



Registrar

# National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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No. NEPRA/PAR-75/227-229  
January 9, 2013

**Subject: Approval of the Authority in the matter of Power Acquisition Request filed by Hyderabad Electric Supply Company Ltd. (HESCO) for Purchase of 18.8 MW from Thatta Power (Pvt.) Limited (TPPL) under NEPRA Interim Power Procurement (Procedures and Standards) Regulations, 2005 [Case # PAR-75]**

Dear Sir,

Please find enclosed herewith the subject Approval of the Authority along with Annex-I and a separate Decision of Mr. Shaukat Ali Kundi, Member NEPRA (26 pages) in Case No. NEPRA/PAR-75.

2. The Approval is being intimated to the Federal Government for the purpose of notification 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 (XL of 1997).

3. Please note that Order of the Authority at paras 21-23 of the Approval relating to the reference tariff, adjustments & indexations etc. along with Annex-I needs to be notified in the official Gazette.

Enclosure: As above

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

( Syed Safeer Hussain )

CC:

1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
2. Secretary, Ministry of Finance, Islamabad.



National Electric Power Regulatory Authority  
(NEPRA)

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Approval of

Power Acquisition Request filed by

Hyderabad Electric Supply Company Limited (HESCO)

For Purchase of 18.8 MW from Thatta Power (Pvt) Limited (TPPL)

under

Interim Power Procurement (Procedures & Standards) Regulations 2005

(NO: NEPRA/PAR-75)

Islamabad

*January 9, 2013*

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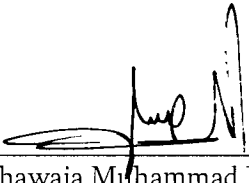
Approval of the Authority in the Matter of Power Acquisition Request filed by Hyderabad Electric Supply Company Limited (HESCO) for Purchase of 18.8 MW from Thatta Power (Pvt) Limited (TPPL) under Interim Power Procurement (Procedures & Standards) Regulations 2005

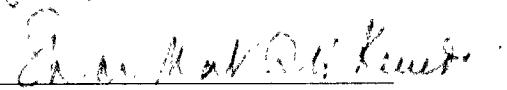
CASE NO. NEPRA/PAR-75

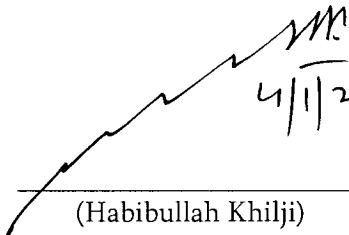
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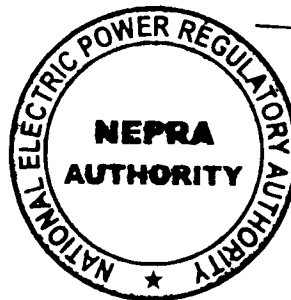
Hyderabad Electric Supply Company Limited (HESCO)

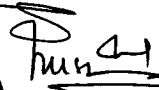
Authority

  
(Khawaja Muhammad Naeem)  
Member

*By separate note attached -*  
  
(Shaukat Ali Kundi)  
Member

  
(Habibullah Khilji)  
Chairman



  
09-01-2013



2.2 In the determination for grant of Generation License, TPPL was allowed to sell its surplus power to Bulk Power Consumer (BPC) pursuant to section 22 of the NEPRA Act. In the said determination, it was observed that Section 9 of the Policy under which the proposed project is being set up stipulates an upfront tariff, whereas under section 7(3)(a) of the NEPRA Act the Authority is exclusively responsible for determining tariff, rate and charges etc. The Authority considers that prescribing tariff by Government or any Government agency other than NEPRA is inconsistent with the section 7(6) and 12 of the NEPRA Act. In an identical case M/s IS.ZA.AD Associates, an intervener, also invited attention of the above issue and stated "*Prima facie, DISCOs filing of power acquisition request is in violation of enabling legislation under the NEPRA Act. It seems that the BOD PEPCO's approval of NCPP Policy and subsequently its endorsement/approval by Ministry of Water & Power was then accorded without having jurisdiction over the matter.*"

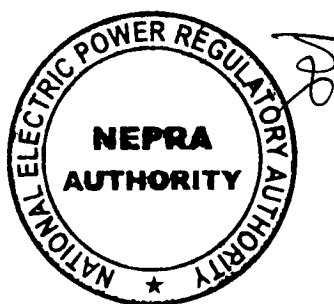
2.3 It is pointed out that the Authority was also cognizant of this fact while giving determination for grant of generation license to TPPL. In view thereof while appreciating the efforts being made by GoP for inducting additional power in the system, the Authority accepted the Policy Framework for New-Captive Power Producers (N-CPPs) but did not accept the tariff given under Section 9 of the Policy. Accordingly the DISCOs were directed to file the draft PPAs signed with N-CPPs for approval as stipulated in the NEPRA Interim Power Procurement Regulations 2005.

### 3. Filing of the Power Acquisition Request

3.1 Pursuant to the directions given in the determination of the Authority in the matter of generation license, Hyderabad Electric Supply Company Limited (HESCO) filed Power Acquisition Request (PAR) dated 18<sup>th</sup> January 2012 in respect of purchase of 18.8 MW gas based power from TPPL under NEPRA's Interim Power Procurement (Procedures & Standards) Regulations 2005 along with copy of the signed Power Purchase Agreement (PPA).

### 4. Admission of the Power Acquisition Request

4.1 The Power Acquisition Request was admitted by the Authority on 1<sup>st</sup> February 2012. Although the Regulations do not provide for holding a public hearing but for the purpose of transparency through participation of the stakeholders in the tariff setting process and in order to meet the ends of natural justice the Authority decided to hold public hearing. Accordingly Notice of Admission/public hearing along with salient features was made public in the leading national newspapers inviting comments/participation from the general public and other stakeholders. Individual letters were also sent to all concerned.



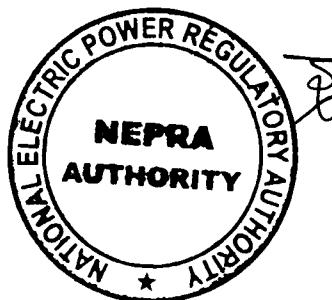
## 1. Background and Brief History

1.1 Hyderabad Electric Supply Company Limited (hereinafter "HESCO") filed Power Acquisition Request (PAR) dated 18<sup>th</sup> January 2012 in respect of purchase of 18.8 MW gas based power from Thatta Power (Pvt) Limited (hereinafter "TPPL") under NEPRA's Interim Power Procurement (Procedures & Standards) Regulations 2005. TPPL has to set up a natural gas based generation facility at Makli Road, District Thatta, Sindh under the Policy Framework for New Captive Power Producers (N-CPPs) hereinafter called "the Policy" formulated by the Pakistan Electric Power Company Limited (PEPCO). The policy was approved by the Board of Directors (BOD) PEPCO and endorsed by Ministry Water & Power vide its letter No. PA/JS(P)/2009-Misc dated 14-7-2009. Under this Policy new thermal power plant with brand new machinery were planned to be set up with new investment in the jurisdiction of Ex-WAPDA distribution companies (DISCOs). The salient features of the Policy are as under:

- The power plants will be established with new investment on new machines or engines running on pipeline quality gas, biogas or bagasse.
- Power plants will be established on built, own and operate basis by industrial sector anywhere in Pakistan within the jurisdiction of the DISCOs.
- The NCPPs while fulfilling their own power requirements, would be offering at least 10MW and maximum of 49MW to DISCOs out of the total capacity installed at single location under the Umbrella of captive power plants.
- The sale and purchase of power will be through bilateral agreement between power purchaser and the power producer.
- By virtue of the specified allocation of power for DISCOs, NCPPs will be entitled for financial cost through negotiations.
- Financial cost will be recovered by NCPPs through kWh delivered to DISCOs during the 1<sup>st</sup> Phase of the agreement (7 years) on the pattern of front loaded tariff.
- The term of the agreement will be 20 years, 7 years front loaded, 7 years free of financial cost and 6 years extension if agreed mutually but free of financial cost.

