



Registrar

National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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No. NEPRA/TRF-255/JPCL-2014/10516-10518
September 12, 2014

Subject: Determination of National Electric Power Regulatory Authority in the Matter of Tariff Petition filed by Jamshoro Power Company Ltd. [Case # NEPRA/TRF-255/JPCL-2014]

Dear Sir,

Please find enclosed herewith the subject Determination of the Authority (25 pages) in Case No. NEPRA/TRF-255/JPCL-2014.

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

3. Please note that only Order of the Authority at para 10 of the Determination needs to be notified in the official Gazette.

Enclosure: As above

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


(Naweed Illahi Shaikh)

CC:

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



**National Electric Power Regulatory Authority
(NEPRA)**

**Tariff Determination
In the matter of Tariff Petition filed by
Jamshoro Power Company Limited (JPCL)
FY 2014-15**

(NO: NEPR/TRF-255/JPCL-2014)

Islamabad

INTERVENER

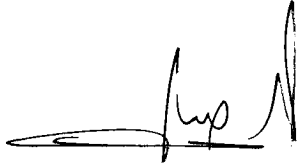
Nil


COMMENTATOR

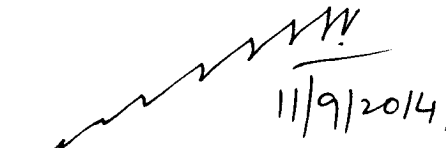
Nil

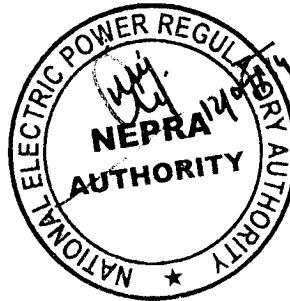


The Authority, in exercise of the powers conferred on it under Section 7(3) (a) read with Section 31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, Tariff Standards and Procedure Rules, 1998 and all other powers enabling it in this behalf, and after taking into consideration all the submissions made by the parties, issues raised, evidence/record produced during the hearings, and all other relevant material, hereby issues this determination.


(Khawaja Muhammad Naeem)
Member


(Maj(R))Haroon Rashid
Member

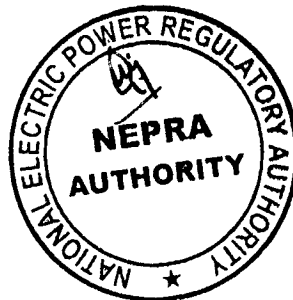

(Habibullah Khilji)
Vice Chairman





GLOSSARY

BTU	British Thermal Unit
COD	Commercial Operation Date
Company	Jamshoro Power Company Limited
CPPA	Central Power Purchase Agency
CPI	Consumer Price Index
CPP	Capacity Purchase Price
EPP	Energy Purchase Price
FCC	Fuel Cost Component
GOP	Government of Pakistan
GWh	Giga Watt hour (1,000,000 kilowatt hour)
HSD	High Speed Diesel (Light Fuel Oil)
IDC	Interest During Construction
IPP	Independent Power Producer
JPCL	Jamshoro Power Company Limited
Kw	Kilowatt
kWh	Kilowatt hour
MW	Mega Watt (1,000 kilowatts)
MWh	Mega Watt Hour
NEPRA/Authority	National Electric Power Regulatory Authority
NTDC/Power Purchaser	National Transmission and Dispatch Company Limited
OGRA	Oil & Gas Regulatory Authority
O&M	Operation & Maintenance
Petitioner	Jamshoro Power Company Limited
Project	1,054 MW Thermal Power Project
PKR/Rs.	Pak Rupees, Legal Currency of Pakistan
PPA	Power Purchase Agreement
RFO	Residual Fuel Oil
ROE	Return on Equity
Ton	Metric Tonne i.e. 1000 Kg
USD/\$	United States Dollars; legal tender of USA
CPI	Consumer Price Index
WAPDA	Pakistan Water & Power Development Authority
Cft	Cubic Foot.

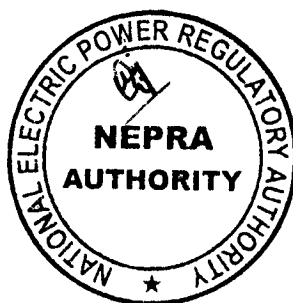


Brief History:

- 1.1. Consequent upon the restructuring of power wing of Pakistan Water and Power Development Authority, hereinafter referred to as the "WAPDA", its thermal power generation facilities have been split up into four (4) independent generation companies, which are known as GENCO(s). Jamshoro Power Company Limited, hereinafter referred to as "JPCL" or the "Company", was registered under the Companies Ordinance 1984 on August 3, 1998 to own and operate thermal power generation facilities at Jamshoro and Kotri. The Company commenced its commercial operation on March 1, 1999. It was organized to take over all the properties, rights, assets, obligation and liabilities of Jamshoro Thermal Power Station and Kotri Gas Turbine Power Station with a total name plate capacity of 1054 MW – owned by WAPDA previously.
- 1.2. JPCL was granted a Generation License NO. GL/01/2002 on July 1, 2002 by National Electric Power Regulatory Authority hereinafter referred to as "NEPRA" or "Authority", to engage in the business for a term of nineteen (19) years, pursuant to Section 15 of the 1997 Regulation of Generation, Transmission and Distribution of Electric Power Act. The Generation License will expire on June 30, 2021.

2. JPCL's Generation Tariff

- 2.1. JPCL filed an initial tariff petition vide letter NO. CEO/JPCL/BST/755-58 dated 15-02-2003 for determination of Bulk Supply Tariff. NEPRA after hearing, reviewing and analysis of the tariff petition, issued the determination of Tariff vide letter No. NEPRA/TRF-18/JPCL-2003/9572-5 dated 29-03-2004.
- 2.2. In 2006, the Company approached NEPRA vide letter No. CEO/JPCL/BST/Vol-III/3855 dated 19-06-2006 for the revision of earlier Tariff as a result of restructuring of Balance Sheet of the Company due to:
 - (a) Conversion of JPCL payables to WAPDA on account of Debt Services (Foreign Re-lent and Cash Development Loans) amounting to Rs. 1,631,930,200 into Equity (Deposit for Shares w.e.f. 30-06-2005).
 - (b) Conversion of Long Term Loans (Foreign Re-lent Loan No. 391-A-193 (USAID Loan) amounting to Rs. 4,968,000 into equity (Deposit for Shares w.e.f. 01-7-2005).
- 2.3. It was also prayed that the Revised Tariff may also be allowed and determined up to June 30, 2014. Accordingly, NEPRA after reviewing, analyzing and considering the submission made through above stated Tariff Petition determined the revised Tariff vide Order No. NEPRA/TRF-56/JPCL-2006 dated November 24, 2006. JPCL filed motion for leave for review which was decided vide Order No. NEPRA/TRF-56/JPCL-2006 dated July 3rd, 2007. The determined generation tariff was subject to the following adjustments:
 - (a) One time adjustment in fuel cost component of EPP part of the tariff upon actual heat rate test of each Block.
 - (b) One time adjustment in capacity charge part of tariff upon netdependable capacity test.



