



**Order  
on  
TRUE UP  
for  
FY 2007-12,  
Aggregate Revenue Requirement  
and  
Generation Tariff  
for  
FY 2013-14  
for  
Indraprastha Power Generation Company Limited  
(IPGCL)**



**DELHI ELECTRICITY REGULATORY COMMISSION**

**July, 2013**



## DELHI ELECTRICITY REGULATORY COMMISSION

Viniyamak Bhawan, 'C' Block, Shivalik, Malviya Nagar, New Delhi- 110017.

F.11(881) /DERC/2012-13/

### Petition No. 08/2013

**In the matter of:** Filing of Tariff Petition u/s 62 of the Electricity Act, 2003 for truing up of the Capital Expenditure for previous MYT Control Period FY 2007-08 to FY 2011-12 and the impact of its revision in subsequent Tariff Order.

Indraprastha Power Generation Company Ltd.  
Through its: **Director (Technical)**  
Himadri,  
Rajghat Power House Complex  
New Delhi 110 002.

...Petitioner/Licensee

### **Coram:**

Sh. P. D. Sudhakar, Chairperson,  
Sh. Shyam Wadhera, Member &  
Sh. J. P. Singh, Member.

### **ORDER**

(Date of Order: 31/7/13)

Having deliberated upon the Petition for Truing up of Capital Expenditure for the previous MYT Control Period FY 2007-08 to FY 2011-12 and giving the impact of its revision in the subsequent Tariff Order filed by M/s Indraprastha Power Generation Co. Ltd. and the subsequent filings by the Petitioner during the course of proceedings; and having considered the responses received from stakeholders, the Commission in exercise of the powers vested under the Electricity Act, 2003 and the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2011 hereby passes this Order signed, dated and issued on 31/7/13.

This Tariff Order shall remain in force till replaced by a subsequent Tariff Order and/or is amended, reviewed or modified, in accordance with the provisions of the Electricity Act, 2003 and the Regulations made there under.

  
(J. P. Singh)  
MEMBER

  
(Shyam Wadhera)  
MEMBER

  
(P. D. Sudhakar)  
CHAIRPERSON

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**LIST OF ABBREVIATIONS**

<b>Abbreviation</b>	<b>Explanation</b>
A&G	Administrative and General
ABT	Availability Based Tariff
APC	Auxiliary Power Consumption
ARR	Aggregate Revenue Requirement
ATE (APTEL)	Appellate Tribunal for Electricity
BRPL	BSES Rajdhani Power Limited
BTPS	Badarpur Thermal Power Station
BYPL	BSES Yamuna Power Limited
CAGR	Compound Annual Growth Rate
CCA	City Compensatory Allowance
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CISF	Central Industrial Security Force
CPRI	Central Power Research Institute
DERA	Delhi Electricity Reform Act
DERC	Delhi Electricity Regulatory Commission
DISCOMs	Distribution Companies (BRPL, BYPL & TPDDL)
DTL	Delhi Transco Limited
DVB	Delhi Vidyut Board
FPA	Fuel Price Adjustment
FRSR	Fundamental Rules / Supplementary Rules
GAIL	GAIL (India) Ltd.
GCV	Gross Calorific Value
GENCO	Generation Company
GFA	Gross Fixed Assets
GoNCTD	Government of National Capital Territory of Delhi
GTPS	Gas Turbine Power Station
HRA	House Rent Allowance
HQ	Headquarters
IPGCL	Indraprastha Power Generation Company Limited
LTC	Leave Travel Concession
MU	Million Units
MYT	Multi Year Tariff
NDPL	North Delhi Power Limited
NEEPCO	North Eastern Electric Power Corporation Limited
NRPC	Northern Regional Power Committee
NTPC	NTPC Ltd.



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Abbreviation	Explanation
O&M	Operations and Maintenance
PLF	Plant Load Factor
PPCL	Pragati Power Corporation Limited
R&M	Repair and Maintenance
RoE	Return on Equity
RPH	Rajghat Power House
SHR	Station Heat Rate
SLDC	State Load Despatch Centre
TPA	Transport Allowance
TPS	Thermal Power Station
UAT	Unit Auxiliary Transformer

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## **A1: INTRODUCTION**

- 1.1 This Order disposes of the Petition filed by Indraprastha Power Generation Company Limited (hereinafter referred to as ‘IPGCL’ or the ‘Petitioner’) for Truing up of MYT Control Period from FY 2007-08 to FY 2011-12 and impact of its revision in subsequent Tariff Order under the Multi Year Tariff Principles specified in the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007 (hereinafter referred to as the ‘DERC MYT Regulations 2007’).

### **Indraprastha Power Generation Company Limited**

- 1.2 IPGCL is wholly owned by the Government of National Capital Territory of Delhi and operates the following Generating Stations:
- (a) Indraprastha Thermal Power Station (IP Power Station) having a capacity of 247.5 MW (which was decommissioned on December 31, 2009);
  - (b) Rajghat Thermal Power House (RPH) having a capacity of 135 MW; and
  - (c) Indraprastha Gas Turbine Power Station (GTPS) having a capacity of 270 MW.

### **Delhi Electricity Regulatory Commission**

- 1.3 Delhi Electricity Regulatory Commission (hereinafter referred to as ‘DERC’ or the ‘Commission’) was constituted by the Government of National Capital Territory of Delhi (GoNCTD) on March 3, 1999 and it became operational from December 10, 1999.
- 1.4 The Commission’s approach to Regulation is driven by the Electricity Act, 2003 (hereinafter referred to as ‘the Act’), the National Electricity Plan, the Tariff Policy and the Delhi Electricity Reform Act 2000 (hereinafter referred to as ‘DERA’). The Act mandates the Commission to take measures conducive to the development and management of the electricity industry in an efficient, economic, and competitive manner which inter alia includes tariff determination.



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### **Multi Year Tariff Regulations**

- 1.5 The Commission issued regulations specifying Terms and Conditions for Determination of Tariff for Generation, Transmission and Distribution of electricity under the Multi Year Tariff (MYT) framework for the period FY 2007-08 to FY 2010-11 following due process of Law. The Regulations were notified in the official Gazette on May 30, 2007.
- 1.6 The Commission vide its Order dated May 10, 2011 extended the DERC MYT Regulations, 2007 and the Control Period for a further period of one year up to March 31, 2012 after following the due process of law.
- 1.7 The Commission issued the Regulations vide Order dated December 02, 2011 specifying Terms and Conditions for Determination of Tariff for Generation, Transmission and Distribution of electricity under the Multi Year Tariff (MYT) framework for the period FY 2012-13 to FY 2014-15 following the due process of law. The MYT Regulations for the second Control Period were notified in the official Gazette on January 19, 2012.

### **Filing of Petition for Truing up of MYT Control Period from FY 2007-08 to FY 2011-12 and impact of its revision in subsequent Tariff Order**

#### **Filing and Acceptance of Petition**

- 1.8 IPGCL has filed a Petition before the Delhi Electricity Regulatory Commission on January 16, 2013 for truing up of MYT Control Period from FY 2007-08 to FY 2011-12 and impact of its revision in subsequent Tariff Order. The Commission admitted the Petition vide its Order dated February 07, 2013 subject to clarifications/additional information, if any which would be sought from the Petitioner from time to time. A copy of the Admission Order dated February 07, 2013 is enclosed as **Annexure I** to this Order.
- 1.9 Further, at the request of the stakeholders, the Commission directed the Petitioner to submit a Hindi version of the Petition filed by it. The Hindi version of the Petition was uploaded on the website of the Commission as well as on the website of the Petitioner for the benefit of the stakeholders.



### **Interaction with the Petitioner**

- 1.10 The Order has referred at numerous places to various actions taken by the “Commission”. It may be mentioned for the sake of clarity, that the term “Commission” in most of the cases refers to the Staff of the Commission and the Consultants appointed by the Commission for carrying out the due diligence on the Petitions filed by the utilities, obtaining and analysing information/clarifications received from the utilities and submitting all issues for consideration by the Commission.
- 1.11 For the purpose of truing up exercise, the Staff of the Commission and Consultants held discussions with the Petitioners, obtained information/clarifications wherever required and carried out technical validation with regard to the information provided.
- 1.12 The Commission has held the Public Hearings and to take the final view with respect to various issues concerning the principles and guidelines for tariff determination. The use of the term “Commission” may, therefore, be read in the context of the above clarification. The Commission has considered due diligence conducted by the Staff of the Commission and the Consultants in arriving at its final decision.
- 1.13 On preliminary scrutiny of the Petition, certain deficiencies were observed which required additional information/ clarification/ filing of missing formats. The deficiencies were communicated to the Petitioner vide letter dated February 5, 2013. The reply to the preliminary deficiency note was received by the Commission on March 11, 2013 and April 22, 2013. Further, IPGCL, vide its letter dated April 10, 2013 has submitted additional information regarding Carrying Cost on account of implementation of Hon’ble ATE Order in Appeal No. 81 of 2007 for I.P. Power Station and Capital Expenditure of Schemes approved by the Commission for Civil Works.
- 1.14 Accordingly, the Commission solicited additional information/ clarifications from the Petitioner as and when required. The Commission and the Petitioner also discussed key issues related to the Petition. The Petitioner submitted additional information through various letters, as listed in Table 1 below.



1.15 The Commission also conducted validation sessions with the Petitioner during which the discrepancies and additional information required by the Commission were sought. The Petitioner submitted its replies to the list of queries raised by the Commission in these sessions and provided documentary evidence to substantiate its claims regarding various submissions.

1.16 The replies of the Petitioner, as mentioned in the Table below, have been considered for approval of the Truing up of the Petitioner:

**Table 1: List of correspondence with IPGCL**

S. No.	Date	Letter No.	Subject
1	16.01.2013	IPGCL/Comml./IDRA 07-12/22	Truing up for FY 2007-08 to FY 2011-12 in Petition No. 08/2013
2	11.03.2013	IPGCL/Comml./IDRA 07-12/90	Tariff/ARR Petitions filed by IPGCL (additional information)
3	10.04.2013	IPGCL/Comml./IDRA 07-12/28	Additional information in Petition no. 08/2013 filed by IPGCL
4	22.04.2013	IPGCL/Comml./IDRA 07-12/37	Tariff/ARR Petitions filed by IPGCL (additional information)
5	30.05.2013	IPGCL/Comml./IDRA 07-12/62	Tariff/ARR Petitions filed by IPGCL (additional information)
6	03.06.2013	IPGCL/Comml./IDRA 07-12/66	Tariff/ARR Petitions filed by IPGCL (additional information)
7	13.06.2013	IPGCL/Comml./IDRA 07-12/70	Tariff/ARR Petitions filed by IPGCL (additional information)
8	24.06.2013	IPGCL/Comml./IDRA 07-12/75	Tariff/ARR Petitions filed by IPGCL (additional information)

### **Public Hearing**

1.17 The Petitioner published a Public Notice indicating the salient features of its Petition for inviting responses from the stakeholders, in the following newspapers on the respective dates mentioned alongside:

- |                              |               |
|------------------------------|---------------|
| a) Hindustan Times (English) | March 1, 2013 |
| b) Times of India (English)  | March 1, 2013 |
| c) Punjab Kesari (Hindi)     | March 1, 2013 |





d) Hamara Samaj (Urdu)

March 1, 2013

1.18 Copies of the Public Notice in English, Hindi and Urdu are enclosed as **Annexure II** to this Order. Both soft copy in the form of CD and hard Copy of the Petition was also made available for purchase from the head-office of the Petitioner on any working day from March 01, 2013 to March 15, 2013 between 11 A.M. and 4 P.M. on payment of Rs 25 per CD and Rs 100/- for a hard copy. A copy of the complete Petition was also uploaded on the website of the Commission, as well as that of the Petitioner, requesting for comments of the stakeholders thereon.

1.19 The Commission also published a Public Notice in the following newspapers as per details provided below inviting comments from stakeholders on the Petition filed by the Petitioner latest by March 15, 2013:

(a) Hindustan Times (English)	March 5, 2013
(b) Times of India (English)	March 6, 2013
(c) The Indian Express (English)	March 5, 2013
(d) The Hindu (English)	March 6, 2013
(e) Dainik Jagran (Hindi)	March 6, 2013
(f) The Daily Milap (Urdu)	March 5, 2013
(g) Educator (Punjabi)	March 5, 2013

1.20 Copies of the above Public Notice published by the Commission in English, Hindi, Punjabi and Urdu are attached as **Annexure III** to this Order.

1.21 At the request of the stakeholders, the Commission extended the last date for filing objections and suggestions upto April 1, 2013 for which the Public Notice was issued in the following newspapers:

(a) Hindustan Times (English)	March 19, 2013
(b) Times of India (English)	March 19, 2013
(c) The Indian Express (English)	March 19, 2013
(d) The Hindu (English)	March 20, 2013
(e) Dainik Jagran (Hindi)	March 20, 2013
(f) The Daily Milap (Urdu)	March 20, 2013
(g) Educator (Punjabi)	March 20, 2013



- 1.22 Copies of the above Public Notice in English, Hindi, Punjabi and Urdu are attached as **Annexure IV** to this Order.
- 1.23 To extend help to the consumers in understanding the Petition and filing their comments, the Commission prepared a Staff Paper highlighting salient features of the True Up Petition filed by the Petitioner, which was uploaded on the Commissions' website. In this regard, two officers of the Commission viz. Joint Director (Tariff-Finance) and Joint Director (Tariff- Engineering) were made available to all the interested stakeholders for discussion on the Petition. This was duly highlighted in the Public Notices brought out by the Commission. In order to increase participation of the stakeholders, the Commission also prepared and uploaded the Hindi version of the Staff Paper on its website.
- 1.24 The Commission received comments from three stakeholders. The comments of the stakeholders were forwarded to the Petitioner. The Petitioner responded to the comments of the stakeholders with a copy of its replies to the Commission. The Commission invited all stakeholders who had filed their objections and suggestions to attend the Public Hearing. A list of the stakeholders who responded to the Public Notice on the Petition and those who attended the public hearing is enclosed as **Annexure V** to this Order.
- 1.25 The Public Hearing was held in the Commission's Court Room on April 29, 2013 from 11:00 a.m. onwards to discuss the issues related to the Petition filed by the Petitioner. The issues and concerns voiced by various stakeholders have been examined by the Commission. The major issues discussed during the Public Hearing and/or written comments made by the stakeholders, the responses of the Petitioner thereon and the views of the Commission, have been summarized in Chapter A2.

### **Layout of the Order**

- 1.26 This Order is organised into four Chapters:
- (a) Chapter A1 provides the approach of the Order;
  - (b) Chapter A2 provides a brief of the Public Hearing process, including the details of comments of various stakeholders, the Petitioner's response and



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views of the Commission thereon;

(c) Chapter A3 provides analysis of truing up for FY 2007-08 to FY 2011-12 for IP Station, Rajghat Power House and Gas Turbine Power Station;

(d) Chapter A4 provides summary of all the directives issued by the Commission in this Order.

1.27 The Order contains the following Annexure, which are an integral part of the Order:

(a) Annexure I – Admission Order;

(b) Annexure II – Copies of Public Notices published by the Petitioner;

(c) Annexure III – Copies of the Public Notice published by the Commission inviting comments from the stakeholders;

(d) Annexure IV – Copies of Public Notice Published by the Commission granting extension for last date of submissions of Comments.

(e) Annexure V – List of the respondent Stakeholders.

### **Approach of the Order**

1.28 The Petitioner has filed a Petition for truing up of MYT Control Period from FY 2007-08 to FY 2011-12 and impact of its revision in subsequent Tariff Order.

1.29 Under the MYT Framework, the Commission had approved the ARR of the Petitioner for FY 2007-08 to FY 2010-11 in the MYT Order issued on December 14, 2007 (hereinafter referred to as ‘MYT Order’). The Commission vide its Order dated May 10, 2011 extended the DERC MYT Regulations, 2007 and the Control Period for a further period of one year up to March 31, 2012. The ARR for FY 2011-12 was approved vide the Commission’s Tariff Order dated August 26, 2011. As per the DERC MYT Regulations, 2007 adjustments for the actual capital investment including thereof shall be done at the end of the Control Period based on the audited



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accounts and as per the provisions of the DERC MYT Regulations, 2007.

- 1.30 Accordingly, this Order deals with the truing up of MYT Control Period from FY 2007-08 to FY 2011-12.



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## **A2: RESPONSES FROM STAKEHOLDERS**

### **Introduction**

- 2.1 Public Hearing being a platform to understand the problems and concerns of various stakeholders, the Commission has always encouraged transparent and participative approach in the hearings, which are used to obtain necessary inputs required for tariff determination.
- 2.2 The Public hearing was held at the Commission's Court Room on April 29, 2013 to discuss the issues related to the Petition filed by the Petitioner for true up of expenses for FY 2007-08 to FY 2011-12. In the Public Hearing stakeholders put forth their comments/suggestions before the Commission in the presence of the Petitioner. The Petitioner was given an opportunity to respond to the comments put forth by the stakeholders.
- 2.3 The Commission has examined the issues and concerns raised by various stakeholders in written comments as well as in the Public hearing and also the response of the Petitioner thereon. The comments/suggestions submitted by various stakeholders in response to the petition, the replies given by the Petitioner and the views of the Commission have been summarized under various sub-heads as below:

### **Extension of first Control Period for FY 2011-12**

#### **Stakeholder's Comment**

- 2.4 The issue of extension of DERC MYT Regulations, 2007 for FY 2011-12 without providing for relevant adjustments in accordance with CERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 as claimed by the Petitioner has been dealt by the Commission in its Tariff Order dated August 26, 2011 and hence need not be raised again. As FY 2011-12 is now part of MYT Control Period from FY 2007-08 to FY 2011-12 and hence the Commission's Generation Tariff Regulation 2007 holds true for it.

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### **Petitioner's Submission**

2.5 The Petitioner submitted that it had emphasized that the Central Commission had modified number of parameters in 2009 Regulations whereas DERC MYT Regulations, 2007 were framed in the year 2007 for the Control Period from FY 2007-08 to FY 2010-11. The Petitioner submitted that various circumstances and applicable principles have changed and hence the principles as mentioned in MYT Regulations, 2007 cannot be applied in to-to for FY 2011-12. The Petitioner submitted that among the tariff related provisions, the State Electricity Regulatory Commission (SERC) has to be guided by National Electricity Policy, National Tariff Policy and CERC Regulations. The Petitioner submitted that the extension of principles of MYT Regulations, 2007 for FY 2011-12 was detrimental to the interest of the Company on number of aspects.

### **Commission's View**

2.6 The Commission had already dealt with the issue of extension of DERC MYT Regulations, 2007 to FY 2011-12 in its Order dated August 26, 2011 and accordingly FY 2011-12 is covered under DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007.

### **Tariff hike**

### **Stakeholder's Comment**

2.7 The escalations proposed by GENCOs in their Petition are fully unjustified. On the contrary, there is a case for reduction of their fixed and variable charges by almost 35% as observed in the Central Generating Stations post CERC Order dated December 31, 2012. The Commission may limit the unjustified escalation of generation cost by all state generating companies which has gone up over 88.09% as compared to the 2008 levels. Whereas, actual fuel prices have not gone up in the same proportion. In case of IPGCL, the generation cost had increased from Rs.2.66/Unit in 2008 to Rs. 5/Unit approx in 2012 with a CAGR of 17.11%.

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### **Petitioner's Submission**

- 2.8 The Petitioner submitted that the Commission has determined the tariff of the stations of IPGCL in accordance with the regulations applicable from time to time. The Petitioner has further submitted that the price of gas has steeply increased from June, 2010.

### **Commission's View**

- 2.9 The Commission has been approving the tariff in accordance with the norms specified in DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007 and on the basis of the prevalent fuel prices. The tariff for IPGCL stations consists of two components i.e., fixed charges and variable charges. The fixed charges are approved by the Commission and remain fixed during the Control Period. However, the variable charges are recovered based on normative heat rate as approved by the Commission subject to recovery of fuel cost on account of variation in fuel price and calorific value of fuel received as compared to that approved by the Commission. The Price of gas has increased from Rs 4411/ 1000 SCM in FY 2007-08 to Rs 8962/1000 SCM in FY 2011-12, similarly coal prices have also increased from Rs 1902/MT in FY 2007-08 to Rs 2500/MT due to which the generation cost has increased.

### **Compliance to Ceiling Norms of Performance**

#### **Stakeholder's Comment**

- 2.10 GENCOs should not be allowed any relaxation on the ceiling norms of performance like Station Heat Rate, Auxiliary Consumption, Specific Oil Consumption because DISCOMs pay for all the repair & Maintenance expenses and renovation and modernisation for the capex incurred for achieving these norms.
- 2.11 Relaxation of norms to the Generators and allowing the cost inefficiencies to be passed on to the DISCOM/end users would encourage inefficiency and discourage replacement of inefficient plants. If the generator's fails to comply with any norms of

the MYT Regulations, the Commission could stipulate payment of only 50% of variable charges on provisional basis so that it acts as a deterrent to the Generators for not complying with the Regulations/Orders.

- 2.12 The Delhi DISCOMs and average consumers of Delhi are being burdened with all expenses of the Generating Company, IPGCL is not passing on any of the efficiency gains to the DISCOM or the end users despite more relaxed operational norms specified by the Commission in comparison to CERC norms for similar Stations such as Tanda TPS and BTPS.

### **Petitioner's Submission**

- 2.13 The Petitioner submitted that it has been always submitting the reasons to the Commission for non achievement of the norms which are beyond its control.
- 2.14 The Petitioner submitted that it is complying with the regulations of the Commission and recovering the fixed & variable cost based on the normative parameters as stipulated in the regulations. The Petitioner further submitted that the non-achievement of the operational parameters is in itself leads to non recovery of cost.
- 2.15 The Petitioner further submitted that the performance of its Stations has improved considerably since unbundling. The Petitioner submitted that its Stations could not recover the full cost and hence prayed before the Commission to relax the norms. The Petitioner further submitted that its operational norms specified by the Commission cannot be compared with CERC norms for Tanda and Badarpur Stations as the Unit size of their station is much smaller as compared to Tanda and Badarpur Stations.

### **Commission's View**

- 2.16 The norms of operation provided in the MYT Regulations, 2007 had been specified considering then prevailing state of each plant, and the expected performance improvements during the Control Period. The Commission has analysed the reasons submitted by the Petitioner and has taken an appropriate view with detailed justification in Chapter A3 of this Order. Further, poor performance on account of technical problems is not tenable as such problems have to be mitigated by the





Petitioner, except in case of force majeure events. Further, there is no provision for sharing of efficiency gains in DERC MYT Regulations, 2007 and hence for previous years till FY 2011-12, sharing of efficiency gains cannot be undertaken. However, the provision of sharing has been incorporated in the DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2011 for the Control Period from FY 2012-13 to FY 2014-15. Accordingly, sharing will be undertaken from FY 2012-13 onwards.

## **Fuel Cost**

### **Stakeholder's Comment**

2.17 CERC vide its Order dated 31 December, 2012 had directed the Generators to disclose their fuel charges as incurred by them for both basic fuel and transportation cost along with Gross Calorific Value of fuel as received at the Stations. Accordingly the Commission should stipulate such conditions for State Generators also so as to bring transparency and to enable reduction in variable charges as witnessed in the case of Central Generating Stations.

### **Petitioner's Submission**

2.18 The Petitioner submitted that DERC (Terms and Conditions for Determination of Generation Tariff), Regulations, 2011 and Regulations, 2007 do not stipulate such condition as stated by the Stakeholder. The Petitioner submitted that it shall comply with the directions of the Commission.

### **Commission's View**

2.19 The Petitioner is submitting the information as per the provisions of existing Regulations. The Commission is modifying the Regulations in lines with CERC Notification dated December 31, 2012 to ensure greater transparency in variable cost by the Delhi Generating Companies.

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## **Availability**

### **Stakeholder's Comment**

- 2.20 The Petitioner has done only need based maintenance in view of envisaged closure of I.P. Power Station and hence has saved on the O&M expenses and has exercised control by not spending on maintenance of the Plant. The Commission should consider the relaxation and true up of target availability by factoring in the savings of the Petitioner by not spending on O&M expenses.
- 2.21 Power to relax the norms should be invoked only in rarest of rare cases as the exercise to relax norms disturbs the equilibrium attained through Regulation by the Commission.
- 2.22 Non availability of fuel should be treated as non availability of plants and accordingly the fixed charge payment should be moderated.

### **Petitioner's Submission**

- 2.23 As regards I.P. Power Station, the Petitioner submitted that the cost incurred by the Station during the Control Period should be allowed fully as the Station has already been closed down on December 31, 2009.
- 2.24 The Petitioner submitted that relaxation is being requested in the Availability of Gas Turbine Power Station for FY 2007-08 because the reasons are beyond its control.

### **Commission's View**

- 2.25 The Commission in its review Order dated November 26, 2012 in the matter of review of Tariff Order dated August 26, 2011 for determination of tariff for IPGCL for FY 2011-12 has already indicated that it would consider appropriate relaxation in case of I.P Station and allow the same.
- 2.26 The Commission with regards to IP GTPS station is of the view that until the Petitioner submits any valid rationale for relaxation of availability norms the same is



not considered. The Commission is of the view that poor performance of the plant due to technical problems or gas supply constraints are to be mitigated by the Petitioner and will not be passed on to the consumers, except in case of force majeure events.

The Commission notes that the Hon'ble APTEL has also held in its Judgment in Appeal No. 26 of 2008 as follows:

*“20..... we are of the opinion that the Appellant has not been able to establish its claim for consideration of relaxed availability norms for the IP gas station invoking the power to relax vested with the State Commission in terms of its Regulations.”*

## **Station Heat Rate**

### **Stakeholder's Comment**

- 2.27 The efforts made by the Petitioner, if any, to reduce the heat rate of I.P. Power Station have not been mentioned in the Petition. The Petitioner has already claimed for relaxation in Target Availability of I.P. Power Station for FY 2008-09 and FY 2009-10.
- 2.28 The Petitioner's claim that the margin of 6.5% in accordance with CERC Tariff Regulations should have been applied by the Commission in the heat rate for Rajghat Power House in place of 5% does not hold good as the margin of 6.5% specified in CERC Tariff Regulations is only for Thermal Generating Stations achieving COD after April 01, 2009.
- 2.29 The Station Heat Rate of Gas Turbine Power Station for FY 2011-12 in combined cycle mode and open cycle mode was decided in the open hearing where the Petitioner was given enough opportunity to bring its issues to the notice of the Commission and the claims of the Petitioner now are immaterial. The Commission in its Order stated that the plant is expected to run in combined cycle mode most of the time and open cycle operation is rare. The comparison between Assam Gas based Station of NEEPCO and Gas Turbine Power Station done by the Petitioner is not appropriate because of differences in various parameters. The decision of retrofitting of Waste Heat Recovery Module was taken by the Petitioner and the inherent



problems on account of mismanagement of the Petitioner should not be loaded on to the beneficiaries.

### **Petitioner's Submission**

- 2.30 The Petitioner submitted that because of envisaged closure of I.P. Power Station, only need based maintenance was carried out to keep the Station in operational condition. The Petitioner submitted that the Station has served the consumers of Delhi for more than 40 years. The Petitioner submitted that even Hon'ble ATE has allowed relaxation of norms due to imminent closure of the Station. The Petitioner submitted that the Station was operated beyond March 31, 2009 on the direction of the Commission keeping in view the power scenario of Delhi and agreed to compensate the Station for its actual cost of generation. The Petitioner submitted that in Availability Based Tariff (ABT), the fixed cost is recovered through availability and fuel cost is recovered through scheduled generation and hence, fixed cost cannot compensate for fuel cost.
- 2.31 The Petitioner further submitted that the Commission has determined the Heat Rate of Rajghat Power House by applying correction factor of 5% on the performance test reports of the Units of Rajghat Power House. The Petitioner submitted that 5% correction factor was for Gas Turbine Stations and not for Coal based Stations. The Petitioner submitted that it has only requested to apply the correction factor corresponding to Coal based Stations.
- 2.32 The Petitioner submitted that the Commission while specifying the norms for Gas Turbine Power Station relied upon the norms of a similar Power Station, Assam Gas based Station of NEEPCO governed by CERC. The Petitioner submitted that CERC had revised the heat rate of Assam Gas based Station for combined cycle mode. The Petitioner submitted that the heat rate norms approved by the Commission for its Gas Turbine Power Station are stringent as compared to Assam Gas based Station, even though it was commissioned in 1995-96. The Petitioner requested the Commission to take a pragmatic view on the issue. The Petitioner further submitted that Gas Turbine Power Station was commissioned in 1985-86 as a peaking Station and retrofitting of Waste Heat Recovery Unit was done pursuant to the decision of Government of Delhi in 1995-96 during the regime of Delhi Vidyut Board. The Petitioner submitted that the Company came into existence on July 01, 2002 and cannot be alleged as



mismanagement on its part regarding the same.

