

Delhi Electricity Regulatory Commission
Viniyamak Bhawan, 'C' Block, Shivalik, Malviya Nagar, New Delhi – 17



Petition No. 39/2007

In the matter of:

Petition for approval of Aggregate Revenue Requirement and Multi Year Generation Tariff for Pragati Power Corporation Limited for the F.Y. 2007-08 to F.Y. 2010-2011.

AND

In the matter of:

Pragati Power Corporation Limited
Himadri, Rajghat Power House Complex
New Delhi – 110 002.

Before
Delhi Electricity Regulatory Commission

Coram:

Sh. Berjinder Singh, Chairman & Sh. K. Venugopal, Member

Date of Order: 14th December, 2007

ORDER

The Commission having deliberated upon the Multi Year Tariff Petition filed for the Control Period of F.Y. 2008-2011, alongwith the Business Plan for the said Control Period, and also the subsequent filing by the Petitioner during the course of the proceedings, and having considered the responses received from stakeholders, in exercise of the power vested under the Delhi Electricity Regulatory Commission (Terms & Conditions for Determination of Generation Tariff) Regulations, 2007, read with the provisions of Electricity Act, 2003, hereby pass this Order signed, dated and issued on 14th day of December, 2007.

The Petitioner shall take immediate steps to implement the said Order, so as to make the revised tariffs applicable from 1st January, 2008.

This Order may be amended, reviewed or modified in accordance with the provision of the Electricity Act, 2003 and the Regulations made thereunder.

This Order shall be subject to the final outcome of Appeal No. 82 of 2007 before the Appellate Tribunal for Electricity.

-Sd-
(K. Venugopal)
MEMBER

-Sd-
(Berjinder Singh)
CHAIRMAN

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A1: INTRODUCTION

- 1.1 This Order relates to the Multi Year Tariff Petition filed by Pragati Power Corporation Limited (PPCL) for determination of Generation Tariff for its combined cycle Pragati Power Project for the Control Period (FY08 to FY11) and for true-up of the tariff determined by the Commission for FY07.
- 1.2 Before 2001, Delhi Vidyut Board (hereinafter referred to as 'DVB') was the sole entity handling all functions of generation, transmission and distribution of electricity in the National Capital Territory of Delhi. However, the Government of National Capital Territory of Delhi notified the Delhi Electricity Reform (Transfer Scheme) Rules, 2001 (hereinafter referred to as 'Transfer Scheme') on November 20, 2001 and provided for unbundling of the functions of DVB into different entities handling generation, transmission and distribution of electricity.

Pragati Power Corporation Limited

- 1.3 All the assets, liabilities, rights and interest of DVB in Pragati Power Project were transferred to Pragati Power Corporation Limited (hereinafter referred to as the 'Petitioner' or 'PPCL').
- 1.4 PPCL is wholly owned by the Government of National Capital Territory of Delhi and controls the 330 MW Pragati Power Station, having two gas turbine units of 104 MW each and one steam turbine unit of 122 MW.
- 1.5 PPCL has filed its Petition before the Delhi Electricity Regulatory Commission (hereinafter referred to as the 'Commission') for determination of Generation Tariff for the Pragati Power Station for the period FY08 to FY11 under Section 62, 64 and 86 of the Electricity Act, 2003 (hereinafter referred to as the 'Act'), read with the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007.
- 1.6 This Tariff Order relates to the determination of Generation Tariff of the Petitioner for the Control Period under the Multi Year Tariff regime.
- 1.7 The Commission has reviewed the operational and financial performance of the plant for FY07 and done the truing-up for various parameters based on the review and analysis of the past records, information, submissions, necessary clarifications submitted by the Petitioner and views expressed by various stakeholders.

Delhi Electricity Regulatory Commission

- 1.8 The Delhi Electricity Regulatory Commission was constituted by the Government of National Capital Territory of Delhi (hereinafter referred to as the 'Government') on March 3, 1999 and became operational from December 10, 1999.

- 1.9 The Commission's approach to regulation is driven by the Electricity Act 2003, the National Electricity Plan, the National Tariff Policy and the Delhi Electricity Reform Act 2000 (hereinafter referred to as 'DERA'). The Act mandates the Commission to take measures conducive to the development and management of the electricity industry in an efficient, economic and competitive manner.

Functions of the Commission

- 1.10 The Commission derives its powers from DERA as well as the Act. The major functions assigned to the Commission under the DERA are as follows:

- (a) to determine the tariff for electricity, wholesale, bulk, grid or retail and for the use of the transmission facilities;
- (b) to regulate power purchase, transmission, distribution, sale and supply;
- (c) to promote competition, efficiency and economy in the activities of the electricity industry in the National Capital Territory of Delhi;
- (d) to aid and advise the Government on power policy;
- (e) to collect and publish data and forecasts;
- (f) to regulate the assets and properties so as to safeguard the public interest;
- (g) to issue licenses for transmission, bulk supply, distribution or supply of electricity;
- (h) to regulate the working of the licensees; and
- (i) to adjudicate upon the disputes and differences between licensees.

- 1.11 The functions assigned to the Commission under the Act are as follows:

- (1) "Section 86. The State Commission shall discharge the following functions, namely: -
 - (a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State: Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
 - (b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating

companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;

- (c) facilitate intra-State transmission and wheeling of electricity;
 - (d) issue licences to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
 - (e) promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;
 - (f) adjudicate upon the disputes between the licensees and generating companies and to refer any dispute for arbitration;
 - (g) levy fee for the purposes of this Act;
 - (h) specify State Grid Code consistent with the Grid Code specified under clause (h) of sub-section (1) of section 79;
 - (i) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
 - (j) fix the trading margin in the intra-State trading of electricity, if considered, necessary;
 - (k) discharge such other functions as may be assigned to it under this Act.
- (2) The State Commission shall advise the State Government on all or any of the following matters, namely: -.
- (a) promotion of competition, efficiency and economy in activities of the electricity industry;
 - (b) promotion of investment in electricity industry;
 - (c) reorganisation and restructuring of electricity industry in the State;
 - (d) matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by that Government.”

- 1.12 As part of the tariff related provisions of the Act, the State Electricity Regulatory Commission (SERC) has to be guided by the National Electricity Policy and the National Tariff Policy.

Tariff Orders Issued by the Commission

- 1.13 After its inception, the Commission issued an Order on “Rationalisation of Tariff for DVB” on January 16, 2001.
- 1.14 The Commission issued its Order on the Annual Revenue Requirement (ARR) for 2001-02 and Tariff Determination Principles for DVB for the period 2002-03 to 2005-06 on May 23, 2001.
- 1.15 The Commission issued its first Tariff Order after the notification of the Transfer Scheme and Policy Directions, on February 22, 2002 based on a Joint Petition for determination of the Bulk Supply Tariff (BST) and opening loss levels for the distribution companies.
- 1.16 After the Transfer Scheme of DVB was made effective (July 1, 2002), the Commission issued a Tariff Order on June 26, 2003 for approval of ARR of Delhi Transco Limited and determination of BST to be charged to the Discoms for 2002-03 (9 months) and 2003-04. This Order also contained details about the generation plants, as no separate ARR filing was envisaged for the generation companies Indraprastha Power Generation Company Limited (IPGCL) and Pragati Power Corporation Limited (PPCL) under DERA.
- 1.17 The Commission issued the first Tariff Order for the generation companies IPGCL and PPCL for the FY05 on June 9, 2004. It has subsequently issued Tariff Orders for FY06 and FY07 for both the generation companies on July 7, 2005 and September 22, 2006 respectively.
- 1.18 The Commission issued an order on the Review Petition filed by the Petitioner against the Tariff Order for FY07 on March 14, 2007.
- 1.19 The Petitioner has appealed to the Honourable Appellate Tribunal for Electricity (ATE) against the orders issued by the Commission for FY07 on September 22, 2006 and March 14, 2007. The matter is sub-judice and the decision taken by the Hon’ble ATE shall be considered by the Commission, when the final judgement is made.
- 1.20 The present Tariff Order shall approve the Aggregate Revenue Requirement of PPCL from FY08 to FY11 and determine generation tariffs to be applicable for the Control Period, as defined in the Delhi Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2007.

Multi Year Tariff Framework

- 1.21 The power sector in Delhi was privatized with effect from July 1, 2002 and tariffs in Delhi were governed by the Policy Directions issued by Government, vide its notification of November 22, 2001 and as amended on May 31, 2002.
- 1.22 Although the Act was passed in 2003, it ensured that provisions of the enactments specified in the Delhi Electricity Reforms Act 2000 (Delhi Act No. 2 of 2001), not inconsistent with the provisions of the Act remained applicable to Delhi, as it was part of the Schedule referred to in Section 185 of the Act.
- 1.23 As the validity of these notifications ended on March 31, 2007, the Commission decided to adopt Multi Year Tariff (MYT) principles for determination of tariffs, in line with the provisions in Section 61 of the Act.
- 1.24 The Commission designed the MYT framework in the State and set long term performance targets for entities engaged in generation, transmission and distribution. Simultaneously, the Commission segregated costs into two categories- first category which are expected to be easily controlled by the entity and a second category over which the entity does not have significant control. The uncontrollable parameters for the generation business, based on general principles are: the gross calorific value and the price of fuel, both of which shall impact the variable cost of generation.
- 1.25 The Commission shall also provide for true-up of Employee Expenses based on the recommendations of the 6th Pay Commission and additional R&M expenses on account of DLN burners, subject to prudence checks. All other components of the fixed costs are controllable in nature and shall not be revised later based on actuals/ subsequent submissions made by the Petitioner.
- 1.26 The MYT framework is also designed to provide predictability and reduce regulatory risk. This can be achieved by approval of a detailed capital investment plan for each entity. The longer time span enables the Generating Company to propose its investment plan with details on the possible sources of financing and the corresponding capitalization schedule for each investment. This also enables them to retain any over-achievement due to better performance than the target levels specified by the Commission during the Control Period.

Multi Year Tariff Regulations

- 1.27 The Commission issued a Consultative Paper and Draft Regulations for Generation, Transmission and Distribution to all concerned stakeholders, including the Government, the Generation Companies, Transmission and Distribution Licensees, consumers, etc. These documents detailed the principles, approach and methodology to be adopted for the determination of tariff for various entities under the MYT framework and also highlighted the various issues which were to be discussed and finalized for successful implementation of the MYT principles.

- 1.28 These Draft Regulations and MYT Consultative Paper were issued on October 11, 2006 and a notice to this effect was published in leading newspapers seeking comments from public and stakeholders.
- 1.29 The Commission issued Regulations vide notification dated May 30, 2007 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 FY08 – FY11, after going through Public Hearing process.

Filing of Tariff Petition for the Control Period

Procedural Background

- 1.30 PPCL filed its Multi Year Tariff Petition for determination of Generation Tariff for the Control Period (FY08 – FY11) on August 10, 2007 with the Commission. The Commission admitted the Petition on August 14, 2007 and sent a list of queries for additional information/ clarification on various issues in the Petition.

Interaction with the Petitioner

- 1.31 The Commission interacted regularly with the Petitioner, in both written and oral form, to seek clarifications and justification on various issues essential for the analysis of the tariff petition.
- 1.32 The Commission conducted multiple validation sessions with the Petitioner between August and October 2007 in which the discrepancies in the Petition and additional information required by the Commission were highlighted. The Petitioner submitted its replies in response to the queries raised by the Commission in these sessions.
- 1.33 The Commission held various meetings/ data validation sessions with the Petitioner between August and October 2007 to validate the data submitted for true-up and provide documentary evidence to substantiate its claims regarding various submissions. 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.
- 1.34 The Petitioner submitted its replies, as shown below, in response to the queries raised by the Commission in these sessions, which have been considered during approval of the Aggregate Revenue Requirement of the Petitioner.

Table 1.1: List of Correspondence from PPCL

Sl No	Date	Letter No.	Subject
1	1 Sept 2007	F-17/D(T)/PPCL/827	MYT Petition for FY 2007-11 & Tariff determination
2	10 Sept 2007	MD/35A/218	MYT Petition of PPCL for the Control Period 2007-2011 Revised Formats

Sl No	Date	Letter No.	Subject
3	13 Sept 2007	F.17/D(T)/370	MYT Petition for 2007-2011 & Tariff Determination
4	21 Sept 2007	D(T)/F-17/883	PPCL MYT Petition for the period FY 2007-08 to FY 2010-11
5	21 Sept 2007	D(T)/F.17/887	PPCL MYT Petition for the period FY 2007-08 to FY 2011-12
6	21 Sept 2007	D(T)/F-17/889	PPCL MYT Petition for the period FY 2007-08 to FY 2010-11
7	22 Sept 2007	D(T)/F-17/896	ARR Petition for FY 2006-07 & Tariff Determination
8	3 Oct 2007	D(T)/F-17/926	MYT Petition for the Control Period for FY2007-08 to 2011-2012
9	9 Oct 2007	D(T)/F-17/943	MYT Petition for the Control Period for FY 2007-08 to 2011-12 and tariff determination
10	10 Oct 2007	D(T)/F-17/749	Filing of ARR for determination of generation tariff
11	15 Oct 2007	D(T)/F-17/975	Truing up of interest cost for the year 2005-06
12	16 Oct 2007	F.8/PPCL/CS/275	MYT Petition of PPCL for the Control Period 2007-2011
13	16 Oct 2007	F.11/PPCL/CS/289	MYT Petition of PPCL for the Control Period 2007-2011
14	14 Nov 2007	D(T)/F-17/1053	Multi Year Tariff Petition 2007-08 to 2010-11

Public Hearing

- 1.35 The Petitioner issued a Public Notice on August 24, 2007 detailing the salient features of its tariff petition in the following newspapers:
- Hindustan Times (English)
 - Financial Express (English)
 - Indian Express (English)
 - Jansatta (Hindi)
 - The Daily Milap (Urdu)
- 1.36 Copies of the Public Notice in English, Hindi and Urdu are enclosed in Annexure 1 of this order.
- 1.37 The notice invited suggestions and objections from the public on the tariff petition filed by the Petitioner in accordance with Section 64 (3) of the Act. The interested parties/stakeholders were asked to file their objections and suggestions on the petition by September 14, 2007.

