Order

on

Aggregate Revenue Requirement

and

Generation Tariff

for

FY 2012-13 to FY 2014-15

for

Indraprastha Power Generation Company Limited

DELHI ELECTRICITY REGULATORY COMMISSION

July, 2012

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DERC

DELHI ELECTRICITY REGULATORY COMMISSION

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

F.11(778) /DERC/2011-12/

Petition No. 07/2012

In the matter of: Petition for Determination of Generation Tariff for MYT Control Period FY 2012-13 to 2014-15 and Truing up for MYT Control Period FY 2007-08 to FY 2011-12.

Indraprastha Power Generation Company Ltd.
Through its: **G.M. (Comml.)**
Himadri,
Rajghat Power House Complex
New Delhi 110 002. **...Petitioner/Licensee**

Coram:

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

ORDER

(Date of Order: 13.07.2012)

Having deliberated upon the Petition for Determination of Generation Tariff for MYT Control Period FY 2012-13 to 2014-15 and Truing up for MYT Control Period FY 2007-08 to FY 2011-12 filed by M/s. Indraprastha Power Generation Company 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 pass this Order signed, dated and issued on 13.07.2012.

This Tariff Order shall be applicable from 01.07.2012 and 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 thereunder

(J. P. Singh)	(Shyam Wadhera)	(P. D. Sudhakar)
MEMBER	MEMBER	CHAIRMAN

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LIST OF ABBREVIATIONS

Abbreviation	Explanation
A&G	Administrative and General
AAD	Advance Against Depreciation
APC	Auxiliary Power Consumption
APM	Administered Price Mechanism
ARR	Aggregate Revenue Requirement
ATE (APTEL)	Appellate Tribunal for Electricity
BRPL	BSES Rajdhani Power Limited
BYPL	BSES Yamuna Power Limited
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CISF	Central Industrial Security Force
CVPF	Calorific Value of Primary Fuel
DERA	Delhi Electricity Reform Act
DERC	Delhi Electricity Regulatory Commission
DISCOMs	Distribution Companies (BRPL, BYPL & TPDDL)
DTL	Delhi Transco Limited
DVB	Delhi Vidyut Board
EPF	Employees Contribution to Provident Fund
FPA	Fuel Price Adjustment
FRSR	Fundamental Rules / Supplementary Rules
GAIL	Gas Authority India Limited
GCV	Gross Calorific Value
GFA	Gross Fixed Assets
GoNCTD	Government of National Capital Territory of Delhi
GTPS	Gas Turbine Power Station
HRA	House Rent Allowance
IPGCL	Indraprastha Power Generation Company Limited
LDO	Light Diesel Oil
LPPF	Landed price of primary fuel
LPSC	Late Payment Surcharge
LSC	Leave Salary Contribution
LSHS	Low Sulphur High Speed
LTC	Leave Travel Concession
MU	Million Units
MYT	Multi Year Tariff
NDMC	New Delhi Municipal Corporation
O&M	Operations and Maintenance
PC	Pension Contribution
PLF	Plant Load Factor
PMT	Panna Mukta Tapti

Abbreviation	Explanation
PPCL	Pragati Power Corporation Limited
R&M	Repair and Maintenance
RLNG	Regasified liquefied Natural gas
RoCE	Return on Capital Employed
RoE	Return on Equity
RPH	Rajghat Power House
SHR	Station Heat Rate
SLDC	State Load Despatch Centre
TPA	Transport Allowance
TPDDL	Tata Power Delhi Distribution Limited

A1: INTRODUCTION

1.1 This Order relates to the petition filed by Indraprastha Power Generation Company Limited (hereinafter referred to as 'IPGCL' or 'the Petitioner') for determination of generation tariff for MYT Control Period FY 2012-13 to FY 2014-15, under the principles specified in the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2011 (hereinafter referred to as the 'MYT Regulations 2011') and truing up for MYT Control Period FY 2007-08 to FY 2011-12 under the principles specified in the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007 (hereinafter referred to as the '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 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 (DERC)

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 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'). These Acts mandate 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.

Multi Year Tariff Regulations

1.5 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 due process of law. The Regulations / amendment in Regulations were notified in the official Gazette on January 19, 2012 / March 15, 2012 respectively.

Filing of Petition for Approval of ARR for FY 2012-13 to FY 2014-15

Filing and Acceptance of Petition

1.6 IPGCL has filed a petition before the Delhi Electricity Regulatory Commission on February 15, 2012 for determination of Generation Tariff for the MYT Control Period FY 2012-13 to FY 2014-15 and truing up for MYT Control Period FY 2007-08 to FY 2011-12. The Commission admitted the petition vide its Order dated February 15, 2012 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 15, 2012 is enclosed as **Annexure I** to this Order.

1.7 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 the website of the Petitioner for the benefit of stakeholders.

Interaction with the Petitioner

1.8 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.

1.9 For the purpose of tariff exercise, the Commission Staff and Consultants held discussions with the Petitioners, obtained information/clarifications wherever required and carried out technical validation with regard to the information provided.

1.10 The role of the Commission has been to hold 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.

1.11 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 27, 2012. A partial reply to the preliminary deficiency note was received by the Commission on March 14, 2012.

1.12 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, which included norms of operation of the plant, details of fuel expenses submitted to the Commission, loan details, etc. The Petitioner submitted additional information through various letters, as listed in the Table 1 below.

1.13 The Commission also conducted multiple 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.

1.14 The replies of the Petitioner as mentioned in the Table below have been considered during approval of the Aggregate Revenue Requirement of the Petitioner.

Table 1: List of Correspondence with IPGCL

S.No.	Date	Letter No.	Subject
1	14/03/2012	No. IPGCL/Comml./DRA 12-15/1021	Approval and Tariff for FY 2012-13 to FY 2014-15 in petition no.07/2012
2	27/04/2012	No. IPGCL/Comml./DRA 12-15/54	Reply in the matter of petition filed by IPGCL for determination of generation tariff for MYT control period FY 2012-13 to FY 2014-15.
3	27/04/2012	No. IPGCL/Comml./DRA 12-15/62	Revised Capital Expenditure for Gas Turbine Power Station for the period from FY 2012-13 to FY 2014-15
4	02/05/2012	No.DIR(T)/F-17/284	Commercial Operation of Different units of Pragati-III ,Bawana
5	24/05/2012	No. IPGCL/Comml./IDRA 12-15/145	Information in respect of Approval of ARR and Tariff for FY 2012-13 to FY 2014-15 in petition no. 07/2012
6	04/06/2012	No. IPGCL/Comml./IDRA 12-15/172	Allowance of Impact of Sixth Pay Commission for the employees of I.P. Station
7	04/06/2012	No. IPGCL/Comml./IDRA 12-15/173	Allocation of Balance Depreciation during MYT Control period FY 2012-13 to FY 2014-15 in respect of Rajghat Power House and Gas Turbine Power Station
8	04/06/2012	No. IPGCL/Comml./IDRA 12-15/174	Relaxation in the operational norms for Gross Station Heat Rate (Kcal/KWh) in combined and open cycle mode for Gas Turbine Power Station, a generating station of IPGCL
9	04/06/2012	No. IPGCL/Comml./IDRA 12-15/175	Relaxation in the operational norms for Normative Plant Availability Factor (%) for Gas Turbine Power Station, a generating station of IPGCL
10	04/06/2012	No. IPGCL/Comml./IDRA 12-15/176	Relaxation in the operational norms for Rajghat Power House, a generating station of IPGCL

Public Hearing

1.15 The Petitioner published a Public Notice indicating salient features of its petition, for inviting responses from stakeholders, in the following newspapers with their respective dates of publication:

(a) Times of India (English) March 08, 2012

(b)	Hindustan Times (English)	March 08, 2012
(c)	Nav Bharat Times (Hindi)	March 10, 2012
(d)	Milap (Urdu)	March 08, 2012

1.16 Copies of the Public Notice in English, Hindi and Urdu are enclosed as **Annexure II** to this Order. Copy of the petition was also made available for purchase from the head-office of the Petitioner on any working day from March 15, 2012 to March 29, 2012 between 11 A.M. and 4 P.M. on payment of Rs 100/-. A copy of the complete petition was also uploaded on the website of the Commission, as well as that of the Petitioner, requesting for inviting comments of the stakeholders thereon.

1.17 The Commission also published a Public Notice in the following newspapers on March 15, 2012 inviting comments from stakeholders on the MYT petition of the Petitioner latest by March 30, 2012

(a) Hindustan Times (English)

(b) Times of India (English)

(c) The Pioneer (English)

(d) Dainik Jagran (Hindi)

(e) Dainik Bhaskar (Hindi)

(f) The Educator (Punjabi)

(g) Milap (Urdu)

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

1.19 At the request of the Stakeholders, the Commission extended the last date of filing the objections and suggestions to April 10, 2012, for which the Public Notice was issued on March 31, 2012 in the following newspapers:

(a) Hindustan Times (English)

(b) Times of India (English)

(c) The Pioneer (English)

(d) Danik Jagran (Hindi)

(e) Dainik Bhaskar (Hindi)

(f) The Educator (Punjabi)

(g) Milap (Urdu)

1.20 Copies of the Public Notices in English, Hindi, Punjabi and Urdu are attached as **Annexure IV** to this Order.

1.21 At the request of the stakeholders, to extend help to the consumers in understanding the ARR petition and filing their comments, the Commission prepared a Staff Paper highlighting salient features of the MYT 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 ARR petitions. 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.The Commission received comments from five stakeholders. The comments of the stakeholders were forwarded to the Petitioner. The Petitioner responded to the comments of the stakeholders with a copy of the replies to the Commission. The Commission invited all stakeholders who have filed their objections and suggestions to attend the Public Hearing. A list of the stakeholders who responded to the Public Notice on ARR and/or tariff petitions and those who attended the Public Hearing, is enclosed as **Annexure V** to this Order.

1.22 The Public Hearing was held in the Commission's Court Room on April 30, 2012 from 10.30 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

1.23 This Order is organised into six Chapters:

(a) Chapter A1 provides details of the tariff setting process and the approach of the Order;

(b) Chapter A2 provides a brief of the Public Hearing process, including the details of comments made by various stakeholders, the Petitioner's response and the views of the Commission thereon;

(c) Chapter A3 provides summary of the petition filed by IPGCL for FY 2012-13 to FY 2014-15;

(d) Chapter A4 provides analysis of the Aggregate Revenue Requirement and Generation tariff for FY 2012-13 to FY 2014-15 for Rajghat Power House;

(e) Chapter A5 provides analyses the Aggregate Revenue Requirement and Generation tariff for FY 2012-13 to FY 2014-15 for Gas Turbine Power Station; and

(f) Chapter A6 provides details of the Directives of the Commission and Summary of the Generation Tariffs for IPGCL stations.

1.24 This Order contains the following Annexure, which are an integral part of the Tariff 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 the Public Notice published by the Commission regarding extension of last date of submission of comments.

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

Approach of the Order

1.25 The Petitioner has filed a petition for determination of generation tariff for MYT Control period for the FY 2012-13 to FY 2014-15 and truing up for MYT Control Period FY 2007-08 to FY 2011-12.

1.26 Under the MYT Framework, the Commission had projected the ARR of the Petitioner for FY 2007-08 to FY 2010-11 in the MYT Order issued on February 23, 2008 (hereinafter referred to as the 'MYT Order'). The Commission vide its Order dated May 10, 2011 extended the MYT Regulations 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 MYT Regulations, 2007 adjustments for the actual capital investment including financing and capitalisation thereof shall be done at the end of the Control Period based on the audited accounts and as per the provisions of the MYT Regulations, 2007. Hence, the true-up for FY 2007-08 to FY 2011-12 will be done at the end of the Control Period, i.e. at the end of FY 2011-12 when the audited accounts of the Petitioner are available.

1.27 Accordingly, this Tariff Order deals with the determination of Aggregate Revenue Requirement for FY 2012-13 to FY 2014-15 under the MYT framework specified in the MYT Regulations, 2011.

Approach for FY 2012-13 to FY 2014-15

1.28 The following provisions of the MYT Regulations, 2011, pertaining to Generation business are relevant and these are dealt with in greater details in Chapter A4 and Chapter A5 of this Order:

(a) Regulation 4.1 & 4.2 – Determination of Generation Tariff for existing and new generating stations;

(b) Regulation 5.3 – Multi Year Tariff Framework to be based on the Business plan, Applicant forecast, performance trajectory, annual review of performance;

(c) Regulation 5.4 & 5.5 – Base line values (operating and cost parameters) and performance targets;

(d) Regulation 5.6 to 5.12 – Annual performance review and prior approval of actual Capital Expenditure and Capitalisation, Performance Targets for controllable Parameters, Provisions relating to Depreciation, Return, Loan, Equity, Working Capital, Interest on Loans;

(e) Regulations 6 – Principles for determination of Generation tariff; and

(f) Regulation 7 – Operational norms for Thermal Power Generating Stations.

A2: RESPONSE 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 from April 26, 2012 to April 30, 2012 to discuss issues related to the petition filed by the Petitioner for True up of expenses for FY 2007-08 to FY 2010-12 and approval of ARR and Generation Tariff for FY 2012-13 to FY 2014-15. 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 stakeholders.

2.3 The Commission has examined the issues and concerns voiced by various stakeholders in their 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 ARR petition, the replies given by the Petitioner and the views of the Commission have been summarized under various sub-heads as below:

Station Heat Rate

Stakeholders' View

2.4 Stakeholders have opposed the relaxation in Station Heat Rate (SHR) proposed by IPGCL. They feel that such relaxation is not justified as all comparable new plants of similar configuration are able to operate well within norms and IPGCL has not provided any technical reason for the same.

2.5 Further, IPGCL has requested for making SHR a uncontrollable parameter which is not acceptable by stakeholders. Stakeholders are of the opinion that the SHR should be decided by an independent third party.

Petitioner's Submission

2.6 The Petitioner has submitted that, as already mentioned in the petition, the operating performance of the station depends upon various factors such as technology and equipment, ambient conditions, etc. On the matter of new plants of similar configuration being able to operate within norms, the Petitioner submitted that the stations of IPGCL are old. Rajghat Power House is around 23 years old and is on the verge of completion of its useful life. Similarly, Gas Turbine Power station has already lived its useful life of 25 years and is around 26 years old. Keeping in view the aging of the station, the Petitioner has requested for operating norms to be relaxed.

IPGCL has already attached the copy of manufacturer's data sheet along with the petition.

2.7 With regard to Gas Turbine Power Station, the Petitioner further submitted that backing down of generation, part load operation, frequent start/stop causes loss of energy during the start up and stoppage time, which results into increased heat rate. Part load operation is another major reason for poor efficiency and high heat rate. At times, the plant operates at less than 30% PLF, further part load operation causes very poor efficiency and very high auxiliary power consumption. In fact GTPS is mainly run as peaking station by Delhi system quite frequently, depending upon the load curve of city. Technically this is the major cause of high heat rate and high auxiliary power consumption.

2.8 The Petitioner further submitted that station heat rate is being computed as per industry practice and the necessary data in this regard is being submitted to the Commission. The heat rate of RPH was evaluated by M/s CenPEEP as per the advice of the Commission and IPGCL is claiming the station heat rate accordingly.

Commission's View

2.9 Regarding Gas Turbine Power Station, the Commission has directed the Petitioner several times in the past to get a performance guarantee 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 station heat rate allowed to the Petitioner. However, the Petitioner has not complied with the directive of the Commission till date. In absence of the same, the Commission is unable to relax the SHR which has been allowed to the Petitioner in the MYT Regulations.

2.10 The norms of operation provided in the MYT Regulations 2011 have been determined considering the current state of each plant, and the expected performance improvements during the Control Period and these norms are comparatively lenient to norms specified by the CERC. The Commission has considered the norms of operations as per the MYT Regulations, 2011, for the determination of tariff for each plant during the Control Period.

Availability

Stakeholders' View

2.11 Stakeholders have opposed IPGCL's proposal for relaxation of target availability norms.

Petitioner's Submission

2.12 The Petitioner has submitted that the Commission has set higher target availability for RPH and GTPS. With the aging of stations, the operating performance deteriorates. RPH is proposed to shut down in near future and only need based repair and maintenance activities are carried out to further operate the plant. As submitted in the petition, RPH was able to achieve the availability of 69% during the last control period. GTPS station was able to achieve around 72% availability during the last Control period. Hence, the Petitioner has submitted that the target fixed by Commission is not practically achievable and accordingly, it has requested to retain the norms of availability as set in during MYT period from FY 200-08 to FY 2011-12.

Commission's View

2.13 The actual availability of Rajghat Power Station during the first MYT Control Period has been 73.5% in FY 2007-08, 78.89% in FY 2008-09, 54.64% in FY 2009-10, 75.98% in FY 2010-11 & 68.37% in FY 2011-12. Thus, it is observed that except FY 2009-10 and FY 2011-12, the availability has been higher than the target availability of 70%, as stipulated in MYT Regulations 2007-12. CERC norm for similar stations Talcher Thermal Power Station, which is having 4x60 MW + 2x110 MW units is 82% and for Tanda Thermal Power Station, which is having 4x110 MW units is 85%. However, in view of the past performance of the RPH, the Commission has fixed target availability at 75% for recovery of full fixed cost.

2.14 Regarding Gas Turbine Power Station, the Commission takes note of the fact that the plant has achieved 81.91% availability in FY 2010-11 and 79.41% availability in FY 2011-12. Fixing an availability lower than that would be a retrograde step. Therefore, it will not be prudent to fix the availability of GT below 80%.

Auxiliary Energy Consumption

Stakeholders' View

2.15 The Stakeholders have submitted that in the event of IPGCL not submitting the parameters of Auxiliary consumption for Open cycle, the Hon'ble Commission should assume it at 1%.

2.16 A few of the stakeholders have suggested periodic energy audit for IPGCL for checking the auxiliary consumption.

Petitioner's Submission

2.17 The Petitioner has submitted that the actual auxiliary power consumption of Gas Turbine Power Station is higher than the norm of 3%. The auxiliary power consumption of the station is on higher side due to frequent backing down and partial operation of the units. As pointed out in the petition, there has been a substantial gap in availability and PLF of the station. The actual auxiliary power consumption is being determined by measuring the readings of various meters installed on UAT and station transformers. The energy generated by the station excluding the auxiliary power consumption is fed into the system and is utilized by the end consumers of the electricity. The Petitioner submitted that there is no abuse of the electricity as pointed out by BYPL. It is further submitted that energy audit of the station are being conducted from time to time.

Commission's View

2.18 Regarding Rajghat Power House, the Commission has allowed normative auxiliary power consumption of 11.28% since 2003. The Commission feels that there is no justification to relax the same.

2.19 Regarding Gas Turbine Power Station, the Commission has taken the accepted norm of 1% in Open Cycle Mode and 3% in Combined Cycle Mode, which is a consistent practice followed since 2003.

Interest on Loan

Stakeholders' View

2.20 Stakeholders feel that IPGCL should explore the possibility of re-financing the loans to reduce the interest liability.

2.21 Further, IPGCL has included the 2% rebate that it pays to the DISCOMs for timely payment under the interest liabilities which is not justified.

Petitioner's Submission

2.22 The Petitioner has submitted that the Company has taken the loans from the Government of NCT of Delhi at the varying interest rates depending on the period of disbursement. IPGCL always make the endeavours to minimize the interest cost.

Commission's View

2.23 The Commission is of the view that IPGCL should explore the possibility of refinancing the existing loans with lower interest rate. The net gain on account of such refinancing shall be dealt in accordance with the MYT Regulations.

