BEFORE THE KARNATAKA ELECTRICITY REGULATORY COMMISSION, BANGALORE

Dated 3rd August 2009

Present

1. **Shri K.P.Pandey, Chairman**
2. **Shri Vishvanath Hiremath, Member**
3. **Shri K.Srinivasa Rao, Member**

In the matter of the Approval of the Power Purchase Agreement of Yelahanka Diesel Generating Station, in pursuance of Orders of the Hon'ble ATE in Appeal No.87 of 2008

BETWEEN

BESCOM, MESCOM, HESCOM, CESC & GESCOM & Karnataka Power Transmission Corporation Limited

AND

Karnataka Power Corporation Limited

Parties to the cause:

1) Managing Director, Bangalore Electricity Supply Company, Bangalore
2) Managing Director, Mangalore Electricity Supply Company, Mangalore
3) Managing Director, Hubli Electricity Supply Company, Hubli
4) Managing Director, Gulbarga Electricity Supply Company, Gulbarga
5) Managing Director, Chamundeshwari Electricity Supply Corporation, Mysore
6) Managing Director, Karnataka Power Transmission Corporation Ltd. Kaveri Bhavan, Bangalore – 560 009
7) Managing Director, Karnataka Power Corporation Ltd. No.82, Shakthi Bhavan, Race Course Road ,Bangalore – 560 001

<u>O R D E R</u>

A draft Power Purchase Agreement for purchase of power from Yelahanka Diesel Generating Station between Karnataka Power Transmission Corporation Ltd. (hereinafter referred to as KPTCL) and Karnataka Power Corporation Ltd. (hereinafter referred to as KPCL) was submitted to the Commission for approval by KPTCL vide their letter no. KPTCL/b-36/5703/T-1/10/74-76 dated 19.04.2003.

1. After examining and considering the material placed before it and objections from general public, the Commission approved the said PPA vide the Commission's Order dated 10.10.2003, with certain modifications.

2. The Commission's Order came to be challenged by KPCL in the High Court of Karnataka in MFA No. 8370 of 2003. The Hon'ble High Court of Karnataka disposed of the Appeal vide its Order dated 22nd February 2008 duly permitting KPCL to withdraw the Appeal with liberty to file the appeal before the Hon'ble Appellate Tribunal for Electricity (ATE). Accordingly, KPCL preferred the Appeal before the Hon'ble ATE in Appeal No.87of 2008.

3. The Hon'ble ATE vide its order dated 18th March 2009, setting aside the order of the Commission dated 25th July 2002, remanded the matter back to the Commission to pass fresh orders after affording an opportunity to the Appellant to make its submissions on the modifications directed by the Commission vis-à-vis objections filed by the Objectors.

4. Pursuant to the orders of the Hon'ble ATE, the Commission issued notice to the Appellant and the respondents to make their submissions, if any, on the modifications directed by the Commission in the impugned Order dated 10.10.2003 duly informing the Objectors.

5. The Commission held a public hearing on 17th June 2009. In the hearing , MD KPCL for the Appellant, MD KPTCL and MD BESCOM for the Respondents appeared and made their submissions. KPCL and BESCOM have also made their written submissions. No personal representation was made on behalf of M/s Mysore Grahakara Parishat. However, in the written submission it is stated that they were not aware of the appeals before the ATE and hence KPCL be directed to furnish copies of appeal and its enclosures. From the records it is observed that Parishat's views on the PPA are already available on record and the matter has been remanded back to the Commission by the Hon'ble ATE only to provide an opportunity to KPCL to make their submissions on the modifications made by the Commission and the objections of the Parishat. Therefore no direction as sought by the Parishat need be issued and the Commission proceeds to pass the order.

6. KPCL has pleaded in its written submission dated 30.04.2009 for incorporating the installed capacity as 108 MW for recovery of Annual Fixed Charges and to consider Gross station Heat Rate, Specific and Lube oil consumption based on the average of the past five years' performance in addition to incorporating deemed generation, actual depreciation, actual O & M expenditure and Return on Equity at 15.5 %. Further, it is requested to include rebate clause for payment through Letter of Credit. In the absence of any notified norms for Diesel Plants, the Commission has considered the draft CEA Operating Norms 1997 as guidelines, duly keeping in view the negotiated norms and the past performance of the plant.

