National Electric Power Regulatory Authority
Islamic Rebublic of Pakistan

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Registrar

No NEPRA/PAR-93 /11226-11228
December 24, 2012

Subject: **Decision of the Authority in the matter of Power Acquisition Request filed by Faisalabad Electric Supply Company Ltd. (FESCO) for Purchase of 5 MW from Kamalia Sugar Mills Limited (KSML) under NEPRA Interim Power Procurement (Procedures and Standards) Regulations, 2005 [Case # PAR-93]**
- Intimation of Decision of Tariff pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997)

Dear Sir,

Please find enclosed herewith the subject Decision of the Authority along with Decision of Mr. Shaukat Ali Ksundi, Member NEPRA (10 pages) in Case No. NEPRA/PAR-93.

2 The Decision 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 only Order of the Authority at para 9 of the Decision relating to the reference tariff etc. needs to be notified in the official gazette.

Enclosure: As above

Registrar

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

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

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NEPRA AUTHORITY

National Electric Power Regulatory Authority

(NEPRA)

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Approval of

Power Acquisition Request filed by

Faisalabad Electric Supply Company Limited (FESCO)

For Purchase of 5 MW from Kamalia Sugar Mills Limited (KSML)

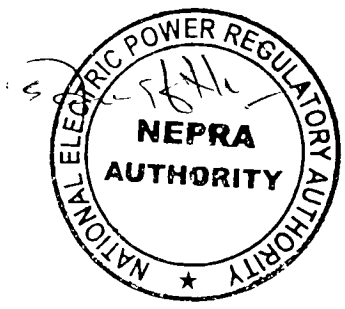
Under

Interim Power Procurement (Procedures & Standards) Regulations 2005

(NO: NEPRA/PAR-93)

Islamabad

December 24, 2012



Approval of the Authority in the Matter of Power Acquisition Request filed by Faisalabad Electric Supply Company (FESCO) for Purchase of 5 MW from Kamalia Sugar Mills Limited (KSML) under Interim Power Procurement (Procedures & Standards) Regulations 2005

(NO: NEPRA/PAR-93)

FILED BY

Faisalabad Electric Supply Company (FESCO)

AUTHORITY

(Khawaja Muhammad Naeem)
Member

My separate decision is attached –

(Shaukat Ali Kundi) 21.12.12
Member

21/12/2012

(Habibullah Khilji)
Chairman

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1. Background and Brief History

1.1 Faisalabad Electric Supply Company (FESCO) hereinafter called "FESCO" filed Power Acquisition Request (PAR) dated 25th June 2012 in respect of purchase of 5 MW baggase based power from Kamalia Sugar Mills Limited (KSML) under NEPRA's Interim Power Procurement (Procedures & Standards) Regulations 2005. FESCO also submitted the proposed Power Purchase Agreement (hereinafter "PPA) between the FESCO and KSML as per clause 5(1) of the Regulations. As per FESCO, the proposed PPA is based on PEPCO approved sample PPA on baggase based power. Total capacity proposed to be procured over the period of four years is 5 MW.

1.2 Considering the acute shortage in power sector and widening gap in the demand supply of electricity, NEPRA vide its advertisement dated 15-06-2007, allowed the Captive Power Producers having capacity less than 50MW to sell electricity to Distribution companies on mutually agreed rates. In this regard NEPRA vide letter dated 28-04-2008 issued guidelines according to which the CPPA and DISCOs were required to file a Power Acquisition Request to NEPRA under IPPR Regulations.

1.3 Taking notice of the fact that DISCOs had not submitted PARs in respect of power purchases from CPPs/SPPs/NCPPs, the Authority vide its letter dated 27-01-2012 directed all DISCOs to file power acquisition requests in respect of energy purchased from all CPPs/ SPPs/NCPPs, existing or new, in the prescribed manner as laid down in the IPPR Regulations.

