presently based on any specific cost-of-service study for individual tariff categories. However, on overall basis, the cost of service was recovered through tariff. It was further stated by the petitioner that within the constraints and framework of known subsidies, life-line tariffs and keeping in view the social and economic policy objectives of the Government, the tariff structure in many respects was in line with and close to cost-of-service considerations. It was further explained that WAPDA had the in-house capability to carry out the cost-of-service study, and in the future, cost-of-service study would be carried out. As such, the petitioner has not contested the evidence led by the interveners that the tariff structure is distorted through inclusion of cross-subsidies.

36. The level of cross-subsidies for the FY 1997-98 in the existing tariff is stated by the petitioner as follows:

TABLE 5

	Tariff Category	Average sale Rate (PS/Kw h)	Class Average sale rate as percentage of overall Average rates	**Subsidy Amount (M.Rs)
Subsidies and cross subsidies for FY 97-98	FATA domestic	15	5	-8508
	Domestic without FATA upto 300 units	166	57	-13027
	Domestic above 300 units.	340	117	1200
	Commercial	667	230	6126
	Industrial	414	143	10233
	Bulk	348	120	935
	Ag. T/Wells			
	i) SCARP	427	147	1422
	ii) Flat Rate	93	32	-9761
	iii) Metered Supply	339	117	301
Others	413	142	1476	
Total:	290	100	-9603	

37. According to the revised petition, the deviation from average rate for the FY 1999-2000 as per the revised tariff is as follows:

TABLE 6

Tariff Category	Original Petition		Revised Petition	
	Average	Subsidy	Average sale rate as	

	sale rate as percentage of overall rate	Amount (M.Rs.)	percentage of overall rate
FATA domestic	5	-8508	10%
Domestic without FATA upto 300 units	57	-13027	62%
Domestic above 300 units.	117	1200	144%
Commercial	230	6126	190%
Industrial	143	10233	112%
Bulk	120	935	125%
Ag. T/Wells			
ii) Scrap			
ii) Flat Rate	147	1422	118%
iii) Metered Supply	32	-9761	
	117	301	95%
Others	142	476	158%
Total:	100	-9603	
	100		

38. Regarding the cross-subsidies pertaining to the agricultural sector, the original petition and the revisions are based on elimination of the flat rate tariff. We endorse this measure, as a major step towards elimination of cross-subsidies. The FAP contended that the elimination of the flat rate tariff was a measure with potentially drastic consequences for the national economy. According to them, the impact of the many highly taxed input costs was partly

being mitigated by the flat rate tariffs and the cross-subsidy built therein. The removal of this cross-subsidy would tantamount to creating further economic distortions. We are, however, required to follow the Rules, which mandate the elimination of cross-subsidies, and therefore cannot but endorse the abolition of the flat rate tariff. However, we are cognisant that the impact of removal of cross-subsidies needs to be carefully evaluated in the context of its economic repercussions. Furthermore, the resulting agricultural tariff should not cause the shift to self-generation by the tube-well owners involving the use of high speed diesel oil. We therefore, deem it very essential that a detailed study be carried out at a macro level. The objectives of such study should include the impact on the productivity of the agricultural sector, the health of the electric utilities and the capital and operational costs of a shift to self-generation on the national economy.

39. We note with concern that the cross-subsidy for the customers in the Federally Administered Tribal Areas being given in the shape of flat rate tariffs is not sought to be removed. This translates into a clear discrimination against other consumer classes. We cannot but hold that this cross-subsidy is in violation of the provisions of the Rules, and must be removed over a reasonable period of time.
40. Should the subsidies to any consumer class be considered essential by the Government in view of its social and economic policy objectives, it should be provided in a transparent manner directly by the Government, as provided under rule 17(3)(vii) of the Rules, and not through burdening the other consumer classes.
41. Regarding the cross-subsidies paid by the industrial sector, APTMA referred to the studies carried out by Coopers and Lybrand in



1992, and the National Power Plan of WAPDA of 1994, which quantified the cross-subsidies prevalent in the sector at the times the studies were carried out. The petitioner however stated that these studies were out-of-date, and cannot be relied on for the accuracy of the figures contained therein. APTMA also pointed out that at the rate proposed in the original petition for cross-subsidy elimination, it will take a very long time (80-100 years) to eliminate the cross-subsidies being provided by the industrial sector.

