National Electric Power Regulatory Authority
Islamic Republic of Pakistan

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No. NEPRA/R/TRF-460/TEPL-2018/24804-24806
November 20, 2019

Subject: **Decision of the Authority in the matter of Tariff Petition filed by Tapal Energy (Private) Ltd. for approval of Generation Tariff for RFO Based Power Plant of 126 MW (Gross) at Karachi for Term Extension of the Existing PPA** [Case # NEPRA/TRF-460/TEPL-2018]

Dear Sir,

Please find enclosed herewith the subject Decision of the Authority (16 Pages) in Case No. NEPRA/TRF-460/TEPL-2018.

2. The Decision is being intimated to the Federal Government for the purpose of notification in the official gazette pursuant to Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

3. The Order of the Authority's Decision shall be notified in the official Gazette.

Enclosure: As above

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(Syed Safeer Hussain)

Secretary
Ministry of Energy (Power Division)
'A' Block, Pak Secretariat
Islamabad
s
CC:

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

DECISION OF THE AUTHORITY IN THE MATTER OF TARIFF PETITION FILED BY TAPAL ENERGY (PRIVATE) LIMITED FOR APPROVAL OF GENERATION TARIFF FOR RFO BASED POWER PLANT OF 126 MW (GROSS) AT KARACHI FOR TERM EXTENSION OF THE EXISTING PPA

1. INTRODUCTION

1.1. Tapal Energy (Private) Limited (hereinafter "TEPL" or "the Petitioner"), a company duly established and existing under the laws of Pakistan with its registered office located at 155-A, Street No. 37, Sector F-10/1, Islamabad, Pakistan, was set up and established on March 1, 1995, for the purposes of undertaking the project relating to the development, setting up, implementation, construction and operation of a 126 MW (Gross) thermal power generation facility located at Deh Gondpass, Tapo Gabopat, Hub River Road, Taluka & District Karachi (West), Karachi, Sindh, Pakistan (the Site).

1.2. For the purposes of, inter alia, sale of the power generated by the Facility and to set out the terms and conditions relating to the same, Tapal Energy (Private) Limited (hereinafter "TEPL" or "the Petitioner") entered into an agreement entitled 'POWER PURCHASE AGREEMENT' with K-Electric on September 26, 1995. The Petitioner informed that the current term of the Power Purchase Agreement, as set out therein in terms of its section 4.1(a), is twenty-two (22) years, unless terminated earlier (the Current PPA Term).

1.3. According to the Petitioner it has successfully operated its Facility; has catered for KE's consumer requirements by generating around 745.543 GWH per annum; and has met its obligations under the Power Purchase Agreement for over twenty-one (21) years, the Petitioner and KE, in pursuance of their rights emanating from section 4.1(c) of the Power Purchase Agreement, have been engaged in discussions for extending the term of the Power Purchase Agreement for an additional period of five (5) years (the PPA Term Extension) which shall commence on June 20, 2019 (the Extension Commencement Date).

2. FILING OF PETITION

2.1. TEPL vide its letter No. REL/NEPRA/011/19 dated 7th December 2018 filed a tariff petition for extension of the PPA term to further five years from 20th June 2019 to 20th June 2024 for its Power Plant of 126 MW, gross at reference site conditions, on RFO fuel, located at Deh Gondpass, Tapo Gabopat, Hub River, Taluka & District Karachi (west), Karachi, Sindh.

2.2. Salient feature of Petition are as under:

i. The requested tariff is as under:

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Description	Tariff
Energy Charge (Rs. /kWh):	
Fuel cost component	9.3681
Variable O&M (Local)	0.2421
Variable O&M (Foreign)	0.6785
Total	**10.2887**
Capacity Charge @ 100% PF (Rs. /kW/hour):	
Fixed O&M (Local)	0.3932
Cost of working capital	0.1554
Insurance	0.0817
Return on Equity	0.5175
Total	1.1478
Total Tariff (Rs. /kWh)	**11.4365**
Total Tariff (US Cents/kWh)	**10.3498**

ii. Reference Fuel Price: The Petitioner assumed (Ex-GST) RFO price of Rs. 42,282.71 per Ton (HHV), which include the transportation cost of fuel to site at Rs. 364.71.

iii. Cost of working capital: cost of working capital is assumed at 8.16% (3-month KIBOR (6.16%) + 2% spread).

iv. Insurance cost: The petitioner annual insurance cover of USD 800,000 p.a. with assumption that NEPRA will allow indexation of this component to its actual cost paid.