- 1.38 The Petitioner/ Commission received objections from 3 respondents, which were replied to by the Petitioner by September 21, 2007, and a copy of the replies was submitted to the Commission. All parties, who had filed their objections /suggestions, were informed about the date, time and venue for presenting their case in the public hearing.
- 1.39 A public hearing was held at the Commission's Court Room on September 24, 2007 to discuss the issues related to the tariff petition filed by the Petitioner for determination of Generation Tariff for the Control Period, and for true-up of FY07.
- 1.40 The issues and concerns voiced by various stakeholders have been carefully examined by the Commission. The major issues discussed during the public hearing, through the objections raised by the respondents and the observations made by the Commission, have been summarized in Section A2.

Layout of the Order

- 1.41 This Order is organised into five chapters:
- (a) the first chapter provides a historical background including information regarding the Commission, a snapshot of the MYT framework and details of the tariff setting process;
 - (b) the second chapter gives a detailed account of the Public Hearing process, including the objections raised by various stakeholders, Petitioner's responses and the Commission's views on the responses.
 - (c) the third chapter details the process of true-up for the previous year (FY07); and
 - (d) the fourth chapter analyses the Aggregate Revenue Requirement for the Control Period and determination of Generation Tariffs for the Control Period.
 - (e) the fifth chapter presents the summary of the Generation Tariffs for PPCL.

A2: OBJECTIONS AND ISSUES RAISED DURING THE PUBLIC HEARING PROCESS

- 2.1 The public hearing process is a platform to understand the problems and concerns of various stakeholders. The Commission has encouraged transparent and participative approach in the hearings, which are used to obtain necessary inputs required for tariff determination.
- 2.2 The Commission directed the Petitioner to make available copies of their MYT Petitions and issue a public notice inviting comments/objections from various stakeholders including the general public.
- 2.3 The following stakeholders filed written objections on the ARR and tariff petitions. The issues raised along with the replies given to the objections by Petitioner are discussed in contextual sections that follow.
- (a) North Delhi Power Limited (NDPL)
 - (b) BSES Rajdhani Power Limited (BRPL)
 - (c) BSES Yamuna Power Limited (BYPL)
- 2.4 The Petitioner submitted its responses to the various comments/ objections and a public hearing was held in the Commission's office on September 24, 2007 wherein respondents put forth their comments and objections before the Petitioner. The respondents were given an opportunity to be heard during the public hearing.
- 2.5 The Commission expressed concern at the inconsistency of data submitted and pointed out differences in values for several parameters in various submissions of the Petitioner in response to the queries raised during the analysis of the MYT Petition.
- 2.6 The major comments/ objections raised by various stakeholders and the Commission in response to the MYT petition submitted, the replies given by the Petitioner and the views of the Commission have been summarized below under various categories as below:

Norms of Operation**Objections**

- 2.7 The distribution companies NDPL, BRPL and BYPL expressed their dissatisfaction over the Petitioner's claims of not being able to meet the norms of operation specified in the MYT regulations.

- 2.8 NDPL has stated that the Pragati Power Station is a new plant and hence should be able to achieve the target station heat rate (SHR) set by the Commission for both open cycle and combined cycle operations. It has also submitted that the Petitioner should not be given any relaxation for any inefficiency.
- 2.9 BRPL and BYPL have submitted that the Petitioner has not been able to clarify the reasons for relaxation in the SHR, and the figure quoted by the Central Electricity Authority (CEA) cannot be used as a basis for the same as the conditions under which such norms were achieved and whether they are as per the performance guarantee conditions is not known. The Petitioner has requested that the SHR should be considered as an uncontrollable parameter which is not acceptable. Hence they have requested the Commission to reject the request for relaxation in norms.
- 2.10 BRPL and BYPL have also requested the Commission not to approve any relaxation in the Plant Load Factor (PLF) for the plant as it is a relatively new asset and should be put to full use. The Petitioner has not submitted details for its auxiliary consumption under open cycle operations. BRPL and BYPL have requested the Commission to approve the value as specified in the MYT regulation. They also requested the Commission to consider norms of operation determined by the Central Electricity Regulatory Commission (CERC) for determination of tariffs for PPCL.

Petitioner's Response

- 2.11 The Petitioner has expressed its inability to achieve the target SHR of 2000 kCal/ kWh as the guaranteed heat rate of the turbines specified by the manufacturer is 1939 kCal/ kWh at 100% PLF. At 80% PLF the manufacturer guarantees 2039 kCal/ kWh. The Petitioner requested the Commission to approve the heat rate of 2050 kCal/ kWh considering the correction factor specified by the CEA. It has also expressed concern at the large number of trippings due to grid disturbances, which has led to an increase in the heat rate of plants.
- 2.12 In view of the above, the Petitioner expressed limited ability to improve the performance of the plant, and requested the Commission to approve relaxed SHR, as submitted in the MYT Petition.
- 2.13 The Petitioner submitted to the Commission that it has not sought any relaxation in its PLF or open cycle auxiliary consumption, and accepts the target levels specified in the MYT Regulations. It also submitted that it has made regular efforts to reduce its auxiliary consumption and had an energy audit conducted by the PCRA.

Commission's Observations

- 2.14 The Commission has fixed the operational norms in the MYT Regulations duly taking into consideration both the operating conditions of this plant, and the norms specified by the CERC for similar projects.

- 2.15 The Commission observes that the claim of the Petitioner regarding station heat rate of 2039 kCal/ kWh at 80% PLF as manufacturer's guarantee is not tenable, since the guarantee would only be at 80% load and not at 80% PLF. The plant is not required to run at 80% of load at all times to achieve 80% PLF, and is expected to run at full load most of the time, except during maintenance.
- 2.16 The Pragati Power Station is a five year old station, and hence, can be operated optimally to meet the targets set for the norms of operation. Hence, the Commission shall consider the norms specified in the MYT Regulations for determination of tariffs for PPCL during the Control Period.

Gas Availability

Objections

- 2.17 NDPL has submitted that the Petitioner should make suitable arrangements to ensure continuous supply of fuel. It submitted that in case of non-supply of fuel, the extra burden on account of alternative arrangements of fuel purchase should be compensated by the original supplier and should not be recovered from consumers.
- 2.18 BRPL and BYPL requested the Commission to direct the concerned authorities for transferring the gas linkage available for the less dependent, fuel-inefficient Gas Thermal Power Station of IPGCL to the Pragati Power Project for maximum utilization of the latter.

Petitioner's Response

- 2.19 The Petitioner submitted details of fuel supply arrangements with various sources for gas supply to the station. Initially, PPCL had signed a long-term arrangement with GAIL for supply of APM gas. However, with decontrol of gas supplies, allocation of APM gas to PPCL was reduced and the balance was replaced with gas from the PMT field. The Petitioner claimed that there has been a 15-20% cut on a daily basis on the supply of gas by GAIL, due to which it has signed a fall-back arrangement with GAIL for meeting the gas shortage. However, since all the above sources had been unable to meet the Petitioner's demand in FY07, it resorted to purchases from the spot market.

Commission's Observations

- 2.20 The Commission, in its previous Tariff Order, had directed the Petitioner to make greater efforts to arrange for additional gas at competitive rates. However, the Petitioner has not submitted any specific details on steps taken for fuel procurement. The Commission expresses its concern at the irregular fuel supply and expects the Petitioner to handle its fuel supply from various sources more efficiently.
- 2.21 The Commission, in the Tariff Order for PPCL issued on September 22, 2006 had given the following directions to the Petitioner to optimise use of the gas in the gas based power plants:

- (a) The Commission directed the Petitioner “*to make all out efforts to arrange for additional gas at competitive rates to optimally utilise the installed capacity*”.
 - (b) The Commission also directed that: “*usage of gas between PPCL and IPGCL should be so coordinated so as to avail the full quantum of gas from the gas supplier viz. GAIL. If required, the contracts for supply of gas may be restructured or the restructuring of the generating companies may be considered, so as to include all generating assets based on gas to be combined under one company while coal based generation could be under another company*”.
- 2.22 However, the Petitioner has not submitted any information to the Commission on efforts made to arrange for additional gas or to restructure the contracts/generating companies to ensure optimal usage of available fuel.

Operation and Maintenance Expenses

Objections

- 2.23 BRPL and BYPL objected to the treatment of expenses incurred by the Petitioner on DLN burners as revenue expenses. They suggested that these expenses should be part of the capital expenditure and not part of O&M Expenses.

Petitioner’s Response

- 2.24 The Petitioner has replied that the expenses for R&M of DLN burners are routine and cyclic in nature. Since it is not a one-time expenditure, the treatment considered by PPCL is in accordance to the accepted accounting practices.

Commission’s Observations

- 2.25 The Commission has also agreed with the views of the Petitioner and has not considered the expenses on R&M of the DLN burners as part of capital expenditure. It has followed the same approach as taken in the Tariff Order for PPCL issued on July 7, 2005 and has considered these expenses as special R&M, and not as part of the normal O&M Expenses.

Return on Equity

Objections

- 2.26 NDPL requested the Petitioner to submit details of the increase in equity during the previous year (FY07) and also to provide details of capital expenditure during the year.

Petitioner's Response

- 2.27 The Petitioner submitted that the increase in equity was on account of expenses incurred for the Pragati II Power Station, which would be transferred to the new plant at the time of commissioning.

Commission's Observations

- 2.28 The Petitioner cannot increase the equity in respect of this power station due to expenditure incurred for setting up another power station. Hence, the Commission has not approved any increase in the equity of Pragati Power Station.

Interest Expenses**Objections**

- 2.29 BRPL and BYPL have submitted that the petitioner should refinance their loans to reduce interest costs. They have also objected to the inclusion of rebate on timely payment as part of interest expenses.

Petitioner's Response

- 2.30 The Petitioner has already explored the refinancing option and restructured part of the loan taken from PFC at lower interest rates.
- 2.31 The Petitioner further submits that the interest on the working capital allowed by the Commission in its previous orders was not sufficient to recover the rebate given for timely payments. Since there was no provision for considering expenses, these have been included in interest expenses.

Commission's Observations

- 2.32 The Commission expressed its views on the rebate on payments in the Tariff Order issued on September 22, 2006 wherein it stated that *"rebate offered by the Petitioner to TRANSCO is a commercial arrangement so as to expedite receipt of payment. The Commission has considered receivables for 2 months based on the projected sales keeping in view the norms for realisation of payment, for estimating the working capital requirement and the interest is allowed accordingly. The rebate on timely payment is therefore a trade-off with the interest on 2 months receivables considered in working capital requirement, hence does not merit any separate consideration."*

- 2.33 The rebate provided for timely payment of bills is an established practice for generation companies and has also been considered in the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004, which states: *“For payment of bills of capacity charges and energy charges through a letter of credit on presentation, a rebate of 2% shall be allowed. If the payments are made by a mode other than through a letter of credit but within a period of one month of presentation of bills by the generating company, a rebate of 1% shall be allowed.”*
- 2.34 The draft PPA entered into between PPCL and DTL provided for a rebate of 2.5% or as decided by Commission from time to time only on the amount paid by cheque or through LC (Letter of Credit) within 7 days from the date of presentation of bills by PPCL to Bank and DTL. This provision (Clause 5.4) had been made by the Petitioner voluntarily with DTL and hence the Commission should not be placed before the Commission for any modification. The same has also been agreed to in the PPA signed by the Petitioner on 31st March 2007.
- 2.35 The Commission, therefore retains the previous stand on the rebate provided to DTL and has therefore, not allowed the same for determination of tariff.

Fixed Fuel Expenses

Objections

- 2.36 BRPL and BYPL objected to the inclusion of fixed fuel cost as part of fixed cost. They propose that any cost towards procurement of fuel to be included in the variable cost instead of fixed cost.

Petitioner’s Response

- 2.37 The Petitioner replied that the fixed fuel costs corresponds to a fixed component which is not linked with the quantity of gas purchased. Hence the same cannot be considered as a variable cost.