### **Commission's View**

2.33 For IP Thermal Station, the Commission as discussed in subsequent sections of the Order has considered the actual Station Heat Rate in accordance with Hon'ble APTEL's Judgment in Appeal No. 26 of 2008 dated April 07, 2011. As regards the relaxation of Station Heat Rate of GTPS, inspite of repeated directives in the Orders dated August 26, 2011 and July 13, 2012 to the Petitioner to get a performance test conducted in open cycle and combined cycle mode on its machines for having a scientific basis for relaxation of heat rate of IP GTPS, the Petitioner has not complied with the Commission's directive till date. Hence, the Commission at this stage has not revised the Station Heat Rate for GTPS. As regards Station Heat Rate for RPH, Petitioner's submission that the margin of 6.5% in accordance with CERC Tariff Regulations should have been applied does not hold good as the margin of 6.5% specified in CERC Tariff Regulations 2009 is only for Thermal Generating Stations achieving COD after April 01, 2009 and not for existing stations.

## **Deferment of Planned Shutdown of Rajghat Power House during FY 2009-10**

### **Stakeholder's Comment**

2.34 The planned shutdown of Units are decided and coordinated in the operational committee meeting of NRPC and hence the deferment of planned shutdown of Rajghat Power House in FY 2009-10 could be considered as lack of proper planning and coordination. The deferment of shutdown for 3 months should not have much consequence so as to adversely affect the cash flow of the company.

### **Petitioner's Submission**

2.35 The Petitioner submitted that deferment of planned shutdown of Rajghat Power House was done as per the directions of the Commission and the Government of NCT of Delhi in view of the precarious power situation in Delhi. The Petitioner submitted that



it had to comply with the directions of the Commission and Government of Delhi and the issue of lack of planning does not arise. The Petitioner submitted that Rajghat Power House should be compensated for helping the distribution sector of Delhi and should not be penalised without its fault.

### **Commission's View**

- 2.36 The Commission in the meeting held on March 24, 2009 has deferred the planned shutdown for generating units of IPGCL considering the precarious power supply situation in summer of FY 2009-10. Similarly the GoNCTD has also issued instructions in its meeting held on November 11, 2009 to defer the planned shutdown of Unit 2 of Rajghat Power House for increasing power availability in winter month. The Commission has discussed the matter appropriately as detailed in Chapter A3 of this Order.

### **Auxiliary Consumption**

#### **Stakeholder's Comment**

- 2.37 The Auxiliary consumption is a controllable factor for the Generating Company and the Petitioner's claim to relax the Auxiliary Consumption norm of I.P. Power Station for FY 2007-08, FY 2008-09 and FY 2009-10 is due to its inefficiency.
- 2.38 The comparison of Rajghat Power House with Tanda Thermal Power Station done by the Petitioner is not correct as Tanda Thermal Power Station has been in operation since 1987-88. Further, deferment of planned shutdown during FY 2009-10 does not change the Auxiliary Consumption for the Station. The Generating Companies need to be responsible for achieving the set norms of operation.
- 2.39 No justifiable ground has been furnished by the Petitioner for true-up of actual auxiliary consumption of Gas Turbine Power Station in combined cycle mode.
- 2.40 The Commission should stipulate the incorporation of meters at all Unit Auxiliary Transformer (UAT) in all Generating Stations so as to make available actual



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Auxiliary Consumption. The claim of entire ceiling norms by the Gencos without any verification/meter reading has an adverse impact on overall Tariff.

### **Petitioner's Submission**

- 2.41 The Petitioner submitted that it had given the reasons for non-achievement of operational norms for I.P. Power Station in its Petition. The Petitioner submitted that even Hon'ble ATE has allowed relaxation of the norms due to imminent closure of the Station.
- 2.42 The Petitioner submitted that Rajghat Power House was commissioned in 1989-90 during the same period as Tanda Power Station which was commissioned in 1987-88. The Petitioner submitted that Units were running on part load before the planned shutdown. The Petitioner submitted that due to deferment of Planned Shutdown, the Units had to run on part load and this has led to increase in auxiliary consumption.
- 2.43 The Petitioner submitted that it had already submitted in its Petition that part load operation is attributable to higher auxiliary consumption. The Petitioner submitted that difference between Availability and PLF indicates that Station has been operated on part load and the difference is mainly due to backing down of the Station. The Petitioner submitted that the Station should not be penalised for matching the load requirements of the consumers.
- 2.44 The Petitioner submitted that its Generating Stations are having the meters installed at Unit Auxiliary Transformers and the accounting of energy is being done in accordance with Availability Based Tariff (ABT) based upon the normative Auxiliary Consumption as fixed by the Commission considering the condition of the Plant and prevailing standards of the industry.

### **Commission's View**

- 2.45 Meters have already been installed at all Unit auxiliary transformers. However, the Commission while fixing norms for auxiliary consumption of the Petitioner has considered the meter reading as well as norms for auxiliary consumption for similar units elsewhere in the country.



## **Secondary Fuel Oil Consumption**

### **Stakeholder's Comment**

- 2.46 Gencos are claiming allowable ceiling norms of specific oil consumption instead of sharing the savings in specific oil consumption with the off takers. The Commission may suitably ensure that the generators do not retain the gains out of ceiling norms at the cost of consumer as they are already being paid incentives for better performance separately through a suitable formula as a part of fixed charges.

### **Petitioner's Submission**

- 2.47 The Petitioner submitted that incentive is linked with fixed cost as per Generation Tariff Regulations, 2011 wherein a provision has been made for sharing of specific oil consumption as per the specified formula. The Petitioner submitted that it shall comply with the directions of the Commission in this regard.

### **Commission's View**

- 2.48 The Commission in this Order is carrying out the truing up of Capital Expenditure and related expenses of the Petitioner for the first Control Period from FY 2007-08 to FY 2011-12. Sharing of gains on account of Secondary Fuel Oil consumption has not been specified in DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007. However, the provision of sharing has been incorporated in the DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2011. Accordingly, sharing will be undertaken from FY 2012-13 onwards.

## **Coal Transit Loss**

### **Stakeholder's Comment**

- 2.49 Loss in transit of coal is made good by coal companies. The Petitioner's contract with coal companies should be made with due diligence.



### **Petitioner's Submission**

2.50 The Petitioner submitted that it does not have any control over coal transit loss.

### **Commission's View**

2.51 The Commission allows coal transit loss of 0.80% on normative basis irrespective of transit loss claimed by the Petitioner as per DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007. This puts the onus on the Petitioner to reduce the transit loss.

### **Capital Expenditure**

#### **Stakeholder's Comment**

2.52 The approval of capital expenditure for FY 2011-12 for Gas Turbine Power Station and Rajghat Power House should be based on submission of Detailed Project Report justifying the reasonableness and cost estimates, use of efficient technology, cost-benefit analysis, and other factors as may be considered relevant by the Commission. The Commission should analyse the operational performance of the Petitioner on the basis of approved capital additions during the Control Period FY 2007-08 to FY 2011-12 for Rajghat Power House and Gas Turbine Power Station.

### **Petitioner's Submission**

2.53 The Petitioner submitted that necessary data/information as desired by the Commission is being submitted from time to time.

### **Commission's View**

2.54 The Commission carries out due prudence check before approving capital expenditure of the Petitioner. The detailed project reports are received by the Commission and after assessing the reasonableness of cost estimates, cost benefit analysis etc, the schemes for capital expenditure are approved.

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## **Pension Trust**

### **Stakeholder's Comment**

2.55 The Petitioner has claimed payment to be made to Pension Trust in employee expenses. The Tariff Order is meant for approving the Annual Revenue Requirement and Tariff of the Generating Station and payment to the Pension Trust does not form part of it.

### **Petitioner's Submission**

2.56 The Petitioner submitted that the Commission had already taken a view on the issue of Pension Trust in its Order dated August 26, 2011.

### **Commission's View**

2.57 The Commission had considered the submissions made by Secretary, Pension Trust and CEO's of the DISCOMs on this issue at the time of the previous Order. The Commission also examined the relevant provisions of the Transfer Scheme Rules, 2001, Tripartite Agreement entered between GoNCTD, DVB and association of the officers and employees of the erstwhile DVB, Trust Deed, Pension Trust and the record pertaining to the Civil Writ Petition (C) No 1698/2010 filed by Delhi State Electricity Workers Union before the Hon'ble High Court of Delhi.

2.58 In view of the above and to avoid any undue hardship to the retired employees (pensioners) of the erstwhile DVB, the Commission has provided a provisional lump sum amount of Rs 150 Cr in the ARR of the DTL for FY 2011-12 and Rs 60 Crore in the ARR of DTL for FY 2012-13 and has provided Rs 400 Crore in the ARR of DTL for FY 2013-14 for all the activities in Delhi and the matter is being dealt accordingly, subject to the final outcome in the Civil Writ Petition (C) No 1698/2010.

## **Operation & Maintenance expenses**

### **Stakeholder's Comment**



- 2.59 The Petitioner has claimed an escalation factor to be 8% on the basis of actual average inflation index as against the escalation rate of 4% approved by the Commission. The Commission has already approved the O&M expenses vide its Order dated August 26, 2011 and the Petitioner's claim of higher O&M expenses is not commensurate with the performance levels of its Generating Stations.

### **Petitioner's Submission**

- 2.60 The Petitioner submitted that it has claimed for higher O&M expenses for Gas Turbine Power Station as the normative O&M expenses approved by the Commission for FY 2007-08 to FY 2011-12 were not commensurate with similar Stations. The Petitioner submitted that repair and maintenance expenses are higher because of more number of Units at Gas Turbine Power Station. The Petitioner submitted that repair and maintenance is done according to the operational hours of the machines in accordance with manufacturer's recommendations. The Petitioner submitted that O&M expenses are on the higher side because of old Units and small size of the Units.

### **Commission's View**

- 2.61 The Commission approved O&M expenses for the base year of the MYT Control Period based upon the latest audited accounts/actuals, estimates for relevant years, previous years' actual expenses. The base year expenses are escalated by an appropriate factor to compute O&M expenses for the relevant years of MYT Control Period. Further, at the time of truing up, the Commission considers impact on account of other factors after due prudence check.

## **Depreciation**

### **Stakeholder's Comment**

- 2.62 While approving the depreciation of I.P. Power Station, the Commission should consider either transfer cost or the book value and the depreciation recovered in the past should be factored in.

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### **Petitioner's Submission**

- 2.63 The Petitioner submitted that it had considered the cumulative depreciation allowed by the Commission for computing the balance depreciation. The Petitioner submitted that the depreciation will be computed in accordance with Generation Tariff Regulations, 2007.

### **Commission's View**

- 2.64 The Commission for the purpose of truing up of Depreciation for the first control period has followed DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007. For I.P Station, the Commission will take into account the depreciation recovered in the past and the value received by I.P Station from sale of the assets after all the assets are disposed off and details submitted to the Commission.

### **Interest on Working Capital**

#### **Stakeholder's Comment**

- 2.65 The Commission should stipulate and audit the fuel stock, spare etc. allowed as a part of the working capital to the generators and in case monthly random verification of the generators are not found meeting the norms, the Commission is suggested to moderate the fixed charge on pro-rata basis so that the interest of DISCOM and end consumers are not jeopardised.

### **Petitioner's Response**

- 2.66 The Petitioner submitted that as per Generation Tariff Regulations, 2007 the working capital is allowed on normative basis. Inventory of the fuel & spares is kept keeping in view the operational requirement of the plants. The Petitioner further submitted that BRPL and BYPL have defaulted in making payments of energy bills since October 2010. This has worsened the financial health of the organisation. Due to this IPGCL is finding it difficult to meet its day to day obligations and expenses.

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**Commission's View**

- 2.67 The Commission allows working capital to the generator on normative basis and any financial gain or loss is to the account of the generator. However, at the end of the MYT Control Period the actuals are considered while fixing the norms for the next MYT Control Period.

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### **A3: ANALYSIS OF TRUING UP OF MYT CONTROL PERIOD FROM FY 2007-08 TO FY 2011-12**

3.1 The Commission has notified DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007 (DERC MYT Regulations, 2007) for the Control Period FY 2007-08 to FY 2010-11 which were later extended to be applicable for FY 2011-12.

3.2 Regulation 5.6 of DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007 specifies as follows:

*“..... The Commission shall review the actual capital investment at the end of each year of the Control Period. Adjustment for the actual capital investment vis-à-vis approved capital investment shall be done at the end of the Control Period”*

3.3 Hence, in accordance with the DERC MYT Regulations, 2007, the Commission is truing up the Capital Expenditure of the Petitioner for the MYT Control Period FY 2007-08 to FY 2011-12 and related expenses.

3.4 Further, the Petitioner in addition to truing up of capital expenditure has requested the Commission to relax certain operational norms on account of various reasons. The submissions made in this regards and the Commission's views on the same have been discussed in the following sections.

#### **Current Status of I.P. Station**

3.5 I.P. Station initially comprised of five units out of which Unit 1 was decommissioned prior to the unbundling of Delhi Vidyut Board (DVB). Further, IPGCL had been supplying one-third of the power generated from Units 2, 3 and 4 to Haryana, as per the agreement signed between erstwhile DESU and DVB with the Government of Haryana. In view of the above, out of the total installed capacity of 247.5 MW, the power generated corresponding to capacity of 62.5 MW is transferred to Haryana, and the generation corresponding to 185 MW is supplied to Delhi.

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- 3.6 Unit 2 to Unit 5 were operational since the unbundling, however they too were decommissioned as the units had outlived their lives. The complete plant was finally decommissioned with effect from December 31, 2009.
- 3.7 The Commission had issued MYT Order for first Control Period dated December 14, 2007 determining the tariff for the station for FY 2007-08 to FY 2010-11 and Tariff Order for FY 2011-12 dated August 26, 2011. The Petitioner as per the DERC MYT Tariff Regulations, 2007 has now filed a Petition for truing up of the Control Period.
- 3.8 The Commission has gone through the information submitted by the Petitioner and observed that the Petitioner, in its audited accounts had booked profit from sale of fixed assets during the Control Period. The profits booked from the sale of fixed assets were Rs 9.36 crore, Rs 7.45 Crore and Rs 45.89 Crore for FY 2007-08, FY 2009-10 and FY 2010-11 respectively. The Commission accordingly directed the Petitioner to clarify the details of assets sold on account of which such profits were booked.
- 3.9 The Petitioner in its reply submitted that such profits were booked due to sale of I.P station Unit 1, I.P. station electrical switchyard and part payment due to sale of Unit 2 to Unit 5. The Commission further directed the Petitioner to clarify whether the I.P. Station has been completely disposed off.
- 3.10 The Petitioner in its reply with regards to Unit 1 submitted that it has e-auctioned the Unit to successful bidder at a price of Rs 9.89 Crore. However, the selected bidder has disputed that it was not allowed to remove part of the machinery amounting to Rs 4.85 Crore. The Petitioner submitted that the same is under arbitration. The Petitioner with regards to Unit 2 to Unit 5 submitted that though the sale order for Unit 2 to Unit 5 has been issued to the successful bidder for Rs 101.51 Crore, however, the bidder has disputed on VAT/Sales Tax to be paid and the matter is under arbitration and the proceedings of arbitration is yet to start. The Petitioner accordingly submitted that the sale proceedings of dismantling of I.P. Station Unit 1 to Unit 5 are now a matter of sub-judice and final settlement is yet to arrive.
- 3.11 The Commission has gone through the submissions made by the Petitioner and is of the view that the sale proceedings of I.P station has not achieved finality, however, the Petitioner has booked considerable amount of profits from sale of fixed assets in the



respective years from the sale proceedings that it received.

- 3.12 The Commission observes that the Opening GFA of the station as on April 01, 2007 as approved by the Commission was Rs 69.57 Crore against which a sale order of Rs 101.51 Crore for Unit 2 to Unit 5 and Rs 9.89 Crore for Unit 1 was issued by the Petitioner which is higher when compared to the opening GFA approved by the Commission.
- 3.13 The Commission therefore is of the view that until such sale proceedings are completed and final amount of realisation from sale of assets is known, the Commission cannot give effect to the outcomes of this truing up exercise for I.P. Station. The Commission has however, worked out the net truing up impact of I.P. Station except on account of sale of assets in this Order. The Commission shall allow the final impact of the truing up for I.P. Station once the I.P. station assets have been disposed off and the final amount of realisation from sale of assets including land gets firmed up.

## **Truing up for I.P. Station**

## **Norms of Operation**

## **Availability**

### **Petitioner's Submissions**

- 3.14 The Petitioner submitted that the target availability for the Indraprastha Power Station was approved at a level of 45% for recovery of full fixed cost. The station was more than 40 years old and has been closed down on December 31, 2009. The plant was subject to frequent breakdowns and its reliability was in question. The Petitioner further submitted that due to the envisaged closure, no repair and maintenance work was undertaken. Only need based maintenance was carried out to ensure that the generating plant do not come to a complete halt. The Petitioner further submitted that the station was able to achieve more than 45% availability during FY 2007-08 however, it was able to achieve an availability factor of only 42.64% during the FY 2008-09 and 33.43% during the FY 2009-10 (up to October-2009). The Petitioner further submitted that in spite of the age of





the station, IPGCL was able to sustain generation at these levels with pro-active, consistent and regular maintenance. The Petitioner also submitted that IPGCL was earlier decided to be closed down from March 31, 2009 as per the approval of Board of Directors. However, due to power crisis in Delhi, the Hon'ble Commission in its meeting dated March 24, 2009 advised IPGCL to run the station beyond March 31, 2009 and agreed to compensate the station for the actual cost of generation.

- 3.15 The Petitioner further submitted that with respect to availability the Hon'ble Appellate Tribunal of Electricity in Appeal No 26 of 2008, filed by IPGCL, against the MYT Tariff Order for FY 2007-08 to FY 2010-11 has given the following ruling in its Judgment dated April 07, 2011:

*14. "In the present case Indraprastha Station is more than 38 years old nearing closure. In fact, the power plant has since been retired in the year 2009-10. In view of this, there was no proposal to renovate and modernize the plant and only need based maintenance was being carried out to ensure that the plant did not come to complete halt before scheduled date of retirement. In our opinion, the circumstances of the case justify relaxation of availability parameters for Indraprastha Station. Accordingly, the State Commission is directed to reconsider the issue by exercising its power to relax under the Regulations. "*

- 3.16 The Petitioner has accordingly requested the Hon'ble Commission to relax and true- up the target availability of the I.P. Station as achieved by the station for the year 2008-09 and 2009-10 for recovery of full fixed cost as the circumstances were beyond the control of the Petitioner.

### **Commission's Analysis**

- 3.17 The Commission has gone through the submissions made by the Petitioner. The Commission observes that the station exceeded the target availability for FY 2007-08, Further, the Petitioner was marginally short of its target availability at 42.64% however, for FY 2009-10 the availability of 33.43% achieved was much lower than the target availability. Hon'ble ATE in its Judgment in Appeal 26 of 2008 dated April 07, 2011 has already directed the Commission to take a relaxed view as the plant was scheduled to be closed and there were no major capital expenses and only need based maintenance were carried out. Further, the plant has been decommissioned with effect from December 31, 2009.



- 3.18 The Commission, **as per the directions of Hon'ble ATE in its Judgment in Appeal No. 26 of 2008 exercises its power for relaxation under Regulation 12.4 of the DERC MYT Regulations, 2007** and allows the recovery of full fixed charges for FY 2008-09 and FY 2009-10 at actual availability of 42.64% and 33.43% for FY 2008-09 and FY 2009-10 respectively.

## **Station Heat Rate**

### **Petitioner's Submissions**

- 3.19 The Petitioner in its Petition has submitted that the Commission has approved the station heat rate (SHR) for the I.P. station at the levels which are quite below the level achievable by the station. The station was more than 40 years old and has been closed down on December 31, 2009. The plant was subject to frequent breakdowns and its reliability was in question.
- 3.20 The Petitioner further submitted that due to the envisaged closure, no major repair and maintenance work was carried out in the past and only need-based maintenance were undertaken to keep the plant functioning. Due to these factors, the Availability/PLF of the Station remained at low levels which resulted into high station heat rate. The Petitioner further submitted that despite all sincere efforts to reduce SHR, the station was able to achieve the following heat rate.

**Table 1: Actual Heat Rate as submitted by the Petitioner (kCal/kWh)**

<b>Particulars</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>
Station Heat Rate	3767	3650	3877

- 3.21 The Petitioner further submitted that IPGCL earlier decided to close down the Station on March 31, 2009 as per the approval of Board of Directors. However, due to power crisis in the State of Delhi, Hon'ble Commission in its meeting on March 24, 2009 advised IPGCL to run the station beyond March 31, 2009 and agreed to compensate the station for the actual cost of generation.
- 3.22 The Petitioner further submitted that other State Electricity Regulatory Commissions (SERCs) while approving the SHR have considered the age and condition of the



generating plant. The Petitioner further submitted that the Haryana Electricity Regulatory Commission had approved the SHR of 4000 kCal/kWh for FY 2007-08, for Faridabad Station which is higher than the SHR achieved by I.P. Station. The Petitioner further submitted that several constraints block the optimum capacity operations for these stations e.g. boiler tube leakage starts if operated beyond restricted capacity and the manufacturer has also restricted the loading on turbines of all the units due to precarious condition of turbine blades and turbine rotors.

- 3.23 The Petitioner submitted that the Hon'ble Appellate Tribunal for Electricity in Appeal No. 81 of 2007 against the DERC Tariff Order for FY 2006-07 has decided this issue in its Judgment dated January 10, 2008, as under-

*"12) Heat Rate: The petitioner could not submit the design heat rate for IP station which was nearly 38 years old. The CEA norms, for station heat rate is based on the design heat rate. Therefore, the Commission could not employ the CEA norms for the station heat rate of the IPTP station. Accordingly the Commission retained the approved figure of 3235 kCal/kWh which was agreed to by the petitioner in line with the draft PPA submitted by Transco along with ARR petition for 2004-05. The petitioner submitted before the Commission that in order to comply with the directions of Delhi Pollution Control Committee, IPTP station was proposed to be closed down and therefore no R&M expenses could be taken for improvement or even for maintaining the same station heat rate. We are informed during arguments that the final decision to close down was taken after the end of 2006-07. The final closing will be in 2010. In view of this situation, it will only be fair for the Commission to bear with the station heat rate which the appellant has been able to achieve for this station during the period in question."*

- 3.24 The Petitioner further submitted that the Hon'ble Appellate Tribunal of Electricity in the Appeal No. 26 of 2008 filed by IPGCL against MYT Tariff Order for FY 2007-08 to FY 2010-11 has given the ruling in respect of operational norms in its Judgment dated April 07, 2011 as under:

*"33.As regards station heat rate and auxiliary consumption for the I.P. Station, in view of decision to close down the station and our findings on relaxation of availability norms, we feel there is a case to relax norms by the State Commission in exercise of its power to relax under its Regulations."*

- 3.25 The Petitioner has further submitted that as the circumstances were beyond the control of the Petitioner, and in view of above submissions, the Petitioner requested the Commission

to relax and true- up the actual heat rate for I.P. station as achieved by the station for FY 2007-08, FY 2008-09 and FY 2009-10. The Petitioner has further submitted that the Hon'ble Commission had already allowed a heat rate of 3802 kCal/kWh for FY 2006-07 in pursuance to the Judgment of Hon'ble ATE on Appeal No. 81 of 2007 dated January 10, 2008.

### **Commission's Analysis**

- 3.26 The Commission has gone through the submissions made by the Petitioner with regards to station heat rate. **Further, Hon'ble ATE in its Judgment in Appeal No. 26 of 2008 has directed the Commission to relax the heat rate norms as R&M activities were not carried out as the station was supposed to be closed down.** The Commission therefore in accordance with the directions given by Hon'ble ATE, exercises its power to relax under Regulation 12.4 of DERC MYT Regulations, 2007 and approves the actual heat rate as submitted by the Petitioner for the Control Period. The following table shows the station heat rate as approved in the MYT Order dated December 14, 2007, actual submitted by the Petitioner and that approved by the Commission.

**Table 2: Heat Rate as Approved by the Commission (kCal/kWh)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10		
	MYT Order	Petitioner	Trued Up	MYT Order	Petitioner	Trued Up	MYT Order	Petitioner	Trued Up
Station Heat Rate	3235	3767	3767	3235	3650	3650	3235	3877	3877

### **Auxiliary Power Consumption (APC)**

#### **Petitioner's Submissions**

- 3.27 The Petitioner has submitted that I.P. station is 40 year old and has been closed down on December 31, 2009. The plant was subject to frequent breakdowns and its reliability was in question. Further, due to envisaged closure no major repair and maintenance work was carried out and only need based maintenance was undertaken to keep the plant functioning due to which the PLF of the station remained at low levels which resulted into high auxiliary power consumption. The Petitioner further submitted that APC of thermal power stations do not reduce proportionately with part load operation of the plant.



The station was operated at part load due to aging of the plants which consumed more auxiliary power resulting in higher percentage of auxiliary consumption.

- 3.28 The Petitioner further submitted that Hon'ble ATE with respect to station heat rate and APC in the Appeal No. 26 of 2008 filed by IPGCL against the MYT Tariff Order for FY 2007-08 to FY 2010-11 has given the following ruling in its Judgment dated April 07, 2011.

*"33.As regards station heat rate and auxiliary consumption for the I.P. Station, in view of decision to close down the station and our findings on relaxation of availability norms, we feel there is a case to relax norms by the State Commission in exercise of its power to relax under its Regulations."*

- 3.29 The Petitioner submitted that the circumstances were beyond the control of Petitioner and accordingly the Petitioner has requested the Commission to relax and true-up the auxiliary power consumption for I.P. Station as achieved by it during FY 2007-08 to FY 2009-10.

### **Commission's Analysis**

- 3.30 The Commission has gone through the submissions made by Petitioner with regards to auxiliary power consumption. **Further, Hon'ble ATE in its Judgment in Appeal No. 26 of 2008 has directed the Commission to relax the auxiliary power consumption norms as R&M activities were not carried out as the station was supposed to be closed down.** The Commission therefore, in accordance with the directions of Hon'ble ATE has exercised its power to relax under Regulation 12.4 of the DERC MYT Regulations, 2007 and approves the actual APC as achieved by the Petitioner for the Control Period. The following table shows the APC as approved in the MYT Order dated December 14, 2007, actual submitted by the Petitioner and that approved by the Commission.

**Table 3: Auxiliary Power Consumption as approved by the Commission (%)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10		
	MYT Order	Petitioner	Trued Up	MYT Order	Petitioner	Trued Up	MYT Order	Petitioner	Trued Up
Aux Power Cons.	11.64%	13.59%	13.59%	11.64%	14.43%	14.43%	11.64%	16.09%	16.09%



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## **Coal Transit Loss**

### **Petitioner's Submissions**

- 3.31 The Petitioner in its Petition has submitted that the Coal Transit Loss is estimated to be 3.80% during the current Control Period from FY 2007-08 to FY 2011-12. The Petitioner has further submitted that it doesn't have much control in reducing the Coal transit loss beyond certain level as there are many uncontrollable external factors. The Petitioner has further submitted that transit loss in coal arises due to the difference in the quantum of coal loaded at the loading point by the coal company and the coal received at the unloading point in the power plant. Such losses generally arise on account of following:
- Superficial Surface Moisture in the washed coal
  - Evaporation of moisture and blowing away of powdered coal during transportation of coal.
  - Loss of coal in transit due to theft, pilferage, etc.
- 3.32 The Petitioner further submitted that it is obligated to procure and take delivery of washed coal for its coal based station pursuant to the Orders of the Supreme Court of India on account of environmental reasons. The Petitioner has further submitted that during benefaction of coal through washing technique coal absorbs water resulting in higher weight at the time of loading. The extra moisture evaporates during the transit and storage. Therefore, usage of washed coal leads to higher moisture during transit. The Petitioner further submitted that the loss of 3% is due to extra moisture and 0.80% is on account of transit loss.
- 3.33 The Petitioner further submitted that with respect to washed coal the Hon'ble ATE in the appeal filed by it in regards to MYT Order for FY 2007-08 to FY 2010-11 has given the following ruling in its Judgment dated April 07, 2011.