1.4 The Authority noted that permission granted through notice published on 15-06-2007 and subsequent communications were misinterpreted and the relevant Rules and Regulations were not being followed by the DISCOs. In view thereof, the Authority vide advertisement dated 01-02-2012 modified its decision with respect to permission granted through advertisement dated 15-06-2007 and other communications to the extent that all SPPs/ CPPs who intend to sell electric power to DISCOs/ CPPAs/ BPCs will need to either approach NEPRA directly for determination of tariff under NEPRA Tariff (Standards & Procedure) Rules, 1998 or through DISCOs/ CPPA under NEPRA Interim Power Procurement Regulations-2005 ("IPPRs").

1.5 NEPRA vide letter dated 09-02-2012 again advised all DISCOs to submit the requisite PARs to NEPRA duly supported by the information/ documents prescribed under IPPRs. Further, the DISCOs had been informed that any purchase of power by DISCOs/ CPPA without prior permission/ authorization of NEPRA is violation of NEPRA's applicable documents and the licensee shall be liable to be proceeded under the relevant rules for any such violation.

2. Kamalia Sugar Mills Limited (KSML)

2.1 KSML is a Captive Power Producer (CPP). The term Captive Power Producer (CPP) has been defined as "Industrial undertaking or other businesses carrying out the activity of power

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production for self consumption, who intends to sell the power, surplus to their requirement, to a Distribution Company or bulk-power consumer".

2.2 KSML has applied for grant of generation license for its 17 MW Captive Power Plant located at Kamalia, District Toba Tek Sing.

3. Proceedings:

3.1 The Authority on 16.08.2012 admitted the PAR submitted by FESCO, pursuant to Regulation 4(1) of the IPPR Regulations. The IPPRs do not require for giving public Notice of Admission / public hearing of PAR seeking comments/replies but in order to meet the ends of natural justice, notice of admission/public hearing with the title and brief description of the PARs filed with respect to similar technologies were published in the national newspapers. Individual letters were also sent to the stakeholders. The Authority in the similar cases of baggase based power projects carried out the detailed analysis and due diligence. In view thereof the Authority decided not to conduct the hearing in the instant case.

3.2 Pursuant to regulation 5(1) of the IPPRs, before executing a power acquisition contract, a DISCO is required to file its proposed contract for its approval by the Authority. FESCO, along with the PAR also submitted the proposed Power Purchase Agreement (PPA) for the approval of the Authority. Salient features are as under;

i. KSML shall provide 5 MW Bagasse based redundant/ surplus power to FESCO and FESCO has agreed to purchase this power from KSML.

ii. The power is dispersed at 11 kV penal.

4. Requested Tariff:

4.1 As per details of the PPA, the agreed tariff is Rs. 5.15 /kWh on energy delivered basis comprising of Fuel Cost Component of Rs.3.62/kWh, based upon Reference Gas Price of Rs. 238.38/MMBTU and Fixed Cost Component of Rs.1.53/kWh excluding General Sales Tax (GST). As per the mechanism provided in the PPA, the Fuel cost component is adjustable as per the following formula:

$FCC_{(Rev)} = GP_{(Rev)} / GP_{(Ref)} * FCC_{(Ref)}$

Where:

$FCC_{(Rev)}$	=	Fuel Cost Component applicable for the Billing Cycle
$GP_{(Rev)}$	=	Revised Gas Price, excluding GST for the Billing Cycle as notified by OGRA for WAPDA power stations
$GP_{(Ref)}$	=	Reference Gas Price i.e Rs. 238.38 / MMBTU (HHV)
$FCC_{(Ref)}$	=	Rs. 3.62/ kWh

4.2 According to the PPA submitted by FESCO, the Power Purchaser will pay the company (KSML) the Fuel Cost Component and Fixed Cost Component against the delivered kWh on Take-and-Pay basis.

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5. Prudency of Requested Tariff:

5.1 In order to examine the prudency of the power acquisition and the agreed terms and conditions as per the Section 7(3)(a) of NEPRA Act read with the provisions of IPPRs a detailed exercise was carried out by the Authority. In this regard the tariffs of the regional countries were also compared in addition to the benchmarks established by the Authority in similar technology.