2.24 The Commission is allowing interest on working capital as per the MYT Regulations which prescribe working capital norms, taking into account, receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on Normative Annual Plant Availability factor. CERC Generation Tariff Regulations, 2009-14 also do not allow recovery of 2% rebate, given by generators to the beneficiaries, from tariff. As an industry practice, the rebate allowed by the generators gets partly compensated by the early payment received by them from the beneficiaries and commensurate reduction in working capital requirement and thereby savings on interest and working capital.

2.25 Therefore, the Commission retains the existing practice and has not allowed 2% rebate separately.

Depreciation

Stakeholders' View

2.26 The Asset class on which depreciation has been charged should be provided along with the useful life of each.

2.27 The complete details of the Gross Block and its depreciable value should be provided to arrive at Net Block.

Petitioner's Submission

2.28 The Petitioner has submitted that details of the Gross Block, Net Block, Asset Class and depreciation year wise have been provided in the petition in Form no. 23.

Commission's View

2.29 The Petitioner has submitted the details in the Format prescribed under MYT Regulations.

Interest on Working Capital

Stakeholders' View

2.30 IPGCL should give details of the payment of their energy bills to get the working capital required as cost of fuel. IPGCL should make efforts to minimize the working capital to minimize the fixed cost**s**.

Petitioner's Submission

2.31 The Petitioner has submitted that interest on the working capital has been computed in line with the Regulation specified by the Commission. The working capital requirement has been computed on normative basis. It is further informed that gas is being supplied through the pipelines and there is no storage of the same in the system. The inventory of spares considered for computation of interest on working capital has been as per the regulations notified by Commission.

Commission's View

2.32 The calculation of interest on working capital is in accordance with Regulation 6.28 & 6.29 of MYT Regulations, 2011, which are as under:

"6.28 Rate of interest on working capital shall be on normative basis and shall be equal to Base Rate of State Bank of India plus 350 basis points as on 01.04.2012 or on Ist April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later.

6.29 Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not take working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures."

Provision of 7.5 MVA Auxiliary Supply Transformer

Stakeholders' View

2.33 Stakeholders have stated that the claims of IPGCL for allowing 60 lacs corresponding to a standby 7.5 MVA Auxiliary Supply Transformer as a part of the proposed Capex schemes at GTPS during FY 2012-13 to FY 2014-15 should not be allowed as they are Spares in nature and as such, should be deducted from the additional capital requirement.

Petitioner's Submission

2.34 The Petitioner has submitted that the auxiliary power supply of 9-10 MW of Gas Turbine Power Station such as Boiler Feed Pump, CW Pump, ACW Pump, CT Fan, CT make up Pump etc. is fed from 7.5 MVA & 5.0 MVA transformers. In case of the failure/maintenance of 7.5 MVA transformer, the auxiliary power supply is met from 5.0 MVA transformer only. The 5.0 MVA transformer is not sufficient to meet the whole auxiliary power requirement of the station. Therefore, an additional 7.5 MVA transformer is necessary for smooth and full load operation of the station.

Commission's View

2.35 The Commission is of the opinion that IPGCL shall submit the capital expenditure plans separately after issue of Tariff Order and the Commission shall approve the capital expenditure depending upon the prudent requirement of the same.

Renovation of GT for Heat Rate /MW Output

Stakeholders' View

2.36 Stakeholders have stated that the claims of IPGCL for allowing Rs 50 Crs for renovation of GT for heat rate/MW output improvement should not be allowed and IPGCL may be directed to submit additional details on the same including the cost benefit analysis.

Petitioner's Submission

2.37 The Petitioner has submitted that the Gas Turbines of the station have been in operation for more than 26 years. The Hon'ble Commission in its Regulations, 2011 has recognized that the there is need for additional capitalization on the gas turbines beyond 15 years of the operation. The relevant extract of the Regulations is reproduced as under:

"..(iv) In case of gas/liquid fuel based open/combined cycle thermal generating stations, any expenditure which has become necessary on renovation of gas turbine after 15 years of operations from its COD and the expenditure necessary due to obsolescence or non-availability of spares for successful and efficient operation of the stations:

Provided that any expense included in R&M on consumables and cost of components and spares, which is generally covered in the)R&M expenses during the major overhaul of gas turbine shall be suitably deducted after due prudence check from the R&M expenditure to be allowed…"

2.38 In view of above, it is necessary to improve the efficiency of Gas Turbines. Hence, additional capital expenditure is required to be incurred.

Commission's View

2.39 The Commission is of the opinion that IPGCL may submit the capital expenditure requirements separately after issue of Tariff Order and the Commission shall separately approve the capital expenditure depending upon the prudent requirement of the same.

A3: TARIFF PETITION FOR THE CONTROL PERIOD (FY 2012-13 TO FY 2014-15)

3.1 IPGCL is wholly owned by the Government of National Capital Territory of Delhi and had a total generating capacity of 652.5 MW. Following the final closure of the 247.5 MW Indraprastha Thermal Power Station (IP Station) on December 31, 2009, the Petitioner currently has total generating capacity of 405 MW. It presently operates two generating stations, which are:

(a) 135 MW Rajghat Power House (RPH); and

(b) 270 MW[1] Indraprastha Gas Turbine Power Station (GTPS)

3.2 The details of the I.P. Station, Rajghat Power House (RPH) and Gas Turbine Power Station (GTPS) are given below:

Table 2: Indraprastha Thermal Power Station

Details	Unit 2	Unit 3	Unit 4	Unit 5
Capacity (MW)	62.5	62.5	62.5	60
Date of Commissioning	1 Jan 1968	1 Mar 1968	30 Apr 1968	1 Jan 1974
Status	Decommissioned	Decommissioned	Decommissioned	Decommissioned
Fuel	Washed Coal			
Fuel Source	NCL, Bina			

Table 3: Rajghat Power House

Details	Unit 1	Unit 2
Capacity (MW)	67.5	67.5
Date of Commissioning	May 1990	Jan 1990
Fuel	Washed Coal	
Fuel Source	NCL, Bina	

Table 4: Indraprastha Gas Turbine Power Station

Details	GT1	GT2	GT3	GT4	GT5	GT6	STG1	STG2	STG3
Capacity (MW)	30	30	30	30	30	30	30*	30*	30*
Date of Commissioning	17 Jun 1986	20 Jun 1986	11 Aug 1986	3 Sept 1986	11 Nov 1986	20 Nov 1986	24 Apr 1996	12 Aug 1997	27 Dec 1996
Fuel	Gas	Gas	Gas	Gas	Gas	Gas	WHRU	WHRU	WHRU
Fuel Source	GAIL HBJ Pipeline								

**The capacity of each STG has been de-rated from 34 MW to 30 MW by CEA w.e.f. 16.9.2008.*

3.3 In the present petition, the Petitioner has requested for true up of ARR for the Control Period (FY 2007-08 to FY 2011-12) along with the approval of ARR and the tariff for the FY 2012-13 to FY 2014-15. The Petitioner has submitted the actual information for FY 2007-08 to FY 2010-11 and the provisional estimates for FY 2011-12.

[1] The capacity of GTPS has been de-rated from 282 MW to 270 MW by CEA w.e.f. 16.9.2008.

3.4 A summary of the variable and fixed cost submitted by the Petitioner for various stations for the period FY 2007-08 to FY 2011-12 in the Tariff petition is shown in the tables below.

Table 5: Summary of generation cost for Control Period (FY 2007-08 to FY 2009-10) for I.P. Station

Particulars	Units	FY 2007-08	FY 2008-09	FY 2009-10
		(Actual)	(Actual)	(Actual)
Net Generation (MU)	MU	606.29	570.92	253.97
Total Fixed Cost*	Rs. Cr	67.94	78.53	55.74
Total Variable Cost	Rs. Cr	154.94	158.10	80.76
Total Cost	Rs. Cr	222.88	236.63	136.50
Variable Cost per Unit	Rs./kWh	2.56	2.77	3.18
Total Cost per Unit	**Rs./kWh**	**3.68**	**4.14**	**5.37**

**excluding tax on income*

Table 6: Summary of generation cost for Control Period (FY 2007-08 to FY 2011-12) for RPH

Particulars	Units	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
		(Actual)	**(Actual)**	**(Actual)**	**(Actual)**	**(Provisional)**
Gross Generation	MU	897.764	877.045	645.131	781.06	830.09
Net Generation	MU	780.97	756.19	552.02	685.39	726.33
Total Fixed Cost*	Rs. Cr	84.09	84.41	86.07	126.22	114.85
Total Variable Cost	Rs. Cr	157.06	171.48	150.29	172.39	201.1
Total Cost	Rs. Cr	241.15	255.89	236.36	298.61	315.95
Variable Cost per Unit	Rs./kWh	2.01	2.27	2.72	2.52	2.77
Total Cost per Unit	**Rs./kWh**	**3.09**	**3.38**	**4.28**	**4.36**	**4.35**

**excluding tax on income*

Table 7: Summary of generation cost for Control Period (FY 2007-08 to FY 2011-12) for GTPS

Particulars	Units	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
		(Actual)	(Actual)	(Actual)	(Actual)	(Provisional)
Gross Generation	MU	1280.360	1280.360	1497.92	1368.35	1660.18
Net Generation	MU	1241.18	1237.55	1444.76	1322.78	1598.75
Total Fixed Cost*	Rs. Cr	118.31	128.41	140.1	181.93	173.2
Total Variable Cost	Rs. Cr	222.68	266.34	344.67	355.87	508.35
Total Cost	Rs. Cr	340.99	394.75	484.77	537.8	681.55
Variable Cost per Unit	Rs./kWh	1.79	2.15	2.39	2.69	3.18
Total Cost per Unit	**Rs./kWh**	**2.75**	**3.19**	**3.36**	**4.07**	**4.26**

**excluding tax on income*

3.5 Based on the values of the operational and financial parameters for FY 2007-08 to FY 2011-12, the Petitioner has projected the ARR and generation tariff for the Control Period (FY 2012-13 to FY 2014-15) for RPH and GTPS. A summary of the generation cost, submitted by the Petitioner, for the Control Period (FY 2012-13 to FY 2014-15) is shown in the table below:

Table 8: Summary of generation cost for Control Period (FY 2012-13 to FY 2014-15) for RPH

Particulars	Units	FY 2012-13	FY 2013-14	FY 2014-15
Gross Generation	MU	828	828	828
Net Generation	MU	724	724	724

Particulars	Units	FY 2012-13	FY 2013-14	FY 2014-15
Total Fixed Cost	Rs Cr	155.82	158.98	163.47
Total Variable Cost	Rs Cr	191.85	195.85	191.85
Total Cost	Rs Cr	347.67	354.83	355.32
Variable Cost per Unit	Rs./kWh	2.65	2.65	2.65
Total Cost per Unit	Rs./kWh	4.80	4.90	4.91

**excluding tax on income*

Table 9: Summary of generation cost for Control Period (FY 2012-13 to FY 2014-15) for GTPS

Particulars	Units	FY 2012-13	FY 2013-14	FY 2014-15
Gross Generation	MU	1656	1656	1656
Net Generation	MU	1594	1594	1594
Total Fixed Cost	Rs Cr	228.93	231.54	236.58
Total Variable Cost	Rs Cr	527.07	527.07	527.07
Total Cost	Rs Cr	756	758.61	763.64
Variable Cost per Unit	Rs./kWh	3.31	3.31	3.31
Total Cost per Unit	Rs./kWh	4.74	4.76	4.80

**excluding tax on income*

3.6 The Commission has extended MYT Regulations 2007 and the previous Control Period for a further period of one year up to March 31, 2012. In accordance with MYT Regulations 2007 the Commission shall carry out true up for each year of the Control Period (FY 2007-08 to FY 2011-12) only at the end of the extended Control Period when audited accounts for all relevant years are made available by IGPCL.

3.7 The Commission has analysed the Multi Year Tariff petition submitted by the Petitioner for approval of Aggregate Revenue Requirement and determination of Generation Tariffs to be charged during the Control Period (FY 2012-13 to FY 2014-15), hereinafter referred to as ‘the Control Period’ or ‘the Control Period (FY 2012-13 to FY 2014-15)’.

3.8 The Commission held various discussions to validate the data submitted by the Petitioner and seek further clarifications on various issues. The Commission has considered information submitted by the Petitioner as part of the tariff petitions, audited accounts for FY 2007-08 to FY 2010-11, responses to various queries raised during the discussions and also during the Public Hearing, for determination of tariffs

3.9 Since I.P. Power Station was decommissioned on December 31, 2009, generation tariff is not required to be determined for it.

3.10 Chapter 4 contains detailed analysis of the petition submitted by the Petitioner and the various parameters approved by the Commission for determination of Generation Tariff for RPH for the Control Period (FY 2012-13 to FY 2014-15).

3.11 Chapter 5 contains detailed analysis of the petition submitted by the Petitioner and the various parameters approved by the Commission for determination of Generation Tariff for GTPS for the Control Period (FY 2012-13 to FY 2014-15).

A4: ANALYSIS OF AGGREGATE REVENUE REQUIRMENT FOR MYT CONTROL PERIOD (FY 2012-13 TO FY 2014-15) FOR RAJGHAT POWER HOUSE

Norms of Operation

4.1 The Commission has notified MYT Regulations, 2011 for the Control Period. The said Regulations contain the target norms of operation, for the purpose of determination of tariff, for RPH for FY 2012-13 to FY 2014-15. The Petitioner has, however, made submissions for relaxation of certain operational norms. The submissions made by the Petitioner in this regard and the Commission's views on the same have been discussed in the following sections.

Station Heat Rate

Petitioner's Submission

4.2 The Petitioner has submitted that as per the instruction of the Commission, Performance Test to determine the Station Heat Rate of the Units was conducted by M/s CenPEEP, NTPC Limited. The average station heat rate was found to be 3135 kCal/kWh under test conditions.

4.3 The Commission analysed the said report for performance test of the units of RPH. In test conditions, the actual station heat rates achieved by the Unit 1 and Unit 2 of the Rajghat Power House were 3049.8 kCal/kWh and 3220.1 kCal/kWh respectively. The boiler efficiency of Unit No.2 was low 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, the performance of the Unit No. 2 has been considered at the same level of Unit No.1 i.e. 3049.8 kCal/kWh. While the Commission applied a margin of 5% on on-site operating conditions to arrive at the normative heat rate of 3200 kCal/kWh for the MYT period, the Petitioner has submitted that a margin of 6.5% should be allowed for the coal/lignite based stations as per the CERC Tariff Regulations. Applying the margin of 6.5% at the unit heat rate of 3049.8 kCal/kWh in the present case, the station heat rate would work out to 3248 kCal/kWh.

4.4 Thus the Petitioner has requested to allow at least the station heat rate at 3248 kCal/kWh for the RPH station for the MYT period

Table 10: Station Heat Rate for RPH (kCal/ kWh) submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Station Heat Rate	3248	3248	3248

Commission's Analysis

4.5 The norms of operation provided in the MYT Regulations, 2011 have been determined considering the current state of each plant, and the expected performance improvements during the Control Period and these norms are comparatively lenient to norms specified by the CERC. The Commission has considered the norms of operations as per the MYT Regulations 2011, for the determination of tariff for each plant during the Control Period.

Table 11: Station Heat Rate for RPH (kCal/ kWh) approved by the Commission

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Station Heat Rate	3200	3200	3200

Plant Availability

Petitioner's Submission

4.6 The Petitioner has submitted that the average availability of RPH during the control period has been 69% which is slightly below the target availability of 70% during the period. In view of past experience, the Petitioner has requested that the higher norm for availability of 75% during the next control period is not achievable and justified. Further the station is proposed to be closed down in near future and no major expenditure on R&M is being incurred and only need based maintenance is being carried out for sustained operation of the machines. The fixing of higher targets is unrealistic and unjustified.

4.7 Accordingly, the Petitioner has requested the Commission to relax and allow norm of 70% target availability in view of imminent closure of the Rajghat Power House. The Petitioner has considered the availability of 70% for projection of Gross Generation and other associated parameters for the next control period.

Table 12: Availability (%) for RPH submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Availability	70%	70%	70%

Commission's Analysis

4.8 The actual availability of Rajghat Power Station during the MYT Control Period FY 2007-12 has been 73.5% in FY 2007-08, 78.89% in FY 2008-09, 54.64% in FY 2009-10, 75.98% in FY 2010-11 & 68.37% in FY 2011-12. Thus, it is observed that except FY 2009-10 and FY 2011-12, the availability has been higher than the target availability of 70%, as stipulated in the MYT Regulations for the period FY 2007-08 to FY 2011-12. The CERC norm for similar stations like Talcher Thermal Power Station (4x60 MW + 2x110 MW) is 82% and for Tanda Thermal Power Station (4x110 MW) is 85%. However, in view of the past performance of the RPH, the Commission has fixed target availability at 75% for recovery of full fixed cost.

Table 13: Availability (%) for RPH approved by the Commission

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Availability	75%	75%	75%

Auxiliary Power Consumption (APC)

Petitioner's Submission

4.9 The Petitioner 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. The RPH station having two units of 67.5 MW with cooling towers each was commissioned in the year 1989-90 and similar standards should apply to it.

4.10 Further the Petitioner has pointed out that the CERC in its MYT Regulations, 2009 has approved an auxiliary consumption of 12% for Tanda Thermal Power Station having four units of 110 MW each. It has also claimed that the Commission too has already approved APC of 12% for FY 2006-07 for the station.

4.11 The Petitioner has submitted that even though the performance of the station has improved as a result of the overhauling undertaken in FY 2009-10 and FY 2010-11, the boiler tubes of Unit no.1 at corners 1-4 and 2-3 are prone to frequent tube leakages and while most of these tubes were replaced during overhauling, the remaining tubes are weaker and cannot sustain the rated pressure. In order to avoid frequent leakages and boiler shut down, pressure has been maintained around 75% of the rated pressure. Accordingly, the load of unit no.1 is restricted to 55MW. The reduced load of the machine will result in increased heat rate and auxiliary power consumption. Further, in view of the proposed closure of the station, no major repair and maintenance work including bulk replacement of boiler tubes can be carried out.

4.12 Citing the above reasons, the Petitioner has thus requested the Commission to approve the targeted auxiliary power consumption for FY 2012-13 to FY 2014-15 at 12.50%.

Table 14: Auxiliary Consumption (%) for RPH submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Auxiliary Consumption	12.50%	12.50%	12.50%

Commission's Analysis

4.13 Regarding Rajghat Power House, the Commission has allowed normative auxiliary power consumption of 11.28% since 2003. The Commission feels that there is no justification to relax the same.

4.14 Hence, the Commission retains the normative auxiliary consumption for Rajghat Power House as shown below:

Table 15: Auxiliary Consumption (%) for RPH approved by the Commission

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Auxiliary Consumption	11.28%	11.28%	11.28%

Gross and Net Generation

Petitioner's Submission

4.15 The Petitioner has projected gross generation during the Control Period to be 828 MU. Net generation, considering the proposed auxiliary consumption of 12.50% has been proposed to be 724 MU.

Table 16: Gross and Net Generation (MU) for RPH submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Gross Generation (MU)	828	828	828
Auxiliary Consumption	12.50%	12.50%	12.50%
Net Generation (MU)	724	724	724

Commission's Analysis

4.16 The Commission has calculated the gross and net generation for determination of fuel cost by considering normative PLF of 75%, the approved auxiliary consumption of 11.28%. The approved gross and net generation calculated by the Commission are given below.