7. Salient features of the Draft PPA

The salient features of the Draft PPA are as follows:

A	Installed capacity	6 units of 18 MW each – Total 108 MW
B	Plant Load Factor	72.5% on the basis of installed capacity of 108 MW for recovery of full annual fixed charges. Below this normative value of PLF, payment of fixed charge will be reduced on pro rata basis.
C	Incentive	Annual incentive payments – the total incentive to be computed at the end of each billing month at the rate of Re.0.40/KWH for every additional KWH delivered at the interconnection point beyond a PLF of 72.5%.

D	Operating Norms 1. Station heat rate 2. Auxiliary consumption 3. Lube oil consumption	 1995 Kcal/KWH of gross generation 4.5% or actual auxiliary consumption, whichever is lower 1.1 gms/KWH or actual consumption, whichever is lower
E	Deemed Generation	Shall be allowed to the extent the PLF (computed without Deemed generation) falls short of 72.5%
F	Return on equity	16% of equity
G	O&M and Insurance expenses	Average of actual for the period 1998-99 to 2001-02 considered as base, exclusive of insurance expenses and non-recurring expenses. To be escalated in each subsequent year after the 1st Tariff year by 6% plus O&M charge adjustment
H	Letter of credit (LC)	KPTCL to provide LC equal to 1.5 months projected payment on 72.5% PLF.

8. The Commission, after carefully considering the oral and written submissions made on behalf of KPCL, KPTCL & BESCOM on the PPA, and also considering the material on record, approves the PPA submitted for approval with modifications carried out by both the parties, with the following norms:

9. Operating Norms:

a) Installed Capacity:

This term is defined in the Draft PPA as follows:

"The installed capacity of each unit shall be 18 MW. The installed capacity for the facility will be the product of Installed capacity of each unit and the No. units in the facility i.e., 108 MW". In the Recitals of the draft PPA also, the total capacity of the power station is mentioned as 108 MW. In the single line diagram of the power plant annexed to the draft PPA, the capacity is indicated as 120 MW. In the daily load sheets furnished to the Commission by the Load Despatch center, the installed capacity of the Yelahanka Diesel Generating Plant is indicated as 127.92 MW.

On seeking clarification on this point, KPTCL have stated in their letter dated 15-7-2003 that " The detailed project report of the plant envisaged setting up of 6 units of 21.32 MW totaling to a capacity of 127.92 MW. The units were installed, tested and commissioned for a capacity of 127.92 MW. However, the manufacturer of the DG set namely viz., M/s. SEMT Pielstick, France has recommended to operate these engines at an optimum power i.e., at 80 % of MCR value in order to reduce the wear and tear on the engine and the fuel consumption to achieve better efficiency. Therefore, during finalization of the PPA, a capacity of 18 MW per unit and hence a total capacity of 108 MW was agreed to".

In CEA norms of 1997, Installed Capacity has been defined as "In relation to the generating station, Rated capacity or sum of the Demonstrated capacities of the units in the generating station whichever is less".

The Commission notes from the Schedule of Guarantees annexed to KPTCL's letter dated 15.7.2003 that the supplier has guaranteed the capacity of DG Plant as follows:

a) output of DG sets at generator terminals (MCR) …. 21,320 KW
b) overload capacity over MCR in every 12 hours for one hour: 10%

Subsequently, KPCL had submitted that though the installed capacity as per schedule of guarantee was 127.92 MW, the manufacturers had recommended them to operate at a maximum capacity of 108 MW for achieving better efficiency and optimum fuel consumption and also to avoid excessive wear and tear. It was also submitted before the Hon'ble ATE that after the first commissioning of the unit the machines developed severe vibration problems because of which there were substantial no. of failures of expensive critical components such as Turbo-chargers, as a consequence of which even though the unit had been rated to deliver

21.32 MW, could not be put into continuous operation to generate more than 18 MW at any time thereafter. It was also submitted that despite persistent attempt to get the problem rectified, the manufacturer/supplier of the equipment was not able to sort out the problem. It was further represented that even though an attempt was made by the Chief Secretary of GoK through the Ambassador of France in India, the foreign manufacturer did not respond.

Taking note of the above, the Commission approves that the installed capacity shall be reckoned as 18 MW per unit totaling to 108 MW for the power plant.

b) Plant Load Factor:

In the draft PPA, this parameter for any period is expressed by the following formula:

$$PLF = \frac{\sum 10^2 (NME+DG+AC)}{\text{(Installed capacity of the facility in KW)} \times HR}$$

where NME = Net Metered Energy for the station measured in KWH at the interconnection point

DG = Deemed Generation

AC = Auxiliary Consumption of the Power station in KWH

HR = Total number of hours in the period

The formula used in the draft PPA for computation of PLF takes into account deemed generation also and the normative value for recovery of annual fixed charges is indicated as 72.5%.