- (c) The Fuel Cost Component of EPP has been allowed to adjust on account of fuel price variation.
- (d) Fixed O&M Cost of CPP and Variable O&M Cost of EPP have also been allowed to adjust against changes in Consumer Price Index (CPI) as notified by Federal Bureau of Statistics (FBS) on 1st July and 1st January each year.

2.4 As a result of IDC test the net dependable capacity was established as 798.5 MW against 840 MW, accordingly, the relevant capacity charge components of tariff were adjusted. The fuel cost components of different blocks were also adjusted on the basis of Heat Rate Tests. The results of the Heat Rate Tests carried out in 2006 are shown below:

Description	Block Heat Rate (BTU/kWh)
I - Jamshoro Unit 1	10,656.42
II - Jamshoro Unit 2-4	12,272.00
III - Kotri Unit 3-7 (CCP)	10,237.00
III - Kotri Unit 3-7 (w/o CCP)	15,355.500

2.5 The existing generation Tariff allowed by the Authority vide Order No. NEPRA/TRF-56/JPCL-2006 as amended from time to time remained effective up to June 30, 2014.

3. JPCL's Current Tariff Petition

3.1 JPCL filed the instant tariff petition for the period July 2014- June 2019 vide letter No. FD/JPCL/CF-I/16/1136 dated 20-02-2014 (received dated 24-02-2014).

4. Salient Features of the Tariff Petition

4.1 On the basis of the dependable capacity test for thermal power station Jamshoro, under USAID rehabilitation program, the breakup of installed and net dependable capacities are provided hereunder:

Complex	Installed Capacity (MW)	Existing Net Dependable Capacity (MW)	Proposed Net Dependable Capacity (MW)
Thermal Power Station, Jamshoro	880.00	675.00	649.01
Gas Turbine Power Station Kotri	174.00	123.50	106.50
Total	1,054	798.50	755.51

4.2 According to JPCL, the Company has decided to decommission its Unit No. 1 & 2 at Gas Turbine Station Kotri having installed capacity of 15 MW each (De-rated Capacity 8.5 MW each). It is stated that NEPRA is being approached for modification in the Generation License to this effect.

4.3 JPCL requested for determination of its fuel cost component on the basis of average of heat rate tests at maximum continuous loading and 50% MCR and on block basis rather than unit basis. The summary of heat rate test is provided hereunder:



Unit	Block	Fuel	Net Heat Rate (HHV)		
			MCR	50% MCR	Average
			BTU/kWh		
Unit 1	Block-1	RFO	10,624.74	11,377.91	11,001.33
Unit 2	Block-2	RFO/Gas	12,092.80	13,510.32	12,408.37
Unit 3	Block-2	RFO/Gas	11,764.75	12,657.91	
Unit 4	Block-2	RFO/Gas	11,510.70	12,913.72	

4.4 According to JPCL, the Dependable Capacity and Heat Rate Test of Kotri Gas Turbine Station except for Units 1 & 2 will be carried out within six months and tariff will be adjusted subsequently.

4.5 The petitioner has requested to allow the following generation tariff comprising of capacity purchase price and energy purchase price as under:

Capacity Purchase Price

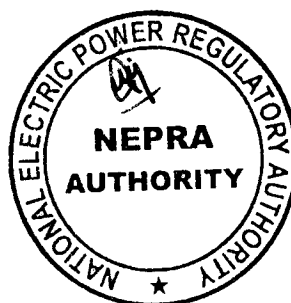
Description		Existing Tariff		Requested Tariff		Indexation
		Rs. Million	Rs./kW/M	Rs. Million	Rs./kW/M	
A	Escalable Component:	2,111.70	220.38	2,977.04	328.37	
	Salary and Wages	1,096.46	114.43	1,838.87	202.83	CPI
	Administrative expenses	130.22	13.59	221.77	24.46	CPI
	Repair and Maintenance	933.58	97.43	942.99	104.01	CPI
	Other income	(48.56)	(5.07)	(26.59)	(2.93)	CPI
B	Non-Escalable Component:	1,963.85	204.95	1,949.96	215.08	
	Insurance cost	75.48	7.88	95.05	10.48	NIL
	ROE	915.37	95.53	1,133.85	125.06	NIL
	financial Charges	262.00	27.34	26.98	2.98	NIL
	Depreciation	711.00	74.20	694.08	76.56	NIL
C	Total Capacity Purchase Price	4,075.55	425.33	4,927.00	543.45	

Energy Purchase Price

Name	Fuel	Net Heat Rate (HHV)		Calorific Value (HHV)	Price	Fuel Cost component	Variable O&M
		Existing	Proposed	BTU/KG	RFO: Rs/M.Ton	Rs./kWh	Rs./kWh
		BTU/kWh			Gas: Rs/MMBtu		
Block-IJamshoro Unit 1	RFO	10,656.42	11,001.33	40,124.12	72,897.00	19.99	0.1491
Block-IIJamshoro Unit 2-4	RFO	12,272.00	12,408.37	40,124.12	72,897.00	22.54	0.1491
Block-IIJamshoro Unit 2-4	Gas	12,272.00	12,408.37	950.09	588.23	7.68	0.1491
Block-IIIKotri Unit 3-7 -CC	Gas	10,237.00	10,237.00	950.09	588.23	6.34	0.1491
Block-III Kotri Unit 3-7 - SC	Gas	15,355.50	15,355.50	950.09	588.23	9.51	0.1491

* Combined Cycle

** Simple Cycle



4.6 As per JPCL, the following Assumptions will result in an appropriate adjustment to the proposed tariffs.

- i. No provision for working capital has been made on account of any delay in NTDC payments.
- ii. Any tax on any income of the Company including sales proceeds from NTDC, general sales tax as per Sales Tax Act and all other corporate taxes will be treated as pass-through items.
- iii. No withholding tax on supply of plant and equipment or spares has been assumed.
- iv. No taxes or duties (including stamp duties) have been assumed on the execution of the financing documents, loan repayment, interest repayment, agency fee, commitment fee, upfront fee, advisors' fee or charges, transportation. Such taxes or duties, if any, including on advisors' fee will be treated as pass-through under the PPA.
- v. Payments into Workers Welfare Fund and Workers Profit Participation Fund have not been taken into account. In case of these payments by the Company will be treated as Pass Through pursuant to the relevant provisions of the Power Purchase Agreement.
- vi. Any benefit/ concession/incentives given to any other IPP/projects will also be applicable to the Company.
- vii. Any additional costs incurred to cater for any modifications or additions required by the Power Purchaser will be a Pass through item.

5. Admission of the Tariff Petition:

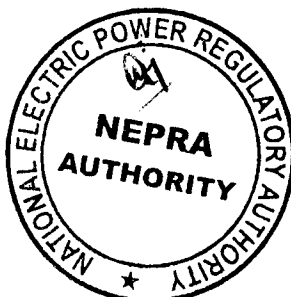
In terms of Rule 4 of the Tariff (Standard & Procedures) Rules 1998 (hereinafter "The Rules"), the Authority admitted the tariff petition on 5th March 2014. The Authority decided to hold a public hearing in the matter on 2nd April 2014 at Marriot Hotel in Karachi. In compliance of the provisions of Sub-Rules (5)&(6) of the Rule 4 and Rule 5, notice of admission/hearing along with salient features of the petition was made public in the leading newspapers on 22nd March 2014. Individual notices were also sent to all concerned on 25th March 2014.