*22. "According to the Appellant, the State 'Commission has allowed a normative coal transit loss of 0.8% by holding that the same is nationally accepted loss level as prescribed in the Tariff Regulations of the Central Commission. It is noticed that the State Commission has rejected the claim of the Appellant merely on the ground that NTPC had not challenged the coal transit loss for the Dadri and Badarpur Stations which requires the same washing of coal. As pointed out by the Learned Counsel for*



*the Appellant, the ground that NTPC had been allowed only 0.8% coal transit loss and the same had not been challenged by the NTPC cannot be the valid ground to deny the claim at the Appellant. The important aspect that the State Commission has failed to consider is that the transit loss cannot be the same both for unwashed and washed coal. The weight of the coal at the time of loading is significantly increased due to higher moisture content which evaporates during transit and storage. We notice that the State Commission has not given a reasoned order regarding transit loss. Instead of examining the transit loss in case of the Appellant's power station the State Commission has noticed that the use of washed coal is likely to improve the functioning of the plant. This matter, therefore, needs re examination. Therefore, the State Commission is required to determine the actual coal transit, loss in respect of the Appellant's Power Station without comparing the coal Transit loss with the NTPC. This point is answered accordingly".*

- 3.34 The Petitioner has further submitted that the State Commissions such as Rajasthan Electricity Regulatory Commission, Haryana Electricity Regulatory Commission have also allowed higher coal transit loss to the state generating stations in the past. Since, the higher coal transit loss is beyond the control, the Petitioner requested the Commission to true up the transit and moisture loss of 3.80% for its coal based stations for FY 2007-08 to FY 2011-12.

#### **Commission's Analysis**

- 3.35 The Commission in its additional queries directed the Petitioner to submit the actual transit loss for the station for FY 2007-08, FY 2008-09 and FY 2009-10. The Petitioner in its reply submitted that the actual transit loss was 3.09%, 5.98% and 7.59% for FY 2007-08, FY 2008-09 and FY 2009-10 respectively.
- 3.36 The Commission is of the view that as R&M or any performance improvement activities were not carried out as the station was supposed to be closed down, it will be more appropriate to consider the actual fuel cost incurred by the Petitioner. Based on the details submitted by the Petitioner, the Commission observed that the Petitioner has not submitted the complete details of actual fuel cost. **The Commission directs the Petitioner to submit the following details of actual fuel cost for FY 2007-08, FY 2008-09 and FY 2009-10 separately within 3 months from the date of this Order:**
- **Coal Cost Ledger and allocation of coal cost for power supplied to Delhi and Haryana**
  - **Oil Cost Ledger and allocation of coal cost for power supplied to Delhi and**





**Haryana**

- **Total amount of fuel cost received from Haryana**

3.37 Based on actual fuel cost details submitted by the Petitioner, the Commission will consider the same and carry out the final truing up of Fuel Costs for IP Station.

**Variable Cost of the Station**

**Petitioner's Submissions**

3.38 The Petitioner in its Petition has submitted the actual variable cost of the station considering the gross generation of the plant, actual station heat rate and gross calorific value and fuel prices during the period for FY 2007-08 to FY 2009-10 which is as shown below.

**Table 4: Variable Cost for I.P. Station as submitted by the Petitioner**

Particulars	Unit	2007-08	2008-09	2009-10
		Actual	Actual	Actual
Gross Generation	MU	1027.51	954.98	448.71
Net Generation	MU	887.92	817.14	376.49
Quantity of Coal/ Lignite (Fired)	MT	1015371	935197	455756
Rate of Coal/ Lignite	Rs/ Ton	1946	2084	2095
Quantity of Secondary Fuel Oil	kL	9204.32	8170.90	4826.51
Rate of Secondary Fuel Oil	Rs/ kL	28527	35343	28214
Cost of Secondary Fuel Oil	Rs Cr	26.26	28.88	14.00
HVPNL (Share)	Rs Cr	8.08	8.48	3.64
Cost of Secondary Fuel Oil (Delhi Share)	Rs Cr	18.18	20.40	10.36
Total Cost of Fuel	Rs Cr	223.81	223.78	109.11
HVPNL (Share) in generation	MU	281.63	246.22	122.52
Net Generation (Delhi Share)	MU	606.29	570.92	253.97
Fuel Cost of HVPNL	Rs Cr	68.87	65.68	28.35
Fuel Cost Delhi Share	Rs Cr	154.94	158.10	80.76
<b>Variable Cost (Rs/kWh)</b>	<b>Rs/ kWh</b>	<b>2.56</b>	<b>2.77</b>	<b>3.18</b>

3.39 The Petitioner has accordingly requested the Commission to true-up the actual variable cost for I.P. Station based upon the above parameters of operation for FY 2007-08 to FY





2009-10.

**Commission's Analysis**

- 3.40 The Commission has gone through the submissions made by Petitioner and is of the view that since the plant was envisaged to be shutdown, therefore the Petitioner did not carry out any major expenses towards R&M and only need based maintenance was done to maintain plant in operating condition therefore, the norms of operations deteriorated resulting into higher fuel cost of the plant. Further, the plant has already been decommissioned. As discussed earlier the Commission has already relaxed the norms for Station Heat Rate and Auxiliary Power Consumption for the Station.
- 3.41 The Commission with regards to price of coal of Rs 1946/MT, Rs 2084/MT and Rs 2095/MT as considered by the Petitioner for computation of annual fuel cost for FY 2007-08, FY 2008-09 and FY 2009-10 respectively, directed the Petitioner to clarify the transit loss it has considered while submitting the fuel cost. In reply the Petitioner submitted that it has considered actual transit loss of 3.09%, 5.98% and 7.59% for computation of annual average fuel cost for FY 2007-08, FY 2008-09 and FY 2009-10 respectively. The Commission has therefore, not considered the fuel price submitted by the Petitioner as the actual transit loss has been factored in the cost. The Commission has therefore revised the average fuel cost after considering transit loss of 0.80%. The revised fuel price after factoring the transit loss works out to Rs 1903/MT, Rs 1982/MT, Rs 1963/MT for FY 2007-08, FY 2008-09 and FY 2009-10 respectively.
- 3.42 Further, the Commission has allowed the fuel cost on the basis of gross generation computed after grossing up the net scheduled energy by actual auxiliary consumption approved. Any excess generation over and above the scheduled generation has not been considered for computation of actual fuel cost. The Commission has accordingly reduced the coal cost and secondary fuel oil cost on proportionate basis in the ratio of gross generation as per SLDC certified PLF vis-à-vis the actual gross generations submitted by the Petitioner.
- 3.43 The Commission has accordingly computed the allowable annual fuel cost based on the revised fuel price and allows following fuel cost to be recovered by the Petitioner. The total fuel cost as submitted by the Petitioner and that trued up by the Commission is as shown in the table below:



**Table 5: Fuel Cost Approved by the Commission (Rs Crore)**

Particulars	Unit	FY 2007-08	FY 2008-09	FY 2009-10	FY 2007-08	FY 2008-09	FY 2009-10
		Petitioner			Trued Up		
Installed Capacity	MW	247.50	247.50	247.50	247.50	247.50	247.50
Gross Generation	MU	1027.51	954.98	448.71	1023.41	942.22	442.10
Coal Price	Rs/MT	1946.00	2084.00	2095.00	1902.89	1982.27	1962.91
Cost of Coal/ Lignite	Rs Crore	197.55	194.90	95.10	192.44	182.90	88.14
Cost of Coal/ Lignite (Delhi Share)	Rs Crore	136.76	137.70	70.39	131.65	125.70	63.43
<b>Secondary Fuel Oil Consumption</b>							
Cost of Secondary Fuel Oil	Rs Crore	26.26	28.88	14.00	26.16	27.83	13.26
Cost of Secondary Fuel Oil (Delhi Share)	Rs Crore	18.18	20.40	10.36	18.08	20.01	10.15
<b>Primary Fuel Cost (Coal/ Lignite) Delhi Share</b>	<b>Rs Crore</b>	<b>136.76</b>	<b>137.70</b>	<b>70.39</b>	<b>131.65</b>	<b>125.70</b>	<b>63.43</b>
<b>Secondary Fuel Cost (Delhi Share)</b>	<b>Rs Crore</b>	<b>18.18</b>	<b>20.40</b>	<b>10.36</b>	<b>18.08</b>	<b>20.01</b>	<b>10.15</b>
<b>Total</b>	<b>Rs Crore</b>	<b>154.94</b>	<b>158.10</b>	<b>80.75</b>	<b>149.73</b>	<b>145.72</b>	<b>73.59</b>
<b>Variable Cost</b>	<b>Rs/kWh</b>	<b>2.56</b>	<b>2.77</b>	<b>3.18</b>	<b>2.48</b>	<b>2.60</b>	<b>2.96</b>

## Fixed Charges

## Capital Expenditure

### Petitioner's Submissions

- 3.44 The Petitioner in its Petition has submitted that it had not proposed any capital addition plan in its MYT Petition for the first Control Period as the station was proposed to be closed down. Accordingly, the Commission did not approve any capital addition for the Control Period. The Petitioner in its current Petition has now submitted that it has incurred some expenditure on capital additions for I.P. Stations due to necessity for the smooth operation of the plant during MYT Control Period prior to closure of plant. The Petitioner has accordingly requested the Commission to approve the asset capitalisation as submitted by it and is as shown in the table below.



**Table 6: Asset Capitalisation as submitted by the Petitioner (Rs Lakh)**

<b>Asset Capitalisation</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>
Control & Instrumentation System	70.00	-	-
Squirrel Cage Induction Motor	16.00	-	-
3.6 KV 1250AMP SFS Circuit Breaker	13.00	-	-
100MVA Transformer	170.00	-	-
10/7.5 M VA Transformer	33.00	-	-
HQ Share	14.00	23.00	-
<b>Total</b>	<b>316.00</b>	<b>23.00</b>	<b>-</b>

### **Commission's Analysis**

- 3.45 The Commission has scrutinised the capital additions submitted by the Petitioner. The Petitioner has however, not submitted cost benefit analysis of capital additions done by it during the Control Period. The Commission therefore, provisionally allows the Capital additions done during the Control Period. Accordingly, the Commission approves the Capital additions of Rs 3.16 Crore for FY 2007-08 and Rs 0.23 Crore for FY 2008-09. **The Petitioner is directed to submit the cost benefit analysis of capital additions done by it during the first Control Period within a period of 3 months from the date of issue of this Order.**

## **Revision of O&M Expenses for FY 2007-08 to FY 2009-10**

### **Petitioner's Submissions**

- 3.46 The Petitioner in its Petition has submitted that the Commission through its Tariff Order dated August 26, 2011 had revised O&M expenses on account of revision of base O&M expenses and impact of Sixth pay Commission only for Rajghat Power House (RPH) and Gas Turbine Power Station (GTPS). The Petitioner further submitted that the Commission in the said Order had stated that since I.P. Station was decommissioned on December 31, 2009, generation tariff is not required to be determined for it and that the true up of all generating station including the I.P. Stations shall be done at the end of the extended Control Period.



- 3.47 The Petitioner has submitted that based on the principles already adopted by the Commission for revision of O&M expenses for RPH and GTPS, it has computed the O&M expenses for I.P. Station and is as shown below:

**Table 7: Revised O&M Expenses as submitted by the Petitioner (Rs. Crore)**

Particulars	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10#
Employee Expenses	26.66*	27.73	28.84	17.49
Repair & Maint. Expenses	20.16*	20.97	21.81	13.23
A & G Expenses	3.34*	3.47	3.61	2.19
Additional Impact of 6 Pay Commission	5.99**	6.23	6.48	3.93
Impact of Sixth Pay Commission from January 01, 2006 to March 31,2007				7.50
<b>Total Revised O &amp; M</b>	<b>56.15</b>	<b>58.40</b>	<b>60.74</b>	<b>44.34</b>

# Proportionate value for seven months of operation in FY 2009-10

\* Approved value of O&M expenses for FY 2006-07 vide its Order dated December 3, 2009.

\*\* Impact of Sixth Pay Commission for FY 2006-07 the same was not considered in the Order dated December 3, 2009.

- 3.48 The Petitioner has accordingly requested the Commission to true up the above O&M expenses for FY 2007-08 to FY 2009-10.

### **Commission's Analysis**

- 3.49 The Commission, in its MYT Order dated December 14, 2007, had projected the total O&M Expenses (employee expenses, A&G Expenses, R&M expenses) for the Control Period by escalating the base O&M Expenses, which were calculated as the average of the approved O&M expenses in the years FY 2005-06 and FY 2006-07. This approach was at variance with the approach followed by the Commission in case of the transmission and distribution licensees wherein the Commission had projected O&M expenses for FY 2007-08 to FY 2010-11 by considering the approved expenses for FY 2006-07 as the base.



- 3.50 The Commission has already conceded in Appeal No. 26 of 2008 in Hon'ble ATE to revise the base O&M expenses for the Petitioner to correct for the anomaly in the MYT Order and apply a common approach to all Utilities.
- 3.51 The Commission has revised the O&M expenses for RPH and GTPS for FY 2007-08 to FY 2010-11 in its Order dated August 26, 2011. However, as I.P. Station was shutdown in FY 2009-10, the Commission had ruled that the O&M expenses of I.P. Station for FY 2007-08 to FY 2009-10 shall be revised at the end of the extended Control Period.
- 3.52 The Commission, in this Order, has accordingly revised the O&M Expenses of I.P. Station for FY 2007-08 to FY 2009-10 in accordance with the approach followed by it for revising the O&M Expenses of RPH and GTPS for FY 2007-08 to FY 2010-11.

### **Revision of O&M Expenses for FY 2007-08 to FY 2009-10 for I.P. Station**

#### **Revision in Base O&M Expenses**

- 3.53 The Commission in its MYT Order dated December 14, 2007 had calculated the base year O&M expenses by taking the average of the approved O&M expenses for FY 2005-06 and FY 2006-07. However, the Commission had already conceded in Appeal No. 26 of 2008 in ATE to revise the base O&M expenses for the Petitioner by considering the base O&M expenses for FY 2006-07. Further, the Commission giving effect to the Hon'ble ATE's Judgment in Appeal No. 81 of 2007 had revised the actual O&M Expenses for FY 2006-07 for I.P. Station vide its letter dated December 3, 2009.
- 3.54 The revised approved O&M Expenses for FY 2007-08 to FY 2009-10 are given in the Table below:

**Table 8: Impact of revision in Base O&M Expenses (Rs. Crore)**

<b>Particulars</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>
Escalation factor	1.04	1.04	1.04
Base O&M expenses approved in MYT Order	37.97*		



Particulars	FY 2007-08	FY 2008-09	FY 2009-10
O&M expenses allowed by the Commission in MYT Order	39.48	47.98	45.02
Revised Base O&M expenses approved now	50.16**		
Revised O&M expenses approved now due to correction of Base O&M expenses	52.17	54.25	32.91#

*\*Base O&M Expenses taken equal to average of O&M Expenses of FY 2005-06 to FY 2006-07*

*\*\*Base O&M Expenses taken equal to approved O&M Expenses for FY 2006-07 (as approved through letter dated December 3, 2009).*

*# Approved for seven months*

- 3.55 The Employee Expenses, Repair & Maintenance (R&M) expenses, and Administrative & General (A&G) Expenses as approved in the MYT Order and as approved now after correcting the anomaly are shown in the Table below:

**Table 9: Revised O&M Expenses after Correction of Base expenses (Rs Crore)**

Particulars	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10
Approved in MYT Order				
Employee Cost	20.22	21.40	22.25	23.14
R&M Expenses	14.23	15.06	15.66	16.29
A&G Expenses	2.86	3.03	3.15	3.28
O&M Expenses	37.32	39.48	41.06	42.71
Approved Now				
Employee Cost	26.66	27.73	28.84	17.49#
R&M Expenses	20.16	20.97	21.81	13.23#
A&G Expenses	3.34	3.47	3.61	2.19#
O&M Expenses	50.16*	52.17	54.25	32.91#

*\*As approved through letter dated December 3, 2009*

*#Proportionate for seven months*



***Impact of 6th Pay Commission Recommendations on Employee Cost***

3.56 The Commission in its MYT Order had anticipated additional expenditure on account of wage revision expected due to implementation of recommendations of the 6th Pay Commission.

3.57 While approving employee cost for the first Control Period, in the MYT Order, the Commission had stated:

*“The Commission has recognised the uncontrollable nature of the 6th Pay Commission recommendations and has considered an increase of 10% in total Employee Expenses.*

*Since the arrears on account of revision of employee costs are expected to be paid only in FY09, the Commission has considered the same in tariffs from FY09 onward. The Commission shall true-up the impact on account of 6th Pay Commission recommendations based on the actual impact of the same”*

3.58 The actual impact of wage revision on employee cost of FY 2005-06 and FY 2006-07 has been submitted as Rs 0.89 Crore and Rs 3.54 Crore and thus the revised employee cost, including impact of wage revision, for FY 2005-06 and FY 2006-07 works out to be Rs 23.10 Crore and Rs 30.20 Crore.

3.59 For considering the impact of wage revision on employee cost for each year from FY 2007-08 to FY 2009-10, the revised employee expenses have been escalated by the relevant escalation factor to arrive at the employee expenses for each year of the Control Period from FY 2007-08 to FY 2009-10 as would have been done at the time of deciding the MYT tariff if the revised employee expense for FY 2006-07 had been known. The revised trajectory for employee expenses for FY 2007-08 to FY 2009-10 after revision in the base expenses is shown below:

**Table 10: Wage Revision on Employee Cost approved by the Commission (Rs Crore)**

Particulars	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10
Base Employee cost for FY 2006-07	30.20			



Particulars	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10
Escalation Factor		1.04	1.04	1.04
Employee Cost (Including 6th Pay Commission impact)		31.41	32.66	19.82*

\*Proportionate for seven months

- 3.60 Hence, the Commission has allowed additional amount for the FY 2007-08 to FY 2009-10 on account of revision of employee cost in the base year (FY 2006-07) as shown in the Table below:

**Table 11: Impact of Wage Revision on Employee Cost approved by the Commission (Rs. Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10*
Revised Employee Cost (excluding 6th Pay Commission impact)	27.73	28.84	17.49
Revised Employee Cost (including 6th Pay Commission impact)	31.41	32.66	19.82
<b>Additional Employee Cost allowed due to increase in Base Year Employee Cost due to Wage Revision</b>	<b>3.68</b>	<b>3.83</b>	<b>2.32</b>

\*Proportionate for seven months

- 3.61 Further, the Commission has also observed that while the increase in salaries due to wage revision was with retrospective effect from January 1, 2006, the implementation of wage revision recommendations also led to introduction/removal/increase of certain allowances such as HRA, TPA, CCA and Children Education Allowance (from FY 2008-09), LTC (from FY 2009-10). The Commission has added the amount paid on account of these “New Allowances” separately in the employee cost for FY 2008-09 and FY 2009-10.

**Table 12: Amount paid on account of ‘New Allowances’ (Rs Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
Amount Paid on Account of 'New Allowances' (Rs. Crore)		0.18	0.31





- 3.62 The total impact of wage revision, including amount allowed on account of 'New Allowances is as shown below.

**Table 13: Additional Amount allowed on Wage Revision (Rs Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
Additional Employee Cost allowed due to revision of Base Year Expenses	3.68	3.83	2.32
Amount allowed due to New Allowances	0.00	0.18	0.31
Additional Employee Cost allowed now on account of Wage Revision	3.68	4.01	2.63

- 3.63 The Commission while approving the employee cost in the MYT Order had expected the arrears on account of revision of employee costs to be paid in FY 2008-09 and had considered the payment of arrears in the total employee cost approved for FY 2008-09. Similarly, the increase in salaries had been considered for each year, but the impact of such increase had only been taken from FY 2008-09 onwards. Regarding the actual payment of arrears for the revision in salaries from FY 2007-08 to FY 2009-10, the Petitioner has submitted that:

- a) It started paying the interim relief to its employees w.e.f. April, 2008. The payment on account of revision in salaries due to wage revision was paid in the month of October, 2009. The Petitioner submitted that it had paid an interim relief of Rs 2.15 Crore in FY 2008-09 and the balance arrear of Rs 13.64 Crore was paid in FY 2009-10.

- 3.64 The Commission has considered the interim relief paid in FY 2008-09 as Rs 2.15 Crore with balance arrear of Rs 12.60 Crore as computed below paid in FY 2009-10.

**Table 14: Approved Arrears and Increase in Employee Cost (Rs. Cr)**

Particulars	FY 2005-06	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10
Extra Employee Cost allowed due to Wage Revision	0.89	3.54			
Extra Employee Cost allowed due to Revision of Base Year Expenses			3.68	3.83	2.32
Amount allowed due to New Allowances			0.00	0.18	0.31
Total	0.89	3.54	3.68	4.01	2.63
Accumulated Arrears Pay Out				2.15	12.60

**Table 15: Revised Employee Expenses for FY 2007-08 to FY 2009-10 (Rs. Cr)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
Employee Cost allowed in MYT Order	21.39	22.25	23.14
Revised Employee Expenses approved now (excluding impact of 6th Pay Commission)	27.73	28.84	17.49
Arrears approved now	0.00	2.15	12.60
Revised Employee Expenses	27.73	30.99	30.10

3.65 The total O&M expenses as approved by the Commission in the MYT Order and as approved now, in accordance with the revisions mentioned above are shown in the table below.

**Table 16: Total Revised O&M Expenses approved by the Commission (Rs. Cr)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
	<b>Approved in MYT Order</b>		
Employee Cost	21.39	22.25	23.14
R&M Expenses	15.06	15.66	16.29



Particulars	FY 2007-08	FY 2008-09	FY 2009-10
A&G Expenses	3.03	3.15	3.28
O&M Expenses	39.48	41.06	42.71
Impact of 6th Pay Commission	0.00	6.92	2.31
Total O&M Expenses	39.48	47.98	45.02
<b>Approved Now</b>			
Employee Cost	27.73	28.84	17.49
R&M Expenses	20.97	21.81	13.23
A&G Expenses	3.47	3.61	2.19
O&M Expenses	52.17	54.25	32.91
Impact of 6th Pay Commission	0.00	2.15	12.60
Total O&M Expenses	52.17	56.40	45.52

***Impact of 6th Pay Commission Recommendations on CISF Expenses***

**Petitioner's Submissions**

- 3.66 The Petitioner in its Petition did not separately submit the impact of sixth pay Commission's recommendations on CISF expenses. The Commission in its additional queries directed the Petitioner to submit the actual CISF expenses including the impact of sixth pay recommendations. The Petitioner in its reply submitted the actual expenses on account of CISF expenses as against that approved by the Commission in the MYT Order. The additional impact as submitted by the Petitioner on account of actual CISF expenses is as shown in the table below:

**Table 17: Additional Impact of Sixth Pay Commission on CISF expenses as submitted by the Petitioner (Rs.)**

Year	Approved	Actual	Additional Impact on account of sixth Pay Commission
FY 2006-07	1,56,28,431		
FY 2007-08	1,62,53,568	2,96,16,543	1,33,62,975
FY 2008-09	1,69,03,711	3,19,66,285	1,50,62,574
FY 2009-10	1,75,79,859	3,20,86,071	1,45,06,212



<b>Year</b>	<b>Approved</b>	<b>Actual</b>	<b>Additional Impact on account of sixth Pay Commission</b>
FY 2010-11		1,56,29,489	1,56,29,489
Total (Excluding FY 2006-07)	5,07,37,139	10,92,98,388	5,85,61,249

3.67 The Petitioner has accordingly requested the Commission to allow Rs 5.86 Crore as additional expenses towards CISF expenses.

### **Commission's Analysis**

3.68 The Commission has gone through the submissions made by the Petitioner. The Commission observes that I.P. Station was decommissioned on December 31, 2009, but the Petitioner has claimed additional CISF expenses for FY 2010-11 as Rs 1.56 Crore. The Commission is of the view that no cost can be allowed for FY 2010-11 as the plant has already been decommissioned in FY 2009-10. The Commission has therefore not allowed any additional expenses on account of CISF expenses for FY 2010-11. Further, the Petitioner for FY 2009-10 had claimed actual CISF expenses for the complete year of FY 2009-10 even though the plant got decommissioned on December 31, 2009. The Commission has accordingly allowed the impact for only nine months of FY 2009-10. The Commission has however, allowed impact of sixth pay Commission on CISF expenses till FY 2008-09 as submitted by the Petitioner.

3.69 Accordingly the total employee expenses approved for I.P. Station is shown in the table below:

**Table 18: Revised O&M Expenses as approved by the Commission (Rs. Cr)**

<b>Particulars</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>
Revised O&M Expenses Approved	52.17	56.40	45.52
Impact of 6th Pay Commission on CISF Expenses	1.34	1.51	1.09
Total O&M Expenses Trued Up	53.50	57.91	46.60



## **Depreciation**

### **Petitioner's Submissions**

- 3.70 The Petitioner has submitted that it has claimed depreciation based on straight line method on the original cost of the asset, estimated and residual life of assets. The Petitioner submitted that the depreciation rates considered are as notified in the DERC MYT Tariff Regulations, 2007 for the first Control Period.
- 3.71 The Petitioner has further submitted that as per DERC MYT Regulations, 2007 depreciation shall be allowed upto the value of 90% of the original cost of asset. The Petitioner has further submitted that I.P. Station was closed down with effect from December 31, 2009 and the cumulative depreciation allowed by the Commission upto the closure of the station does not cover the 90% of depreciation of the original cost of the asset. The Petitioner has claimed the balance depreciation for I.P. Station during FY 2007-08 to FY 2009-10. Depreciation claimed by the Petitioner is as shown in the table below.

**Table 19: Depreciation as submitted by the Petitioner (Rs Crore)**

<b>Particulars</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>
Additional Impact of truing-up	4.73	4.73	4.73
Allowed in the Tariff Order	5.88	5.88	3.43*
Total Depreciation	10.61	10.61	8.16

\*Proportionate for seven months

### **Commission's Analysis**

- 3.72 The Commission observed that the Petitioner has submitted an opening GFA of Rs 65.45 Crore as on April 01, 2007 as against the Commission approved GFA of Rs 69.57 Crore. The Commission in its additional queries directed the Petitioner to submit necessary justification for the same and the Petitioner in its reply submitted that it has considered the Opening GFA as reflected in its books of account. The Petitioner however, did not submit the necessary justification behind submitting a lower opening GFA from the value as approved by the Commission. The Commission has provisionally retained the value of opening GFA of Rs 69.57 Crore as approved by it in its MYT Order for first Control



Period, pending receipt of full justification and prudence check of the same.

3.73 Accordingly the year wise provisionally approved GFA is as shown in the table below:

**Table 20: Provisionally Approved GFA for I.P Station (Rs. Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
<b>Opening GFA</b>	69.57	72.73	72.96
Addition	3.16	0.23	0
<b>Closing GFA</b>	72.73	72.96	72.96

3.74 The Commission has further considered the impact of additional capitalisation while computing depreciation. However, with regards to the Petitioner's claim of balance depreciation to the extent of 90% of the GFA value, the Commission is of the view that the issue shall be dealt with once the assets of I.P. Stations gets disposed off. The Commission has therefore only allowed depreciation by applying depreciation rates as specified in the DERC MYT Regulations, 2007 on the opening GFA for the year and on assets added during the year. Accordingly, the depreciation as approved by the Commission in its MYT Order dated December 14, 2007, as requested by the Petitioner and that allowed by the Commission is as shown in the table below.

**Table 21: Depreciation as approved by the Commission (Rs Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10		
	MYT Order	Petitioner	Trued Up	MYT Order	Petitioner	Trued Up	MYT Order	Petitioner	Trued*
Depreciation	5.88	10.61	5.94	5.88	10.61	6.00	5.88	8.16	3.50

\*Proportionate for seven months

## **Return On Equity**

### **Petitioner's Submissions**

3.75 The Petitioner submitted that the Commission had approved an opening equity of Rs 1.20 Crore for I.P. Station as on April 01, 2007. The Petitioner has submitted that it has considered the same opening equity and has added 30% of capital expenditure incurred during the year in the opening equity to claim return on equity at 14%. The Petitioner has accordingly submitted the return on equity claimed by it and is shown in the table below.



**Table 22: Return on Equity as claimed by the Petitioner (Rs Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10*
Additional Impact of truing-up	0.06	0.14	0.08
Allowed in Tariff Order	0.17	0.17	0.10
Total Return on Equity Claimed	0.23	0.31	0.18

\*Proportionate for seven months

### Commission's Analysis

- 3.76 The Commission has gone through the submissions made by the Petitioner. The Petitioner has claimed RoE on average equity during the year in line with the DERC MYT Tariff Regulations, 2007. The Commission has also computed RoE at the rate of 14% on the basis of opening equity as approved by the Commission as on April 01, 2007 in its MYT Order for first Control Period and on the equity component of approved capital additions during the year. The following table shows the return on equity as approved by the Commission in the MYT Order dated December 14, 2007, as claimed by the Petitioner and that approved by the Commission.