42. The Rules mandate the identification of the cross-subsidies and their elimination over an adequate transition period. The revised petition and the second revised petition reduce the rates of industrial tariffs as set out in the Table 7.

TABLE 7

CATEGORIES	Rate Paise Per KWH				% to Average Tariff				
	Existing Tariff	Original Petition	Revised Petition	2nd Revision	Existing	Original	Revised	2nd Revised	
<b>DOMESTIC</b>									
Flat Rate in FATA	29.64	34.97	34.97	34.97	-91%	-90%	-89%	-90%	
01 - 50	140.34	139.63	140.11	140.11	-56%	-61%	-58%	-60%	
51 - 150	204.80	227.31	159.97	172.00	-36%	-36%	-52%	-51%	
151 - 300	294.57	326.85	251.00	262.00	-8%	-8%	-24%	-25%	
301 - 1000	507.24	562.83	460.05	490.00	59%	59%	39%	41%	
1001 - 2000	625.09	689.65	564.70	630.00	96%	95%	70%	81%	
2001 - 3000	645.09	715.79	599.46	630.00	102%	102%	81%	81%	
3001 - 4000	665.09	737.98		630.00	109%	109%	-100%	81%	
Above 4000	680.09	754.62		680.00	113%	113%	-100%	95%	
<b>COMMERCIAL</b>									
01 - 100	668.37	741.62	668.21	668.00	110%	110%	101%	92%	
Above 100	716.86	795.43	660.01	705.00	125%	125%	99%	103%	

<b>INDUSTRY</b>									
KW	B-1 400 Volts upto 40	466.18	517.57	450.00	460.00	46%	46%	36%	32%
KW	B-2 400 Volts 41 - 500	516.46	572.76	430.24	458.00	62%	62%	30%	32%
KV	B-3 11/33	402.49	446.60	339.97	366.00	26%	26%	3%	5%
KV	B-3 66/132	388.91	432.13	319.97	355.00	22%	22%	-4%	2%
<b>BULK</b>									
Volts	C-1 400								
Licensees	a) Licensees & Non Licensees	426.43	473.11	425.95	426.00	34%	34%	28%	22%
	b) Others	459.10	509.50	458.97	475.00	44%	44%	38%	36%
V	C-2 11/66 K								
Licensees	a) Licensees & Non Licensees	396.98	440.13	397.01	397.00	25%	24%	20%	14%
	b) POF	461.68	511.42	462.00	462.00	45%	45%	39%	33%
	c) Others	448.36	498.26	448.03	465.00	41%	41%	35%	34%
	d) AJ & K	323.98	359.48						
KV	C-3 66/132	441.04	492.97	440.99	441.00	38%	39%	33%	27%
<b>TUBEWELLS</b>									
	a) SCARPS	389.64	432.34	389.99	390.00	22%	22%	18%	12%
	b) Punjab & Sind								
	I) Flat Rate Tariff	106.90	118.67	349.98	350.00	-66%	-66%	6%	1%
	II) Metered Tariff	427.26	474.99		350.00	34%	34%	-100%	1%
	c) NWFP & Baluchistan								
	I) Flat Rate Tariff	81.91	91.00	291.05	291.00	-74%	-74%	-12%	-16%
	II) Metered Tariff	355.34	393.36	344.43	291.00	12%	11%	4%	-16%
PUBLIC LIGHTING		588.61	653.12	587.73	700.00	85%	85%	77%	101%
TARIFF H		482.72	535.62	484.00	500.00	52%	52%	46%	44%
TRACTION		384.14	426.24	384.00	400.00	21%	21%	16%	15%
KESC		300.00	330.85	500.00	500.00	-6%	-6%	51%	44%

43. The average industrial tariff can be seen to have been reduced from 445.1 ps/kwh to 414.0 ps/kwh. The percentage deviation from the average rates has been reduced from 40.0% in the original petition to 19.0% in the second revised petition. This seems to be a good start for the removal of cross subsidies in a reasonable time frame for the purposes of rule 17(3)(vii) of the Rules.

44. We note that while a comparison of average tariff rates does not provide a suitable basis for the identification of cross-subsidies, it provides a starting point until such time an adequate cost-of-service study is carried out.