Table 17: Gross and Net Generation (MU) for RPH approved by the Commission

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Gross Generation (MU)	887	887	887
Auxiliary Consumption	11.28%	11.28%	11.28%
Net Generation (MU)	787	787	787

Determination of Variable Charges

4.17 The energy charges (variable cost) of the plant depends upon the operational and fuel parameters such as the Station Heat Rate, Auxiliary Consumption, Fuel Cost and the Gross Calorific Value of fuel used. The Commission has considered all these factors to determine the variable cost of generation from Rajghat Power House.

Transit Loss

Petitioner's Submission

4.18 The Petitioner has submitted that the ATE in its Order, in Appeal No. 26/2008 filed by the Petitioner against the MYT Tariff Order, has stated the following in respect of transit loss:

"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 of 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".

4.19 Accordingly it has requested the Commission to true up the transit and moisture loss @ 3.8% for FY 2007-08 to FY 2011-12 and to approve the same for the Control Period.

Commission's Analysis

4.20 The Commission in its MYT Order had considered the coal transit loss at 0.8% for the Petitioner. The Commission has taken note of the fact that CERC in its tariff regulations allows a transit loss of 0.8% for Non-Pit head stations of NTPC like NCTPS Dadri and Badarpur Thermal Power Stations. **These stations, like those of the Petitioner, are also using washed coal**.

4.21 Further, the Commission has observed that the Petitioner is not weighing the coal at receiving end (at the plant). It is, in fact, calculating the transit loss on a notional basis. The Petitioner is calculating the quantum of coal used by measuring the heap of coal in cubic meter. Furthermore, even the heat rate calculations submitted by the Petitioner are on estimation basis i.e. heat rate is calculated by dividing gross generation by the reduction in coal stock. This procedure is not scientific and subsumes the loss on account of theft, spillage of coal and operational inefficiency of the station.

4.22 Based on the above observations, the Commission has decided to retain the norm for transit loss for RPH at the level set by the Commission in its MYT Regulations 2011 i.e. at 0.8%.

Energy Charge Rate and Variable Cost

Petitioner's Submission

4.23 The Petitioner has considered weighted average price of fuels e.g. Coal and Oil prevailing during the three months of FY 2011-12 i.e. September to November, 2011 for projection of fuel cost. These prices are kept constant for determination of fuel cost for FY 2012-13 to FY 2014-15.

4.24 Considering the Gross Generation of the plant, SHR of the station, Gross Calorific Value and the Fuel Prices, total variable cost as projected by the Petitioner has been submitted as under:

Table 18: Variable Cost for RPH submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Gross Generation (MU)	828	828	828
Net Generation (MU)	724	724	724
Coal Consumption(MT)	754681.73	754681.73	754681.73
Cost per Tonne of Coal (Rs./MT)	2542.13	2542.13	2542.13
Cost of Coal (Rs. Cr)	191.85	195.85	191.85
Variable Cost (Rs/kWh)	2.6486	2.6486	2.6486

Commission's Analysis

4.25 As per the MYT Regulations 2011, the cost of fuel for projection of variable cost shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined.

4.26 However, the Petitioner in its additional submission dated June 6, 2012, has submitted that the rate of coal has increased over 13% in the month of March 2012 primarily on account of increase in freight charges and has requested the Commission to consider the price of coal observed during March 2012 to project the fuel cost during the Control Period. The Commission agrees with the submission of the Petitioner and has considered the rate of coal for March 2012 i.e. Rs. 3026/MT for projection of fuel cost on a realistic basis. The same has been grossed up by the approved transit loss (i.e. 0.80%) to arrive at the base landed cost of coal at Rs. 3051/MT for computation of the Energy Charge Rate (ECR) and the fuel cost.

4.27 The Commission has arrived at the base Energy Charge Rate (ECR) for the Control Period as per the formula specified in the MYT Regulations 2011, as reproduced below.

"7.17 Total Energy charge payable to the generating company for a month shall be: (Energy charge rate in Rs./kWh) x {Scheduled energy (ex-bus) for the month in kWh.}

7.18 Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:

(a) *For coal based stations*

$$ECR = (GHR – SFC \times CVSF) \times LPPF \times 100/ \{CVPF \times (100 – AUX)\}$$

...

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Gross calorific value of primary fuel as fired, in kCal per kg, per litre or per standard cubic metre, as applicable.

CVSF = Calorific value of secondary fuel, in kCal per ml.

ECR = Energy charge rate, in Rupees per kWh sent out.

GHR = Gross station heat rate, in kCal per kWh.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month.

SFC = Specific fuel oil consumption, in ml per kWh."

4.28 The Commission has calculated the variable cost considering the projected generation (ex-bus) and the approved Energy Charge Rate. Details of the Energy Charge Rate (ECR) and cost of primary fuel as projected by the Commission for the Control Period are shown in the table below.

Table 19: Energy Charge Rate and Variable Cost approved by the Commission for RPH

Particulars	UoM	FY 2012-13	FY 2013-14	FY 2014-15
Capacity	MW	135	135	135
Availability (NAPAF)	%	75.00%	75.00%	75.00%
PLF	%	75.00%	75.00%	75.00%
Gross Generation	MU	887	887	887
Auxiliary Consumption (AUX)	%	11.28%	11.28%	11.28%
Net Generation	MU	787	787	787
Gross Station Heat Rate (GHR)	kCal/kWh	3200	3200	3200
Specific Fuel Oil Consumption (SFC) – LDO	ml/kWh	1.5	1.5	1.5
GCV of Secondary Fuel Oil (CVSF) – LDO	kCal/L	8983	8983	8983
Specific Fuel Oil Consumption (SFC) – LSHS	gm/kWh	3.75	3.75	3.75
GCV of Secondary Fuel Oil (CVSF) – LSHS	kCal/kg	10360	10360	10360
Weighted Average GCV of Coal (CVPF)	kCal/kg	3703	3703	3703
Coal Transit Loss	%	0.80%	0.80%	0.80%
Landed Cost of Coal (LPPF)	Rs/Ton	3051	3051	3051
Energy Charge Rate (ECR)	Rs/kWh	2.923	2.923	2.923
Cost of Primary Fuel	Rs Cr	230.01	230.01	230.01

Determination of Fixed Cost

4.29 The Commission analyzed all the components of fixed cost submitted by the Petitioner in detail to determine the applicable fixed cost for each year of the Control Period. As per the MYT Regulations 2011, the fixed cost of a generating station eligible for recovery through capacity charge shall include the following elements:

(a) Operations and Maintenance Expenses;

(b) Depreciation;

(c) Return on Equity

(d) Interest on Loan;

(e) Interest on Working Capital;

(f) Tax Expenses;

(g) Cost of Secondary Fuel Oil; and

(h) Special Allowance on account of Renovation and Modernisation.

Operation and Maintenance Expenses

4.30 In accordance with the MYT Regulations 2011, the Normative Operation and Maintenance (O&M) expenses allowable to a generation company shall comprise the following:

(a) Salaries, wages, pension contribution and other employee costs;

(b) Administrative and General costs;

(c) Repairs and maintenance; and

(d) Other miscellaneous expenses.

4.31 The MYT Regulations 2011 specify the following methodology for approval of O&M expenses of an existing generating station for the Control Period (FY 2012-13 to FY 2014-15):

"6.40 <u>Existing Generating Stations:</u> O&M expenses permissible towards ARR for each year of the Control Period shall be determined using the formula detailed below:

$$O\&M_n = (R\&M_n + EMP_n + A\&G_n) * (1 - X_n)$$

Where,

$R\&M_n = K * GFA_{n-1}$;

$EMP_n + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) * (INDX)$; and

$INDX = 0.55 * CPI + 0.45 * WPI$

EMP_n – Employee Costs of the Licensee for the n^{th} year;

$A\&G_n$ – Administrative and General Costs of the Licensee for the n^{th} year;

$R\&M_n$ – Repair and Maintenance Costs of the Licensee for the n^{th} year;

X_n is an efficiency factor for n^{th} year. Value of X_n shall be determined by the Commission in the MYT Tariff order based on Applicant's filing, benchmarking, approved cost by the Commission in past and any other factor the Commission feels appropriate.

Where,

'K' is a constant (could be expressed in %). Value of K for each year of the Control Period shall be determined by the Commission in the MYT Tariff order based on Applicant's filing, benchmarking, approved cost by the Commission in past and any other factor considered appropriate by the Commission;

INDX - Inflation Factor to be used for indexing. Value of INDX shall be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding five years before the base year;

6.41 The Applicant shall submit details of O&M expenses as required by the Commission. The O&M expenses for the Base Year shall be determined based on latest accounting statements, estimates of the generating company for relevant years and other factors considered relevant."

4.32 The Commission has used the methodology as specified in the MYT Regulations 2011 for calculation of O&M expenses for the Control Period. The same is detailed in the following sections.

Base year and Inflation Factor (INDX)

Petitioner's Submission

4.33 The Petitioner has submitted that the financial year FY 2011-12 has been considered as the base year for computing values of certain cost elements for FY 2012-13 to FY 2014-15.

4.34 Based on the actual values of CPI and WPI, the Petitioner has calculated the annual growth in values of CPI (overall) for Industrial Workers and WPI (overall) for the period FY 2005-06 to FY 2010-11. The same has been used for determination of the inflation factor for each year of the Control Period as given in table below.

Table 20: Computation of Escalation Index (%) for the MYT period

Financial Year	WPI	% Change	CPI	% change
2005-06	104.5		117.01	
2006-07	114.4	9.47%	125	6.83%
2007-08	116.6	1.92%	133	6.40%
2008-09	126	8.06%	145	9.02%
2009-10	130.8	3.81%	163	12.41%
2010-11	143.3	9.56%	180	10.43%
Average change		6.56%		9.02%
Weightage		0.45		0.55
Escalation Index	7.91%			

Commission's Analysis

4.35 In accordance with the MYT Regulations 2011, the O&M expenses for the Base Year (the Financial Year immediately preceding the first year of the Control Period i.e. FY 2011-12) are to be determined based on latest accounting statements, estimates of the generating company for relevant years and other factors considered relevant.

4.36 Since the audited accounts for the Base Year (FY 2011-12) are not yet available, the Commission has considered the O&M expenses of the Petitioner as per the audited accounts for FY 2007-08 to FY 2010-11, as submitted by the Petitioner, for estimating the O&M expenses for the Base Year. The Commission directed the Petitioner to submit head wise break-up of the employee, R&M and A&G expenses for FY 2007-08 to FY 2010-11 and has examined the same for determination of the base year expenses. The value of the employee and A&G expenses for the Base Year as arrived at by the Commission are detailed in the respective sections dealing with these expenses.

4.37 As per the MYT Regulations 2011, "*the inflation factor (INDX) to be used for projection of employee and A&G expenses shall be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding five years before the base year.*" The CPI and WPI values for calculation of inflation factor are given in the table below.

Table 21: Actual CPI and WPI

Year	CPI (Overall)	% Growth YoY	WPI (Overall)	% Growth YoY
2005-06	117.12		104.47	
2006-07	125.00	6.73%	111.35	6.59%
2007-08	132.75	6.20%	116.63	4.74%
2008-09	144.83	9.10%	126.02	8.05%
2009-10	162.75	12.37%	130.82	3.81%
2010-11	179.75	10.45%	143.33	9.56%
Average		8.97%		6.55%

Source: Ministry of Labour Website, http://labourbureau.nic.in and Ministry of Commerce and Industry Website, http://eaindustry.nic.in/

4.38 Based on these values, the Commission has calculated the average annual growth in values of CPI (overall) for Industrial Workers and WPI (overall) for the period FY 2006-07 to FY 2010-11 and has considered the same for determination of indices during the base year and the Control Period. The summary of the same is provided in the table below.

Table 22: Projected CPI and WPI during the Control Period

Year	CPI (Overall)	Projected Growth in CPI	WPI (Overall)	Projected Growth in WPI
2011-12 (Base Year)	195.87	8.97%	152.71	6.55%
2012-13	213.44	8.97%	162.72	6.55%
2013-14	232.59	8.97%	173.37	6.55%
2014-15	253.45	8.97%	184.73	6.55%

4.39 The Commission has determined the consolidated index for the nth year ($INDX_n$) using a weighted average of CPI and WPI as specified in the MYT Regulations 2011. The consolidated index is then used to calculate the inflation factor for each year ($INDX_n$/ $INDX_{n-1}$) as shown in the table below.

Table 23: Inflation factor for the Control Period

Year	Index (Consolidated)	Inflation factor
2010-11	163.36	
2011-12	176.45	1.08
2012-13	190.62	1.08
2013-14	205.94	1.08
2014-15	222.53	1.08

Employee Expenses

Petitioner's Submission

4.40 The Petitioner has submitted that the average increase in salary of employees has been more than 10% on an average as against the indexation factor of 7.91% based on past inflation. This 10% increase in salaries and allowances is mainly due to annual increments and increase in DA on which IPGCL have no control as this forms part of the service conditions of the employees. Increase in Basic salary further increases other allowances like DA, HRA etc.

4.41 The Petitioner has further submitted that the headquarters of IPGCL and PPCL are common and the employees posted at headquarters are rendering services to both the companies. The common headquarters is helpful in economising the expenses for both the companies as well as for providing better facilities. The expenses of employees posted at headquarters are allocated between IPGCL and PPCL in FY 2011-12 in the ratio of 47:53 based on the generation of the plants.

4.42 Thus the Petitioner has estimated salary and allowances for the MYT period i.e. for FY 2012-13 to FY 2014-15 by escalating the employee expenses for FY 2011-12 by 10% annually.

Table 24: Employee Expenses for RPH submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Employee Expenses	54.42	59.86	65.84

Commission's Analysis

4.43 As per MYT Regulations 2011, the employee expenses for the Control Period shall be projected using the following formula:

$$EMP_n + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) * (INDX); \text{ and}$$

$$INDX = 0.55 * CPI + 0.45 * WPI$$

EMP_n – Employee Costs of the Licensee for the n^{th} year;

$A\&G_n$ – Administrative and General Costs of the Licensee for the n^{th} year;

Where,

INDX - Inflation Factor to be used for indexing. Value of INDX shall be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding five years before the base year

4.44 The Commission has followed the methodology specified in MYT Regulations 2011 and has analysed the submissions made by the Petitioner regarding its Employee Expenses related to Medical Reimbursement, Travelling Allowance, Leave Travel Assistance, Staff Welfare Expenses, etc.

4.45 The Commission has estimated the base year employee expenses for the Control Period by considering the employee expenses for FY 2010-11 at Rs 52.15 Cr as per the information submitted by the Petitioner vide letter dated March 14, 2012. As per the additional information submitted by the Petitioner, vide letter dated June 7, 2012, the employee expenses incurred in FY 2010-11 include arrears on account of 6^{th} Pay Commission and provision towards demand made to Pension trust for LTC, Medical, etc.

4.46 The provision towards payment to Pension Trust Fund on account of LTC, Medical; and the arrears of 6^{th} Pay Commission are abnormal expense items. The Commission has therefore has excluded the same from the base employee expenses. Since, the station wise allocation of the Payment to Pension Trust for LTC, Medical etc was not available, the Commission has arrived at the same by dividing the payment to Pension Trust Fund in the ratio 41:58 between GTPS and RPH i.e. in the ratio of the share employee expenses of GTPS and RPH in the total employee expenses of IPGCL for FY 2010-11 and has excluded the same from the base employee expenses.

4.47 The Commission has reduced the arrears of overtime and holiday pay on account of 6^{th} Pay Commission (i.e. Rs 0.47 Cr) and Payment to Pension Trust for LTC, Medical (i.e. Rs. 4.64 Cr) from the total employee cost of FY 2010-11 (i.e. Rs 52.15 Cr) to arrive at the net employee expenses (i.e. Rs 47.04 Cr).

Table 25: Normalized Employee Expenses for FY 2010-11 (Rs Cr)

Particulars	(Rs Cr)
Total Employee Expenses	52.15
Arrears of Overtime and Holiday Pay with 6th Pay Commission	0.47
Payment to Pension Trust for LTC, Medical etc	4.64
Net Employee Expenses	47.04

4.48 The net employee expenses have been escalated first to arrive at the employee expenses for FY 2011-12 (Rs 50.81 Cr) using the inflation factor as derived in Table 23. The employee expenses so arrived at for FY 2011-12 have been further escalated by the inflation factor as shown in Table 23 to arrive at the employee expenses for the Control Period. The Employee Expenses as approved by the Commission are shown in the table below.

Table 26: Employee Expenses for RPH approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Employee Expenses	54.89	59.30	64.08

Repair and Maintenance Expenses

Petitioner's Submission

4.49 The Petitioner has projected R&M expenses for the stations of IPGCL for FY 2012-13 to FY 2014-15 based upon the assessment of the maintenance activities to be carried out as per the manufacturer's recommendation, other maintenance practices followed and based on the experience.

4.50 Further the Petitioner has submitted that as the GFA of the IPGCL stations is on lower side, estimating R&M cost in accordance with 'K'% of GFA would underestimate the R&M cost for the stations.

4.51 In its additional submissions dated June 7, 2012 the Petitioner has submitted the projected value of 'K' for the Control Period. The 'K' has been computed for RPH based upon the average of 'K' for FY 2007-08 to FY 2010-11. The escalation has been taken as 8% on year to year basis. The 'K' for each year has been computed by dividing the repair and maintenance expenditure by the closing Gross Fixed Assets of the company for the respective year. The 'K' projected by the Petitioner for FY 2012-13 to FY 2014-15 for RPH is as under:

Table 27: Projected value of 'K' (%) for RPH submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Proposed K	10.84%	11.70%	12.64%

4.52 The Petitioner has also requested for allowance of 'Special Repair & Maintenance' for RPH. The Petitioner has submitted that the Commission had approved certain capital expenditure for RPH for FY 2007-08 to FY 2010-11 in its MYT Order. During the audit of annual accounts, on the advice of Statutory Auditor/CAG, some of the activities approved by the Commission for capital expenditure has been charged to Repair and Maintenance cost to meet the accounting standards. The total expenditure on this account from FY 2007-08 to FY 2010-11 has been submitted as Rs 6.86 Cr.

4.53 It has further submitted that Rajghat Power House is not having any reserve 100 MVA transformer for evacuation of power during any eventuality. The estimated cost of the transformer is around Rs. 7.00 Cr. Apart from the replacement of the transformer, replacement of PLC in CHP at the cost of Rs. 0.40 Cr, Up-gradation of Procontrol of unit 2 at the cost of Rs. 0.45 Cr and Up- gradation of turbovisory system at the cost of Rs. 0.30 Cr are also required for smooth operation and uninterrupted power generation from the station.

4.54 The station is proposed to be closed down in near future. However, the above referred expenditure, though in the nature of Capex, is necessary for smooth operation of the Station. Assuming the scrap value after three years of 40%, Petitioner has claimed the 60% of the cost of these schemes equally from FY 2012-13 to FY 2014-15 under the head 'Special Repair & Maintenance'. The Petitioner has requested the Commission to consider and allow the amount as claimed for respective years.

4.55 Thus the Petitioner has requested the Commission to allow the R&M cost as projected for the next control period as summarised below.