6. Filing of Objections/ Comments:

In terms of Rule 6 and Rule 8 of The Rules, filing of intervention requests and comments, if any, was desired from the interested/affected persons and the parties within 7 days of the publication of notice of admission. In response thereof, no comments or intervention request was filed.

7. Framing of Issues

- 7.1 Notwithstanding non-filing of any reply/objections/intervention request or comments from any interested person, the Authority considered it appropriate to conduct a hearing into the matter to consider the petition filed by JPCL and for the purposes of hearing,



following issues were framed to be considered during the hearing and for presenting written as well as oral arguments and evidence:-

- i) Whether the proposed Net Dependable capacity is justified?
- ii) Whether the proposed heat rates of the different blocks of the power complex are justified?
- iii) Whether the assumed calorific value of RFO of 40,124 Btus / Kg (18,200 Btus/lb.) is justified?
- iv) Whether the requested O&M costs are justified?
- v) Whether the ROE which is 16.239% requested by the petitioner is justified?
- vi) Whether the insurance & depreciation expenses are justified?
- vii) Reasons for continued financial losses?

8. Hearing

Hearing into the matter was conducted on 2nd April 2014 at Marriot Hotel in Karachi. Notice of date of hearing was also published in the newspapers on 22nd March 2014. Individual notices were also sent to all concerned on 25th March 2014. The hearing was conducted as per schedule and was participated by the representatives from the petitioner, the Central Power Purchasing Agency (CPPA) and USAID representatives.

9. Issues

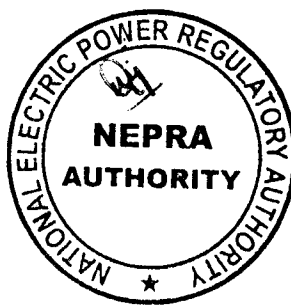
After hearing the petitioner and examining the record/evidence produced during the hearing, issue-wise findings of the Authority are given as under:-

9.1 Whether the proposed Net Dependable capacity is justified?

9.1.1 JPCL submitted that the rehabilitation program of the TPS Jamshoro units was launched in Oct 2009 through USAID Quick Impact Program (QIP). Following this, the Dependable Capacity tests of Block-I and Block-II were carried out and results are tabulated below:

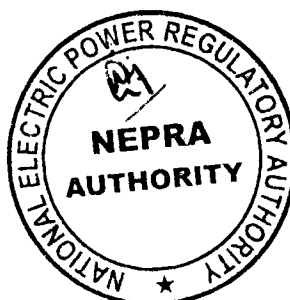
Unit	Block	Fuel	Installed Capacity (MW)	Gross CDC 2013 (MW)	Net CDC 2013 (MW)
Unit 1	Block-1	RFO	250	199.10	182.45
Unit 2	Block-2	RFO/Gas	210	170.30	154.73
Unit 3	Block-2	RFO/Gas	210	169.80	155.36
Unit 4	Block-2	RFO/Gas	210	170.60	156.48
Total			880	709.80	649.02

9.1.2 JPCL submitted that the dependable capacity test of Kotri Gas Turbine Station will be carried out within six months and tariff will be adjusted subsequently. For the purpose of calculation of capacity charge, JPCL used the previous net dependable capacity of 106.50 MW for Block-III of Kotri Gas Station. The Petitioner proposed the aggregate net



dependable capacity of the complex comprising Block I&II of Jamshoro Power Station and Block III of Kotri Gas Station as 755.52 MW for calculation of capacity charge part of generation tariff.

- 9.1.3 JPCL stated that the Company has decided to decommission its Unit No. 1 & 2 at Gas Turbine Station Kotri having capacity of 15 MW each (De-rated Capacity 8.5 MW each). JPCL stated that NEPRA is being approached for modification in the Generation License to this effect. According to JPCL, these machines were installed in 1969-70, having designed efficiency of 24.5% with open cycle. These units completed their useful life of 30 years in 2000 and further operated for another period of 11 years. However, these units were stopped in May 2011 due to low efficiency, very high operating and maintenance costs, non-availability of spares parts and irreversible degradation in performance and condition of major components and system.
- 9.1.4 The Authority through APM decision dated 16th April 2014 has excluded the Block-1 Unit 1-2 of Kotri Gas Station from the Generation License of JPCL.
- 9.1.5 JPCL in response to the query regarding the Auxiliary consumption submitted that the gross and net capacities through test for Block-I and Block-II were established as 709.855 MW and 649.017 MW and the difference of 60.838 MW (16.69 MW for Block 1 and 44.148 MW for Block II) is Auxiliary consumption which is 8.57%).
- 9.1.6 The Authority has noted with concern that the net capacity of the Block-I has deteriorated from 205 MW in 2006-07 to 182.45 MW in 2013. In view thereof JPCL is directed to submit the detailed report regarding the reasons for this significant reduction in the net capacity even after the rehabilitation of the unit has been completed. The report will also include the proposed major overhauling by the manufacturer of the equipment in terms of operating hours, required major overhauling schedule after completion of the operating hours of the unit as proposed by the manufacturer, actual major overhauling undertaken as compared to the required major overhauling schedule, reasons for not carrying out the major overhauling and its impact on the heat rates and net capacity. Similar report will also be submitted for Jamshoro Block-II and units 3-7 of Kotri power station on the basis of the results of net dependable capacity tests performed in 2013. For the purpose of calculation of capacity charge for FY 2014-15, the Authority has decided to adopt the net dependable capacity of 755.52 MW comprising of 649.02 MW for Jamshoro Power Station and 106.50 MW for Kotri Power Station.
- 9.2 **Whether the proposed heat rates of the different blocks of the power complex are justified?**
- 9.2.1 JPCL submitted that after the rehabilitation program of the TPS Jamshoro units through USAID Quick Impact Program (QIP) the Heat Rate tests were carried out and results are tabulated below:



Unit	Block	Fuel	Net Heat Rate (HHV)		
			Max Continuous Rating (MCR)	50% MCR	Average
			BTU/kWh		
Unit 1	Block-I	RFO	10,624.74	11,377.91	11,001.33
Unit 2	Block-II	RFO/Gas	12,092.80	13,510.32	12,408.37
Unit 3	Block-II	RFO/Gas	11,764.75	12,657.91	
Unit 4	Block-II	RFO/Gas	11,510.70	12,913.72	

9.2.3 JPCL stated that the Heat Rate Test of Block-III Kotri Gas Turbine Station will be carried out within six (6) months after the determination of tariff by the Authority. For the purpose of calculation of fuel cost component of Block-III, JPCL used the existing heat rate of 10,237 Btu/kWh on combined cycle mode. For simple cycle mode heat rate will be 1.5 times of the combined cycle mode.

9.2.4 JPCL requested the heat rate on the basis of average of the maximum continuous rating (MCR) and 50% of the MCR and on the basis of the whole block instead of individual units 2-4 of the Block II.