Commission’s Observations

- 2.38 The Commission had stated its view on these expenses in the Tariff Order issued on September 22, 2006 wherein it stated that: *“As these charges are integral part of the gas pricing and have to be paid irrespective of the quantum of gas bought by the Petitioner, the Commission has considered the same as fixed cost instead of variable cost for the purpose of ARR calculations.”* The Commission has followed the same principle and considered the fixed fuel expenses as part of fixed cost as they are payable irrespective of the quantum of gas bought by the Petitioner. In effect, this expenditure is the fixed component of the variable cost and needs to be reimbursed to the Petitioner, notwithstanding the categorization.

A3: TRUE-UP FOR FY07**Background**

- 3.1 The Commission had approved the Annual Revenue Requirement and determined the Generation Tariff for PPCL for FY07 in its Tariff Order issued on September 22, 2006. The Tariff Order was based on the provisional data submitted by the Petitioner for costs to be incurred and revenues likely to be generated during FY07.
- 3.2 The Petitioner submitted its prayer for truing up various operational and financial values approved for FY07, as part of the MYT petition.
- 3.3 Despite several discrepancies and information gaps in the petition, the Commission admitted the same in order to expedite the tariff determination process. The Commission issued a deficiency note to the Petitioner highlighting the shortcomings in the petition and directed the latter to submit clarifications and further information.
- 3.4 The Petitioner subsequently submitted various documents and responded to the queries raised by the Commission during detailed analysis of the petition.

Summary for True-Up of FY07

- 3.5 A snapshot of the true-up submitted by the Petitioner is provided in the table below.

Table 3.1: Summary of True-Up for FY07

Particulars	Units	Petition	Approved	Actuals
Gross Generation	MU	2300	2450	2255
Plant Load Factor	%	79.56	84.75	77.99
Station Heat Rate	kCal/ kWh	2052	2000	2035
Auxiliary Consumption	%	3.10	3.00	2.85
Net Generation	MU	2229	2377	2190
Total Fixed Cost	Rs Cr	230.27	216.38	221.73
Total Variable Cost	Rs Cr	247.52	259.87	237.46
Total Cost	Rs Cr	477.79	476.25	459.19
Fixed Cost per Unit	Rs/kWh	1.03	0.91	1.01
Variable Cost per Unit	Rs/kWh	1.11	1.09	1.08
Total Cost per Unit	Rs/kWh	2.14	2.00	2.10

Norms of Operation

- 3.6 The Petitioner submitted details of the operating parameters of the plant, which have been analysed in detail by the Commission for true-up, as detailed below:

Station Heat Rate

- 3.7 The Petitioner has submitted its inability to achieve Station Heat Rate (SHR) of 2000 kCal/ kWh as approved by the Commission for FY07 and requested the Commission to approve the same based on the SHR achieved in FY07.
- 3.8 The Petitioner has submitted that the guaranteed heat rate of these turbines, according to the manufacturer is 1939 kCal/kWh at 100% PLF which has been computed by CEA as 1978 kCal/kWh. The Petitioner further submitted that the manufacturer has guaranteed a heat rate of 2039 kCal/kWh at 80% PLF.
- 3.9 The Petitioner requested the Commission to consider its plea for relaxation in SHR considering the large number of grid trippings in Delhi as compared to the National Grid. The Petitioner also pointed out the regular cuts imposed by GAIL in supply of gas to the plant as one of the reasons for the higher SHR of PPCL.
- 3.10 The Commission notes that the manufacturer's guarantee for the SHR would not be at 80% PLF but at 80% load. The plant is not required to run at 80% of load all the time to achieve PLF of 80%, but the same can be normally achieved as the plant is expected to run close to full load except during maintenance to achieve 80% target availability.
- 3.11 The Commission has considered all aspects and is of the view that the heat rate for Pragati Power Station had been approved considering the general operating conditions of the grid. The Commission would like to re-iterate that the Pragati Power station is only five years old and is expected to operate at the efficiency levels, similar to other gas-based generation stations in the region.
- 3.12 Fuel risk is to be mitigated by the generating company as fuel procurement is a part of their regular business. Therefore, impact due to unavailability of fuel should not be passed on to the consumers. The Commission notes that CERC has provided for SHR of 2000 kCal/kWh (combined cycle operations) and 2900 kCal/kWh (open cycle operations) to the Kayamkulam Combined Cycle Power Project and Faridabad GTPS, which were commissioned in 1999 and are very close in technical specifications to Pragati Power Station. CERC has set same SHR for NTPC Gandhar GTPS, which was set up in 1994- 95.
- 3.13 The Commission has therefore, maintained the SHR for Pragati Power Station at 2000 kCal/kWh for combined cycle and 2900 kCal/kWh for open cycle for FY07 and expects the Petitioner to take adequate steps to improve its performance to achieve the same in future by making suitable arrangement for gas as discussed in Section 2 of this Order.

Table 3.2: Station Heat Rate for FY07

SHR (in kCal/ kWh)	Approved	Actuals	True-Up
Combined Cycle	2000	2035	2000

Open Cycle	2900	3138	2900
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Availability

- 3.14 The Commission had approved the target availability for full recovery of annual fixed cost as 80% in the Tariff Orders for FY06 and FY07 issued on July 7, 2005 and September 22, 2006 respectively. It stated that recovery of annual fixed cost below this level will be on pro rata basis.
- 3.15 The Commission has considered the availability of the Pragati Power Station in FY07 to be 85.82% as certified by the SLDC, and hence approved for recovery of full fixed cost for FY07.

Plant Load Factor

- 3.16 The Commission had considered a Plant Load Factor (PLF) of 84.75% for PPCL for FY07 determine a gross generation of 2450 MUs as prescribed by CEA. The Petitioner in its true-up petition submitted that the actual PLF achieved in FY07 was lower than 84.75% as approved by the Commission due to occurrence of floods at Hazira, which affected the supply of gas to the plant.
- 3.17 The Commission has calculated the PLF for the Pragati Power Station as 78.11% by considering the net generation value submitted by SLDC and the approved level of auxiliary consumption. The Commission agrees that disruption of fuel supply due to floods at Hazira is a *force majeure* event which has caused in reduced generation thereby leading to lower PLF for the plant. The PLF achieved by the plant as submitted by the Petitioner and as calculated by the Commission is shown in table below.

Table 3.3: Plant Load Factor for FY07

(Values in %)	Approved	Actuals	True-Up
Plant Load Factor	84.75	77.99	77.94

Auxiliary Consumption

- 3.18 The Commission in its Tariff Order for FY07 had approved the auxiliary consumption at 3.00% of gross generation in combined cycle mode and 1.00% in open cycle mode of operation. The Petitioner has submitted details for the FY07 and has achieved an auxiliary consumption of 2.85%.
- 3.19 The Commission has noted the improvement in auxiliary consumption of the plant, but has considered the previously approved value for trueing up, as shown below:

Table 3.4: Auxiliary Consumption for FY07

Auxiliary Consumption	Approved	Actuals	True-Up
Combined Cycle (%)	3.00	2.85	3.00

Open Cycle (%)	1.00	NA	1.00
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Gross and Net Generation

- 3.20 The Commission had approved gross generation of 2450 MU as set by the CEA and considered normative auxiliary consumption of 3.00% for FY07. The Petitioner has submitted its actual gross generation for FY07 as 2254.63 MU with auxiliary consumption of 2.85%. It has requested the Commission to approve the actual generation for FY07.
- 3.21 The Commission has calculated the gross generation for FY07 by considering the ex-bus net generation submitted by SLDC in open and combined cycle mode of operation and the approved values of PLF and auxiliary generation for the station. The generation details for FY07 as submitted by the Petitioner and as approved by the Commission are given below:

Table 3.5: Gross and Net Generation for FY07

Particulars	Approved	Actuals	True-Up
Net Generation (MU)	2377	2190	2190
Open Cycle Generation (MU)	NA	NA	146
Combined Cycle Generation (MU)	NA	NA	2045
Open Cycle Auxiliary Consumption (%)	1.00	NA	1.00
Closed Cycle Auxiliary Consumption (%)	3.00	2.85	3.00
Gross Generation (MU)	2450	2255	2253
Plant Load Factor (%)	84.75	77.99	77.94

Fuel Cost

- 3.22 The Petitioner submitted details of its long-term agreement with Gas Authority of India Limited (GAIL) for supply of gas. This arrangement involved daily supply of 1.75 MMSCM of APM gas to PPCL, which is sufficient to run both turbines at base load. However, with decontrol of gas supplies from Panna Mukta Tapti field (PMT), the gas allocation to PPCL was reduced to 1.22 MMSCMD of APM gas and 0.33 MMSCMD of PMT gas.
- 3.23 The Petitioner submitted that GAIL has been imposing 10-20% cuts in supply due to depleting gas reserves of ONGC. The Petitioner subsequently signed an agreement with GAIL for supply of R-LNG, procured under long term contracts, to meet the shortfall in gas supply. However, Petitioner submitted that it has received nominal amount of this fall-back R-LNG during the last year. Hence, it procured R-LNG by purchases from the spot markets through gas suppliers to meet the shortfall.

- 3.24 The Petitioner had initially not furnished information on the quantity of gas purchased from various sources and their associated costs. These details were subsequently submitted after repeated queries from the Commission, and the same has been considered by the Commission for the purpose of true-up.
- 3.25 The Petitioner submitted the following price details for the different categories of gas purchased by them in FY07: APM gas at Rs.4263.41 per 1000 SCM, PMT gas at Rs.4186.20 per 1000 SCM, R-LNG at Rs.193.95/ MMBTU and Spot R-LNG at Rs.477.05/ MMBTU.
- 3.26 The Commission has considered these rates, based on the bills raised by GAIL and submitted by the Petitioner. The Commission has calculated the total fuel cost for FY07 using the gas prices submitted by the Petitioner and the quantity of gas required for achieving the approved gross generation based on the normative SHR and auxiliary consumption for the station. Based on the above, and considering the fuel requirement to be serviced in the order: APM/ PMT gas, fall-back RLNG and spot R-LNG, the Commission observes that the requirement of spot R-LNG by PPCL should be 13.93 MMSCM vis-à-vis the requirement of 17.83 MMSCM submitted by the Petitioner. However, as the Petitioner has already consumed and incurred cost on 17.83 MMSCMD of Spot R-LNG, the Commission has pro-rated the cost in the proportion of actual consumption of R-LNG and Spot R-LNG for true up.
- 3.27 The Commission has approved the fuel costs considering the submission of the Petitioner that GAIL has not supplied R-LNG based on the agreement signed for fallback R-LNG. The non-compliance of GAIL towards an existing agreement should be considered seriously and the Commission expects the Petitioner to take appropriate remedial action including filing a petition with the Petroleum and Natural Gas Regulatory Board.
- 3.28 The details of the total fuel cost as submitted by the Petitioner and approved by the Commission for FY07 is shown in the table below:

Table 3.6: True-Up of Fuel Costs for FY07

Particulars	Unit	Petition	Order	Actuals	True-Up
APM Gas					
APM Gas Consumed	MMSCM	452.60	452.60	385.50	385.50
Gas Price	Rs/1000 SCM	4482.00	4482.00	4263.41	4263.41
APM Gas Cost	Rs Cr	202.86	202.86	164.35	164.35
PMT Gas					
PMT Gas Consumed	MMSCM	-	-	96.86	96.86
Gas Price	Rs/1000 SCM			4186.20	4186.20
PMT Gas Cost	Rs Cr			40.55	40.55
Total APM + PMT Gas	MMSCM	452.60	452.60	482.36	482.36

Particulars	Unit	Petition	Order	Actuals	True-Up
APM + PMT Gas Cost	Rs Cr	202.86	202.86	204.90	204.90
Fall Back R-LNG					
Fall Back R-LNG Consumed	MMSCM	59.81	75.69	0.73	0.58
	MMBTU	2182604	2785714	26975	21313
R-LNG Price	Rs/MMBTU	204.66	204.66	193.95	193.95
Fall Back R-LNG Cost	Rs Cr	44.67	57.01	0.52	0.41
Spot R-LNG					
Spot R-LNG Consumed	MMSCM	-	-	17.83	14.08
	MMBTU			671,462	530,527
Spot R-LNG Price	Rs/MMBTU			477.05	477.05
Spot R-LNG Cost	Rs Cr			32.03	25.31
Total Gas Consumed	MMSCM	512.41	528.29	500.92	497.02
Total Gas Cost	Rs Cr	247.52	259.87	237.46	230.63

Variable Cost

- 3.29 The Commission has determined the variable cost of generation from PPCL, considering the approved norms of generation and total fuel cost as detailed above. Based on actual fuel prices, gross calorific value and considering a SHR of 2000 kCal/ kWh for combined cycle operations and 2900 kCal/ kWh for open cycle operations (on GCV basis), the Commission has allowed the variable cost of 105.29 paise per kWh for FY07.
- 3.30 The total variable cost as estimated by the Petitioner and approved by the Commission for FY07 is given in table below.