45. We therefore hold, in relation to the case presented by APTMA, as follows:

- i) the identification and quantification of cross-subsidies requires a comprehensive study to be carried out by the petitioner in this respect;
- ii) the revised tariff reduces the level of cross-subsidies already prevalent or which would have prevailed had the rates requested in the original petition been enforced;
- iii) there is no credible touch-stone for the variation in the rates proposed in the context of the aim of removal of cross-subsidies and the present rate structure is therefore considered acceptable as a step towards achieving elimination of cross subsidies in a reasonable period of time; and

- iv) the proposed rates, therefore, do not violate the requirements of the Rules relating to the removal of cross subsidies.

**TOD Tariff**

46. Time of Day tariff question was raised by intervener Muhmamad Hussain & Sons during cross examination of the petitioner. It was brought to light that the petitioner in his original petition had not mentioned specifically the TOD tariff when a request for raise in industrial tariff was requested. It was contended by the intervener that the existing TOD rates should prevail and if the petitioner requests an increase in TOD tariff he should do so through another petition. The petitioner argued that TOD tariff is an integral part of industrial tariff and therefore the revision in rates of industrial tariff is equally applicable to the TOD as well. Controversy over this issue was resolved in the revised petition wherein the petitioner has indicated a reduction in TOD rates separately. The petitioner also informed during the cross examination by APTMA that the basis of TOD tariff was the Cooper and Lybrand's study and that so far 80 consumers had opted for TOD rates. The revised petition requests for a TOD rate lower than the existing TOD rates for industrial customers.

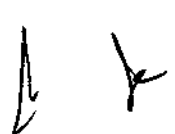
47. During cross examination of the petitioner by the case officer, the petitioner confirmed that the revised TOD tariff is such that it would benefit the customer in shape of a reduced over all average rate and the petitioner in the shape of improved load factor and consequent reduction in peak demand. To another question from the case officer the petitioner confirmed that adequate TOD meters are available in stock to provide TOD meters to most of the

industrial customers. He also confirmed that 70% of the industrial consumers can be provided TOD meters by 30<sup>th</sup> June 1999 and the remaining would be provided by 30<sup>th</sup> September 1999.

48. The Authority considers that the applicability of TOD metering can be an effective incentive to achieve the same benefits which are expected from lowering the industrial tariff such as:

- i) stimulating the industrial sale
- ii) recapturing lost load due to self generation
- iii) reduction in the peak load thereby achieving saving in fuel cost by reduced use of most expensive generating stations
- iv) saving due to reduced capital expenditure required for long term capacity expansion program of generation and transmission system

49. In view of the advantages to both the industrial customer and the utility and in view of the capability of the petitioner to provide TOD meters in a reasonable period of six months, we order that TOD metering be made mandatory for industrial B-3 and B-4 customers. We also order that mandatory TOD metering should be extended to bulk supply C-2 and C-3 customers within a period of one year from the date of this determination at the rates to be approved by the Authority.



## INCREASE IN AGRICULTURE TARIFF

50. The petitioner in the original petition requested for an increase of 11.6% in the agricultural tube well tariff. This proposed increase was vehemently opposed by the FAP contending that the grounds for their case included the affordability issue, the overall impact of such increase on the economy of Pakistan which is still predominately agricultural, the import bill of grain borne by the Government each year, the practice of substantial subsidies to the agricultural sector in other countries and the like. The contentions of the FAP are set out in detail in their intervention request which forms part of the record.
51. In the revised petition the rates proposed by the petitioner have been reduced by 18% for metered agricultural tube wells. As such, the contention of FAP has been addressed in the revised petition. It must be noted that FAP never put forward a figure against which the reduced price in the revised petition can be compared. Regarding the flat rate agricultural tube wells the flat rate has already been abolished. The reduction of rates in metered agricultural tube wells would, to some extent, compensate for the adverse effect, if any, of the withdrawal of the flat rates in cases of tube wells operating on high load factor usage. The reduction in price of agricultural metered supply taken together with elimination of flat rate would therefore result in an overall average rate for agricultural tube wells which may be marginally lower than the existing average agricultural tariff.