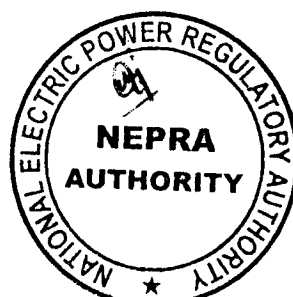
9.2.5 On the basis of the technical analysis, the Authority has decided to approve the following heat rates for JPCL:

Unit	Block	Fuel	Net Heat Rate (HHV)
			BTU/kWh
Unit 1-Jamshoro	Block-I	RFO	10,774.64
Unit 2-Jamshoro	Block-II	RFO/Gas	12,092.80
Unit 3-Jamshoro	Block-II	RFO/Gas	11,764.75
Unit 4-Jamshoro	Block-II	RFO/Gas	11,510.70
Unit 3-7-Kotri	Block-III	Gas	10,237.00

9.2.6 The Authority considers that since the units have been tested independently for their heat rates, the units 2,3 and 4 should be operated individually and a corresponding block heat rate as requested by JPCL would allow unnecessary cushion to JPCL for indulging in non-transparent operation of these units and will not be in line with NEPRA's direction for merit order based operations.

9.3 Whether the assumed calorific value of RFO of 40,124 Btus / Kg (18,200 Btus/lb.) is justified?

9.3.1 The petitioner has proposed HHV calorific value of 40,124/ Btus/Kg. (18,200 Btus/lb.) for calculation of fuel cost component by furnace oil. Calorific value do have impact on the fuel cost component and the higher the calorific value the lower will be the tariff and vice versa. The minimum benchmark of calorific value prescribed by the Ministry of



Petroleum and Natural Resources for the furnace oil is 18,200 Btus/lb. for imported furnace oil and 18,000 Btus/lb. for local furnace oil. According to the actual data, the calorific value of furnace oil varies between 18,200 Btus/lb. and 18,700 Btus/lb. depending upon the source/refinery. In case of IPPs the Authority has prescribed a mechanism for adjustment of calorific value and the same is approved in the case of JPCL. The mechanism is provided hereunder:

- i) To fix 18364 Btu/lb as reference CV with no adjustment below the minimum limit agreed in the FSA.
- ii) JPCL shall maintain and submit, annually a detailed record of consignment wise CV of the oil received and consumed for power generation for its adjustment with respect to reference calorific value duly supported with the copies of test reports certified by the fuel supplier.

9.3.2 The fuel cost component will be determined on the basis of reference calorific value of 18,364 which will be subject to adjustment on actual basis annually as per directions provided under (ii) above.

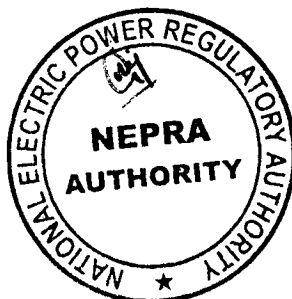
9.3.3 JPCL has also proposed HHV calorific value of gas of 950 Btu/Cft for the purpose of calculation of fuel cost component. It is to be noted that the gas supplier bills the generation companies on the basis of MMBTU having taken the impact of calorific value. The gas is measured in terms of MMCFT and then converted into MMBTU by taking the calorific value Btus/Cft, therefore, for the purpose of calculation of fuel cost component, the calorific value of gas is not relevant. JPCL's proposed gas cost component has erroneously accounted for the impact of calorific value twice which has been corrected while calculating the fuel cost component.

9.4 Fuel Cost Component

9.4.1 JPCL proposed the following fuel cost component on the basis of proposed reference prices, heat rates and calorific values:

Block/Unit	Fuel	Price RFO Rs./ton Gas Rs./MMBtu	Heat Rate (Btus/kWh)	Cal. Value RFO Btu/Kg. Gas Btu/Cft	FCC Rs./kWh
Jamshoro Block I Unit 1	RFO	72,897	11,001.33	40,124.12	19.9871
Jamshoro Block II Unit 2-4	RFO	72,897	12,408.37	40,124.12	22.5434
Jamshoro Block II Unit 2-4	Gas	588.23	12,408.37	950.091	7.6824
Kotri Block III Unit 3-7 (CCP)	Gas	588.23	10,237.00	950.091	6.3380
Kotri Block III Unit 3-7 (w/o CCP)	Gas	588.23	15,355.50	950.091	9.5071

Note: In case GTPS Kotri Unit No.3-7 is operated on simple cycle mode on the instruction of NTDC, the applicable rate will be 1.5 times of the approved Fuel Cost Component for combined cycle operation of GTPS Kotri Unit No. 3-7.



9.4.2 JPCL requested for adjustment of fuel cost component for actual variation in fuel prices. JPCL also requested for one time adjustment in heat rate of Kotri Block III Unit 3-7 upon heat rate test which will be conducted within six months of the determination of tariff.

9.4.3 On the basis of the approved unit wise heat rates and calorific value of 18,364 Btus/lb (40,485.69/Kg.) for furnace oil, the fuel cost components for different units work out as under:

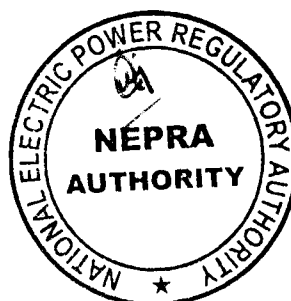
Block/Unit	Fuel	Price RFO Rs./ton Gas Rs./MMBtu	Heat Rate (Btus/kWh)	FCC Rs./kWh
Jamshoro Block I Unit 1	RFO	72,897	10,774.64	19.4004
Jamshoro Block II Unit 2	RFO	72,897	12,092.80	21.7738
Jamshoro Block II Unit 2	Gas	588.23	12,092.80	7.1133
Jamshoro Block II Unit 3	RFO	72,897	11,764.75	21.1832
Jamshoro Block II Unit 3	Gas	588.23	11,764.75	6.9204
Jamshoro Block II Unit 4	RFO	72,897	11,510.70	20.7257
Jamshoro Block II Unit 4	Gas	588.23	11,510.70	6.7709
Kotri Block III Unit 3-7 (CCP)	Gas	588.23	10,237.00	6.0217
Kotri Block III Unit 3-7 (w/o CCP)	Gas	588.23	15,355.50	9.0326

9.5 Whether the requested O&M costs are justified?

9.5.1 Operating & Maintenance (O&M) costs include variable O&M and fixed O&M. Each component will be discussed separately in the succeeding paragraphs.

9.6 Variable O&M Cost

9.6.1 JPCL proposed variable O&M cost of Rs. 0.1491/kWh against the existing variable O&M cost of Rs. 0.1454/kWh. JPCL stated that the Variable O&M Cost is necessary to recover the cost incurred by the Company against water, oil and lubricants, energy import, High Speed Diesel, major overhauling, etc. This cost is incurred on the generation of each kWh of net electrical output delivered at the bus bar of the complex. In view of the current price escalation and changes in Rupee Dollar parity, it is estimated that Rs. 0.1491 per kWh would be required as Variable O&M Cost for the period commencing from July 1, 2014. It is to be also allowed, that this cost would further be adjusted as on 1st January and on 1st July each year according to changes in Consumer Price Index as notified by Federal Bureau of Statistics. JPCL provided the following breakup of actual variable O&M cost during the last three years:



Description	2010-11	2011-12	2012-13
	Rs.	Rs.	Rs.
Water	8,715,298	7,282,603	6,084,258
Oil and Lubricants	15,967,431	9,680,387	11,198,633
Additives and other Chemical	117,624,438	109,202,970	121,454,548
Stores Spared & Lose Tool consumed	142,307,167	126,165,960	138,737,439
Imported Energy	4,059,000	3,455,460	3,975,640
High Speed Diesel	8,838,734	29,000,068	27,465,108
Major Over Hauling	73,791,523	82,776,273	123,268,913
Total	228,996,424	241,397,761	293,447,100
Gwh	2,949	1,715	1,968
Cost Rs. per kWh	0.0776	0.1408	0.1491
Cost Rs. per kWh excluding overhauling	0.0526	0.0925	0.0865

9.6.2 As per audited financial statements, there is no separate head of major overhauling rather it is part of Repairs & Maintenance cost and it appears that JPCL has shown it under the Variable O&M for justification of variable O&M cost of Rs. 0.1491/kWh which otherwise is substantially low. Major Overhauling by all nature is part of Repairs & Maintenance cost and will be considered under that head. Variable O&M should account for only the water, lubes, chemical, stores & Spares, HSD and imported energy. Accordingly on the basis of maximum cost during the last three years, variable O&M cost of Rs. 0.0925/kWh is being approved.

9.7 Fixed O&M

9.7.1 Fixed O&M include salaries & wages of the complex, administrative expenses and repairs & maintenance. The total fixed O&M will be reduced by the extent of other income.

9.8 Salaries and Wages

9.8.1 According to JPCL, the salary and wages expense includes pay and allowances, overtime, medical and hospitalization, education and training, EOB, pension charges and free electricity, etc. JPCL estimated Rs. 1,838.87 Million for the FY 2014-15 which translates into Rs. 202.8272/kW/Month against the existing tariff component of Rs. 106.9122/kW/Month. JPCL submitted that the existing tariff component is insufficient to cater for salaries & wages expenses of the company. The details of salaries & wages are provided hereunder:



Pay and Allowances	2013	2014
	Actual	Requested
Basic Pay	358,154,527	393,969,980
Allowances:	472,141,737	519,355,911
Adhoc relief allowance	33,994,269	37,393,696
Cash Medical allowance	4,292,559	4,721,815
Conveyance allowance	50,515,880	55,567,468
Dual charge allowance	484,079	532,487
Entertainment allowance	352,817	388,099
Group life insurance	714,586	786,045
House rent allowance	19,505,881	21,456,469
Liveries allowance	497,186	546,905
Local compensatory allowance	63,208,507	69,529,358
Other allowances	833,205	916,525
Overtime and off day wages	71,228,074	78,350,881
Qualification pay / technical pay	1,012,523	1,113,775
Sr. post allowance	13,390,778	14,729,856
Shift allowance	4,173,973	4,591,370
Special allowance	89,867,927	98,854,720
Staff allowance	1,847,259	2,031,985
Washing allowance	2,228,647	2,451,512
7% living allowance	3,868,984	4,255,882
Hardship Allowance	2,778,118	3,055,930
Dusting Allowance	89,520	98,472
Jamshoro / Kotri allowance	12,227,256	13,449,982
Generation allowance	93,843,778	103,228,156
Wages of contractual labor	1,185,931	1,304,524
Employees Benefits	841,406,610	925,547,270
Power, Light and Water (Electricity)	85,854,699	94,440,169
House acquire	17,350,121	19,085,133
Breavement and other donations	379,500	417,450
Sports and recreations	55,420	60,962
Awards and gratuities	8,000	8,800
Medical and hospitalization expenses	21,350,317	23,485,349
Education and training expenses	9,257,633	10,183,396
Education	15,850	17,435
Prorata expenses	38,980,623	42,878,685
Liveries expenses	742,747	817,021
EOB Free electricity	67,345,000	74,079,500
EOB Medical Benefit	68,745,000	75,619,500
Compensation absence leave	64,619,000	71,080,900
Pension Charges	466,702,700	513,372,970
Total	1,671,702,874	1,838,873,161



9.8.2 The audited figures on account of salaries and wages provided by the Petitioner for the FY 2009-10 to FY 2012-13 is given hereunder:

Rs. In Million				
Description	2010	2011	2012	2013
Actual Salaries and wages	893.7	1,058.6	1,268.0	1,671.7
Allowed by NEPRA	702.3	802.8	896.2	981.6
Difference	(191.4)	(255.8)	(430.4)	(690.1)

9.8.3 It was stated that JPCL's tariff component for salaries & wages is subject to CPI indexation mechanism but the mechanism is not capable of catering for the budgetary increases by the Government for government employees. During the last five years there were substantial budgetary increases in the salaries of government employees therefore the gap between the actual and allowed salaries & wages of the JPCL was continuously increased. One other reason for very high salaries & wages cost is 1578 number of employees and 337 pensioners of the power complex. The details are provided in the following Tables:

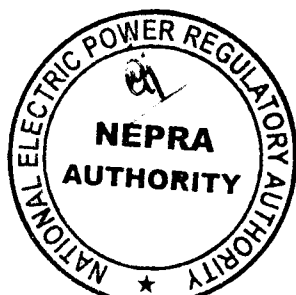
DETAIL OF EMPLOYEES & PENSIONERS

BPS	No's of Employees			Pensioners	Grand Total
	TPS Jamshoro	GTPS Kotri	Total		
20	3	-	3	6	9
19	20	7	27	5	32
18	33	4	37	11	48
17	59	25	84	14	98
16	194	57	251	78	329
15	25	8	33	8	41
14	276	96	372	6	378
13	1	-	1	20	21
12	4	-	4	5	9
11	9	4	13	46	59
10	2	1	3	1	4
9	55	11	66	13	79
8	17	5	22	1	23
7	110	33	143	21	164
6	116	24	140	6	146
5	132	28	160	20	180
4	2	5	7	8	15
3	99	12	111	38	149
2	81	20	101	13	114
1	-	-	-	17	17
Totals	1238	340	1578	337	1915

Comparison of actual vs. Sanctioned strength

As on 30th June 2013

Category	Sanctioned Strength	Working Strength				Vacant
		Regular	Contract	Daily Wages	Total	
Officer	147	136	2	-	138	9
Staff	1558	1377	77	9	1463	95
Total	1705	1513	79	9	1601	104



Details of Incoming/Outgoing Employees

Particulars	2011-12			2012-13		
	Regular	Contract	Total	Regular	Contract	Total
No. of Employees as on 1st July	1525	57	1582	1537	65	1602
Add: Recruitment/Regularized from Contract during the Year	27	35	62	21	48	69
Add: Transferred in JPCL	21	0	21	34	0	34
Less: Retired/Regularized from Contract during the Year	21	27	48	30	21	51
Less: Transferred Out from JPCL	15	0	15	49	4	53
No. of Employees as on 30th June	1537	65	1602	1513	88	1601

9.8.4 JPCL's actual salaries & wages of Rs. 1,671 million include provision for post retirement benefits of Rs. 602.8 million as per Financial Statement for FY 2012-13. JPCL after incorporating 10% increase has requested Rs. 1,838 million on account of salaries & wages. The requested cost will also be subject to CPI indexation for the tariff control period.