Table 28: R&M Expenses for RPH submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
R&M expenses (excluding Special R&M Expenses)	23.6	21.89	19.68
Special R&M Expenses	1.63	1.63	1.63
Total R&M Expenses	**25.23**	**23.52**	**21.31**

Commission's Analysis

4.56 MYT Regulations 2011 specifies that R&M expenses for existing generating stations shall be determined using the following formula:

$R\&M_n = K * GFA_{n-1}$;

Where,

$R\&M_n$ is Repair and Maintenance Costs of the Licensee for the n^{th} year;

'K' is a constant (could be expressed in %). Value of K for each year of the Control Period shall be determined by the Commission in the MYT Tariff order based on Applicant's filing, benchmarking, approved cost by the Commission in past and any other factor considered appropriate by the Commission.

4.57 The Commission has followed the methodology specified in MYT Regulations 2011 and has analysed the submissions made by the Petitioner regarding R&M expenses for FY 2007-08 to FY 2010-11 for approval of R&M expenses for the Control Period (FY 2012-13 to FY 2014-15).

4.58 For determination of 'K' for FY 2012-13 to FY 2014-15, the Commission has analysed the actual R&M expenses of the Petitioner during FY 2007-08 to FY 2010-11. The Commission noticed that the Petitioner requested for allowance of certain 'Special Repair & Maintenance' for RPH for FY 2007-08 to FY 2010-11 in addition to the regular R&M expenses.

4.59 Regarding these expenses the Petitioner has submitted that the Commission approved certain capital expenditure for FY 2007-08 to FY 2010-11 in its previous MYT Order. During the audit of annual accounts, on the advice of Statutory Auditor/CAG, some of the activities approved by the Commission for capital expenditure has been charged to Repair and Maintenance cost to meet the accounting standards.

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.

4.61 Accordingly, the Commission has reduced the 'Special Repair & Maintenance' from the total R&M expenses for FY 2007-08 to FY 2010-11. The balance R&M expenses and the approved opening GFA for each year of the Control Period have been considered for estimation of 'K' for each year from FY 2007-08 to FY 2010-11. The average K for FY 2007-08 to FY 2010-11 is calculated equal to 7.457% as shown below.

Table 29: K factor for FY 2007-08 to FY 2010-11

Particulars	2007-08	2008-09	2009-10	2010-11
Opening GFA (as approved by the Commission) (Rs Cr)	223.11	228.67	244.60	255.86
Total R&M Expenses (Rs Cr)	16.68	13.57	17.58	30.22
Special R&M Expenses (Plant and Machinery) (Rs Cr)	0.28	1.78	1.2	3.78
R&M Expenses excluding Special R&M (Rs Cr)	16.40	11.79	16.38	26.44
K Factor (on approved GFA)	7.35%	5.16%	6.70%	10.33%
Average K Factor	7.457			

4.62 The Commission is of the view that since it has not approved any additions to GFA for the Petitioner during FY 2012-13 to FY 2014-15 in this Order (as detailed in paragraph 4.88), the average value of K obtained above should be escalated to arrive at the K for each year of the Control Period.

4.63 The average K factor arrived above has been escalated by average increase in the relevant price index i.e. the Wholesale Price Index (WPI) for Machinery and Machine Tools during FY 2007-08 to FY 2010-11 (3.23%) (*Source: Ministry of Commerce and*

Industry Website, http://eaindustry.nic.in/*)* to arrive at 'K' and R&M expenses for each year of the Control Period as shown in the table below.

Table 30: R&M Expenses for RPH approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Opening GFA (as approved by Commission)	255.90	255.90	255.90
K Factor	8.34%	8.60%	8.88%
R&M Expenses	21.33	22.02	22.73

4.64 The Petitioner has also requested certain capital expenditure to be allowed for the station under the head of 'Special Repair and Maintenance' for the Control Period (FY 2012-13 to FY 2014-15). The Petitioner has submitted that while the station is proposed to be closed down in near future certain expenditure (as mentioned in paragraph 4.53), though, in the nature of Capex, is necessary for smooth operation of the Station. Such expenditure has been claimed under the head 'Special Repair & Maintenance' from FY 2012-13 to FY 2014-15. The Commission does not find merit in treating expenditure which in the nature of capital expenditure as revenue expenditure and has thus not allowed any such amount in the Repair and Maintenance Expenses. The Petitioner is directed to approach the Commission for approval of each capex scheme which it proposes to undertake separately before the execution of the scheme.

Administrative and General Expenses

Petitioner's Submission

4.65 The Petitioner has projected A&G expenses for FY 2012-13 to FY 2014-15 by applying an indexation factor of 7.91% annually on the estimated cost for FY 2011-12 except for expenditure on CISF and ERP.

4.66 The Petitioner deploys CISF for the security of its plants. Their manpower deployment and expenditure are as per their specified norms. Their pay structure is also governed by the Central Government rules. The Sixth Pay Commission recommendations were also implemented in CISF. Accordingly, the expenditure on security has also increased substantially. The Petitioner has projected an increase of 10% in security expenses 10% annually.

4.67 Further, the Petitioner has implemented the ERP system in year 2009 and projections for expenditure under this head is done on the basis of the Annual Maintenance Fee of SAP licensees and other hardware suppliers, support and training requirements etc.

4.68 Other than the above, the Petitioner has requested that all taxes and cess levied on it to be passed through in ARR as they are uncontrollable parameters.

Table 31: A&G Expenses for RPH submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
A&G Expenses	8.41	9.08	9.91

Commission's Analysis

4.69 As per MYT Regulations 2011, the A&G expenses for the Control Period shall be projected using the following formula:

$EMP_n + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) * (INDX)$; *and*

$INDX = 0.55 * CPI + 0.45 * WPI$

EMP_n *– Employee Costs of the Licensee for the* n^{th} *year;*

$A\&G_n$ *– Administrative and General Costs of the Licensee for the* n^{th} *year;*

Where,

INDX - Inflation Factor to be used for indexing. Value of INDX shall be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding five years before the base year

4.70 The Commission has followed the methodology specified in MYT Regulations 2011 and has analysed the submissions made by the Petitioner regarding its A&G Expenses for approval of A&G cost for the Control Period.

4.71 The Commission has estimated the A&G expenses for the Base Year (FY 2011-12) by considering the A&G expenses as submitted by the Petitioner for FY 2010-11 and other information submitted by the Petitioner after due prudence check. The Petitioner submitted A&G expenses for FY 2010-11 at Rs 5.89 Cr which includes expenses on insurance, security/service charges and miscellaneous expenditures. The A&G expenses submitted included Rs 0.71 Cr on account of insurance expenses which have been considered separately (as detailed in paragraph 4.74). The Commission has considered the balance A&G expenses at Rs 5.18 Cr (Rs 5.89 Cr - Rs 0.71 Cr) for estimation of A&G expenses.

4.72 In its additional submission dated June 7, 2012, the Petitioner submitted that CISF has given a credit of Rs. 2.56 Cr for IPGCL and PPCL during FY 2010-11 on account of change in methodology for computation of Pension Contribution as per the Sixth Pay Commission. This credit has resulted in lower CISF expenditure in FY 2010-11. The impact of the same on RPH has been estimated at Rs 0.74 Cr. Since this is a onetime credit in the CISF expenses, the Commission has added the same to arrive at the net A&G expenses (excluding expense on insurance) for FY 2010-11 as Rs 5.92 Cr.

4.73 The net A&G expenses for FY 2010-11 (excluding expenses on insurance) as calculated above have been escalated first to arrive at the A&G expenses for FY 2011-12 (Rs 6.40 Cr) using the inflation factor as derived in Table 23. The A&G expenses so arrived for FY 2011-12 have been further escalated by the inflation factor in Table 23 to arrive at the A&G expenses (excluding expenses on insurance) for the Control Period.

4.74 With regard to expenses on insurance, the Commission observed that the insurance premium paid by the Petitioner has increased during FY 2011-12. The company has paid a premium of Rs 0.94 Cr for FY 2011-12 as opposed to Rs 0.71 Cr for FY 2010-11. It has submitted that the policies are taken after inviting bids from all the four Governments Insurance Companies and that the increase in the premium is on account of revaluation of machinery.

4.75 The Commission has examined the information submitted by the Petitioner, including the documentary proof of insurance premium payable by the Petitioner, to arrive at the value of insurance expenses for the Control Period. The Commission has considered the insurance expenses for FY 2011-12 i.e. Rs 0.94 Cr, as submitted by the Petitioner vide letter dated June 7, 2012, and has escalated the same by the inflation factor derived in Table 23 for projecting A&G expenses for FY 2012-13 to FY 2014-15.

4.76 The Petitioner has also requested for additional expenditure to be allowed on account of ERP licenses. The scheme for installation of ERP was approved by the Board of Directors of IPGCL and PPCL on December 19, 2008 and work was awarded to M/s NICSI. The Commission has also given, in principle, approval for implementation of the ERP project vide its letter dated October 15, 2009. Further, additional expenses on account of ERP licenses were allowed to the Petitioner for FY 2011-12 in the Tariff Order dated August 26, 2011.

4.77 No A&G expenses with respect to ERP licenses were booked in the A&G expenses for FY 2010-11 and hence are not a part of the base A&G expenses. The Petitioner was directed to submit the details regarding the expenditure on ERP licenses projected by it for the Control Period, including Contract Documents of Annual Maintenance Contracts, SAP licenses etc. The Petitioner, vide its letter dated June 7, 2012 has submitted the amount regarding the budgeted expenditure on ERP licenses/IT support as for GTPS as Rs 0.23 Cr, Rs 0.24 Cr and Rs 0.25 Cr in FY 2012-13, FY 2013-14 and FY 2014-15 respectively. The Commission has provisionally allowed expenses on ERP as submitted by the Petitioner separately in the A&G expenses. The same shall however be trued up considering the actual expenditure on ERP after due prudence check by the Commission.

4.78 The A&G expenses approved by the Commission, including the expenditure on ERP, insurance expenses and other A&G expenses, for the Control Period are shown in the table below.

Table 32: A&G Expenses for RPH approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
ERP Expenses	0.23	0.24	0.25
Insurance Expenses	1.02	1.10	1.19
Other A&G Expenses	6.91	7.47	8.07
Total A&G Expenses	**8.16**	**8.80**	**9.50**

Efficiency Factor

Petitioner's Submission

4.79 With regard to efficiency norm, the Petitioner submitted that the various operational norms fixed by the Commission i.e. Normative Annual Plant Availability Factor, Heat Rate, auxiliary Power Consumption for RPH are as per the CERC norms. It has further submitted that the Commission has already increased the target availability (%) of RPH to 75% from existing norm of 70%. The Commission has been allowing the tariff based on the norms fixed by it. Nothing beyond the norms as approved is allowed. It is further submitted that O&M expenses being part of fixed cost is recovered on pro-rata basis depending upon the availability.

4.80 It has submitted that the condition of efficiency factor should not be made applicable to RPH as the same has been already taken care of while fixing the norms. It has further submitted that the Hon'ble Central Electricity Regulatory Commission in its Generation Tariff Regulations, 2009 has not specified any efficiency factor in determining the O&M expenses.

Commission's Analysis

4.81 The RPH station is nearly 22 years old and is nearly at the end of its useful life of 25 years. The Station is to be shut down in the near future. The Commission notes that CERC has also specified separate norms for O&M expenses for the older generating stations.

4.82 Considering the old age of the station and the requirement of higher O&M expenses the Commission has not imposed any efficiency factor on the approved O&M expenses for the Station for the Control Period.

4.83 The total O&M Expenses of the Rajghat Power House, approved for the Control Period are shown in the table below:

Table 33: O&M Expenses (Rs Cr) for RPH approved by the Commission

	FY 2012-13	FY 2013-14	FY 2014-15
R&M Expenses	21.33	22.02	22.73
Employee Expenses	54.89	59.30	64.08
A&G Expenses	8.16	8.80	9.50
O&M Expenses	**84.37**	**90.12**	**96.31**

Capital Expenditure

Petitioner's Submission

4.84 The capital expenditure proposed for the Control Period by the Petitioner has been summarized below.

Table 34: Capital Expenditure for RPH submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Computers (ERP)	0.140	0.040	0.025
ERP software	0.080	0.006	0.006
HQ share	0.160	0.026	0.011
Total	**0.380**	**0.072**	**0.042**

Commission's Analysis

4.85 The Commission had approved capital expenditure of Rs 32.79 Cr for RPH from the FY 2007-08 to FY 2010-11 in its previous MYT Order. The Petitioner has now requested the Commission to true up the actual capital expenditure incurred by it during the FY 2007-08 to FY 2011-12.

4.86 With regards to this, the Commission notes that Regulation 5.6 of the MYT Regulations 2007 states:

"...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 Control Period."

4.87 Since the Commission has extended the Control Period for one more year, up to March 31, 2012, it has not considered any adjustment in capital expenditure and GFA for the years FY 2007-08 to FY 2011-12. The adjustment in ARR for the capital expenditure and capitalization actually done by the Petitioner shall be carried out at the end of the extended Control Period when the audited accounts for FY 2007-08 to FY 2011-12 are made available by the Petitioner.

4.88 The Commission has not approved any capital expenditure and additions to GFA for FY 2012-13 to FY 2014-15 in this Order. The Petitioner is directed to approach the Commission for approval of each scheme which it proposes to undertake separately before the execution of the scheme.

4.89 The Commission shall true up the capital expenditure incurred by the Petitioner during each year of the Control Period (FY 2012-13 to FY 2014-15) based on prudence check of the actual capital expenditure incurred during the respective year.

4.90 At the time of filing of the Annual Performance Review petition, the Petitioner shall submit details of the additional capital expenditure incurred during the period under review, duly audited and certified by the auditors.

Depreciation

Petitioner's Submission

4.91 The Petitioner has charged depreciation on the basis of straight-line method, on the fixed assets in use at the beginning of the year. The depreciation is based on the original cost, estimated life and residual life. Depreciation amount during the Control

Period from FY 2012-13 to FY 2014-15 has been calculated as per the depreciation rates specified under MYT Regulations 2011 issued by the Commission.

4.92 The Petitioner further submits that RPH is going to complete its useful life of 25 years in May, 2015. The station will be able to recover the 70% of the depreciable value during the mid of FY 2013-14 only. Since the station has completed the major portion of useful life, the Petitioner has claimed the remaining amount of depreciation up to the value of 90% during FY 2012-13 to FY 2014-15.

Table 35: Depreciation for RPH submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Opening GFA	237.03	237.41	237.48
Additions to GFA	0.38	0.07	0.04
Closing GFA	237.41	237.48	237.52
Total Depreciation	23.64	23.64	23.64

Commission's Analysis

4.93 The Commission has not considered any revision in GFA and depreciation for the years FY 2007-08 to FY 2011-12. The same shall be carried out at the time of adjustment of the capital expenditure and capitalization done by the Petitioner, at the end of the Control Period (FY 2007-08 to FY 2011-12) when the audited accounts for FY 2007-08 to FY 2011-12 are made available by the Petitioner.

4.94 Regulations 6.30-6.34 of the MYT Regulations 2011 as quoted below specify the methodology for calculation of depreciation for a generation company during the Control Period.

"6.30 Depreciation shall be calculated for each year of the Control Period, on the amount of Capital Cost of the Fixed Assets as admitted by the Commission; Provided that depreciation shall not be allowed on assets funded by any capital subsidy / grant.

6.31 Depreciation for each year of the Control Period shall be determined based on the methodology as specified in these Regulations along with the rates and other terms specified in Appendix-I of these Regulations.

6.32 Depreciation shall be calculated annually, based on the straight line method, over the useful life of the asset. The base value for the purpose of depreciation shall be capital cost of the asset as admitted by the Commission. Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the date of commercial operation shall be spread over the balance useful life of the assets.

6.33 In case of the existing Projects, the balance depreciable value as on 1.4.2012 shall be worked out by deducting the cumulative depreciation including Advance Against Depreciation as admitted by the Commission up to 31.3.2012 from the gross depreciable value of the assets. The rate of depreciation shall be continued to be charged at the rate specified in Appendix-I till cumulative depreciation reaches 70%.

Thereafter the remaining depreciable value shall be spread over the remaining life of the asset such that the maximum depreciation does not exceed 90%.

6.34 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to a maximum of 90% of the capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset. In the event of Renovation and Modernization expenditure affecting the life of the asset, the depreciation shall be allowed up to a maximum of 90% of the cost of the asset within the enhanced life span of the asset".

4.95 The Commission has calculated the depreciation according to the methodology and depreciation rates notified in the MYT Regulations 2011 and the approved fixed assets for each year of the Control Period.

4.96 Further, in accordance with Regulation 6.33 of the MYT Regulations 2011 the Commission has computed the cumulative depreciation at the beginning of each year of the Control Period. As per the computations of the Commission the cumulative depreciation (at the beginning of each year) for RPH shall be less than 70% for each year of the Control Period. Thus the depreciation for each year of the Control Period has been calculated as per the Straight Line Method using rates specified in Appendix-I of the MYT Regulations 2011.

Table 36: Depreciation for RPH approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Opening GFA	255.90	255.90	255.90
Additions to GFA	0.00	0.00	0.00
Closing GFA	255.90	255.90	255.90
Accumulated Depreciation till the beginning of the year (including AAD)	142.26	155.19	168.12
Accumulated Depreciation as % of opening GFA	55.59%	60.65%	65.70%
Total Depreciation	**12.93**	**12.93**	**12.93**

Return on Equity

Petitioner's Submission

4.97 The Petitioner has computed return on equity on approved equity of the project and the 30% equivalent amount of the capital additions made during the control period. For the Control Period from FY 2012-13 to FY 2014-15, the Petitioner has considered RoE @ 14% in line with the MYT Regulations 2011 of the Commission.

4.98 However the Petitioner has requested the Commission that it relaxes the norm for RoE and revises RoE from 14% to pre-tax rate of return of 15.5% in line with the CERC (Terms and Conditions of Tariff) Regulations, 2009.

4.99 The details of projected return on equity for the Control Period are given below.

Table 37: Return on Equity for RPH submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Equity (Opening Balance)	60.62	60.73	60.75
Net additions during the year	0.11	0.02	0.01
Equity (Closing Balance)	60.73	60.75	60.77
Average Equity	60.67	60.74	60.76
Rate of Return on Equity	14.00%	14.00%	14.00%
Return on Equity	8.49	8.50	8.51

Commission's Analysis

4.100 The Commission has not considered any revision in equity for the years FY 2007-08 to FY 2011-12. The same shall be carried out at the time of adjustment of the capital expenditure and capitalization done by the Petitioner, at the end of the Control Period (FY 2007-08 to FY 2011-12) when the audited accounts for FY 2007-08 to FY 2011-12 are made available by the Petitioner.

4.101 The Commission has considered the closing value of equity for FY 2011-12, as approved in the Tariff Order dated August 26, 2011, as the opening value of equity for the Control Period. The additions to equity during the Control Period have been considered equal to 30% of additional capitalization approved for each of the Control Period.

4.102 The Commission has considered RoE @ 14% for the Control Period from FY 2012-13 to FY 2014-15, in line with the MYT Regulations 2011.

4.103 The return on equity approved by the Commission for the Control Period are as follows:

Table 38: Return on Equity for RPH approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Equity (Opening Balance)	69.40	69.40	69.40
Net additions during the year	0.00	0.00	0.00
Equity (Closing Balance)	69.40	69.40	69.40
Average Equity	69.40	69.40	69.40
Rate of Return on Equity	14.00%	14.00%	14.00%
Return on Equity	**9.72**	**9.72**	**9.72**

Interest on Loan

Petitioner's Submission

4.104 The Petitioner has made certain capital additions during the MYT Control Period. The same has been funded through Reserve and surplus. As per MYT Regulations, 2011 70% of the capital additions has been considered to be funded through Loans. Accordingly, interest on this normative loan has been taken @ 11.50% per annum, as per the MYT Regulations, 2011.