Keeping in view the past performance of the plant and also the written submissions, the Commission approves a plant load factor of 72.5%.

The Commission also approves the annual fixed charges recoverable at a deemed annual plant load factor of 72.5%. Incentive becomes payable for every 1% increase in annual PLF beyond 72.5% based on actual generation. Under article 3.2 of the draft PPA, the rate of incentive proposed is Rs.0.40 per kwh. The Commission approves the incentive of Rs.0.40/kwh proposed in the PPA. For the purpose of Incentive, PLF shall be computed based on actual generation on the capacity of 108 MW and deemed generation shall not be considered.

c) Station Heat Rate:

This parameter is defined in the Draft PPA as " the amount of fuel energy required in kilo calories per kwh of gross generation and shall be equal to 1995 kilo calories per kwh".

In their subsequent submission also, the Appellants have requested the Commission to allow a station heat rate of 1995 kilo calories per kwh.

The Commission approves gross station heat rate of 1995 kilo calories per kwh based on net calorific value of fuel as per ISO 3046.

d) Auxiliary Consumption:

This parameter is defined in the PPA as "the ratio expressed as a percentage with respect to the facility of:

Gross energy in kwh generated at generator(s) terminals minus net energy in kwh delivered at the interconnection point(s); to

Gross energy in kwh generated at generator(s) terminals or 4.5%, whichever is lower."

The Commission approves auxiliary consumption at 4.5% subject to considering either 4.5% or the actual auxiliary consumption, whichever is lower for computation of variable charges.

e) Lube Oil Consumption

In the draft PPA the normative value of specific lube oil consumption is considered at 1.1 gm/kwh and for computation of variable charges this normative value or the actual specific consumption, whichever is lower is considered. In the written submission dated 30.04.2009, KPCL has requested to consider specific lube oil consumption at 1.7808 ml per kwh based on the average consumption for the last 4 years. Since the specific lube oil consumption is already negotiated and agreed to as per the draft PPA, the Commission hereby approves specific lube oil consumption of 1.1 gms/kwh or the actual specific consumption, whichever is lower as negotiated in the PPA.

f) Deemed Generation

In the written submission dated 30.04.2009, KPCL has requested to consider deemed generation as per the PPA. Since recovery of fixed charges is based on Deemed Plant Load Factor, provision for Deemed Generation in the PPA is not required. The Commission therefore decides that provisions relating to Deemed Generation in the PPA shall be deleted.

10. Financial Norms:

a) Capital Expenditure

For the purpose of tariff, historical capital costs as per audited accounts shall be the basis. The Commission therefore approves to consider the actual capital costs as per book value as at the end of 31.3.2009, in respect of each of the existing 6 units of Yelahanka Diesel plant, as per audited accounts. This shall include the additional capital expenditure incurred upto 31.3.2009, if any, by KPCL subsequent to CoD. For future R&M expenditures if any, separate proposals shall be submitted to the Commission for approval.

b) **Depreciation**:

Draft PPA states that the depreciation charge on the Capital Expenditure shall be at the rates as notified by GOI from time to time. GOI had issued notification on the rates of depreciation in 1992/1994 under the provisions of Electricity (Supply) Act 1948 according to which notification the rate of depreciation applicable to Diesel Electric Plant was 8.24 %. In the written submission dated 30.04.2009, KPCL has requested to consider the actual depreciation.

The Commission approves to consider depreciation as per actuals.

c) **Return on Equity (ROE):**

Return on Equity has been provided in the draft PPA at 16 % on Equity capital. In its written submission dated 30.04.2009, KPCL has requested to provide RoE of 15.5% which is as per CERC Regulations 2009. Hence the Commission approves return on equity at 16 % of the equity and reserves.

d) **Interest on Loan capital:**

Draft PPA states that the interest on Loan Capital will be based on the actual schedule of liabilities and that the details have been provided in Schedule IV of the Draft PPA. The Commission approves payment of interest as per actuals.

e) **Interest on Working Capital**:

According to the draft PPA, the components of working capital are:

i) Primary Fuel (LSHS) costs for a month and Primary fuel stock limited to 30 days.
ii) 60 day's stock of lube oil.
iii) O & M and Insurance expenses for one month.

iv) Maintenance spares at the existing level but not exceeding one year's requirements.

v) Receivables equivalent to 60 days billing at an average of the last twelve months.

