CHAIRMAN

# National Electric Power Regulatory Authority
## Islamic Republic of Pakistan

2nd Floor, OPF Building, G-5/2, Islamabad.
Ph : 9220902, 9207200 & 9206500, Fax : 9210215
URL: www.nepra.org.pk
E-Mail : office@nepra.org.pk, info@nepra.org.pk

No. NEPRA/R/LAG-72/Tariff-2005/929-32
20.07. 2005

Subject: **Decision in respect of Motion for Leave for Review filed under Rule 16(6) of Tariff Rules on 23rd June, 2005 by M/s. Orient Power Company (Pvt.) Ltd. (OPCL) (Case No. NEPRA/LAG-72/TARIFF)**

My dear Secretary,

In continuation of this office letter No. NEPRA/R/LAG-72/Tariff-2005/561-564 dated 12-06-2005 whereby determination of the Authority on Orient Power Company (Pvt.) Ltd. was sent. Please find enclosed herewith the decision of the Authority (24 pages) in the matter of subject Motion filed on 23rd June, 2005 by M/s. OPCL against Case No. NEPRA/LAG-72/TARIFF.

2. Subsequent to the culmination of proceedings in the subject Motion for Leave for Review and the issuance/announcement of decision of the Authority (24 pages) alongwith Annexes-1 & 2 is being intimated to the Federal Government for the purpose of notification of the approved tariff, in the official Gazette pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997) read with Rule 16(11) of the National Electric Power Regulatory Authority Tariff (Standards and Procedure) Rules, 1998.

3. Please be informed that the Reference Tariff earlier intimated vide para 56 of the Authority's determination dated June 12, 2005, stands revised to the extent as detailed in para- 24 (07 pages) of the decision of the Authority on the subject motion along with Annex-1 (01 page) needs to be notified in the official Gazette.

DA/As above.

Yours sincerely,

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA AUTHORITY

**Lt Gen ( R ) Saeed uz Zafar**

The Secretary,
Cabinet Division,
Government of Pakistan
Cabinet Secretariat,
Islamabad

CC:

1. Advisor to the Prime Minister on Energy, Prime Minister's Secretariat, Islamabad.
2. Secretary, Ministry of Water & Power, Islamabad.
3. Secretary, Ministry of Finance, Islamabad.

July 19, 2005

**DECISION OF THE AUTHORITY ON MOTION FOR LEAVE FOR REVIEW FILED BY ORIENT POWER COMPANY LTD (OPCL)**

1. Subsequent to the Authority's determination in Case No. NEPRA/Lag-72/Tariff dated June 13th, 2005 as intimated to the Federal Government for notification in official gazette; the applicant filed a motion for leave for review under Rule 16 (6) of the Tariff Standards & Procedure Rules, 1998 with the Authority on June 23, 2005. The Authority in its meeting held on June 27, 2005 accepted the motion for leave for review and decided to provide an opportunity of personal hearing to the parties. Hearing was held on July 01, 2005 to provide an opportunity to the Petitioner to present his case and provide evidence thereof. The Authority further allowed the Petitioner to submit further evidence or analysis if any in support of their case upto July 14, 2005.

2. The company has pleaded through the review motion that the level of sale rate determined for it by the Authority is not adequate for them to be attracted to invest in the power generation business in Pakistan. The Federal Government has also shown its concern regarding the possible adverse impact on the economy in general and the power sector in particular, of a lack of Direct Foreign Investment in new power generation projects. The risk of delayed investment in power generation capacity leading to a gap between supply and demand and its possible adverse impact on the economy is real and can not be ignored. OPCL is among the first two of the offers for foreign investment to meet the shortage in capacity expected from 2006 onwards and others are expected to follow. The Authority therefore agrees that the matter of capital

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

attraction is the overriding concern while reconsidering the sale rate of OPCL in the review motion.

3. The Company has requested for a tariff determination and has further filed a motion for review under the Tariff Standards and Procedure Rules, 1998 made pursuant to the NEPRA Act. The Authority has to proceed in all matters according to the NEPRA Act and the rules made thereunder. Therefore the submission of the company that its request for determination of sale rate be dealt with in any other mode and the legal points made in support thereof hold no ground.

4. The main issues relevant to the tariff determination raised by the applicant are as follows:

   i. *Choice of Technology/Design*
   ii. *Restriction on use of alternate fuel*
   iii. *Interconnecting Transmission Line*
   iv. *Capital Costs,*
   v. *Cost of Debt,*
   vi. *Cost of Equity*
   vii. *Fuel Cost Component,*
   viii. *Variable O&M Costs,*
   ix. *Fixed O&M*
   x. *Credit for salvage value*
   xi. *Plant degradation and part load adjustment*
   xii. *Indexation/escalation*

**i) Choice of Technology:**

5. OPCL submitted that the change in the configuration allowed by the Authority on the basis of GTW Handbook from the one originally agreed with the NTDC will require change in the design of the plant to include a steam turbine based on 3 pressure system instead of the originally proposed 2 pressure system steam



NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

turbine, in the steam turbine transformer capacity, in the conceptual design of the HRSG, the boiler feed water system capacity, the plant water treatment system capacity and revision to the balance of plant. Through their communications OPCL 2005/6/NB18 dated June 28, 2005 and No. OPCL 2005/7/KS01 dated 07, July 2005, the applicant has provided analysis that the change in the configuration would result in delay of the project by 6 months and increase in capital cost of upto US$ 4 million. The applicant has submitted letter No. N100/059/05 dated July 07, 2005 from Skoda Export of Czech Republic, the likely EPC contractor in which Skoda Export has confirmed that they had rechecked the design of the plant and has concluded that the proposed original configuration was based on the optimization of the system and experience of the EPC contractor and major equipment suppliers and manufacturers and further that modification of the proposed design to a standard configuration of S206 FA+ mentioned in GTW Handbook is not economical. The additional cost and delays will not be covered by the additional output that can be obtained from the S206 FA+ configuration indicated in the GTW Handbook.

6. The Authority, in view of the additional cost and delay in project completion expected with reversion to standard configuration is not insisting on the standard configuration and is allowing the configuration proposed by OPCL and agreed to by NTDC.

**ii) Restriction on the use of alternate fuel:**

7. The applicant has submitted that it was agreed with NTDC that use of back up fuel was a pass through item without any restriction whereas the Authority has restricted the use of alternate fuel for two months in a year-December and January.

The applicant has submitted that it is not in a position to assume the annual maintenance shutdown of the plant in February after two months of back up operation without the consent of NTDC and requested for removal of restriction on use of backup fuel. During the hearing, the applicant agreed to the restriction of 3 months on the use of alternate fuel and accordingly, the restriction is extended to the 3 winter months in a year i.e January, February and December. During these 3 months diesel usage and charge rate accordingly will be allowed in case of non availability of gas and dispatch requirement by NTDC.

**iii) Interconnecting Transmission Line:**

8. The applicant submitted that the point of delivery of power agreed with NTDC was to be the bus bar of the power plant. During negotiations of tariff, OPCL had agreed to NTDC's request of assisting it in arranging financing for the project. Subsequently a meeting was arranged with the prospective lenders of the project in which the subject of such financing was discussed and agreed. The applicant has submitted that it cannot take the responsibility for construction, ownership or operation of the line and that the completion of the line will be specified in the power purchase agreement. The Authority directs that the issue be addressed in the power purchase agreement between the parties. NTDC and OPCL subsequent to tariff determination and grant of licence to OPCL.

**iv). Capital Cost**

9. OPGL has submitted that the Authority has taken the basic plant and equipment cost of US$ 108.5 million for the original configuration as per Orient letter No. OPCL 2005/5/NB9 dated May 16, 2005 adjusting it downwards from US$ 118.5 million as



NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

mentioned in Orient letter OPCL2005/2/NB11 dated February 28, 2005, but has not taken into account the exclusions listed in the GTW Handbook and mentioned in their communication viz freight, marine insurance, 132 KV sub station, fuel gas compressors, inlet chilling, DLN package, black start generators, water wells and water storage tanks, SCADA/AGC and installation costs totaling to US$31.7 million and has included civil works of US$ 12.9 million. The applicant has submitted that the equipment cost of the plant as per GTW Handbook is US$ 8.8 million more than what was agreed with NTDC. The applicant submitted that they had reduced the capital cost of the project in negotiations with NTDC from US$ 179 million to US$ 170 million. The applicant has submitted that their original budget was based on IDC of US$ 8.3 million calculated on reference KIBOR of 4.4% on the assumption that the company would be allowed a pass through based on actual KIBOR rates but the interest rate of IDC has not been updated to the current KIBOR rate at which the IDC is increased by US$ 4.6 million. The applicant has prayed that the capital cost be increased by US$ 8.8 million for items excluded from GTW Handbook and US$ 4.6 million for increased IDC bringing the project cost to US$ 183.4 million. The Authority has considered both the requests and is allowing the originally requested cost of US$ 170 million with the provision that IDC component of the cost will be updated for the actual KIBOR at the time of completion of the project at the following formula and the tariff table will be updated accordingly.

Revised Project Cost = ($161.69 million + $8.310 million)*Rs.60+$\Delta$IDC

Where

$\Delta$ IDC = Actual IDC-$8.310 million ($\Delta$ IDC can be positive or negative)

NEPRA AUTHORITY
NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

### v). Cost of Debt

10. The applicant has submitted that the financial markets do not share the views of the Authority in pricing of long term loans in that longer term is considered to have more unknowns and therefore more risk and the quantum of loan in tight liquidity position in fact results in increase in interest rate. The applicant has stated that recently DHA Cogen has completed its debt placement at KIBOR plus 3.2% despite the fact that KESC's revenues have been assigned as additional credit enhancement of DHA Cogen which is not the case with Orient. The company has submitted the signed term sheet with Habib Bank and Muslim Commercial Bank with whom they have negotiated interest rate of KIBOR plus 3.15% and has reiterated that the tariff agreed with NTDC provides for a lower amount of KIBOR plus 3% only.

