

POLICY FRAMEWORK FOR NEW - CAPTIVE POWER PRODUCERS (N-CPPs)

1. HISTORY

To lessen the gravity of power shortage in the country it was decided by WAPDA/PEPCO to acquire surplus and redundant Captive Power from APTMA members as one of the supply side measures. This Captive Power was mostly oil based. Subsequently, Sugar Industry also made a similar offer for sale of surplus (bagasse based) Captive Power. So far about 182 MW produced by different CPPs on different fuels could be fed to DISCOs on take-and-pay-basis at tariffs approved by WAPDA Authority/PEPCO under the guidelines of NEPRA. Up till now APTMA remains the main contributor.

Reference Tariffs for different fuels are as below:-

Type of Fuel	Fixed Cost Component (Rs/kWh)	Fuel Cost Component (Rs/kWh)	Total (Rs/kWh)	Reference Prices for the purpose of indexation
RFO	1.26	5.41	6.67	Rs. 22,096/M.Ton
GAS	1.26	2.89	4.15	Rs.238.38/MMBTU
BAGASSE	1.26	3.62	4.88	Rs.238.38/MMBTU
BIO-GAS	1.26	3.88	5.14	Rs.238.38/MMBTU

(a). Revision of Fixed Cost Component

PEPCO enhanced the Fixed Cost Component per delivered kWh, from Rs.1.26 to Rs.1.53 in January, 2009, after taking into account inflation, rupee devaluation, and increase in variable/ fixed O&M.

(b). APTMA's Offer

During a meeting held under the chairmanship of Secretary, Ministry of Water & Power on April 20, 2009, APTMA offered to set up Generation Facilities, in the shape of clusters at locations of PEPCO's/DISCOs choice, provided; workable Financial Cost and use of refurbished machines is allowed. APTMA justified demand of additional Financial Cost as against purchase of refurbished/used machines and not for merely shifting of existing engines available with APTMA members, at a particular location. Further APTMA demanded long term, guaranteed despatch agreements, instead of agreements on take-and-pay-basis. In response to APTMA's offer, the then, MD PEPCO offered Rs.1/- over and above what is being paid to RFO/Gas based CPPs.

c). APTMA's Formal Proposal For RFO and Gas Based Generation

APTMA through its first formal proposal demanded the following additional costs and terms, over and above being offered to current CPPs:-

(i)	Fixed Cost	Rs.0.36/kWh delivered	For both RFO and Gas as fuel.
(ii)	Financial Cost	Rs.1.40/kWh delivered	
(iii)	Term of the agreement	20 years	
(iv)	Despatch	Guaranteed	

d). Comparison of Reference and Current Energy Prices of Existing CPPs Running on RFO & GAS

RFO		GAS	
Reference Price @ Rs.22,096/- M.Ton	Current Price @ Rs.41,900/ M. Ton	Reference Price @ Rs.238.38/MMBTU	Current Price @ Rs.339.43
5.41	10.25	2.89	4.11

Keeping in view the upcoming RFO based capacity (Rental + IPPs) and in the light of cost comparison of energy price for RFO and Gas; further acquisition of generation from RFO Captive units, comprising of used/refurbished or even new machines, with incentive of Financial Cost, guaranteed despatch and long term agreements, makes no commercial sense. As a consequence, PEPCO does not support this part of proposal. More so, when the recent Pak-Iran agreement for supply of gas to Pakistan has exclusively been proposed for Generation, so it is high time to promote Gas Generation. However, Captive Power from the existing installed plants will be inducted on earlier take-and-pay model.

2. OBJECTIVES OF POLICY FRAMEWORK FOR N-CPPS

- a) To meet growing power demand from all possible sources
- b) To minimize load shedding particularly to industrial units
- c) Productive and optimum use of Captive Power
- d) Creation of value for output of N-CPPs
- e) To minimize the gestation period of the power procurement through fast-track addition of capacity at competitive prices against IPPs/Rentals.
- f) Incentivizing local investors.