5.2 The findings, analysis and decisions of the authority on different aspects / ingredients of the tariff, negotiated and agreed between FESCO and KSML is provided in the succeeding paragraphs.

6. Fuel Cost Component

6.1 In order to analyze the prudency of the tariff requested by FESCO, the fuel cost component as approved by CPPA and agreed in the PPA, (At Reference Gas Price of Rs. 238.38/MMBtu = Rs.3.62/kWh and at current gas price of Rs. 460/MMBtu worked out as Rs. 6.9855/kWh) was analyzed to assess the efficiency at which this component was calculated. Accordingly, a detailed study of the cogeneration bagasse-based power plants based on the available information in the neighboring countries was carried out.

6.2 The Authority has noted that the sugar industry across the world has traditionally used bagasse-based cogeneration for achieving self-sufficiency in steam and electricity as well as economy in operations. Technologies are now available for high-temperature/high-pressure steam generation using bagasse as fuel. These technologies make it possible for sugar mills to operate at higher levels of efficiency and generate more electricity than what they require. All over the world the sugar industry is in the process of installing high pressure boilers and extractions condensing or straight condensing machines with the view of selling excess power to the grid or to a third party. Sugar Industry has been witnessing significant advancement in boilers used for cogeneration. This advancement is primarily in the Pressure and Temperature ratings of steam along with Steam Generation capacity for more output with reduced bagasse consumption.

6.3 The studies indicate that the efficiency for bagasse based co-generation plant in the range of 11% to 36% is achievable. The Authority, however, considers that such high efficiency can be achieved only in the case of new projects. Since the instant tariff is being considered for the project which is already installed with the low pressure boilers and in the instant case such a high efficiency may not be achievable. The Authority has also noted that the agreed efficiency of 22.49% is very close to the efficiency to the efficiency of 23.89% fixed by Electricity Regulator in the neighboring country. Further, this efficiency is also very close to the efficiency of 24.5% determined by the Authority in the case of SSJD Bio-mass project. The main reason for 2% low efficiency as compared to determined efficiency of 24.5% in the case of SSJD is that KSML power plant is old and based on low pressure boiler.

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6.4 In view of the aforementioned reasons the Authority has decided to accept the efficiency level of 22.49% of the bagasse based co-generation power plants which are already in operation. The fuel cost component shall be adjusted according to the following formula:

$$FCC_{(Rev)} = GP_{(Rev)} / GP_{(Ref)} * FCC_{(Ref)}$$

Where:

$FCC_{(Rev)}$	=	Fuel Cost Component applicable for the Billing Cycle
$GP_{(Rev)}$	=	Revised HHV Gas Price per MMBtu excluding Gas Development Infrastructure Cess (GDIC) net of GST for the Billing Cycle as notified by OGRA for Captive power stations
$GP_{(Ref)}$	=	Reference Gas Price i.e Rs. 238.38 / MMBTU (HHV)
$FCC_{(Ref)}$	=	Rs. 3.62/ kWh

6.5 FESCO is directed to incorporate modification in its PPA in accordance with above fuel cost component adjustment mechanism.

7. Fixed Cost Component

7.1 In the PPA, FESCO and KSML have agreed Rs. 1.53/kWh as fixed cost component. In order to assess the reasonability of the fixed charges requested by the FESCO the agreed fixed cost component has been compared with the fixed cost component allowed/determined by the Authority in comparable projects. While comparing the fixed cost component, the Authority noted that in the case of baggase based CPPs, the crushing season is about four months. Since the operating time for baggase based Co-generation plant is less than the normal generation projects, therefore, the fixed cost component has to be recovered from lesser units generated due to which the per unit fixed cost component would be on higher side. Keeping in view the aforesaid reason, the Authority after consideration of fixed cost component in comparable cases, is of the opinion that the agreed fixed cost component of Rs.1.53/kWh is reasonable therefore has decided to allow as such.

8. In light of the above discussion, the Authority has decided to approve the Power Acquisition request filed by FESCO for purchase of 5 MWbaggase based power from KSML Limited.