11. On the basis of evidence provided by the company and other independent sources and keeping in view the depth of local financial market it may not be practically possible for the company to arrange financing at 1.5% spread over KIBOR. The risk premium is dependent upon various variables i.e. the financial strength of the group behind the project, revenue stability over the life of the project and Govt. sureties/guarantees. In the instant case the company may be able to negotiate a lower than 3% risk premium but the extent cannot be determined at this point of time. It would therefore be appropriate to cap this risk at 3% and the company would bear the risk beyond this level and pass on to CPPA (NTDC) any benefit if less than 3% spread over KIBOR is achieved.



NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

**vi). <u>Cost of Equity</u>**

12. OPCL has submitted that 15% post corporate tax return on equity allowed by the Authority does not take into account all the risks that need to be accounted for to arrive at an appropriate return on equity. The 10 year PIB yield considered by the Authority for the purpose of calculating risk free rate does not correspond to the project term of 30 years. As 30 years PIB may not exist, the rate would be at least 1.5% to 2% higher. Further the calculation ignores the impact of country risk premium which is more than 1.5% at which the World Bank provides political risk guarantees. The inclusion of 4.1% risk premium does not take into account IPP risks of having only one customer with no sovereign guarantee of the GOP. The applicant has submitted that by including all the above mentioned factors a rate of return on equity in excess of 18% per annum may be allowed. The applicant has submitted that the Authority has disallowed the grossing up of the rate of return on equity for withholding tax of 7.5% which will not yield an acceptable net return to the investor unless the base return of 18% is used. The applicant has requested that either grossing up of the withholding tax be allowed as agreed with NTDC or the base yield should be increased to reflect the increased risks.

13. The Authority maintains that the return of 15% on equity is reasonable for the project. The withholding tax according to Taxpayer's Facilitation Guide issued by CBR (Brochure -009 October 2004) is the final tax liability and not subject to adjustment against any other tax liability. The return sponsors/investor is worked out on the basis of dividends received after withholding tax. In view of this and to ensure the expected net return on equity @ 15% per annum the Authority has decided to make a provision for 7.5% withholding tax on return on equity



NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

on actual basis not exceeding 15%. CPPA (NTDC) would make payment on account of withholding tax on actual payment of dividend subject to maximum of 7.5% of 15% of equity according to the following formulae:

Withholding Tax payable = $(15\% * E_{(Ref)}) * 7.5\%$

Where:

$E_{(Ref)}$ = Reference Equity US$ 42.5 million

14. The applicant has requested for CPI and foreign exchange, rupee to dollar (FX) indexations on return on equity. The Authority is of the view that CPI indexation can be allowed for rupee based expenditure and FX indexation can be allowed for dollar based expenditure and there is no justification for both the indexation for the same item. As the equity component is in foreign currency, the Authority is allowing foreign rupee to dollar indexation on return on equity.

**vii). Fuel Cost Component**

15. OPCL submitted that the Authority has not specified the basis used in Paragraph 47 of the determination for calculation of fuel price. However the adjustment mechanism in paragraph 56(iv) implies that these are LHV prices and has requested that this should be clarified and expressly stated. The Authority maintains that the fuel cost has been calculated on LHV prices and that conversion factor is being applied in the instant case.

**viii). Variable O&M Costs**

16. OPCL has submitted that its original request of Paisa 21.1/kWh was based on cost of major overhaul being treated as variable charge calculated on the basis of fired hours as opposed to fixed

charge which the Authority has disallowed, and should be reconsidered. Furthermore, the O&M cost allowed to Star Power has been allowed to Orient Power whereas its machines are of newer technology and more efficient, and the difference in efficiency comes with a higher cost of maintenance. Moreover, the spares of 6FA+ machines are more expensive than 6B machines of Star. It has further submitted that its variable cost cannot be compared to Star which is based on reference cost of JPCL's 850 MW steam turbine plant and has provided a chart of the variable costs of various IPP's ranging from Paisa 11/kWh of Uch to Paisa 34/kWh of Fuji Kabirwala for comparison. The Authority has noted that out of the total variable charge of Paisa 21.1/kWh, Paisa 11.16/kWh is on account of major overhaul the balance of Paisa 9.9/kWh has been requested for variable expenses. The Authority has considered the request of the applicant and is allowing Paisa 9.9/kWh as variable O&M charge.

**ix) Fixed O&M:**

17. The applicant has submitted that the O&M cost agreed with NTDC are significantly lower than those proposed to the company by many global companies in the business of O&M of power plants. However the Authority has not allowed interest on working capital while the company will have to arrange bridge financing of upto two months of receivables from NTDC which has been agreed with NTDC. Further, as the total tariff escalates, this expense will also escalate and as such be allowed as escalable component of the capacity charge. The Authority has considered the request and agreed to revise fixed O&M to Rs. 105.45/kW/month.

18. The applicant has submitted that insurance cost has been excluded from CPI as well as foreign exchange, Rupee to Dollar (FX



NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

Indexation) whereas, the insurance will be obtained for replacement value which is likely to increase with the passage of time due to the effects of local inflation as well as exchange rate variation. Further, no insurance company in Pakistan is expected to be able to maintain the Comprehensive All Risk exposure of such a large project, as such, almost 95% of such insurance will be placed with reinsures outside Pakistan. The Authority is of the view that CPI indexation can be allowed to rupee based expenditure and FX indexation can be allowed to dollar based expenditure and there is no justification for allowing two indexations for the same expense. The Authority is allowing only foreign exchange (Rupee to Dollar) indexation for the insurance cost.