**Table 23: Return on Equity as approved by the Commission (Rs Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10		
	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition*	Trued Up*
Equity (Opening Balance)	1.20	1.20	1.20	1.20	2.15	2.15	1.20	2.21	2.22
Additions	0.00	0.95	0.95	0.00	0.07	0.07	0.00	0.00	0.00
Equity (Closing Balance)	1.20	2.15	2.15	1.20	2.21	2.22	1.20	2.21	2.22
Average Equity	1.20	1.68	1.68	1.20	2.18	2.18	1.20	2.21	2.22
Rate of Return	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
<b>Return on Equity</b>	<b>0.17</b>	<b>0.23</b>	<b>0.23</b>	<b>0.17</b>	<b>0.31</b>	<b>0.31</b>	<b>0.17</b>	<b>0.18</b>	<b>0.18</b>

\*Proportionate for seven months of operation

### Interest on Loan

### Petitioner's Submissions

- 3.77 The Petitioner in its Petition has submitted that as per Delhi Electricity Reforms (Transfer



Scheme) Rules 2001, Rs 210 Crore of unsecured loan was transferred to IPGCL as on July 01, 2002 and was repayable to holding company. The Petitioner further submitted that the loan was allocated station wise based on the GFA of the stations and the loan transferred to I.P. Station was Rs 1.81 Crore.

- 3.78 The Petitioner submitted that in addition to that, plan funds loan from Delhi Government was taken @ 13% interest in FY 2002-03 and from FY 2003-04 and thereafter, the plan funds interest rate is @ 11.50%.
- 3.79 The Petitioner further submitted that it had made capital additions during the Control Period and the same has been funded through internal accruals and it has considered 70% of the capital additions to be funded through loans in line with the Regulations. Petitioner further submitted that it has considered interest rate of 11.50% as considered by the Commission in its previous Tariff Orders for computation of interest on normative loan.
- 3.80 The Petitioner has accordingly claimed interest expenses as shown in the table below and has requested the Commission to true up the same.

**Table 24: Interest Charges as claimed by the Petitioner (Rs Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10*
Additional Impact of truing-up	0.13	0.26	0.16
Allowed in Tariff Order	4.77	4.39	2.34
Total Interest Charges	4.90	4.65	2.48^

\* Proportionately for 7 months

^As submitted in the revised submissions

### **Commission's Analysis**

- 3.81 The Commission has gone through the submissions made by the Petitioner and computations submitted with regards to interest expenses. The Commission had already allowed interest expenses in the MYT Order dated December 14, 2007, however since the Commission had not approved any capital additions during the Control Period therefore no interest expenses on account of capital additions was approved. As the Commission has now approved additional capital additions during the Control Period, the Commission has allowed the impact of additional capital additions during the Control Period by considering 70% of the total additions to be funded through normative loan. The Commission has allowed interest on normative loan at the rate of 11.50% for FY 2007-08 to FY 2009-10. The following table shows the total interest expenses approved by the Commission in its MYT Order for first Control Period, as claimed by the Petitioner and





that approved by the Commission.

**Table 25: Interest Expenses as approved by the Commission (Rs. Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10		
	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition*	Trued Up*
Total Interest expenses	4.77	4.90	4.90	4.39	4.65	4.65	4.01	2.48^	2.48

\* Proportionately for 7 months

^As submitted in the revised submissions

## Interest on Working Capital (IoWC)

### Petitioner's Submissions

- 3.82 The Petitioner in its Petition has submitted that it has considered the impact of revision of O&M expenses as claimed by it in the Petition along with the impact on account of variation in other components such as return on equity, interest on loan, depreciation, fuel cost for truing up of interest on working capital. The Petitioner has further submitted that it has considered the rate of interest on working capital as approved by the Commission in its MYT Order dated December 14, 2007. The Petitioner has accordingly submitted the impact on working capital as shown in the table below.

**Table 26: Interest on Working Capital as requested by the Petitioner (Rs. Crore)**

Description	FY 2007-08	FY 2008-09	FY 2009-10*
Additional Impact on Working Capital	5.86	4.46	3.90
Rate of Interest	12.75%	12.75%	12.75%
Additional Impact on IoWC	0.75	0.57	0.29
Approved IoWC in MYT Order	7.46	8.05	4.82
Total Proposed Revised IoWC	8.21	8.62	5.11

\* Proportionately for 7 months

### Commission's Analysis

- 3.83 The Petitioner has computed increase in interest on working capital considering the impact of capital expenditure on depreciation, O&M expenses, interest on term loan and



return on equity and revision of Fuel Cost.

- 3.84 The Commission is of the view that it has already provided enough escalation on working capital and had accounted the increase in the working capital requirement while approving interest on working capital during MYT Order. The escalation of 4% provided by the Commission was applicable on the entire working capital requirement which includes receivables, O&M expenses, maintenance spares and fuel expenses. Hence, the Commission has not trued up the interest on working capital due to additional capital expenditure, revision in O&M expenses and increase in fuel cost.

### **Revenue Gap/Surplus**

- 3.85 The Commission based on the above analysis has determined the year wise revenue gap/surplus for I.P. Station as shown in the table below.

**Table 27: Approved Revenue Gap/Surplus for FY 2007-08 (Rs Crore)**

Particulars	Units	FY 2007-08				
		Approved Cost in MYT Order (A)	Actual Recovered (B)	Submitted by Petitioner (C)	Trued Up (D )	Surplus (+)/ Deficit (-) (B) -(D )
O&M Expenses	Rs Crore	39.48	39.48	58.40	53.50	-14.02
Depreciation	Rs Crore	5.88	5.88	10.61	5.99	-0.06
Advance Against Depreciation	Rs Crore	0.00	0.00	0.00	0.00	0.00
Interest on Loans	Rs Crore	4.77	4.77	4.90	4.90	-0.13
Return on Equity	Rs Crore	0.17	0.17	0.23	0.23	-0.07
Interest on Working Capital	Rs Crore	7.46	7.46	8.21	7.46	0.00
<b>Total Fixed Cost</b>	<b>Rs Crore</b>	<b>57.76</b>	<b>57.76</b>	<b>82.35</b>	<b>72.09</b>	<b>-14.27</b>
Variable Cost	Rs Crore	126.31	132.29*	154.94	149.73	-17.44
<b>Total</b>	<b>Rs Crore</b>	<b>184.07</b>	<b>190.05</b>	<b>237.29</b>	<b>221.76</b>	<b>-31.71</b>

\*Recovered by IPGCL including actual FPA Charges



**Table 28: Approved Revenue Gap/Surplus for FY 2008-09 (Rs Crore)**

Particulars	Units	FY 2008-09				
		Approved Cost in MYT Order (A)	Actual Recovered (B)	Submitted by Petitioner (C)	Trued Up (D)	Surplus (+)/ Deficit (-) (B) -(D)
O&M Expenses	Rs Crore	47.98	<b>62.98</b>	60.74	57.91	<b>-13.93</b>
Depreciation	Rs Crore	5.88		10.61	6.00	
Advance Against Depreciation	Rs Crore	0.00		0.00	0.00	
Interest on Loans	Rs Crore	4.39		4.65	4.65	
Return on Equity	Rs Crore	0.17		0.31	0.31	
Interest on Working Capital	Rs Crore	8.05		8.62	8.05	
<b>Total Fixed Cost</b>	<b>Rs Crore</b>	<b>66.47</b>		<b>84.93</b>	<b>76.91</b>	
Variable Cost	Rs Crore	120.62	138.31*	158.10	145.72	-7.41
<b>Total</b>	<b>Rs Crore</b>	<b>187.09</b>	<b>201.29</b>	<b>243.03</b>	<b>222.63</b>	<b>-21.33</b>

\*Recovered by IPGCL including actual FPA Charges

**Table 29: Approved Revenue Gap/Surplus for FY 2009-10 (Rs Crore)**

Particulars	Units	FY 2009-10				
		Approved Cost in MYT Order (A)	Actual Recovered (B)	Submitted by Petitioner (C)	Trued Up (D)	Surplus (+)/ Deficit (-) (B) -(D)
O&M Expenses	Rs Crore	26.26	<b>27.45</b>	44.34	46.60	<b>-30.13</b>
Depreciation	Rs Crore	3.43		8.16	3.50	
Advance Against Depreciation	Rs Crore	0.00		0.00	0.00	
Interest on Loans	Rs Crore	2.34		2.48	2.48	
Return on Equity	Rs Crore	0.10		0.18	0.18	
Interest on Working Capital	Rs Crore	4.82		5.11	4.82	
<b>Total Fixed Cost</b>	<b>Rs Crore</b>	<b>36.95</b>		<b>60.27</b>	<b>57.59</b>	
Variable Cost	Rs Crore	53.45	59.11*	80.76	73.59	-14.48
<b>Total</b>	<b>Rs Crore</b>	<b>90.40</b>	<b>86.56</b>	<b>141.03</b>	<b>131.17</b>	<b>-44.61</b>

\*Recovered by IPGCL including actual FPA Charges



- 3.86 The Commission has determined year wise surplus/deficit with respect to the approved values as shown above. However, as discussed earlier the same shall be allowed to be recovered once all the assets of I.P. Station are disposed off and the final amount of realisation from sale of assets including land gets firmed up.

**Carrying Cost Allowed on account of implementation of Hon'ble ATE Judgment in  
Appeal No. 81 of 2007**

**Petitioner's Submissions**

- 3.87 The Petitioner in its additional submission has submitted that it has raised revised energy bills on Delhi Transco Limited (DTL) for Rs 39.36 Crore for FY 2006-07 on January 18, 2010 in accordance with the Commission's Order for implementation of ATE Order in Appeal No. 81 of 2007. The Petitioner has requested that carrying cost on the same be allowed to it.

**Commission's Analysis**

- 3.88 The Commission had approved the ARR for the Petitioner for FY 2006-07 vide its Order dated September 22, 2006. The Petitioner filed an Appeal No. 81 of 2007 with the Hon'ble ATE against this Order. The Hon'ble ATE has given its Judgement in this Appeal dated January 10, 2008. In compliance with the same, the Commission vide its letter dated December 3, 2009, has allowed an excess amount of Rs 12.84 Crore to the Petitioner on account of O&M expenses and also revised the variable cost for FY 2006-07 from Rs 2.0947/kWh to Rs 2.5482/kWh. The total impact of which comes to Rs 39.36 Crore.
- 3.89 Since the original amount has already been allowed, the same need not be included here however, the carrying cost on the amount is recoverable.
- 3.90 The Petitioner with regards to the carrying cost on the amount, has submitted that it had raised the revised bill for FY 2006-07 on DTL in the month of January 2010 (in accordance with the Commission's Order dated December 3, 2009). Accordingly, the Petitioner is eligible for claiming carrying cost on this amount in its ARR only up to the date the Order of



the Commission was given effect to, i.e. January 2010. The Petitioner may claim the surcharge/carrying cost, post January 2010 from the DTL for non payment of dues in accordance with the commercial arrangement between them.

- 3.91 In view of the above, the carrying cost on this amount has been allowed from FY 2006-07 upto January 2010 @ 11.50% p.a. i.e. the GNCTD lending rate to the Petitioner during the period.

**Table 30: Carrying Cost for Additional Cost for FY 2006-07 (Rs Crore)**

Particulars	Units	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10	Total Carrying Cost
Opening (Deficit)/Surplus	Rs Crore	0.00	-41.62	-46.41	-51.75	<b>-17.35</b>
Addition (Deficit)/Surplus	Rs Crore	-39.36	0.00	0.00	0.00	
Interest Rate	%	11.50%	11.50%	11.50%	11.50%	
<b>Carrying Cost</b>	<b>Rs Crore</b>	<b>-2.26</b>	<b>-4.79</b>	<b>-5.34</b>	<b>-4.96</b>	
Closing (Deficit)/Surplus	Rs Crore	-41.62	-46.41	-51.75	-56.71	

- 3.92 However, as discussed earlier the same shall be allowed to be recovered once all the assets of I.P. Station are disposed off and the final amount of realisation from sale of assets including land gets firmed up.
- 3.93 **The Petitioner is directed to inform the Commission once the I.P Station is completely disposed off and submit the details of assets disposed off along with salvage value realised on account of sale of assets.**

#### **Net impact of truing up with Carrying Cost**

- 3.94 The Commission has determined year wise surplus/gap with respect to the approved values as shown above. The Commission has computed the total surplus/gap with carrying cost as shown in the table below.

**Table 31: Net Surplus/(Deficit) Carrying Cost (Rs Crore)**

Particulars	Units	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	Total Surplus/( Deficit)
Opening	Rs Crore		0.00	-33.54	-59.95	-114.02	-127.14	-141.76	
Addition (Deficit)/Surplus	Rs Crore		-31.71	-21.33	-44.61				<b>-97.66</b>
Interest Rate	%		11.50%	11.50%	11.50%	11.50%	11.50%	11.50%	
<b>Carrying Cost</b>	Rs Crore		<b>-1.82</b>	<b>-5.08</b>	<b>-9.46</b>	<b>-13.11</b>	<b>-14.62</b>	<b>-16.30</b>	<b>-60.40</b>
Closing	Rs Crore		-33.54	-59.95	-114.02	-127.14	-141.76	-158.06	-158.06
Carrying Cost of the Implementation of Hon'ble ATE Judgment in Appeal No. 81 of 2007	Rs Crore	-2.26	-4.79	-5.34	-4.96				-17.35
<b>Total</b>	Rs Crore								<b>-175.41</b>

- 3.95 However, as discussed earlier the same shall be allowed to be recovered once all the assets of I.P. Station are disposed off and the final amount of realisation from sale of assets including land gets firmed up.



## **Rajghat Power House (RPH)**

### **Norms of Operation**

#### **Availability**

##### **Petitioner's Submissions**

- 3.96 The Petitioner in its Petition has submitted that RPH has achieved the target availability of 70% fixed by the Commission for all the years of the Control Period except for FY 2009-10. The Petitioner on non achievement of target availability in FY 2009-10 has submitted that the planned shutdown of both the units of RPH was deferred in the interest of the consumers of Delhi by Commission and Commercial Sub Committee of DGCC.
- 3.97 The Petitioner further submitted that the scheduled shutdown of Unit No. 2 was deferred for 126 days and Unit No. 1 for 290 days and therefore the plant during FY 2009-10 was operated below optimum level leading to reduced availability. The Petitioner further submitted that subsequently, at the request of IPGCL the Commission has already allowed the recovery of full fixed cost at the actual availability achieved by the station for FY 2009-10 through letter dated April 05, 2011.
- 3.98 The Petitioner has accordingly requested the Commission to approve recovery of full fixed charges for FY 2009-10 based on the actual availability achieved by the Petitioner. The actual availability achieved by RPH during the Control Period and as submitted by the Petitioner is as shown below.

**Table 32: Actual Availability achieved by RPH as submitted by Petitioner**

<b>Generating Station</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Rajghat Power House	73.50%	71.89%	54.64%	75.98%	68.37%

##### **Commission's Analysis**

- 3.99 The Commission has gone through the submissions of the Petitioner and the actual availability achieved by RPH. The Commission in its additional queries directed the Petitioner to submit SLDC certified yearly availability for RPH during the Control



Period. The Petitioner in its reply submitted the station availability certified by SLDC.

- 3.100 The Commission observed that apart from FY 2009-10 the availability of RPH station was also lower than the target availability in FY 2011-12. The Petitioner has not submitted any justification for lower availability achieved for FY 2011-12. The Commission has proportionately reduced the recovery of fixed charges for FY 2011-12.
- 3.101 As far as FY 2009-10 is concerned the Commission in the interest of consumers of Delhi had deferred the planned shutdown of RPH and therefore the Commission allows recovery of full fixed charges for FY 2009-10 at actual availability of 54.64% achieved during that year. The following table shows the availability approved by the Commission for FY 2007-08 to FY 2011-12.

**Table 33: Availability approved by the Commission (%)**

<b>Description</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Availability Approved in MYT Order	70.00%	70.00%	70.00%	70.00%	70.00%
Actual Availability Submitted by Petitioner	73.50%	71.89%	54.64%	75.98%	68.37%
Availability Approved for Recovery of Full Fixed	70.00%	70.00%	54.64%	70.00%	70.00%

## **Station Heat Rate (SHR)**

### **Petitioner's Submission**

- 3.102 The Petitioner has submitted that the Commission had approved SHR of 3200 kCal/kWh which is below than the level achievable by the station. The Petitioner has further submitted that CEA has recognized that the operation efficiency or heat rate and other performance parameters of a Thermal Power Station depends on a number of factors which can be broadly classified as under.



- i. Technology and equipment
- ii. Ambient Conditions
- iii. Fuel Quality
- iv. Plant operation and maintenance practices.
- v. Unit Sizes

3.103 The Petitioner further submitted that the station was commissioned in the year 1989-90 and the station is around 22 years old and is proposed to be closed down in the near future due to environmental concerns. The Petitioner submitted that no major R&M activities are being carried out and only need based maintenance is being done which is also affecting the station heat rate.

3.104 The Petitioner submitted that the Appellate Tribunal for Electricity has recognized the requirement of relaxed norms for stations which are under closure. The Petitioner further submitted that Hon'ble ATE has already upheld the need for relaxed heat rate & auxiliary power consumption in its Judgment dated April 07, 2011 in Appeal No. 26 of 2008 for I.P. station which was proposed to be closed down at that time. The Petitioner has reproduced the following excerpts of the Judgment.

*"33.As regards station heat rate and auxiliary consumption for the I.P. Station, in view of decision to close down the station and our findings on relaxation of availability norms, we feel there is a case to relax norms by the State Commission in exercise of its power to relax under its Regulations."*

3.105 The Petitioner has further submitted that, the Performance Test to determine the Station Heat Rate of the Units was conducted by M/s CenPEEP. NTPC Limited as per the instruction of Hon'ble Commission.

3.106 The Petitioner submitted that the test heat rate is 3050 kCal/kWh for Unit 1 and 3220 kCal/kWh for Unit 2 under the test conditions. The average station heat rate works out to 3135kCal/kWh in the test conditions. It is mentioned in the report that the average Heat Rate for the Units would be higher than the Test Heat rate on account of following conditions:

- a) Parametric deviations (e .g. steam pressure & temperatures)



- b) Variation in coal quality
- c) Operation of soot blowers, Water/steam leakages, CBD/IBD operation
- d) Partial loading, unit startups/ shutdowns
- e) Changes in ambient operating conditions (Ambient temp & Cooling Water inlet temp)
- f) Deterioration in equipment performance between an overhaul to next overhaul

The Petitioner further submitted a copy of CenPEEP report in respect of performance of RPH.

3.107 The Petitioner has further submitted that in the matter of truing up for Maharashtra State Power Generation Company Ltd. (MSPGCL) generating station for FY 2005-06 to FY 2007-08 on the basis of Hon'ble ATE's Judgment in Appeal No. 86 and 87 of 2007 and CPRI Report and provisional truing up for FY 2008-09 following observations were made by Maharashtra Electricity Regulatory Commission (MERC) on the Overall Annual Unit heat rate computations.

*"In the present study the annual heat rate is computed as follows:*

- i. *The test performance at the normal operating conditions with zero make up is computed for each unit.*
- ii. *Heat consumption translated into a heat rate component due to steam consumption for non-motive applications which is reflected in terms of DM water make up.*
- iii. *Heat consumption translated into a heat rate component due to cycling or abnormal operations like hot, warm and cold starts. This takes into consideration both the energy consumption per start and the number of such starts per year.*
- iv. *Heat consumption translated into heat rate components due to deviation in test parameters all through the year (positive and negative deviations).*
- v. *Energy components to account for reject coal at the mill. This is because the coal entering the bunker is considered as entering coal and GCV of the bunkered coal is taken. The component due to mill ejects is to be subtracted.*
- vi. *Accounting of heat loss in piping in between boiler and turbine*



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*The unit heat consumption is computed considering all the above which portrays the realistic heat consumption vis-à-vis the energy generated. The station heat rate is computed as the capacity weighted average of the unit heat rates."*

- 3.108 The Petitioner further submitted that the Hon'ble Commission in its Order dated August 26, 2011 has analysed the report prepared by CenPEEP, NTPC for performance test of the units of RPH. The Petitioner submitted that the as per the report station heat rate achieved by the Unit 1 and Unit 2 of the Rajghat Power House was 3049.8 kCal/kWh and 3220.1 kCal/kWh.
- 3.109 The Petitioner further submitted that the Hon'ble Commission has observed from the report that boiler efficiency of Unit 2 was lower on account of high moisture in fuel and loss due to carbon mono oxide, which are temporary phenomena due to improper burning of coal. Therefore, Commission has considered the heat rate of the Unit 2 at the same level of Unit 1 i.e 3049.8 kCal/kWh.
- 3.110 The Petitioner further submitted that the Hon'ble Commission has applied a margin of 5% only on site operating conditions on 3049.8 kCal/kWh and accordingly approved the station heat rate to 3200 kCal/kWh.
- 3.111 The Petitioner further submitted that the Hon'ble Commission has considered the margin of 5% instead of 6.5% as specified for the coal/ lignite based stations in the CERC Tariff Regulations. The Petitioner submitted that even the Hon'ble Commission in its DERC MYT Tariff Regulations, 2011 has also considered the margin of 6.5% for coal based thermal generating stations. Applying the margin of 6.5% at the unit heat rate of 3049.8kCal/kWh in the present case, the station heat rate would work out to 3248 kCal/kWh. The Petitioner accordingly has requested the Commission to allow at least the station heat rate at 3248 kCal/ kWh for the RPH station.

#### **Deferment of shut down during FY 2009-10**

- 3.112 The Petitioner in this regards submitted that the overhauling of Rajghat Power House was deferred during FY 2009-10, the planned shutdown of Unit 2 was deferred from 10.05.2009-30.06.2009 to 15.09.2009-31.10.2009 and the Unit 2 was taken for planned shutdown on September 12, 2009.

- 3.113 The Petitioner further submitted that planned shutdown of Unit 1 was deferred from 01.07.2009-20.08.2009 to 10.11.2009-25.12.2009 which was further deferred from 10.11.2009 to mid February of 2010 as per the decision taken at the meeting by Secretary (Power), GNCTD on November 11, 2009 owing to precarious power scenario in Delhi State. The Petitioner submitted that the Unit 1 was finally taken for planned shut down on April 17, 2010.
- 3.114 The Petitioner submitted that due to deferment of planned shutdown of its units, the station was operated on part load basis which resulted into lower availability, higher station heat rate as well as higher auxiliary power consumption. The Petitioner accordingly submitted that the deferment of planned shutdown has resulted into under recovery of Fixed Cost, loss on account of higher heat rate as well as auxiliary power consumption which has severely affected the cash flow of the company.
- 3.115 The Petitioner further submitted that the Commission has agreed to compensate IPGCL for postponement of planned shutdown and has already allowed the recovery of fixed cost on actual availability for FY 2009-10. The Petitioner further submitted that it may be appreciated that lower availability has resulted into higher heat rate as well as auxiliary power consumption.
- 3.116 The Petitioner has submitted that even CEA has recommended to allow the additional heat rate with lowering of PLF on gradient basis. For every decrease in PLF by 1%, heat rate of the station be increased by a factor of kCal/kWh, the PLF achieved by the station for FY 2009-10 was 54.64% which is around 16% lower than the normative parameter. The Petitioner submitted that the station heat rate for FY 2009-10 was 3849 kCal/kWh which is around 20% higher than the normative heat rate which indicates that around 16% of fuel cost is not recoverable on the reasons beyond the control of Petitioner. The Petitioner further submitted that the actual fuel cost for FY 2009-10 was Rs 150.29 Crore whereas that recovered through tariff was Rs. 125.31 Crore.
- 3.117 The Petitioner has accordingly requested the Commission to true-up and allow the actual heat rate for Rajghat Power House for FY 2007-08 to FY 2011-12 as shown in the table below.



**Table 34: Actual Heat Rate as submitted by the Petitioner (kCal/kWh)**

<b>Description</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Rajghat Power House	3227	3304	3849	3279	3175

### **Commission's Analysis**

3.118 The Commission has gone through the submissions of the Petitioner and actual heat rate submitted. The Petitioner has submitted that the Commission had approved SHR of 3200 kCal/kWh for the station which is below than the level achievable by the station, however, the Petitioner has itself submitted the heat rate achieved during FY 2011-12 was 3175 kCal/kWh which is considerably below the target SHR approved by the Commission. Therefore, the Petitioner's contention that the plant cannot achieve heat rate of 3200 kCal/kWh because of plant age and site conditions has no merit. Further, Hon'ble ATE in its Judgment on Appeal No. 81 of 2007 has observed as follows.

*"13) For the RPH station the appellant has actually been able to achieve the given target of station heat rate. While target was 3200 Kcal/kWh the appellant has been able to achieve 3167 Kcal/kWh."*

3.119 Hon'ble ATE accordingly rejected the need for any revision in heat rate for RPH its above Judgment. Even for the first Control Period the Petitioner has been able to achieve the target SHR in FY 2011-12. Hence the Commission retains the SHR of the station as 3200 kCal/kWh for FY 2007-08, FY 2008-09, FY 2010-11 and FY 2011-12.

3.120 With regards to FY 2009-10 the Petitioner has submitted that the planned shutdown was deferred for Unit 1 and Unit 2 in the interest of the consumers of Delhi by the Commission and Commercial Sub Committee of DGCC. The Petitioner further submitted that the scheduled shutdown of Unit No. 2 was deferred for 126 days and Unit No. 1 for 290 days and therefore the plant during FY 2009-10 was operated at part load basis which resulted in lower availability, higher SHR and higher auxiliary power consumption.

- 3.121 The Commission observes that the Petitioner in its submission has tried to co-relate PLF with achievable SHR. The Petitioner has submitted that the PLF in FY 2009-10 was only 54.64% which is around 16% lower than the normative parameter and the heat rate achieved of 3849 kCal/kWh is 20% higher than the normative SHR of 3200 kCal/kWh.
- 3.122 The Commission is of the view that though there is a direct co-relation between PLF and SHR, the same cannot be a linear one as has been submitted by the Petitioner. The Commission feels that 16% reduction in PLF cannot result in SHR getting degraded by 20%. The Commission however, accepts that it agreed to allow the impact of deferment of planned shutdown to the Petitioner however, any such increase should be justified as the same has to be recovered from the consumers of Delhi.
- 3.123 Further, the Commission would also like to point out that the Petitioner had achieved the lowest SHR during the Control Period of 3175 kcal/kWh at a PLF of 68.15% in FY 2011-12 whereas, it managed to achieve SHR of 3304kcal/kWh at a PLF of 71.89% in FY 2008-09. The Commission is therefore not sure about the exact impact of lower PLF on the SHR.
- 3.124 The Commission accordingly directed the Petitioner to justify an increase of 20% in the heat rate with supporting documents substantiating such increase. The Petitioner in its reply did not submit any documentary evidence substantiating such increase in station heat rate.
- 3.125 The Commission also directed the Petitioner to submit the daily generation data for the station for FY 2009-10. The Petitioner in its reply submitted the daily generation data. The Commission has gone through the same. The generation data suggests that the Station as a whole was being operated at partial load for most of the period during FY 2009-10.
- 3.126 However, as the Petitioner did not submit the design curves for the station therefore, the Commission is not in a position to determine the impact on heat rate on account of lower PLF. The Commission has therefore retained the normative heat rate of 3200 kCal/kWh for FY 2009-10. The Commission may however, approve the impact on heat rate due to deferred shutdown once the design curves are furnished by the Petitioner.



3.127 The following table shows the actual SHR submitted by the Petitioner and that approved by the Commission with respect to target SHR of 3200 kCal/kWh.

**Table 35: Station Heat Rate as approved by the Commission (kCal/kWh)**

Particulars	FY 2007-08		FY 2008-09		FY 2009-10		FY 2010-11		FY 2011-12	
	Petitioner	Trued -Up	Petitioner	Trued -Up	Petitioner	Trued -Up	Petitioner	Trued -Up	Petitioner	Trued -Up
Station Heat Rate	3227	3200	3304	3200	3849	3200	3279	3200	3175	3200

## **Auxiliary Power Consumption**

### **Petitioner's Submissions**

3.128 The Petitioner in its Petition has submitted that the Commission for the first Control Period has fixed the norm of 11.28% for the auxiliary power consumption of the station. However, the auxiliary power consumption achieved by the station as submitted by the Petitioner is as shown in the table below.

**Table 36: Actual Auxiliary Power Consumption of RPH as submitted by the Petitioner (%)**

Description	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Rajghat Power House	13.01%	13.78%	14.43%	12.25%	13.34%

3.129 The Petitioner has submitted that the Commission has fixed target APC of 11.28% which is much below what can be practically achieved by the station. The Petitioner in this regards has further submitted that the CEA in its report dated December, 2004 on "Technical Standard on Operation Norms for Coal/Lignite fired Thermal Power Station had recommended APC of 12% for smaller size units with cooling tower.