Post Retirement Benefits

9.8.5 The company adopted the WAPDA's employee pension scheme, post retirement free electricity scheme and post retirement medical benefits scheme. All the schemes are unfunded. The details of post retirement benefits for FY 2012-13 are as under:

Description	Rs. Mlns
Pension	466.72
Electricity	67.34
Medical	68.75
Total	602.81

Pension

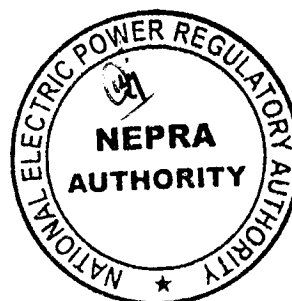
9.8.6 Pension is payable under the scheme to all eligible employees by the rules of the scheme. Pension is calculated on last pay drawn on completion of qualifying service. No benefit is payable under the scheme for less than five years of service. An employee is entitled to benefit under Pension Scheme on ceasing to be an employee due to any of the following reasons:

- Retirement at age 60
- Death in service
- Disability during service

Free Electricity

9.8.7 Electricity is payable under the scheme to all eligible employees of the company as provided by the rules of the scheme. The benefit is payable at various rates based on units consumed according to Grades. An employee is entitled to benefit under Pension Scheme on ceasing to be an employee due to any of the following reasons:

- Retirement at age 60
- Death in service
- Disability
- Compulsory Retirement



Medical

9.8.8 All regular employees and their family members (retiring on superannuation, voluntary retirement, early retirement, death/disability in service) are eligible for the post retirement medical benefits without any limitation subject to a minimum service requirement as under:

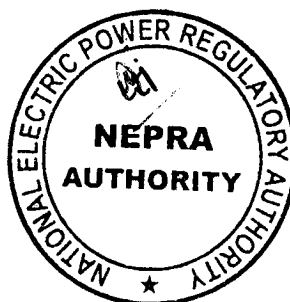
-	Superannuation Retirement	10 Years
-	Normal Retirement	25 Years
-	Death/Disability in service	10 Years

9.8.9 The Authority has carefully analyzed the required human resource to run the power plant of equivalent size and fuel. The Authority has considered the benchmarks used in India and Bangladesh. Considering the benchmarks and norm of the sector, TPS Jamshoro ratio of 1.4 person/MW (1238/880) and Kotri Power Station's ratio of 2.36 persons/MW (340/144) is considered substantially. In the opinion of the Authority this ratio should be around 1.2 person/MW for Jamshoro plant and 0.7 person/MW for Kotri plant. Based upon the benchmarks, the Authority considers that 1,150 employees are sufficient to run both the power plants. Accordingly the Authority has assessed an amount of Rs. 1340.12 million as salaries and wages for FY 2014-15 as against the requested Rs. 1838.87 million.

9.9 Administrative Expenses

9.9.1 The Administrative expenses include communication charges, office supplies, advertising, subscription and periodicals, refreshment and entertainment, traveling expenses and professional fees, transportation expenses and NEPRA fees etc. JPCL estimated Rs. 221.76 million on account of administrative expenses for the FY 2014-15 on the basis of 10% increase in the actual expenses for the FY 2012-13. This translates into Rs. 24.4610 per kW/Month. JPCL submitted that the current tariff of Rs.12.6970 per kW/Month is not sufficient to meet these expenses. The requested cost will be subject to CPI indexation. The main reasons for increase in actual expenses are the increase in rates of TA/DA and increase in the prices of fuel. Actual details of administrative expenses for the last three years as per Financial Statements are provided hereunder:

Description	FY 2010-11	FY 2011-12	FY 2012-13
Light, heat and power	65,301,997	74,839,134	86,293,366
Communication	1,438,394	1,830,619	1,900,158
office Supplies	2,535,593	2,228,679	2,639,228
Advertising	23,274,527	71,816,705	6,735,563
Travelling and Conveyance	5,841,224	6,818,065	12,131,177
Taxes and Licences	320,620	157,550	1,433,672
transportation	47,844,943	53,890,713	48,088,386
Professional fees	22,000	3,787,900	4,828,810
Auditors Remuneration	2,453,505	1,000,000	1,565,852
Management fees	15,422,481	7,596,000	10,773,977
Authority,s Overheads	7,596,000	37,537,444	25,217,314
Total	172,051,284	261,502,809	201,607,503



9.9.2 The Authority considers that the WAPDA's overhead expenses of Rs. 25 million cannot be treated as legitimate expenses on the part of JPCL, therefore, cannot be allowed. The historical trend also does not justify the 10% increase suggested by the petitioner. Accordingly, an amount of Rs. 176.39 million is approved for FY 2014-15 as administrative expense.

9.10 Repair & Maintenance

9.10.1 JPCL estimated Rs. 942.98 Million annually on account of repairs and maintenance against the existing allowed amount of Rs. 903 million. This translates into proposed tariff component of Rs. 104.0113 per kW/Month (on net capacity of 755 MW) as against the existing tariff component of Rs. 97.43 per kW/Month w.e.f. 1st January 2014 (on net capacity of 798.5 MW). The Repair and Maintenance estimates include maintenance of Steam Power Generation Plant, Water treatment Plant, repair and maintenance of General Plants including Buildings etc. JPCL submitted that over the last 5 years, fixed O&M costs had significantly increased due to multiple factors including high living costs, salary increases as announced by GOP, higher import costs due to rupee devaluation against dollar, etc. Hence, O&M costs are projected keeping in view the above mentioned factors and ten percent (10%) inflation rate over the FY 2013-14. JPCL submitted the repairs & maintenance budget for the next five years with detailed bifurcation of each cost item. The summary of the budget is provided hereunder:

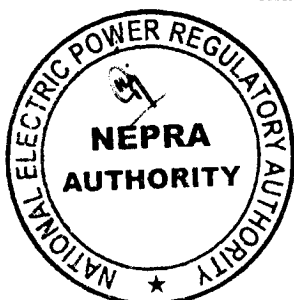
Rs. in Million

Year	Jamshoro Steam Power Station							Kotri Gas Turbine Power Station						Grand Total
	Mech. Boiler	Mech. Turbine	Ins.&Control	Electrical	Mech. W/T	Mech. Workshop	Total	Electrical	Instrument	Mechanical	Chemical	Others	Total	
2014	150	225	102	100	225	3	804	23	27	41	26	21	139	943
2015	163	235	117	110	230	5	860	25	29	44	27	23	149	1,009
2016	185	240	127	120	241	7	920	28	31	47	28	26	160	1,080
2017	210	252	137	123	250	9	981	30	34	50	29	29	173	1,154
2018	235	262	157	130	260	10	1,054	33	36	53	30	32	184	1,238

9.10.2 The independent engineer (Pakistan Engineering Services) in the USAID Report of CDC and HR Tests recommended following for the different units of JPCL regarding repair and maintenance:

Unit 1:

- Manor overhaul of the unit is overdue since June 2007 and the unit had already completed more than 71,000 running hours since last major overhaul that was carried out at 67,934 hours in the year 2000-2001. The unit has completed 36,000 running hours over and above the running hours as recommended by the OEM for major overhaul i.e. 35,000 running hours. The overhauling program may not be delayed nor postponed further under any circumstances. Any further delay may result in damage to plant equipment and personnel.





- The preventive maintenance of the plant under Manufacturer's O&M Manual is required to be followed and implemented in true letter and spirit in order to minimize the high risk of unplanned outages/forced outages of the unit.
- The essential spare parts and consumables should be procured on urgent basis.