v. Return on Equity: The return on Equity component of tariff has been calculated on the basis of 15% IRR on equity of USD 33.774 million.

vi. Exchange Rate: Exchange Rate of Rs. 110.50/USD has been assumed.

vii. Thermal Efficiency: The petitioner assumed RFO based thermal efficiency of 40.04% (LHV) at 100% capacity factor (subject to part load adjustment and temperature de-rating curve).

viii. Annual Availability: The petitioner assumed annual plant availability is 92%.

ix. Dependable Capacity: net capacity of the plant is 123.50 MW.

x. Tariff Period: The petitioner proposed a tariff control period of 5 Years.

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3. NOTICE OF ADMISSION

3.1. The Authority admitted the subject petition on 22nd January 2019. Notice of Admission along with salient feature of Petition was made public on 16th March 2019 inviting comments from stakeholders. Individual notices were also sent to stakeholders on 20th March 2019.

4. COMMENTS/ INTERVENTIONS

4.1. In response to notice of Admission following comments/interventions have been submitted so far.

i. K-Electric Consumers Forum (as Commentator)

a. Hearing should be held in Karachi

b. There are certain discrepancies i.e., between MW mentioned in the license vs what is being requested etc.,

c. The extensions shouldn't be given as

   i. It is RFO plant which is costlier than LNG/Gas which increase the circular debt and drains forex

   ii. NEW RFO is banned and its aux consumption and maintenance cost is high and is damaging to environment

   iii. Due to high tariff, it will be low on merit order so it's better to sell the power to industrial and commercial users by availing KE networks

ii. Bilal Ahmed Ghafar (MPA) (as Commentator)

a. There is no rationale to extend the PPA by five years for a plant that is producing expensive energy. There is no way to extend the PPA on 'take or pay'; and even 'take and pay' does not make sense.

iii. Ministry of Planning, Development & Reform Energy Wing (as Commentator)

a. The PPA should be on Take and Pay basis with no capacity charges.

b. Plant condition should be verified by independent consultant.

c. Fresh EIA should be conducted by SEPA

d. O&M cost should be on actual basis

e. Thermal efficiency claimed by Petitioner as 40.04% should be assessed through independent consultant

f. KE should reduce their dependence on expensive power plants and also consider purchasing additional power from NTDC at cheaper rates.

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iv. **K-Electric (Intervention request only)**

a. The PPA is expiring on June 19, 2019. Keeping in view the shortfall and to cater future growth in power demand, in addition to the expected pipelines project which shall continue in next few years. TEL is an essential part of KE's strategy to fulfill increasing power demand. Thus, KE intends to extend PPA with the Petitioner for 5 years and support TEL's request in this regard. KE detail view will be presented during the proceeding

b. In view of the above, KE should be made a party to the proceeding to participate as intervener.

5. ISSUES FRAMED

5.1. On the basis of contents of tariff petition and comments/intervention received from stakeholders, following issues were framed for the hearing:

i. Whether the Petitioner's PPA with KE should be extended?

If yes,

ii. Whether it should be extended for 5 years from June 20, 2019 to June 19, 2024, or otherwise?

iii. Whether the request to allow tariff on Take or Pay basis is justified?

iv. Whether the requested RFO based thermal efficiency of 40.04% (LHV) at 100% capacity factor (subject to part load adjustment and temperature de-rating curve) is justified?

v. Whether total claimed O&M cost of Rs 1.3138 per kWh is justified?

vi. Whether the cost of working capital requested at 8.16% (3-month KIBOR (6.16%) + 2% spread) is justified?

vii. Whether the annual insurance cost requested to be US$ 800,000 p.a. with assumption that NEPRA will allow indexation of this component to its actual cost paid is justified?

viii. Whether the return on equity on IRR basis at 15% (US dollar based) is justified?

ix. Whether annual availability requested at 92% is justified?

x. Whether net capacity assumed at 123.50 MW is justified?

xi. Whether all environmental approvals including EIA have been obtained from the relevant Authority for the period of 5 years in which the expansion has been sought?