**x) Credit for salvage value:**

19. The applicant has submitted that the credit for salvage value of 5 years of useful life of the plant would result in 7% reduction of debt repayment or 1/3 of the value of its equity in net present value terms. During the hearing and vide communication No. OPCL2005/6/NB5 dated June 16, 2005, the applicant agreed to increasing the term of the PPA to 30 years for removal of the salvage value credit. The Authority considered the offer and is convinced that this will benefit the consumers and is allowing removal of the credit for salvage value and allows an increase in the term of the PPA to 30 years. AT the end of 30 years period of PPA, NTDC will have the option of taking over the plant and paying back the initial equity investment converted into Pak Rupees @ at 60/- per dollar



NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

**xi) Plant degradation and part load adjustment:**

20. The applicant has submitted that the tariff parameters agreed with the NTDC included plant degradation and plant load adjustment factor which has not been clarified by the Authority in its determination. The Authority directs that the issue be resolved in the power purchase agreement between the parties.

**xii) Indexation/Escalation:**

21. The applicant has submitted that escalation/indexation has been allowed twice a year on January 1 and July 1 whereas the 2002 Power Policy paragraph 65 and 68 provides for CPI escalation and FX indexation to be effected quarterly and exchange rate fluctuation in excess of 5% in a month to be allowed monthly and has requested that indexation/escalation be allowed as per Power Policy 2002. The Authority has considered the request and allowed indexation/escalation on quarterly basis as per mechanism provided below.

22. The following items on which costs have been based and which are expected to be varied during the tenure of the PPA are not in the control of the operator and therefore are considered pass through items such that the sale purchase rate is varied to incorporate the variation in the relevant cost elements.

i) Indexation applicable to O&M

23. In future the 50% of Fixed O&M part of Capacity Charge will be adjusted on account of Inflation (CPI) and 50% on account of variation in dollar/Rupee exchange rate. CPI adjustment for inflation will be made on quarterly basis, on the basis of CPI as notified by the Federal Bureau of Statistics (FBS) for the month of August, November, February & May respectively. Indexation for

variation in dollar/rupee exchange rate will be made on October 1, January 1, April 1 & July1 on the basis of revised TT & OD selling rate of US Dollar as notified by the National Bank of Pakistan. The mode of indexation for escalable component will be as under:

(a) <u>Fixed O&M</u>

| | | |
|---|---|---|
| $F\ O\&M_{(RCPI)}$ | = | Rs.105.45 per kW per Month * 50% CPI $_{(REV)}$ / 126.53 |
| $F\ O\&M_{(RE)}$ | = | Rs.105.45 per kW per Month* 50% * $ER_{(REV)}$/60 |

Where:

| | | |
|---|---|---|
| $F\ O\&M_{(RCPI)}$ | = | The revised applicable Fixed O&M Component of the Capacity Charge indexed with CPI |
| F O&M (RE) | = | The revised applicable Fixed O&M Component of the Capacity Charge indexed with Currency fluctuation |
| $CPI_{(REV)}$ | = | the Revised Consumer Price Index |
| Reference CPI | = | 126.53 consumer price index for the month of April 2005 notified by Federal Bureau of Statistics for the month of March 2005 |
| $ER_{(REV)}$ | = | the Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan |
| Reference ER | = | the Revised Exchange Rate |

(b) <u>Variable O&M</u>

The formula of indexation for variable O & M component will be as under:

| | | |
|---|---|---|
| V O&M $_{(REV)}$ | = | Rs.0.0990 per kWh* $ER_{(REV)}$ / Rs.60 per $ |

Where:

| | | |
|---|---|---|
| $V\ O\&M_{(REV)}$ | = | the revised applicable Variable O&M Component of Energy Charge. |
| ER $_{(REV)}$ | = | the Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan |

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

ii) Adjustment for KIBOR variation

The interest part of non-escalable fixed charge component will remain unchanged throughout the term except for the adjustment due to variations in interest rate as a result of variation in quarterly KIBOR according to the following formula;

$$\Delta I = I_{(REF)} * (KIBOR_{(REV)} - 4.4\%) / 4$$

Where:

$\Delta I$ = The variation in interest charges applicable corresponding to variation in KIBOR. $\Delta I$ can be positive or negative depending upon whether KIBOR REV > or < 4.4%. The interest payment obligation will be enhanced or reduced to the extent of $\Delta I$ for each quarter under adjustment applicable on quarterly basis to the Interest Charge Payment as per the following table;

| Period | Million Rs. |
|---|---|
| 1 | 141.53 |
| 2 | 139.10 |
| 3 | 136.64 |
| 4 | 134.13 |
| 5 | 131.57 |
| 6 | 128.97 |
| 7 | 126.32 |
| 8 | 123.61 |
| 9 | 120.86 |
| 10 | 118.06 |
| 11 | 115.21 |
| 12 | 112.30 |
| 13 | 109.34 |
| 14 | 106.32 |
| 15 | 103.25 |
| 16 | 100.12 |
| 17 | 96.94 |
| 18 | 93.69 |
| 19 | 90.39 |
| 20 | 87.02 |
| 21 | 83.59 |
| 22 | 80.10 |
| 23 | 76.54 |
| 24 | 72.92 |
| 25 | 69.23 |
| 26 | 65.47 |
| 27 | 61.65 |

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA AUTHORITY

| | |
|---|---|
| 28 | 57.75 |
| 29 | 53.78 |
| 30 | 49.73 |
| 31 | 45.62 |
| 32 | 41.42 |
| 33 | 37.15 |
| 34 | 32.80 |
| 35 | 28.37 |
| 36 | 23.85 |
| 37 | 19.25 |
| 38 | 14.57 |
| 39 | 9.80 |
| 40 | 4.95 |

Note: Period 1 shall commence on the date on which the first quarterly installment is due after availing the grace period.