Table 3.7: Truing-Up of Variable Costs for FY07

Particulars	Petition	Approved	Actuals	True-Up
Gross Generation (MU)	2300	2450	2255	2253
Auxiliary Consumption (%)	3.10	3.00	2.85	3.00
Net Generation (MU)	2229	2377	2190	2190
Total Fuel Cost (Rs Cr)	247.52	259.87	237.46	230.63
Variable Cost (p/ kWh)	111.06	109.35	108.41	105.29

Fixed Cost

- 3.31 The Commission has examined all components of Fixed Charges for PPCL for the purpose of truing-up for FY07. The details for each component, as submitted by the Petitioner and approved by the Commission are given below:

Operations and Maintenance Expenses

- 3.32 The Commission in the Tariff Order of PPCL for FY07 had approved total O&M Expenses of Rs.43.62 Cr comprising of: Base O&M Expenses of Rs.31.17 Cr, Water Charges of Rs.2.45 Cr and Additional R&M Expenses on DLN burners as Rs.10.00 Cr. The Base O&M Expense of Rs.31.17 Cr was obtained by escalating the Base O&M Expenses of Rs.29.97 Cr approved for FY06 by 4%.
- 3.33 The Petitioner submitted the total O&M Expenses incurred in FY07 as Rs.46.52 Cr and requested the Commission to true-up the same. The Petitioner has submitted Rs.2.45 Cr as Water Charges and Rs.31.07 Cr as Base O&M Expenses for FY07, which includes Rs.9.57 Cr on normal R&M, Rs.11.80 on Employee Expenses and Rs.9.70 Cr on A&G Expenses. The expenses incurred on R&M of DLN burners is Rs.13.00 Cr vis-à-vis the approved value of Rs.10.00 Cr.
- 3.34 The Commission has trued-up the expenses incurred for additional R&M of DLN burners, vis-à-vis the provisional value approved by the Commission in the previous Tariff Order, based on actual expenses and suitable prudence checks.
- 3.35 The Commission has examined all submissions of the Petitioner related to Employee, R&M and A&G Expenses for the purpose of true-up. The Commission has trued-up Employee Expenses based on actual expenses of Rs.9.57 Cr incurred in FY07. The Commission has also analysed the various components of A&G Expenses (Rs.9.70 Cr) as submitted by the Petitioner and observed a computational error due to double addition of auditor's fees (Rs.0.40 Cr). The Commission has corrected this error and therefore, approved A&G Expenses for FY07 as Rs.9.66 Cr.
- 3.36 The details of the O&M Expenses submitted by the Petitioner and the values approved by the Commission for truing-up are as detailed in table below.

Table 3.8: Operations & Maintenance Expenses for FY07

(All Values in Rs Cr.)	Petition	Approved	Actuals	True-Up
Base Repair & Maintenance			9.57	9.57
Employee Expenses			11.80	11.80
A & G Expenses			9.70	9.66
Base O&M		31.17	31.07	31.02
Water Charges		2.45	2.45	2.45
Additional R&M		10.00	13.00	13.00
Total O&M Charges	45.24	43.62	46.52	46.47

Depreciation

- 3.37 The Petitioner has calculated depreciation for FY07 using the methodology and the depreciation rates specified in the MYT Regulations. The Commission observes that the depreciation rates provided in the MYT Regulations are applicable for the Control Period and has calculated the depreciation for FY07 using the methodology as used earlier in previous tariff orders.
- 3.38 The Petitioner in its current true-up petition has submitted the opening Gross Fixed Assets (GFA) of Rs.1015.87 Cr and asset addition of Rs.17.72 Cr toward finalization of project cost for PPCL. However, the opening balance for the GFA for FY07, based on the audited accounts of PPCL is Rs.1015.88 Cr with asset additions of Rs.15.69 Cr during the year. The Commission has approved the values for the purpose of true-up as contained in the audited accounts of PPCL for FY07.
- 3.39 The Commission has thereby approved depreciation expenses for PPCL as Rs.57.94 Cr for FY07, as detailed below:

Table 3.9: Depreciation for FY07

Particulars	Petition	Approved	Actuals	True-Up
Gross Block (Rs Cr.)	1047.19	1015.22	1015.87	1015.88
Less: Accumulated Depreciation (Rs Cr.)	174.17	199.41	166.79	197.64
New Additions during the year (Rs Cr.)	0.00	0.00	17.72	15.69
Weighted Average Rate of Depreciation (%)	5.66	5.66	NA-	5.66
Depreciation (Rs Cr.)	59.27	59.23	59.98	57.94
Cumulative Depreciation (Rs Cr.)	233.44	258.64	226.77	255.58

Interest Expenses

- 3.40 The Petitioner has submitted that Power Finance Corporation (PFC) has issued term loans amounting to a total of Rs.670.53 Cr, vis-à-vis the approved value of Rs.700 Cr. These loans have tenure of 10 years and have different interest rates within the range of 6.25% and 12.00%.
- 3.41 The Petitioner has submitted that 30% of the outstanding loan from PFC has been restructured at an interest rate of 6.25% and the balance portion of loan has an interest rate of 8.25%. The Petitioner has also paid a premium of Rs.5.23 Cr towards interest rate restructuring, and had considered the same as part of the interest cost for FY06.
- 3.42 The Petitioner has submitted that it has paid interest of Rs.46.57 Cr on loan from PFC during FY07 and has incurred Rs.0.73 Cr as bank charges. It has also received Rs.19.02 Cr on account of interest written back on loans taken from GoNCTD in the past and Rs.1.24 Cr as rebate from PFC on timely payment of interest. The net interest paid by the Petitioner in FY07 is Rs.27.04 Cr.

- 3.43 The Commission directed the Petitioner to submit copies of sanction letters of various loans taken from PFC and the scheduled loan repayments. The Commission has considered the details of loan amounts, repayment schedule and interest rates to determine the actual interest charges payable by the Petitioner for FY07.
- 3.44 The details of the various loan repayments and interest charges as calculated by the Commission for FY07 is shown in table below:

Table 3.10: Interest Calculation for FY07

Interest on Loan from PFC after restructuring w.e.f. 15.05.05 for FY07 in Rs					
Opening Balance	Repayment	Balance	Interest Rate	Days	Interest Amount
For period 01.04.2006 to 15.04.2006					
1266142194		1266142194	6.25%	15	3252077.55
61923068		61923068	12.00%	15	305374.03
206722478		206722478	11.50%	15	976976.09
492800000		492800000	10.50%	15	2126465.75
401400000		401400000	10.25%	15	1690828.77
150000000		150000000	9.50%	15	585616.44
804400000		804400000	11.50%	15	3801616.44
1850000000		1850000000	9.75%	15	7412671.23
5233387740	0	5233387740			20151626.31
For period 16.04.2006 to 15.07.2006					
1266142194	168818959	1097323235	6.25%	91	17098701.09
61923068		61923068	12.00%	91	1852602.47
206722478		206722478	11.50%	91	5926988.31
492800000		492800000	10.50%	91	12900558.90
401400000		401400000	10.25%	91	10257694.52
150000000		150000000	9.50%	91	3552739.73
804400000		804400000	11.50%	91	23063139.73
1850000000		1850000000	9.75%	91	44970205.48
5233387740	168818959	5064568781			119622630.23
For period 16.07.2006 to 15.10.2006					
1097323235	168818959	928504276	6.25%	92	14627122.16
61923068		61923068	12.00%	92	1872960.74
206722478		206722478	11.50%	92	5992120.05
492800000		492800000	10.50%	92	13042323.29
401400000		401400000	10.25%	92	10370416.44
150000000		150000000	9.50%	92	3591780.82
804400000		804400000	11.50%	92	23316580.82

Interest on Loan from PFC after restructuring w.e.f. 15.05.05 for FY07 in Rs					
Opening Balance	Repayment	Balance	Interest Rate	Days	Interest Amount
1850000000		1850000000	9.75%	92	45464383.56
5064568781	168818959	4895749822			118277687.88
For period 16.10.2006 to 15.01.2007					
928504276	168818959	759685317	6.25%	92	11967645.40
61923068		61923068	12.00%	92	1872960.74
206722478		206722478	11.50%	92	5992120.05
492800000		492800000	10.50%	92	13042323.29
401400000		401400000	10.25%	92	10370416.44
150000000		150000000	9.50%	92	3591780.82
804400000		804400000	11.50%	92	23316580.82
1850000000		1850000000	9.75%	92	45464383.56
4895749822	168818959	4726930863			115618211.13
For period 16.01.2007 to 31.03.2007					
759685317	168818959	590866358	6.25%	75	7588180.97
61923068		61923068	12.00%	75	1526870.17
206722478		206722478	11.50%	75	4884880.47
492800000		492800000	10.50%	75	10632328.77
401400000		401400000	10.25%	75	8454143.84
150000000		150000000	9.50%	75	2928082.19
804400000		804400000	11.50%	75	19008082.19
1850000000		1850000000	9.75%	75	37063356.16
4726930863	168818959	4558111904			92085924.76
Grand Total	675275836				465756080.30

- 3.45 The Petitioner has considered a 2% rebate for timely payment of bills by DTL (amounting to Rs.7.88 Cr.) and requested the Commission to consider the same for true-up.
- 3.46 The Commission expressed its views on the rebate on payments in the Tariff Order issued on September 22, 2006 wherein it stated that “*rebate offered by the Petitioner to TRANSCO is a commercial arrangement so as to expedite receipt of payment. The Commission has considered receivables for 2 months based on the projected sales keeping in view the norms for realisation of payment, for estimating the working capital requirement and the interest is allowed accordingly. The rebate on timely payment is therefore a trade-off with the interest on 2 months receivables considered in working capital requirement, hence does not merit any separate consideration.*”

- 3.47 The Commission had re-iterated its views in the review order issued on March 30, 2007. The same principle has also been followed by the CERC for determination of tariff for various generating stations, as detailed in Para 2.33 and Para 2.34 of this Order. Therefore, the Commission retains the same opinion on the rebate provided to DTL and has not allowed the same for determination of tariff.
- 3.48 Based on the detailed analysis of interest expenses, the value approved by the Commission for true up of FY07 is shown below:

Table 3.11: Interest Expenses for FY07

(All Values in Rs Cr.)	Petition	Approved	Actuals	True-Up
Opening Balance	523.63	523.34	523.33	523.34
Additions during the year	0.00	0.00	0.00	0.00
Repayments during the year	67.53	67.53	67.53	67.53
Closing Balance	456.10	455.81	455.80	455.81
Rate of Interest	6.25% - 12.00%			
Interest Charges	48.68	46.58	46.57	46.58
Rebate to Customers	9.54	0.00	7.88	0.00
Bank Charges	-	-	0.73	0.73
Less: Interest written back GoNCTD	-	-	19.02	19.02
Less: Rebate granted by PFC	-	-	1.24	1.24
Total Interest Charges	48.68	46.58	34.92	27.05

Advance against Depreciation

- 3.49 The Commission in the Tariff Order for FY07 had approved advance against depreciation (AAD) of Rs.7.82 Cr against the Petitioner's submission of Rs.7.78 Cr. The cumulative repayment made up to FY06 is Rs.200.89 Cr and the actual repayment made in FY07 is Rs.67.53 Cr. The cumulative depreciation corresponding to FY06 is Rs.199.41 Cr which has been trued up to Rs.197.64 Cr and the depreciation approved for FY07, after true-up, is Rs.57.94 Cr. Therefore, the cumulative repayment of loan till FY07 is obtained as Rs.268.42 Cr and the cumulative depreciation till FY07 is Rs.255.58 Cr.
- 3.50 The Commission has trued up AAD of Rs.9.11 Cr for FY07 as against the AAD of Rs.7.82 Cr approved in Tariff Order of FY07. The increase in AAD is due to reduction in the depreciation during true-up of FY07. The details of AAD as submitted by the Petitioner and as trued up by the Commission are shown below.

Table 3.12: Advance Against Depreciation for FY07

(All Values in Rs Cr.)		Petition	Approved	Actuals	True-Up
1/10th of the Loan(s)	A	67.05	67.05	67.53	67.05
Repayment of the Loan(s) as considered for working out Interest on Loan	B	67.53	67.53	67.53	67.53
Minimum of the Above	C	67.05	67.05	67.53	67.05
Less: Depreciation during the year	D	59.27	59.23	59.98	57.94
A	E=C-D	7.78	7.82	7.55	9.11
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan	F	218.53	268.42	268.42	268.42
Less: Cumulative Depreciation	G	233.44	258.64	226.77	255.58
B	H=F-G	0.00	9.78	41.65	12.83
Advance Against Depreciation		7.78	7.82	7.55	9.11

Return on Equity

- 3.51 The Petitioner has estimated the Return on Equity (ROE) at 14% and has proposed an increase in equity of Rs.1.00 Cr in FY07 on account of expenses related to the setting up of the Pragati II Power Station. The Petitioner has consequently proposed the Return on Equity to be Rs.45.32 Cr in FY07.
- 3.52 The Commission has determined the ROE at 14% on the equity base submitted by the Petitioner. The Commission has not recognized the increase in equity of PPCL since the infusion is not related to the Pragati Power Station.
- 3.53 The Commission has considered an equity base of Rs.323.19 Cr in FY07, based on the audited accounts of PPCL as on March 31, 2007. The details on the computation of the Return on Equity, and the values approved by the Commission are given in the table below.