6. REQUEST FOR PROVISIONAL TARIFF

6.1. The Petitioner through its letter dated May 22, 2019 (received on May 28, 2019) submitted that since the Authority is yet to determine the tariff and the expiration of PPA is fast

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approaching, it is therefore requesting NEPRA for the grant of the provisional tariff approval for the interim period. The Petitioner emphasized that a provisional tariff in this situation will avoid any interruption of power to KE from June 20, 2019 onwards. KE also shown similar concerns and supported the Petitioner's request for allowing a provisional tariff for the interim period till the time the Authority announced its decision on the Petition. For the interim period, the Petitioner requested the same tariff which has been proposed in the Petition. Accordingly, the Authority decided to add the following issue to the above-mentioned list;

xii. Whether to allow a provisional tariff to the Petitioner for sale of power to KE during the period between the expiry of its existing tariff June 20, 2019 and till the time the Authority arrives at its final determination on the basis of the Petitioner's proposed tariff or otherwise?

7. HEARING

7.1. In order to provide an opportunity for the stakeholders to comment on the issues framed, the Authority also decided to hold a hearing on June 17, 2019 at Marriot Hotel Karachi at 1030 hrs. However, the hearing was rescheduled to June 18, 2019 and accordingly stakeholders were informed through written notices and also through advertisement in the national newspapers.

7.2. The Hearing was held as per schedule through video link and was participated by the representatives from Petitioner, KE, commentators and other stakeholders.

8. CONSIDERATION OF THE VIEWS OF THE STAKEHOLDERS, ANALYSIS, FINDINGS AND RECOMMENDATIONS ON IMPORTANT ISSUES

8.1. The issue wise discussion, submissions of the Petitioner and stakeholders, analysis, findings and decisions are provided in the succeeding paragraphs.

9. Whether the Petitioner's PPA with KE should be extended? If yes;

Whether it should be extended for 5 years from June 20, 2019 to June 19, 2024, or otherwise?

9.1. During the hearing all the stakeholders except KE opposed the requested extension in the PPA of Tapal Energy on the ground that plant is low in efficiency and producing costly energy. The stakeholders submitted that many new efficient plants have been added in the national grid which are currently underutilized, therefore, in the overall interest of the country, the equivalent power of 123.5MW can easily be provided to KE by national grid. KE in its intervention request and comments in the hearing submitted that KE intends to extend PPA with the Petitioner for 5 years and support TEPL's requested extension of the PPA keeping in view the current energy shortfall in KE system and to cater future growth in the power demand.

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9.2. Keeping in view the comments of the stakeholders, the Authority vide letter No. NEPRA/SAT-II/TRF-460/10495-10496 dated 18th June 2019, through Ministry of Energy, directed CPPA-G to look into the matter of supply of equivalent power to KE. This will reduce the burden of capacity charges and will be beneficial for all the electricity consumers in the country.

9.3. CPPA-G in its response vide letter No. CPPA-G/2019/CEO/7307-11 dated 19th June 2019 committed that the analysis and recommendation in this regard will be submitted to the Authority after consultation with NTDC and KE. Till that time, CPPA-G suggested that procurement of power from TEPL may be allowed on take and pay basis and shall be dispatched on the basis of KE's merit order without any sovereign guarantees commitment by GoP.

9.4. The Authority vide its letter No. NEPRA/SAT-II/TRF-460/TEPL-2018/18005 dated 30th September 2019 again directed to submit its analysis and recommendations on the additional supply of power to K-Electric to replace power supply by TEPL. Further, the Authority vide its letter No. NEPRA/SAT-II/TRF-450/NTDC-2018/18593 dated 4th October 2019 also directed NTDC to provide information whether equivalent power can be made available to KE from national grid to replace the power supplied by TEPL without any transmission constraints and in case NTDC system allows uninterrupted transmission of additional power, how much time will it take to make necessary arrangements.

9.5. NTDC vide its letter No. GMT/NTDC/T-90/1875-78 dated 01-11-2019 informed that the existing NTDC and K-Electric 220 kV transmission interface cannot support 250 MW export in addition to the existing 650 MW export to K-Electric in a reliable manner, especially, under N-1 contingency conditions. NTDC further submitted that in the current scenario to cater the demand and maintain the smooth running of system, K-Electric may operate the two IPPs (Tapal and Gul Ahmad) as Marchant IPPs on Take & Pay basis for 2-3 years till the upgradation of K-Electric network, to take additional power through existing NTDC – K-Electric system interface.

9.6. Keeping in view the electricity shortfall in KE system and reply of NTDC and CPPA-G, the Authority has decided to allow extension of the PPA for three (3) years or till the time CPPA-G/NTDC are willing and capable of supplying equivalent additional power to KE, whichever comes earlier with the direction to upgrade its system as suggested by NTDC as early as possible to take additional power from NTDC/CPPA-G.