9. ORDER

9.1 In pursuance of the Regulation 4(1) of the NEPRA Interim Power Procurement (Procedure & Standards) Regulations 2005, Faisalabad Electric Supply Company (FESCO) is granted permission for acquisition of 5 MW power from Kamalia Sugar Mills Limited (KSML) on take and pay basis. In pursuance of Regulation 5 of the Regulation of IPPR-2005 read with Section

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31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, the power acquisition contract is hereby approved.

Reference Tariff

Description	Rs. / kWh
Fuel Cost Component (Gas Price Rs. 238.38/MMBTU)	3.62
Fixed Cost Component	1.53
Total Generation Cost of delivered unit	**5.15**

9.2 The fuel cost component shall be adjusted according to the following formula:

$FCC_{(Rev)} = GP_{(Rev)} / GP_{(Ref)} * FCC_{(Ref)}$

Where:

$FCC_{(Rev)}$	=	Fuel Cost Component applicable for the Billing Cycle
$GP_{(Rev)}$	=	Revised HHV Gas Price per MMBtu excluding Gas Development Infrastructure Cess (GDIC) net of GST for the Billing Cycle as notified by OGRA for Captive power stations
$GP_{(Ref)}$	=	Reference Gas Price i.e Rs. 238.38 / MMBTU (HHV)
$FCC_{(Ref)}$	=	Rs. 3.62/ kWh

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.

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DECISION OF MR.SHAUKAT ALI KUNDI UNDER SECTION 6 OF THE NEPRA ACT 1997 IN THE MATTERS OF POWER ACQUISITION REQUEST (PAR) OF FAISALABAD ELECTRIC SUPPLY COMPANY LIMITED (FESCO) DATED 25.06.2012 FOR PURCHASE OF 5.00 MW BAGGASE BASED POWER FROM KAMALIA SUGAR MILLS LIMITED (KSML)

The Authority vide its letter dated 27.01.2012 directed all distribution companies (DISCOS) to file power acquisition requests ("PAR") in respect of energy purchased from all CPPs/SPPs/N-CPPS in the prescribed manner as laid down in the NEPRA Interim Power Procurement (Procedure & Standard) Regulations 2005 ("NEPRA **IPPR Regulations**"). Accordingly, Faisalabad Electric Supply Company Limited (FESCO) vide its letter dated 25.06.12 filed PAR for purchasing 5.00 MW bagasse based electric power from Kamalia Sugar Mills Limited ("KSML") on take and pay basis. The request of FESCO was admitted by the Authority on 16.08.2012.

(2). After having examined the relevant record of the case, I am of the considered opinion that the instant Power Acquisition Request of FESCO for purchase of 5.00 MW Bagasse based power from M/S KSML 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

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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 FESCO in accordance with the above mentioned provisions of the NEPRA IPPR Regulations and a number of steps stipulated in the NEPRA IPPR Regulations have not been ensured.

(c). FESCO did not submit the request to the Authority for Acquisition of Power.

(d). It is not confirmed that FESCO has carried out any due diligence before acquiring power from KSML. During the processing of similar requests of other DISCOs, the representatives of all the DISCOs maintained that the agreed tariff being proposed now is not based on any credible basis/ calculations.

(e). the electricity generated by KSML will be a by-product of the sugar industry. However, it is not clear whether any segregation of cost with respect to the sugar and electricity generation has been carried out to arrive at the agreed tariff.

(f). although the sugar mill will be generating power using bagasse which is a comparatively lower cost fuel, whereas, the fuel cost component of the tariff has been proposed to linked to Natural Gas. The indexation of the Fuel Cost Component of the proposed tariff with Natural Gas is not justified. As a matter of principle the indexation should be made on a comparative priced fuel rather than on natural gas.

(g). KSML is not a Licensee of NEPRA since its application for the grant of Generation Licence is yet to be decided by the Authority.

For the foregoing reasons and the request of FESCO being not in accordance with NEPRA Interim Power Procurement (Procedure & Standard) Regulations 2005, I find no merit in the case and therefore deny the Power acquisition request.

(Shaukat Ali Kundi) 21.12.12

Member

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