3.130 The Petitioner has further submitted that CERC in its Regulation 26(iv) (b) of CERC Tariff Regulations, 2009 has approved an auxiliary consumption of 12% for Tanda TPS having four 110 MW units. Further, in case of RPH the Commission has already





approved an APC of 12% for FY 2006-07.

- 3.131 The Petitioner has further submitted that the overhauling of both the units of RPH were deferred in FY 2009-10 as already mentioned in the preceding paragraphs which has resulted into lower availability, loss on account of higher heat rate as well as auxiliary power consumption. The Petitioner further submitted that the Commission has already agreed to compensate IPGCL for postponement of planned shutdown. Further, the Commission has already allowed the recovery of full fixed cost at the actual achieved availability of the station for the period. The Petitioner has accordingly requested the Commission to consider and also allow the actual APC for FY 2009-10.
- 3.132 The Petitioner has further submitted that the Unit 2 of the station was taken for overhauling in FY 2009-10 and Unit 1 was taken for overhauling in FY 2010-11. The APC has reduced in FY 2010-11 as compared to the last three years.
- 3.133 The Petitioner with regards to Unit 1 submitted that the Boiler tubes at corners 1-4 and 2-3 were prone to frequent tube leakages. Most of these tubes were replaced during the overhauling however, remaining tubes were weaker and cannot sustain rated pressure. Therefore, in order to avoid frequent leakages and boiler shut down, pressure had been maintained around 75% of the rated pressure during FY 2011-12. Accordingly, the load of Unit 1 was restricted to 55 MW. The reduced load of the machine has resulted in increase heat rate and auxiliary power consumption.
- 3.134 The Petitioner has further submitted that the station is proposed to be closed down in near future, in view of the proposed closure, no major repair and maintenance work including replacement of boiler tubes was carried out. Further, the Petitioner submitted that Hon'ble ATE has recognised the requirement of relaxed norms for stations which are under closure. Further the Hon'ble ATE has already upheld in its Judgment dated April 07, 2011 in Appeal No. 26 of 2008, the need for relaxed heat rate and auxiliary power consumption for I.P. Station of the company which was proposed to be closed at that time. The Petitioner has reproduced the statement from the Judgment as under:

*"33.As regards station heat rate and auxiliary consumption for the I.P. Station, in view of decision to close down the station and our findings on relaxation of*





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*availability norms, we feel there is a case to relax norms by the State Commission in exercise of its power to relax under its Regulations."*

- 3.135 The Petitioner has accordingly requested the Commission to true up the actual auxiliary power consumption as achieved by the station for the Control Period from FY 2007-08 to FY 2011-12.

### **Commission's Analysis**

- 3.136 The Commission has gone through the submissions of the Petitioner and observes that the Petitioner has not been able to achieve the target auxiliary consumption in any year of the Control Period. As per the submissions of the Petitioner the major reason for increase in auxiliary consumption during the Control Period is on account of partial loading of the plant.

- 3.137 Hon'ble ATE in its Judgment in Appeal No. 26 of 2008 has already stated as follows:

*"36. In view of above, we do not find any reason to interfere with the findings of the State Commission with respect to station heat rate for Indraprastha Gas Station and auxiliary consumption for Rajghat Power Station."*

- 3.138 The Commission therefore, retains the normative auxiliary consumption of 11.28% as per DERC MYT Tariff Regulations, 2007 for FY 2007-08, FY 2008-09, FY 2010-11 and FY 2011-12.

- 3.139 With regards to APC during FY 2009-10, the Petitioner has submitted that both of its units were deferred for shutdown resulting into higher auxiliary consumption due to partial load operation.

- 3.140 The Commission in this regard agrees that the impact of deferred shutdown should be given to the Petitioner. The Commission accordingly directed the Petitioner to justify an APC of 14.43%, an increase of 3.15% over the normative value of 11.28% with supporting documents substantiating such increase. The Petitioner in its reply has not submitted any documentary evidence substantiating the impact.



- 3.141 The Commission also directed the Petitioner to submit the daily generation data for the station for FY 2009-10. The Petitioner in its reply submitted the daily generation data. The Commission has gone through the same and agrees that the station as a whole was operated at partial loads.
- 3.142 The Commission in absence of any scientific basis for approving the APC has therefore adopted the following methodology for truing up of APC for FY 2009-10. To gauge the actual impact of deferred shutdown the average of actual auxiliary consumption for FY 2007-08, FY 2008-09, FY 2010-11 and FY 2011-12 was worked out as 13.095%. The value so obtained indicates the actual level of APC of the plant during the Control Period. This value was deducted from the actual APC for FY 2009-10 of 14.43% which works out to 1.34%. The value of 1.34% indicates the impact of the deferment of shutdown and therefore the same was added to the normative APC to derive at the allowable relaxed APC of 12.62% for FY 2009-10.

**Table 37: Approved Auxiliary Consumption for the Control Period**

<b>Particulars</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Auxiliary Power Consumption	13.01%	13.78%	14.43%	12.25%	13.34%
Average Aux Consumption during Control Period except FY 2009-10 (A)	13.095%				
Increase in Aux Consumption in FY 2009-10 over and above average Aux Consumption B=(14.43%-A)	1.34%				
Normative Auxiliary Consumption Approved (C)	11.28%				
Approved Aux Consumption for FY 2009-10 (B)+(C)	12.62%				
Approved Aux Consumption	11.28%	11.28%	12.62%	11.28%	11.28%

- 3.143 However, upon receipt of satisfactory documentary evidence the Commission in future may revise the Auxiliary Consumption and allow the impact accordingly.

**Revision in Fuel Cost on Account of Relaxation of norms of operation for FY 2009-10**

- 3.144 As discussed above the Commission has revised the APC for FY 2009-10 on account of deferred shutdown. The Commission has accordingly computed the impact on the total fuel cost due to increase in the APC of the plant. The Petitioner in its Petition had submitted the coal price of Rs 2123/MT. The Commission in its additional queries directed the Petitioner to submit the transit loss considered by it while computing the net landed coal price. The Petitioner in its reply submitted that the actual transit loss considered by it for FY 2009-10 was 5.57%. The Commission has therefore recomputed the coal price by considering the normative transit loss of 0.80% as Rs 2027/MT.
- 3.145 The Commission has computed the additional impact by considering coal cost of Rs 2027/MT and GCV of 3729kCal/kg for FY 2009-10. The following table shows the computation done for computing extra fuel cost on account of revision of APC.

**Table 38: Additional Fuel Cost approved by the Commission due to relaxation of APC (Rs Crore)**

Particulars	Units	FY 2009-10	
		Revised APC	Normative APC
Installed Capacity	MW	135.00	135.00
Net Scheduled Generation (SLDC)	MU	565.05	565.05
Aux Consumption	%	12.62%	11.28%
Gross Generation	MU	646.66	636.89
Station Heat Rate	kCal/kWh	3200	3200
Total Heat Requirement	MkCal	2069306	2038052
<b>Secondary Fuel - LDO</b>			
Specific oil Consumption	ml/kWh	1.50	1.50
LDO Consumed	kL	970	955
Cost of LDO	Rs. Crore	2.76	2.72
<b>Secondary Fuel - LSHS</b>			
Specific oil Consumption	gm/kWh	3.75	3.75
LSHS Consumed	kg	2424.97	2388.34
Total Cost of LSHS	Rs Crore	6.49	6.39



Particulars	Units	FY 2009-10	
		Revised APC	Normative APC
<b>Total Cost for Secondary oil</b>	<b>Rs Crore</b>	<b>9.25</b>	<b>9.11</b>
<b>Total Heat Contribution from Sec Oil</b>	<b>MkCal</b>	<b>33771.08</b>	<b>33261.01</b>
<b>Primary Fuel - Coal</b>			
GCV of Coal	kCal/kg	3729	3729
Heat Contribution to be met from Coal	MkCal	20,35,535	20,04,791
Gross Quantity of Coal required	MT	5,45,866	5,37,622
Price of Coal	Rs./MT	2027	2027
Cost of Coal	Rs. Crore	110.65	108.98
<b>Total Fuel Cost</b>	<b>Rs Crore</b>	<b>119.90</b>	<b>118.08</b>
<b>Variable Cost</b>	<b>Rs /kWh</b>	<b>2.12</b>	<b>2.09</b>
Excess Variable Cost to be allowed	Rs/kWh	0.03	
<b>Total Extra Variable Cost Recovery</b>	<b>Rs Crore</b>	<b>1.81</b>	

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**Fixed Charges**

**Capital Expenditure**

**Petitioner's Submissions**

- 3.146 The Petitioner in its Petition has submitted that the Commission has approved the capital additions during the MYT Control Period from FY 2007-08 to FY 2011-12 for RPH. The Petitioner further submitted that the details of the approved scheme have not been submitted in the Petition to avoid repetition. However, the Petitioner submitted a summary of additional capital expenditure as incurred during the first Control Period. The Petitioner further submitted that some of the schemes which were earlier approved under the capital expenditure scheme by the Commission have been accounted under the head R&M as per the advice of statutory auditors to comply with the accounting standards. The Petitioner further submitted that the Commission in its Tariff Order dated July 13, 2012 was of the view to consider such approved capital expenditure under the capital additions and not under R&M expenditure. The Petitioner in its Petition has reproduced the relevant extract of the Tariff Order as under:

*"4.60 The Commission is of the view that since the amount claimed has already been allowed to the Petitioner as capital expenditure (along with the financing cost and depreciation) for the respective years, the same cannot be claimed as Repair and Maintenance Expenses as well. The same shall be treated as a part of capital expenditure for IPGCL at the time of truing up for the respective years."*

*"5.64 The Commission is of the view that since the amount claimed has already been allowed to the Petitioner as capital expenditure (along with the financing cost and depreciation) for the respective years, the same cannot be claimed as Repair and Maintenance Expenses as well. The same shall be treated as a part of capital expenditure for IPGCL at the time of truing up for the respective years."*

- 3.147 The Petitioner has accordingly submitted that the expenditure booked on account of capital expenditure schemes under the head repair and maintenance expenditure is considered under capital additions for necessary computations.
- 3.148 The Petitioner submitted that the capital additions on ABT meters and Fire Tender approved for RPH by the Commission have been booked under GTPS due to proposed closure of RPH. The Petitioner has submitted the following Capitalisation of assets during



the first Control Period.

**Table 39: Asset Capitalisation as submitted by the Petitioner (Rs Crore)**

<b>Capital Expenditure</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Cooling Towers	0.28				
Electronic Governor	1.15				
Fire tender					
HQ Share	0.08	0.13	0.11	0.09	
ESCORTS MODEL F-15,14MT CAPA Hydraulic Crane			0.19		
ERP Software			0.84		
Computers (ERP)			0.27		
Weighing Bridge					0.07
Schemes Approved under capex but Booked under Accounting Head- Repair & Maintenance	0.80	2.01	2.34	4.39	0.21
<b>Total</b>	<b>2.31</b>	<b>2.14</b>	<b>3.75</b>	<b>4.48</b>	<b>0.27</b>

### **Commission's Analysis**

- 3.149 The Commission has scrutinised the capital additions submitted by the Petitioner. The Commission observed that Statutory Auditor/CAG had asked the Petitioner to consider some of the expenses that the Petitioner had made towards R&M expenses which were in the plan submitted as capital expenditure to the Commission. The Commission therefore, deems it appropriate not to consider such expenses as a part of Capital Additions and is of the view that such expenses should be financed from the R&M expenses already allowed by the Commission on normative basis. The Commission has therefore, not considered these expenses under capital additions.
- 3.150 The Commission further observed that in FY 2010-11 the Petitioner has included an excess amount of Rs 0.07 Crore in headquarters' (HQ) share which was being reflected in the books of account as adjustments. The Commission has apportioned this amount to RPH and GTPS in the ratio of 1:2 and has accordingly deducted an amount of Rs 0.02 Crore from the RPH HQ's share.
- 3.151 The Commission with respect to other capital additions directed Petitioner to submit the



cost benefit analysis for capital additions done during the Control Period which the Petitioner is yet to submit. The Commission therefore provisionally approves the Capital additions of Rs 1.51 Crore, Rs 0.13 Crore, Rs 1.41 Crore, Rs 0.07 Crore and Rs 0.07 Crore for FY 2007-08, FY 2008-09, FY 2009-10, FY 2010-11 and FY 2011-12 respectively. The same shall be finally trued up once the cost benefit analysis for the capital additions are submitted to the Commission. **The Petitioner is directed to submit the cost benefit analysis of capital additions done by it during the first Control Period within a period of 3 months from the date of issue of this Order.**

## **Operations and Maintenance Expenses**

### **Petitioner's Submissions**

- 3.152 The Petitioner in its Petition has submitted that the Commission has allowed an escalation factor of 4% on year to year basis on the base O&M expenses to arrive at the normative O&M expenses during the MYT Control Period from FY 2007-08 to FY 2011-12. The Petitioner in this regards has submitted that the escalation factor of 4% on base O&M expenses was not adequate to meet the inflation factor during the years. The actual inflation factor during the MYT Control period from FY 2007-08 to FY 2011-12 was around 8% as recognised by the Commission in the Tariff Order dated July 13, 2012. The Petitioner further submitted that the 4% escalation allowed by the Commission was not at all sufficient to substitute the escalation factor of 8% which is very much evident from the O&M expenses approved by the Commission vis-à-vis the actual O&M expenses. The Petitioner submitted the summary of O&M expenses approved by the Commission and vis-à-vis the actual O&M expenses which is as shown in the next table.
- 3.153 The Petitioner further submitted that as per the transfer scheme, the terms and condition of service applicable to the erstwhile employees of DVB in the transferee company shall in no way be inferior to that applicable to them immediately before the transfer. The Petitioner further submitted that the service of their employees continued to be governed by the various rules and laws applicable to them prior to unbundling. The Petitioner further submitted that the salaries of the employees of the company are governed by FRSR structure and the company has to mandatory follow the salary structure as per the FRSR and it has no control over the same. Hence, the increase in dearness allowance has



been at par with the increase in Pay and allowances of Government employees. The Petitioner submitted that the government allows two instalments of DA every year effective in July and January and due to high inflation in the past, the DA increased is in the range of 4% to 9% per annum.

- 3.154 The Petitioner with regards to R&M expenses submitted that the Commission had approved lower R&M expenses for the station. The Petitioner submitted that R&M expenses would be relatively high due to small size of units and old age of the stations.
- 3.155 The Petitioner submitted that the Commission has approved the capital expenditure for MYT Control Period from FY 2007-08 to FY 2010-11. During the audit of annual accounts on the advice of Statutory Auditor/CAG some of the schemes approved by the Commission for capital expenditure has been charged to Repair & Maintenance cost to meet the accounting standards. The Petitioner submitted that such expenditure has been reduced from total repair & maintenance expenses in this Petition submitted to the Commission and has been considered as a part of the capital expenditure as per the approach of the Commission in its Order dated July 13, 2012.
- 3.156 The Petitioner with regards to A&G expenses submitted that the expenses have been on higher side mainly due to increase in expense on security. The Petitioner submitted that it had deployed CISF for the security of its plants. Their manpower deployment and expenditure are as per the specified norms. The expenditure on CISF security was Rs. 5.67 Crore for FY 2011-12 as compared to Rs 2.77 Crore for FY 2010-11. The Petitioner further submitted that their pay structure is also governed by the Central Government rules. Further, the GoI has imposed service tax w.e.f May 1, 2006 on security agency services. Accordingly, Ministry of Home Affairs has decided to change service tax on the service provided by CISF w.e.f April 1, 2009 and service tax for the period prior to April 01, 2009 is not payable pending decision by GoI. Further, the Petitioner submitted that it has been paying service tax at the rate of 10.30% additionally on the services provided by CISF. Accordingly, the expenditure on security has also increased substantially.
- 3.157 The Petitioner with regards to O&M expenses allowed by the Commission submitted that the Commission in its Order dated August 26, 2011 has revised the O&M expenses for RPH and GTPS. The revised O&M expenses are even lower than the base O&M expenses allowed by CERC for similar stations for base year 2009-10.





- 3.158 The Petitioner has further submitted that Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 for the period FY 2009-14 in the Regulation 19(b) has allowed O&M expenses @ Rs. 32.75 Lakh/MW with an escalation of 5.72 % for Talcher Thermal Power Station. The Talcher TPS comprises of installed Capacity of 470 MW (4x62.5MW+ 2x110 MW). These units are of greater size than Rajghat Power House. The Petitioner has submitted that by CERC norms the O&M expenses for RPH works out to around Rs 44.21 Crore.
- 3.159 The Petitioner has submitted following table giving comparison of O&M cost working out as per CERC norms and as allowed by the Commission.

**Table 40: Comparison of O&M Expenses with CERC normative base for FY 2009-10 (Rs Crore)**

Description	Installed Capacity	Base Rate CERC (Rs lakh/MW)	Total O&M as per CERC Norms (Rs Crore)	O&M Allowed by DERC after Revision (Rs Crore)	Difference (Rs Crore)
Rajghat Power House	135	32.75	44.21	40.72*	3.49

\*Computed on allocating sixth pay Commission on year to year basis.

- 3.160 The Petitioner further submitted the actual O&M expenses vis-à-vis that approved by the Commission is as shown below.

**Table 41: Actual O&M Expenses vis-à-vis that approved for RPH (Rs Crore)**

Particulars (Rs. Crore)	FY 2007-08		FY 2008-09		FY 2009-10		FY 2010-11		FY 2011-12		Total	
	App.	Act.	App.	Act.	App.	Act.	App.	Act.	App.	Act.	App.	Act.
Employee	15.66	19.85	17.25	23.1	33.4	25.42	41.9	52.15	50.22	43.13	158.43	163.65
R&M	10.85	16.4	11.28	11.79	11.73	16.38	12.2	26.44	12.69	21.09	58.75	92.1
A&G	4.13	5.55	4.96	6.44	5.16	5.72	5.24	5.89	5.83	9.02	25.32	32.62
Total	30.64	41.80	33.49	41.33	50.29	47.52	59.34	84.48	68.74	73.24	242.5	288.37

- 3.161 The Petitioner has accordingly requested the Commission to true up the actual O&M



expenses incurred by the station during the Control Period from FY 2007-08 to FY 2011-12.

### **Commission's Analysis**

- 3.162 The Commission in MYT Order for first Control Period has approved the O&M expenses as per the DERC Tariff Regulations, 2007 on normative basis and the escalation rate of 4% has been applied. The Commission doesn't find any reason to revisit the escalation rate as the same has been approved on normative basis.
- 3.163 In the Tariff Order for FY 2011-12, the Commission had, revised the base O&M Expenses for the Control Period, and had considered the Impact of 6<sup>th</sup> Pay Commission on Employee Cost & CISF Expenses and Impact of Transfer of Employees from I.P. Power Station to RPH on the O&M Expenditure after decommissioning of I.P. Station. While approving the O&M expenses in its Tariff Order dated August 26, 2011 the Commission had provisionally approved the impact of 6<sup>th</sup> Pay Commission on CISF Expenses and impact of Transfer of Employees from I.P. Power Station. The Commission had stated that it shall true-up these expenses at the end of the extended Control Period once the actual impact on account of same is known. In this regard, the Commission in its additional queries directed the Petitioner to submit the actual CISF Expenses and impact of Employees Transferred from I.P. Power Station to RPH.
- 3.164 The Petitioner in its response submitted the additional impact of sixth pay Commission on CISF expenses as shown in the table below:

**Table 42: Actual CISF Expenses submitted by the Petitioner (Rs Crore)**

<b>Particulars</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY2011-12</b>
Actual Expenses	1.77	2.78	2.83	2.77	5.63

- 3.165 The Petitioner further submitted that the actual CISF expenses in FY 2006-07 were Rs 1.35 Crore.
- 3.166 The Commission while approving the O&M expenses for FY 2007-08 to FY 2011-12 had considered the actual CISF expenses for FY 2006-07 in the base O&M expenses and had escalated it by 4% to derive the approved O&M expenses for the Control Period. In



addition to that, the Commission had provisionally allowed additional impact of Sixth Pay Commission on CISF expenses in its Tariff Order for FY 2011-12. Therefore, the Commission has only considered the difference in actual CISF expenses due to impact of sixth pay Commission and that already allowed by the Commission while carrying out the truing up as shown in the table below.

**Table 43: Additional Impact on account of CISF Expenses (Rs Crore)**

<b>Particulars</b>	<b>FY 2006-07</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Approved in MYT Order (a)	1.35	1.40	1.46	1.52	1.58	1.64
Additional Impact of VI th Pay allowed in August 26, Order for FY 2011-12 (b)		0.75	1.44	1.5	1.44	1.5
Actual CISF Expenses incurred (c)		1.78	2.78	2.83	2.77	5.63
Excess/(Deficit) (a+b-c)		0.37	0.12	0.19	0.25	-2.49

3.167 The Petitioner with regard to the impact of transfer of employees of I.P. station submitted that 154 employees were transferred from I.P. station to RPH. Further, 94 employees were transferred to Headquarters. The Petitioner submitted the impact on employee expenses on account of such transfer and is as shown in the table below:

**Table 44: Additional Impact on account transfer of Employees of I.P Station (Rs Crore)**

<b>Particulars</b>	<b>RPH</b>
FY 2010-11	15.12
FY 2011-12	12.29
<b>TOTAL</b>	<b>27.41</b>

3.168 The Commission in its additional queries directed the Petitioner to submit the detailed methodology followed by it to compute the impact of transfer of employees from I.P Station to RPH. In reply the Petitioner submitted that the impact has been computed on the basis of actual payments on account of salaries made to the employees who got

transferred from I.P Station. The Petitioner further submitted supporting documents to substantiate its claim.

3.169 The Commission observed that the Petitioner has allocated the expenses of entire employees transferred to Headquarters to IPGCL, which further has been allocated to RPH and GTPS in the ratio of 1:2 derived based on the capacity of the plant. The Petitioner has not allocated any cost of the employees transferred to Head office to PPCL stations.

3.170 The Commission is of the view that the head office expenses of IPGCL should also be allocated to PPCL as the head office is common for IPGCL and PPCL and therefore the Commission has reallocated the impact to these stations based on the Capacity of the stations. The following table shows the net impact as approved by the Commission.

**Table 45: Impact of transfer of employees of I.P. Station to HQ on RPH (Rs Crore)**

Particulars	Petitioner			Trued Up		
	Direct Transfer	HQ share	Total	Direct Transfer	HQ share	Total
FY 2010-11	13.067	2.060	15.12	13.07	0.40	13.46
FY 2011-12	10.61	1.68	12.29	10.61	0.32	10.94
Total	23.68	3.74	27.42	23.68	0.72	24.40

3.171 Further, the Commission in its Order dated August 26, 2011 with regard to SAP License fee for FY 2010-11 of Rs 1.15 Crore had stated that the same shall be considered at the time of truing up of FY 2010-11. Since the SAP License fee pertains to both IPGCL and PPCL the Commission has therefore apportioned the License Fee on IPGCL in the same ratio as was considered by the Commission in its Tariff Order for FY 2011-12. The Commission has accordingly considered 19.23% of Rs 1.15 Crore as IPGCL share. The Commission has further allocated the expense to RPH and GTPS in the ratio of 1:2 in the ratio of their capacity. Accordingly, the Commission allows additional expense of Rs 0.07 Crore toward ERP License fees for FY 2010-11.

3.172 The Commission has carried out detailed scrutiny of the expenses as discussed above and

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accordingly the Commission has approved the O&M expenses for the Control Period shown in the next table.



**Table 46: O&M Expenses as trued up for the Control Period (Rs Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10			FY 2010-11			FY 2011-12		
	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up
Employee Expenses	15.66	19.85	15.66	16.29	23.10	16.29	16.94	25.42	16.94	17.62	52.15	17.62	27.14	43.13	27.14
R&M Expenses	10.85	15.88	10.85	11.28	11.56	11.28	11.73	15.24	11.73	12.20	25.83	12.20	12.69	21.17	12.69
A&G Expenses	3.38	5.55	3.38	3.52	6.44	3.52	3.66	5.72	3.66	3.80	5.89	3.80	4.33	9.02	4.33
Base O&M Expenses	29.89	41.28	29.89	31.09	41.10	31.09	32.33	46.38	32.33	33.62	83.87	33.62	44.16	73.32	44.16
Impact of 6 <sup>th</sup> Pay Commission	-	-	-	0.96	-	0.96	16.46	-	16.46	8.48	-	8.48	5.70	-	5.70
Total O&M Expenses	29.89	41.28	29.89	32.04	41.10	32.04	48.79	46.38	48.79	42.10	83.87	42.10	49.86	73.32	49.86
Additional CISF Expenses allowed in TO FY 2011-12	0.75	0.75	0.38	1.44	1.44	1.32	1.50	1.50	1.31	1.44	1.44	1.19	1.50	1.50	3.99
Additional Employee Cost for IP Station Employees allowed in TO of FY 2011-12	-	-	-	-	-	-	-	-	-	15.80	-	13.46	17.38	-	10.94
<b>Total</b>	<b>30.64</b>	<b>42.03</b>	<b>30.27</b>	<b>33.48</b>	<b>42.54</b>	<b>33.36</b>	<b>50.29</b>	<b>47.88</b>	<b>50.10</b>	<b>59.34</b>	<b>85.31</b>	<b>56.75</b>	<b>68.74</b>	<b>74.82</b>	<b>64.79</b>
Add: Licensee Fee ERP	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	-
<b>Total Trued Up O&amp;M Expenses</b>	<b>30.64</b>	<b>42.03</b>	<b>30.27</b>	<b>33.48</b>	<b>42.54</b>	<b>33.36</b>	<b>50.29</b>	<b>47.88</b>	<b>50.10</b>	<b>59.34</b>	<b>85.31</b>	<b>56.83</b>	<b>68.74</b>	<b>74.82</b>	<b>64.79</b>



## **Depreciation**

### **Petitioner's Submissions**

- 3.173 The Petitioner in its Petition has submitted that the opening GFA at the beginning of the FY 2007-08 for the purpose of depreciation has been considered as per the books. The Petitioner has further submitted that there has been difference in the GFA as on March 31, 2007 considered by the Commission in its MYT Tariff Order dated December 14, 2007 and the actual gross fixed assets as per the books. The Petitioner has submitted that the difference has been mainly due to capital additions made by the Petitioner during FY 2002-03 to FY 2004-05 which has not been considered by the Commission. The depreciation amount during the Control Period from FY 2007-08 to FY 2011-12 has been considered on the average of fixed assets in use based upon the weighted average rate allowed by the Commission in its Tariff Orders dated December 14, 2007 and August 26, 2011. The Petitioner has submitted the truing up impact of depreciation as shown in the table below.

**Table 47: Depreciation for RPH as submitted by the Petitioner (Rs Crore)**

<b>Description</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Additional Impact of Truing Up	0.32	0.01	-0.37	-0.44	-0.34
Allowed in the Tariff Order	8.12	8.51	9.00	9.20	9.20
Total Depreciation	8.44	8.52	8.63	8.76	8.86

### **Commission's Analysis**

- 3.174 The Commission observed that the Petitioner has submitted an Opening Gross Fixed Asset of Rs 233.50 crore as on April 01, 2007 as against the Commission approved value of Rs 223.11 Crore. The Commission in its additional queries directed the Petitioner to reconcile the difference. The Petitioner in its reply submitted that the opening GFA as per



company's books on April 01, 2007 was Rs. 612.50 Crore against Commission's approved GFA of Rs. 589.20 Crore. In this regard the Petitioner further submitted that during FY 2002-03 & FY 2003-04, there were capital additions of Rs. 24.81 Crore & Rs. 7.61 Crore respectively.

- 3.175 The Petitioner further submitted that it has taken its opening GFA as Rs. 510.00 Crore in FY 2002-03 while the Commission has considered the opening GFA of Rs. 510.00 Crore in FY 2004-05 onwards. The Petitioner submitted that the Commission has not included any capital additions in FY 2002-03 & FY 2003-04. The Petitioner has accordingly requested the Hon'ble Commission to allow the opening GFA of Rs. 510.00 Crore for FY 2002-03 and the GFA of Rs. 612.50 Crore as on April 01, 2007 with all the capitalization that it had made during the subsequent years.
- 3.176 The Petitioner however, did not submit the station wise details of assets capitalisation and whether such capital additions were approved by the Commission.
- 3.177 The Commission further directed the Petitioner to submit detailed justification for not submitting the capital additions details for FY 2002-03 and FY 2003-04 while the truing up for those years were carried out by the Commission. Further, the Petitioner did not submit such details along with its MYT Petition for first Control Period. The Petitioner has not replied to the query asked by the Commission.
- 3.178 The Commission in absence of any justification provided by the Petitioner, the Commission provisionally approves the Opening GFA as approved in the MYT Order dated December 14, 2007. The same shall be given finality once the justification is submitted. The Commission has accordingly computed depreciation on the Opening GFA as approved by the Commission in the MYT Order for the first Control Period and on the capital additions made during the Control Period.
- 3.179 Accordingly the year wise provisionally approved GFA is as shown in the table below:





**Table 48: Provisionally Approved GFA for RPH Station (Rs. Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
<b>Opening GFA</b>	223.11	224.62	224.75	226.16	226.23
Addition	1.51	0.13	1.41	0.07	0.07
<b>Closing GFA</b>	224.62	224.75	226.16	226.23	226.30

3.180 The Commission for computation of depreciation on Opening GFA has considered the same rate of depreciation as considered by it in MYT Order dated December 14, 2007.