(iii) Fuel Price Variation

The Variable Charge part of the tariff relating to fuel cost shall be adjusted on account of the fuel price variations as and when notified by the relevant authority, which in the instant case is the Oil & Gas Regulatory Authority. In this regard, the variation in OPCL's allowed rate relating to fuel cost shall be revised according to the following formula:

$FCg_{(Rev)}$ = Rs.1.269 per kWh * $FP_{(Rev)}$/Rs.190.499 per MMBTUs

Where:

$FCg_{(Rev)}$ = Revised fuel cost component of Variable Charge on gas

$FPg_{(Rev)}$ = The new price of gas as notified by the relevant Authority per MMBTUs of fuel adjusted for LHV-HHV factor.

$FCd_{(Rev)}$ = Rs.4.296 per kWh * $FP_{(Rev)}$/Rs.611 per MMBTUs

Where:

$FCd_{(Rev)}$ = Revised fuel cost component of Variable Charge on diesel

$FPd_{(Rev)}$ = The new price of diesel as notified by the relevant Authority per MMBTUs of fuel adjusted for LHV-HHV factor.

Adjustment on account of inflation, foreign exchange variation, KIBOR variation and fuel price variation will be approved and announced by the Authority within seven days of the applicable date. OPCL may submit a request prior to the applicable date indicating the level of indexation estimated to OPCL and NTDC within 7 working days of the notification of fuel price variation.

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY NEPRA AUTHORITY

## ORDER

24. Pursuant to Rule 6 of the NEPRA Licensing Generation Rules 2000, Orient Power Company Ltd is allowed to charge the following specified tariff for sale of electricity to Central Power Purchase Agency of NTDC on behalf of Ex-WAPDA Distribution Companies:

**Specified Tariff**

| Description | First 10 years | Next 20 years |
|---|---|---|
| | Rs./kW/Month | Rs./kW/Month |
| **Capacity Charges** | | |
| Fixed O&M | 105.45 | 105.45 |
| Insurance | 33.25 | 33.25 |
| Return on Equity | 152.51 | 152.51 |
| Debt Service | 434.37 | |
| **Total Fixed Charges** | **725.58** | **291.22** |
| | **Rs./kWh** | **Rs./kWh** |
| **a) Variable Charge A** **For 9 months in a year (Mar to Nov)** | | |
| Fuel Cost | 1.2699 | 1.2699 |
| Variable O&M | 0.099 | 0.0990 |
| **Total Variable Charge A** | **1.3689** | **1.3689** |
| **Dispatch criterion will be the Variable Charge A for 9 months in a year (Mar to Nov)** | | |
| | **Rs./kWh** | **Rs./kWh** |
| **b) Variable Charge B** **For 3 months in a year (Jan, Feb & Dec)** | | |
| Fuel Cost | 4.2962 | 4.2962 |
| Variable O&M | 0.0990 | 0.0990 |
| **Total Variable Charge B** | **4.3952** | **4.3952** |
| **Dispatch criterion will be the Variable Charge B for 3 months in a year (Jan, Feb & Dec)** | | |
| **c) If gas is available for more than 9 months in a year, variable charge as well as dispatch criteria will be based on variable charge a for the energy generated on gas during Jan, Feb & Dec.** | | |

* Capacity charge Rs./kW/month applicable to dependable capacity.

Note: The above tariff is applicable for a period of 30 years commencing from the date of Commercial Operation. On the expiry of 30 year period, NTDC will have the option of taking over the plant and paying back the initial equity investment converted into Pak Rupees @ Rs. 60/- per dollar.

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA AUTHORITY

The following items on which costs have been based and which are expected to be varied during the tenure of the PPA are not in the control of the operator and therefore are considered pass through items such that the sale purchase rate is varied to incorporate the variation in the relevant cost elements.

i) Indexation applicable to O&M

In future the 50% of Fixed O&M part of Capacity Charge will be adjusted on account of Inflation (CPI) and 50% on account of variation in dollar/Rupee exchange rate. CPI adjustment for inflation will be made on quarterly basis, on the basis of CPI as notified by the Federal Bureau of Statistics (FBS) for the month of August, November, February & May respectively. Indexation for variation in dollar/rupee exchange rate will be made on October 1, January 1, April 1 & July1 on the basis of revised TT & OD selling rate of US Dollar as notified by the National Bank of Pakistan. The mode of indexation for escalable component will be as under:

(a) Fixed O&M

$F\ O\&M_{(RCPI)}$ = Rs.105.45 per kW per Month * 50% $CPI_{(REV)}$ / 126.53

$F\ O\&M_{(RE)}$ = Rs.105.45 per kW per Month * 50% * $ER_{(REV)}$ / 60

Where:

$F\ O\&M_{(RCPI)}$ = The revised applicable Fixed O&M Component of the Capacity Charge indexed with CPI

F O&M (RE) = The revised applicable Fixed O&M Component of the Capacity Charge indexed with Currency fluctuation

$CPI_{(REV)}$ = the Revised Consumer Price Index



NATIONAL ELECTRIC POWER REGULATORY AUTHORITY NEPRA AUTHORITY

| | | |
|---|---|---|
| Reference CPI | = | 126.53 consumer price index for the month of April 2005 notified by Federal Bureau of Statistics for the month of March 2005 |
| $ER_{(REV)}$ | = | the Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan |
| Reference ER | = | the Revised Exchange Rate |

(b) Variable O&M

The formula of indexation for variable O & M component will be as under:

$$V\ O\&M_{(REV)} = Rs.0.0990 \text{ per kWh} * ER_{(REV)} / Rs.60 \text{ per } \$$$

Where:

| | | |
|---|---|---|
| $V\ O\&M_{(REV)}$ | = | the revised applicable Variable O&M Component of Energy Charge |
| $ER_{(REV)}$ | = | the Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan |

ii) Adjustment for KIBOR variation

The interest part of non-escalable fixed charge component will remain unchanged throughout the term except for the adjustment due to variations in interest rate as a result of variation in quarterly KIBOR according to the following formula;

$$\Delta I = I_{(REF)} * (KIBOR_{(REV)} - 4.4\%) / 4$$

Where:

$\Delta I$ = The variation in interest charges applicable corresponding to variation in KIBOR. $\Delta I$ can be positive or negative depending upon whether KIBOR REV > or < 4.4%. The interest payment obligation will be enhanced or reduced to the extent of $\Delta I$ for each quarter under adjustment applicable on quarterly



NATIONAL ELECTRIC POWER REGULATORY AUTHORITY NEPRA AUTHORITY

basis to the Interest Charge Payment as per the following table;

| Period | Million Rs. |
|---|---|
| 1 | 141.53 |
| 2 | 139.10 |
| 3 | 136.64 |
| 4 | 134.13 |
| 5 | 131.57 |
| 6 | 128.97 |
| 7 | 126.32 |
| 8 | 123.61 |
| 9 | 120.86 |
| 10 | 118.06 |
| 11 | 115.21 |
| 12 | 112.30 |
| 13 | 109.34 |
| 14 | 106.32 |
| 15 | 103.25 |
| 16 | 100.12 |
| 17 | 96.94 |
| 18 | 93.69 |
| 19 | 90.39 |
| 20 | 87.02 |
| 21 | 83.59 |
| 22 | 80.10 |
| 23 | 76.54 |
| 24 | 72.92 |
| 25 | 69.23 |
| 26 | 65.47 |
| 27 | 61.65 |
| 28 | 57.75 |
| 29 | 53.78 |
| 30 | 49.73 |
| 31 | 45.62 |
| 32 | 41.42 |
| 33 | 37.15 |
| 34 | 32.80 |
| 35 | 28.37 |
| 36 | 23.85 |
| 37 | 19.25 |
| 38 | 14.57 |
| 39 | 9.80 |
| 40 | 4.95 |

Note:- Period 1 shall commence on the date on which the first quarterly installment is due after availing the grace period.

(iii) Fuel Price Variation

The Variable Charge part of the tariff relating to fuel cost shall be adjusted on account of the fuel price variations as and when notified by the relevant authority, which in the instant case is the Oil & Gas Regulatory Authority. In this regard, the variation in OPCL's allowed rate relating to fuel cost shall be revised according to the following formula:

| | | |
|---|---|---|
| FCg(Rev) | = | Rs.1.269 per kWh * FP(Rev)/Rs.190.499 per MMBTUs |

Where:

| | | |
|---|---|---|
| FCg (Rev) | = | Revised fuel cost component of Variable Charge on gas |
| FPg (Rev) | = | The new price of gas as notified by the relevant Authority per MMBTUs of fuel adjusted for LHV-HHV factor. |
| FCd(Rev) | = | Rs.4.296 per kWh * FP(Rev)/Rs.611 per MMBTUs |

Where:

| | | |
|---|---|---|
| FCd (Rev) | = | Revised fuel cost component of Variable Charge on diesel |
| FPd(Rev) | = | The new price of diesel as notified by the relevant Authority per MMBTUs of fuel adjusted for LHV-HHV factor. |

Adjustment on account of inflation, foreign exchange variation, KIBOR variation and fuel price variation will be approved and announced by the Authority within seven days of the applicable date. OPCL may submit a request prior to the applicable date indicating the level of indexation estimated to NTDC within 7 working days of the notification of fuel price variation.