Unit 2:

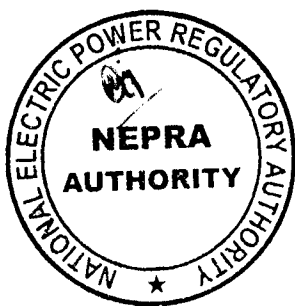
- The Rehabilitation work especially on Boiler, Turbine, ID fans, Flue gas Duct, Cooling towers including all other major Electrical and Mechanical works should be undertaken promptly. The Schedule of Rehabilitation should be planned well in time.
- The essential spares parts and consumables should be procured on urgent basis.
- The preventive maintenance of the plant under Manufacturer's O&M Manual is essentially required to be followed and implemented in true letter and spirit in order to minimize the high risk of unplanned outages/forced outages of the unit. Major overhaul of the unit is due shortly as it has already completed over 27,000 working hours. The overhauling program may not be delayed/postponed under any circumstances. Any delay may further deteriorate of the unit and may initiate damage to plant equipment and personnel.

Unit 3:

- It is recommended that further to the FARA program, [TPS Jamshoro should continue further with maintenance and rehabilitation measures to recoup the remaining lost generation capacity. The desired goal have not been fully achieved so far, therefore, it is necessary that to take necessary budgetary approvals and launch the program. In this regard the following suggestions/recommendations may be considered.
- The Rehabilitation work especially on Boiler, Turbine, ID fans, Flue gas Duct, Cooling towers including all other major Electrical and Mechanical works should be undertaken promptly. The essential spare parts and consumables should be procured on urgent basis. The Schedule of Rehabilitation should be planned well in time.

Unit 4:

- It is recommended that further to the FARA program, [TPS Jamshoro should continue further with maintenance and rehabilitation measures to recoup the remaining lost generation capacity. The desired goal have not been fully achieved so far, therefore, it is necessary that to take necessary budgetary approvals and launch the program. In this regard the following suggestions/recommendations may be considered. The essential spare parts and consumables should be procured on urgent basis
- The Rehabilitation work especially on Boiler, Turbine, ID fans, Flue gas Duct, Cooling towers including all other major Electrical and Mechanical works should



be undertaken promptly. The Schedule of Rehabilitation should be planned well in time.

- 9.10.3 It is worth mentioning that JPCL referred one of the factors for increase in repairs & maintenance cost as the budgetary increase in salaries announced by the GOP while in effect the salaries costs are not part of repairs & maintenance cost of JPCL and it is accounted for separately under the salaries & wages expense as discussed in the preceding paragraphs. Another very important factor is that JPCL was unable to spend the allowed repairs & maintenance cost in the preceding years as is evident from the financial statements. The details are provided hereunder:

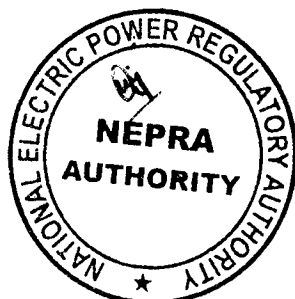
Description	FY 2010-11	FY 2011-12	FY 2012-13
	Rs.	Rs.	Rs.
Actual R&M Cost	308,255,194	302,443,848	409,022,841
Allowed by NEPRA	683,530,371	763,081,244	835,756,805
Surplus/(Deficit)	375,275,177	460,637,396	426,733,964

- 9.10.4 The above actual repairs & maintenance expenses also include Rs. 123 million on account of major overhauling which JPCL claimed under the variable O&M. The inability to spend the allowed repairs & maintenance cost is one of the reasons for increase in heat rates and reduced capacity over the years. In order to recoup lost capacity, rehabilitation program funded by USAID was started in 2009. The rehabilitation program recovered lost capacity of 270 MW and also resulted in reduction of actual heat rates. This is also evident from the annual financial results of the company which shows loss of Rs. 3,896 million in FY 2011-12 and profit of Rs. 777 million in FY 2012-13.

- 9.10.5 JPCL referred Note 11.1 to Financial Statements for FY 2012-13 regarding addition in fixed assets of 1,244 million as a result of capitalization of rehabilitation and overhauling cost of the generation plant. JPCL submitted that out of Rs. 1,244 million, Rs. 271 million were contributed by JPCL and remaining by USAID.

- 9.10.6 The Authority understands that the routine maintenance and major overhaul schedules should have been observed strictly in accordance with the recommendations of the manufacturer of the equipment. JPCL's management completely failed to operate and maintain the power complex effectively and efficiently and caused huge financial losses to the national exchequer. JPCL is directed to immediately proceed to carry out the required maintenance/overhauling of the plant as per the recommendations of the independent engineer and the manufacturer of the equipment. The Authority would also like to recommend to the Ministry Water & Power to consider the services of an O&M operator for operation and maintenance of the plant under an arrangement that the existing employees may be utilized by the O&M operator and the surplus may be utilized somewhere else.

- 9.10.7 The Authority has decided to approve an amount of Rs. 450 million as repairs and maintenance of the power complex. However, if JPCL spent more than the approved



amount on the maintenance/overhaul, the excess amount will be reimbursed on the basis of documentary evidence.

9.11 Other Income

9.11.1 JPCL requested approval of other income of Rs. 26.59 million against the determined amount of Rs. 43.468 million. According to the financial statements, the details of other income during the previous years are provided hereunder:

Description	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	Average
	Rs.	Rs.	Rs.	Rs.	Rs.
Actual other income	51,240,000	102,184,000	93,035,000	149,877,000	99,084,000

9.11.2 The other income assumed by the Company is not realistic considering the average of the last four years. The Authority has decided to adopt Rs. 99.084 million as reasonable estimate of other income for FY 2014-15.

9.12 Whether the ROE which is 16.239% requested by the petitioner is justified?

9.12.1 JPCL requested Rs. 1,134 million annually as return on equity @ 16.239% on equity capital of Rs. Rs. 6.982 billion against the existing ROE of Rs. 915 million @ 13.11%. JPCL submitted that the ROE was calculated based on Capital Asset Pricing Model using the historical beta of 0.47 and market risk premium of 7%. JPCL further submitted that these assumptions were also used on the last tariff determination of 2006, however, risk free rate has been revised to 12.94%, based on 10 years Pakistan Investment Bond .

9.12.2 According to the tariff standards, tariff should allow licensee a rate of return which promotes continued reasonable investment in equipment and facilities for improved services. While allowing the return on equity, the Authority is constrained to consider the performance of the licensee to maintain/improve its generation equipment, effective and efficient utilization of resources and return allowed to other public sector GENCOs. The Authority observed that JPCL did not make any improvements rather failed to maintain the existing generation equipment. There has been significant reduction in net dependable capacity and heat rates over the year which resulted in wastage of the scarce resources. While deciding the reasonable return on equity, the return allowed to other public sector GENCOs and NTDC has also been kept in view and the Authority decided to maintain the existing return on equity of Rs. 915 million @ 13.11%. JPCL is directed to utilize these funds for improvement/upgradation of the generation equipment for efficient utilization of the resources.