According to the existing fuel supply agreement (FSA) IOC have agreed to maintain at all times sufficient stock of fuel oils and lubricants to meet the entire requirements of the Yelahanka Diesel Plant. The terms of payment to IOC is that payment shall be made by VVNL (now KPCL) by cheque in advance on 1st, 11th and 21st of every month for estimated ten days requirement. Difference between the estimated and actuals is to be adjusted in subsequent periods. From the provisions of the FSA, it is clear that there is no requirement for VVNL (now KPCL) to maintain any stock of fuel and lubricants under the present arrangement. Considering the advance payment cycle to IOC and considering that the bills for sale of energy are realizable by VVNL (now KPCL) at the end of subsequent month, the Commission approves working capital on the following:

i) O & M and Insurance expenses for one month.

ii) Maintenance spares at the existing level but not exceeding one year's requirements.

iii) Receivables equivalent to 60 days billing at an average of the last twelve months

No separate provision for stock of fuel and lubricants in the working capital is required.

Regarding the rate of interest on working capital it is stated in the draft PPA that it shall be the actual interest rate charged by the commercial banks subject to the ceiling of sum of (1) a prime lending rate of the State Bank of India applicable during the relevant period and (ii) 2%. The Commission approves this provision. In case reserves are used for working capital purposes, the interest on working capital shall be allowed only on the basis of actual interest paid on the working capital borrowings subject to GoI norms 1992.

f) O&M and Insurance Expenses:

According to Article 3 of the draft PPA, the provision for O & M and insurance expenses is as follows:-

"The O & M Expenses for first Tariff year will be equal to the average of actual O & M expenses for the period from 1998-1999 to 2001-2002 as mentioned in Schedule 2 and referred to as Base O & M expenses in this agreement (BOM). The Base O & M expenses will be exclusive of Insurance expenses and non-recurring expenses.

Since the actual expenditure upto the year 2008-09 is available now, the Commission approves O&M expenses considering actual expenditure of 2008-09 as the base level expenditure instead of 2000-01, with 6 % escalation for the subsequent period considering the fact that the PPA is being approved now. While arriving at the base expenditure, any extra-ordinary expenses like arrears of wage revision, major repairs, etc shall be excluded from the base expenditure.

In the Article 6.8 of the draft PPA it is further stated that the amount of taxes/duties, cess etc., payable by the Seller to the Government and or any other local bodies/authorities on generation of electricity including auxiliary consumption or any other type of consumption including water, environment protection, sale or on supply of electricity and/or in respect of any of its installations associated with power stations shall be billed in the supplementary bill. The Commission approves this provision.

g) Foreign Exchange Variation:

Article 3.1.1(f) of the draft PPA provides for payment of Foreign Exchange Variation on the basis of a formula considering the currency exchange rate on the last day of the billing month and the exchange rate at the end of the Tariff year. In order to simplify the procedure, the Commission approves to allow the actual foreign exchange variation instead of allowing the same on the basis of a formula.

h) Tariff Supplementary Bill:

In article 5.2.1 of the draft PPA It is proposed that any amount due to KPCL under the agreement other than the amounts set out, a monthly Tariff bill shall be payable after presentation of the supplementary bill by the Seller to the Buyer. Such supplementary bill may include (a) claims of Income Tax (b) Statutory duties, taxes, cess and levies (c) monthly Tariff adjustments including default interest payments (d) the cost of HSD consumed during the starts and stops which are solely attributed to Buyers instruction or problems in the grid and (e) any other claim admissible under the agreement.

The Commission approves the provisions of the supplementary bills as indicated in the draft PPA.

i) Income Tax

The PPA provides for payment of income tax by the buyer in addition to the tariff bill. The tax so paid are to be restricted to the income tax payable on allowable RoE .

The Commission agrees to the provision in the draft PPA for payment of income tax, subject however to (i) the MAT/ income tax shall be payable on ROE upto 16%. Tax on incentive and on other income, if any, is not payable by ESCOMs, (ii) The tax shall be subject to actuals and the benefit of tax holiday and/or refunds, if any, shall be passed on by KPCL to Buyers**.**

j) Rebate for Payment through Letter of Credit:

KPCL has sought to include rebate clause as provided in CERC Regulations dated 19.01.2009. As already held, CERC Regulations dated 19.01.2009 cannot be applied to the present PPA as the same was not provided in the renegotiated PPA.