Table 39: Interest on Loans for RPH submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Opening Loans	57.62	45.27	32.68
Addition during year	0.27	0.05	0.03
Repayment during year	12.62	12.64	12.64
Closing Loans	45.27	32.68	20.07
Average Loans	51.44	38.98	26.38
Rate of Interest	11.91%	11.89%	11.86%
Interest Payment	**6.13**	**4.64**	**3.13**

Commission's Analysis

4.105 The Commission has not considered any revision in loan amounts for the years FY 2007-08 to FY 2011-12. The same shall be carried out at the time of adjustment of the capital expenditure and capitalization done by the Petitioner, at the end of the Control Period (FY 2007-08 to FY 2011-12) when the audited accounts for FY 2007-08 to FY 2011-12 are made available by the Petitioner.

4.106 The Commission has considered the closing value of loan for FY 2011-12, as approved in the Tariff Order dated August 26, 2011, as the opening value of loan for the Control Period. The additions to loan during the Control Period have been considered equal to 70% of additional capitalization approved for each year of the Control Period.

4.107 The Commission has calculated the interest on loan for each year of the Control Period in accordance with the following methodology specified in the MYT Regulations 2011.

"6.16 Interest and finance charges on loan capital shall be computed on the outstanding loans, bond or non convertible debentures as on 31.03.2012 approved by the Commission and additional loan approved during each year of the Control Period.

6.17 The loan repayment for each year of the Control Period 2012-15 shall be deemed to be equal to the depreciation allowed for that year.

6.18 The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project.

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered;

Provided further that if the generating station, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company as a whole shall be considered;

6.19 The interest on loan shall be calculated on the normative average loan of the respective years by applying the weighted average rate of interest.

6.20 The interest rate on the amount of equity in excess of 30% treated as notional loan shall be the weighted average rate of the loans of the respective years and shall be further limited to the prescribed rate of return on equity in the Regulation;

Provided that all loans considered for this purpose shall be identified with the assets created;

Provided that interest and finance charges of re-negotiated loan agreements shall not be considered, if they result in higher charges;

Provided further that interest and finance charges on capital works in progress shall be excluded and shall be considered as part of the capital cost;

Provided further that neither penal interest nor overdue interest shall be allowed for computation of Tariff.

6.21 Notwithstanding any moratorium period availed by the generating company the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed."

4.108 The interest on loans as approved by the Commission for the Control Period is given the table below.

Table 40: Interest on Loans for RPH approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Opening Loans	74.70	61.77	48.84
Addition during year	0.00	0.00	0.00
Repayment during year	12.93	12.93	12.93
Closing Loans	61.77	48.84	35.91
Average Loans	68.23	55.30	42.37
Rate of Interest	11.89%	11.88%	11.84%
Interest Payment	**8.12**	**6.57**	**5.02**

Interest on Working Capital

Petitioner's Submission

4.109 The Petitioner has calculated the Interest on Working Capital for the second MYT period as per the following norms specified in the MYT Regulations 2011.

4.110 The Petitioner has submitted that the fuel cost has increased steeply in FY 2010-11; this increase in prices of fuel had substantial impact on certain components considered in the computation of working capital and resultantly the interest on working capital has considerably increased in comparison to the interest allowed by the Commission.

4.111 The rate of Interest for FY 2012-13 to FY 2014-15 is computed as 13.50% by additionally allowing 350 basis points in base rate of SBI.

Table 41: Interest on Working Capital for RPH submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Cost of Coal for 2 months	31.98	31.98	31.97
Cost of Secondary Fuel Oil for two months	2.27	2.27	2.27
Maintenance Spares @ 20% of O&M	17.61	18.49	19.41
O&M expenses for 1 month	7.34	7.71	8.09
Receivables equivalent to 2 months of capacity and energy charge	58.40	58.93	59.68
Total Working Capital	117.60	119.37	121.43
Rate of Interest	13.50%	13.50%	13.50%
Interest on Working Capital	**15.88**	**16.12**	**16.39**

Commission's Analysis

4.112 The Commission has estimated the working capital requirement of the Petitioner based on the following norms as specified in the MYT Regulations 2011:

(a) Cost of coal for 1.5 months for pithead generating stations and 2 months for non-pithead generating stations for generation corresponding to the Normative Annual Plant Availability Factor;

(b) Cost of secondary fuel oil for two months for generation corresponding to the Normative Annual Plant Availability Factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;

(c) Maintenance spares @ 20% of operation and maintenance expenses;

(d) O&M expenses for 1 month; and

(e) Receivables equivalent to 2 months of capacity charges and energy charges for sale of.

4.113 As per the MYT Regulations 2011, the cost of fuel for approval of working capital shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined.

4.114 The Petitioner, in its additional submissions, has however submitted that the rate of coal has increased over 13% in the month of March 2012 primarily on account of increase in freight charges and has requested the Commission to consider the price of coal observed during March 2012 to project the fuel cost during the Control Period. The Commission agrees with the submission of the Petitioner and has considered the rate of coal for March 2012 i.e. Rs 3026/MT for projection of fuel cost on a realistic basis. The same has been grossed up by the approved transit loss (0.80%) to arrive at the base landed cost of coal at Rs 3051/MT for computation of the fuel cost and working capital requirement of the Petitioner.

4.115 In accordance with MYT Regulation 2011, the rate of interest on working capital has been considered equal to Base Rate of State Bank of India as on April 1, 2012 plus 350 basis points.

4.116 The Commission has calculated the working capital requirement and interest on working capital of the Petitioner considering the approved values of the above components for each year of the Control Period, as shown below:

Table 42: Interest on Working Capital for RPH approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Cost of Coal for 2 months	38.34	38.34	38.34
Cost of Secondary Fuel Oil for two months	2.43	2.43	2.43
Maintenance Spares @ 20% of O&M	16.87	18.02	19.26
O&M expenses for 1 month	7.03	7.51	8.03
Receivables equivalent to 2 months of capacity and energy charge	63.29	64.05	64.88
Total Working Capital	127.96	130.34	132.93
Rate of Interest	13.50%	13.50%	13.50%
Interest on Working Capital	**17.27**	**17.60**	**17.95**

Tax Expenses

Petitioner's Submission

4.117 In the attached formats to the Petition, the Petitioner has also submitted a liability towards income tax which it shall incur during next Control Period and same has been summarized in table below.

Table 43: Income Tax Liability for RPH submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Income Tax	2.76	2.76	2.76

Commission's Analysis

4.118 With regards to tax on income the MYT Regulations 2011 states that –

"6.37 Tax on the income streams of the generating company shall be recovered from the beneficiaries. Tax on income, if any, liable to be paid shall however be limited to tax on return on the equity component of capital employed. Any additional tax liability on account of incentive due to improved performance like higher availability, lower station heat rate, lower auxiliary consumption, lower O&M expenses etc and other income shall not be considered."

4.119 The Commission has projected the value of income tax (limited to the tax on return on equity) considering the submission made by the Petitioner. The same shall be trued up at the time of truing up of the respective year of the Control Period.

Table 44: Income Tax Liability for RPH approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Income Tax	2.76	2.76	2.76

Cost of Secondary Fuel Oil

Petitioner's Submission

4.120 The Petitioner submitted that the cost of secondary fuel has been computed based upon the average price and GCV for the months of September to November, 2011 and no escalation has been provided. It is further submitted that two types of secondary oil are clubbed together for determination of secondary fuel oil for RPH for FY 2012-13 to FY 2014-15. The cost of the secondary fuel has been considered as part of fixed cost as per the Regulations, 2011 from FY 2012-13 to FY 2014-15.

Table 45: Secondary Fuel Oil Expenses as submitted by the Petitioner for RPH

Particulars	UoM	FY 2012-13	FY 2013-14	FY 2014-15
Normative Specific Oil Consumption (SFC) – LDO/HSD	ml/kWh	1.50	1.50	1.50
Normative Specific Oil Consumption (SFC) – LSHS	gm/kWh	3.75	3.75	3.75
Weighted Average Landed Price of Fuel (LPSFi) – LDO/HSD	Rs/KL	29095	29095	29095
Weighted Average Landed Price of Fuel (LPSFi) - LSHS	Rs/MT	32248	32248	32248
Cost of Secondary Fuel Oil	Rs Cr	13.62	13.62	13.62

Commission's Analysis

4.121 Expenses on secondary fuel oil have been computed corresponding to normative secondary fuel oil consumption (SFC) specified the MYT Regulations 2011, and in accordance with the formula given in the said Regulations as quoted below –

"6.45 Expenses on secondary fuel oil in Rupees shall be computed corresponding to normative secondary fuel oil consumption (SFC) specified in clause 7.3 of these Regulations, in accordance with the following formula:

$$= SFC \times LPSF_i \times NAPAF \times 24 \times NDY \times IC \times 10$$

Where,

SFC – Normative Specific Fuel Oil consumption in ml/kWh

$LPSF_i$ – Weighted Average Landed Price of Secondary Fuel in Rs./ml considered initially

NAPAF – Normative Annual Plant Availability Factor in percentage

NDY – Number of days in a year

IC - Installed Capacity in MW

6.46 Initially, the landed cost incurred by the generating company on secondary fuel oil shall be taken based on actuals of the weighted average price of the three preceding months and in the absence of landed costs for the three preceding months, latest procurement price for the generating station, before the start of the year."

4.122 Further, in accordance with the Regulation 6.46 (as quoted above) the landed cost incurred by the generating company on secondary fuel oil has been taken based on actuals of the weighted average price of the three preceding months i.e. January 2012 to March 2012. The approved expenses on secondary fuel oil are shown in the table below.

Table 46: Secondary Fuel Oil Expenses as approved by the Commission for RPH

Particulars	UoM	FY 2012-13	FY 2013-14	FY 2014-15
Normative Specific Oil Consumption (SFC) – LDO/HSD	ml/kWh	1.50	1.50	1.50
Normative Specific Oil Consumption (SFC) - LSHS	gm/kWh	3.75	3.75	3.75
Weighted Average Landed Price of Fuel (LPSFi) – LDO/HSD	Rs/KL	28910	28910	28910
Weighted Average Landed Price of Fuel (LPSFi) – LSHS	Rs/MT	32248	32248	32248
Normative Plant Availability Factor (NAPAF)	%	75%	75%	75%
Number of Days in a year (NDY)		365	365	365
Installed Capacity (IC)	MW	135.00	135.00	135.00
Cost of Secondary Fuel Oil – LDO	Rs Cr	3.85	3.85	3.85
Cost of Secondary Fuel Oil – LSHS	Rs Cr	10.73	10.73	10.73
Cost of Secondary Fuel Oil	**Rs Cr**	**14.57**	**14.57**	**14.57**

Special Allowance on account of Renovation and Modernisation

Petitioner's Submission

4.123 The Petitioner has submitted that the Commission in MYT Regulations, 2011 has provided for special Repair & Maintenance allowance for coal based stations.

4.124 The Petitioner, vide information submitted on June 7, 2012, has further submitted that Unit No. 2 and Unit No. 1 of Rajghat Power House were commissioned in January, 1990 and May 1990 respectively. Unit No. 2 will complete its useful life of 25 years by December, 2014. The Petitioner has submitted that it is opting for an special allowance @ Rs. 6.61 lakh per annum for FY 2014-15. The estimated amount for three months from January 2015 to March, 2015 is Rs. 1.12 Cr.

Commission's Analysis

4.125 The Commission in MYT Regulations, 2011 has made provision for special allowance on account of Renovation and Modernisation for coal based stations under

Regulation 6.14 and Regulation 6.15. The said Regulations are quoted below for reference.

"6.14 The generating company in case of thermal generating station, may, in its discretion, avail of a special allowance either for a Unit or a group of Units as compensation for meeting the requirement of expenses including Renovation and Modernization beyond the Useful life of the generating station or a Unit thereof, and in such an event revision of the capital cost shall not be considered and the applicable operational norms shall not be relaxed but the special allowance shall be included in the annual fixed cost. Provided also that such option shall not be available for a generating station or unit for which renovation and modernization has been undertaken and the expenditure has been admitted by the Commission before commencement of these Regulations, or for a generating station or unit which is in a depleted condition or operating under relaxed operational and performance norms.

6.15 A generating company (coal-based thermal generating station) on opting for the alternative in the clause 6.14 of these Regulations, shall be allowed special allowance @ Rs. 5.91 lakh/MW/year in 2012-13 and thereafter escalated @ 5.72% every year during the Control Period 2012-15, unit-wise from the next financial year from the respective date of the completion of useful life with reference to the date of commercial operation of the respective unit of generating station:"

4.126 As per the submission of the Petitioner dated June 7, 2012, Unit No. 2 of RPH will complete its useful life of 25 years by December, 2014. As per Regulation 6.15 the Petitioner may be eligible for such an allowance from the **next financial year** i.e. FY 2015-16. The Commission has thus not allowed any special allowance during the Control Period. The Commission shall deliberate on the merits of the issue when the same arises in future years.

Payment to Pension Trust

Petitioner's Submission

4.127 The Petitioner has submitted that the pension and other terminal benefits of the employees transferred from erstwhile Delhi Vidyut Board are being dealt by DVB Employees Terminal Benefits Fund, 2002. The trust vide their letter 15.12.2009 has communicated a demand of Rs 159.51 Cr towards the share of IPGCL for shortfall in funds as per the actuarial valuation done by the trust as on 1.4.2007. The same has not been accounted in the tariff petition as this amount is being contested with the trust. It has further submitted that DVB Employees Terminal Benefits Fund, 2002 (Pension Trust) has raised an additional demand of Rs 32.35 Cr for FY 2011-12 on account of medical expenses, LTC and arrears of Pension and shortfall of pension and other terminal benefits. The Petitioner has not accounted for this amount in this petition except of Rs. 6.98 Cr towards medical and LTC. It is submitted that in case, any 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.

Commission's Analysis

4.128 During the public hearing, the distribution licensees submitted that the accounts of the Pension Trust have not been audited. Also in their view, the funding of the trust by GoNCTD is not based on an actuarial valuation. As a result of the under-funding, the Trust is unable to meet its liability towards pension and other payments to retired employees. This matter is also sub judice before the Hon'ble Delhi High Court.

4.129 The Commission is issuing advice to the Govt. of NCT of Delhi u/s 86(2) of the Electricity Act 2003 to have the accounts audited immediately and also consider restructuring the Board of Trustees so that Government nominees are inducted on the Board. This is necessary for ensuring proper management of the Trust and servicing of the liabilities towards the retired employees, for which necessary provisions should be made by the respective employing entities in their accounts.

4.130 In order to avoid undue hardship to the retired employees (Pensioners) the Commission is making an ad-hoc one time provision of Rs. 160 Cr to the DTL in this Tariff Order for passing on to the Pension Trust. The Commission is of the view that ad-hoc provisions of this nature cannot continue in future and the parties to the dispute before the Hon'ble High Court of Delhi should expedite the proceedings before the Court and explore other avenues for settlement of the dispute.

Annual Fixed Charges

Petitioner's Submission

4.131 The Annual Fixed Charges for the Control Period, as submitted by the Petitioner are summarised below.

Table 47: Total Annual Fixed Cost for RPH submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
O&M Expenses	88.06	92.46	97.06
Depreciation	23.64	23.64	23.64
Interest Charges	6.13	4.64	3.13
Return on Equity	8.49	8.50	8.51
Interest on Working Capital	15.88	16.12	16.39
Income Tax[2]	2.76	2.76	2.76
Secondary Fuel Oil	13.62	13.62	13.62
Special Allowance for R&M Expenses	-	-	1.12
Annual Fixed Charges	**158.58**	**161.74**	**166.24**

[2] Petitioner has not considered any expenses on account of income tax or FBT for the calculation of fixed cost. It has, however, submitted that taxes should be allowed as pass through on actual basis. However, projections of the Petitioner, as submitted in forms to the petition, are shown here for the purpose of comparison.

Commission's Analysis

4.132 The Annual Fixed Charges approved for RPH for the Control Period, based on the analysis of various components by the Commission, are shown below:

Table 48: Annual Fixed Charges approved by the Commission for RPH (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
O&M expenses	84.37	90.12	96.31
Depreciation	12.93	12.93	12.93
Interest on Loans	8.12	6.57	5.02
Return on Equity	9.72	9.72	9.72
Interest on Working Capital	17.27	17.60	17.95
Income Tax	2.76	2.76	2.76
Cost of Secondary Fuel Oil	14.57	14.57	14.57
Annual Fixed Charges	**149.74**	**154.26**	**159.25**

A5: ANALYSIS OF AGGREGATE REVENUE REQUIRMENT FOR MYT CONTROL PERIOD (FY 2012-13 TO FY 2014-15) FOR GAS TURBINE POWER STATION

Norms of Operation

5.1 The Commission has notified MYT Regulations 2011 for the Control Period. The said Regulations contain the target norms of operation, for the purpose of determination of tariff, for GTPS during FY 2012-13 to FY 2014-15. The Petitioner has, however, made submissions for relaxation of certain operational norms. The submissions made by the Petitioner in this regard and the Commission's views on the same have been discussed in the following sections.

Station Heat Rate

Petitioner's Submission

5.2 The Petitioner has claimed that the Commission has approved the station heat rate for the GTPS at the levels which are quite below the level achievable by the station.

5.3 It has cited in reference the order of the Hon'ble Appellate Tribunal in appeal no. 81/2007, wherein regarding the SHR for GTPS for FY 2006-07 it was ruled that :

"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 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."

5.4 It has further been submitted that the turbines of the station are of 30 MW size and more than 25 years old. The combined cycle of the Station was installed after retrofitting of waste Heat Recovery modules by M/s BHEL, after operation of GTS in open cycle mode for around 10 years. Retrofitting of the machines by any supplier other than by the supplier of GTs has inherent problems.

5.5 The Petitioner has submitted that the guaranteed heat rate in simple cycle mode is 11688 kJ/kWh on NCV at compressor inlet temperature of 15°C and atmospheric pressure of 1.019 BAR. The guaranteed heat rate at site conditions of 31.5°C is approximately 3188 Kcal/kWh. Further, taking into account the correction factor of 5.70% on the guaranteed heat rate, as recommended by the CEA, the corrected heat rate for simple cycle mode works out to 3370 Kcal/kWh.

5.6 Further, the Petitioner has stated that CERC in its latest MYT regulations, 2011 for FY 2009-14 has fixed a heat rate of 3440 Kcal/ kWh in simple cycle mode for the similar Assam gas station of NEEPCO having capacity of 291 MW (6 Gas Turbines of 33.5 MW and 3 STG of 30 MW), even though the station was commissioned in 1995-98. It has argued that even under the CERC Tariff Regulations, 2004, the heat rate allowed for this station was at a higher level than as allowed by the Commission.

5.7 It has further been submitted that two of Gas Turbines at the Station were converted on liquid fuel. Since the CERC has allowed 2% excess heat rate over the allowed operative heat rate for gas turbines operating on liquid fuel, the Petitioner has requested the Commission to consider and allow 2% excess heat rate over the allowed heat rate for operation of machines on liquid fuel.

5.8 In addition to the above the Petitioner has submitted that the SHR of IPGCL stations has been high due to considerable high number of trippings in the grid of Delhi as compared to the national grid. Since heat input is same for de-rated capacity of STGs, the combined cycle heat rate will be impacted and need to be revised accordingly.