## 2. Grant of Generation License

2.1 TPPL filed application for grant of Generation License on 23<sup>rd</sup> May 2011 for 45.984 MW consisting of 12 GE Jenbacher/JGS 620F Gs-N.L F01 Gas Engines each of 3.332MW and 2 Steam Turbine of 6MW in accordance with Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (hereinafter called the NEPRA Act). The Authority issued generation license No. SGC/76/2011 dated 20<sup>th</sup> December 2011 to TPPL.





## 5. Agreed Tariff

5.1 Under the PPA, HESCO and TPPL agreed the following tariff:

Scenario	Fuel Cost Component at Reference Gas Price of Rs. 238.38/MMBTU HHV	Fixed Cost Component (Rs./kWh)	Financial Cost Component (Rs./kWh)	Total Cost (Rs./kWh)
With Guaranteed Dispatch	2.89	1.53	1.28	5.70
Power Producer Ready to Deliver; but No dispatch by DISCO	0.00	0.26	1.28	1.54
Non gas months/No dispatch by the Power producer	0.00	0.12	1.28	1.40
Gas months/No dispatch by the Power producer (Power Purchaser ready to purchase)	0.00	0.00	0.00	0.00

5.2 HESCO while acknowledging the fact that tariff determination being the prerogative of NEPRA requested to allow HESCO to adopt and own the tariff approved by CPPA and Board of Directors HESCO in 69<sup>th</sup> BOD meeting held on 30<sup>th</sup> June 2011. HESCO further requested to grant approval of PAR along with endorsement of the tariff adopted by CPPA under N-CPP Policy or tariff determination be made by NEPRA.

5.3 In order to assess the reasonability of the agreed tariff and the terms & conditions, the PPA submitted by HESCO was examined in detail. The relevant proposed clauses of the PPA pertaining to the adjustment in the tariff components are reproduced in the following paragraphs.

## 6. Indexation/Adjustment of Tariff

### 6.1 Inflation Factor

6.1.1 Under Section 5.1(a) of the PPA, after the COD on each second anniversary of COD Fixed Cost Component shall be indexed on account of Inflation Factor for the period "p" as per formula given below:

$$FCC(p) = FCC(Ref) \times \text{Inflation Factor}$$

Where:

FCC(p) = the value of the fixed cost component of tariff per kWh, expressed in Rupees, as adjusted at the relevant calculation date 'p'



FCC(Ref)	=	the value of the fixed cost component of the reference tariff per kWh, expressed in Rupees, at the reference date
Inflation Factor	=	$WPI_t / WPI(Ref)$
$WPI_t$	=	the average value of the end of month values for the WPI over the available twelve months immediately prior to the date of calculation
$WPI(Ref)$	=	the value of the Whole Sale Price index for manufacturing on the reference date

6.1.2 The value of the WPI at the reference date shall be deemed to be the value for the month in which COD is achieved and as rebased and agreed by the parties, if required, as a result of rebasing by the Federal Bureau of Statistics of the GOP.

## 6.2 One Time Exchange Rate Adjustment in Financial Cost Component at COD

6.2.1 According to Section 5.2(a) of the PPA, Financial Cost Component to the extent of the foreign component only will be adjusted at COD as per actual capital investment up to a maximum of 75% of US\$ 560 per kW (net) as per following formula:-

$$\text{Fin.CC}(\text{rev}) = \text{Fin.CC}(\text{ref}) \times \frac{\text{Actual Capital Investment (US\$)}}{\text{Reference Capital Investment (US\$)}} \times \frac{\text{W. Average Exchange Rate}}{\text{Reference Exchange Rate}}$$

Where:

$\text{Fin.CC}(\text{ref})$  = Rs. 1.28 per kWh net Electrical Output

$\text{Fin.CC}(\text{rev})$  = The Financial Cost Component at the time of COD

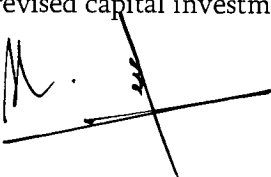
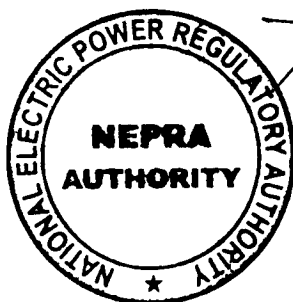
Actual Capital Investment = The actual cost of the capital investment of the project in US\$ which would be 75% of the project cost subject to a maximum of US\$ 560 per kW (net)

Ref. Capital Investment = US\$ 420 per kW (net)

W. Avg. Exchange Rate = The average exchange rate applicable on various draw downs from the letter of credit established for import of equipment

Ref. Exchange Rate = 1US\$ = Rs. 80

6.2.2 According to Section 5.2(b) the company shall provide certified copies of the details of the revised capital investment, one month prior to the expected COD.



## 6.6 Payment when Net Electrical Output is Despatched at 132 kV

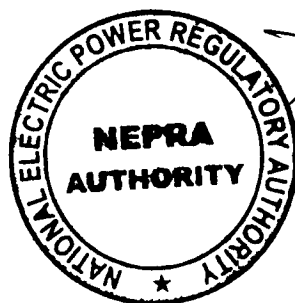
- 6.6.1 Under Section 5.10 of the PPA, the power purchaser may chose to dispatch net electrical output at 132 kV and may elect to ask the company to cater for the necessary step up transformer(s) and switchyard. The cost of such equipment shall be borne by the power purchaser. If the power purchaser does not choose to pay the company with necessary compensation at the time of COD or at a future date, as the case may be, the company shall be entitled to recover the cost with reasonable return on equity in the fixed cost component as per the mechanism provided in the PPA.

## 7. Filing of objections/comments

- 7.1 In response to the notice of hearing, Ministry Water & Power filed comments on 14<sup>th</sup> June 2012.
- 7.2 In identical cases of PARs filed by MEPCO for purchase of 10.5MW from Roomi Fabrics Limited and 16.5 MW from Khokhar Textile Mills Limited and PAR filed by SEPCO for purchase of 16MW from Shikarpur Power (Pvt) Limited M/s IS.ZA.AD Associates filed petition for leave to intervene which was accepted by the Authority. The issues raised by M/s IS.ZA.AD Associates are relevant for all NCPPs being set up under the Policy, therefore are taken into consideration in the instant case as well.

## 8. M/s IS. ZA. AD Associates

- 8.1 M/s IS. ZA.C contended that:
- Inappropriate allocation of scarce gas to lesser efficient generating units and consequential non-generation by IPPs is a matter of concern;
  - Prima facie, DISCOs filing of power acquisition request is in violation of enabling legislation under the NEPRA Act. It seems that the BOD PEPCO's approval of NCPP Policy and subsequently its endorsement/approval by Ministry of Water & Power was then accorded without having jurisdiction over the matter;
  - Presently proposed tariff structure for making payment by DISCOs to power seller be discarded. Payment ought to be made monthly on net sales/buy back (by seller) basis (reading every fortnight);
  - Payment of only energy component (fuel plus variable O&M) to be accorded. No financial charges to be made;
  - Efficiency for such plants to be at least 42% based on gas engines combined cycle modes; and No IPP type PPA is required. Payment should be made using 1994 Annex-J for sale & buy back. It only needs to be trued up based on gas price increase and rupee dollar parity adjustment.



### 6.3 Quarterly Indexation of Interest Charges

- 6.3.1 As per Section 5.3 of the PPA, the interest adjustment factor of the financial cost component will be adjusted due to variation in the interest rate as a result of variation in quarterly KIBOR according to the following formula:

$$\text{IAF} = I \times (\text{KIBOR}_t + 3\%) / (\text{KIBOR}_{\text{ref}} + 3\%)$$

Where:

IAF = Interest Adjustment Factor for each quarter

I = Interest for the relevant period

KIBOR<sub>t</sub> = The KIBOR on the day prior to the COD and thereafter the last day of the previous quarter (31st March, 30th June, 30th September or 31st December, as applicable)

KIBOR<sub>ref</sub> = Reference KIBOR is 13%

t = time on which such calculation was made

### 6.4 Indexation of Gas Cost Component

- 6.4.1 Under Section 5.4(b) of the PPA, the gas cost component will be adjusted for the billing cycle according to the following formula:

$$\text{GCCA}(\text{rev}) = \text{GP}(\text{rev}) / \text{GP}(\text{ref}) \times \text{GCCR}(\text{ref})$$

Where:

GCCA(rev) = Revised gas cost component amount applicable for the billing cycle

GP(rev) = Revised gas price, excluding General Sales Tax applicable for the billing cycle as notified by OGRA for new captive power producers

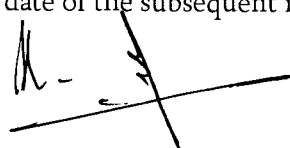
GP(ref) = Reference gas price i.e. Rs. 238.38/MMBtu(HHV)

GCCR(ref) = Rs. 2.89/kWh

- 6.4.2 For avoidance of doubt, it was clarified under Section 3.4 of the PPA that the procurement of supply of gas shall be the sole responsibility of the company (Power Producer).