## **QUALITY SUPPLY TO THE RURAL AND AGRICULTURAL SECTORS**

52. FAP contended that the quality of service to the agricultural users is very poor. He requested that NEPRA should not allow the same average rates to be charged for both the poor and high quality of service. In this context the petitioner while replying in cross examination explained that there was no distinction or discrimination between supply of power or quality of service to the rural or the urban customer and the petitioner did not agree that the quality of supply of power was lower for the agricultural tubewell customers. The petitioner also informed that whatever improvement was possible within the available resources was being carried out to improve the distribution system. It was considered that since a proper cost-of-service study had not been made, it can not be accurately estimated as to whether the quality of supply can be related to cost-of-service. It is however evident that the rural customer on account of low load density and the remoteness from the grid station involves a higher cost as compared to the urban customer. Therefore, to allow a lower rate to rural agriculture customers only because of a comparatively lower quality of supply may not be justified. A comprehensive cost-of-service study as well the study of characteristics of supply to both rural and urban customers is required to be carried out by the petitioner to co-relate rates with quality of supply.

### **INCOME STATEMENT ITEMS**

#### **Maintenance Costs**

53. Income statement shown at page 26 of the revised petition gives the estimates of maintenance costs at Rs.3.4 billion and Rs.4.6

billion for the FY 1999 and 2000 respectively showing an increase of 33%. During cross-examination, the petitioner stated that increase in maintenance cost was estimated @ 1.5% of gross fixed assets. It was considered that during the past two years sufficient funds were not made available for maintenance of the system. Therefore, the amount provided was considered reasonable.

#### Operation & Administration

54. The petitioner has estimated an increase of 10% in operation & administration expenses. The petitioner did not provide the break-up of these expenses, major head-wise in line with the information direction. The proposed increase in operation & administration expenses is considered inevitable in view of the announcement made by the Government to raise salaries in the forthcoming budget.
55. Some of the interveners objected to the provision of free electricity to the employees of the petitioner. During cross-examination, the petitioner however, defended its proposal on the grounds that other utilities also provide similar facilities and that if it is withdrawn then employees' salary would have to be increased which would be more expensive. The petitioner also stated that un-authorized extension of load by WAPDA employees has been stopped with the intervention of the Army.

#### Fuel Cost

56. It was observed that despite decrease in thermal generation, fuel cost has gone up from 18.98 billion in 1999 to 21.5 billion in FY 2000. On cross-examination, the petitioner stated that the major



reason for this increase was the proposed purchase of nuclear power from Pakistan Atomic Energy Commission. This cost has been wrongly included in the fuel cost; it should have been taken under the head 'purchase of power'. During cross-examination, the interveners and the experts of NEPRA questioned the rationale for this increase in fuel cost when the prices of fuel were dropping worldwide. The petitioner contended that the proposed increase is based on the past trend. The petitioner quoted the instance of 1996 when the fuel prices were raised suddenly by the Government. However, the petitioner eliminated the 8% increase in the revised petition.

#### Nuclear Power Purchase

57. The petitioner has assumed 6.5 cent per kWh at par with the rate of the independent power producers in its projections. On cross-examination, the petitioner contended that this project is a part of the National Power Plan approved by the Federal Government and that the Power Purchase Agreement and the rate would be submitted to NEPRA for approval. The petitioner further stated that being a public sector project, the petitioner is obliged to purchase power from the Atomic Energy Commission. We are of the view that purchase of nuclear power is economically justified on account of its very low marginal cost.

#### Interest Charges

58. It was observed that the interest charges being incurred by the petitioner are paid on account of the loans received through Federal Government or directly taken by the petitioner. The

amount being provided was in line with the trend recorded in the past.

### **Sources and Application of Funds**

#### **Borrowings**

59. In the original petition, borrowing through WAPDA Bonds was proposed at Rs.7.9 billion as an external source, whereas, redemption of bonds was also provided in the sum of Rs.9.3 billion leaving a gap of Rs.1.4 billion which was proposed to be met through rate increase. The petitioner increased the borrowing through bonds at Rs. 17.5 billion in the revised petition. The other borrowings consisted of cash development loan and foreign loans of Rs.1 billion and 15.8 billion respectively, which the petitioner had proposed for financing of the construction program.

#### **Construction Program**

60. The petitioner has not provided the details of construction program and it was not possible to examine it properly. Most of the interveners opposed the capital expenditure through tariff increase. The petitioner, however, contended that in every utility having a long-term expansion program, funds are required through external sources and a certain percentage of the capital expenditure is required to be generated from internal resources. This is in accordance with the accepted utility practices.