10. Whether the request to allow tariff on Take or Pay basis is justified?

10.1. Under the expired PPA regime, the plant was operated on the basis of availability under take or pay mode of payment. The capacity charges (fixed cost) were paid irrespective of actual plant operation on the basis of availability of the plant and 100% fixed costs were paid on achieving the agreed availability. Under take and pay method of payment, fixed costs will also be paid along with variable cost on the basis of actual dispatch of the plant. In case of FFBL

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coal power plant which is also supplying electricity to KE, tariff was worked out on take and pay basis.

10.2. Ministry of Planning, Development & Reform (Energy Wing) in its comments submitted that the PPA should be on Take and Pay basis with no capacity charges. CPPA-G vide its above referred letter also suggested to allow to procure power from TEPL on take and pay basis and shall be dispatched on the basis of KE's merit order without any sovereign guarantees commitment by GoP. TEPL vide its letter No. TEL/NEPRA/008/20 dated 2nd October 2019 agreed take & pay tariff provided KE gives minimum dispatch guarantee if NEPRA allow tariff on take & pay basis on a specific dispatch level.

10.3. Having considered the comments and arguments put forward, the Authority feels that TEPL should be given the flexibility to sell its energy to the bulk power consumers in addition to KE. This will help in introducing competition in the market. In view thereof, the Authority has decided to allow KE procurement of power from TEPL under take and pay arrangement.

11. Whether the requested RFO based thermal efficiency of 40.04% (LHV) at 100% capacity factor (subject to part load adjustment and temperature de-rating curve) is justified?

11.1. According to the Petitioner, after factoring the impact of fuel cleaning, average plant aging, temperature deration and variation in plant load factor, 40.04% net complex efficiency (LHV) at mean site conditions, at 100% Load Factor, running on RFO, is guaranteed. In Para 8.2.1 of the Petition, the Petitioner submitted that the LHV efficiency of 40.04% at 100% load shall be subject to part load adjustment and temperature de-rating curve which is contradictory to the foregoing submission. The Petitioner requested fuel cost component (FCC) of Rs. 9.3681/kWh on the basis of Ex-GST HHV RFO price of Rs. 42,282.71/ton including transportation and LHV calorific value of 40,584.80 KJ/Kg. According to the Petitioner, the FCC shall be adjusted on account of fuel price variation of fuel consumed using FIFO method.

11.2. The submissions of the petitioner have been carefully evaluated. The Petitioner was asked to provide actual fuel consumption, calorific value and actual units delivered to KE. On the basis of the information submitted by the Petitioner, analysis shows following actual efficiencies for the last five years:

Particulars	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Average
Furnace Oil Consumed (tons)	170,444.76	172,021.67	157,133.56	159,153.38	161,106.58	163,971.99
Avg. CV of RFO (Btu/kg)	38,638.00	38,600.00	38,528.00	38,509.00	38,641.00	38,584.49
Export (GWh)	798.06	806.84	732.57	743.20	752.38	766.61
Heat Rate LHV (Btu/kWh)	8,252.07	8,229.70	8,264.09	8,246.51	8,274.13	8,252.91
Efficiency LHV (%)	41.3490%	41.4614%	41.2889%	41.3769%	41.2388%	41.3448%

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11.3. The analysis revealed that during the last five years TEPL's actual efficiency remained 41.3448% which includes part load adjustment, degradation due to aging and temperature. The Authority has accordingly decided to adopt the same. The Authority has also decided to adopt LHV calorific value of 38,584.49 Btu/Kg. for determination of fuel cost component.

11.4. On the basis of RFO price of Rs. 62,586.93/ton including transportation, net LHV heat rate of 8,252.91 Btu/kWh and LHV calorific value of 38,584.49 Btu/Kg., the Authority has assessed reference fuel cost component as Rs. 13.3868/kWh. The reference fuel cost component shall be subject to adjustment for variation in actual furnace oil price and actual LHV calorific value as per the stipulated mechanism. Minimum LHV calorific value shall be 17,333 Btu/lb. and no adjustment shall be allowed below 17,333 Btu/lb.

12. Whether total claimed O&M cost of Rs 1.3138 per kWh is justified?

12.1. The Petitioner requested variable O&M cost component of Rs. 0.9206/kWh comprising foreign component of Rs. 0.6785/kWh and local component of Rs. 0.2421/kWh. The Petitioner also requested local fixed O&M cost component of Rs. 0.3932/kW/h.