### 6.5 Financial Cost Component for Increased Capacity

- 6.5.1 According to Section 5.1(c) of the PPA, there shall be paid to the Company by the power purchaser the financial cost component for any subsequent increase in the contract capacity made by the company subject to the adjustments provided in clause (b) of this section, including the financing tenure which shall not change on account of commercial operations date of the subsequent increase in the contract capacity.



## 9. Ministry of Water & Power

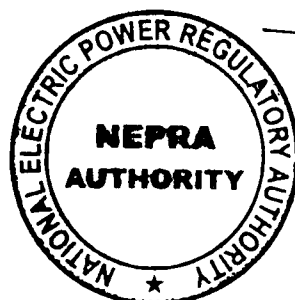
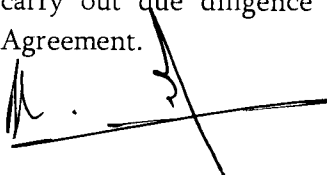
9.1 The Ministry of Water & Power (hereinafter the Ministry) forwarded following comments in respect of NCPPs:

- a. The criterion for fuel cost component should be based upon brand new machinery;
- b. It is not justifiable to recover the cost of a new machine in only seven years. It has to be prolonged period of 20 plus years;
- c. In case of new plants at least 20% equity be kept intact. The cost of the plant should however come through transparent competitive bidding;
- d. Regarding absence of Penalty clauses in the PPA if the power producer declines to deliver the energy after expiry of seven years, the Ministry commented as “the consumers’ rights can be protected through an appropriate clause in the PPA to be suggested by legal experts”;
- e. O&M cost has to be substantiated through the actual audited costs of the plant instead of fixing the cost without any basis; and
- f. Utilization of gas allocation may not be wasted on single cycle, low efficiency plants. It is advisable to use this pipeline quality gas allocation in more efficient, bigger plants like Orient, Sapphire or Hallmore. The cost of generation in these plants shall be lower than the proposed smaller Plants.

## 10. Powers to Determine Tariff

10.1 Section 7(3)(a) of the NEPRA Act confers exclusive power on the Authority for determination tariff, rates and charges for supply of electric power and these powers under section 12 of NEPRA Act cannot be delegated to any other agency/person. The Authority, while giving determination for grant of generation license noted that the Section 9 of the Policy under which these projects are being set up stipulates an upfront tariff. The said section of the Policy is not consistent with the relevant provisions of NEPRA Act, Rules and Regulations according to which before entering into the power purchase agreement with TPPL the prior approval from the Authority was mandatory. The Power Purchaser did not approach NEPRA for approval of its PPA under NEPRA’s Interim Power Procurement Regulations, 2005 (hereinafter “the Regulations” ). It is also a matter of record that the power purchaser did not even know the underlying assumption/basis of the agreed tariff. In view thereof the Authority is constrained to construe that the consumers’ interest was not protected while agreeing different tariff components particularly the fuel cost component.

10.2 In view of the above the Authority in exercise of its powers under the NEPRA Act decided to carry out due diligence of the terms and conditions contained in the Power Purchase Agreement.



## 11. Hearing

11.1 The hearing in respect of PAR filed by HESCO regarding purchase of 18.8 MW power from TPPL was held on 24<sup>th</sup> May 2012. The representatives from HESCO, TPPL, CPPA, SSGC and media participated in the hearing.

## 12. Issues

12.1 Certain issues were framed for the hearing which were also sent to the stakeholders. The issues are discussed as follows:

### 13 Issue No. 1

13.1 Who will certify that the brand new machinery has been installed by the generating company?

13.1.1 Central Power Purchasing Agency in response to the above issue stated that a committee of technical personnel of the concerned DISCO nominated by its BOD will certify whether the brand new machinery has been installed by the generating company or not.

13.1.2 Considering the CPPA's response reasonable, the Authority decided to accept the same. HESCO is directed to submit the report of the committee duly vetted by its Chief Executive Officer.

### 14 Issue Nos. 2 to 7

14.1 What is the underlying assumption regarding thermal efficiency while agreeing the fuel cost component?

What is the actual efficiency of the plant?

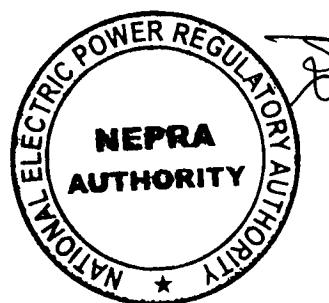
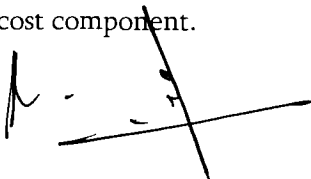
Whether it is justified that the agreed fuel cost component is based on a thermal efficiency level far below than the actual thermal efficiency of the power plant?

Whether it is justified that the same fuel cost component as has been agreed with the captive power plants/small power producers, in some cases around 16 years old, is made applicable to the brand new machinery?

Whether it is justified that CPPA approved RFO based tariff of SPPs/CPPs with thermal efficiency of 36.15%, however with gas based SPPs/CPPs, the efficiency level is 31.15% whereas gas is a more efficient fuel?

Whether the basis of the fuel cost component with respect to thermal efficiency is justified when brand new power equipment is installed and the end consumers are obligated to pay the capital investment in terms of financial charges (debt servicing) of the project and within only seven years?

14.2 Issue Nos. 2 to 7 pertains to the thermal efficiency and fuel cost component of the power plant being set up by the power producer. All these issues will be discussed under the head of fuel cost component.

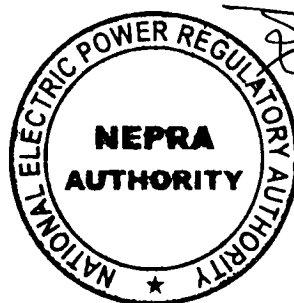
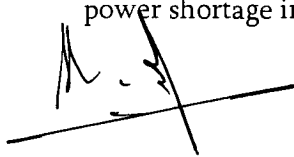


**15 Fuel Cost Component**

15.1 This is the major cost constituent of a thermal power plant and accounts for 60% to 80% of the overall electricity cost depending upon the type of fuel used. Fuel cost component of tariff is a function of heat rate (thermal efficiency) of the power plant, price of gas and LHV-HHV factor to convert HHV gas price to LHV gas price. In the PPA HESCO agreed the fuel cost component of Rs. 2.89/kWh on HHV gas price of Rs. 238.38/MMBUs.