Table 3.13: Return on Equity for FY07

(Values in Rs Cr)	Petition	Approved	Actuals	True-Up
Equity Opening Balance	322.66	322.66	323.19	323.19
Addition during the year	0.00	0.00	1.00	0.00
Equity Closing Balance	322.66	322.66	324.19	323.19
Average Equity	322.66	322.66	323.69	323.19
Return on Equity	45.17	45.17	45.32	45.25

Interest on Working Capital

3.54 The Petitioner has calculated its working capital requirements considering the following components:

- (a) Cost of fuel for 1 month;
- (b) Cost of Liquid Fuel for 0.5 month;
- (c) O&M Expenses for 1 month;
- (d) Receivables equivalent to 2 months average billing; and
- (e) Spares at 1% of project cost.

3.55 The Commission has calculated the working capital requirement of the Petitioner considering the trued-up values for each of the components in FY07.

3.56 The Petitioner has considered the interest rate for working capital to be 11.75% p.a. for true-up of FY07. The Commission has considered an interest rate of 10.25%, based on the SBI PLR on April 1, 2006 to determine the interest on working capital.

3.57 The Commission has approved the interest on working capital as shown below:

Table 3.14: Interest on Working Capital for FY07

(Values in Rs Cr)	Norm	Petition	Approved	Actuals	True-Up
Cost of Fuel	1 month	20.63	21.66	19.79	19.22
Cost of Secondary Fuel	½ month	0.00	0.00	0.00	0.00
O & M Expenses	1 month	3.77	3.64	3.88	3.87
Maintenance Spares		11.70	10.47	11.95	10.16
Receivables	2 months	79.63	79.38	76.53	73.95
Total Working Capital	Rs Cr	115.73	115.14	112.15	107.20
Rate of Interest	%	10.75%	10.25%	11.75%	10.25%
Interest on Working Capital	Rs Cr	12.44	11.80	13.18	10.99

Tax Expenses

3.58 The Petitioner had not considered any expenses on account of income tax and/or Fringe Benefit Tax (FBT) in the true-up petition submitted to the Commission. The Petitioner had however, included a cost of Rs.13.61 Cr for income tax in the formats submitted for true-up of costs for FY07, based on its provisional accounts.

- 3.59 The Commission directed the Petitioner to submit audited accounts for FY07, which were later submitted. The tax expenses for the Petitioner, based on the audited accounts are: Rs.10.25 Cr for income tax and Rs.13.15 lakhs for FBT. The Commission has considered the actual costs for income tax and FBT and approved total tax expenses for FY07 to be Rs.10.38 Cr, as detailed below:

Table 3.15: Tax Expenses for FY07

Values in (Rs Cr)	Petition	Approved	Actuals	Trued-Up
Income Tax	-	-	13.61	10.25
FBT	-	-	-	0.13
Total Tax Expenses	-	-	13.61	10.38

True-Up of Interest Charges for FY06

- 3.60 The Commission in its Review Order for FY07 had ordered that any under recovery of interest expenses will be considered and trued up during the truing up of expenses for FY07.
- 3.61 As per the submissions made by the Petitioner during the review order and also during the true-up for FY07, the Commission has trued up and approved the expenses of Rs.5.23 Cr incurred towards restructuring of the loans.

Total Fixed Cost

- 3.62 The total fixed cost for FY07 as submitted by the Petitioner and as approved by the Commission after true-up of various cost elements is summarized in the table below.

Table 3.16: Total Fixed Cost of PPCL for FY07

Particulars (Rs. Cr)	Petition	Order	Actual	True-Up	Reference
O&M Expenses	45.24	43.62	46.52	46.47	Table 3.8
Depreciation	59.27	59.23	59.98	57.94	Table 3.9
Advance Against Depreciation	7.78	7.82	7.55	9.11	Table 3.12
Interest Charges	48.68	46.58	27.04	27.05	Table 3.11
Rebate to Customers	9.54	0.00	7.88	0.00	Table 3.11
Return on Equity	45.17	45.17	45.32	45.25	Table 3.13
Interest on Working Capital	12.43	11.80	13.18	10.99	Table 3.14
Income Tax	-	-	13.61	10.38	Table 3.15
Fixed Fuel Cost	2.16	2.16	2.16	2.16	-
Less: Non Tariff Income	0.00	0.00	1.50	1.50	-
Loan Restructuring Cost for FY06	-	-	-	5.23	-
Total Fixed Cost	230.28	216.38	221.73	213.09	-
Fixed Cost Per Unit (p/ kWh)	103.33	91.05	101.23	97.28	-

Annual Revenue Requirement for FY07

- 3.63 The Annual Revenue Requirement (ARR) of the Petitioner for FY07, as approved by the Commission after the true-up of all expenses is shown below:

Table 3.17: Annual Revenue Requirement of PPCL for FY07

Particulars	Petition	Approved	Actuals	True-Up	Reference
Generation					
Gross Generation (MU)	2300	2450	2255	2253	Table 3.5
Auxiliary Consumption (%)	3.10	3.00	2.85	3.00	Table 3.4
Net Generation (MU)	2229	2377	2190	2190	Table 3.5
Expenditure					
Fuel Cost (Rs Cr)	247.52	259.87	237.46	230.63	Table 3.6
O&M Expenses (Rs Cr)	45.24	43.62	46.52	46.47	Table 3.8
Depreciation (Rs Cr)	59.27	59.23	59.98	57.94	Table 3.9
Advance Against Depreciation (Rs Cr)	7.78	7.82	7.55	9.11	Table 3.12
Interest on Loans (Rs Cr)	48.68	46.58	27.04	27.05	Table 3.11
Rebate to Customers (Rs Cr)	9.54	0.00	7.88	0.00	Table 3.11
Interest on Working Capital (Rs Cr)	12.43	11.80	13.18	10.99	Table 3.14
Return on Equity (Rs Cr)	45.17	45.17	45.32	45.25	Table 3.13
Tax Expenses (Rs Cr)	-	-	13.61	10.38	Table 3.15
Fixed Fuel Cost (Rs Cr)	2.16	2.16	2.16	2.16	-
Less: Non Tariff Income (Rs Cr)	-	-	1.50	1.50	-
True up of Interest Cost for FY06	-	-	-	5.23	-
Annual Revenue Requirement (Rs Cr)	477.79	476.25	459.19	443.71	-

- 3.64 The ARR of the Petitioner for FY07, after true-up of various components is lower than the value of Rs.476.25 Cr approved by the Commission in the Tariff Order for FY07 issued on September 22, 2006. The Petitioner shall refund the excess amount recovered from beneficiaries in the future bills with carrying cost of 9% as determined by the Hon'ble ATE in its order dated July 21, 2006.
- 3.65 The refund of these costs to various beneficiaries shall be in the ratio of the capacity allocation (in MW) from the Pragati Power Station to each in FY07, vide order no. F.17(115)/Engg./DERC/2006-07/ issued by the Commission on March 31, 2007.

A4: ANALYSIS OF AGGREGATE REVENUE REQUIREMENT FOR THE CONTROL PERIOD

Introduction

- 4.1 The Commission has analysed the Multi Year Tariff petition submitted by PPCL for approval of Aggregate Revenue Requirement and determination of Generation Tariffs for PPCL to be charged during the Control Period (FY08 – FY11).
- 4.2 The Commission held technical discussions to validate the data submitted by the Petitioner and sought further clarifications on various issues. The Commission has considered all information submitted by the Petitioner as part of the tariff petitions, audited accounts for FY07, responses to various queries raised during the discussions and also during the public hearing, for determination of tariffs.
- 4.3 PPCL has a total generation capacity of 330 MW, and operates two gas turbine units of 104 MW each and one steam turbine generator of 122 MW, as detailed in the following table:

Details	Gas Turbine I	Gas Turbine II	Steam Gas Turbine
Capacity (MW)	104	104	122
Date of Commissioning	May 2002	Nov 2002	Mar 2003
Fuel	Gas/ LNG		
Source	GAIL (APM,PMT), R-LNG & Spot R-LNG		

- 4.4 A brief snapshot of the Multi Year Tariff petition, submitted by the Petitioner for the Control Period (FY08 – FY11) is shown in the table below:

Table 4.1: Summary of MYT Petition

Particulars	Units	FY08	FY09	FY10	FY11
Gross Generation	MU	2400	2400	2400	2400
Net Generation	MU	2328	2328	2328	2328
Total Fixed Cost	Rs. Cr	248.82	286.27	227.03	232.99
Total Variable Cost	Rs. Cr	316.53	332.36	348.97	366.42
Total Cost	Rs. Cr	565.35	618.63	576.00	599.41
Fixed Cost per Unit	p/kWh	106.88	122.97	97.52	100.08
Variable Cost per Unit	p/kWh	135.97	142.76	149.90	157.40
Total Cost per Unit	p/kWh	242.85	265.73	247.42	257.48

- 4.5 This chapter contains detailed analysis of the petition submitted by PPCL and the various parameters approved by the Commission for determination of Generation Tariff for PPCL.

Norms of Operation

- 4.6 The Commission has considered the various submissions of the Petitioner as part of the MYT petition and during the public hearing process for approval of various norms of operation during the Control Period.
- 4.7 Since the Petitioner has not sought any relaxation in norms apart from the Station Heat Rate, the Commission has considered all other norms of operation (availability, PLF, auxiliary consumption etc) based on the values specified in the MYT Regulations.

Station Heat Rate**Petitioner's Submission**

- 4.8 The Petitioner has proposed the Station Heat Rate (SHR) at 3150 kCal/kWh for open cycle operations and 2050 kCal/kWh for combined cycle operations during the Control Period.
- 4.9 The Petitioner has submitted its inability to meet the SHR set by the Commission due to higher guaranteed heat rate as specified by the turbine manufacturer. The guaranteed heat rate of turbines, according to the manufacturers is 1939 kCal/kWh at 100% PLF which has been revised by CEA as 1978 kCal/kWh. The Petitioner submitted that the manufacturer has specified a guaranteed heat rate of 2039 kCal/kWh at 80% PLF.
- 4.10 The Petitioner submitted that the large number of grid trippings in Delhi and the daily cuts imposed by GAIL in gas supply have attributed to a lower PLF and higher SHR of the plant in the past and the same is expected to continue in future.

Commission's Analysis

- 4.11 The SHR of Pragati Power Station for combined cycle operation, based on the PPA signed by the Petitioner is 2000 kCal/kWh (on GCV basis).
- 4.12 The Commission observes that the claim of the Petitioner regarding station heat rate of 2039 kCal/ kWh at 80% PLF as manufacturer's guarantee is not tenable, since the guarantee would only be at 80% load and not at 80% PLF. The plant is not required to run at 80% of load at all times to achieve 80% PLF, and is expected to run at full load most of the time, except during maintenance.

- 4.13 The Pragati Power Station is a five year old station, and hence, can be operated optimally to meet the targets set for the norms of operation. The Commission notes that CERC has provided for SHR of 2000 kCal/kWh (combined cycle operations) and 2900 kCal/kWh (open cycle operations) to the Kayamkulam Combined Cycle Power Project and Faridabad GTPS, which were commissioned in 1999 and are very close in technical specifications to Pragati Power Station. CERC has set same SHR for NTPC Gandhar GTPS, which was set up in 1994- 95.
- 4.14 The Petitioner has reasoned for higher heat rate on the basis of technical problems in the plant and irregularities in fuel supply. Since the performance of the plant and fuel supply arrangements are part of the regular business (generation) of the Petitioner, the Commission expects the Petitioner to be best suited to mitigate any associated risks due to problems in fuel supply or breakdowns in the plant, except due to *force majeure* events. The Petitioner in his submission has also proposed to achieve a PLF of 83% for the Control Period which will contribute to improvement in the SHR of the plant.
- 4.15 Hence, the Commission shall consider the norms specified in the MYT Regulations for determination of tariffs for PPCL during the Control Period.

Table 4.2: Station Heat Rate

(SHR in kCal/ kWh)	Proposed				Approved			
	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Combined Cycle	2050	2050	2050	2050	2000	2000	2000	2000
Open Cycle	3150	3150	3150	3150	2900	2900	2900	2900

Gross and Net Generation

Petitioner's Submission

- 4.16 The Petitioner has projected annual gross generation during the Control Period to be 2400 MU considering the installed capacity of 330 MW and projected PLF of 83.02%. The net generation, considering the proposed auxiliary consumption of 3.00% has been proposed to be 2328 MUs. The Petitioner has submitted that the plant will be operated in combined cycle mode during the Control Period.

Commission's Analysis

- 4.17 The Commission has accepted the amount of gross generation proposed by the Petitioner for Pragati Power Station which is 2400 MU. However, the Commission has calculated the gross and net generation for determination of fuel cost by considering normative PLF of 80%, the approved auxiliary consumption of 3.00% during combined cycle operations and SHR of 2000 kCal/kWh. The approved gross and net generation calculated by the Commission are given below.