12.2. According to the Petitioner, foreign component primarily includes imported spare parts to be replaced on normal scheduled maintenance and unscheduled maintenance. It also includes specialized technical services from manufacturer during maintenance of the Facility. The generation sets, and associated equipment require overhauling as per manufacturer's recommended schedules, which are based on actual running hours. The actual timing of the major overhauls depends on dispatch of the Facility. The Petitioner also requested indexation of foreign variable O&M component with US CPI and exchange rate.

12.3. According to the Petitioner, local variable component includes the cost of lubricant and chemical consumed on generation of power and are directly related to the electricity actually generated and to be indexed with the prevailing CPI of Pakistan. According to the Petitioner, GST charged at prevailing rates on this local and foreign components should be pass-through at actuals, which will be claimed through separate monthly Supplemental Invoice.

12.4. The Authority has noted that the Petitioner's requested variable O&M cost component of Rs. 0.9206/kWh is substantially higher than the actual financial results for the last five years detailed below:

Description	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Average
	Rs. in 000					
Oil & Lubricants	172,213	137,757	144,447	143,224	123,311	144,190
Stores, spares and loose tools	265,035	207,302	187,156	196,222	179,006	206,944
Provision for obsolescence of spares	27,744	25,834	25,644	26,618	37,762	28,720
Capital Spares	114,795	105,165	105,282	56,461	43,255	84,992
Total	**579,787**	**476,058**	**462,529**	**422,525**	**383,334**	**464,847**

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Units Exported (GWh)	806.838	732.572	743.204	752.384	645.016	736.003
	Rs./kWh					
Oil & Lubricants	0.2134	0.1880	0.1944	0.1904	0.1912	0.1959
Stores, spares and loose tools	0.3285	0.2830	0.2518	0.2608	0.2775	0.2812
Provision for obsolescence of spares	0.0344	0.0353	0.0345	0.0354	0.0585	0.0390
Capital Spares	0.1423	0.1436	0.1417	0.0750	0.0671	0.1155
Total	**0.7186**	**0.6498**	**0.6223**	**0.5616**	**0.5943**	**0.6316**

12.5. In the opinion of the Authority, the average variable O&M cost of the latest five years (FY 2019 figures are unaudited) can be considered a reasonable basis for determining the variable O&M cost in the instant case. In view thereof, the Authority has decided to assess variable O&M cost of Rs. 0.6316/kWh for the extended term of the PPA which shall be subject to quarterly indexation on the basis of average local CPI for the last quarter.

12.6. The Petitioner requested fixed O&M cost based on the estimated fixed O&M expense of Rs. 425.35 million. The details of actual fixed O&M expense for the last five year is as under:

Description	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**
	Rs. in 000				
Salaries, wages and other benefits	259,778	290,186	319,407	355,702	406,839
Travelling and entertainment	12,939	11,370	11,913	13,636	15,289
Rent, rates and taxes	16,503	9,001	7,990	9,677	12,879
Printing and stationery	1,156	1,067	1,029	1,055	985
Postage, telephone and fax	1,858	1,608	1,794	1,763	1,572
Vehicle running and maintenance	6,971	5,565	5,909	5,792	6,236
Repair and maintenance	84,445	43,819	72,448	32,035	16,388
Legal and professional	1,576	2,807	2,307	5,230	5,786
Utilities	9,028	8,637	8,830	8,340	11,839
Training	409	385	432	192	222
Security	13,753	14,533	17,358	18,311	19,300
Auditors remuneration	515	531	698	795	756
Advertisement	631	38	44	40	45
Fuel testing and technical fees	680	994	1,516	832	1,356
Total	**410,242**	**390,541**	**451,675**	**453,400**	**499,492**

12.7. Since the requested cost of Rs. 425.35 million is less than the average fixed O&M cost of Rs. 441 million for the last five years, therefore, the Authority considering the same reasonable has approved as such which translates into Rs. 0.4273/kWh. The fixed O&M cost component shall be adjusted quarterly on the basis of average local CPI for the last quarter.

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13. Whether the cost of working capital requested at 8.16% (3-month KIBOR (6.16%) + 2% spread) is justified?

13.1. The Petitioner requested cost of working capital component of Rs. 0.1554/kW/h on the basis of working capital requirement of US$ 18.642 million (Rs. 2.06 billion) to finance 15 days fuel inventory, 30 days receivables, average 15 days fuel requirement for operation prior to billing and 17% sales tax at an interest rate of 8.16%. The Petitioner further requested adjustment of cost of working capital for variation in fuel price and KIBOR during the quarter.