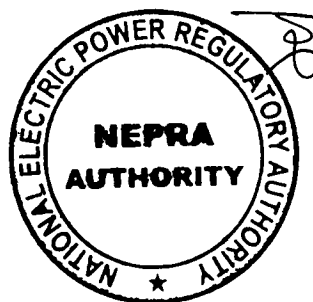
15.2 In order to assess the reasonability of the fuel cost component, HESCO was asked to explain the basis of the fuel cost component. Since HESCO had no information/basis of the tariff and the terms and conditions agreed in the PPA signed under the Policy; therefore CPPA on behalf of HESCO stated that;

- i) The reference benchmark fuel cost component of Rs. 2.89/kWh was negotiated and agreed between APTMA members and WAPDA Authority as per NEPRA's directives based on pipeline quality natural gas at a reference price of Rs. 238.38/MMBTU with GCV (Btu/Scf) of 899 HHV and plant heat rate of 12,124 Btu/kWh which corresponds to an efficiency of 28.15%.
- ii) It has no information about the actual thermal efficiency of the plant.
- iii) In the first instance a fuel cost component of Rs. 2.31/kWh and fixed cost component of Rs. 1.16/kWh was offered to CPPs/SPPs to lessen the power shortage in the country. No gas based CPP/SPP offered power on these rates. Consequent upon meetings and negotiations of APTMA's members with Member (Power) WAPDA, these rates were enhanced to Rs. 2.89/kWh as fuel cost component and Rs. 1.26/kWh as fixed cost component. Later on the fixed cost component was enhanced from Rs. 1.26/kWh to Rs. 1.53/kWh upon demand of APTMA's members keeping in view the increase in inflation rate.
- iv) The fuel cost component depends upon the cost of fuel (HHV or LHV as applicable) and the heat rate of the plant under consideration. According to CPPA the heat rate of the reciprocating engines have remained significantly the same over a period of time. The engine manufacturers are quoting the same heat rate as they were quoting 16 years ago as apparent from the contracts signed recently and in 1994. CPPA stated that the efficiency of engines if maintained and overhauled according to manufacturers' guidelines can be maintained at the same level. Similarly the efficiency and heat loss of the unit and auxiliary transformers, other major constituents of the heat loss cycle, also hardly deteriorate over a period of time. HESCO did not have any information; therefore the Power Producers were directed to provide Manufacturers' Brochures, which were provided accordingly.
- v) Upfront tariff comprising fuel cost component of Rs. 2.31/kWh (at thermal efficiency of 39%) and fixed cost component of Rs. 1.16 / kWh was offered to SPPs / CPPs to lessen power shortage in the country. No gas based SPP / CPP offered power on these rates.



- vi) The fuel cost component of NCPPs is part of a negotiated upfront tariff for either “take it” or “leave it” under a package deal. According to CPPA all the tariff components and its underlying terms & conditions have been considered in totality; therefore any comparison of individual upfront tariff component or its terms/conditions with any tariff component or terms/conditions approved by NEPRA for GENCO or IPP tariff would give a false and misleading view.

- 15.3 The Authority examined and considered the above response of CPPA and noted that CPPA’s response was misconceived and misinterpreted. In the NEPRA’s advertisement dated 15-06-2007 with respect to procurement of surplus power from Captive Power Plants (CPPs) and letter No. NEPRA/R/TRF-100/APTMA/2481-82 dated 06-06-2007 there were no directives regarding fuel efficiency agreed by the CPPA/DISCOs. Despite the advertisement allowing procuring power at agreed rates, the power purchaser was required to comply with the relevant laws, rules and regulations, which were however not complied with. Furthermore, it appears from CPPA’s response that the reference fuel cost component was negotiated without proper working and analysis.
- 15.4 It is evident from the response provided by CPPA that no benchmark efficiency was adopted in the Policy and the impact of low underlying efficiency was not evaluated while agreeing the fuel cost component. Thermal efficiency is one of the most important factors in evaluation of a thermal power plant.
- 15.5 From the available information it is observed that there has been great improvement in the plant efficiency over the period and contrary to the CPPA’s statement more efficient plants are available in the market. The Authority considers that the justification for accepting lower efficiency than the actual on the ground that APTMA did not agree to the actual efficiency level is not acceptable. This becomes even more important when the fuel cost component is subject to adjustment on account of fuel price variation. In Authority’s opinion such an adjustment can only be considered if the thermal efficiency is determined at actual.
- 15.6 According to the M/s IS. ZA. AD Associates the inappropriate allocation of scarce gas to less efficient generating units and consequential non-generation by IPPs is a matter of great concern. The intervener suggested that the Efficiency for such plants to be at least 42% based on gas engines combined cycle modes. Similar comments have been forwarded by MoW&P. The Ministry submitted that the utilization of gas allocation may not be wasted on single cycle, low efficiency plants rather it is advisable to use this pipeline quality gas allocation in more efficient, bigger plants like Orient, Sapphire or Halmore. The ministry further commented that the criterion for fuel cost component should be based upon brand new machinery. The Ministry’s concerns regarding utilization of scarce gas in less efficient power plants are although valid but these should have been considered while endorsing the said Policy by the Ministry. The Authority is of the view that while allocating the gas priority should be given



the most efficient plants over the less efficient plants like Captive, New Captive or Small power plants and state owned GENCOs.

- 15.7 The Authority considers that the each tariff component has to be based on reasonable assumptions particularly fuel cost component because it has to be adjusted for variation in fuel prices. In Authority's opinion in the instant case agreeing to the same fuel cost component as was applicable to old captive power plants cannot be considered a prudent decision; particularly when brand new machinery is required to be installed and the end-consumers have to pay the debt servicing which is the substantial portion of the total project cost. In view thereof CPPA's response being without any basis is not accepted. This becomes even more important when seen in the context of financial impact due to fuel cost variation, which in the case of lower efficiency can be much higher thus affecting end-consumer adversely.
- 15.8 The Authority has also noted that according to the terms of generation license, TPPL will set up combined cycle plant consisting of 12 Jenbacher 620F GS. NL F01 gas engines each of 3.332MW and a steam turbine of 6MW. Keeping in view the concerns raised by M/s IS. ZA. AD Associates as well as MoW&P's comments, TPPL is directed to set up combined cycle power plant as specified in the Schedule I of the Generation License as early as possible but not later than 30<sup>th</sup> November 2013 in order to ensure efficient utilization of scarce gas.
- 15.9 In order to assess the actual efficiency of the power plants, technical information including Brochures/Catalogues of manufacturers of the equipment was sought from TPPL. Based thereon NEPRA technical professionals suggested the following efficiency levels:
- GE Jenbacher 620F GS. NL F01 43% on Combined Cycle
  - GE Jenbacher 620F GS. NL F01 37.5% on Simple Cycle
- 15.10 Having considered the above recommendation, the Authority has decided to determine the reference fuel cost component in the instant case. Accordingly on the basis of HHV gas price of Rs. 238.38/MMBtu, LHV-HH Factor of 1.1076 and 37.5% thermal efficiency (HR 9,101 Btu/kWh), the reference fuel cost component works out Rs. 2.4030/kWh on simple cycle. On the basis of current applicable gas price of Rs. 510/MMBtu including Gas Infrastructure Development Cess, the fuel cost component will be Rs. 5.1411/kWh.
- 15.11 The applicable reference fuel cost component effective from 1<sup>st</sup> December 2013 or completion of the combined cycle power plant, whichever is earlier, will be Rs. 2.0957/kWh (calculated on the basis of heat rate of 9,736 Btu/kWh or thermal efficiency of 43%). In future the reference fuel cost component will be subject to adjustment for gas price variation as notified by OGRA or any other competent authority from time to time according to the following mechanism:

$$GCC(Rev) = GCC(Ref) \times GP(Rev) / GP(Ref)$$

Where:







GCC <sub>(Rev)</sub>	=	Revised gas cost component amount applicable for the billing cycle
GCC <sub>(Ref)</sub>	=	Reference gas cost component
GP <sub>(Rev)</sub>	=	Revised gas price, excluding General Sales Tax applicable for the billing cycle as notified by OGRA for new captive power producers
GP <sub>(Ref)</sub>	=	Reference gas price i.e. Rs. 238.38/MMBtu(HHV)

15.12 Degradation will be allowed as per manufacturers' degradation curves.

#### 16 Issue No. 8, Equity and Return on Equity

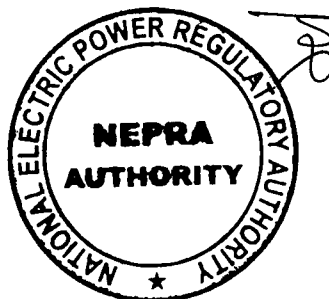
16.1 Whether it is justified to recover the entire capital Investment of US \$ 560/kW from the power purchaser without having any equity by the project company?

16.2 CPPA in response to the issue whether it is justified to recover the entire capital Investment of US \$ 560/kW from the power purchaser without having any equity by the project company, stated that the cost of US\$560/kW for investment on purchase of new engines is less than the actual per kW cost. It was further stated that while calculating the project cost, the local currency portion comprising the cost of land, construction/commissioning, testing, duties and other allied expenditures have not been taken into account, all of which in fact constitute part of the equity of the project company. It is observed that CPPA although has mentioned different costs as part of the equity but has not quantified the exact amount on this account.