Table 4.3: Gross and Net Generation

Generation	Proposed				Approved			
	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Gross Generation	2400	2400	2400	2400	2313	2313	2313	2313
Auxiliary Consumption (%)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Net Generation	2328	2328	2328	2328	2243	2243	2243	2243

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

Determination of Energy Charges

- 4.19 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 the Pragati Power Station.

Fuel Cost

Petitioner's Submission

- 4.20 The Petitioner submitted that it has a long-term agreement with Gas Authority of India Limited (GAIL) for supply of gas. Initially, the Petitioner had a daily allocation of 1.75 MMSCM of APM gas, which was sufficient to run both gas turbines on base load. With the decontrol of gas supplies from Panna Mukta Tapti field (PMT), the daily gas allocation to PPCL was revised as 1.22 MMSCM of APM gas and 0.33 MMSCM of PMT gas. However, due to depleting gas reserves of ONGC, GAIL has been imposing regular cuts of 10 – 20% on supply of gas.
- 4.21 The Petitioner submitted that it then signed a fall back agreement with GAIL for supply of R-LNG gas, procured under long term contracts in order to meet the shortfall in gas supply. However, on account of severe gas shortages, R-LNG on fall back basis was not made available to the Petitioner during the previous year. Hence, it had to purchase R-LNG from spot market. For the Control Period, the Petitioner has not shown requirement for Fall back R-LNG and has proposed to procure R-LNG from the spot market.
- 4.22 The Petitioner submitted the following details for determination of fuel cost for the Control Period, as shown in the table below:

Table 4.4: Proposed Fuel Costs

Particulars	Unit	FY08	FY09	FY10	FY11
APM/ PMT Gas					
APM Gas Consumption	MMSCM	385	385	385	385

Particulars	Unit	FY08	FY09	FY10	FY11
Gas Price	Rs/1000 SCM	4476.58	4700.41	4935.43	5182.20
APM Gas Cost	Rs Cr	172.35	180.97	190.01	199.51
PMT Gas Consumption	MMSCM	95	95	95	95
Gas Price	Rs/1000 SCM	4395.51	4615.29	4846.05	5088.35
PMT Gas Cost	Rs Cr	41.76	43.85	46.04	48.34
APM/PMT Gas Consumption	MMSCM	480.00	480.00	480.00	480.00
APM/PMT Gas Cost	Rs Cr	214.11	224.81	236.05	247.85
Spot R-LNG					
Spot R-LNG Consumption	MMSCM	55.66	55.66	55.66	55.66
	MMBTU	2,044,800	2,044,800	2,044,800	2,044,800
Spot R-LNG Price	Rs/MMBTU	500.90	525.95	552.25	579.86
Spot R-LNG Cost	Rs Cr	102.42	107.55	112.92	118.57
Total Gas Consumption	MMSCM	535.66	535.66	535.66	535.66
Total Gas Cost	Rs Cr	316.53	332.36	348.97	366.42

Commission's Analysis

- 4.23 The Petitioner had initially submitted the rate of APM/PMT to be Rs.4164.00 per 1000 SCM, based on the average billing by GAIL for the FY07. The Commission directed the Petitioner to submit details of rates and quantities of gas procured from various sources in FY07.
- 4.24 The Petitioner submitted revised rates for gas procured from various sources in FY07 as: APM gas – 4263.41 per 1000 SCM, PMT gas – Rs.4186.20 per 1000 SCM; R-LNG – Rs.193.95/MMBTU and Spot R-LNG – Rs.477.05/MMBTU, based on the bills received from GAIL. The Petitioner has projected the fuel prices to escalate at 5% annually during the Control Period, and has considered the actual prices in FY07 as the base values.
- 4.25 The Commission has considered the quantity of gas expected to be received from different sources for determination of fuel costs during the Control Period. The Petitioner is expected to schedule the usage of gas from various sources so as to consume the lowest priced source first. **The Commission directs PPCL to inform the SLDC when the plant is operated on Spot R-LNG, since the variable cost is expected to be significantly higher and the SLDC can consider the same during merit order dispatch.**

- 4.26 The SLDC may test the declared capacity of the Pragati Power Station at random and in the event of the power station failing to demonstrate the declared capability, the SLDC shall report the matter to the Commission, which would then determine the penalty, if any, to be levied for false declaration.
- 4.27 The Commission also observed that the Petitioner has not projected any gas availability during the Control Period, through the fall-back R-LNG agreement with GAIL. The Commission expects the Petitioner to obtain gas through this agreement and ensure the Minimum Guarantee Offtake (MGO) is consumed before resorting to spot purchases of R-LNG.
- 4.28 The Commission has calculated the fuel cost considering the quantity of gas required for generation, taking into account the allocation of gas available to the station from various sources. The Commission has considered that the gas available from the cheapest source will be consumed first. Details of the fuel cost as approved by the Commission for the Control Period are shown in the table below.

Table 4.5: Approved Fuel Costs

Particulars	Unit	FY08	FY09	FY10	FY11
APM Gas					
Gross Generation	MU	1,795.81	1,795.81	1,795.81	1,795.81
Net Generation	MU	1,741.94	1,741.94	1,741.94	1,741.94
APM Gas Consumed	MMSCM	385	385	385	385
Gas Price	Rs/1000 SCM	4263.41	4263.41	4263.41	4263.41
APM Gas Cost	Rs Cr	164.14	164.14	164.14	164.14
Variable Cost (ESO Basis)	p/kWh	94.23	94.23	94.23	94.23
PMT Gas					
Gross Generation	MU	443.12	443.12	443.12	443.12
Net Generation	MU	429.83	429.83	429.83	429.83
PMT Gas Consumed	MMSCM	95	95	95	95
Gas Price	Rs/1000 SCM	4186.20	4186.20	4186.20	4186.20
PMT Gas Cost	Rs Cr	39.77	39.77	39.77	39.77
Variable Cost (ESO Basis)	p/kWh	92.52	92.52	92.52	92.52
R-LNG					
Gross Generation	MU	73.70	73.70	73.70	73.70
Net Generation	MU	71.49	71.49	71.49	71.49
R-LNG Consumed	MMSCM	15.80	15.80	15.80	15.80
R-LNG Consumed	MMBTU	584,952	584,952	584,952	584,952
R-LNG Price	Rs/MMBTU	193.95	193.95	193.95	193.95
R-LNG Cost	Rs Cr	11.35	11.35	11.35	11.35

Particulars	Unit	FY08	FY09	FY10	FY11
Variable Cost (ESO Basis)	p/kWh	158.69	158.69	158.69	158.69
Spot R-LNG					
Spot R-LNG Consumed	MMSCM	-	-	-	-
	MMBTU	-	--	-	-
Spot R-LNG Price	Rs/MMBTU	-	-	-	-
Spot R-LNG Cost	Rs Cr	-	-	-	-
Total Gas Consumption	MMSCM	495.80	495.80	495.80	495.80
Total Gas Cost	Rs Cr	215.26	215.26	215.26	215.26
Total Variable Cost (ESO Basis)	p/kWh	95.96	95.96	95.96	95.96

4.29 The fuel costs incurred by the Petitioner during the Control Period shall be automatically adjusted through the mechanism of Fuel Price Adjustment (FPA) as specified in the MYT Regulations. The weighted average price and the weighted average GCV of the fuel to be taken for the FPA shall be calculated considering the actual consumption of fuel from various sources and the corresponding price and GCV.

4.30 The Fuel Price Adjustment is calculated using the following formula:

$$FPA = \frac{10 * SHR_n * [(P_m / K_m) - (P_s / K_s)]}{(100 - AC_n)}$$

Where:

FPA = Fuel price Adjustment for a month in Paise/kWh sent out;

SHR_n = Normative Gross Station Heat Rate expressed in kCal/kWh;

AC_n = Normative Auxiliary Consumption in percentage;

P_m = Weighted average price of Gas or Liquid fuel as per PSL for the month in Rs. / 1000 SCM of Rs./ KL or Rs./MT;

K_m = Weighted average Gross Calorific Value of Gas or Liquid fuel for the month in Kcal/ SCM or kCal/ Litre or kCal/ Kg;

P_s = Base price of Gas or Liquid fuel as taken for determination of base energy charge in Tariff Order in Rs. / 1000 SCM of Rs./ KL or Rs./MT;

K_s = Base value of Gross Calorific Value of Gas or Liquid fuel as taken determination of base energy charge in Tariff Order in Kcal/ SCM or kCal/Litre or kCal/ Kg

- 4.31 The weighted average price (P_s) and GCV of fuel (K_s) to be considered for the purpose of Fuel Price Adjustment (FPA) during the Control Period has been calculated based on the approved values for consumption, prices and GCV of fuels from various sources.

Table 4.6: Weighted Average Price and GCV of Fuel

Particulars	APM Gas	PMT Gas	Fall-back R-LNG	Spot R-LNG
Quantity (MMSCM)	385.50	96.86	0.58	14.08
GCV (kCal/SCM)	9328.90	9328.90	9326.27	9492.46
Price (Rs./ 1000 SCM)	4263.41	4186.20	7177.90	17969.76
Weighted Average Price/(Rs/ 1000 SCM)	4,640.14			
Weighted Average GCV (kCal/ kWh)	9,333.53			

- 4.32 The Fuel Price Adjustment would be automatically done on a monthly basis and suitable positive and negative adjustments in variable cost would be made in the bills submitted by the Petitioner.
- 4.33 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.

Variable Cost

Petitioner's Submission

- 4.34 The Petitioner submitted the projected variable cost of generation in its MYT petition, considering the projected fuel costs and the proposed net generation from the plant. The proposed variable costs are as follows:

Table 4.7: Proposed Variable Cost of Generation

Particulars	Unit	FY08	FY09	FY10	FY11
Gross Generation	MU	2400	2400	2400	2400
Auxiliary Energy Consumption	%	3.00	3.00	3.00	3.00
Net Generation	MU	2328	2328	2328	2328
Total Fuel Cost	Rs Cr	316.53	332.36	348.97	366.42
Variable Cost	p/kWh	135.97	142.76	149.90	157.40

Commission's Analysis

- 4.35 The Commission analyzed the details of fuel supply for determination of fuel costs for the Control Period. During the Public Hearing, the Petitioner has committed the consumption of fuel to be in the following order: APM/PMT gas, Fall-back R-LNG and spot purchases of gas.
- 4.36 Based on the analysis of fuel requirements by the Commission, the Petitioner would not require any purchases from the spot market to meet its fuel requirements during the Control Period. The total fuel costs, considering the projected fuel prices, gross calorific value and approved SHR (on GCV basis) for both combined cycle operations (2000 kCal/ kWh) and open cycle operations (2900 kCal/ kWh), is approved as given in table below:

Table 4.8: Approved Variable Cost of Generation

Particulars	Unit	FY08	FY09	FY10	FY11
Gross Generation	MU	2313	2313	2313	2313
Auxiliary Energy Consumption	%	3.00	3.00	3.00	3.00
Net Generation	MU	2243	2243	2243	2243
Total Fuel Cost	Rs. Cr	215.26	215.26	215.26	215.26
Variable Cost	p/kWh	95.96	95.96	95.96	95.96

Determination of Fixed Cost

- 4.37 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, the fixed cost include the following components:
- Operations and Maintenance Expenses;
 - Depreciation;
 - Advance Against Depreciation;
 - Return on Equity
 - Interest Expenses; and
 - Interest on Working Capital.

- 4.38 In addition to the above, the Commission has also considered the Fixed Fuel Costs to be incurred by PPCL as part of fixed cost applicable for the Control Period. The Commission had expressed its views regarding these expenses in the Tariff Order issued on September 22, 2006, wherein it stated that: *“As these charges are integral part of the gas pricing and have to be paid irrespective of the quantum of gas bought by the Petitioner, the Commission has considered the same as fixed cost instead of variable cost for the purpose of ARR calculations.”*
- 4.39 The Commission clarifies that the escalation rate of 5.18% proposed by Petitioner as per the CERC’s notification is applicable for bid evaluation, and hence cannot be used for the purpose of tariff determination. The Commission has therefore considered the annual escalation on account of inflation to be at a rate of 4%.

Operations and Maintenance Expenses

- 4.40 The Operation and Maintenance (O&M) Expenses have been determined by the Petitioner for each year of the Control Period and comprise of Employee Expenses, Repairs & Maintenance, Administrative & General Expenses, Water Cess, Property Tax, etc.
- 4.41 The Commission has projected the total O&M Expenses for the Control Period by considering base O&M Expenses, which have been calculated using the average of the base O&M Expenses in the last two years (FY06 and FY07).

Table 4.9: Base O&M Expenses

Particulars	FY06	FY07
Base O&M Expenses (Rs.Cr)	29.92	31.02
Average Base O&M (Rs.Cr)	30.47	

- 4.42 The average base O&M Expense so arrived has been escalated by 4% annually to arrive at the base O&M Expenses for the Control Period. These expenses have been proportionally allocated to Employee Expenses, Repairs & Maintenance, and Administrative & General Expenses. In addition the O&M Expenses for the Petitioner also include Water Charges and Additional R&M Expenses for the DLN burners installed in its plant.