13.2. Cost of working capital to finance fuel inventory and fuel receivables is an integral operating cost of all power plants on liquid fuels. Cost of working capital has been allowed to all the RFO based power plants established under the 2002 Power Policy. Accordingly, working capital requirement of Rs. 1.392 billion has been worked out on the basis of RFO price of Rs. 62,586.93/ton, 15 days fuel inventory at full load, 25 days receivables at 60% load and 17% sales tax. Approximately 15 days credit is provided by the fuel supplier in the market which shall offset the cost of average 15 days fuel requirement for operation prior to billing. Accordingly, on the basis of 3 month KIBOR of 12.97% and premium of 2%, the cost of working capital component works out Rs. 0.2095/kWh and the same is being approved. The cost of working capital shall be subject to adjustment due to variation in average price of fuel inventory and latest available KIBOR.

14. Whether the annual insurance cost requested to be US$ 800,000 p.a. with assumption that NEPRA will allow indexation of this component to its actual cost paid is justified?

14.1. The Petitioner requested insurance cost component of Rs. 0.0817/kW/h. According to the Petitioner, the Insurance cost component consists of the customary industry vide covers taken for all risk insurance/reinsurance for the Project, as well as for business interruption insurance. The Petitioner further submitted that the insurance cost considered for the extended term is based on actual annual premium paid for 2018-19 charged for the said cover at USD 800,000 p.a. with the assumption that NEPRA will allow indexation of this component to its actual cost paid to the insurance company as per prevailing international insurance market pricing for the required coverage.

14.2. According to the unaudited financial results for FY 2018-19, actual insurance cost incurred was Rs. 107.65 million. Therefore, the requested insurance cost of Rs. 88.4 million seems reasonable. Accordingly, the insurance cost component works out Rs. 0.0888/kWh and the same is being approved. The insurance cost component shall be adjusted annually on the basis of actual insurance premium subject to maximum of US$ 800,000 at prevailing exchange rate of Rs./US$ of the first day of each year of the extended term of the PPA.

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15. Whether the return on equity on IRR basis at 15% (US dollar based) is justified?

15.1. The Petitioner requested return on equity (ROE) component of Rs. 0.5175/kW/h at 15% on the equity investment of US$ 33.774 million. According to the Petitioner, the Project was set up on the Build Own Operate (BOO) basis and equity has not been redeemed to date. In addition, the Petitioner also requested to consider the rationale for the ROE on the basis that the Petitioner (including the Project sponsors) will be bearing additional risks and exposure during the PPA Term Extension due to unavailability of the risk coverage previously provided by the Implementation Agreement and the Government of Pakistan Sovereign Guarantee. The Petitioner also submitted that the Authority allows (and has allowed) 15% IRR to thermal IPPs supplying dedicated power to utilities over their entire project life varying between 20, 25 or 30 years, therefore, allowing similar IRR for the PPA Term Extension to the Petitioner will be consistent with the Authority's own determinations and established policy. TEPL vide its letter No. TEL/NEPRA/008/20 dated 2nd October 2019 agreed to reduce ROE from 15% to 12% subject to exchange rate adjustment.

15.2. The submissions of the Petitioner have been evaluated carefully. The Authority has already reduced the equity return for new projects which have greater risks to 14% and even less than 14%. The Authority considers that the associated risks in the instant case have reduced because plant has completed its agreed PPA life. Therefore, it finds no justification for allowing higher return. In view thereof, the Authority feels that in the instant case 12% return on equity can be considered a fair assessment, accordingly it has decided to allow the same. According to the Financial Statements for FY 2017-18, the details of shareholders' equity is as under:

Particulars	Rs. Million
Paid up Share Capital	1,293.29
Capital Reserve	40.37
General Reserve	966.64
Accumulated Profit	1,576.46
Total Shareholders' Equity	**3,876.76**

15.3. The Petitioner has calculated requested ROE component on the basis of equity of Rs. 3,732.042 million (US$ 33.774 million at Rs. 110.5/US$). Accordingly on the basis of ROE of 12% and shareholders' equity of Rs. 3,732.042 million, the annual ROE works out Rs. 447.84 million and the ROE component works out Rs. 0.4500/kWh and the same is being approved. No indexation shall be applicable on the ROE component of tariff.