16.3 The Authority considers that a reasonable return has to be allowed to the investor on capital investment commensurate to that earned by other investments of comparable risks. Since exact amount of equity is not known in the case of NCPPs therefore for making fair assessment of return on equity the Authority had to rely on the benchmarks established in IPPs. The Authority has noted that in most of the IPPs the average debt/equity ratio is about 75:25. On the basis thereof, considering debt portion of US\$560/kW equivalent to 75%, the total project cost for NCPPs, works out around US\$ 747/kW, which means that the equity portion of project cost is US\$187/kW. Since the equity portion of investment is incurred in local currency, therefore for converting US\$ 187/kW into Pak Rs. 14,960/kW the reference exchange rate of Rs.80/1US\$ indicated the Policy has been adopted. The Authority in the cases of IPPs has allowed 15% Internal Rate of Return (IRR) to IPPs which translates approximately equal to Return on Equity (ROE) of 17%. In the instant case instead of 15% IRR, 17% ROE has been used for calculating ROE component of Rs. 0.2903/kWh on yearly basis; on the basis of 9 months plant operation, this ROE works out as Rs. 0.3871/kWh payable on unit delivered basis.

#### 17 Issue No. 9, Financial Cost Component

17.1 Whether it is justified that the end consumers are made to pay the capital investment of US \$ 560/kW in seven years without having any penalty clauses stipulated in the Power Purchase Agreement? How the rights of the consumers are being protected if the power producer declines to deliver the energy after the expiry of seven years?

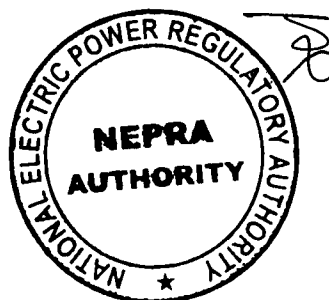




- 17.2 In response to the issue, CPPA stated that the term of the agreement i.e. fourteen (14) years comprising of two phases of seven (7) years each. Every term and the provision of the agreement is legally and contractually binding on both the agreeing/executing parties i.e. the Seller and the Purchaser. Both parties are liable to be challenged in the Court of Law for any breach in terms and conditions of the agreement. However in case of the Company's Event of Default i.e. the failure of the Company to make generation facility available for dispatch for fifteen (15) consecutive days during gas committed months, the power purchaser may under Article-IX (Termination of the Agreement) deliver notice (Notice of Intent to Terminate) and if the Seller Company does not remedy the events of default within the period of 180 days then even terminate the agreement and take the Seller to Arbitration under Article-X (Resolution of Disputes) for failure to meet its obligations under the agreement. It may also be noted that the N-CPP draft Agreement unlike PPA for IPP is a simple Agreement approved by BOD PEPCO as part of the overall NCPP Policy Guidelines. It does not have any provision for GoP sovereign guarantee to ensure payment to the seller for payment default by the Power Purchaser and for any other obligation under the Agreement.
- 17.3 The Authority considers that the explanation given by the CPPA is reasonable. The Authority noted that the financial cost component of Rs. 1.28/kWh includes repayment of principal amount of US\$ 560/kW and interest thereof under the Policy in 7 years (84 equal monthly installments). The debt servicing component is payable in each month during the loan amortization period of seven years. According to the agreed tariff under the Policy, Power Purchaser will pay the financial cost component in gas months as well as in non-gas months just like capacity payment which is contrary to the concept of take and pay basis. The Authority considers that in order to make it consistent with the allowed take and pay arrangement the agreed debt service component of R.1.28/kWh needs to be adjusted on the basis of 9 months operation (75% availability). Accordingly the financial cost component has been adjusted as Rs.1.6252/kWh payable on unit delivered basis as per Debt Service Schedule attached as **Annex-I**. NCPPs shall not be entitled for any payment including the financial cost component during the period when plant is not operating including the three non-gas months.
- 17.4 Under the Policy and the PPA, onetime adjustment to financial cost component was provided at the time of COD to cater for the actual exchange rate variation on 75% of the debt financing of US\$ 560/kW. The Authority noted that the mechanism provided under Section 5.2 actually provides exchange rate variation to the entire financial cost component of Rs. 1.28/kWh instead of 75% of the financial cost component of Rs. 1.28/kWh. The exchange rate at the time of COD is Rs. 85/1US against the reference exchange rate of Rs. 80/1US\$. If the adjustment on account of exchange rate is made as per the mechanism provided in the PPA, the revised financial cost component will be Rs. 1.36/kWh as per the following formula:

$$\text{Fin.CC(rev)} = \text{Fin.CC(ref)} \times \frac{\text{Actual Capital Investment (US\$)}}{\text{Reference Capital Investment (US\$)}} \times \frac{\text{W. Average Exchange Rate}}{\text{Reference Exchange Rate}}$$

*[Handwritten signature]*



$$\text{Fin. CC}_{(\text{rev})} = 1.28 \times 420 / 420 \times 85 / 80 = \text{Rs. } 1.36 / \text{kWh}$$

Whereas according to the correct formula, the calculation will be:

$$\text{Fin. CC}_{(\text{rev})} = 1.28 \times 25\% + 1.28 \times 75\% \times 420 / 420 \times 85 / 80 = \text{Rs. } 1.34 / \text{kWh}$$

17.5 From the above calculation it is evident that as a result of wrong application of formula an excess of Rs. 0.02/kWh will be paid to the project company during the 7 years of debt amortization period having a cumulative impact of approximately Rs. 17.30 million for a 18.8 MW contracted capacity.

17.6 The Authority considers that instead of the above formula, the appropriate methodology will be to re-establish the debt financing amount in Pak Rupees applying the average exchange rate applicable at the time of actual draw downs from the date of establishing letter of credit for import of equipment. On the basis of the re-established debt financing amount in Pak Rupees, debt service schedule will be revised which will indicate true Interest Cost Component and Principal Repayment Component at COD. The debt financing amount in Pak Rupees will be re-established according to the formula:

$$\text{DF}_{(\text{Rev})} = a \times \text{ER}_{(\text{Ref})} + b \times \text{ER}_{(\text{Rev})}$$

Where:

$$\text{DF}_{(\text{Rev})} = \text{Revised Debt Financing amount in Pak Rupees}$$

$$a = \text{US\$ } 560 / \text{kW} \times 25\%$$

$$b = \text{Actual Capital Investment in US\$ subject to maximum of US\$ } 560 / \text{kW} \times 75\%$$

$$\text{ER}_{(\text{Rev})} = \text{The average exchange rate applicable on various draw downs from the letter of credit established for import of equipment}$$

$$\text{ER}_{(\text{Ref})} = \text{Reference Exchange Rate of Rs. } 80 / 1 \text{ US\$}$$

17.7 Subsequent to the COD, the interest payment part will be adjusted monthly on the basis of variation in quarterly KIBOR. The adjustment mechanism will be as under:

$$\text{ICC}_{(\text{Rev})} = \text{ICC}_{(\text{Ref})} \times (\text{KIBOR}_t + 3\%) / (\text{KIBOR}_{(\text{Ref})} + 3\%)$$

Where:

$$\text{ICC}_{(\text{Rev})} = \text{Revised Interest Cost Component for the month under consideration}$$

$$\text{ICC}_{(\text{Ref})} = \text{Reference Interest Cost Component established at COD on the basis of revised Debt Service Schedule}$$

$$\text{KIBOR}_t = \text{The KIBOR on the day prior to the COD and thereafter the last day of the previous month}$$

$$\text{KIBOR}_{(\text{Rev})} = \text{Reference KIBOR is } 13\%$$

$$T = \text{time on which such calculation was made}$$

17.8 Any increase in the contracted capacity under Section 5.1(c) of the PPA will be subject to prior approval of the Authority. No financial cost component will be allowed if the power producer



and the power purchaser increase the contracted capacity without seeking prior approval of the Authority.

**18. Issue 10, Fixed Cost Component**

**18.1 What is the bifurcation/basis of fixed cost of Rs. 1.53/kWh and its subsequent indexation after every two years?**

18.2 Apart from the fuel cost and debt servicing components, the tariff of a gas based thermal power plant includes Operating & Maintenance (fixed and variable), insurance cost and return on equity. The Authority is cognizant of the fact that O&M expenses are necessary for smooth plant operation; to ensure required availability standards and efficient fuel utilization. O& M and insurance will be discussed under the succeeding paragraphs.