9.13 Whether the insurance & depreciation expenses are justified?

Insurance Expense

9.13.1 JPCL requested Rs. 95 million annually as insurance expense against the allowed insurance expense of Rs. 75.5 million. JPCL submitted that at present, WAPDA is providing insurance coverage to the Company at 1% of net fixed assets. JPCL further submitted that in view of the investment made by USAID, ageing of the plants and to

subsequently safeguard it from various risks, it has been decided to get the insurance of the plant on market terms as allowed in PPA. The details of actual insurance premium over the last four year are provided hereunder.

Description	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	Average
	Rs.	Rs.	Rs.	Rs.	Rs.
Actual Insurance expense	12,430,000	9,629,000	9,010,000	7,510,000	9,644,750

9.13.2 The Authority considers that the requested insurance amount is not justified in the light of actual expenses in the preceding years. The Authority has decided to allow Rs. 9.645million as insurance cost for FY 2014-15.

Depreciation Expense

9.13.3 JPCL requested Rs. 694 million as depreciation expense against the allowed depreciation expense of Rs. 711 million. JPCL submitted that the requested cost does not include the impact of addition resulting from USAID sponsored program. The actual expenses in the last four years were between Rs. 710 million to Rs. 762 million. The Authority considers that the proposed cost by JPCL is reasonable, therefore, is being approved.

9.14 Financial Charges

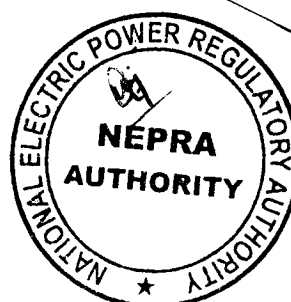
9.14.1 JPCL requested Rs. 26.98 million annually as financial charges against the allowed financial charges of Rs. 262 million. According to JPCL following loans are still outstanding as per the following schedule.

Description	Balance Principal as on June 30, 2014 (Rs. in Millions)	Interest Rate	Period
GOP-Japan Foreign Re-Lent Loan	42.131	11.00%	1990-2015
GOP-Central Govt. Loan	165.416	17.50%	1997-2024
GOP-Switzerland Foreign Re-Lent Loan	0.550	11.00%	1991-2016

9.14.2 The requested financial charges are reasonable and approved as such.

9.15 Reasons for continued financial losses?

9.15.1 JPCL submitted following reasons for continued financial losses:



- Plant efficiency: Due to wear and tear its efficiency has declined over the period of time.
- Procurement Procedures: the management has to go through long procurement procedures which negatively affect the performance and replacement of necessary equipment.
- Non-availability of units for scheduled outages
- Due to frequent countrywide load shedding

9.16 Capacity Charges and Payment Criteria

9.16.1 On the basis of the discussion in the preceding paragraphs, the summary of the approved capacity charges is provided hereunder:

Description		Rs. Mlns	Rs./kW/Month
A	Escalable Component	1,867.42	205.98
	Salaries and Wages	1,340.12	147.81
	Administrative expenses	176.39	19.46
	Repair and Maintenance expenses	450.00	49.63
	Other income	(99.08)	(10.93)
B	Non-Escalable Component	1,646.07	181.56
	Insurance cost	9.64	1.06
	ROE	915.37	100.96
	financial Charges	26.98	2.98
	Depreciation	694.08	76.56
C	Total Capacity Charges	3,513.49	387.54

9.16.2 Capacity charges will be paid strictly on the basis of agreed availability. LDs will be imposed in accordance with the PPA on non-availability of the each unit beyond the allowed limits. Power purchaser will allow outages for maintenance of the complex strictly in accordance with the PPA. In case of delayed payments, JPCL will be entitled late payment charges strictly in accordance with the PPA.

9.17 Tariff Control Period

The petitioner requested the Authority to determine its generation tariff for the control period of five years from July 2014 to June 2019. The Authority considers that the instant case is not fit for multiyear tariff and has decided to allow tariff for one year only. JPCL is required to comply with the directions of the Authority provided in Para 9.1.6 and Para 9.10.6. The case for multiyear tariff will be considered after the petitioner brings improvement in the operations of the plant by all respects.



10. Order

10.1 Jamshoro Power Company Limited is allowed to charge such tariff as is provided hereunder for sale of electricity to Central Power Purchase Agency within NTDC:

Capacity Charges (Rs./kW/Month):		
Escalable Component:		205.98
Salaries and Wages		147.81
Administrative expenses		19.46
Repair and Maintenance expenses		49.63
Other income		(10.93)
Non-Escalable Component:		181.56
Insurance cost		1.06
ROE		100.96
financial Charges		2.98
Depreciation		76.56
Total		387.54
Energy Charges (Rs./kWh):		
Fuel Cost Component:		
Jamshoro Block I Unit 1	RFO	19.4004
Jamshoro Block II Unit 2	RFO	21.7738
Jamshoro Block II Unit 2	Gas	7.1133
Jamshoro Block II Unit 3	RFO	21.1832
Jamshoro Block II Unit 3	Gas	6.9204
Jamshoro Block II Unit 4	RFO	20.7257
Jamshoro Block II Unit 4	Gas	6.7709
Kotri Block III Unit 3-7 (CCP)	Gas	6.0217
Kotri Block III Unit 3-7 (w/o CCP)	Gas	9.0326
Variable O&M		0.0925

10.2 The capacity charges are based on net dependable capacity of 755.52 MW. Capacity charges will be paid strictly on the basis of agreed availability. LDs will be imposed in accordance with the PPA on non-availability of the each unit beyond the allowed limits. Power purchaser will allow outages for maintenance of the complex strictly in accordance with the PPA. In case of delayed payments, JPCL will be entitled late payment charges strictly in accordance with the PPA.

10.3 Tariff Adjustments/Indexations

The reference tariff determined above is subject to following adjustments/indexations:

I. Adjustment on account of Fuel Price Variation

The energy charge part of the tariff relating to fuel cost shall be adjusted with effect from the day following the Notification of the revised fuel price according to the following mechanism:



$$FC_{(Rev)} = FC_{(Ref)} \times FP_{(Rev)} / FP_{(Ref)}$$

Where:

$FC_{(Rev)}$ = Revised fuel cost component of energy charge part of tariff

$FC_{(Ref)}$ = Reference fuel cost component

$FP_{(Rev)}$ = Revised applicable price of RFO/Gas as the case may be

$FP_{(Ref)}$ = Reference RFO price of Rs. 72,897/ton and Reference gas price of Rs. 588.23/MMBtu

II. Adjustment on account of Calorific Value

The adjustment on account of variation in calorific value will be allowed as per the following mechanism:

- i) The reference CV will be 18364 Btu/lb. There will however be no adjustment below the minimum limit of 18200 Btu/lb.
- ii) JPCL shall maintain and submit, annually a detailed record of consignment wise CV of the oil received and consumed for power generation for the adjustment on account of variation against the reference calorific value duly supported with the copies of test reports certified by the fuel supplier.

III. Taxes

The impact of taxes has not been accounted for in the tariff. In case the petitioner is obligated to pay any tax, the exact amount paid will be reimbursed as per existing practice.

- 10.4 The above tariff along with adjustment/indexation mechanism will continue to remain in force till the next tariff determined by the Authority and notified in the official gazette.
- 10.5 The above order of the Authority is to be notified in the official gazette, in accordance with the provisions of Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act 1997.