61. The petitioner further explained that it has entered into loan agreements with multinational agencies for financing of its expansion program. These loan agreements contain certain conditionalities relating to internal cash generation and debt

service coverage ratio. In order to meet these covenants the petitioner has demanded financing of a part of the expansion program as self-financing from the revenue.

62. The Authority, therefore, considers that the expansion program be allowed to continue as proposed by the petitioner until such time the investment program of the petitioner (or its successor entities) is approved by the Authority.

#### Rural Electrification

63. It was observed that rural electrification was being financed through internal cash generation and borrowing. It was considered that since rural electrification program is not cost effective, the petitioner should approach the Federal Government to allow non-refundable free grant for this purpose.
64. We deem it essential to mention that the financial aspects of the revised and the second revised petitions have not been rigourously analysed in this determination in the manner it would have been done had the return on asset base method been followed. As explained earlier, this determination is being made as an exceptional and a stand-alone departure from the proclaimed method of rate determination. A further reason for not subjecting the investments and capital expenditure programmes of the petitioner to a thorough scrutiny is that the investment program of the petitioner has not yet been submitted to the Authority for approval pursuant to the Act.
65. During the hearing, the petitioner was administered interrogatories and information directions under the Rules. Some of these have

not been responded to by the petitioner. Although each violation can be penalised with a fine upto three hundred thousand rupees, we have decided, as an exceptional case, to condone the penalties on the grounds that the failure of the petitioner was on account of its inability to collect the information within the time-frame provided. We advise the petitioner and others similarly placed not to file tariff petitions until such time they have prepared themselves adequately to address the various issues which may arise in the context of their petition.

66. An important study which needs to be carried out is an economic cost optimisation study of the electric power sector. The electric power sector has entered into a transition phase and is experiencing high costs. In spite of major efforts to arrest the losses and theft, vocal protests are being made in every sector against the prevalent high costs of electric power which are stated to be unconscionably high. The rising trend of costs is set out in Table 1. Prior to 1993, such remonstrations by the consumers were quite unusual, but can now be noticed as a regular feature. The raise in the electrical tariffs is beginning to hurt the consumers. We, therefore, feel that a fundamental and substantial imbalance is starting to appear between a minimum cost solution for the expansion of the power system and its present state. The need to study the entire cost structure of the power sector is pressing. The appropriate time to conduct such study would be at the time the completed accounts for the financial year 1998-99 become available. The degree of the effectiveness of the economy measures being taken would become apparent by then. We, therefore, direct that a study of the economic costs being incurred by the petitioner be carried out. If the study reveals such costs to be out of line with the accepted standards for the financial and

operational viability of utilities, a restructuring of the cost and financial structure of the petitioner may become imperative.

67. We have made several mandatory directions to the petitioner in this determination and hold that the petitioner shall be liable to fines in the event of its failure to comply with the directions. Our directions are summarised below:

- i) the provision of a written, binding and enforceable undertaking by the petitioner for refund protection in terms of paragraph 7(iii) hereof no later than fifteen days of the date of this determination;
- ii) provision of connection to all pending industrial load within three months of the date of this determination;
- iii) the conversion of industrial consumers (B3 and B4) and commercial consumers (C2 and C3) to TOD tariffs by the stated dates at the rates to be approved by the Authority;
- iv) resumption of mapping studies;
- v) the carrying out of (A) a comprehensive cost-of-service study; (B) a study of the economic costs of removal of cross-subsidy on the agricultural tariffs; and (C) an economic cost optimisation study in respect of the electric power sector in general and the petitioner in particular;
- vi) the preparation of any subsequent tariff petitions in accordance with the provisions of rule 17(3) of the Rules;

68. The tariff table set out as the Annex to this determination be sent to the Federal Government for notification under Section 31(4) of the Act.

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*A-1*

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

**ANNEX**

**Tariff Determination dated 27<sup>th</sup> March, 1999**

**WAPDA PETITION 03/98**

S.R.O. \_\_\_\_\_---- In exercise of the powers conferred on the Federal Government pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997), the Federal Government hereby notifies the following tariff in respect of the provision of electric power services by the Water and Power Development Authority. This tariff has been approved by the National Electric Power Regulatory Authority pursuant to Section 31(4) of the said Act, subject to the terms and conditions set out in paragraphs 7(i) through (iii) of the determination of the Authority dated 27<sup>th</sup> March, 1999, in respect of the petition number WAPDA 03/98 dated 21<sup>st</sup> December, 1998. The rates set out herein shall take effect as of the date of publication of this statutory revisionary order in the official gazette, and shall continue to be effective until notified otherwise.