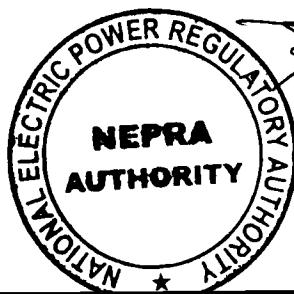
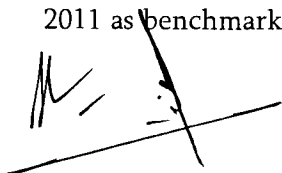
**a) Operating & Maintenance (O&M) Cost**

18.3 O&M expenses comprise of variable and fixed cost. Variable O&M expenses generally include cost of lube oil, chemicals, spares and parts and part of O&M operator's fees, which are associated with the plant operation, whereas Fixed O&M expenses include fixed O&M operator's fees, Salaries & Wages of own staff and other office expenses. Fixed O&M expenses are fixed in nature and have to be incurred even if the plant is shutdown due to maintenance or gas supply cut offs.

18.4 In the PPA fixed cost component of Rs. 1.53/kWh has been agreed. Responding to the issue/explanation regarding the basis, assumption or composition of Fixed cost component CPPA explained that it was based upon negotiations between Member (Power) WAPDA and APTMA's members/representatives, which was approved by WAPDA's Authority back in 2006/2007. It was further explained by the CPPA that in addition to fuel cost component, Rs. 1.26/kWh was agreed to be paid as fixed cost component on unit delivered basis to CPPs/SPPs, which were later enhanced to Rs. 1.53/kWh w.e.f. 1<sup>st</sup> January 2009.

18.5 Since no basis or justification in support of agreed fixed charges of Rs.1.53/kWh was provided by the CPPA/DISCO; therefore the prudence of the agreed fixed charges could not be established. In the absence of relevant details/working of the fixed charges, the Authority had to rely on the benchmarks established in the cases of IPPs.

18.6 As a rule of thumb engines running on gas require less variable O&M expenses as compared to engines running on furnace oil. According to available literature the plants operating on furnace oil require maintenance two to three times as compared to plant operating on gas. Since the NCPP plants are reciprocating engines therefore the Authority considered it appropriate to use O&M cost determined for reciprocating engines operating on RFO as benchmark. In this regard the latest O&M cost determined on RFO based Reciprocating Engines is for Liberty Power Tech Limited (LPTL) which is Rs. 0.7643/kWh (adjusted for the quarter April-June 2011). The first NCPP plant achieved its COD in April 2011, therefore, it would be fair to use O&M cost determined for reciprocating engines for the quarter April-June 2011 as benchmark for assessment of O&M cost for NCPP plants. Considering the smaller size





of the plant and assuming the ratio of 1:2, the variable O&M cost for gas based reciprocating engines NCPPs has been assessed as Rs. 0.3822/kWh, which 50% of Rs.0.7643/kWh variable cost determined in the case of LPTL RFO based reciprocating engines.

- 18.7 The Authority in the case of LPTL has allowed fixed O&M cost of Rs. 0.2232/kW/hr for twelve month. In the case of NCPP plants it has been stated that the gas will be available only for nine months period; therefore for making reasonable assessment in the instant case the fixed O&M determined in the case of LPTL needs to be adjusted accordingly. The Authority feels that in view of gas supply situation in the country the gas supply to NCPP for 9 months may not continue for longer period; therefore take & pay arrangement is being considered instead of take or pay arrangement agreed in the PPA. Based on take & pay arrangement and 9 months gas supply (75% availability), the Authority has assessed the fixed O&M cost Rs.0.2976/kWh. The overall O&M cost for the NCPPs has been assessed as Rs. 0.6798/kWh (Rs. 0.3822/kWh + Rs. 0.2976/kWh) to be paid to the power producers on unit delivered basis, which will be subject to indexation every two years with CPI as published by Federal Bureau of Statistics, Pakistan.

**b) Insurance Cost**

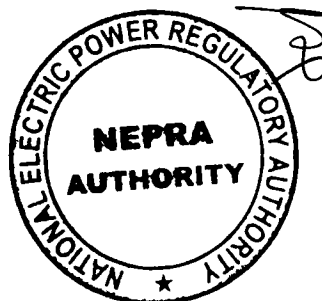
- 18.8 Insurance cost is a legitimate cost, which is required by the lenders to cover certain risks. The Authority has determined Insurance cost for the IPPs in the range of Rs. 0.8/kW/hr. The Authority considers that the same cost can be considered in the case of NCPPs, which however needs to be adjusted on the basis of 9 months operation. After taking into account the impact of non-gas months the Insurance cost for NCPPs has been assessed as Rs. 0.1067/kWh payable on unit delivered basis.
- 18.9 The summary of the Fixed Cost Component other than ROE and Debt Servicing as assessed in the preceding paragraphs is given hereunder:

Description	Rs./kWh	Indexation
O&M	0.6798	CPI every two years
Insurance	0.1067	-
<b>Total</b>	<b>0.7865</b>	

- 18.10 The Authority has observed that in the PPA the availability of 95% is indicated, which in the Authority's opinion is not correct because the NCPPs will not be operating for three non-gas months. Practically the NCPPs will be operating for nine-months, which mean that they will be available only for 75% of the time instead of 95% indicated in the NCPP Policy. In view thereof the availability of 95% indicated in the PPA needs to be corrected as 75%.

**19 Reference Tariff**

- 19.1 On the basis of discussion in the preceding paragraphs, the assessed reference tariff on unit delivered basis is summarized as under:



Description	Rs./kWh
Fuel Cost Component (Gas Price Rs. 238.38/MMBTU)	2.4030
Fixed Cost Component	0.7865
Return on Equity	0.3871
Financial Cost Component (For 1 <sup>st</sup> Seven Years only)	1.6252
Total Generation Cost of delivered unit	<b>5.2018</b>

## 20 Participation by DISCOs

20.1 The Authority noted with concern that the Chief Executive Officers of the DISCOs were invited to attend the hearing but they did not participate and the teams representing DISCOs were not prepared and unable to satisfy the Authority. The teams were unable to explain the basis/assumptions of tariff agreed with the power producers.

## 21. Order

21.1 In pursuance of the Regulation(4(1) of the NEPRA Interim Power Procurement (Procedure & Standards) Regulations 2005, Hyderabad Electric Supply Company (HESCO) is granted permission for power acquisition from Thatta Power (Pvt) Limited (TPPL) on take and pay basis. In pursuance of Regulation 5 of the Regulation of IPPR-2005, the power acquisition contract is hereby approved subject to the amendments / changes in the relevant section as per the decision of the Authority.

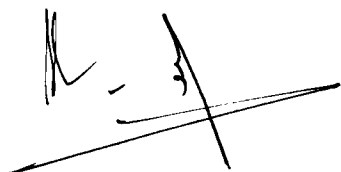
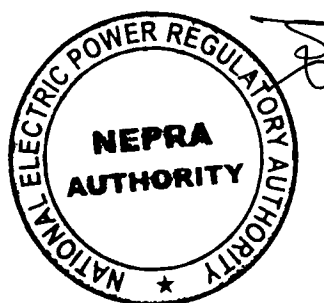
### Reference Tariff

Description	Rs./kWh
Fuel Cost Component (Gas Price Rs. 238.38/MMBTU)	2.4030
Fixed Cost Component	0.7865
Return on Equity	0.3871
Financial Cost Component (For 1 <sup>st</sup> Seven Years only)	1.6252
Total Generation Cost of delivered unit	<b>5.2018</b>

21.2 The applicable reference fuel cost component effective from 1<sup>st</sup> December 2013 or completion of the combined cycle power plant, whichever is earlier, will be Rs. 2.0957/kWh (calculated on the basis of heat rate of 9,736 Btu/kWh or thermal efficiency of 43%).