Employee Expenses

Petitioner’s Submission

- 4.43 The Petitioner has considered the following components for calculating Employee Expenses: salaries, dearness and other allowances, ex-gratia payments, contribution towards terminal benefits, leave encashment, staff welfare expenses, etc.

- 4.44 The Petitioner has considered the estimated Employee Expenses for FY07 as the basis for forecasting Employee Expenses for the Control Period. It has escalated the salary costs by 40% of the provisional value for FY07 on account of the expected increase due to the recommendations of the 6th Pay Commission. It has submitted that the increase due to the implementation of the 6th Pay Commission recommendations would be effective from January 1, 2006 and therefore, requested the Commission for considering the arrears of FY06 and FY07 to be provided in FY08 and FY09.
- 4.45 The Petitioner has escalated the estimated salary and allowances for FY07 (after considering the impact of the 6th Pay Commission) at an annual rate of 4% during the Control Period. It has calculated the Dearness Allowance (DA) for FY08 at 6% of the basic salary projected for the year, with 6% addition in DA in each subsequent year.
- 4.46 The Petitioner has escalated all expenses related to Medical Reimbursement, Travelling Allowance, Leave Travel Assistance and Staff Welfare Expenses in FY07 at an annual rate of 5.18% during the Control Period, considering the rate specified by CERC for escalation of fixed costs.
- 4.47 The Petitioner has requested the Commission to consider employee cost as uncontrollable and consider the increase on account of 6th Pay Commission or any change in law/ policy.

Commission's Analysis

- 4.48 The Commission has analysed the submission made by the Petitioner regarding its Employee Expenses related to Medical Reimbursement, Travelling Allowance, Leave Travel Assistance, Staff Welfare Expenses, etc.
- 4.49 The Commission has proportionally shared the average O&M Expenses into Employee Expenses, base R&M and A&G Expenses and escalated the Employee Expenses so arrived at an annual rate of 4% for the Control Period.
- 4.50 The Commission has recognised the uncontrollable nature of the 6th Pay Commission recommendations and has considered an increase of 10% in total Employee Expenses, as shown below.

Table 4.10: Impact of 6th Pay Commission Recommendations

(Values in Rs Cr)	FY06	FY07	FY08	FY09	FY10	FY11
Employee Expenses	10.82	11.80	12.05	12.53	13.03	13.56
Likely increase due to the 6 th Pay Commission recommendations (10%)	0.27	1.18	1.21	1.25	1.30	1.36

- 4.51 Since the arrears on account of revision of employee costs are expected to be paid only in FY09, the Commission has considered the same in tariffs from FY09 onward. The Commission shall true-up the impact on account of 6th Pay Commission recommendations based on the actual impact of the same.
- 4.52 The details of Employee Expenses, as submitted by the Petitioner and approved by the Commission are shown in the table below:

Table 4.11: Employee Expenses

(Values in Rs Cr)	Proposed				Approved			
	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Employee Expenses	18.45	19.15	19.11	20.68	12.05	12.53	13.03	13.56
Pay Commission	-	-	-	-	-	1.25	1.30	1.36
Arrears (FY06 to FY08)	-	-	-	-	-	2.66	-	-
Total Employee Expenses	18.45	19.15	19.11	20.68	12.05	16.44	14.34	14.91

Repair and Maintenance Expenses

Petitioner's Submission

- 4.53 The Petitioner has submitted Repair & Maintenance (R&M) Expenses of Rs.25.02 Cr for FY07. It further submitted that PPCL has to incur higher R&M Expenses due to Water Charges, for the water obtained from sewage treatment plants. The Petitioner has submitted that it has taken over the sewage water treatment plants from Delhi Jal Board for treating the sewerage water from Delhi Gate Nala and Sen Nursing Home Nala, and the treated water is being used in the Pragati Power Plant.
- 4.54 The Petitioner has submitted water costs to be Rs.2.45 Cr for FY07 and Rs.3.00 Cr for FY08, which mainly includes expenditure on operation, electricity, chemicals etc. The Petitioner has escalated the costs for FY08 at an annual rate of 5.18% to arrive at the costs for all years of the Control Period.
- 4.55 The Petitioner has submitted that it has maintained a separate provision for the R&M of DLN burners, in line with the Commission's treatment of the said expenses in its Tariff Order dated September 22, 2006.
- 4.56 The Petitioner in its reply to queries raised by the Commission on R&M Expenses on DLN burners has claimed vide letter no. F-17/D(T)/PPCL/827 dated September 1, 2007 that the Commission has allowed the following additional R&M Expenses for the cycle FY2003-04 to FY 2008-09 in its Tariff Order for FY 2005-06.

Table 4.12: Additional R&M Expenses Submitted by PPCL

Financial Year	(Rs. Cr)
2003-04	10.82
2004-05	18.21
2005-06	15.08
2006-07	10.00
2007-08	24.00
2008-09	63.00

- 4.57 The Petitioner has also submitted that all inspections, repair and maintenance and replacement of the DLN burners are as per the manufacturers' recommendations and follow a 6 year cycle. The current cycle began in FY04 and ends in FY09, which would then be repeated from FY10 to FY15.

Commission's Analysis

- 4.58 The Commission has approved the base R&M Expenses and the Water Charges applicable for each year of the Control Period by escalating the proportionally shared expenses of Base R&M at a rate of 4% per annum.
- 4.59 The Petitioner's claim that additional R&M expenses on the DLN burners have been approved for the entire cycle is completely baseless and incorrect. The Commission had approved the additional R&M Expenses on account of DLN burners in previous tariff orders as Rs.15.80 Cr for FY06 and Rs.10.00 Cr for FY07 in the previous tariff orders. The Commission has never approved and allowed expense for the entire cycle as claimed by the Petitioner. In the Tariff Order for FY06, the Commission has clearly stated that

“As regards to additional R&M expenses for subsequent years, the same shall be dealt with while approving the norms as part of the Terms and Conditions of Tariff Regulations.”

- 4.60 The Commission has observed that the projected additional R&M Expenses submitted by the Petitioner for the next two years i.e. FY08 (Rs.24.00 Cr) and FY09 (Rs.63.00 Cr) are substantially high and have significant impact on the generation tariff. The Commission notices that these projections are as per the manufacture's standard recommendations which are based on defined operating hours. However with advances in technology and adoption of improved maintenance practices based on condition monitoring/ inspections, the Petitioner is expected to optimise these costs in future and adopt alternative cost effective solution or repair facilities so that such high costs are not incurred in a repetitive manner.

- 4.61 Therefore, the Commission has provisionally approved total additional R&M Expenses of Rs.80.00 Cr for the Control Period (Rs.20.00 Cr for each year) with the directive to the Petitioner to explore the above possibilities in the Control Period. The Commission has followed this approach since the Petitioner has intimated that this is the only plant in India with DLN burners and the NO_x emission from the power station is limited to 35ppm. Further, with more and more DLN burners expected to be in use in future, the costs involved in repair and maintenance of DLN burners is also likely to come down. The Commission observes that the impact due to additional R&M for DLN burners on the tariff is paise 9.21/kWh.
- 4.62 The details of the proposed and approved R&M Expenses of PPCL are:

Table 4.13: R&M Expenses

(Values in Rs Cr)	Petition				Approved			
	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Base R&M	11.86	12.47	13.12	13.80	9.77	10.17	10.57	10.99
Water Charges	3.00	3.16	3.32	3.49	2.55	2.65	2.76	2.87
Additional R&M	24.00	63.00	11.38	19.15	20.00	20.00	20.00	20.00
Total R&M	38.86	78.63	27.82	36.44	32.32	32.81	33.33	33.86

Administrative and General Expenses

Petitioner's Submission

- 4.63 The Petitioner has considered the actual Administration and General (A&G) Expenses for FY07 as the base for forecasting the A&G Expenses for the Control Period. The Petitioner has requested the Commission to consider the actual expenses incurred on insurance, water and property tax in addition to the A&G Expenses to be approved for the Control Period.
- 4.64 The Petitioner requests the Commission to approve the property tax and water-cess as pass-through on actual basis besides the other O&M Expenses.

Commission's Analysis

- 4.65 The Commission has approved the A&G Expenses for each year of the Control Period by escalating the proportionally shared A&G Expenses by 4% per annum.
- 4.66 The A&G Expenses as proposed by the Petitioner and as approved by the Commission for the Control Period are as given in table below:

Table 4.14: A&G Expenses

(Values in Rs Cr)	Proposed	Approved
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	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
A&G Expenses	9.64	10.14	10.66	11.21	9.87	10.26	10.67	11.10

- 4.67 The total O&M Expenses approved for the Control Period are shown in the table below:

Table 4.15: O&M Expenses

(Values in Rs Cr)	Proposed				Approved			
	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Base Repair & Maintenance	11.86	12.47	13.12	13.80	9.77	10.17	10.57	10.99
Employee Expenses	18.45	19.15	19.11	20.68	12.05	12.53	13.03	13.56
A & G Expenses	9.64	10.14	10.66	11.21	9.87	10.26	10.67	11.10
Base O&M	39.95	41.76	42.89	45.69	31.69	32.96	34.28	35.65
Water Charges	3.00	3.16	3.32	3.49	2.55	2.65	2.76	2.87
Additional R&M	24.00	63.00	11.38	19.15	20.00	20.00	20.00	20.00
Pay Commission	-	-	-	-	0.00	3.91	1.30	1.36
Total O&M Charges	66.95	107.91	57.59	68.34	54.24	59.52	58.34	59.87

Depreciation

Petitioner's Submission

- 4.68 The Petitioner has calculated the depreciation based on the straight-line method, on the fixed assets in use at the beginning of the year, using the depreciation rates specified in the MYT Regulations. The Petitioner has submitted that additions in fixed assets during FY07 are primarily on account of finalization of project cost. Therefore, the Petitioner has considered full depreciation on the asset additions during FY07.
- 4.69 The Petitioner has not proposed any asset addition during the Control Period.

Commission's Analysis

- 4.70 The Commission has considered the closing balance of GFA for FY07 (Rs.1031.57 Cr) as the opening balance of GFA for the Control Period. It has also not considered any increase in GFA based on the submission of the petitioner.
- 4.71 The Commission has calculated the depreciation according to the methodology and depreciation rates notified in the MYT Regulations. The depreciation amount as estimated by the Petitioner and as approved by the Commission for the Control Period are as follows:

Table 4.16: Depreciation

(Values in Rs Cr)	Proposed				Approved			
	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Opening GFA	1033.59	1033.59	1033.59	1033.59	1031.57	1031.57	1031.57	1031.57
New Addition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Closing GFA	1033.59	1033.59	1033.59	1033.59	1031.57	1031.57	1031.57	1031.57
Depreciation	59.98	59.98	59.98	59.98	59.86	59.86	59.86	59.86
Cumulative Depreciation	286.75	346.73	406.71	466.69	315.44	375.30	435.16	495.02

Advance Against Depreciation**Petitioner's Submission**

- 4.72 The Petitioner has requested the Commission to provide for advance against depreciation (AAD) during the Control Period, by considering the actual debt repayment and the depreciation recovered during the year.
- 4.73 The Petitioner has submitted the following details for calculation of AAD to be approved for the Control Period:

Table 4.17: Proposed Advance Against Depreciation

(Values in Rs. Cr.)	FY08	FY09	FY10	FY11
1/10th of the Loan(s)	67.53	67.53	67.53	67.53
Repayment of the Loan(s) as considered for working out Interest on Loan	67.53	67.53	67.53	67.53
Minimum of the Above	67.53	67.53	67.53	67.53
Less: Depreciation during the year	59.98	59.98	59.98	59.98
A	7.55	7.55	7.55	7.55
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan	335.95	403.48	471.01	538.54
Less: Cumulative Depreciation	286.75	346.73	406.71	466.69
B	49.20	56.75	64.30	71.85
Advance Against Depreciation	7.55	7.55	7.55	7.55

Commission's Analysis

- 4.74 The Commission has calculated the advance against depreciation for each year of the Control Period, using the principles specified in the MYT Regulations and considering the details of actual cumulative debt repayment and accumulated depreciation claimed by the Petitioner.

- 4.75 The Commission has considered the total loan liability to be Rs.670.53 Cr, based on the submissions of the Petitioner. The accumulated depreciation at the end of FY06 as per the Tariff Order was Rs.199.40 Cr. Similarly, the cumulative repayment of loans till FY06 was Rs.200.89 Cr. The Commission has considered the depreciation and repayments for FY07 to obtain the opening balance of accumulated depreciation and cumulative repayments for the Control Period. These values have been used for calculation of AAD, approved by the Commission for the Control Period. The details of the same are shown below:

Table 4.18: Approved Advance Against Depreciation

(Values in Rs. Cr.)	FY08	FY09	FY10	FY11
1/10th of the Loan(s)	67.05	67.05	67.05	67.05
Repayment of the Loan(s) as considered for working out Interest on Loan	67.53	67.53	67.53	67.53
Minimum of the Above	67.05	67.05	67.05	67.05
Less: Depreciation during the year	59.86	59.86	59.86	59.86
A	7.19	7.19	7.19	7.19
Cumulative Repayment of the Loan(s) as considered for working out Interest on Loan	335.95	403.47	471.00	538.53
Less: Cumulative Depreciation	315.44	375.30	435.16	495.02
B	20.50	28.17	35.84	43.50
Advance Against Depreciation	7.19	7.19	7.19	7.19

Return on Equity

Petitioner's Submission

- 4.76 The Petitioner estimated the Return on Equity (ROE) at 14% in line with the regulations issued by the Commission. It has proposed an addition in equity of Rs.1.00 Cr during FY07 on account of Pragati II. The Petitioner has not proposed equity addition during the Control Period.