3.181 With regards to depreciation on additional capitalisation, the Commission has considered asset class wise depreciation rates as specified in Appendix-1 of the DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007.

3.182 The following table shows the depreciation approved by the Commission, claimed by the Petitioner and that trued up for the Control Period.

**Table 49: Depreciation as Approved by the Commission (Rs Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10			FY 2010-11			FY 2011-12		
	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	TO for FY 2011-12	Petition	Trued Up
Depreciation	8.12	8.44	8.05	8.51	8.52	8.08	9.00	8.63	8.11	9.20	8.76	8.13	9.20	8.86	8.13

## Return On Equity

### Petitioner's Submissions

3.183 The Petitioner has submitted that the Commission had approved an opening equity of Rs 59.56 Crore for RPH as on April 01, 2007. The Petitioner has submitted that it has considered the same opening equity and has added 30% of capital expenditure incurred during the year in the opening equity to claim return on equity at 14%. The Petitioner has accordingly submitted the return on equity claimed by it and is shown in the table below.



**Table 50: Return on Equity as claimed by the Petitioner (Rs Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Additional Impact of truing-up	-0.07	-0.43	-0.88	-0.93	-0.84
Allowed in Tariff Order	8.46	8.91	9.48	9.71	9.72
Total Return on Equity	8.39	8.48	8.60	8.78	8.88

### Commission's Analysis

3.184 The Commission has gone through the submissions made by the Petitioner. The Petitioner has claimed RoE on average equity during the year in line with the DERC MYT Tariff Regulations, 2007. The Commission has also computed RoE at the rate of 14% on the basis of opening equity as approved by the Commission as on April 01, 2007 in its MYT Order for first Control Period and on the equity component of approved capital additions during the year. The following table shows the return on equity as approved by the Commission in the MYT Order dated December 14, 2007, as claimed by the Petitioner and that approved by the Commission.

**Table 51: Return on Equity as approved by the Commission (Rs Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10			FY 2010-11			FY 2011-12		
	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	TO for FY 2011-12	Petition	Trued Up
Opening Equity	59.56	59.56	59.56	61.23	60.25	60.01	66.01	60.90	60.05	69.39	62.02	60.48	69.40	63.37	60.50
Additions	1.67	0.69	0.45	4.78	0.64	0.04	3.38	1.13	0.42	0.01	1.34	0.02	0.00	0.08	0.02
Closing Equity	61.23	60.25	60.01	66.01	60.90	60.05	69.39	62.02	60.48	69.40	63.37	60.50	69.40	63.45	60.52
Average Equity	60.39	59.91	59.79	63.62	60.57	60.03	67.70	61.46	60.26	69.39	62.69	60.49	69.40	63.41	60.51
Rate of Return	14.00%														
RoE	8.46	8.39	8.37	8.91	8.48	8.40	9.48	8.60	8.44	9.71	8.78	8.47	9.72	8.88	8.47

### Interest On Loan

### Petitioner's Submissions

3.185 The Petitioner in its Petition has submitted that as per Delhi Electricity Reforms (Transfer



Scheme) Rules 2001, Rs 210 Crore of unsecured loan was transferred to IPGCL as on July 01, 2002 and was repayable to holding company. The Petitioner further submitted that the loan was allocated station wise based on the GFA of the stations and the loan transferred to RPH was Rs 89.33 Crore.

- 3.186 The Petitioner submitted that in addition to that, plan funds loan from Delhi Government was taken @ 13% interest in FY 2002-03 and from FY 2003-04 and thereafter, the plan funds interest rate is @ 11.50%. The Petitioner further submitted that a penal interest of 2.75% is payable in case of default in payment of interest on principal amount and the penal interest has been accounted in the ARR.
- 3.187 The Petitioner further submitted that it made certain capital additions during the Control Period from FY 2007-08 to FY 2011-12. The same has been funded through internal accruals/loan from GNCTD.
- 3.188 The Petitioner further submitted that the Commission has approved the capital additions during the MYT Period from FY 2007-08 to FY 2011-12. The Petitioner further submitted that the Commission has allowed 90% of the approved capital additions from FY 2007-08 to FY 2010-11 in RPH and GTPS and 100% of approved capital additions in FY 2011-12 for GTPS for the purpose of computing the tariff. Further, the Commission has considered and allowed an additional normative loan of 70% on capital addition from FY 2007-08 to FY 2011-12 at an interest rate of 11.50%. The Petitioner submitted that accordingly it has considered 70% of the capital additions to be funded through loans in line with the Regulations and at the rate of 11.50% per annum. The Petitioner accordingly submitted the impact of truing up of interest on loan charges as shown in table below and has requested the Commission to approve the same.

**Table 52: Interest Charges as submitted by the Petitioner (RPH) (Rs Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Additional Impact of truing-up	-0.13	-0.80	-1.58	-1.53	-1.16
Allowed in Tariff Order	14.15	13.93	13.26	11.65	10.01
Total Interest Charges	14.02	13.13	11.68	10.12	8.85



### **Commission's Analysis**

3.189 The Commission has gone through the submissions made by the Petitioner and computations submitted with regards to interest expenses. The Commission had already allowed interest expenses in the MYT Order dated December 14, 2007, based on the opening loans approved and the approved capital additions. However, since the Commission has now trued up the additional capital additions for the Control Period, the Commission has accordingly recomputed the interest expenses. The Petitioner with regards to funding of such capital additions has submitted that it has not taken any actual loans to fund its capital additions. The Commission has therefore considered 70% of such capital additions to be funded through normative loan. For computing the interest on normative loans the interest rate has been considered as 11.50% as approved by the Commission in its MYT Order for first Control Period. The following table shows the total interest expenses approved by the Commission in its MYT Order for first Control Period, as claimed by the Petitioner and that approved by the Commission.

**Table 53: Interest Expenses as approved by the Commission (Rs. Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10			FY 2010-11			FY 2011-12		
	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	TO for FY 2011-12	Petition	Trued Up
Interest on Loan	14.15	14.02	14.00	13.93	13.13	13.03	13.26	11.68	11.48	11.65	10.12	9.69	10.01	8.85	8.30

### **Interest on Working Capital**

3.190 The Petitioner in its Petition has submitted that the Commission has revised the O&M expenses of the station from FY 2007-08 to FY 2010-11 vide its Order dated August 26, 2011, but no impact on the difference of O&M expenses was considered in the working capital on account of O&M expenses for one month and receivable equivalent to two months. The Petitioner accordingly submitted that the impact of truing up of O&M expenses as claimed now and approved vide Order dated August 26, 2011 for RPH has been considered in the computation of working capital in the present tariff Petition. The Petitioner has further submitted that the variation in other components such as Return on Equity, Interest on Loan, depreciation etc. will also have an impact on the receivables.

3.191 The Petitioner submitted that the interest rate has been considered as approved by the



Commission in its Tariff Order dated December 14, 2007 for FY 2007-08 to FY 2010-11 and Order dated August 26, 2011 for FY 2011-12.

- 3.192 The Petitioner has accordingly submitted the impact of true up on interest on working capital as shown in the table below and has requested the Commission to approve the same.

**Table 54: Impact of Truing Up on Interest on Working Capital (Rs Crore)**

<b>Description</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Additional Impact on Working Capital	3.63	2.48	4.18	13.10	-0.46
Rate of Interest	12.75%	12.75%	12.75%	12.75%	13.00%
Additional Impact on IoWC	0.46	0.32	0.53	1.67	-0.06
Approved IoWC	8.00	8.47	8.81	9.23	12.57
Total Proposed Revised IoWC	8.46	8.79	9.34	10.90	12.51

### **Commission's Analysis**

- 3.193 The Petitioner has computed increase in interest on working capital considering the impact of capital expenditure on depreciation, O&M expenses, interest on term loan and return on equity and revision of Fuel Cost.
- 3.194 The Commission is of the view that it has already provided enough escalation on working capital and had accounted the prospective increase in the working capital requirement while approving interest on working capital during MYT Order. The escalation of 4% provided by the Commission was applicable on the entire working capital requirement which includes receivables, O&M expenses, maintenance spares and fuel expenses. Therefore, the Commission has not trued up the interest on working capital due to additional capital expenditure, revision in O&M expenses and increase in fuel cost.

**Revenue Gap/Surplus**

3.195 The Commission based on the above analysis has determined the year wise revenue gap/surplus as shown in the table below.

**Table 55: Revenue Gap/Surplus approved for FY 2007-08 (Rs Crore)**

Particulars	Units	FY 2007-08			
		Approved Fixed Cost in MYT Order / Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Trued-Up (C)	Surplus (+)/ Deficit (-) (A) -(C)
O&M Expenses	Rs Crore	30.64	42.03	30.27	0.37
Depreciation	Rs Crore	8.12	8.44	8.05	0.07
Advance Against Depreciation	Rs Crore	-	-	0.00	0.00
Interest on Loans	Rs Crore	14.15	14.02	14.00	0.15
Return on Equity	Rs Crore	8.46	8.39	8.37	0.09
Interest on Working Capital	Rs Crore	8.00	8.46	8.00	0.00
<b>Total Fixed Cost</b>	<b>Rs Crore</b>	<b>69.36</b>	<b>81.34</b>	<b>68.67</b>	<b>0.69</b>

**Table 56: Revenue Gap/Surplus approved for FY 2008-09 (Rs Crore)**

Particulars	Units	FY 2008-09			
		Approved Fixed Cost in MYT Order / Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Trued Up (C)	Surplus (+)/ Deficit (-) (A) -(C)
O&M Expenses	Rs Crore	33.48	42.54	33.36	0.12
Depreciation	Rs Crore	8.51	8.52	8.08	0.43
Advance Against Depreciation	Rs Crore	0.00	0.00	0.00	0.00
Interest on Loans	Rs Crore	13.93	13.13	13.03	0.90
Return on Equity	Rs Crore	8.91	8.48	8.40	0.50
Interest on Working	Rs Crore	8.47	8.79	8.47	0.00



Particulars	Units	FY 2008-09			
		Approved Fixed Cost in MYT Order / Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Trued Up (C)	Surplus (+)/ Deficit (-) (A) -(C)
Capital					
<b>Total Fixed Cost</b>	<b>Rs Crore</b>	<b>73.30</b>	<b>81.46</b>	<b>71.35</b>	<b>1.95</b>

**Table 57: Revenue Gap/Surplus approved for FY 2009-10 (Rs Crore)**

Particulars	Units	FY 2009-10			
		Approved Fixed Cost in MYT Order /Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Trued Up (C)	Surplus (+)/ Deficit (-) (A) -(C)
O&M Expenses	Rs Crore	50.29	47.88	50.10	0.19
Depreciation	Rs Crore	9.00	8.63	8.11	0.89
Advance Against Depreciation	Rs Crore	-	-	0.00	0.00
Interest on Loans	Rs Crore	13.26	11.68	11.48	1.78
Return on Equity	Rs Crore	9.48	8.60	8.44	1.04
Interest on Working Capital	Rs Crore	8.81	9.34	8.81	0.00
<b>Total Fixed Cost</b>	<b>Rs Crore</b>	<b>90.84</b>	<b>86.13</b>	<b>86.94</b>	<b>3.90</b>
<b>Impact of Relaxation APC on Fuel Cost</b>	<b>Rs Crore</b>			<b>1.81</b>	<b>-1.81</b>
<b>Total Impact</b>	<b>Rs Crore</b>			<b>88.75</b>	<b>2.09</b>



**Table 58: Revenue Gap/Surplus approved for FY 2010-11 (Rs Crore)**

Particulars	Units	FY 2010-11			
		Approved Fixed Cost in MYT Order/ Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Approved (C)	Surplus (+)/ Deficit (-) (A) -(C)
O&M Expenses	Rs Crore	59.34	85.31	56.83	2.51
Depreciation	Rs Crore	9.20	8.76	8.13	1.07
Advance Against Depreciation	Rs Crore	0.00	0.00	0.00	0.00
Interest on Loans	Rs Crore	11.65	10.12	9.69	1.96
Return on Equity	Rs Crore	9.71	8.78	8.47	1.25
Interest on Working Capital	Rs Crore	9.23	10.90	9.23	0.00
<b>Total Fixed Cost</b>	<b>Rs Crore</b>	<b>99.13</b>	<b>123.87</b>	<b>92.35</b>	<b>6.78</b>

**Table 59: Revenue Gap/Surplus approved for FY 2011-12 (Rs Crore)**

Particulars	Units	FY 2011-12					
		Approved Cost in MYT Order / Tariff Order FY 2011-12 (A)	Actual Recovered as Fixed Charges (B)*	Submitted by Petitioner (C)	Trued Up (D)	Trued Up cost after FC disallowed (E)*	Surplus (+)/ Deficit (-) (B) -(E)
O&M Expenses	Rs Crore	68.74	<b>107.67</b>	74.82	64.79	<b>99.88</b>	<b>7.79</b>
Depreciation	Rs Crore	9.20		8.86	8.13		
Advance Against Depreciation	Rs Crore	0.00		-	0.00		
Interest on Loans	Rs Crore	10.01		8.85	8.30		
Return on Equity	Rs Crore	9.72		8.88	8.47		
Interest on Working Capital	Rs Crore	12.57		12.51	12.57		
<b>Total Cost</b>	<b>Rs Crore</b>	<b>110.24</b>		<b>113.92</b>	<b>102.26</b>		

\*Since the Plant availability for FY 2011-12 was 68.37% hence fixed charges has been reduced proportionately





### **Net impact of truing up with Carrying Cost**

3.196 The Commission has determined year wise surplus/gap with respect to the approved values as shown above. The Commission has computed the total surplus/gap with carrying cost as shown in the table below.

3.197 As shown below the carrying cost on annual truing up amount has been computed and added to the total surplus. Since the truing up impact for the first Control Period is surplus, therefore the Petitioner has to credit the excess amount recovered by it during the Control Period i.e. FY 2007-08 to FY 2011-12 along with the carrying cost.

**Table 60: Net Surplus/(Deficit) Carrying Cost (Rs Crore)**

<b>Particulars</b>	<b>FY 2007-08</b>	<b>FY 2008- 09</b>	<b>FY 2009- 10</b>	<b>FY 2010- 11</b>	<b>FY 2011- 12</b>	<b>FY 2012- 13</b>	<b>Total Surplus/ (Deficit)</b>
Opening	0.00	0.73	2.88	5.42	13.21	22.98	
Addition (Deficit)/Surplus	0.69	1.95	2.09	6.78	7.79	0.00	<b>19.31</b>
Interest Rate	11.50%	11.50%	11.50%	11.50%	11.50%	11.50%	
Carrying Cost	<b>0.04</b>	<b>0.20</b>	<b>0.45</b>	<b>1.01</b>	<b>1.97</b>	<b>2.64</b>	<b>6.31</b>
Closing (Deficit)/Surplus	0.73	2.88	5.42	13.21	22.98	25.62	25.62

3.198 The Commission accordingly directs the Petitioner to credit the amount of Rs 25.62 Crore to the Distribution Utilities of Delhi in three equal monthly instalments starting August 2013.

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## **Gas Turbine Power Station (GTPS)**

### **Norms of Operation**

### **Availability**

### **Petitioner's Submissions**

- 3.199 The Petitioner in its Petition has submitted that GTPS has achieved the target availability of 70% fixed by the Commission for all the years of the Control Period except for FY 2007-08. The Petitioner on non achievement of target availability in FY 2007-08 has submitted that the STG Unit 2 of the station was out of service for a period of 22 months, since December 2006 on account of non availability of turbine rotor. The turbine rotor was being repaired by M/s BHEL at its facility in Hyderabad. The Petitioner further submitted that M/S BHEL was not able to deliver the spare parts in time. Further, the waste heat recovery units of the gas turbines have not been operating at the nameplate rating since its commissioning. Further, the plant was also facing severe gas shortage due to the daily cuts imposed by GAIL and frequent grid tripping. The Petitioner in this regards submitted that the PLF/Availability for the GTPS should have been fixed keeping in view the impediments faced by IPGCL.
- 3.200 The Petitioner further submitted that these circumstances were beyond the control of Petitioner and the station was able to achieve target availability from FY 2008-09 onwards due to conversion of two turbines to use liquid fuel in view of gas shortage.
- 3.201 The Petitioner has accordingly requested the Commission to invoke its power of relaxation to true up the availability of 60.98% for recovery of full fixed charges for FY 2007-08 for reasons beyond the control of Petitioner. The Petitioner further submitted that the under recovery of fixed cost was to the tune of 13% due to lower availability. The Actual Availability submitted by the Petitioner is as shown in the table below.

**Table 61: Actual Availability achieved by GTPS as submitted by Petitioner**

<b>Generating Station</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
GTPS	60.98%	70.14%	73.28%	81.91%	79.41%

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**Commission's Analysis**

- 3.202 The Commission has gone through the submissions of the Petitioner and the actual availability achieved by GTPS. The Commission in its additional queries directed the Petitioner to submit SLDC certified yearly availability for GTPS during the Control Period. The Petitioner in its reply submitted availability certified by SLDC. The Commission observed that availability submitted by the Petitioner is same as certified by SLDC. With regards to achievement of lower availability during FY 2007-08 the Commission is of the view that the submissions made by the Petitioner for relaxation of target availability on technical grounds is not justified.
- 3.203 The Petitioner has submitted that its STG Unit 2 was under forced shutdown for 22 months on account of non availability of turbine rotor as the same was being repaired by M/s BHEL at its facility in Hyderabad and that M/S BHEL was not able to deliver the spare parts in time. The Commission is of the view that the downtime of the Unit as submitted by the Petitioner is not justified as 22 months period is quite long to get such work to be done. The Petitioner should have taken the efforts to expedite the availability of turbine rotor.
- 3.204 Further, the Commission is of the view that the reason that waste heat recovery units of the gas turbines has not been operating at the nameplate rating since its commissioning cannot be considered for lower availability as such things should have been rectified by the Petitioner.
- 3.205 The Commission is therefore of the view that had the Petitioner rectified above issues on time the station would have achieved the target availability of 70%. The Commission therefore retains the target availability for GTPS for recovery of full fixed charges at 70% for the entire Control Period.
- 3.206 The following table shows the availability approved by the Commission for recovery of full fixed charges for FY 2007-08 to FY 2011-12.

**Table 62: Availability approved by the Commission (%)**

Description	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Availability Approved in MYT Order	70.00%	70.00%	70.00%	70.00%	70.00%
Actual Availability Submitted by Petitioner	60.98%	70.14%	73.28%	81.91%	79.41%
Availability Approved for Recovery of Full Fixed Charges	70.00%	70.00%	70.00%	70.00%	70.00%

### Station Heat Rate (SHR)

#### Petitioner's Submission

- 3.207 The Petitioner has submitted that the Commission had approved SHR of 2450 kCal/kWh in combined cycle mode and 3125 kCal/kWh in open cycle mode which is below the level achievable by the station.
- 3.208 The Petitioner has further submitted that Hon'ble ATE in Appeal No. 81 of 2007 against the DERC Tariff Order for FY 2006-07 decided the issue in its Order dated January 10, 2008 as under.

*14) For IPGTPS, the target of 2450 Kcal/kWh could not be achieved. Actual heat rate for 2006-07 was 2497 Kcal/kWh. So far as IPGTPS is concerned, the Commission has fixed the station heat rate norm as 2450 Kcal/kWh for financial years 2005-06 and 2006-07. This is based on the gross calorific value of gas. The appellant pleads that the station was very poorly maintained and that the availability of gas was greatly reduced during the period in question.*

*15) The impugned order shows that the petitioner had sufficiently canvassed its case of shortage of gas caused by the cuts imposed by GAIL. The Commission has not analysed in the impugned order the affect of such cuts on the station heat rate of the IPGTPS station. Even if the other factors mentioned in the 'Director's report' above are ignored the shortage of gas should have been taken into account by Commission*



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*because this is not within the control of the appellant. We, therefore, feel that the Commission needs to carry out this exercise afresh so far as the station heat rate of IPGTPS is concerned. The Commission will now refix the target heat rate for the IPGTPS from 2006-07 after taking into consideration the shortage of gas as well as the factor mentioned in the Directors report as indicated in para 7 above. Consequent benefit be given to the appellant in the truing up and in the subsequent tariff order.*

- 3.209 The Petitioner has submitted that the turbines of the station are of 30 MW size and more than 25 years old. The STG's of the Petitioner were installed after retrofitting of waste heat recovery modules by M/S BHEL after operation of GTs in open cycle mode for around 10 years. The Petitioner has further submitted that retrofitting of the machines by any other supplier other than by the supplier of gas turbines will have inherent problems and GTPS is no exception.
- 3.210 The Petitioner further submitted that the guaranteed heat rate in simple cycle mode is 11688kJ/kWh on NCV at compressor inlet temperature of 15<sup>0</sup>C and atmospheric pressure of 1.019 Bar. The guaranteed heat rate at site conditions of 31.5<sup>0</sup>C is approximately 3188 kCal/kWh. The Petitioner has further submitted that taking into account the correction factor of 5.70% on the guaranteed heat rate as recommended by the CEA, the corrected SHR for simple cycle mode works out to 3370 kCal/kWh. The Petitioner further submitted a copy of manufacturer data sheet.
- 3.211 The Petitioner has further submitted that CEA has also recommended technical standards on operational norms of GTPS in its report of December, 2004. As per the recommendations, a heat rate of 3250 kCal/kWh has been recommended for Gas turbines with capacity of 30 MW or more and is under operation for 10 or more number of years.
- 3.212 The Petitioner has further submitted that CEA has recognised that the operation efficiency of heat rate and other performance parameters of a thermal power station depends on a number of factors such as follows:
- a. Technology and equipment
  - b. Ambient Conditions
  - c. Fuel Quality
  - d. Plant operation and maintenance practices.
  - e. Unit Sizes



- 3.213 The Petitioner has further submitted that CERC has further relaxed the heat rate to 2500kCal/kWh in combined cycle mode from the existing level of 2400 kCal/kWh for similar Assam gas station of NEEPCO having capacity of 291 MW (6x33.5MW+3x30MW) even though the station was commissioned in 1995-98. Now the norms of heat rate for Assam gas based station are 2500kCal/kWh in combined cycle mode and 3440 kCal/kWh in open cycle mode. The Petitioner further submitted that Hon'ble Commission has set the target heat rate for GTPS on the reference of the norms for Assam Gas based Station. Now, since the norms for Assam Gas based station are relaxed, it will be unfair and injustice for Gas Turbine Power Station, if the norms of heat rate are not relaxed. The Petitioner further submitted that the Commission may take note that CERC has fixed the relaxed norm of heat rate in open cycle mode for Assam gas based station even during the period FY 2004-05 to 2008-09.
- 3.214 The Petitioner submitted that the Commission in the Tariff Order dated August 26, 2011 for determination of aggregate revenue requirement for FY 2011 -12 in respect of GTPS has observed that CERC has provided a heat rate of 3440kCal/kWh for Assam Kathal Guri gas based station however, the Commission has not admitted the contention of the Petitioner on the basis that the station is expected to run in combined cycle mode most of the time and open cycle operation is rare. It is submitted that the station runs in open cycle mode only as and when requisitioned by SLDC, Delhi.
- 3.215 The Petitioner submitted that the operation of GTPS in open cycle mode during the last four years is as under:-

**Table 63: Open Cycle (%) certified by SLDC**

<b>Year</b>	<b>Net Generation (MU)</b>	<b>Open Cycle Generation certified by SLDC (MU)</b>	<b>% Open Cycle</b>
FY 2007-08	1241.16	426.55	34.37%
FY 2008-09	1237.55	216.26	17.48%
FY 2009-10	1444.76	114.59	7.93%
FY 2010-11	1322.77	25.77	1.95%
FY 2011-12	1193.16	33.296	2.79%



- 3.216 The Petitioner submitted that there was considerable open cycle operation in FY 2007-08 and FY 2008-09 due to outage of STG Unit 2. Further, even though the operation of GTPS is less in open cycle mode in recent years, there is a direct loss of around 10% on recovery of fuel cost when operated in open cycle mode. This loss in rupees terms is significantly high. The Petitioner has submitted that though the Petitioner endeavours to run the station in combined cycle mode but when operated in open cycle mode on the request of SLDC, the station should be allowed higher heat rate of 3440 kCal/kWh.
- 3.217 The Petitioner further submitted that the SHR for GTPS is also higher due to frequent backing down during the night time by SLDC, resulting in partial operation. Due to evacuation constraints during off peak hours the gas turbines had to be backed down by 10% which resulted into further loss of 1% in performance. The backing down of the station resulted in partial operation of the units resulting in the lower PLF for plant which has adversely affected the heat rate of the station. The Petitioner has further submitted that there has been substantial gap between Availability and PLF of the station due to backing down. The lower PLF has adversely affected the heat rate of the station. The Petitioner has submitted the comparison between the availability and PLF for the Control Period which is as shown in the table below.

**Table 64: Comparison of Availability & PLF for GTPS**

<b>Year</b>	<b>Availability (%)</b>	<b>PLF (%)</b>
FY 2007-08	60.98%	50.89%
FY 2008-09	70.14%	52.98%
FY 2009-10	73.28%	63.21%
FY 2010-11	81.91%	58.65%
FY 2011-12	79.41%	51.30%

- 3.218 The Petitioner submitted that the fact has been recognised by the Central Commission that PLF affects the SHR and APC of the station. The Petitioner further submitted that there has been substantial gap between Availability and PLF of the station and it is very much evident that PLF has been on lower side as compared to availability which further affects the SHR and APC of the station.
- 3.219 The Petitioner has submitted that since heat input is same for de-rated capacity of STG's,

the combined cycle heat rate will be impacted and need to be revised accordingly. The Petitioner submitted that the GTPS is more than 25 years old and no major R&M of the station has been undertaken so far and therefore in view of the above the Petitioner has requested the Commission to true up the actual SHR achieved by the station in Combined Cycle mode and Open Cycle mode for the first Control Period from FY 2007-08 to FY 2011-12.

- 3.220 The Petitioner has further submitted that the CEA in its report on technical standards for operations of the thermal power plants (2004) has stated as follows:

*“However, the fact is that the performance of most of the smaller units is extremely poor for various reasons attributable to basic design deficiencies, lack of appropriate R&M, ageing, coal quality deterioration etc, the average variation in GHR at present is up to 60% from design heat rate. In view of the above and foregoing discussions at para 10.4, it is proposed that average existing heat rate may be allowed as normative heat rate for these units for some time and certain time frame of 3-5 years may be allowed to attain the recommended normative performance level of 110% of guaranteed heat rate. Targets for specific improvement each year may be fixed by the respective commission.”*

- 3.221 The Petitioner in view of the above has submitted that in absence of major R&M works, IPGCL has limited control over improving SHR of its old plants. The Petitioner further submitted that as per clause (f) of the National Tariff Policy, 2005, relaxed norms are to be provided for below par old stations. The Petitioner submitted the relevant extracts of the policy which is reproduced as under:

*“In case where operations have been much below the norms for many previous years, the SERC’s may fix relaxed norms suitably and draw a transition path over the time for achieving the norms notified by the Central Commission.”*

- 3.222 The Petitioner has accordingly submitted that considering the above mentioned facts the Commission is requested to approve SHR at the levels submitted by the Petitioner as shown in the table below without any disallowance.



**Table 65: Actual Station Heat Rate as submitted by the Petitioner (kCal/kWh)**

Description	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Combined Cycle	2554	2553	2557	2504	2463
Open Cycle	3416	3397	3390	3394	3391

### Commission's Analysis

- 3.223 Regarding Gas Turbine Power Station, the Commission has directed the Petitioner several times in the past to get a performance test conducted in open cycle and combined cycle mode on its machines so that the Commission may have a scientific basis for relaxation of the heat rate allowed to the Petitioner.