5.9 Citing the above reasons, the Petitioner has requested the Commission to allow the heat rates of 2500 kCal/kWh in combined cycle mode and 3440 kCal/kWh in open cycle mode for FY 2012-13 to FY 2014-15.

Table 49: Station Heat Rate for GTPS (kCal/ kWh) submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Combined Cycle Operations	2500	2500	2500
Open Cycle Operations	3440	3440	3440

Commission's Analysis

5.10 Regarding Gas Turbine Power Station, the Commission has directed the Petitioner several times in the past to get a performance guarantee 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. However, the Petitioner has not complied with the directive of the Commission till date. In absence of the same, the Commission is unable to relax the SHR which has been allowed to the Petitioner in the MYT Regulations.

5.11 The norms of operation provided in the MYT Regulations 2011 have been determined considering the current state of each plant, and the expected performance improvements during the Control Period and these norms are comparatively lenient to norms specified by the CERC. The Commission has considered the proposed capital investment of the Petitioner during the Control Period, the norms of operations as per the MYT Regulations 2011, for the determination of tariff for each plant during the Control Period.

Table 50: Station Heat Rate for GTPS (kCal/ kWh) approved by the Commission

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Combined Cycle Operations	2450	2450	2450
Open Cycle Operations	3125	3125	3125

Plant Availability

Petitioner's Submission

5.12 The Petitioner has submitted that the Station was able to achieve the target availability of 70% from FY 2008-09 onwards. Further the average availability (%) achieved by the station during the Control Period is around 71.58%.

5.13 Petitioner has also submitted that CERC has fixed the norm of 72% availability for similar station like Assam Gas based Station based on the average of actual availability achieved during the period FY 2004-05 to FY 2007-08 considering the difficulties being faced by station. It is further submitted that CERC while fixing the operational parameters has adopted the principle of average performance during FY 2004-05 to FY 2007-08 and not the best of the parameters during that period. The Petitioner would like to mention that the Gas Turbines of the station are more than 25years old and no major Renovation and Modernization of the station has been undertaken so far.

5.14 Citing the above reasons the Petitioner has requested to retain the normative availability of 70% for recovery of full fixed cost for GTPS, based upon the principles adopted by CERC.

Table 51: Availability for GTPS (%) submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Availability	70%	70%	70%

Commission's Analysis

5.15 Regarding Gas Turbine Power Station, the Commission takes note of the fact that the plant has achieved 81.91% availability in FY 2010-11 and 79.41% availability in FY 2011-12. Fixing an availability lower than that would be a retrograde step. Therefore, it will not be prudent to fix the availability of GT below 80%.

5.16 The Commission has fixed normative plant Availability of 80% for GTPS in the MYT Regulations 2011 and approves the same for the Control Period from FY 2012-13 to FY 2014-15.

Table 52: Availability for GTPS (%) approved by the Commission

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Availability	80.00%	80.00%	80.00%

Auxiliary Power Consumption (APC)

Petitioner's Submission

5.17 The Petitioner has submitted that the STG of the station are not able to produce the rated output and hence the auxiliary power consumption of the station calculated in terms of percentage over the gross generation of the station increases.

5.18 Further, due to less system demand, the generation of the station was backed down, resulting in partial operation of the units as can be seen from Table 53 below.

Table 53: Comparison of Availability & PLF for GTPS

Year	Availability (%)	PLF (%)
2007-08	60.98%	50.89%
2008-09	70.14%	52.98%
2009-10	73.28%	63.21%
2010-11	81.91%	58.65%

5.19 The lower PLF has resulted into higher Auxiliary Power Consumption of the station. It has further submitted that Auxiliary Power Consumption in combined cycle mode is around 3.70%. Therefore, the Petitioner has requested the Commission to allow the Auxiliary Power consumption of 3.70% in combined cycle mode for FY 2012-13 to FY 2014-15.

Table 54: Auxiliary Consumption (%) for GTPS submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Auxiliary Consumption	3.70%	3.70%	3.70%

Commission's Analysis

5.20 Regarding Gas Turbine Power Station, the Commission has taken the accepted norm of 1% in Open Cycle Mode and 3% in Combined Cycle Mode, which is a consistent practice followed since 2003.

Table 55: Auxiliary Consumption (%) for GTPS approved by the Commission

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Auxiliary Consumption (Combined Cycle)	3.00%	3.00%	3.00%

Gross and Net Generation

Petitioner's Submission

5.21 The Petitioner has projected gross generation during the Control Period to be 1656 MU. The net generation, considering the proposed auxiliary consumption of 3.70% has been proposed to be 1594 MU.

5.22 The Petitioner has requested the Commission to allow transit and moisture loss @ 3.8% for coal based stations of IPGCL for the next control period.

Table 56: Gross and Net Generation (MU) for GTPS submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Gross Generation	1656	1656	1656
Auxiliary Consumption (%)	3.70%	3.70%	3.70%
Net Generation	1594	1594	1594

Commission's Analysis

5.23 The Commission has calculated the gross and net generation for determination of fuel cost by considering normative PLF of 80% and approved auxiliary consumption of 3.00% during combined cycle operations. The approved gross and net generation calculated by the Commission are given below.

Table 57: Gross and Net Generation (MU) for GTPS approved by the Commission

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Gross Generation	1892	1892	1892
Auxiliary Consumption (%) (Combined cycle)	3.00%	3.00%	3.00%
Net Generation	1835	1835	1835

5.24 The Petitioner is at liberty to maximize the generation from the station duly complying with the directions of the Delhi SLDC.

Determination of Variable Charges

5.25 The energy charges (variable cost) of the plant depends on the operational and fuel parameters such as the Station Heat Rate, Auxiliary Consumption, Fuel Cost and the Gross Calorific Value of fuel used. The Commission has considered all these factors to determine the variable cost of generation from Gas Turbine Power Station.

Energy Charge Rate and Variable Cost

Petitioner's Submission

5.26 The Petitioner has considered weighted average price of fuels prevailing during the three months of FY 2011-12 i.e. September to November, 2011 in line with the MYT

Regulations, 2011. These prices are kept constant for determination of fuel cost for FY 2012-13 to FY 2014-15.

5.27 Considering the Gross Generation of the plant, SHR of the station, Gross Calorific Value and the Fuel Prices, total Fuel cost for each of the station as projected by the Petitioner has been submitted as under:

Table 58: Variable Cost for GTPS submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Gross Generation (MU)	1656	1656	1656
Net Generation (MU)	1594	1594	1594
Total Gas Consumption (MMSCM)	436.75	436.75	436.75
Total Fuel Cost (Rs. Cr)	527.07	527.07	527.07
Variable Cost in Rs./kWh	3.3058	3.3058	3.3058

5.28 Further, the Petitioner has stated that recovery of energy charges, as projected above, would be in accordance with the formula specified in the MYT Regulations, 2011.

Commission's Analysis

5.29 The Commission has projected the weighted average rate of gas, for calculation of energy charge rate and variable cost for the Control Period, by considering the average rate of gas procured from various sources in January to March 2012 as submitted by the Petitioner.

5.30 The Petitioner submitted weighted average rates for gas procured from various sources in January to March 2012 as Rs 11167 per 1000 SCM (or Rs.11.17 per SCM), based on the bills received from GAIL.

Table 59: Weighted average rates for gas procured from various sources in January to March 2012

Gas		UoM	
APM	Quantity	SCM	44775741
	Average Rate	Rs./1000SCM	8962
PMT	Quantity	SCM	2690887
	Average Rate	Rs./1000SCM	9135
RLNG	Quantity	SCM	9544076
	Average Rate	Rs./1000SCM	20305
Spot- RLNG	Quantity	SCM	61301
	Average Rate	Rs./1000SCM	36073
Non APM	Quantity	SCM	3821039
	Average Rate	Rs./1000SCM	15216
Total	Quantity	SCM	60893044
	Average Rate	Rs./1000SCM	11167

5.31 The Commission has arrived at the base Energy Charge Rate (ECR) for the Control Period as per the formula specified in the MYT Regulations 2011, as reproduced below:

"7.17 Total Energy charge payable to the generating company for a month shall be: (Energy charge rate in Rs./kWh) x {Scheduled energy (ex-bus) for the month in kWh.}

7.18 Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:

...

(b) *For gas and liquid fuel based stations*

ECR = GHR x LPPF x 100 / {CVPF x (100 – AUX)}

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Gross calorific value of primary fuel as fired, in kCal per kg, per litre or per standard cubic metre, as applicable.

CVSF = Calorific value of secondary fuel, in kCal per ml.

ECR = Energy charge rate, in Rupees per kWh sent out.

GHR = Gross station heat rate, in kCal per kWh.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month.

SFC = Specific fuel oil consumption, in ml per kWh."

5.32 The Commission has calculated the variable cost considering the projected generation (ex-bus) and the approved Energy Charge Rate.

5.33 The Commission has also taken into consideration the quantity of gas required for generation and the energy charge rate.

5.34 Details of the fuel cost as approved by the Commission for the Control Period are shown in the table below.

Table 60: Energy Charge Rate and Variable Cost approved by the Commission

Particulars	Unit	FY 2012-13	FY 2013-14	FY 2014-15
Capacity	MW	270.00	270.00	270.00
Availability	%	80.00%	80.00%	80.00%
PLF	%	80.00%	80.00%	80.00%
Gross Generation	MU	1892	1892	1892
Auxiliary Consumption (CC) (AUX)	%	3.00%	3.00%	3.00%
Net Generation	MU	1835	1835	1835
Gross Station Heat Rate (CC) (GHR)	kCal/kWh	2450	2450	2450
Weighted Average GCV of Gas (CVPF)	kCal/ SCM	9550	9550	9550
Rate of Gas (LPPF)	Rs/ SCM	11.17	11.17	11.17
Energy Charge Rate (ECR)	Rs/kWh	2.953	2.953	2.953
Fuel Cost	Rs Cr	541.99	541.99	541.99

5.35 **The Commission directs the Petitioner to inform the SLDC, Delhi when the plant is operated on Spot R-LNG, since the variable cost is expected to be significantly higher and the SLDC, Delhi can consider the same during merit order dispatch.**

5.36 The SLDC, Delhi may test the declared capacity of GTPS at random and in the event of the power station failing to demonstrate the declared capability, the SLDC, Delhi shall report the matter to the Commission, which would then determine the penalty, if any, to be levied for false declaration.

Determination of Fixed Cost

5.37 The Commission analyzed all the components of fixed cost submitted by the Petitioner in detail to determine the applicable fixed cost for each year of the Control Period. As per the MYT Regulations 2011, the fixed cost of a generating station eligible for recovery through capacity charge shall include the following elements:

(a) Operation and Maintenance Expenses;

(b) Depreciation;

(c) Interest on loans;

(d) Cost of secondary fuel oil (for coal based stations only)

(e) Interest on working capital;

(f) Return on Equity;

(g) Income Tax and;

(h) Special allowance in lieu of R&M or separate compensation allowance, wherever applicable.

Operations and Maintenance Expenses

5.38 In accordance with the MYT Regulations 2011, the Normative Operation and Maintenance (O&M) expenses allowable to a generation company shall comprise the following:

(a) Salaries, wages, pension contribution and other employee costs;

(b) Administrative and General costs;

(c) Repairs and maintenance; and

(d) Other miscellaneous expenses.

5.39 The MYT Regulations 2011 specify the following methodology for approval of O&M expenses of an existing generating station for the Control Period (FY 2012-13 to FY 2014-15).

"6.40 Existing Generating Stations: O&M expenses permissible towards ARR for each year of the Control Period shall be determined using the formula detailed below:

$O\&M_n = (R\&M_n + EMP_n + A\&G_n) * (1 – X_n)$

Where,

$R\&M_n = K * GFA_{n-1}$;

$EMP_n + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) * (INDX)$; *and*

$INDX = 0.55 * CPI + 0.45 * WPI$

EMP_n *– Employee Costs of the Licensee for the* n^{th} *year;*

$A\&G_n$ *– Administrative and General Costs of the Licensee for the* n^{th} *year;*

$R\&M_n$ *– Repair and Maintenance Costs of the Licensee for the* n^{th} *year;*

X_n *is an efficiency factor for* n^{th} *year. Value of* X_n *shall be determined by the Commission in the MYT Tariff order based on Applicant's filing, benchmarking, approved cost by the Commission in past and any other factor the Commission feels appropriate.*

Where,

'K' is a constant (could be expressed in %). Value of K for each year of the Control Period shall be determined by the Commission in the MYT Tariff order based on Applicant's filing, benchmarking, approved cost by the Commission in past and any other factor considered appropriate by the Commission;

INDX - Inflation Factor to be used for indexing. Value of INDX shall be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding five years before the base year;

6.41 The Applicant shall submit details of O&M expenses as required by the Commission. The O&M expenses for the Base Year shall be determined based on latest accounting statements, estimates of the generating company for relevant years and other factors considered relevant."

5.40 The Commission has used the methodology as specified in the MYT Regulations 2011 for calculation of O&M expenses for the Control Period. The same is detailed in the following sections.

Base year and Inflation Factor (INDX)

Petitioner's Submission

5.41 The Petitioner has submitted that the financial year 2011-12 has been considered as the base year for computing values of certain cost elements for FY 2012-13 to FY 2014-15. The estimated expenses for FY 2011-12 have been considered for projection of O&M expenses for the Control Period.

5.42 Based on the actual values of CPI and WPI, the Petitioner has calculated the annual growth in values of CPI (overall) for Industrial Workers and WPI (overall) for the period FY 2005-06 to FY 2010-11. The same has been used for determination of the inflation factor for each year of the Control Period as given in table below.

Table 61: Computation of Escalation Index (%) for the MYT period

Financial Year	WPI	% Change	CPI	% change
2005-06	104.5		117.01	
2006-07	114.4	9.47%	125	6.83%
2007-08	116.6	1.92%	133	6.40%
2008-09	126	8.06%	145	9.02%
2009-10	130.8	3.81%	163	12.41%
2010-11	143.3	9.56%	180	10.43%
Average change		6.56%		9.02%
Weightage		0.45		0.55
Escalation Index	7.91%			

Commission's Analysis

5.43 In accordance with the MYT Regulations 2011 the O&M expenses for the Base Year (the Financial Year immediately preceding the first year of the Control Period i.e. FY 2011-12) are to be determined based on latest accounting statements, estimates of the generating company for relevant years and other factors considered relevant.

5.44 Since the audited accounts for the Base Year (FY 2011-12) are not yet available, the Commission has considered the O&M expenses of the Petitioner as per the audited accounts for FY 2007-08 to FY 2010-11, as submitted by the Petitioner, for estimating the O&M expenses for the Base Year. The Commission directed the Petitioner to submit head wise break-up of the employee, R&M and A&G expenses for FY 2007-08 to FY 2010-11 and has examined the same for determination of the base year expenses. The value of the employee and A&G expenses for the Base Year as arrived at by the Commission are detailed in the respective sections dealing with these expenses.

5.45 As per the MYT Regulations 2011, "*the inflation factor (INDX) to be used for projection of employee and A&G expenses shall be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding five years before the base year.*" The CPI and WPI values for calculation of inflation factor are given in the table below.

Table 62: Actual CPI and WPI

Year	CPI (Overall)	% Growth YoY	WPI (Overall)	% Growth YoY
2005-06	117.12		104.47	
2006-07	125.00	6.73%	111.35	6.59%
2007-08	132.75	6.20%	116.63	4.74%
2008-09	144.83	9.10%	126.02	8.05%
2009-10	162.75	12.37%	130.82	3.81%
2010-11	179.75	10.45%	143.33	9.56%
Average		8.97%		6.55%

Source: Ministry of Labour Website, http://labourbureau.nic.in and Ministry of Commerce and Industry Website, http://eaindustry.nic.in

5.46 Based on these values, the Commission has calculated the annual growth in values of CPI (overall) for Industrial Workers and WPI (overall) for the period FY 2006-07 to FY 2010-11 and has considered the same for determination of indices during the base year and the Control Period. The summary of the same is provided in the table below.

Table 63: Projected CPI and WPI during the Control Period

Year	CPI (Overall)	Projected Growth in CPI	WPI (Overall)	Projected Growth in WPI
2011-12 (Base Year)	195.87	8.97%	152.71	6.55%
2012-13	213.44	8.97%	162.72	6.55%
2013-14	232.59	8.97%	173.37	6.55%
2014-15	253.45	8.97%	184.73	6.55%

5.47 The Commission has determined the consolidated index for the n^{th} year ($INDX_n$) using a weighted average of CPI and WPI as specified in the MYT Regulations 2011. The consolidated index is then used to calculate the inflation factor for each year ($INDX_n$/ $INDX_{n-1}$) as shown in the table below.

Table 64: Inflation factor for the Control Period

Year	Index (Consolidated)	Inflation factor
2010-11	163.36	
2011-12	176.45	1.08
2012-13	190.62	1.08
2013-14	205.94	1.08
2014-15	222.53	1.08

Employee Expenses

Petitioner's Submission

5.48 The Petitioner has submitted that the average increase in salary of employees has been more than 10% on an average as against the indexation factor of 7.91% based on past inflation. This 10% increase in salaries & allowances is mainly due to annual increments and increase in DA on which IPGCL have no control as this forms part of the service conditions of the employees. Increase in Basic salary further increases other allowances like DA, HRA etc.

5.49 The Petitioner has further submitted that the headquarters of IPGCL and PPCL are common and the employees posted at headquarters are rendering services to both the companies. The common headquarters is helpful in economising the expenses for both the companies as well as for providing better facilities. The expenses of employees posted at headquarters are allocated between IPGCL and PPCL in FY 2011-12 in the ratio of 47:53 based on the generation of the plants.

5.50 Thus the Petitioner has estimated salary and allowances for the MYT period i.e. for FY 2012-13 to FY 2014-15 by escalating the employee expenses for FY 2011-12 by 10% annually.

Table 65: Employee Expenses for GTPS submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Employee Expenses	38.24	42.06	46.27

Commission's Analysis

5.51 As per MYT Regulations 2011, the employee expenses for the Control Period shall be projected using the following formula:

$$EMP_n + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) * (INDX); \text{ and}$$

$$INDX = 0.55 * CPI + 0.45 * WPI$$

EMP_n – Employee Costs of the Licensee for the n^{th} year;

$A\&G_n$ – Administrative and General Costs of the Licensee for the n^{th} year;

Where,

INDX - Inflation Factor to be used for indexing. Value of INDX shall be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding five years before the base year

5.52 The Commission has followed the methodology specified in MYT Regulations 2011 and has analysed the submissions made by the Petitioner regarding its Employee Expenses related to Medical Reimbursement, Travelling Allowance, Leave Travel Assistance, Staff Welfare Expenses, etc.

5.53 The Commission has estimated employee expenses for the Base Year (FY 2011-12) by considering the employee expenses for FY 2010-11 at Rs 37.06 Cr as per the information submitted by the Petitioner vide letter dated March 14, 2012. As per additional information submitted by the Petitioner, vide letter dated June 7, 2012, employee expenses incurred in FY 2010-11 include arrears on account of 6th Pay Commission and provision towards demand made to Pension trust for LTC, Medical, etc.

5.54 The provision towards payment to Pension Trust Fund on account of LTC, Medical; and the arrears of 6th Pay Commission are abnormal expense items. The Commission has therefore has excluded the same from the base employee expenses. Since, the station wise allocation of the Payment to Pension Trust for LTC, Medical etc was not available, the Commission has arrived at the same by dividing the payment to Pension Trust Fund in the ratio 41:58 between GTPS and RPH i.e. in the ratio of the share employee expenses of GTPS and RPH in the total employee expenses of IPGCL for FY 2010-11 and has excluded the same from the base employee expenses.