## 22 Tariff Adjustments / Indexations

The reference tariff is subject to following adjustments / indexations:



## 22.1 Adjustment on account of Gas Price Variation

In future the fuel cost component will be subject to gas price variation as notified by OGRA or any other body for new captive power producers from time to time according to the following mechanism:

$$GCC_{(Rev)} = GCC_{(Ref)} \times GP_{(Rev)} / GP_{(Ref)}$$

Where:

$GCC_{(Rev)}$  = Revised gas cost component amount applicable for the billing cycle

$GCC_{(Ref)}$  = Reference gas cost component

$GP_{(Rev)}$  = Revised gas price, excluding General Sales Tax applicable for the billing cycle as notified by OGRA for new captive power producers

$GP_{(Ref)}$  = Reference gas price i.e. Rs. 238.38/MMBtu(HHV)

## 22.2 Adjustment on Account of Inflation

The total O&M cost will be subject to indexation every two years in the month of April with CPI (General) as published by Pakistan Bureau of Statistics as per the following mechanism:

$$O\&M_{(Rev)} = O\&M_{(Ref)} \times CPI_{(Rev)} / CPI_{(Ref)}$$

Where:

$O\&M_{(Rev)}$  = Revised O&M component of tariff

$O\&M_{(Ref)}$  = Reference O&M component of tariff of Rs. 0.6798/kWh

$CPI_{(Rev)}$  = Revised CPI (General) index as published by Pakistan Bureau of Statistics

$CPI_{(Ref)}$  = Reference CPI (General) of 150.99 for April 2011

## 22.3 One Time Adjustment in Financial Cost Component at COD

A one time exchange rate adjustment to the extent of foreign debt financing in financial cost component will be provided at the time of COD. On the basis of average exchange rate applicable on various draw down from the letter of credit established for import of equipment, the debt financing amount in Pak Rupees will be re-established and the debt service schedule will be revised which will indicate the Interest Cost Component and Principal Repayment Component at COD. The debt financing amount in Pak Rupees will be re-established according to the formula:

$$DF_{(Rev)} = a \times ER_{(Ref)} + b \times ER_{(Rev)}$$

Where:

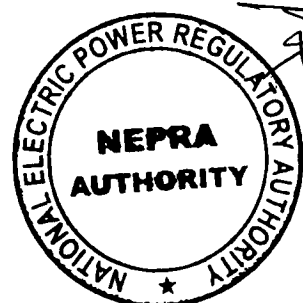
$DF_{(Rev)}$  = Revised Debt Financing amount in Pak Rupees

$a$  = US\$ 560/kW  $\times$  25%

$b$  = Actual Capital Investment in US\$ subject to maximum of US\$ 560/kW  $\times$  75%

$ER_{(Rev)}$  = The average exchange rate applicable on various draw downs from the letter of credit established for import of equipment

$ER_{(Ref)}$  = Reference Exchange Rate of Rs. 80/1US\$





#### 22.4 Adjustment on Account of Variation in KIBOR

The interest payment part will be adjusted monthly on the basis of variation in quarterly KIBOR. The adjustment mechanism will be as under:

$$ICC_{(Rev)} = ICC_{(Ref)} \times (KIBOR_t + 3\%) / (KIBOR_{(Ref)} + 3\%)$$

Where:

ICC<sub>(Rev)</sub> = Revised Interest Cost Component for the month under consideration

ICC<sub>(Ref)</sub> = Reference Interest Cost Component established at COD on the basis of revised Debt Service Schedule

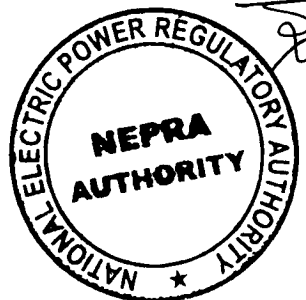
KIBOR<sub>t</sub> = The KIBOR on the day prior to the COD and thereafter the last day of the previous month

KIBOR<sub>(Rev)</sub> = Reference KIBOR is 13%

T = time on which such calculation was made

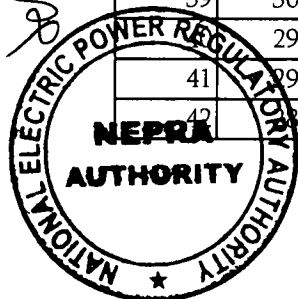
23 HESCO is directed to adjust all payments made to TPPL in the light of the above order of the Authority.

24 The above Order 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.



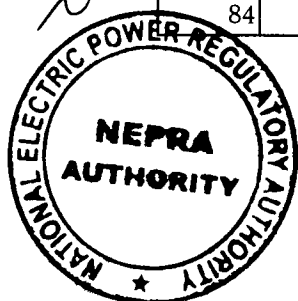
## Debt Repayment Schedule

Month	Principal at Beginning (Rs./kW)	Debt Servicing (Rs./kW)	Interest (Rs./kW)	Principal Repayment (Rs./kW)	Principal at End (Rs./kW)	Interest (Rs./kWh)	Principal (Rs./kWh)	Total (Rs./kWh)
1	44,800	890	597	292	44,508	1.0910	0.5342	1.6252
2	44,508	890	593	296	44,211	1.0839	0.5413	1.6252
3	44,211	890	589	300	43,911	1.0767	0.5486	1.6252
4	43,911	890	585	304	43,606	1.0694	0.5559	1.6252
5	43,606	890	581	308	43,298	1.0620	0.5633	1.6252
6	43,298	890	577	313	42,986	1.0544	0.5708	1.6252
7	42,986	890	573	317	42,669	1.0468	0.5784	1.6252
8	42,669	890	569	321	42,348	1.0391	0.5861	1.6252
9	42,348	890	565	325	42,023	1.0313	0.5939	1.6252
10	42,023	890	560	330	41,693	1.0234	0.6019	1.6252
11	41,693	890	556	334	41,359	1.0154	0.6099	1.6252
12	41,359	890	551	338	41,021	1.0072	0.6180	1.6252
13	41,021	890	547	343	40,678	0.9990	0.6263	1.6252
14	40,678	890	542	347	40,331	0.9906	0.6346	1.6252
15	40,331	890	538	352	39,979	0.9822	0.6431	1.6252
16	39,979	890	533	357	39,622	0.9736	0.6516	1.6252
17	39,622	890	528	362	39,260	0.9649	0.6603	1.6252
18	39,260	890	523	366	38,894	0.9561	0.6691	1.6252
19	38,894	890	519	371	38,523	0.9472	0.6781	1.6252
20	38,523	890	514	376	38,147	0.9381	0.6871	1.6252
21	38,147	890	509	381	37,765	0.9290	0.6963	1.6252
22	37,765	890	504	386	37,379	0.9197	0.7055	1.6252
23	37,379	890	498	391	36,988	0.9103	0.7149	1.6252
24	36,988	890	493	397	36,591	0.9008	0.7245	1.6252
25	36,591	890	488	402	36,189	0.8911	0.7341	1.6252
26	36,189	890	483	407	35,782	0.8813	0.7439	1.6252
27	35,782	890	477	413	35,369	0.8714	0.7538	1.6252
28	35,369	890	472	418	34,951	0.8613	0.7639	1.6252
29	34,951	890	466	424	34,527	0.8512	0.7741	1.6252
30	34,527	890	460	429	34,097	0.8408	0.7844	1.6252
31	34,097	890	455	435	33,662	0.8304	0.7949	1.6252
32	33,662	890	449	441	33,221	0.8198	0.8055	1.6252
33	33,221	890	443	447	32,774	0.8090	0.8162	1.6252
34	32,774	890	437	453	32,322	0.7982	0.8271	1.6252
35	32,322	890	431	459	31,863	0.7871	0.8381	1.6252
36	31,863	890	425	465	31,398	0.7760	0.8493	1.6252
37	31,398	890	419	471	30,927	0.7646	0.8606	1.6252
38	30,927	890	412	477	30,449	0.7532	0.8721	1.6252
39	30,449	890	406	484	29,965	0.7415	0.8837	1.6252
40	29,965	890	400	490	29,475	0.7297	0.8955	1.6252
41	29,475	890	393	497	28,978	0.7178	0.9074	1.6252
42	28,978	890	386	503	28,475	0.7057	0.9195	1.6252