11. The provision relating to dispute resolution contained in the PPA shall be modified in view of Section 86(1)(f) of the Electricity Act 2003. Now it shall state "any dispute arising out of or in relation to the PPA shall be referred to the Commission for adjudication under Section 86(1)(f) of the Electricity Act 2003".

12. Further, the following Annexes shall also be made as part of the PPA that are to be finalized by the parties themselves in addition to the Annexures enclosed to the draft PPA:

    a) The schematic diagram indicating the interconnection points and metering system to measure the net metered energy from the plant and the net power output.

    b) Procedures for conducting annual capacity test

    c) Specification of fuel oil and lubricating oil

    d) Procedures for measurement of heat rate

13. The draft PPA was earlier signed by KPTCL at the time of submission of the PPA for approval of this Commission. However, Section 39 of Electricity Act 2003 bars KPTCL from entering into agreement for purchase of power. Further, the

GoK vide its letter dated EN 18 PSR 2008 dated 20th October 2008 has made source-wise allocation of power to the Hukeri Rural Electric Co-operative Society (HRECS) also. In view of this, HRECS shall also be a party to the agreement. The Commission therefore directs KPCL and ESCOMs and Hukeri Rural Electric Cooperative Society (HRECS) to execute a fresh PPA with the above-approved parameters and corrections to the renegotiated draft PPA as per **Annex-1** to this Order. ESCOMs and HRECS and KPCL shall execute the PPA with all Annexures and submit 3 copies of the executed agreement to the Commission within thirty (30) days from the date of this Order.

14. Any other issues not specifically finalized by the Commission, can be mutually discussed and agreed to between the parties and submitted for approval of the Commission.

15. The revised tariff for Yelahanka Diesel Generating Station shall become effective from 01.04.2009.

This order is signed on 3rd day of August 2009.

(K.P.Pandey)	(Vishvanath Hiremath)	(K.Srinivasa Rao)
CHAIRMAN	MEMBER	MEMBER

Annex – 1

MODIFICATIONS / CORRECTIONS TO BE EFFECTED IN THE DRAFT PPA OF YELAHANKA DISEL GENERATING STATION

Page	Corrections
1 of 54	The cover page shall indicate the PPA as between the ESCOMs / HREC and KPCL.
2 of 54	The names of the buyers shall appear first. The names of the buyers and seller shall be modified suitably.
3 of 54	The RECITALS shall also be modified appropriately
Article-1 - Definitions	
4 of 54	a) The definition of Act shall be changed to read "The Electricity Act 2003. i) The definition of capital expenditure shall be modified in accordance with Para 10(a) of the order.
7 of 54	z) The definition of Grid code shall be modified to read as Karnataka Electricity Grid Code specified by the Commission in accordance with Section 86(1)(h) of the Act.
8 of 54	(mm) The definition of Station Heat Rate shall be modified in accordance with Para 9(c) of the order.
10 of 54	2.5 Dispatch procedure. This shall be in accordance with Intra State ABT Regulations issued by KERC
Article – 3 - Tariff	
15 of 54	Capital Expenditure The text shall be modified in accordance with Para 10(a) of the order.
16 of 54	3.1.1 (a) Depreciation This shall be in accordance with Para 10(b) of the order (b) Return on Equity This shall be in accordance with Para 10(c) of the order. (c) Interest on Loan Capital

	This shall be in accordance with Para 10(d) of the Order. (d) Interest on working capital This shall be in accordance with Para 10(e) of the order (e) O & M and Insurance Expenses This shall be in accordance with Para 10(f) of the Order.
17 of 54	(f) Foreign Exchange Variation This shall be in accordance with Para 10(g) of the order.
Article – 4 – Metering	
	The Provision of Main meters, check meters etc. shall be in accordance with the CEA Regulations on installation and operation of meters.
Article – 5 - Billing	
25 of 54	5.2.1 (a) Claims for Income tax – Payment of Income tax shall be subject to the conditions as per Para 10(i) of the order.
Article – 6 – Payment	
29 of 54	6.7 Income Tax This shall be in accordance with Para 10(i) of the order.
Article – 8 – Terms of Agreement	
31 of 54	Any extension / renewal / amendment / replacement of the Agreement shall be subject to the approval of KERC. The article to be modified accordingly.
Article – 10 – Dispute Resolution	
36 of 54	This shall be in accordance with Para 11 of the order.