5.55 The Commission has reduced the arrears of overtime and holiday pay on account of 6th Pay Commission (i.e. Rs 0.06 Cr), Payment to Pension Trust for LTC, Medical, etc (i.e. Rs. 3.30 Cr) from the total employee cost of FY 2010-11 (i.e. Rs 37.06 Cr) to arrive at the net employee expenses (i.e. Rs 33.70 Cr).

Table 66: Normalized Employee Expenses for FY 2010-11 (Rs Cr)

Particulars	Rs Cr
Total Employee Expenses	37.06
Arrears of Overtime and Holiday Pay with 6th Pay Commission	0.06
Payment to Pension Trust LTC, Medical, etc	3.30
Net Employee Expenses	33.70

5.56 The net employee expenses have been escalated first to arrive at the employee expenses for FY 2011-12 (Rs 36.40 Cr) using the inflation factor as derived in Table 64. The employee expenses so arrived for FY 2011-12 have been further escalated by the inflation factor as derived in Table 64 to arrive at the employee expenses for the

Control Period. The Employee Expenses as approved by the Commission are shown in the table below:

Table 67: Employee Expenses for GTPS approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Employee Expenses	39.32	42.49	45.91

Repair and Maintenance Expenses

Petitioner's Submission

5.57 The Petitioner has projected R&M expenses for the stations of IPGCL for FY 2012-13 to FY 2014-15 based upon the assessment of the maintenance activities to be carried out as per the manufacturer's recommendation, other maintenance practices followed and based on the experience.

5.58 In its additional submissions dated June 7, 2012, the Petitioner has submitted the projected value of 'K' for the Control Period. The 'K' has been computed for GTPS based upon the average of 'K' for FY 2007-08 to FY 2010-11. The escalation has been taken as 8% on year to year basis. The 'K' for each year has been computed by dividing the repair & maintenance expenditure by the closing Gross Fixed Assets of the company for the respective year. The 'K' projected by the Petitioner for FY 2012-13 to FY 2014-15 for GTPS is as under:

Table 68: Projected value of 'K' (%) for GTPS submitted by the Petitioner

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Proposed K	11.83%	12.77%	13.79%

5.59 The Petitioner has also requested for allowance of 'Special Repair & Maintenance' for GTPS. The Petitioner has submitted that the Commission had approved certain capital expenditure for GTPS for FY 2007-08 to FY 2010-11 in its MYT Order. During the audit of annual accounts, on the advice of Statutory Auditor/CAG, some of the activities approved by the Commission for capital expenditure has been charged to Repair & Maintenance cost to meet the accounting standards. The cost reflected under the head 'Special Repair & Maintenance' head has been presented in Table below

Table 69: R&M Expenses for GTPS submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Total R&M Expenses	37.24	34.55	35.24

Commission's Analysis

5.60 Regulation 6.40 of the MYT Regulations 2011 specifies that R&M expenses for existing generating stations shall be determined using the following formula:

$R\&M_n = K * GFA_{n-1};$

Where,

$R\&M_n$ is Repair and Maintenance Cost of the Licensee for the n^{th} year;

'K' is a constant (could be expressed in %). Value of K for each year of the Control Period shall be determined by the Commission in the MYT Tariff order based on Applicant's filing, benchmarking, approved cost by the Commission in past and any other factor considered appropriate by the Commission.

5.61 The Commission has followed the methodology specified in MYT Regulations 2011 and has analysed the submissions made by the Petitioner regarding R&M expenses for FY 2007-08 to FY 2010-11 for approval of R&M expenses for the Control Period (FY 2012-13 to FY 2014-15).

5.62 For determination of the 'K' for FY 2012-13 to FY 2014-15, the Commission has analysed the actual R&M expenses of the Petitioner during FY 2007-08 to FY 2010-11. The Commission noticed that the Petitioner requested for allowance of certain 'Special Repair & Maintenance' for GTPS for FY 2007-08 to FY 2010-11 in addition to the regular R&M expenses.

5.63 Regarding these expenses the Petitioner has submitted that the Commission approved certain capital expenditure for FY 2007-08 to FY 2010-11 in its previous MYT Order. During the audit of annual accounts, on the advice of Statutory Auditor/CAG, some of the activities approved by the Commission for capital expenditure has been charged to Repair & Maintenance cost to meet the accounting standards.

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.

5.65 Accordingly, the Commission has reduced the 'Special Repair & Maintenance' from the total R&M expenses for FY 2007-08 to FY 2010-11 for calculation of the 'K' factor.

5.66 Further, the Commission observed that the R&M expenses of the Petitioner (excluding the 'Special Repair and Maintenance') for FY 2010-11 at i.e. Rs 42.76 Cr were substantially higher than the R&M expenses in previous years. The Petitioner has also submitted that *"the repair and Maintenance expenses for FY 2010-11 has been on higher side as Major Inspection of Gas Turbine No. 4 & Gas Turbine No. 1 was carried out and Replacement of Tubes were also carried out in HRSG -4 and HRSG-1."* The Commission has thus not considered the actual R&M expenses of the year for estimation of the K factor.

5.67 The Commission has estimated the R&M expenses for FY 2010-11 by escalating the R&M expenses of FY 2007-08 to FY 2009-10 to FY 2010-11 level (considering the average increase in the relevant price index i.e. the Wholesale Price Index (WPI) for Machinery and Machine Tools during FY 2007-08 to FY 2010-11 (3.23%) (*Source: Ministry of Commerce and Industry Website, http://eaindustry.nic.in/)* and taking the average of the same.

5.68 The R&M expenses and the approved opening GFA for each year of the Control Period has been considered for estimation of the K for each year from FY 2007-08 to FY 2010-11. The average K for FY 2007-08 to FY 2010-11 is calculated equal to 7.587% as shown in the table below.

Table 70: K factor for FY 2007-08 to FY 2010-11

Particulars	2007-08	2008-09	2009-10	2010-11
Opening GFA (as approved by the Commission) (Rs Cr)	296.52	336.51	375.04	402.77
Total R&M Expenses (Rs Cr)	29.36	23.94	33.07	50.2
Special R&M Expenses (Plant and Machinery) (Rs Cr)	0	3.67	3.72	7.44
R&M Expenses excluding Special R&M (Rs Cr)	29.36	20.27	29.35	42.76
R&M Expenses excluding Special R&M (normalized in FY 2010-11) (Rs Cr)	29.36	20.27	29.35	28.06
K Factor (on approved GFA)	9.90%	6.02%	7.83%	6.97%
Average K Factor	7.587%			

5.69 The Commission is of the view that since it has not approved any additions to GFA for the Petitioner during FY 2012-13 to FY 2014-15 in this Order (as detailed in paragraph 5.97), the average value of K obtained above should be escalated to arrive at the K for each year of the Control Period.

5.70 The average K factor arrived above has been escalated by average increase in the relevant price index i.e. the Wholesale Price Index (WPI) for Machinery and Machine Tools during FY 2007-08 to FY 2010-11 (3.23%) (*Source: Ministry of Commerce and Industry Website*, http://eaindustry.nic.in/) to arrive at the 'K' and R&M expenses for each year of the Control Period as shown in the table below.

Table 71: R&M Expenses for RPH approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Opening GFA (as approved by Commission)	430.29	430.29	430.29
K Factor	8.48%	8.75%	9.04%
R&M Expenses	36.49	37.67	38.88

Administrative and General Expenses

Petitioner's Submission

5.71 The Petitioner has projected A&G expenses for FY 2012-13 to FY 2014-15 by applying an indexation factor of 7.91% annually on the estimated cost for FY 2011-12 except for expenditure on CISF and ERP.

5.72 The Petitioner deploys the CISF for the security of its plants. Their manpower deployment and expenditure are as per their specified norms. Their pay structure is also governed by the Central Government rules. The Sixth Pay Commission recommendations were also implemented in CISF. Accordingly, the expenditure on security has also increased substantially. The Petitioner has projected an increase of 10% in security expenses annually.

5.73 Further, the Petitioner has implemented the ERP system in year 2009 and projections for expenditure under this head is done on the basis of the Annual Maintenance Fee of SAP licensees and other hardware suppliers, support and training requirements etc.

5.74 Other than the above, the Petitioner has requested that all taxes and cess levied on it to be passed through in ARR as they are uncontrollable parameters.

Table 72: A&G Expenses for GTPS submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
A&G Expenses	15.35	16.51	17.96

Commission's Analysis

5.75 As per MYT Regulations 2011, the A&G expenses for the Control Period shall be projected using the following formula:

$EMP_n + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) * (INDX)$; *and*

$INDX = 0.55 * CPI + 0.45 * WPI$

EMP_n – *Employee Costs of the Licensee for the* n^{th} *year;*

$A\&G_n$ – *Administrative and General Costs of the Licensee for the* n^{th} *year;*

Where,

INDX - Inflation Factor to be used for indexing. Value of INDX shall be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding five years before the base year

5.76 The Commission has followed the methodology specified in MYT Regulations 2011 and has analysed the submissions made by the Petitioner regarding its A&G Expenses for approval of A&G cost for the Control Period.

5.77 The Commission has estimated the A&G expenses for the Base Year by considering the A&G expenses as submitted by the Petitioner for FY 2010-11 and other information submitted by the Petitioner after due prudence check. The Petitioner submitted A&G expenses for FY 2010-11 at Rs 11.66 Cr which includes expenses on insurance, security/service charges and miscellaneous expenditures.

5.78 The A&G expenses submitted included Rs 4.97 Cr on account of insurance expenses which have been considered separately (as detailed in paragraph 5.81). The Commission has considered the balance A&G expenses at Rs 6.69 Cr (Rs 11.66 Cr - Rs 4.97 Cr) for estimation of A&G expenses (excluding expense on insurance).

5.79 In its additional submissions dated June 7, 2012, the Petitioner submitted that the CISF has given a credit of Rs. 2.56 Cr for IPGCL and PPCL during the FY 2010-11 on account of change in methodology for computation of Pension Contribution as per the Sixth Pay Commission. This credit has resulted in lower CISF expenditure in

FY 2010-11. The impact of the same on GTPS has been estimated at Rs 1.00 Cr. Since this is a onetime credit in the CISF expenses, the Commission has added the same to arrive at the net A&G expenses (excluding expense on insurance) for FY 2010-11 at Rs 7.69 Cr.

5.80 The net A&G expenses for FY 2010-11 (excluding expenses on insurance) as calculated above have been escalated first to arrive at the A&G expenses for FY 2011-12 (Rs 8.31 Cr) using the inflation factor as derived in Table 64. The A&G expenses so arrived for FY 2011-12 have been further escalated by the inflation factor in Table 64 to arrive at the A&G expenses for the Control Period.

5.81 With regard to the expense on insurance, the Commission observed that the insurance premium paid by the Petitioner has increased substantially during FY 2010-11 and FY 2011-12. The company has submitted insurance premium of Rs. 4.97 Cr for GTPS for FY 2010-11 and Rs. 6.96 Cr for FY 2011-12. Further, the premium for FY 2012-13 has been projected at Rs 7.51 Cr. The Petitioner has explained that the increase in the premium is on account of revaluation of machinery. It has submitted that the policies are taken after inviting bids from all the four Governments Insurance Companies. The Petitioner has submitted that the premium paid for the period September 18, 2011 to September 17, 2012 is Rs. 6.99 Cr.

5.82 The Commission has examined the information submitted by the Petitioner, including the documentary proof of insurance premium payable by the Petitioner, to arrive at the value of insurance expenses for the Control Period. The Commission has arrived at the insurance expense for FY 2012-13 by first considering the actual insurance premium payable from April 1, 2012 to September 17, 2012. The premium payable for the remaining part of the year has been estimated by escalating the actual premium payable by an inflation factor of 1.080. The total insurance expenses for FY 2012-13 have thus been estimated at Rs 7.29 Cr. The same has been escalated by the inflation factor derived in Table 64 for projecting A&G expenses for FY 2013-14 to FY 2014-15.

5.83 The Petitioner has also requested for additional expenditure to be allowed on account of ERP licenses. The scheme for installation of ERP was approved by the Board of Directors of IPGCL and PPCL on December 19, 2008 and work was awarded to M/s NICSI. The Commission has also given, in principle, approval for implementation of the ERP project vide its letter dated October 15, 2009. Further, additional expenses on account of ERP licenses were allowed to the Petitioner for FY 2011-12 in the Tariff Order dated August 26, 2011.

5.84 No A&G expenses with respect to ERP licenses were booked in the A&G expenses for FY 2010-11 and hence are not a part of the base A&G expenses. The Petitioner was directed to submit the details regarding the expenditure on ERP licenses projected by it for the Control Period, including Contract Documents of Annual Maintenance Contracts, SAP licenses etc. The Petitioner, vide its letter dated June 7, 2012 has submitted the amount regarding the budgeted expenditure on ERP licenses/IT support as for GTPS as Rs 0.44 Cr, Rs 0.46 Cr and Rs 0.48 Cr in FY 2012-13, FY 2013-14 and FY 2014-15 respectively. The Commission has provisionally allowed expenses on ERP as submitted by the Petitioner separately in the A&G expenses. The same shall however be trued up considering the actual expenditure on ERP after due prudence check by the Commission.

5.85 The A&G expenses approved by the Commission, including the expenditure on ERP, CISF expenses, insurance expenses and other A&G expenses for the Control Period are shown in the table below.

Table 73: A&G Expenses for GTPS approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Expense on ERP	0.44	0.46	0.48
Insurance	7.29	7.88	8.51
Other A&G Expenses	8.97	9.69	10.47
Total A&G Expenses	**16.70**	**18.03**	**19.47**

Efficiency Factor

Petitioner's Submission

5.86 With regard to efficiency norm, the Petitioner submitted that the various operational norms fixed by the Commission i.e. Normative Annual Plant Availability Factor, Heat Rate, auxiliary Power Consumption for GTPS are as per the CERC norms. It has further submitted that the Commission has already set the target availability (%) of GTPS at 80%.The Commission has been allowing the tariff based on the norms fixed by it. Nothing beyond the norms as approved is allowed. It is further submitted that O&M expenses being part of fixed cost is recovered on pro-rata basis depending upon the availability.

5.87 It has submitted that the condition of efficiency factor should not be made applicable to GTPS as the same has been already taken care of while fixing the norms. It has further submitted that the Hon'ble Central Electricity Regulatory Commission in its Generation Tariff Regulations, 2009 has not specified any efficiency factor in determining the O&M expenses.

Commission's Analysis

5.88 The GTPS station is 25 years old and has already completed its useful life. The Commission notes that the CERC has also specified separate norms for O&M for the older generating stations.

5.89 Considering the old age of the station and the requirement of higher O&M the Commission has not imposed any efficiency factor on the approved O&M expenses for the Station for the Control Period.

5.90 The total O&M Expenses approved by the Commission for the Control Period are shown in the table below:

Table 74: O&M Expenses for GTPS approved by the Commission (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15
Employee Expenses	39.32	42.49	45.91
A&G Expenses	16.70	18.03	19.47
R&M Expenses	36.49	37.67	38.88
O&M Expenses	**92.52**	**98.19**	**104.26**

Capital Expenditure

Petitioner's Submission

5.91 The details of proposed capital expenditure and the capitalization schedule submitted by the Petitioner for the Control Period has been based on following schemes:

(a) Renovation of Gas Turbines for heat rate/ MW output improvement

(b) Replacement of expansion joints of Flue Gas Ducts leading from Gas Turbines to HRSG

(c) Provision of Standby starting Diesel Engine for GTs

(d) Provision of standby 7.5 MVA Auxiliary Supply Transformer

(e) Renovation/up-gradation of 66 KV Breakers

(f) Retrofitting of Generator Protection relays

5.92 The capital expenditure proposed for the Control Period by the Petitioner has been summarized below.

Table 75: Capital Expenditure (Rs lakhs) for GTPS submitted by the Petitioner in the additional information

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Renovation of GT for heat rate/output MW improvement	3000	3000	
Replacement of Expansion Joints of GT to HRSG duct for efficiency improvement in 06 HRSGs	30	15	
Provision of standby Starting Diesel Engine for GTs	50		
Provision of standby 7.50 MVA Auxiliary Transformer	60		60
Renovation/ up-gradation of 66kV Breakers	60		60
Renovation of Exhaust plenum insulation of three GTs for efficiency improvement	125	125	125
Energy conservation initiatives-BFP speed control	200	100	100
Refurbishment of Steam Turbine Rotor		300	
Replacement of GT generator protection System		30	
SWAS system	30	20	

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Computers (ERP)	29	8	5
ERP Software	16	1	1
HQ share	46	20	20
Total	**3646**	**3619**	**311**

5.93 The Capital expenditure of the Gas Turbine Power Station, submitted by the Petitioner for the Control Period is shown in the table below

Table 76: Capital Expenditure for GTPS submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Capital Expenditure	36.46	36.19	3.11

Commission's Analysis

5.94 The Commission had considered capital expenditure for Rs.122.72 for GTPS from the FY 2007-08 to FY 2010-11 in its previous MYT Order for the Control Period and had approved capital expenditure of Rs 11.05 Cr for FY 2011-12 in the Tariff Order dated August 26, 2011. The Petitioner has now requested the Commission to true up the actual capital expenditure incurred by it during the FY 2007-08 to FY 2011-12.

5.95 With regards to this, the Commission notes that Regulation 5.6 of the MYT Regulations 2007 states:

"...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 Control Period."

5.96 Since the Commission had extended the Control Period for one more year, upto March 31, 2012, it has not considered any adjustment in capital expenditure and GFA for the years FY 2007-08 to FY 2011-12. The adjustment in ARR for the capital expenditure and capitalization actually done by the Petitioner shall be carried out at the end of the extended Control Period when the audited accounts for FY 2007-08 to FY 2011-12 are made available by the Petitioner.

5.97 The Commission has not approved any capital expenditure and additions to GFA for FY 2012-13 to FY 2014-15 in this Order. The Petitioner is directed to approach the Commission for approval of each scheme which it proposes to undertake separately before the execution of the scheme.

5.98 The Commission shall true up the capital expenditure incurred by the Petitioner during each year of the Control Period (FY 2012-13 to FY 2014-15) based on prudence check of the actual capital expenditure incurred during the respective year.

5.99 At the time of filing of the Annual Performance Review petition, the Petitioner shall submit details of the additional capital expenditure incurred during the period under review, duly audited and certified by the auditors.

Depreciation

Petitioner's Submission

5.100 The Petitioner has charged depreciation on the basis of straight-line method, on the fixed assets in use at the beginning of the year. The depreciation is based on the original cost, estimated life and residual life. Depreciation amount during the Control Period from FY 2012-13 to FY 2014-15 has been calculated as per the depreciation rates specified under MYT Regulations, 2011 issued by the Commission.

5.101 The Petitioner has submitted that station has completed its useful life of 25 years in 2011. However, the depreciation to be recovered by FY 2014-15, in line with MYT Regulations, 2011 is not 70% of the asset value, even after operation of 29 years. Therefore the Petitioner has requested to consider and allow relaxation in the depreciation norms; and allow recovering the remaining depreciation upto 90% during FY 2012-13 to FY 2014-15.

5.102 In addition, the Petitioner has proposed certain Capital expenditure during the Control Period FY 2012-13 to FY 2014-15 and has also projected depreciation for addition made in GFA.