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

Terms and Condition of Tariff:

i) Gas usage will be considered the primary fuel subject to (iii)

ii) All equipment installed will be new and the plant will be of standard configuration.

iii) Dispatch will be based on the variable charge applicable at the time as under:

a) Variable Charge A:

Variable charge during nine months in a year for operation on gas. Dispatch criterion for nine months in a year (March to November) will be the variable charge A.

b) Variable Charge B:

Variable charge for three months (January, February & December) in a year for operation on diesel. Dispatch criterion for three months in a year will be variable charge B.

c) If gas is available for more than nine months in a year the variable charge as well as dispatch criterion will be based on variable charge (a) for the energy generated on gas as fuel.

iv) Diesel oil will be used only for startups and other contingent requirements save to the extent of usage allowed for variable charge application and dispatch criterion as per clause (iii) above. Use of Diesel oil as main fuel during the nine months in a year other than the months of January, February and December in case of non-availability of gas (except in Force Majeure conditions as declared by the Authority) dispatched on variable charge A during the period shall not entitle OPCL to claim a charge higher than variable charge A.

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA
AUTHORITY

The above tariff and terms and conditions be incorporated as the specified tariff approved by the Authority pursuant to Rule 6 of the Generation Licencing Rules, in a Power Purchase Agreement between OPCL and NTDC.

---

**Authority**

Fazlullah Qureshi
Member

Nasirrudin Ahmed
Member

Abdul Rahim Khan
Member

Lt. General (R) Saeed uz Zafar
Chairman

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA AUTHORITY

# Orient Power Company Ltd.
## Specified Tariff

Annexure I

| Year | Variable Charge (PKR/kWh) | | | Capacity Charge (PKR/kW/Month) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fuel | Variable O&M | Total | Escalable (Fixed O&M) | Insurance | Return on Equity | Loan Repayment | Interest Charges | Total |
| 1 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | 214.51 | 219.86 | 725.58 |
| 2 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | 230.83 | 203.54 | 725.58 |
| 3 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | 248.39 | 185.98 | 725.58 |
| 4 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | 267.29 | 167.08 | 725.58 |
| 5 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | 287.62 | 146.74 | 725.58 |
| 6 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | 309.50 | 124.86 | 725.58 |
| 7 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | 333.05 | 101.31 | 725.58 |
| 8 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | 358.39 | 75.98 | 725.58 |
| 9 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | 385.66 | 48.71 | 725.58 |
| 10 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | 415.00 | 19.37 | 725.58 |
| 11 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 12 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 13 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 14 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 15 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 16 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 17 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 18 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 19 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 20 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 21 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 22 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 23 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 24 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 25 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | - | 291.22 |
| 26 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | | 291.22 |
| 27 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | | 291.22 |
| 28 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | | 291.22 |
| 29 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | | 291.22 |
| 30 | 1.2699 | 0.0990 | 1.3689 | 105.4500 | 33.25 | 152.51 | | | 291.22 |
| Levelized Tariff (1-30 Years) | | | 1.3689 | | | | | | 574.34 |