*h*      *k.*

## SCHEDULE OF ELECTRICITY TARIFFS

TARIFF CATEGORY/PARTICULARS	FIXED CHARGES Rs/KW/M	ENERGY CHARGES Ps/KWH	F.A.S. Ps/KWH	ADDITIONAL SURCHARGE Ps/KWH
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### GENERAL SUPPLY TARIFF A-1

UPTO 50 UNITS	-	54	7	73
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#### FOR CONSUMPTION ABOVE 50 UNITS

FOR FIRST 100 UNITS (1-100)	-	68	7	89
FOR NEXT 200 UNITS (101-300)	-	77	15	160
FOR NEXT 700 UNITS (301-1000)	-	110	75	286
FOR NEXT 3000 UNITS (1001-4000)	-	147	75	385
ABOVE 4000 UNITS	-	147	75	436

FLAT RATE FOR FATA (Rs/CON/MONTH)	90 -	-	-	537
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Under this tariff, there shall be minimum monthly charges at the following rates even if no energy is consumed.

- |                              |           |   |  |  |
|------------------------------|-----------|---|--|--|
| a) Single Phase Connections; | Rs. 60/-  |   |  |  |
| b) Three Phase Connections:  | Rs. 150/- | plus Rs. 25/- per KW for load in excess of 5 KW |  |  |

### GENERAL SUPPLY TARIFF A-2

FOR FIRST 100 UNITS	-	217	75	346
ABOVE 100 UNITS	-	241	75	356

Under this tariff, there shall be minimum monthly charges at the following rates even if no energy is consumed.

- |                              |           |   |  |  |
|------------------------------|-----------|---|--|--|
| a) Single Phase Connections; | Rs. 200/- |   |  |  |
| b) Three Phase Connections:  | Rs. 500/- | plus Rs. 50/- per KW for load in excess of 5 KW |  |  |

### INDUSTRIAL SUPPLY TARIFFS

B-1 UPTO 40 K.W. (at 400 Volts)	-	119	75	246
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There shall be a minimum monthly charges of Rs. 100/KW for first 20 Kilowatt of load and Rs. 150/KW for loads between 20-40 KW even if no energy is consumed.

B-2 UPTO 41-500 K.W. (at 400 Volts)	300	68	75	164
B-3 UPTO 5000 K.W. (at 11/33 KV)	290	67	75	144
B-4 FOR ALL LOADS (at 66/132/220 KV)	280	62	75	133
Special Tariff for High Voltage & Short Circuit Testing Lab. Rawat.	-	126	75	144

### TIME OF DAY TARIFF FOR B-3 CONSUMERS

PARTICULARS	FIXED CHARGES (Rs/KW/MONTH)	ENERGY CHARGES		F.A.S. Ps/KWH	ADDL. SURCHARGE	
		OFF-PEAK HOURS	PEAK HOURS		OFF-PEAK HOURS	PEAK HOURS
		Ps/KWH	Ps/KWH		Ps/KWH	Ps/KWH
For Sanctioned Loads not exceeding 5000 KW	290	53	135	75	103	169

### TIME-OF-DAY TARIFF FOR B-4 CONSUMERS

For All Loads	280	49	125	75	96	167
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NOTE :- In all electricity tariffs, the "SURCHARGE" at the rate of 10.4% of "Supply Charges" is also Leviable. "Supply Charge" include Fixed Charges, Energy Charges, F.A.S. and Low Power Factor Penalty.