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15.4. The Authority has further decided to incorporate a claw back mechanism in case the regulated return increases over 12% due to saving in other tariff components against the reference equity of Rs. 3,732.042 million as per the following mechanism:

Percentage of ROE	Sharing	
	IPP	Consumer
Upto 12% of Reference Equity	100%	-
> 12% but ≤ 15% of Reference Equity	50%	50%
> 15% of Reference Equity	25%	75%

16. Whether annual availability requested at 92% is justified?

16.1. The Petitioner assumed annual availability of 92% (336 complex days) which is comparatively higher than the availability being offered by the similar technology. The proposed availability being reasonable, is accepted as such.

17. Whether net capacity assumed at 123.50 MW is justified?

17.1. The Petitioner proposed net power output after of 123.50 MW at reference site conditions after auxiliary consumption against gross capacity of 126 MW which is reasonable and the same is being approved.

18. Whether all environmental approvals including EIA have been obtained from the relevant Authority for the period of 5 years in which the expansion has been sought?

18.1. Regarding the above issue, the Petitioner submitted that the Facility is an established entity operating for the last 22 years therefore it already has the requisite approval of Sindh Environmental Protection Agency (SEPA) in place. The Petitioner also submitted that the SEPA Approval given to the Company does not have any expiry date nor does it require its renewal as long as the Facility is compliant to the requirements of the approval and submits its Environmental Assessment Report regularly. The Petitioner further submitted that in accordance with the terms of the SEPA approval, Environmental Performance Monitoring of the Company is being carried out by independent consultants on regular basis confirming that the Facility is in compliance with Pakistan Environmental Protection Act (1997), Pakistan Environmental Protection Agency Review of IEE and EIA Regulations, 2000, Sindh Environmental Protection Agency Review 2014 and World Bank Guidelines for Engine Driven Power plants 1998.

18.2. The submissions of the Petitioner are reasonable and accepted as such.

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19. Whether to allow a provisional tariff to the Petitioner for sale of power to KE during the period between the expiry of its existing tariff June 20, 2019 and till the time the Authority arrives at its final determination on the basis of the Petitioner's proposed tariff or otherwise?

19.1. Keeping in view the facts of the case, the Authority vide its decision dated 21st June 2019 approved provisional tariff of Rs. 14.1701/kWh subject to final decision and an order of refund, if any, for the protection of the consumers while the proceedings are pending before the Authority.

19.2. The Petitioner, being aggrieved of the above decision of the Authority, filed a review on the provisional tariff which was admitted by the Authority on 21st August 2019 for further processing. Since the Authority has approved the final tariff in the matter w.e.f. 20th June 2019. Therefore, the review sought by the Petitioner stands disposed of. The instant decision shall supersede the earlier decision of allowing provisional tariff. The difference in tariff, if any, shall be adjusted against the future billing.

20. <u>Summary of Tariff</u>

20.1. The summary of the approved tariff is provided hereunder:

Description	Rs./kWh
Energy Charge:	
Fuel cost component	13.3868
Variable O&M (Local)	0.6316
Sub-Total	**14.0184**
Capacity Charge:	
Fixed O&M (Local)	0.4274
Cost of working capital	0.2095
Insurance	0.0888
Return on Equity	0.4500
Sub-Total	**1.1757**
Total Tariff	**15.1941**
Reference Values:	
RFO Price (Rs./ton)	62,586.93
KIBOR	12.97%
CPI General June 2019	246.82

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21. ORDER

I. The Authority hereby determines and approves the following generation tariff for Tapal Energy (Private) Limited for its RFO based power plant of 123.5 MW net along with adjustments/indexations for delivery of electricity to the power purchaser on take and pay basis:

Description	Rs./kWh	
Energy Charge:		
Fuel cost component	13.3868	Fuel Price
Variable O&M (Local)	0.6316	CPI (General)
Sub-Total	**14.0184**	
Capacity Charge:		
Fixed O&M (Local)	0.4274	CPI (General)
Cost of working capital	0.2095	KIBOR and Fuel Price
Insurance	0.0888	Actual subject to maximum limit
Return on Equity	0.4500	-
Sub-Total	**1.1757**	
Total Tariff	**15.1941**	
Reference Values:		
RFO Price (Rs./ton)	62,586.93	
KIBOR	12.97%	
CPI General June 2019	246.82	

II. **Adjustments/Indexations**

The following adjustments/ indexations shall be applicable to the reference tariff:

i) **Adjustment in Insurance as per actual**

The actual insurance cost for the minimum cover required under contractual obligations with the Power Purchaser shall be treated as pass-through. Insurance component of reference tariff shall be adjusted annually as per actual upon production of authentic documentary evidence according to the following formula:

AIC	=	$Ins_{(Ref)} / P_{(Ref)} * P_{(Act)}$
Where		
AIC	=	Adjusted Insurance Component of Tariff
$Ins_{(Ref)}$	=	Reference Insurance Component of Tariff
$P_{(Ref)}$	=	Reference Premium Rs. 88.40 million
$P_{(Act)}$	=	Actual Premium or US$ 800,000 at exchange rate prevailing on the 1st day of the insurance coverage period whichever is lower

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ii) **Indexation applicable to O&M**

O&M components of tariff shall be adjusted on account of local Inflation (CPI) quarterly on 1st July, 1st October, 1st January and 1st April based on the average CPI for the last quarter as per the following mechanism:

$V.\ O\&M_{(REV)}$	=	$V.\ O\&M_{(REF)} * CPI_{(REV)} / CPI_{(REF)}$
$F.\ O\&M_{(REV)}$	=	$F.\ O\&M_{(REF)} * CPI_{(REV)} / CPI_{(REF)}$
Where:		
$V.\ O\&M_{(REV)}$	=	The revised Variable O&M Component of Tariff
$F.\ O\&M_{(REV)}$	=	The revised Fixed O&M Component of Tariff
$V.\ O\&M_{(REF)}$	=	The reference Variable O&M Component of Tariff
$F.\ O\&M_{(REF)}$	=	The reference Fixed O&M Component of Tariff
$CPI_{(REV)}$	=	The revised CPI (General)
$CPI_{(REF)}$	=	The reference CPI (General) of 246.82 for June 219

iii) **Cost of Working Capital**

Cost of working capital shall be adjusted quarterly for variation in KIBOR and fuel price against the reference KIBOR of 12.97% and reference fuel price of Rs. 62,586.93/ton.

iv) **Fuel Price Adjustment**

The fuel cost component of tariff shall be adjusted on account of fuel price variation as per the following mechanism:

$FCC_{(Rev)}$	=	$FCC_{(Ref)} \times P_{(Rev)} / P_{(Ref)} \times CV_{(Ref)} / CV_{(Rev)}$
Where:		
$FCC_{(Rev)}$	=	Revised Fuel cost component.
$FCC_{(Ref)}$	=	Reference Fuel cost component.
$P_{(Rev)}$	=	Revised Ex-GST delivered RFO price per ton.
$P_{(Ref)}$	=	Reference Ex-GST delivered RFO price of Rs. 62,586.93/ton.
$CV_{(Ref)}$	=	Reference LHV calorific value of 38,584.49 BTUs/lb.
$CV_{(Rev)}$	=	Revised LHV actual calorific value subject to minimum of 17,333 BTUs/lb.

III. Terms & Conditions

The following terms and conditions shall apply to the determined tariff:

i. The approved tariff shall be applicable w.e.f. 20th June 2019 for a term of three years or till the time CPPA-G/NTDC are willing and capable of supplying equivalent additional power to KE, whichever comes earlier.

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ii. The discontinuation of the purchase of power during the extended term of the PPA shall be subject to reasonable notice period which shall be incorporated in the PPA.

iii. Dispatch shall be in accordance with the merit order as defined in the grid code.

iv. No bonus payments shall be allowed over and above the approved tariff.

v. WWF and WPPF shall be pass-through items.

vi. Taxes on income, if any, shall be pass-through.

vii. In case the regulated return increases over 12% due to saving in other tariff components, the gain shall be shared as per the following mechanism:

Percentage of ROE	Sharing	
	IPP	Consumer
Upto 12% of Reference Equity	100%	-
> 12% but ≤ 15% of Reference Equity	50%	50%
> 15% of Reference Equity	25%	75%

viii. All adjustments/indexations i.e. fuel price, CPI, KIBOR and insurance shall be done by KE in accordance with the stipulated mechanism.

IV Notification

The above Order of the Authority shall be notified in the Official Gazette in terms of Section 31(7) of the Regulations of Generation, Transmission and Distribution of Electric Power Act, 1997.

AUTHORITY

Saif Ullah Chattha
Member 15.11.2019

Rehmatullah Baloch
Member 15/11/19

Rafique Ahmed Shaikh
Member 13/11/19

Engr. Bahadur Shah
Member

Tauseef H. Farooqi
Chairman

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