Commission's Analysis

- 4.77 The Commission has not approved the addition in equity in PPCL, as the proposed increase is not relevant to the existing Pragati Power Station, and hence the same cannot be passed through in the tariff for the existing plant. The details of proposed and approved ROE, are as follows:

Table 4.19: Return on Equity

Values in Rs. Cr.	Proposed	Approved
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	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Equity (Opening Balance)	324.19	324.19	324.19	324.19	323.19	323.19	323.19	323.19
Additions during the year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity (Closing Balance)	324.19	324.19	324.19	324.19	323.19	323.19	323.19	323.19
Average Equity	324.19	324.19	324.19	324.19	323.19	323.19	323.19	323.19
Return on Equity	45.39	45.39	45.39	45.39	45.25	45.25	45.25	45.25

Interest Expenses

Petitioner's Submission

- 4.78 The Petitioner has not proposed any fresh loan to be taken during the Control Period. The Petitioner submitted details of loans drawn from the Power Finance Corporation (Rs.670.58 Cr at interest rates from 6.25% to 12.00%) payable over ten years starting FY04.
- 4.79 The Petitioner further submitted that 30% of the outstanding loan was restructured at 6.25% p.a. with a cut-off date of 15th May, 2005, while the balance amount of loan carries a reduced interest rate of 8.25% p.a.
- 4.80 The Petitioner has estimated the interest liability for each year of the Control Period, considering the opening balance of outstanding loans as on April 1, 2007 and the repayment schedule. It has stated that the interest charges have been decreasing during the Control Period due to reduction in the principal loan amount.

Commission's Analysis

- 4.81 The Commission has determined the interest costs for each year of the Control Period by considering the opening balance of loans, the repayment schedule and by applying the actual rate of interest applicable to various components of the loan.
- 4.82 The Commission's view on the rebate to customers for timely payment has been detailed in the previous Tariff Orders for FY06 and FY07 as well as in the Review Order for FY07. The same has been further discussed in Chapter 2 of this order.
- 4.83 The Commission has therefore, not allowed rebate to customers on account of timely payment while computing the interest charges. The interest charges as estimated by the Petitioner and as approved by the Commission are given below:

Table 4.20: Interest Expenses

(Values in Rs Cr)	Proposed				Approved			
	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Interest Payment	38.38	31.94	25.02	19.03	38.38	31.94	25.02	19.03
Rebate to Customers	10.65	11.67	10.76	10.99	0.00	0.00	0.00	0.00

Total Interest Charges	49.03	43.61	35.78	30.02	38.38	31.94	25.02	19.03
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Interest on Working Capital

Petitioner's Submission

4.84 The Petitioner has considered the following components as part of its working capital requirements:

- (a) Cost of fuel for 1 month;
- (b) Cost of liquid fuel for 0.5 month;
- (c) O&M Expenses for 1 month;
- (d) Receivables equivalent to 2 months average billing; and
- (e) Spares at 1% of project cost.

4.85 The Petitioner has computed the interest on working capital for the Control Period, considering the SBI Prime Lending Rate as on April 9, 2007 of 12.75% per annum.

Commission's Analysis

4.86 The Commission has estimated the working capital requirement of the Petitioner based on the following norms:

- (a) Fuel expenses for 1 month corresponding to the Target Availability duly taking into account the mode of operation of the generating station on gas fuel and liquid fuel;
- (b) Liquid fuel stock for ½ month;
- (c) O&M Expenses for 1 month;
- (d) Receivables equivalent to 2 months of fixed and variable cost for sale of electricity calculated on the Target Availability;
- (e) Maintenance spares: 1% of the actual capital cost escalated @ 6% per annum from the date of commercial operation;

4.87 The Commission will initiate appropriate action to include the provision for maintenance spares in working capital requirement in the MYT regulations.

- 4.88 The Commission has not considered any escalation in fuel costs in its calculation for working capital requirements for the Control Period. Though the variation in fuel costs would be adjusted automatically through the FPA mechanism, the Commission shall not true-up the working capital requirements due to the same. Hence, the Commission has escalated the working capital requirement for FY09, FY10 and FY11 at an annual rate of 4% to consider for the escalation in fuel costs.
- 4.89 The Commission has calculated the working capital requirement of the Petitioner considering the approved values of the above components for each year of the Control Period (and the above explained escalation), as shown below:

Table 4.21: Working Capital for PPCL

(Values in Rs Cr)	Proposed				Approved			
	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Cost of Fuel	26.38	27.70	29.08	30.54	17.94	17.94	17.94	17.94
Cost of Secondary Fuel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O & M Expenses	5.58	8.99	4.80	5.69	4.52	4.96	4.86	4.99
Maintenance Spares	12.66	13.42	14.23	15.08	10.93	11.58	12.28	13.01
Receivables	94.23	103.10	96.00	99.90	72.65	72.58	71.33	70.70
Working Capital	138.84	153.22	144.11	151.21	106.04	107.06	106.40	106.64
Total Working Capital with 4% Escalation	-	-	-	-	106.04	111.34	115.08	119.95

- 4.90 The Commission has calculated the interest on working capital for the Control Period, considering an interest rate of 12.75% based on the existing SBI Prime Lending Rate for short term loans as of April 9, 2007. This rate will be applicable from April 1, 2007 for calculation for interest on working capital for FY08.
- 4.91 The following table details the interest on working capital, as submitted by the Petitioner and as approved by the Commission, for the Control Period:

Table 4.22: Interest on Working Capital

(Values in Rs Cr)	Proposed				Approved			
	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Interest on Working Capital	17.70	19.54	18.37	19.28	13.52	14.20	14.67	15.29

Tax Expenses

Petitioner's Submission

- 4.92 The Petitioner has not projected tax expenses for the Control Period.

Commission's Analysis

- 4.93 The Commission has not considered any expenses on account of Income Tax or Fringe Benefit Tax, payable by the Petitioner during the Control Period, for calculation of fixed cost. Income Tax, if any, shall be treated as expense and shall be recoverable from the Beneficiaries.
- 4.94 Recovery of income tax shall be done directly by the Petitioner from the beneficiaries without making any application before the Commission. Further, any refund of income tax shall be adjusted with the tax payable in the year of its receipt.
- 4.95 In case of any objections by the beneficiaries to the amounts claimed on account of income tax, they shall first make payments to the Petitioner and may subsequently make an application before the Commission regarding the same.

Fixed Fuel Cost**Petitioner's Submission**

- 4.96 The Petitioner has submitted that it is required to pay fixed monthly transmission and other service charges to GAIL, based on the Fuel Supply Agreement, irrespective of the quantum of gas supplied. These expenses were Rs.15,54,682.00 in FY03, and have an annual escalation of 3.00%.
- 4.97 The Petitioner has used the above for projecting the fixed fuel cost to be incurred during each year of the Control Period.

Commission's Analysis

- 4.98 The Commission has stated its view on these expenses in the Tariff Order issued on September 22, 2006 and has considered them as part of fixed cost as they are payable irrespective of the quantum of gas bought by the Petitioner. The MYT Regulations will be suitably amended by the Commission on a later date to include Fixed Fuel Cost as part of Fixed Cost.
- 4.99 Hence, the Commission approves the fixed fuel costs as part of the Aggregate Revenue Requirement of the Petitioner, and has approved the projected fixed fuel costs submitted by the Petitioner, as shown below:

Table 4.23: Fixed Fuel Costs

(Values in Rs. Cr)	Proposed				Approved			
	FY08	FY09	FY10	FY11	FY08	FY09	FY10	FY11
Fixed Fuel Cost	2.23	2.29	2.36	2.43	2.23	2.29	2.36	2.43

Fixed Cost

4.100 The fixed cost for the Petitioner for the Control Period, based on the analysis of various components by the Commission, are shown below:

Table 4.24: Total Fixed Cost of PPCL for the Control Period

Particulars	FY08	FY09	FY10	FY11	Reference
O&M Expenses (Rs. Cr)	54.24	59.52	58.34	59.87	Table 4.15
Depreciation (Rs. Cr)	59.86	59.86	59.86	59.86	Table 4.16
Advance Against Depreciation (Rs. Cr)	7.19	7.19	7.19	7.19	Table 4.18
Return on Equity (Rs. Cr)	45.25	45.25	45.25	45.25	Table 4.19
Interest Charges (Rs. Cr)	38.38	31.94	25.02	19.03	Table 4.20
Interest on Working Capital (Rs. Cr)	13.52	14.20	14.67	15.29	Table 4.22
Fixed Fuel Cost (Rs. Cr)	2.23	2.29	2.36	2.43	-
Total Fixed Cost (Rs. Cr)	220.67	220.25	212.70	208.93	-
Net Generation (MU)	2243	2243	2243	2243	Table 4.3
Fixed Cost Per Unit (p/ kWh)	98.37	98.18	94.82	93.14	-

Determination of Generation Tariff

4.101 The total Generation Tariffs for Pragati Power Project applicable during the Control Period, based on the fixed and variable costs approved by the Commission, are shown below:

Table 4.25: Total Generation Cost/ Tariff of PPCL for the Control Period

Particulars	FY08	FY09	FY10	FY11	Reference
Fixed Costs (Rs. Cr)	220.67	220.25	212.70	208.93	Table 4.24
Net Generation (MU)	2243	2243	2243	2243	Table 4.3
Fixed Cost per Unit (p/ kWh)	98.37	98.18	94.82	93.14	Table 4.24
Total Fuel Cost (Rs. Cr)	215.26	215.26	215.26	215.26	Table 4.5
Variable Cost per Unit (p/ kWh)	95.96	95.96	95.96	95.96	Table 4.8
Total Cost (Rs. Cr)	435.93	435.50	427.95	424.18	-
Total Tariff per Unit (p/ kWh)	194.33	194.14	190.77	189.05	-

- 4.102 The total Fixed Cost (Capacity Charges) shall be recovered by the Petitioner at target availability specified by the Commission. The recovery of Fixed Cost below the level of target availability shall be on pro rata basis with no Fixed Cost payable at zero availability. For this purpose, the availability of the power station shall be certified by the SLDC. Any adjustment of recovery of annual Fixed Cost shall be based on the cumulative availability as certified by the SLDC at the end of the year. The Fixed Cost shall be recovered in 12 equal monthly instalments in proportion to allocated/contracted capacity.
- 4.103 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.
- 4.104 Incentive shall be payable at a flat rate of 25 paise/kWh for the scheduled generation achieved beyond the level corresponding to target PLF. However, the generating station shall comply with the SLDC instructions with respect to the backing down of the generation and such backing down shall not qualify for calculation of PLF for Incentive. Further, in case of non-compliance by generating stations to backing down instructions given by SLDC, generation during backing down period as instructed by SLDC shall not be considered for Incentive purpose. The SLDC shall at the end of the year, certify the generation level of generating stations which qualifies for Incentive purpose as per the above guidelines.
- 4.105 Deviations from the schedule are to be accounted for in accordance with the principals laid down in the order of the Commission regarding Intra-state ABT.

A5: SUMMARY**Directives issued by the Commission**

- 5.1 The Commission directs PPCL to inform the SLDC when the plant is operated on Spot R-LNG, since the variable cost is expected to be significantly higher and the SLDC can consider the same during merit order dispatch.
- 5.2 The SLDC may test the declared capacity of the Pragati Power Station at random and in the event of the power station failing to demonstrate the declared capability, the SLDC shall report the matter to the Commission, which would then determine the penalty, if any, to be levied for false declaration.
- 5.3 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.

Summary of Generation Tariffs

- 5.4 The generation tariffs for the Pragati Power Station as determined by the Commission after true-up of FY07 and approval of the Aggregate Revenue Requirement for the Control Period is as shown below:

Table 5.1: Summary of Generation Cost/ Tariff of PPCL

Particulars	FY07	FY08	FY09	FY10	FY11
Fixed Costs (Rs. Cr)	213.09	220.67	220.25	212.70	208.93
Fuel Costs (Rs. Cr)	230.63	215.26	215.26	215.26	215.26
Net Generation (MU)	2190	2243	2243	2243	2243
Fixed Cost (p/kWh)	97.28	98.37	98.18	94.82	93.14
Variable Cost (p/kWh)	105.29	95.96	95.96	95.96	95.96
Total Generation Tariff (p/kWh)	202.57	194.33	194.14	190.77	189.09