## SCHEDULE OF ELECTRICITY TARIFFS

TARIFF CATEGORY/ PARTICULARS	FIXED CHARGES Rs/KW/M	ENERGY CHARGES Ps/KWH	F.A.S. Ps/KWH	ADDITIONAL SURCHARGE Ps/KWH
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### BULK SUPPLY TARIFFS

C-1 (a) 400 Volts	-	83	75	252
C-1 (b) 400 Volts	220	68	75	251
C-2 (a) 11/33 KV	-	69	75	238
For Government of AJ&K	-	69	75	165
C-2 (b) POF WAH	-	95	75	274
C-2 (c) 11/33 KV	216	65	75	248
C-3 66/132/220 KV	214	63	75	224

### AGRICULTURE TARIFF-D

1- SCARP	-	85	75	213
2-(I) PUNJAB AND SINDH	150	49	75	80
2-(II) NWFP & BALUCHISTAN	132	34	75	70

### FLAT RATE TARIFF D-1

	FIXED CHARGES RS/HP/MONTH	ADDITIONAL SURCHARGE RS/HP/MONTH
1) Punjab & Sindh	147	373
2) NNWFP & Baluchistan and Distt of Mianwali and Bahawalpur in Punjab & Tharparkar in Sindh	122	316

### TEMPORARY SUPPLY TARIFFS

FIXED CHARGES Rs/KW/M	ENERGY CHARGES Ps/KWH	F.A.S. Ps/KWH	ADDITIONAL SURCHARGE Ps/KWH
-----------------------------	-----------------------------	------------------	-----------------------------------

E-1(i) Domestic Supply	-	170	75	299
E-1(ii) Commercial Supply	-	319	75	446

For the above two categories, the minimum bill of the consumers shall be Rs. 46/- per day subject to a minimum of Rs. 200/- for the entire period of supply, even if no energy is consumed.

E-2(i) Industrial Supply	-	174	75	303
E-2(ii)a Bulk Supply to Licensees/ non-licensees (at 400 V)	-	135	75	315
E-2(ii)b Bulk Supply to Licensees/ non-licensees (at 11 K V)	-	123	75	303
E-2(iii) Bulk Supply to other consumers	-	144	75	323

### SEASONAL INDUSTRIAL SUPPLY TARIFF-F

SUPPLY CHARGES	ADDITIONAL SURCHARGE
125% of the "supply charges" relevant industrial supply tariff	125% of the Addl. Surch. of the relevant industrial supply tariff

NOTE: In all electricity tariffs, "SURCHARGE" at the rate of 10.4% of "Supply Charges" is also leviable.  
"Supply Charges" include Fixed Charges, F.A.S. and Low Power Factor Penalty.

## SCHEDULE OF ELECTRICITY TARIFFS

TARIFF CATEGORY/ PARTICULARS	FIXED CHARGES Rs/KW/M	ENERGY CHARGES Ps/KWH	F.A.S. Ps/KWH	ADDITIONAL SURCHARGE Ps/KWH
---------------------------------	-----------------------------	-----------------------------	------------------	-----------------------------------

**RESIDENTIAL COLONIES ATTACHED TO  
INDUSTRIAL PREMISES (TARIFF-H)**

1. - Consumers having their own transformer	104	75	302
2. - Consumers not having their own transformer	105	75	304

TARIFF-I FOR RAILWAY TRACTION	61	75	250
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**TARIFF-J FOR CO-GENERATION CONSUMERS**

1. SALE OF POWER BY WAPDA	133	75	270
2. PURCHASE OF POWER BY WAPDA			
a) During December to July	103 -	-	
b) During August to November	78 -	-	

**PUBLIC LIGHTING TARIFF (G)**

**1-UNIT CHARGES**

i) For Provincial Governments affording exemption to WAPDA from payment of Octroi & Property tax		<b>As per General Supply Tariff A-1</b>	
ii) For consumers other than those falling in the category Tariff G-1(i)	152	75	449

**2-FIXED LINE CHARGES PER MONTH PER MILE**

i) Where the entire capital cost in laying Street Lighting supply line which is exclusively meant for Street Lighting is borne by the Authority	Rs. 253
ii) Where the entire capital cost in laying Street Lighting supply line which is exclusively meant for Street Lighting is borne by the consumers	Rs. 23
iii) Where the entire capital cost is laying Street Lighting supply line over the existing distribution system is borne by the Authority	Rs.158
iv) Where the entire capital cost in laying Street Lighting supply line over the existing distribution system is borne by the consumer	Rs.33
v) For Street Lighting supply through underground cables	Rates to be negotiated

NOTE: In all electricity tariffs, the "SURCHARGE" at the rate of 10.4% of "Supply Charges" is also leviable. "Supply Charges" include Fixed Charges, Energy Charges, F.A.S. and Low Power Factor penalty