3. NEW CAPTIVE POWER PRODUCERS (N-CPPs)

The role of Captive Power, because of its peculiar features, is accepted all over the world. Accordingly, after due consideration PEPCO has decided as follows;

- ✓ To further develop, the current scheme for purchase of power from CPPs
- ✓ To improve the existing terms and conditions
- ✓ To offer Financial Cost to N-CPPs
- ✓ To guarantee despatch

The Captive Power Producers established with new investment on new machines or engines running on pipe line quality natural gas, biogas or on bagasse will **henceforth, be termed as New Captive Power Producers (N-CPPs)**. These, new Captive Power generating units built, owned and operated by industrial sector anywhere in Pakistan, within the jurisdiction of Distribution Companies, while fulfilling their own power requirements, would simultaneously, be offering sale of at least 10 MW and to a maximum of 49MW to DISCOs out of the total capacity installed at a single location already allowed by NEPRA under the umbrella of Captive Power. This sale and purchase of New Captive power will be through bilateral agreement between Power Producer and the Power Purchaser. The aforementioned capacity will be termed as Contracted Capacity i.e. exclusively dedicated for DISCOs by the N-CPP. By virtue of this specified allocation of power for DISCOs N-CPPs will be entitled for Financial Cost through negotiations over and above what is being paid to old CPPs. The Financial Cost will be recovered by N-CPPs through kWhs delivered to DISCOs, during the 1st phase of the agreements (07 years) on the pattern of Front Loaded Tariff. Thus, introducing a new concept, close to Public-Private-Partnership, but a bit different from the previous concept of CPPs as those were never installed to sell power and earn revenues for them. The first and foremost rationale of the new scheme is to benefit both the power utilities and the industrial sector of Pakistan.

4. PERMISSION BY NEPRA

NEPRA through widely circulated news clips and its memo No. NEPRA/R/LAG-60/7320 dated 28-04-2008 has already allowed DISCOs to directly purchase power from Captive Power Producers on mutually agreed tariff but simultaneously debarred DISCOs to claim any upward tariff revision on account of a particular purchase of power. The earlier decisions by WAPDA Authority regarding inclusion of purchase of power by DISCO in the overall Energy Transfer Rate will continue to facilitate DISCOs.

5. **PURCHASE OF POWER FROM N-CPPs EXCLUSIVE PREROGATIVE OF PEPCO/DISCOs**

To buy power from a particular N-CPP through bilateral contract will be the sole prerogative of PEPCO/DISCOs, in accordance with the objectives of the scheme defined above. The identification of the load centre will be fully backed by the historical power demand of the area. The decision of the DISCO regarding determination of the load center will be final. Obtaining Generation License from NEPRA will be mandatory before Commercial Operation Date (COD). The Generation License fee and other expenses etc. will be borne by the Power Producer. The Power Producer will supply technical specification of equipment to be installed at the proposed Generation Facility to PEPCO/DISCOs

6. **PROPOSED FIXED COST COMPONENT IN COMPARISON WITH CAPACITY PAYMENT OF UPCOMING IPPs AND RENTAL PLANT**

M/s Foundation Power Generation, an upcoming Gas based IPP	M/s HUBCO, Narowal, an upcoming RFO based IPP	Average Capacity Payment/kWh of Rental Plants	Proposed Fixed Cost Component for New –CPPs (cluster)
US Cents 3.50/kWh Or Rs.2.80/kWh	Rs.2.82/kWh	US Cents 3.43/kWh Or Rs.2.74/kWh	Rs.1.53+Rs.1.28 = Rs.2.81/kWh (Upfront) (Rs.1.53 will remain constant for the term of the agreement, except in the case the same is revised for CPPs currently supplying power to DISCOs.)

(a). From the comparison above, it is easy to conclude that tariff for N-CPPs together with Fuel Cost with new engines (gas based generation only) will always be cheaper than RFO based IPPs/RFO Rentals whereas Fixed Cost Component proposed for N-CPPs will remain comparable to Capacity Payment of upcoming IPPs (both RFO & Gas based) and Rental Plants.

(b). In the recent past, OGRA revised Gas Prices, w.e.f. 01.01.2009, for different categories of Generation Facilities i.e. for WAPDA Power Stations, IPPs and Captive Power. OGRA has fixed Rs.349.56/MMBTU for WAPDA Power Stations, as against Rs.295.03/MMBTU for IPPs and Rs.339.43/MMBTU for Captive Power Producers. Therefore, this increase by OGRA for Captive Power Producers leaves no logic behind to compare, tariff for N-CPPs with gas based generation of IPPs. Moreover, small gas engines having capacity around 15 MW run on open cycle, hence, inherit poor efficiency, as compared to engines, having capacity \geq 50 MW and running on combined cycle.