Further, Hon'ble ATE in its Judgment dated April 7, 2001 in Appeal No. 26 of 2008 has stated as follows:

*"In case of Rajghat and Indraprastha Gas Station the Appellant has not been able to give sufficient reasons for relaxation in norms with respect to MYT Regulations. On the other hand the State Commission has given reasoned order.*

....

*Similarly, the reasons recorded by the State Commission in the impugned order in respect of Station Heat Rate for Indraprastha Gas Station are as under:*

*"4.217 The Petitioner has specified no reason for the request in relaxation of SHR during the Control Period, as part of its MYT Petition. The Commission raised the issue during the public hearing process, asking for suitable justifications. Further, the Commission does not expect the plant to be operated in open cycle mode frequently, which should be resorted to only during emergencies. This makes it even more necessary to maintain the WHRU in proper condition.*

*4.218 Since no cogent reason has been provided by the Petitioner, the Commission has retained the SHR values as specified in the MYT Regulations, which was also agreed to*



by the Petitioner in line with the PPA submitted by TRANSCO”.

35. The data sheet submitted by the Appellant in I.A. No. 13 of 2009 indicates heat rate for 30 MW gas turbine with age more than 10 years in combined cycle mode, which is the normal operation, as 2200 kCal/kWh. Against this the State Commission has allowed a higher Station Heat Rate of 2450 kCal/kWh.

36. In view of above, we do not find any reason to interfere with the findings of the State Commission with respect to station heat rate for Indraprastha Gas Station and auxiliary consumption for Rajghat Power Station.”

The Petitioner in this Petition has also not submitted any cogent reasons substantiating its claim of higher Station Heat Rate. Accordingly the Commission has trued up the normative heat rate of 2450kCal/kWh in combined cycle mode and 3125 kCal/kWh in open cycle mode for the first Control Period from FY 2007-08 to FY 2011-12.

## **Auxiliary Power Consumption**

### **Petitioner’s Submissions**

- 3.224 The Petitioner in its Petition has submitted the auxiliary power consumption achieved by the Station during the Control Period FY 2007-08 to FY 2011-12 which is as shown in the table below.

**Table 66: Actual Auxiliary Power Consumption of GTPS as submitted by the Petitioner (%)**

<b>Description</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Rajghat Power House	3.06%	3.34%	3.55%	3.33%	3.65%

- 3.225 The Petitioner has submitted that the gas turbines of the station were commissioned in the year 1985-86 and the Waste Heat Recovery Units were retrofitted in the year 1995-96. The Petitioner submitted that the STGs of the station were not able to produce the rated output and hence the APC of the station calculated in terms of percentage over the gross



generation of the station increased. The Petitioner further submitted that due to less system demand the generation of the station was backed down, resulting in partial operation of the units. The Petitioner submitted the year wise availability and PLF achieved by the station which is as shown in the table below.

**Table 67: Comparison of Availability & PLF for GTPS**

<b>Year</b>	<b>Availability (%)</b>	<b>PLF (%)</b>
FY 2007-08	60.98%	50.89%
FY 2008-09	70.14%	52.98%
FY 2009-10	73.28%	63.21%
FY 2010-11	81.91%	58.65%
FY 2010-11	79.41%	51.30%

3.226 The Petitioner has submitted that the PLF indicates the actual generation of the station based upon the scheduled generation whereas the availability indicates the capacity of the station to inject the power into the system.

3.227 The Petitioner has submitted that the lower PLF has resulted into higher APC of the station and the Petitioner has further submitted that the APC of the station in combined cycle mode is 3.70%. The Petitioner has accordingly requested the Commission to true up the actual auxiliary power consumption as achieved by the station for the Control Period from FY 2007-08 to FY 2011-12.

### **Commission's Analysis**

3.228 The Commission is of the view that DERC MYT Regulations, 2007 already specifies auxiliary power consumption of 3% in combined cycle mode and 1% in open cycle for the Station. The claim of 3.70% by the Petitioner is thus unjust and devoid of any merit and therefore the Commission retains the norm of 3% auxiliary power consumption in combined cycle mode and 1% in open cycle mode as per the provisions of DERC MYT Regulations 2007. The Commission therefore retains the normative APC for the first Control Period from FY 2007-08 to FY 2011-12.

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## Fixed Charges

## Capital Expenditure

## Petitioner's Submissions

- 3.229 The Petitioner in its Petition has submitted that the Commission has approved the capital additions during the MYT Control Period from FY 2007-08 to FY 2011-12 for GTPS. The Petitioner further submitted that the details of the approved scheme have not been submitted in the Petition to avoid repetition. However, the Petitioner submitted a summary of additional capital expenditure as incurred during the first Control Period. The Petitioner further submitted that some of the schemes which were earlier approved under the capital expenditure scheme by the Commission have been accounted under the head R&M as per the advice of statutory auditors to meet the compliance of Accounting standards. The Petitioner further submitted that the Commission in its Tariff Order dated July 13, 2012 was of the view to consider the approved capital expenditure under the capital additions and not under R&M expenditure and has reproduced the relevant extract of the Tariff Order as under:

*"4.60 The Commission is of the view that since the amount claimed has already been allowed to the Petitioner as capital expenditure (along with the financing cost and depreciation) for the respective years, the same cannot be claimed as Repair and Maintenance Expenses as well. The same shall be treated as a part of capital expenditure for IPGCL at the time of truing up for the respective years."*

*"5.64 The Commission is of the view that since the amount claimed has already been allowed to the Petitioner as capital expenditure (along with the financing cost and depreciation) for the respective years, the same cannot be claimed as Repair and Maintenance Expenses as well. The same shall be treated as a part of capital expenditure for IPGCL at the time of truing up for the respective years."*

- 3.230 The Petitioner has accordingly submitted that the expenditure booked on account of capital expenditure schemes under the head repair and maintenance expenditure is considered under capital additions for necessary computations.
- 3.231 The Petitioner submitted that apart from the approved capital additions, the Petitioner has made an addition of Rs 16 Crore in GTPS towards the payment of Generator rotor to



DPCL, the then holding company. The Petitioner submitted that earlier DPCL had made the payment to the concerned party for the rotor prior unbundling of DVB. However, the bill was raised during FY 2007-08 and the Petitioner made the payment of Rs 16 Crore towards the actual capital expenditure incurred by the station during FY 2007-08. The Petitioner has accordingly requested the Commission to approve additional Rs 16 Crore towards the actual capital expenditure incurred by the station during FY 2007-08.

3.232 The Petitioner further submitted that the Commission has also approved the conversion of two gas turbines on liquid fuel and the Petitioner carried out the conversion in FY 2008-09.

3.233 The Petitioner has requested the Commission to approve the actual capital additions during the Control Period as shown in the table below.

**Table 68: Capital Additions as submitted by the Petitioner (Rs Crore)**

Head of Work/ Equipment	Capitalisation				
	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Spare Generator Rotor	4.20				
GT Generator Protection System	0.21	0.31			
Generator STATOR BAR	7.52				
Procontrol System Test & Simulation Module	0.16				
Rehabilitation Of Fire Hydrant And Emulsifiers System	0.50				
Spiral Finned Tube	0.38				
Replacement Of AVR/Excitation System	1.30	2.27	1.60	5.19	2.93
Rotor (DPCL)	16.00				
HQ Share (Furniture Fixtures/Office , Communication ,Hospital Equipment)	0.16	0.26	0.22	0.19	0.17
Mark Vie TMR Control		3.02		7.96	
Up Gradation Of Gas Turbines		12.73	16.02	12.96	
Conversion Of Liquid Fuel Facility GT1		1.22			
Conversion Of Liquid Fuel Facility GT2		0.24			
Replacement Of HRSG Tubes*		3.67	3.72	7.44	5.76
ABT Meters			0.67		
Revamping Of Compressor GT			4.45	6.45	
Electronic Governor Of Steam Turbine					1.23
Computers (ERP)			0.55		0.34



Head of Work/ Equipment	Capitalisation				
	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
ERP-Software			1.68		
Storage Tank HCL Acid					0.09
Laboratory Equipments					0.81
Electronic Weighing Machine Cap 1000kg					0.00
Fire Tender					0.40
<b>Total</b>	<b>30.43</b>	<b>23.72</b>	<b>28.91</b>	<b>40.19</b>	<b>11.73</b>

\*indicated as below

**Table 69: Expenditure Booked as R&M but approved as Capex for GTPS (Rs Crore)**

Scheme (Rs. Crore)	Approved Capex	Actual
Replacement of HRSG Tubes	22.50	20.59
Electronic Governor	1.50	1.15

### Commission's Analysis

- 3.234 The Commission has scrutinised the capital additions submitted by the Petitioner. The Commission observed that Statutory Auditor/CAG had asked the Petitioner to consider some of the expenses that the Petitioner had made towards R&M expenses which were in the plan submitted as capital expenditure to the Commission. The Commission therefore, deems it appropriate not to consider such expenses as a part of Capital Additions and is of the view that such expenses should be financed from the R&M expenses already allowed by the Commission on normative basis. The Commission has therefore, not considered the expenses as capital additions.
- 3.235 The Commission further observed that in FY 2010-11 the Petitioner has included an excess amount of Rs 0.07 Crore in headquarters' (HQ) share which was being reflected in the books of account as adjustments. The Commission has apportioned this amount to RPH and GTPS in the ratio of 1:2 and has accordingly deducted an amount of Rs 0.05 Crore from the GTPS HQ's share.
- 3.236 The Commission with respect to other capital additions directed Petitioner to submit the cost benefit analysis for capital additions done during the Control Period which the Petitioner is yet to submit. The Commission therefore provisionally approves the Capital additions of Rs 30.43 Crore, Rs 20.05 Crore, Rs 25.19 Crore, Rs 32.70 Crore and Rs 5.97



Crore for FY 2007-08, FY 2008-09, FY 2009-10, FY 2010-11 and FY 2011-12 respectively. The same shall be finally trued up once the cost benefit analysis for the capital additions are submitted to the Commission. **The Petitioner is directed to submit the cost benefit analysis of capital additions done by it during the first Control Period within a period of 3 months from the date of issue of this Order.**

**Table 70: Capitalisation approved by the Commission (Rs Crore)**

Particulars	FY 2007-08		FY 2008-09		FY 2009-10		FY 2010-11		FY 2011-12	
	MYT Order	Trued Up	MYT Order	Trued Up	MYT Order	Trued Up	MYT Order	Trued Up	MYT Order	Trued Up
Capitalisation	40.00	30.43	38.53	20.05	27.73	25.19	16.46	32.70	11.05	5.97

## **Operations and Maintenance Expenses**

### **Petitioner's Submissions**

- 3.237 The Petitioner in its Petition has submitted that apart from the factor mentioned for RPH, it has additionally submitted that in the case of GTPS, R&M expenses are varying on year to year basis because of cyclic nature of maintenance activities of Gas turbines and therefore repair and maintenance expenditure will vary on year to year depending on the type of inspection carried out in the machines.
- 3.238 The Petitioner further submitted that the actual average inflation index during the Control Period was around 8%. The Petitioner further submitted that the Commission has provided an escalation factor of only 4% during the said period which is just half of the actual inflation index. The Petitioner has accordingly requested the Commission to true-up the O&M expenses with an escalation factor of 8%.
- 3.239 The Petitioner further submitted that the CERC has allowed higher O&M expenses of Rs. 22.90 Lakh/MW for small gas turbine power generating stations with an escalation of 5.72%. The Petitioner submitted that with the new CERC norms, the O&M expenses works out to around Rs.61.83 Crore for GTPS. The Petitioner further submitted that if the O&M expenses are computed on the basis of Agartala Gas Station, it works to Rs. 85.73 Crore. The Petitioner submitted the comparison of O&M expenses allowed by CERC vis-à-vis the DERC for FY 2009-10 and is as shown in the following table.



**Table 71 : Comparison of O&M with CERC normative base for FY 2009-10**

Station	Installed Capacity (MW)	Base Rate (CERC) (Rs. Lakh/MW)	Total O&M as per CERC Norms (Rs. Crore)	Allowed by DERC after Revision (Rs. Crore)	Difference (Rs. Crore)
GTPS	270	22.90	61.83	50.74*	11.09

\* Computed on allocating the impact of 6<sup>th</sup> pay Commission on year to year basis.

3.240 The Petitioner submitted that it may be observed from above table that norm set by CERC for the comparative stations are much higher as compared to the norm fixed by the Commission. Accordingly, the Petitioner has requested the Commission to adopt a liberal and more realistic view for O&M cost.

3.241 The Petitioner further submitted that Hon'ble Commission has allowed an additional O&M cost of Rs. 4.00 Crore for GTPS for each year from FY 2008-09 to FY 2010-11, for conversion of machines on liquid fuel. The Petitioner submitted the comparison of O&M expenses in Rs. Lakh/MW allowed vis-à-vis actual O&M expenses for GTPS and is shown under:

**Table 72 : Comparison of O&M Expenses allowed vis-à-vis Actual O&M**

(Rs. Lakh/MW)

Particulars	Actual	As per DERC*	As per CERC for small Gas Turbines	O&M Expenses escalated @ 8.00%
<b>FY 2007-08</b>	18.39	14.72		
<b>FY 2008-09</b>	19.34	17.90		
<b>FY 2009-10</b>	21.05	18.79	22.90	22.90
<b>FY 2010-11</b>	33.88	21.74	24.21	24.73
<b>FY 2011-12</b>	26.51	21.47	25.59	26.71

Note: Includes the additional O&M of Rs.4.0 Crore allowed for conversion of machines on liquid fuel from FY 2008-09 to FY 2010-11

Variation is due to cyclic nature of Repair & Maintenance expenditure

3.242 The Petitioner submitted that it is evident from above that the Commission has allowed lower O&M expenses for Gas Turbine Power station and even the normative O&M expenses allowed by CERC are on higher side.





- 3.243 The Petitioner submitted that the Commission in its Order dated August 26, 2011 has revised the amount of O&M expenses from FY 2007-08 onwards, based on the truing up of O&M expenses for FY 2006-07 after the necessary prudence check. The Petitioner submitted that in FY 2006-07 the repair & maintenance expenses in GTPS were on lower side as the major expenditure on Major Inspection was incurred in earlier years. The Petitioner submitted that as already submitted the repair & maintenance expenditure in GTPS is cyclic in nature and vary from year to year.
- 3.244 The Petitioner further submitted that it may be observed that GTPS has incurred an expenditure of Rs. 29.36 Crore in FY 2007-08, Rs. 23.94 Crore in FY 2008-09, Rs. 29.35 Crore in FY 2009-10 and Rs. 42.76 Crore in FY 2010-11. The Petitioner submitted that as the repair & maintenance expenditure for FY 2006-07 was on lower side being cyclic in nature, the same cannot become the benchmark for fixing the norm for the Control period FY 2007-08 to FY 2011-12. The Petitioner has accordingly requested the Commission to take a pragmatic view of the repair & maintenance expenses and allow the same considering the basic requirement of maintenance as per manufacturer's recommendations and practice being followed for gas turbines.
- 3.245 The Petitioner further submitted that even in MYT Regulations, 2007, the O&M expenses for the Control Period was to be fixed considering the estimates of O&M expenses for Control Period beside the actual audited expenses. The Petitioner submitted that, the Regulation was overlooked while fixing the O&M expenses.
- 3.246 The Petitioner further submitted that as per the Electricity Act, 2003, the Central Commission also acts as a guide to the State Commission. Therefore, it is prayed to the Commission to adopt a realistic approach for truing up the O&M expenses for the old age stations of IPGCL.
- 3.247 The Petitioner further submitted that the Hon'ble Appellate Tribunal for Electricity in Appeal No. 81 of 2007 against the DERC Tariff Order for FY 2006-07, directed to examine the individual items of expenditure on the concept of prudence check and disallow only those which it finds as avoidable or imprudently high. The Petitioner has accordingly requested the Commission to adopt the principle set out by Hon'ble ATE for truing-up the O&M expenses for the Control Period.



3.248 The Petitioner submitted the summary of the O&M expenses approved by Hon'ble Commission (including additional O&M expenses for conversion of two Gas Turbines on liquid fuel) vis-à-vis actual O&M expenses during MYT Control period from FY 2007-08 to FY 2011-12 as shown below.

**Table 73: Actual O&M expenses vis-à-vis that approved by the Commission (Rs Crore)**

<b>Particulars (Rs. Crore)</b>	<b>2007-08</b>		<b>2008-09</b>		<b>2009-10</b>		<b>2010-11</b>		<b>2011-12</b>		<b>Total</b>	
	<b>App.</b>	<b>Act.</b>	<b>App.</b>	<b>Act.</b>	<b>App.</b>	<b>Act.</b>	<b>App.</b>	<b>Act.</b>	<b>App.</b>	<b>Act.</b>	<b>App.</b>	<b>Act.</b>
<b>Employee Expenses</b>	12.79	15.71	13.96	19.71	26.07	18.58	26.02	37.06	30.87	34.32	<b>109.71</b>	<b>125.38</b>
<b>R&amp;M</b>	16.00	29.36	20.64	23.94	21.31	29.35	22.00	42.76	18.72	22.09	<b>98.67</b>	<b>147.50</b>
<b>A&amp;G</b>	9.39	6.79	10.23	8.57	10.71	8.90	10.68	11.66	11.85	15.16	<b>52.86</b>	<b>51.08</b>
<b>Total</b>	<b>38.18</b>	<b>51.86</b>	<b>44.83</b>	<b>52.22</b>	<b>58.09</b>	<b>56.83</b>	<b>58.70</b>	<b>91.48</b>	<b>61.44</b>	<b>71.57</b>	<b>261.24</b>	<b>323.96</b>

3.249 The Petitioner submitted that lower fixation of O&M expenses as compared to actual O&M expenses has impacted the finances of the company, which in turn is affecting its functioning and development works.

3.250 The Petitioner further submitted that the pension and other terminal benefits of the employees transferred from erstwhile Delhi Vidyut Board is being dealt by DVB Employees Terminal Benefits Fund, 2002. The Petitioner submitted that the trust vide its letter December 15, 2009 has communicated a demand of 159.51 Crore towards the share of IPGCL for shortfall in funds as per the actuarial valuation done by the trust as on April 01, 2007. The Petitioner further submitted that DVB Employees Terminal Benefits Fund, 2002 (Pension Trust) has raised an additional demand of 32.35 Crore for FY 2011-12 on account of medical expenses, LTC and arrears of Pension and shortfall of pension and other terminal benefits. The Petitioner submitted that it has not accounted for this amount in this Petition except of Rs. 6.98 Crore towards medical and LTC. The Petitioner further submitted that in case, any further demand from Pension Trust is required to be paid in future, the same may kindly be allowed as part of the employee cost as the same is uncontrollable factor.

3.251 The Petitioner has accordingly requested the Commission to adopt a relaxed and realistic approach for truing-up the O&M expenses for the stations of IPGCL.

3.252 The Petitioner further submitted that the Hon'ble Commission appointed CEA to make an assessment of O & M expenditure of IPGCL. The Petitioner has reproduced relevant portions of the CEA recommendations as under:

“

- i) -----
- ii) *The actual expenses on various components of O&M expenses are higher for the year 2004-05 as compared to the above normative levels. In order to ensure continued plant operation, it is prudent that the normative O&M expenses may be considered as future benchmarks to be achieved over a period of time, say 3-5 years. Till then, it is recommended that the well audited actual expenses may form the basis for 2004-05 with yearly targeted improvement for future.*
- iii) *There shall be specific commitment for targeted improvement in future*
- iv) *The large employee strength is a matter of concern as it is resulting in large outgo of funds towards salary etc. There is need to restructuring/redeployment of existing staff in a more productive manner for which a separate study can be conducted by an expert/consultant.”*

3.253 The Petitioner submitted that it may be observed from the above report that CEA recommended a transition period of 3 to 5 years to reach the O&M norms however the same was not allowed to IPGCL except for during FY 2006-07 for implementing the Hon'ble Appellate Tribunal Order.

3.254 The Petitioner submitted that the Hon'ble Commission has extended the principles of MYT Control Period for FY 2007-08 to FY 2010-11 to the next FY 2011-12. The Petitioner has submitted that CERC has issued Central Electricity Regulatory Commission (Terms and Conditions of Tariff), Regulations, 2009. The Central Commission has modified number of parameters in the regulations. The Petitioner further submitted that DERC MYT Regulations, 2007 were framed in the year 2007 for the Control Period from FY 2007-08 to FY 2010-11. The Petitioner submitted that various circumstances and applicable principles have changed and therefore the principles as mentioned in the MYT Regulations cannot be extended in to-to for the financial year



2011-12. The Petitioner has prayed that the truing up for FY 2011-12 may kindly be done in the light of present circumstances and new CERC Tariff Regulations.

- 3.255 The Petitioner submitted that Hon'ble Commission in its Order dated 26.08.2011 has revised the O&M expenses for RPH and GTPS however, the revised O&M expenses are even lower than the base O&M expenses allowed by CERC for similar stations for base year 2009-10.
- 3.256 The Petitioner has submitted that clause 6.30 and 6.31 of MYT Regulations, 2007 provides that O&M expenses for base year shall be determined based on latest audited accounts/actuals, estimates for relevant years and other factors considered relevant after prudence check and clause 6.41 of MYT Regulations, 2011 provides that O&M expenses for base year shall be determined based on latest accounting statements, estimates of the generating company for relevant years and other factors considered relevant.
- 3.257 The Petitioner submitted that the Hon'ble Appellate Tribunal for Electricity in appeal No. 81 of 2007 against the DERC Tariff Order for FY 2006-07 decided this issue in its Judgment dated January 10, 2008, as under:

*"O&M Expenses: As mentioned in Paragraphs above, the Commission has strictly adhered to the normative increase as suggested by the CEA. The petitioner requested the Commission to ask the CEA to re-consider the report. The Commission, however, went by the CEA report which according to the Commission had been prepared after taking all relevant parameters of operation into consideration. The Commission, however, was uncertain as to how long the IP station can be operated based upon various conditions imposed by statutory authority / courts etc. The Commission therefore did not relax the norms. However, the Commission did not consider if it was proper to give any further time to the appellant to improve its performance for the purpose of reducing cost.*

*11) Reverting to the report of the CEA, we find that the authority itself never meant that the norms prescribed by it be strictly taken for compliance. In recommendation No.VI, the authority itself says that the assessment is recommendatory in nature and within the framework of constraints / limitations of the data furnished. The Commission feels satisfied with applying the CEA norms and also feels compelled to*



*do so for otherwise the interest of consumers will suffer. The Commission is duty bound to allow all reasonable O&M expenses as pass through. The Commission is allowed to only impose a prudence check. If the O&M expense had escalated within the norms prescribed by CEA, the task of the Commission would have been quite easy. However, in the present case, the O&M expenses have gone higher than the CEA norms. The Commission, therefore, was required to examine the expenditure incurred by the appellant for various purposes and to detect if the appellant had incurred any avoidable expense. The appellants are only successors in interest of the erstwhile DVB and it has inherited some old power plants. It, along with power plant, has also received a large number of employees which in the present legal regime cannot be shed immediately. The appellant has attempted to reduce the number of employees by offering VRS. The plant being old the maintenance expense can also be higher than what is estimated at the given point of time. The fact that the appellant has been making efforts to improve its performance is clear from the figures of actual heat rate for 2005-06 and 2006-07 which show that there is a fall in the station heat rate in 2006 compared to in the year 2005. It cannot be said that the appellant had altogether been irresponsible in its expenditure. Therefore, it will be appropriate for the Commission to examine individual items of expenditure and disallow only those which it finds as avoidable or imprudently high. We had an occasion to examine the concept of prudence check in the case of NDPL Vs. DERC Energy Law Reports (APTEL) 2007 193. The Commission had allowed an A&G expenses for distribution companies of Delhi only to the escalation of 4% over the previous year's expenses. The Commission had made deduction on account of legal expenses and other general expenses. We held that the Commission would have to allow such expenses which are justifiable and can disallow such expenditures which were not justified. The Commission cannot simply apply the normative rates of escalation and feel that its function of regulation is thereby over. While the Commission is duty bound to regulate the generation, transmission and distribution keeping in view the interest of consumers, it is also bound to see that the generator, transmitter and distributor gets a fair return, over and above the expenses. We, therefore, have no option but to hold that the Commission has to do some more exercise in arriving at the correct figure of O&M expenses which can be taken as pass through in tariff. It has to examine individual items of expenditure and reject those which were clearly avoidable or imprudent or impermissible and allow the rest as pass through."*



- 3.258 The Petitioner further submitted that the Hon'ble Appellate Tribunal of Electricity in the Appeal No. 26 of 2008 filed by IPGCL against the MYT Tariff Order from FY 2007-08 to FY 2010-11 has given the following ruling in its Judgment dated April 07, 2011 with respect to O & M expenses:

*“27. That apart, the 6th Pay Commission's recommendations is said to have been implemented by the Appellant. Due to this, the employees' cost got increased. In the impugned order, the State Commission had accepted this claim and assured to allow the employees' cost subject to its implementation. It is now pointed out that the said recommendations have been actually implemented by the Appellant. Hence, the State Commission is directed to allow the said cost at the requisite level. We have noticed that the State Commission has already decided in its order dated 20.07.2009 that the appropriate escalation should be applied on the base year operation and maintenance expenses. Further, according to the learned counsel for the State Commission the increase as per 6th Pay Commission Report will be given effect on actual basis as early as possible. Accordingly, we direct to give effect to the appropriate escalation in the base year expenses based on actual/audited expenditure and increase to the 6th Pay Commission Report at the earliest.”*

- 3.259 The Petitioner has accordingly requested the Commission to true- up the actual O&M expenses during the Control Period from FY 2007-08 to FY 2011-12.

### **Commission's Analysis**

- 3.260 The Commission with regards to Hon'ble ATE's Judgment in Appeal No. 81 of 2007 dated January 10, 2008 has already complied with it and had revised the base year expenses for FY 2006-07 after examining O&M expenses in detail through its letter dated December 03, 2009. The revised base year expenses have been duly considered for projecting the expenses for the first Control Period as per the provisions of DERC MYT Regulations, 2007.
- 3.261 Further, with regards to Hon'ble ATE's Judgment in Appeal No. 26 of 2008 dated April 07, 2011 the Commission has already allowed impact of sixth pay Commission for the first Control Period from FY 2007-08 to FY 2011-12.





- 3.262 Further, DERC MYT Regulations, 2007 doesn't provide for truing up of O&M expenses and as per Regulation 5.7, of DERC MYT Regulations, 2007 O&M expenses are deemed to be controllable and it also specifies that any financial gain or loss on account of variation in controllable parameter shall not be adjusted in tariff.
- 3.263 The Commission has approved the O&M expenses as per the DERC Tariff Regulations, 2007 on normative basis and the escalation rate of 4% has been applied. The O&M expenses is a controllable factor and hence the Commission doesn't find any reason to revisit the same. .
- 3.264 In the Tariff Order for FY 2011-12, the Commission had, revised the base O&M Expenses for the Control Period, and had considered the Impact of 6<sup>th</sup> Pay Commission on Employee Cost & CISF Expenses and Impact of Transfer of Employees from I.P. Power Station to GTPS on the O&M Expenditure after decommissioning of I.P. Station. While approving the O&M expenses in its Tariff Order dated August 26, 2011 the Commission had provisionally approved the impact of 6<sup>th</sup> Pay Commission on CISF Expenses and impact of Transfer of Employees from I.P. Power Station. The Commission had stated that it shall true-up these expenses at the end of the extended Control Period once the actual impact on account of same is known. In this regard, the Commission in its additional queries directed the Petitioner to submit the actual CISF Expenses and impact of Employees Transferred from I.P. Power Station to GTPS.
- 3.265 The Petitioner in its response submitted the additional impact of sixth pay Commission on CISF expenses as shown in the table below:

**Table 74: Actual CISF Expenses submitted by the Petitioner (Rs Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY2011-12
Actual Expenses	3.39	3.78	3.96	3.92	3.98

- 3.266 The Petitioner further submitted that the actual CISF expenses in FY 2006-07 were Rs 1.80 Crore.
- 3.267 The Commission while approving the O&M expenses for FY 2007-08 to FY 2011-12 had



considered the actual CISF expenses for FY 2006-07 in the base O&M expenses and had escalated it by 4% to derive the approved O&M expenses for the Control Period. In addition to that, the Commission had provisionally allowed additional impact of Sixth Pay Commission on CISF expenses in its Tariff Order for FY 2011-12. Therefore, the Commission has only considered the difference in actual CISF expenses due to impact of sixth pay Commission and that already allowed by the Commission while carrying out the truing up as shown in the table below.