Table 77: Depreciation for GTPS submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Opening GFA	438.44	466.65	492.84
Additions to GFA	28.21	26.19	0.86
Closing GFA	466.65	492.84	493.70
Accumulated Depreciation till the beginning of the year (including AAD)	-	-	-
Accumulated Depreciation as % of opening GFA	-	-	-
Depreciation during the year	**65.46**	**65.46**	**65.46**

5.103 Advance against depreciation (AAD) is the difference between actual debt repayment and depreciation recovered during the year. There is no AAD submitted by the Petitioner.

Commission's Analysis

5.104 The Commission has not considered any revision in GFA and depreciation for the years FY 2007-08 to FY 2011-12. The same shall be carried out at the time of adjustment of the capital expenditure and capitalization done by the Petitioner, at the end of the Control Period (FY 2007-08 to FY 2011-12) when the audited accounts for FY 2007-08 to FY 2011-12 are made available by the Petitioner.

5.105 Regulations 6.30-6.34 of the MYT Regulations 2011 as quoted below specify the methodology for calculation of depreciation for a generation company during the Control Period.

"6.30 Depreciation shall be calculated for each year of the Control Period, on the amount of Capital Cost of the Fixed Assets as admitted by the Commission; Provided that depreciation shall not be allowed on assets funded by any capital subsidy / grant.

6.31 Depreciation for each year of the Control Period shall be determined based on the methodology as specified in these Regulations along with the rates and other terms specified in Appendix-I of these Regulations.

6.32 Depreciation shall be calculated annually, based on the straight line method, over the useful life of the asset. The base value for the purpose of depreciation shall be capital cost of the asset as admitted by the Commission. Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the date of commercial operation shall be spread over the balance useful life of the assets.

6.33 In case of the existing Projects, the balance depreciable value as on 1.4.2012 shall be worked out by deducting the cumulative depreciation including Advance Against Depreciation as admitted by the Commission upto 31.3.2012 from the gross depreciable value of the assets. The rate of depreciation shall be continued to be charged at the rate specified in Appendix-I till cumulative depreciation reaches 70%. Thereafter the remaining depreciable value shall be spread over the remaining life of the asset such that the maximum depreciation does not exceed 90%.

6.34 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed upto a maximum of 90% of the capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset. In the event of Renovation and Modernization expenditure affecting the life of the asset, the depreciation shall be allowed upto a maximum of 90% of the cost of the asset within the enhanced life span of the asset".

5.106 The Commission has calculated the depreciation according to the methodology and depreciation rates notified in the MYT Regulations 2011 and the approved fixed assets for each year of the Control Period.

5.107 Further, in accordance with Regulation 6.33 of the MYT Regulations 2011 the Commission has computed the cumulative depreciation at the beginning of each year of the Control Period. As per the computations of the Commission the cumulative depreciation (at the beginning of each year) for GTPS shall be less than 70% for each year of the Control Period. Thus the depreciation for each year of the Control Period has been calculated as per the Straight Line Method using rates specified in Appendix-I of the MYT Regulations 2011.

Table 78: Depreciation for GTPS approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Opening GFA	430.29	430.29	430.29
Additions to GFA	0.00	0.00	0.00
Closing GFA	430.29	430.29	430.29
Accumulated Depreciation till the beginning of the year (including AAD)	252.85	275.56	298.27

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Accumulated Depreciation as % of opening GFA	58.76%	64.04%	69.32%
Depreciation during the year	**22.71**	**22.71**	**22.71**

Return on Equity

Petitioner's Submission

5.108 The Petitioner has computed return on equity on approved equity of Rs. 140 Crores of the project and the 30% equivalent amount of the capital additions made during the control period. For the Control Period from FY 2012-13 to FY 2014-15, the Petitioner has considered RoE @ 14% in line with the MYT Regulations, 2011 of the Commission.

5.109 However the Petitioner has requested the Commission that it relax the norm for RoE from 14% to post-tax rate of return of 15.5% in line with the CERC (Terms and Conditions of Tariff) Regulations, 2009. The details of projected return on equity for the Control Period are given below.

Table 79: Return on Equity for GTPS submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Equity (Opening Balance)	118.82	127.28	135.14
Net additions during the year	8.46	7.86	0.26
Equity (Closing Balance)	127.28	135.14	135.40
Average Equity	123.05	131.21	135.27
Rate of Return on Equity	14%	14%	14%
Return on Equity	**17.23**	**18.37**	**18.94**

Commission's Analysis

5.110 The Commission has not considered any revision in equity for the years FY 2007-08 to FY 2011-12. The same shall be carried out at the time of adjustment of the capital expenditure and capitalization done by the Petitioner, at the end of the Control Period (FY 2007-08 to FY 2011-12) when the audited accounts for FY 2007-08 to FY 2011-12 are made available by the Petitioner.

5.111 The Commission has considered the closing value of equity for FY 2011-12, as approved in the Tariff Order dated August 26, 2011, as the opening value of equity for the Control Period. The additions to equity during the Control Period have been considered equal to 30% of additional capitalization approved for each of the Control Period.

5.112 The Commission has considered RoE @ 14% for the Control Period from FY 2012-13 to FY 2014-15, in line with the MYT Regulations 2011.

5.113 The return on equity as approved by the Commission for each year of the Control Period is as follows:

Table 80: Return on Equity for GTPS approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Equity (Opening Balance)	119.37	119.37	119.37
Net additions during the year	0.00	0.00	0.00
Equity (Closing Balance)	119.37	119.37	119.37
Average Equity	119.37	119.37	119.37
Rate of Return on Equity	14%	14%	14%
Return on Equity	**16.71**	**16.71**	**16.71**

Interest Expenses

Petitioner's Submission

5.114 The Petitioner has made certain capital additions during the MYT control period. The same has been funded through Reserve and surplus. As per MYT Regulations, 2011, 70% of the capital additions has been considered to be funded through Loans. Accordingly, interest on this normative loan has been taken @ 11.50% per annum, as per the MYT Regulations, 2011.

5.115 The interest on loans as estimated by the Petitioner for each year of the Control Period is as follows:

Table 81: Interest on Loans for GTPS submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Opening Loans	180.97	174.69	165.06
Addition during year	19.75	18.33	0.60
Repayment during year	26.03	27.96	29.92
Closing Loans	174.69	165.06	135.75
Average Loans	177.83	169.88	150.40
Rate of Interest	11.83%	11.79%	11.77%
Interest Payment	21.04	20.03	17.70

Commission's Analysis

5.116 The Commission has not considered any revision in loan amounts for the years FY 2007-08 to FY 2011-12. The same shall be carried out at the time of adjustment of the capital expenditure and capitalization done by the Petitioner, at the end of the Control Period (FY 2007-08 to FY 2011-12) when the audited accounts for FY 2007-08 to FY 2011-12 are made available by the Petitioner.

5.117 The Commission has considered the closing value of loan for FY 2011-12, as approved in the Tariff Order dated August 26, 2011, as the opening value of loan for the Control Period. The additions to loan during the Control Period have been considered equal to 70% of additional capitalization approved for each year of the Control Period.

5.118 The Commission has calculated the interest on loan for each year of the Control Period in accordance with the following methodology specified in the MYT Regulations 2011.

"6.16 Interest and finance charges on loan capital shall be computed on the outstanding loans, bond or non convertible debentures as on 31.03.2012 approved by the Commission and additional loan approved during each year of the Control Period.

6.17 The loan repayment for each year of the Control Period 2012-15 shall be deemed to be equal to the depreciation allowed for that year.

6.18 The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project.

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered;

Provided further that if the generating station, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company as a whole shall be considered;

6.19 The interest on loan shall be calculated on the normative average loan of the respective years by applying the weighted average rate of interest.

6.20 The interest rate on the amount of equity in excess of 30% treated as notional loan shall be the weighted average rate of the loans of the respective years and shall be further limited to the prescribed rate of return on equity in the Regulation;

Provided that all loans considered for this purpose shall be identified with the assets created;

Provided that interest and finance charges of re-negotiated loan agreements shall not be considered, if they result in higher charges;

Provided further that interest and finance charges on capital works in progress shall be excluded and shall be considered as part of the capital cost;

Provided further that neither penal interest nor overdue interest shall be allowed for computation of Tariff.

6.21 Notwithstanding any moratorium period availed by the generating company the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed."

5.119 The interest on loans as approved by the Commission for each year of the Control Period is given the table below:

Table 82: Interest on Loans for GTPS approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Opening Loans	167.43	144.72	122.01
Addition during year	0.00	0.00	0.00
Repayment during year	22.71	22.71	22.71
Closing Loans	144.72	122.01	99.30
Average Loans	156.08	133.37	110.65
Rate of Interest	11.85%	11.83%	11.79%
Interest Payment	**18.50**	**15.77**	**13.05**

Interest on Working Capital

Petitioner's Submission

5.120 Petitioner has calculated the Interest on Working Capital for the Control Period as per the following norms:

(a) Cost of fuel for 1 month

(b) O&M expenses for 1 month

(c) Receivables equivalent to 2 months average billing

(d) Maintenance Spares @ 30% of the O&M expenses for gas based plants and 20% for coal based plants

5.121 The Petitioner has submitted that the fuel cost has increased steeply. This increase in prices of fuel had substantial impact on certain components considered in the computation of working capital and resultantly the interest on working capital has considerably increased in comparison to the interest allowed by the Commission.

5.122 The rate of Interest for FY 2012-13 to FY 2014-15 is computed as 13.5% by additionally allowing 350 basis points in Base Rate of SBI.

5.123 The following table details the interest on working capital, as submitted by the Petitioner for the Control Period:

Table 83: Interest on Working Capital for GTPS submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Fuel expenses for 1 month	29.28	29.28	29.28
Liquid fuel stock for ½ month	18.57	18.57	18.57
Maintenance spares @ 30% of O&M	27.25	27.94	29.84
O&M expenses for 1 month	7.57	7.76	8.29
Receivables equivalent to 2 months of capacity and energy charge	171.95	172.45	173.32
Total Working Capital	254.62	256.00	259.30
Rate of Interest	13.50%	13.50%	13.50%
Interest on Working Capital	34.37	34.56	35.01

Commission's Analysis

5.124 The Commission has estimated the working capital requirement of the Petitioner based on the following norms as specified in the MYT Regulations 2011:

(a) Fuel expenses for 1 month corresponding to the Normative Annual Plant Availability Factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;

(b) Liquid fuel stock for ½ month corresponding to the Normative Annual Plant Availability Factor duly taking into account mode of operation of the generating station of gas fuel and liquid fuel, and in case of use of more than one liquid fuel, cost of main liquid fuel;

(c) Maintenance spares @ 30% of operation and maintenance expenses;

(d) Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on Normative Annual Plant Availability factor; and

(e) O&M expenses for 1 month.

5.125 Further, the cost of fuel in cases covered under (a) and (b) is based on the landed cost incurred (taking into account normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the Control Period on the same.

5.126 In accordance with MYT Regulation 2011, the rate of interest on working capital has been considered equal to Base Rate of State Bank of India as on April 1, 2012 plus 350 basis points. The Commission has calculated the working capital requirement and interest on working capital of the Petitioner considering the approved values of the above components for each year of the Control Period, as shown below:

Table 84: Interest on Working Capital for GTPS approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Fuel expenses for 1 month	45.17	45.17	45.17
Liquid fuel stock for ½ month	20.78	20.78	20.78
Maintenance spares @ 30% of O&M	27.76	29.46	31.28
O&M expenses for 1 month	7.71	8.18	8.69
Receivables equivalent to 2 months of capacity and energy charge	121.32	121.87	122.50
Total Working Capital	222.73	225.45	228.41
Rate of Interest	13.50%	13.50%	13.50%
Interest on Working Capital	**30.07**	**30.44**	**30.83**

Tax Expenses

Petitioner's Submission

5.127 In the attached formats to the Petition, the Petitioner has also submitted a liability towards income tax which it shall incur during next Control Period and same has been summarized in table below.

Table 85: Income Tax Liability for GTPS submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Income Tax Allowed	5.72	6.10	6.29

Commission's Analysis

5.128 With regards to tax on income the MYT Regulations 2011 states that –

"6.37 Tax on the income streams of the generating company shall be recovered from the beneficiaries. Tax on income, if any, liable to be paid shall however be limited to tax on return on the equity component of capital employed. Any additional tax liability on account of incentive due to improved performance like higher availability, lower station heat rate, lower auxiliary consumption, lower O&M expenses etc and other income shall not be considered."

5.129 In its additional submissions dated June 7, 2012 the Petitioner has submitted that the advance income tax was paid by it for FY 2011-12 @ MAT rate of 32.45%. The Commission has projected the value of income tax (limited to the tax on return on equity) considering the MAT rate actually paid by the Petitioner during FY 2011-12. The same shall be trued up at the time of truing up of the respective year of the Control Period.

5.130 The following table details the tax expenses as approved by the Commission, for the Control Period:

Table 86: Income Tax Liability for GTPS approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Income Tax Allowed	5.42	5.42	5.42

Payment to Pension Trust

Petitioner's Submission

5.131 The Petitioner has submitted that the pension and other terminal benefits of the employees transferred from erstwhile Delhi Vidyut Board are being dealt by DVB Employees Terminal Benefits Fund, 2002. The trust vide their letter dated 15.12.2009 has communicated a demand of Rs 159.51 Cr towards the share of IPGCL for shortfall in funds as per the actuarial valuation done by the trust as on 1.4.2007. The same has not been accounted in the tariff petition as this amount is being contested with the trust. It has further submitted that DVB Employees Terminal Benefits Fund, 2002 (Pension Trust) has raised an additional demand of Rs 32.35 Cr for FY 2011-12 on account of medical expenses, LTC and arrears of Pension and shortfall of pension and other terminal benefits. The Petitioner has not accounted for this amount in this petition except of Rs. 6.98 Cr towards medical and LTC. It is submitted that in case, any 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.

Commission's Analysis

5.132 During the public hearing, the distribution licensees submitted that the accounts of the Pension Trust have not been audited. Also in their view, the funding of the trust by GoNCTD is not based on an actuarial valuation. As a result of the under-funding, the Trust is unable to meet its liability towards pension and other payments to retired employees. This matter is also sub judice before the Hon'ble Delhi High Court.

5.133 The Commission is issuing advice to the Govt. of NCT of Delhi u/s 86(2) of the Electricity Act 2003 to have the accounts audited immediately and also consider restructuring the Board of Trustees so that Government nominees are inducted on the Board. This is necessary for ensuring proper management of the Trust and servicing of the liabilities towards the retired employees, for which necessary provisions should be made by the respective employing entities in their accounts.

5.134 In order to avoid undue hardship to the retired employees (Pensioners) the Commission is making an ad-hoc one time provision of Rs. 160 Cr to the DTL in this Tariff Order for passing on to the Pension Trust. The Commission is of the view that ad-hoc provisions of this nature cannot continue in future and the parties to the dispute before the Hon'ble High Court of Delhi should expedite the proceedings before the Court and explore other avenues for settlement of the dispute.

Annual Fixed Charges

Petitioner's Submission

5.135 The summary of fixed cost submitted by the Petitioner is shown below:

Table 87: Total Annual Fixed Cost for GTPS submitted by the Petitioner (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
O&M Expenses	90.83	93.12	99.47
Depreciation	65.46	65.46	65.46
Interest Charges	21.04	20.03	17.70
Return on Equity	17.23	18.37	18.94
Interest on Working Capital	34.37	34.56	35.01
Income Tax[3]	5.72	6.10	6.29
Annual Fixed Charges	234.65	237.64	242.86

[3] The petitioner has not considered any expenses on account of income tax or FBT for the calculation of fixed cost. It has, however, submitted that taxes should be allowed as pass through on actual basis. However, the projections of the Petitioner, as submitted in the forms to the petition, are shown here for the purpose of comparison.

Commission's Analysis

5.136 The annual fixed charges approved for GTPS for each year of the Control Period, approved by the Commission based on the analysis of various components are shown below:

Table 88: Total Annual Fixed Charges for GTPS approved by the Commission (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
O&M Expenses	92.52	98.19	104.26
Depreciation	22.71	22.71	22.71
Interest Charges	18.50	15.77	13.05
Return on Equity	16.71	16.71	16.71
Interest on Working Capital	30.07	30.44	30.83
Income Tax	5.42	5.42	5.42
Annual Fixed Charges	**185.93**	**189.24**	**192.99**

A6: SUMMARY

Directives issued by the Commission

6.1 The Commission directs GTPS to inform the SLDC, Delhi when the plant is operated on Spot R-LNG, since the variable cost is expected to be significantly higher and the SLDC, Delhi can consider the same during merit order dispatch.

6.2 The Commission directs the Petitioner to seek prior permission of SLDC, Delhi before generating in open cycle mode.

6.3 The SLDC, Delhi may test the declared capacity of the GTPS at random and in the event of the power station failing to demonstrate the declared capability, the SLDC, Delhi shall report the matter to the Commission, which would then determine the penalty, if any, to be levied for false declaration.

6.4 The Commission also directs the Petitioner to consider any source of cheaper fuel available in the future, and accordingly restructure the order of scheduling of fuel to ensure that the cheapest available fuel is utilised first.

6.5 The Commission reiterates its direction to the Petitioner to submit performance guarantee test report conducted and the machine specifications, at site conditions, at the time of commissioning of the machines.

Determination of Generation Tariff

6.6 The generation tariffs applicable to RPH and GTPS for each year of the Control Period, based on the fixed and variable costs approved by the Commission, are shown below:

Table 89: Generation Tariff for RPH for the Control Period

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Net Generation (MU)	787	787	787
Annual Fixed Charges (Rs Cr)	149.74	154.26	159.25
Variable Cost (Rs. Cr)	230.01	230.01	230.01
Energy Charge Rate (ECR)	2.923	2.923	2.923
Total Generation Tariff (Rs/kWh)	4.826	4.883	4.947

Table 90: Generation Tariff for GTPS for the Control Period

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
Net Generation (MU)	1835	1835	1835
Annual Fixed Charges (Rs Cr)	185.93	189.24	192.99
Variable Cost (Rs. Cr)	541.99	541.99	541.99
Energy Charge Rate (ECR)	2.953	2.953	2.953
Total Generation Tariff (Rs/kWh)	3.966	3.984	4.004

6.7 The capacity charge (inclusive of incentive) payable to each station for a calendar month shall be calculated in accordance with the following formula:

(AFC x (NDM / NDY) x (PAFM / NAPAF) (in Rupees)

Where,

AFC = Annual fixed cost specified for the year, in Rupees

NAPAF = Normative annual plant availability factor in percentage

NDM = Number of days in the month

NDY = Number of days in the year

PAFM = Plant availability factor achieved during the month, in percent:

PAFY = Plant availability factor achieved during the year, in percent

6.8 For this purpose, the availability of the power station shall be certified by the SLDC, Delhi. Any adjustment of recovery of Annual Fixed Charges shall be based on the cumulative availability as certified by the SLDC, Delhi at the end of the year. The Annual Fixed Charges shall be recovered in 12 equal monthly instalments in proportion to allocated/contracted capacity.

6.9 Intra-state ABT (Availability Based Tariff) is in operation in Delhi since April 1, 2007. Consequent to this, the Variable Cost shall be billed by the Petitioner to the beneficiaries based on the scheduled generation during the month from the station as per the rates approved by the Commission.

6.10 Deviations from the schedule are to be accounted for in accordance with the principles laid down in the order of the Commission regarding Intra-state ABT.