7. TARIFF STRUCTURE FOR N-CPPs

The tariff model proposed for N-CPPs will be neither the same as that of IPPs nor exactly being offered to old CPPs. Instead it comprises of four parts (a) Fuel Cost/delivered kWh, already being offered to old CPPs/SPPs (b) Fixed Cost/delivered kWh (c) Financial Charges for taking care the investment over seven(07) years. The same will be governed by the principle of no-loss no gain. (d) The mark-up will be built in the Financial Charges in the light of formula mentioned below;

KIBOR (quarterly) + 3% Spread

Further, the amount of Letter of Credit (L/C) will be subject to one time true up in accordance to \$ - Rs. relationship at the time of delivery or at the time of payment.

8. TARIFF ASSUMPTIONS

(i)	Capital Investment per kilo Watt	• US\$ 560.00
(ii)	Minimum Capacity of New-CPP (cluster)	• 10 MW
(iii)	Engine Model	• New or with zero hour running
(iv)	Term of Agreement	• 1 st Phase - 7 years Front Loaded • 2 nd Phase - 7 years free of Financial Cost • 3 rd Phase - 6 years extension if agreed mutually but free of Financial Cost.
(v)	Financial Cost Recovery within	• 07 years
(vi)	Availability	• 95%
(vii)	Foreign Currency investment	• 75%
(viii)	Local Currency investment	• 25%
(ix)	Location of Power Plant to be decided by the Power Purchaser	
(x)	Interest in local currency will be KIBOR (quarterly) + 3% spread (to be negotiated by the Power Producers with the banks)	
(xi)	Details of Letter of Credit will be opened to Power Purchaser. The same will be subject to true up according to \$ - Rs. relationship at the time of delivery of equipment or actually paid	
(xii)	Gas as Fuel, will surely be placing this power at a higher level in the merit order, accordingly Power Purchaser can easily Guarantee Despatch round the clock and round the year except during non-gas months	

9. REFERENCE FEED-IN TARIFF FOR N-CPPs

The proposed Reference Tariff for New-CPPs is on the pattern of '*feed-in*' Tariff.

Scenario	Fuel Cost Component at Ref. Gas Price of Rs 238.38/MMBTU HHV	Fixed Cost Component (Rs/kWh)	Financial Cost Component (Rs/kWh)	Total Cost (Rs/kWh)	Total Cost (Cent/kWh)
With Guaranteed Despatch	2.89	1.53	1.28	5.7	7.125
Power Producer Ready to Deliver; but No Despatch By DISCOs	0.00	0.26	1.28	1.54	1.925
Non Gas Months/No Despatch	0.00	0.12	1.28	1.40	1.750

1US\$ = Pak Rs.80

10. PACKAGE OF INCENTIVES

(a). Cost of Interconnectivity and Metering

The N-CPPs will be offering its power at 11kV however, further upgradation of the voltage level will be decided by the Power Purchaser. If construction/rehabilitation of existing interconnection facilities will be required, it will be the sole discretion of the concerned DISCO. In both the aforementioned cases the cost will go to Power Purchaser's account. The Right of Way will be responsibility of the DISCOs. The cost of main metering will be borne by Power Purchaser and that of back-up metering will be borne by the Power Producer. DISCOs will be responsible for installing and testing the metering systems. DISCOs will also be responsible for maintenance of Interconnection Facilities.

(b). Guaranteed Despatch

By virtue of historical cost comparison of different fossil fuels it is revealed that gas as a fuel has always been a cheaper source of fuel as compared to others and so has been the generation on gas. Therefore, DISCOs will be at ease while despatching N-CPPs round the clock. However, DISCOs will be having close liaison with NPCC for upward/downward adjustment of load shedding quota allocation to DISCOs.

(c). Sale of Power to Sister Concerns

Sale of power from N-CPP to its sister concerns will strictly be, in accordance with existing guidelines of NEPRA for CPPs. However, such sales will not pose threats to the bilateral agreement signed between N-CPPs and DISCOs.

(d). Energy Policy 2002 – Facilitation to N-CPPs

Tax exemptions on import etc. as applicable for power generating units as available in Policy 2002, are proposed to remain available for N-CPPs.

11. **GENERAL TERMS & CONDITIONS**

(a) Gas Supply Arrangements

The arrangement of gas allocation for a particular N-CPP will be the sole responsibility of Power Producer at its costs and expenses.

(b) Prudent Practices

Prudent Electrical Practices, Prudent Utility Practices and Prudent Commercial norms and practices already existing in the Standard Power Purchase Agreement for Captive Power Producers (CPPs) will be applied, wherever required, during the development of new Power Purchase Agreement for the above mentioned N-CPPs.

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