22

Month	Principal at Beginning (Rs./kW)	Debt Servicing (Rs./kW)	Interest (Rs./kW)	Principal Repayment (Rs./kW)	Principal at End (Rs./kW)	Interest (Rs./kWh)	Principal (Rs./kWh)	Total (Rs./kWh)
43	28,475	890	380	510	27,965	0.6934	0.9318	1.6252
44	27,965	890	373	517	27,448	0.6810	0.9442	1.6252
45	27,448	890	366	524	26,924	0.6684	0.9568	1.6252
46	26,924	890	359	531	26,393	0.6557	0.9696	1.6252
47	26,393	890	352	538	25,855	0.6427	0.9825	1.6252
48	25,855	890	345	545	25,310	0.6296	0.9956	1.6252
49	25,310	890	337	552	24,758	0.6164	1.0089	1.6252
50	24,758	890	330	560	24,198	0.6029	1.0223	1.6252
51	24,198	890	323	567	23,631	0.5893	1.0360	1.6252
52	23,631	890	315	575	23,056	0.5755	1.0498	1.6252
53	23,056	890	307	582	22,473	0.5615	1.0638	1.6252
54	22,473	890	300	590	21,883	0.5473	1.0779	1.6252
55	21,883	890	292	598	21,285	0.5329	1.0923	1.6252
56	21,285	890	284	606	20,679	0.5184	1.1069	1.6252
57	20,679	890	276	614	20,065	0.5036	1.1216	1.6252
58	20,065	890	268	622	19,443	0.4886	1.1366	1.6252
59	19,443	890	259	631	18,812	0.4735	1.1517	1.6252
60	18,812	890	251	639	18,173	0.4581	1.1671	1.6252
61	18,173	890	242	648	17,526	0.4426	1.1827	1.6252
62	17,526	890	234	656	16,870	0.4268	1.1984	1.6252
63	16,870	890	225	665	16,205	0.4108	1.2144	1.6252
64	16,205	890	216	674	15,531	0.3946	1.2306	1.6252
65	15,531	890	207	683	14,848	0.3782	1.2470	1.6252
66	14,848	890	198	692	14,156	0.3616	1.2636	1.6252
67	14,156	890	189	701	13,455	0.3448	1.2805	1.6252
68	13,455	890	179	710	12,745	0.3277	1.2976	1.6252
69	12,745	890	170	720	12,025	0.3104	1.3149	1.6252
70	12,025	890	160	729	11,296	0.2928	1.3324	1.6252
71	11,296	890	151	739	10,556	0.2751	1.3502	1.6252
72	10,556	890	141	749	9,807	0.2571	1.3682	1.6252
73	9,807	890	131	759	9,048	0.2388	1.3864	1.6252
74	9,048	890	121	769	8,279	0.2204	1.4049	1.6252
75	8,279	890	110	779	7,500	0.2016	1.4236	1.6252
76	7,500	890	100	790	6,710	0.1826	1.4426	1.6252
77	6,710	890	89	800	5,909	0.1634	1.4618	1.6252
78	5,909	890	79	811	5,098	0.1439	1.4813	1.6252
79	5,098	890	68	822	4,277	0.1242	1.5011	1.6252
80	4,277	890	57	833	3,444	0.1041	1.5211	1.6252
81	3,444	890	46	844	2,600	0.0839	1.5414	1.6252
82	2,600	890	35	855	1,745	0.0633	1.5619	1.6252
83	1,745	890	23	867	878	0.0425	1.5828	1.6252
84	878	890	12	878	0	0.0214	1.6039	1.6252



23

**DECISION OF MR.SHAUKAT ALI KUNDI MEMBER NEPRA UNDER  
SECTION 6 OF THE NEPRA ACT 1997 IN THE MATTER OF POWER  
ACQUISITION REQUEST (PAR) OF HYDERABAD ELECTRIC SUPPLY  
COMPANY LIMITED (HESCO) FOR PURCHASE OF POWER FROM  
THATTA POWER (PRIVATE) LIMITED (TPPL)**

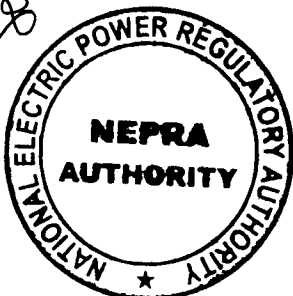
The background of the case is that TPPL has set up a 45.984 MW Natural Gas based Power under the "PEPCO Policy of New Captive Power Plant/N-CPP" (hereafter called "the PEPCO Policy for N-CPP") at Makli, District Thatta in the Province of Sindh. The Authority granted a Generation Licence (No. SGC/76/2011, dated December 20, 2011) to TPPL for the said generation facilities.

(2). The Authority in its determination of December 20, 2011 for the above mentioned Generation Licence directed HESCO to file the draft Power Purchase Agreement (PPA) signed with TPPL for its approval as stipulated in the "NEPRA Interim Power Procurement (Procedures and Standards) Regulations, 2005." (hereafter called "the Regulations) however, HESCO failed to do so.

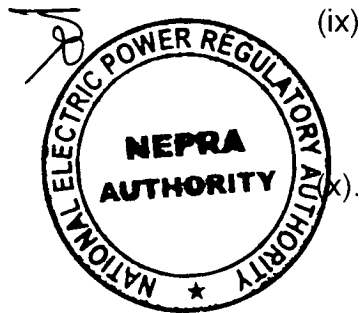
(3). Finally, HESCO submitted a PAR for purchasing 18.80 MW of power from TPPL through its correspondence of January 12, 2012 under the Regulations. The Authority admitted the said request of HESCO on February 01, 2012 for further consideration. After having examined the relevant record of the case, I am of the considered opinion that the instant PAR of HESCO for purchase of power from TPPL does not merit consideration for the following reasons:-

(a). The said Regulations stipulate a stepwise approach for any Distribution or Transmission Company planning to enter into a Power Purchase Agreement (PPA) with any Generating Company which includes:-

- (i). Submission of offer for sale of power by a generating company for examination to the distribution company;
- (ii). satisfaction of the distribution company that offer of the generating company is the best effective price obtainable;



- (iii). Submission of the request to the Authority by the Distribution Company for Acquisition of Power;
- (iv). Admission of the request of the Distribution Company for acquisition of power;
- (v). grant of permission to the distribution company for acquisition of power for negotiating a Power Acquisition Contract;
- (vi). Announcement of the orders of the Authority in respect of the grant of power acquisition permission within 30 days of the admission of request for acquisition of power;
- (vii). before executing a power acquisition contract, a transmission company or a distribution company shall file its proposed power acquisition contract with the Registrar for its approval by the Authority.
- (viii). filing of proposed power acquisition contract by a Distribution Company, containing a statement providing justification of the rates, terms and conditions proposed to be agreed with under the proposed power acquisition contract;
- (ix). processing of the approval of the proposed power acquisition contract filed by a Distribution Company;
- (x). announcement of the decision of the Authority in respect of a proposed power acquisition contract within 60 days of the admission of the proposed power acquisition contract by the Authority.



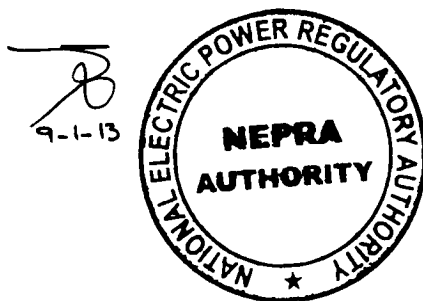
(b). The request has not been filed by HESCO in accordance with the above mentioned provisions of the Regulations and a number of steps stipulated in the said regulations have not been ensured.

(c). HESCO did not submit the request for seeking prior approval of the Authority for Acquisition of Power from TPPL as envisaged in the Regulations.

(d). It is not confirmed that HESCO carried out any due diligence before acquiring power from TPPL. During the Public Hearing of May 24, 2012 of the particular case, HESCO failed to satisfy the Authority on this aspect and conceded that the agreed/proposed tariff was not based on any credible information/basis. Further, HESCO could not convince the Authority that the proposed tariff has been prudently arrived at.

(e). HESCO has submitted a Power Acquisition Contract dated May 14, 2011 signed with TPPL with validity for a period of fourteen (14) years from the date of signing, with a specific agreed tariff without obtaining proper authorization of the Authority as stipulated in the Regulations. This submission is contrary and is in violation of the clear directions of the Authority given in its determination for grant of Generation Licence to TPPL, a copy of which was also endorsed to HESCO as already explained at Para-2 above.

(4). For the foregoing reasons and the request of HESCO being not in accordance with Regulations, I find no merit in the case and therefore decline the same.



*(Signature)*  
(Shaukat Ali Kundi)  
Member