**Table 75: Additional Impact on account of CISF Expenses (Rs Crore)**

<b>Particulars</b>	<b>FY 2006-07</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Approved in MYT Order (a)	1.798	1.87	1.95	2.02	2.10	2.19
Additional Impact of VI th Pay allowed in August 26, Order for FY 2011-12 (b)		1.43	1.96	2.10	1.73	1.80
Actual CISF Expenses incurred (c)		3.39	3.78	3.96	3.92	3.98
Excess/(Deficit) (a+b-c)		-0.09	0.13	0.16	-0.08	0.01

3.268 The Petitioner with regards to the impact of transfer of employees of I.P. station submitted that 4 employees were transferred from I.P. station to GTPS. Further, 94 employees were transferred to Headquarters. The Petitioner submitted the impact on employee expenses on account of such transfer and is as shown in the table below:

**Table 76: Additional Impact on account of transfer of Employees from I.P Station (Rs Cr)**

<b>Particulars</b>	<b>GTPS</b>
FY 2010-11	4.41
FY 2011-12	3.65
TOTAL	8.06

3.269 The Commission in its additional queries directed the Petitioner to submit the detailed



methodology followed by it to compute the impact of transfer of employees from I.P Station to GTPS. In reply the Petitioner submitted that the impact has been computed on the basis of actual payments on account of salaries made to the employees who got transferred from I.P Station. The Petitioner further submitted supporting documents to substantiate its claim.

3.270 The Commission observed that the Petitioner has allocated the expenses of entire employees transferred to Headquarters to IPGCL, which further has been allocated to RPH and GTPS in the ratio of 1:2 derived based on the capacity of the plant. The Petitioner has not allocated any cost of the employees transferred to Head office to PPCL stations.

3.271 The Commission is of the view that the head office expenses of IPGCL should also be allocated to PPCL as the office of IPGCL and PPCL is common and therefore the Commission has reallocated the impact to these stations based on the Capacity of the stations. The following table shows the net impact as approved by the Commission.

**Table 77: Impact of transfer of employees of I.P. Station to GTPS and HQ (Rs Crore)**

Particulars	Petitioner			Trued Up		
	Direct Transfer	HQ share	Total	Direct Transfer	HQ share	Total
FY 2010-11	0.29	4.12	4.41	0.29	0.79	1.08
FY 2011-12	0.29	3.36	3.65	0.29	0.65	0.94
Total	0.58	7.48	8.06	0.58	1.44	2.02

3.272 Further, the Commission in its Order dated August 26, 2011 with regards to SAP License fee for FY 2010-11 of Rs 1.15 Crore had stated that the same shall be considered at the time of truing up of FY 2010-11. Since the SAP License fee pertains to both IPGCL and PPCL the Commission has therefore apportioned the License Fee on IPGCL in the same ratio as was considered by the Commission in its Tariff Order for FY 2011-12. The Commission has accordingly considered 19.23% of Rs 1.15 Crore as IPGCL share. The Commission has further allocated the expense to RPH and GTPS in the ratio of 1:2 in the ratio of their installed capacity. Accordingly, the Commission allows additional expense of Rs 0.15 Crore toward ERP License fees for FY 2010-11.

- 
- 3.273 In addition to that the Commission had approved additional O&M expenses of Rs 4 Crore per year for FY 2008-09 to FY 2010-11 on account of liquid conversion of gas turbines vide letter dated January 21, 2008. The Commission has accordingly included the cost while truing up the O&M expenses.
- 3.274 The Commission with respect to the Petitioner's claim of amount towards Pension trust is of the view that the matter is sub-judice and therefore a view shall be taken on the same once the Judgment is delivered.
- 3.275 The Commission has carried out detailed scrutiny of the expenses as discussed above and accordingly the Commission has approved the O&M expenses for the Control Period shown in the next table.



**Table 78: O&M Expenses as trued up for the Control Period (Rs Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10			FY 2010-11			FY 2011-12		
	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up
Employee Expenses	12.79	15.71	12.79	13.30	19.71	13.30	13.84	18.58	13.84	14.39	37.06	14.39	21.15	34.32	21.15
R&M Expenses	16.00	29.36	16.00	16.64	23.94	16.64	17.31	29.35	17.31	18.00	42.76	18.00	18.72	22.09	18.72
A&G Expenses	7.96	6.79	7.96	8.27	8.57	8.27	8.61	8.90	8.61	8.95	11.66	8.95	10.05	15.16	10.05
<b>Base O&amp;M Expenses</b>	<b>36.75</b>	<b>51.86</b>	<b>36.75</b>	<b>38.22</b>	<b>52.22</b>	<b>38.22</b>	<b>39.75</b>	<b>56.83</b>	<b>39.75</b>	<b>41.34</b>	<b>91.48</b>	<b>41.34</b>	<b>49.92</b>	<b>71.57</b>	<b>49.92</b>
Impact of 6 <sup>th</sup> Pay Commission	-	-	-	0.66	-	0.66	12.23	-	12.23	5.95	-	5.95	3.47	-	3.47
<b>Total O&amp;M Expenses</b>	<b>36.75</b>	<b>51.86</b>	<b>36.75</b>	<b>38.88</b>	<b>52.22</b>	<b>38.88</b>	<b>51.98</b>	<b>56.83</b>	<b>51.98</b>	<b>47.29</b>	<b>91.48</b>	<b>47.29</b>	<b>53.40</b>	<b>71.57</b>	<b>53.39</b>
Additional CISF Expenses	1.43		1.52	1.96		1.83	2.10		1.94	1.73		1.81	1.80		1.79
Additional Employee Cost for IP Station Employees	-	-	-	-	-	-	-	-	-	5.68	-	1.08	6.25	-	0.94
<b>Total</b>	<b>38.18</b>	<b>51.86</b>	<b>38.27</b>	<b>40.84</b>	<b>52.22</b>	<b>40.71</b>	<b>54.08</b>	<b>56.83</b>	<b>53.92</b>	<b>54.70</b>	<b>91.48</b>	<b>50.19</b>	<b>61.45</b>	<b>71.57</b>	<b>56.12</b>
Additional O&M Expenses approved on conversion of Gas Turbine to LF**	-	-	-	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	-	-	
Add: Licensee Fee ERP												0.15			



Particulars	FY 2007-08			FY 2008-09			FY 2009-10			FY 2010-11			FY 2011-12		
	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up	ARR Order for FY 2011-12	Petition	Trued Up
Total Trued Up O&M Expenses	38.18	51.86	38.27	44.84	56.22	44.71	58.08	60.83	57.92	58.70	95.48	54.33	61.45	71.57	56.12

\*\* Approved vide letter dated January 21, 2008



## **Depreciation**

### **Petitioner's Submissions**

- 3.276 The Petitioner in its Petition has submitted that the opening GFA at the beginning of the FY 2007-08 for the purpose of depreciation has been considered as per the books. The Petitioner has further submitted that there has been difference in the GFA as on March 31, 2007 considered by the Commission in its MYT Tariff Order dated December 14, 2007 and the actual gross fixed assets as per the books. The Petitioner has submitted that the difference has been mainly due to capital additions made by the Petitioner during FY 2002-03 to FY 2004-05 which has not been considered by the Commission.
- 3.277 The Petitioner submitted that the depreciation amount during the Control Period from FY 2007-08 to FY 2011-12 has been considered on the average of fixed assets in use based upon the weighted average rate allowed by the Commission in its Tariff Orders dated December 14, 2007 and August 26, 2011. The Petitioner has submitted the truing up impact of depreciation as shown in the table below.

**Table 79: Depreciation for GTPS as submitted by the Petitioner (Rs Crore)**

<b>Description</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Additional Impact of Truing Up	0.35	-0.35	-0.76	-0.01	0.87
Allowed in the Tariff Order	18.97	21.48	23.47	24.79	25.47
Total Depreciation	19.32	21.13	22.71	24.78	26.34

Note: Includes additional impact approved by the Hon'ble Commission for conversion of two gas turbines on liquid fuel from FY 2007-08 to FY 2010-11

### **Commission's Analysis**

- 3.278 The Commission observed that the Petitioner has submitted an Opening Gross Fixed Asset of Rs 310.18 crore as on April 01, 2007 as against the Commission approved value



of Rs 296.52 Crore. The Commission in its additional queries directed the Petitioner to reconcile the difference. The Petitioner in its reply submitted that IPGCL in its Petition has submitted the opening GFA as per company's books on April 01, 2007 was Rs. 612.50 Crore against Commission's approved GFA of Rs. 589.20 Crore. In this regard the Petitioner further submitted that during FY 2002-03 & FY 2003-04, the Petitioner had made capital additions of Rs. 24.81 Crore & Rs. 7.61 Crore respectively.

- 3.279 The Petitioner further submitted that it has taken its opening GFA as Rs. 510.00 Crore in FY 2002-03 while the Commission has considered the opening GFA of Rs. 510.00 Crore in FY 2004-05 onwards. The Petitioner submitted that the Commission has not included any capital additions in FY 2002-03 & FY 2003-04. The Petitioner has accordingly requested the Hon'ble Commission to allow the opening GFA of Rs. 510.00 Crore for FY 2002-03 and the GFA of Rs. 612.50 Crore as on April 01, 2007 with all the capitalization that it had made during the subsequent years.
- 3.280 The Petitioner however, did not submit the station wise details of assets capitalisation and whether such capital additions were approved by the Commission.
- 3.281 The Commission further directed the Petitioner to submit detailed justification for not submitting the capital additions details for FY 2002-03 and FY 2003-04 while the truing up for those years were carried out by the Commission. Further, the Petitioner did not submit such details along with its MYT Petition for first Control Period. The Petitioner has not replied to the query asked by the Commission.
- 3.282 The Commission in absence of any justification provided by the Petitioner, provisionally approves the Opening GFA as approved in the MYT Order dated December 14, 2007. The same shall be given finality once the justification is submitted. The Commission has accordingly computed depreciation on the Opening GFA as approved by the Commission in the MYT Order for the first Control Period and on the capital additions made during the Control Period.
- 3.283 Accordingly the year wise provisionally approved GFA is as shown in the table below:



**Table 80: Provisionally Approved GFA for IP GTPS Station (Rs. Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Opening GFA	296.52	326.95	347.00	372.19	404.89
Addition	30.43	20.05	25.19	32.70	5.97
Closing GFA	326.95	347.00	372.19	404.89	410.86

- 3.284 Further, the Commission had approved additional depreciation of Rs 0.15 Crore for FY 2008-09 to FY 2010-11 through its letter dated January 21, 2008 on account of liquid conversion of Gas turbine. However, the same was approved on the assumption that the cost of conversion will be Rs 3 Crore. The actual expenses as submitted by the Petitioner for liquid conversion is Rs 1.46 Crore and therefore, the Commission has considered depreciation on the actual capital additions done by the Petitioner.
- 3.285 The Commission for computation of depreciation on Opening GFA has considered the same rate of depreciation as considered by it in MYT Order dated December 14, 2007.
- 3.286 With regards to depreciation on additional capitalisation, the Commission has considered asset class wise depreciation rates as specified in Appendix-1 of the DERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007.
- 3.287 The following table shows the depreciation approved by the Commission, claimed by the Petitioner and that trued up for the Control Period.

**Table 81: Depreciation as Approved by the Commission (Rs Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10			FY 2010-11			FY 2011-12		
	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	TO for FY 2011-12	Petition	Trued Up
Depreciation	18.97	19.32	18.68	21.48	21.13	20.22	23.47	22.71	21.58	24.79	24.78	23.31	25.47	26.34	24.46

## Return On Equity

### Petitioner's Submissions

- 3.288 The Petitioner has submitted that the Commission had approved an opening equity of Rs



79.24 Crore for GTPS as on April 01, 2007. The Petitioner has submitted that it has considered the same opening equity and has added 30% of capital expenditure incurred during the year in the opening equity to claim return on equity at 14%. The Petitioner has accordingly submitted the return on equity claimed by it and is as shown in the table below.

**Table 82: Return on Equity as claimed by the Petitioner (Rs Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Additional Impact of truing-up	-0.20	-0.85	-1.13	-0.61	0.04
Allowed in Tariff Order	11.93	13.72	15.11	16.04	16.48
Total Return on Equity	11.73	12.87	13.98	15.43	16.52

### **Commission's Analysis**

- 3.289 The Commission has gone through the submissions made by the Petitioner. The Petitioner has claimed RoE on average equity during the year in line with the DERC MYT Tariff Regulations, 2007. The Commission has also computed RoE at the rate of 14% on the basis of opening equity as approved by the Commission as on April 01, 2007 in its MYT Order for first Control Period and on the equity component of approved capital additions during the year.
- 3.290 Further, the Commission had approved additional RoE of Rs 0.136 Crore for FY 2008-09 to FY 2010-11 through its letter dated January 21, 2008 on account of liquid conversion of Gas turbine. However, the same was approved on the assumption that the cost of conversion will be Rs 3 Crore. The actual expenses as submitted by the Petitioner for liquid conversion is Rs 1.46 Crore and therefore, the Commission has considered RoE on the actual capital additions done by the Petitioner.
- 3.291 The following table shows the return on equity as approved by the Commission in the MYT Order dated December 14, 2007, as claimed by the Petitioner and that approved by the Commission.





**Table 83: Return on Equity as approved by the Commission (Rs Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10			FY 2010-11			FY 2011-12		
	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	TO for FY 2011-12	Petition	Trued Up
Opening Equity	79.24	79.24	79.24	91.24	88.37	88.37	102.80	95.49	94.38	111.12	104.16	101.94	116.06	116.22	111.75
Additions	12.00	9.13	9.13	11.56	7.12	6.01	8.32	8.67	7.56	4.94	12.06	9.81	3.32	3.52	1.79
Closing Equity	91.24	88.37	88.37	102.80	95.49	94.38	111.12	104.16	101.94	116.06	116.22	111.75	119.38	119.74	113.54
Average Equity	85.24	83.81	83.81	97.02	91.93	91.38	106.96	99.83	98.16	113.59	110.19	106.85	117.72	117.98	112.65
Rate of Return	14.00%														
<b>Total RoE</b>	<b>11.93</b>	<b>11.73</b>	<b>11.73</b>	<b>13.72</b>	<b>12.87</b>	<b>12.79</b>	<b>15.11</b>	<b>13.98</b>	<b>13.74</b>	<b>16.04</b>	<b>15.43</b>	<b>14.96</b>	<b>16.48</b>	<b>16.52</b>	<b>15.77</b>

## Interest On Loan

### Petitioner's Submissions

- 3.292 The Petitioner in its Petition has submitted that as per Delhi Electricity Reforms (Transfer Scheme) Rules 2001, Rs 210 Crore of unsecured loan was transferred to IPGCL as on July 01, 2002 and was repayable to holding company. The Petitioner further submitted that the loan was allocated station wise based on the GFA of the stations and the loan transferred to GTPS was Rs 118.86 Crore.
- 3.293 The Petitioner submitted that in addition to that, plan funds loan from Delhi Government was taken @ 13% interest in FY 2002-03 and from FY 2003-04 and thereafter, the plan funds interest rate is @ 11.50%. The Petitioner further submitted that a penal interest of 2.75% is payable in case of default in payment of interest on principal amount and the penal interest has been accounted in the ARR.
- 3.294 The Petitioner further submitted that it made certain capital additions during the Control Period from FY 2007-08 to FY 2011-12. The same has been funded through internal accruals/loan from GNCTD.
- 3.295 The Petitioner submitted that it made certain capital additions during the Control Period FY 2007-08 to FY 2011-12. The same has been submitted to be funded through internal



accruals/loan from GNCTD. The Petitioner further submitted that it has taken the loan amount of Rs 11.10 Crore on October 31, 2007 and an advance loan of Rs 25.86 Crore on March 03, 2008 at the rate of 11.50% from GNCTD during the MYT Control Period from FY 2007-08 to FY 2011-12 to meet the capital additions and routine repair and maintenance activities for GTPS.

- 3.296 The Petitioner further submitted that the Commission has approved the capital additions during the MYT Period from FY 2007-08 to FY 2011-12. The Petitioner further submitted that the Commission has allowed 90% of the approved capital additions from FY 2007-08 to FY 2010-11 in RPH and GTPS and 100% of approved capital additions in FY 2011-12 for GTPS for the purpose of computing the tariff. Further, the Commission has considered and allowed an additional normative loan of 70% on capital addition from FY 2007-08 to FY 2011-12 at an interest rate of 11.50%. The Petitioner submitted that it has considered 70% of the capital additions to be funded through loans in line with the Regulations and at the rate of 11.50% per annum. The Petitioner accordingly submitted the impact of truing up of interest on loan charges as shown in table below and has requested the Commission to approve the same.

**Table 84: Interest Charges as submitted by the Petitioner (GTPS) (Rs Crore)**

Particulars	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Additional Impact of truing-up	0.39	1.60	2.01	0.82	-0.53
Allowed in Tariff Order	24.70	25.70	25.32	23.92	21.66
Total Interest Charges	24.31	24.10	23.31	23.10	22.19

Note: Includes additional impact approved by the Hon'ble Commission for conversion of two gas turbines on liquid fuel from FY 2007-08 to FY 2010-11

### **Commission's Analysis**

- 3.297 The Commission has gone through the submissions made by the Petitioner and computations submitted with regards to interest expenses. The Commission had already allowed interest expenses in the MYT Order dated December 14, 2007, based on the opening loans approved and the approved capital additions. However, since the Commission has now trued up the additional capital additions for the Control Period, the Commission has accordingly recomputed the interest expenses. The Petitioner in its additional submissions with regards to funding of such capital additions has submitted



that it has not taken any actual loans to fund its capital additions. The Commission has therefore considered 70% of such capital additions to be funded through normative loan. For computing the interest on normative loans the interest rate has been considered as 11.50% as approved by the Commission in its MYT Order for first Control Period.

- 3.298 Further, the Commission had approved additional Interest on Loan of Rs 0.268 Crore through its letter dated January 21, 2008 for FY 2008-09 to FY 2010-11 on account of liquid conversion of Gas turbine. However, the same was approved on the assumption that the cost of conversion will be Rs 3 Crore. The actual expenses as submitted by the Petitioner for liquid conversion is Rs 1.46 Crore and therefore, the Commission has considered Interest on Loan on the actual capital additions done by the Petitioner.
- 3.299 The following table shows the total interest expenses approved by the Commission in its MYT Order for first Control Period, as claimed by the Petitioner and that approved by the Commission.

**Table 85: Interest Expenses as approved by the Commission (Rs. Crore)**

Particulars	FY 2007-08			FY 2008-09			FY 2009-10			FY 2010-11			FY 2011-12		
	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	MYT Order	Petition	Trued Up	TO for FY 2011-12	Petition	Trued Up
Interest on Loan	24.70	24.31	24.33	25.70	24.10	24.03	25.32	23.31	23.00	23.92	23.10	22.36	21.66	22.19	20.97

### **Interest on Working Capital**

- 3.300 The Petitioner in its Petition has submitted that the Commission has revised the O&M expenses of the station from FY 2007-08 to FY 2010-11 vide its Order dated August 26, 2011, but no impact of the difference of O&M expenses was considered in the working capital on account of O&M expenses for one month and receivable equivalent to two months. The Petitioner accordingly submitted that the impact of truing up of O&M expenses as per this Petition and approved vide Order dated August 26, 2011 for GTPS has been considered in the computation of working capital in the present tariff Petition. The Petitioner has further submitted that the variation in other components such as Return on Equity, Interest on Loan, depreciation etc. will also have an impact on the receivables.
- 3.301 The Petitioner submitted that the interest rate has been considered as approved by the Commission in its Tariff Order dated December 14, 2007 for FY 2007-08 to FY 2010-11 and Order dated August 26, 2011 for FY 2011-12.



- 3.302 The Petitioner has accordingly submitted the impact of true up on interest on working capital as shown in the table below and has requested the Commission to approve the same. The Petitioner has accordingly submitted the impact of true up on interest on working capital as shown in the table below and has requested that the Commission approve the same.

**Table 86: Interest on Working Capital as submitted by GTPS (Rs Crore)**

Description	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Additional Impact on Working Capital	4.15	1.57	2.64	11.27	-0.33
Rate of Interest	12.75%	12.75%	12.75%	12.75%	13.00%
Additional Impact on IoWC	0.53	0.20	0.34	1.44	-0.04
Approved IoWC	11.87	25.03	25.69	26.42	22.84
Total Proposed revised IoWC	12.40	25.22	26.03	27.86	22.80

Note: Includes additional impact approved by the Hon'ble Commission for conversion of two gas turbines on liquid fuel from FY 2007-08 to FY 2010-11

### **Commission's Analysis**

- 3.303 The Petitioner has computed increase in interest on working capital considering the impact of capital expenditure on depreciation, O&M expenses, interest on term loan and return on equity and revision of Fuel Cost.
- 3.304 The Commission is of the view that it has already provided enough escalation on working capital and had accounted the prospective increase in the working capital requirement while approving interest on working capital during MYT Order. The escalation of 4% provided by the Commission was applicable on the entire working capital requirement which includes receivables, O&M expenses, maintenance spares and fuel expenses. Therefore, the Commission has not trued up the interest on working capital due to additional capital expenditure, revision in O&M expenses and increase in fuel cost, however, the Commission has considered additional IoWC allowed through letter dated January 21, 2008 on account of liquid fuel conversion of two gas turbines.



### Revenue Gap/Surplus

3.305 The Commission based on the above analysis has determined the year wise revenue gap/surplus as shown in the table below.

**Table 87: Revenue Gap/Surplus approved for FY 2007-08 (Rs Crore)**

Particulars	Units	FY 2007-08					
		Approved Cost in MYT Order/ Tariff Order FY 2011-12 (A)	Actual Recovered as Fixed Charges (B)	Submitted by Petitioner (C)	Trued Up (D)	Trued Up cost after FC disallow ed (E)	Surplus (+)/ Deficit (-) (B) -(E )
O&M Expenses	Rs Crore	38.18	<b>92.04</b>	51.86	38.27	<b>91.37</b>	<b>0.67</b>
Depreciation	Rs Crore	18.97		19.32	18.68		
Advance Against Depreciation	Rs Crore	0.00		0.00	0.00		
Interest on Loans	Rs Crore	24.70		24.31	24.33		
Return on Equity	Rs Crore	11.93		11.73	11.73		
Interest on Working Capital	Rs Crore	11.87		12.40	11.87		
<b>Total Annual Fixed Cost</b>	<b>Rs Crore</b>	<b>105.65</b>		<b>119.62</b>	<b>104.89</b>		

\*Since the Plant availability for FY 2007-08 was 60.98% hence fixed charges has been reduced proportionately

**Table 88: Revenue Gap/Surplus approved for FY 2008-09 (Rs Crore)**

Particulars	Units	FY 2008-09			
		Approved Fixed Cost in MYT Order /Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Trued Up (C )	Surplus (+)/ Deficit (-) (A) -(C )
O&M Expenses	Rs Crore	44.84	52.22	44.71	0.13
Depreciation	Rs Crore	21.48	21.13	20.22	1.26
Advance Against Depreciation	Rs Crore	0.00	0.00	0.00	0.00
Interest on Loans	Rs Crore	25.70	24.10	24.03	1.67
Return on Equity	Rs Crore	13.72	12.87	12.79	0.93
Interest on Working Capital	Rs Crore	25.03	25.23	25.03	0.00



Particulars	Units	FY 2008-09			
		Approved Fixed Cost in MYT Order /Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Trued Up (C)	Surplus (+)/ Deficit (-) (A) -(C)
<b>Total Annual Fixed Cost</b>	<b>Rs Crore</b>	<b>130.77</b>	<b>135.55</b>	<b>126.79</b>	<b>3.98</b>

**Table 89: Revenue Gap/Surplus approved for FY 2009-10 (Rs Crore)**

Particulars	Units	FY 2009-10			
		Approved Fixed Cost in MYT Order /Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Trued Up (C)	Surplus (+)/ Deficit (-) (A) -(C)
O&M Expenses	Rs Crore	58.08	56.83	57.92	0.16
Depreciation	Rs Crore	23.47	22.71	21.58	1.89
Advance Against Depreciation	Rs Crore	0.00	0.00	0.00	0.00
Interest on Loans	Rs Crore	25.32	23.31	23.00	2.32
Return on Equity	Rs Crore	15.11	13.98	13.74	1.37
Interest on Working Capital	Rs Crore	25.69	26.03	25.69	0.00
<b>Total Annual Fixed Cost</b>	<b>Rs Crore</b>	<b>147.67</b>	<b>142.86</b>	<b>141.92</b>	<b>5.74</b>

**Table 90: Revenue Gap/Surplus approved for FY 2010-11 (Rs Crore)**

Particulars	Units	FY 2010-11			
		Approved Fixed Cost in MYT Order /Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Trued Up (C)	Surplus (+)/ Deficit (-) (A) -(C)
O&M Expenses	Rs Crore	58.70	91.48	54.33	4.37
Depreciation	Rs Crore	24.79	24.78	23.31	1.48
Advance Against Depreciation	Rs Crore	0.00	0.00	0.00	0.00



Particulars	Units	FY 2010-11			
		Approved Fixed Cost in MYT Order /Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Trued Up (C )	Surplus (+)/ Deficit (-) (A) -(C )
Interest on Loans	Rs Crore	23.92	23.10	22.36	1.56
Return on Equity	Rs Crore	16.04	15.43	14.96	1.08
Interest on Working Capital	Rs Crore	26.42	27.86	26.42	0.00
<b>Total Annual Fixed Cost</b>	<b>Rs Crore</b>	<b>149.87</b>	<b>182.65</b>	<b>141.38</b>	<b>8.48</b>

**Table 91: Revenue Gap/Surplus approved for FY 2011-12 (Rs Crore)**

Particulars	Units	FY 2011-12			
		Approved Fixed Cost in MYT Order /Tariff Order FY 2011-12 (A)	Submitted by Petitioner (B)	Trued Up (C )	Surplus (+)/ Deficit (-) (A) -(C )
O&M Expenses	Rs Crore	61.45	71.57	56.12	5.33
Depreciation	Rs Crore	25.47	26.34	24.46	1.01
Advance Against Depreciation	Rs Crore	0.00	0.00	0.00	0.00
Interest on Loans	Rs Crore	21.66	22.19	20.97	0.69
Return on Equity	Rs Crore	16.48	16.52	15.77	0.71
Interest on Working Capital	Rs Crore	22.84	22.80	22.84	0.00
<b>Total Annual Fixed Cost</b>	<b>Rs Crore</b>	<b>147.90</b>	<b>159.42</b>	<b>140.17</b>	<b>7.74</b>

3.306 The Commission has determined year wise surplus/gap with respect to the approved values as shown above. The Commission has computed the total surplus/gap with carrying cost as shown in the table below.

3.307 As shown below the carrying cost on annual truing up amount has been computed and added to the total surplus. Since the truing up impact for the first Control Period is surplus, therefore the Petitioner has to credit the excess amount recovered by it during the Control Period i.e. FY 2007-08 to FY 2011-12 alongwith the carrying cost.



**Table 92: Carrying Cost (Rs Crore)**

<b>Particulars</b>	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>	<b>FY 2012-13</b>	<b>Total Surplus/(Deficit)</b>
Opening (Deficit)/Surplus	0.00	0.70	4.99	11.64	21.95	32.66	
Addition (Deficit)/Surplus	0.67	3.98	5.74	8.48	7.74	0.00	<b>26.61</b>
Interest Rate	11.50%	11.50%	11.50%	11.50%	11.50%	11.50%	
Carrying Cost	<b>0.04</b>	<b>0.31</b>	<b>0.90</b>	<b>1.83</b>	<b>2.97</b>	<b>3.76</b>	<b>9.80</b>
Closing (Deficit)/Surplus	0.70	4.99	11.64	21.95	32.66	36.41	<b>36.41</b>

3.308 The Commission accordingly directs the Petitioner to credit an amount of Rs 36.41 Crore to the Distribution Utilities of Delhi in three equal monthly instalments starting August 2013.





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## **A4: Directives Issued by the Commission**

- 4.1 The Petitioner is directed to submit the cost benefit analysis of capital additions done by it during the first Control Period within a period of 3 months from the date of issue of this Order.
- 4.2 The Commission directs the Petitioner to submit the following details of actual fuel cost for FY 2007-08, FY 2008-09 and FY 2009-10 separately within 3 months from the date of this Order:
- Coal Cost Ledger and allocation of coal cost for power supplied to Delhi and Haryana
  - Oil Cost Ledger and allocation of coal cost for power supplied to Delhi and Haryana
  - Total amount of fuel cost received from Haryana
- 4.3 The Petitioner is directed to submit the detailed justification for variations in the Opening GFA of all the three Stations vis-à-vis as that approved by the Commission in its MYT Order dated December 14, 2007 within a period of 3 months from the date of issue of this Order.
- 4.4 The Petitioner is directed to inform the Commission once the I.P Station is completely disposed off and submit the details of assets disposed off along with salvage value realised on account of sale of assets.