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY NEPRA AUTHORITY



228

# Orient Power Company Ltd.
## Debt Servicing Schedule

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY ★ NEPRA AUTHORITY

Annex II

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | KIBOR | 0.044 | | | | | | | | | |
| | Premium | 0.03 | | | | | | | | | |
| Period | Principle Million $ | Repayment Million $ | Mark-Up Million $ | Balance Million $ | Debt Service Millin $ | Annual Principle Repayment $ Million | Annual Interest $ Million | Annual Principle Repayment Rs. Million | Annual Interest Rs. Million | Principal Repayment Rs./kW/ Month | Interest Rs./kW/ Month |
| 1 | 127.50 | 2.18 | 2.36 | 125.32 | $4.54 | | | | | | |
| 2 | 125.32 | 2.22 | 2.32 | 123.10 | $4.54 | | | | | | |
| 3 | 123.10 | 2.26 | 2.28 | 120.84 | $4.54 | | | | | - | - |
| 4 | 120.84 | 2.30 | 2.24 | 118.53 | $4.54 | 8.97 | 9.19 | 537.99 | 551.40 | 214.51 | 219.86 |
| 5 | 118.53 | 2.35 | 2.19 | 116.19 | $4.54 | | | | | | |
| 6 | 116.19 | 2.39 | 2.15 | 113.80 | $4.54 | | | | | | |
| 7 | 113.80 | 2.43 | 2.11 | 111.36 | $4.54 | | | | | - | - |
| 8 | 111.36 | 2.48 | 2.06 | 108.88 | $4.54 | 9.65 | 8.51 | 578.92 | 510.47 | 230.83 | 203.54 |
| 9 | 108.88 | 2.52 | 2.01 | 106.36 | $4.54 | | | | | | |
| 10 | 106.36 | 2.57 | 1.97 | 103.79 | $4.54 | | | | | | |
| 11 | 103.79 | 2.62 | 1.92 | 101.17 | $4.54 | | | | | - | - |
| 12 | 101.17 | 2.67 | 1.87 | 98.50 | $4.54 | 10.38 | 7.77 | 622.96 | 466.43 | 248.39 | 185.98 |
| 13 | 98.50 | 2.72 | 1.82 | 95.79 | $4.54 | | | | | | |
| 14 | 95.79 | 2.77 | 1.77 | 93.02 | $4.54 | | | | | | |
| 15 | 93.02 | 2.82 | 1.72 | 90.20 | $4.54 | | | | | - | - |
| 16 | 90.20 | 2.87 | 1.67 | 87.33 | $4.54 | 11.17 | 6.98 | 670.36 | 419.03 | 267.29 | 167.08 |
| 17 | 87.33 | 2.92 | 1.62 | 84.41 | $4.54 | | | | | | |
| 18 | 84.41 | 2.98 | 1.56 | 81.43 | $4.54 | | | | | | |
| 19 | 81.43 | 3.03 | 1.51 | 78.40 | $4.54 | | | | | - | - |
| 20 | 78.40 | 3.09 | 1.45 | 75.31 | $4.54 | 12.02 | 6.13 | 721.36 | 368.03 | 287.62 | 146.74 |
| 21 | 75.31 | 3.15 | 1.39 | 72.16 | $4.54 | | | | | | |
| 22 | 72.16 | 3.20 | 1.33 | 68.96 | $4.54 | | | | | | |
| 23 | 68.96 | 3.26 | 1.28 | 65.69 | $4.54 | | | | | - | - |
| 24 | 65.69 | 3.32 | 1.22 | 62.37 | $4.54 | 12.94 | 5.22 | 776.24 | 313.15 | 309.50 | 124.86 |
| 25 | 62.37 | 3.39 | 1.15 | 58.98 | $4.54 | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | 58.98 | 3.45 | 1.09 | 55.54 | $4.54 | | | | | | |
| 27 | 55.54 | 3.51 | 1.03 | 52.02 | $4.54 | | | | | - | - |
| 28 | 52.02 | 3.58 | 0.96 | 48.45 | $4.54 | 13.92 | 4.23 | 835.29 | 254.10 | 333.05 | 101.31 |
| 29 | 48.45 | 3.64 | 0.90 | 44.81 | $4.54 | | | | | | |
| 30 | 44.81 | 3.71 | 0.83 | 41.09 | $4.54 | | | | | | |
| 31 | 41.09 | 3.78 | 0.76 | 37.32 | $4.54 | | | | | - | - |
| 32 | 37.32 | 3.85 | 0.69 | 33.47 | $4.54 | 14.98 | 3.18 | 898.84 | 190.55 | 358.39 | 75.98 |
| 33 | 33.47 | 3.92 | 0.62 | 29.55 | $4.54 | | | | | | |
| 34 | 29.55 | 3.99 | 0.55 | 25.55 | $4.54 | | | | | | |
| 35 | 25.55 | 4.07 | 0.47 | 21.49 | $4.54 | | | | | - | - |
| 36 | 21.49 | 4.14 | 0.40 | 17.35 | $4.54 | 16.12 | 2.04 | 967.23 | 122.16 | 385.66 | 48.71 |
| 37 | 17.35 | 4.22 | 0.32 | 13.13 | $4.54 | | | | | | |
| 38 | 13.13 | 4.30 | 0.24 | 8.83 | $4.54 | | | | | | |
| 39 | 8.83 | 4.38 | 0.16 | 4.46 | $4.54 | | | | | - | - |

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA AUTHORITY



226

225

# National Electric Power Regulatory Authority

**Islamic Republic of Pakistan**

Registrar

2nd Floor, OPF Building, G-5/2, Islamabad.
Ph : 9207200, Fax : 9210215
E-mail : office@nepra.org.pk
Direct Phone : (051) 9206500
Website: www.nepra.org.pk

No. NEPRA/R/LAG-72/Tariff-2005/735

20-07-2005

Chief Executive
Orient Power Company (Pvt) Limited
171 Shadman II
Lahore

Subject: **Decision in respect of Motion for Leave for Review filed under Rule 16(6) of Tariff Rules on 23rd June, 2005 by M/s. Orient Power Company (Pvt.) Ltd. (OPCL) (Case No. NEPRA/LAG-72/TARIFF)**

The Authority has made its Decision on the subject matter. The Decision has been sent to the Cabinet Division for notification in the official Gazette vide letter No. NEPRA/R/LAG-72/Tariff-2005/929-32 dated 20-07-2005. A copy of the Decision is served herewith for your information please.

DA/as above.

20.07.05.
(Mahjoob Ahmad Mirza)

Registrar

# National Electric Power Regulatory Authority

**Islamic Republic of Pakistan**

2nd Floor, OPF Building, G-5/2, Islamabad.
Ph : 9207200, Fax : 9210215
E-mail : office@nepra.org.pk
Direct Phone : (051) 9206500
Website: www.nepra.org.pk

No. NEPRA/R/LAG-72/Tariff-2005/ 934 20-07 2005

Chief Executive Officer,
National Transmission & Despatch Co. Ltd. (NTDC),
414 WAPDA House, Shahrah-e-Quaid-e-Azam,
LAHORE

Subject: **Decision in respect of Motion for Leave for Review filed under Rule 16(6) of Tariff Rules on 23rd June, 2005 by M/s. Orient Power Company (Pvt.) Ltd. (OPCL) (Case No. NEPRA/LAG-72/TARIFF)**

The Authority has made its Decision on the subject matter. The Decision has been sent to the Cabinet Division for notification in the official Gazette vide letter No. NEPRA/R/LAG-72/Tariff-2005/929-32 dated 20-07-2005. A copy of the Decision is served herewith for your information please.

DA/as above.

20.07.05.
(Mahjoob Ahmad Mirza)