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## **2. Background, Procedural History and Description of ARR Filing**

### **2.1 About the Commission**

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

#### **2.1.1 Functions of the Commission**

Major functions assigned to the Commission under the Delhi Electricity Reform Act 2000 (hereinafter referred to as 'DERA') are as follows:

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

Major functions assigned to the Commission under the Electricity Act, 2003 (hereinafter referred to as 'EA 2003') are as follows:

- determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State;
- 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;
- facilitate intra-state transmission and wheeling of electricity;
- issue licences to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;

- 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 licence;
- adjudicate upon the disputes between the licensees, and generating companies and to refer any dispute for arbitration;
- levy fee for the purposes of this Act;
- specify State Grid Code consistent with the Grid Code specified under clause (h) of sub-section (1) of section 79;
- specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
- fix the trading margin in the intra-State trading of electricity, if considered, necessary; and
- discharge such other functions as may be assigned to it under this Act.

## **2.1.2 Issuance of Concept Paper on Tariff and Guidelines for Revenue and Tariff Filing**

### **2.1.2.1 Concept Paper on Tariff**

The Commission brought out a Concept Paper on Tariff in September 2000. The Concept Paper provided a historical background of the power sector in Delhi, brought out the salient features of the first tariff proposal of Delhi Vidyut Board (hereinafter referred to as 'DVB') and sought suggestions from various stakeholders on the conceptual issues on electricity tariff.

### **2.1.2.2 Guidelines for Revenue and Tariff Filing**

The Commission specified the 'Guidelines for Revenue and Tariff Filing' for submission of their Annual Revenue Requirement and Tariff petitions by Delhi Vidyut Board in October 2000. It contained about 29 data forms with guidelines to get data from utilities.

## **2.1.3 Regulations and Orders issued by the Commission**

In its journey from inception till date, the Commission has issued thirteen Tariff Orders and notified thirteen Regulations as given in Tables 1.1 and 1.2, respectively. The Orders were issued after following the due process and all stakeholders were given an opportunity to present their viewpoints.

**Table 1.1: Tariff Orders issued by the Commission**

<b>Sr. No.</b>	<b>Name of the Order</b>	<b>Date of issue</b>
1.	Order on Rationalization of Tariff for Delhi Vidyut Board (DVB)	16-1-2001
2.	Order on ARR for 2001-02 and Tariff Determination Principles for 2002-03 till 2005-06 for Delhi Vidyut Board	23-5-2001

3.	Order on Joint Petition for Determination BST and Opening Losses for DISCOMS	22-2-2002
4.	Order on ARR for July 2003 to March 2004 (9 months and Financial Year 2003-04 ) and determination of Retail supply tariffs for BSES – Yamuna Power Limited	26-06-2003
5.	Order on ARR for July 2003 to March 2004 (9 months and Financial Year 2003-04 ) and determination of Retail supply tariffs for BSES – Rajdhani Power Limited	26-06-2003
6.	Order on ARR for July 2003 to March 2004 (9 months and Financial Year 2003-04 ) and determination of Retail supply tariffs for North Delhi Power Limited	26-06-2003
7.	Order on ARR for July 2003 to March 2004 (9 months and Financial Year 2003-04 ) and determination of Bulk supply tariffs for Delhi TRANSCO Limited	26-06-2003
8.	Order on ARR for Financial Year 2004-05 and determination of Retail supply tariffs for BSES – Yamuna Power Limited	09-06-2004
9.	Order on ARR for Financial Year 2004-05 and determination of Retail supply tariffs for BSES – Rajdhani Power Limited	09-06-2004
10.	Order on ARR for Financial Year 2004-05 and determination of Retail supply tariffs for North Delhi Power Limited	09-06-2004
11.	Order on ARR for Financial Year 2004-05 and determination of Bulk supply tariffs for Delhi TRANSCO Limited	09-06-2004
12.	Order on ARR for Financial Year 2004-05 and determination of Generation tariffs for Indraprastha Power Generation Company Limited	09-06-2004
13.	Order on ARR for Financial Year 2004-05 and determination of Generation tariffs for Pragati Power Corporation Limited	09-06-2004

**Table 1.2: Regulations notified by the Commission**

Sr. No.	Title of Regulations
1.	Delhi Electricity Regulatory Commission Comprehensive (Conduct of Business) Regulations, 2001
2.	Delhi Electricity Regulatory Commission (Management and Development of Human Resources) Regulations, 2001
3.	Delhi Electricity Regulatory Commission (Appointment of Consultants) Regulations, 2001
4.	Delhi Electricity Regulatory Commission (Delegation of Financial Powers) Regulations, 2001
5.	Delhi Electricity Regulatory Commission (Grant of Consent for Captive Power Plants) Regulations, 2002
6.	Delhi Electricity Regulatory Commission (Performance Standards – Metering &

	Billing) Regulations, 2002
7	Delhi Electricity Regulatory Commission (Medical Attendance) Regulations, 2003
8	Delhi Electricity Regulatory Commission (Redressal of Consumers' Grievances) Regulations, 2003
9	Delhi Electricity Regulatory Commission (Guidelines for establishment of Forum for redressal of grievances of the consumer and Ombudsman) Regulations, 2003
10	Delhi Electricity Regulatory Commission (Procedure for filing appeal before the Appellate Tribunal) Regulations, 2005
11	Delhi Electricity Regulatory Commission (Treatment of Income from Other Business of Transmission Licensee and Distribution Licensee) Regulations, 2005
12	Delhi Electricity Regulatory Commission (Intra- State Trading) Regulations, 2005
13	Delhi Electricity Regulatory Commission (Terms and conditions for Open Access) Regulations, 2005

Further, in compliance to the provisions of Electricity Act 2003 the Commission has issued the following Draft Regulations for public comments:

**Table 1.3: Draft Regulations notified by the Commission**

S.No.	Title of Regulation
1	Delhi Electricity Regulatory Commission (Metering and Billing) Regulations, 2004
2	Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2004
3	Delhi Electricity Regulatory Commission (State Advisory Committee) Regulations, 2005
4	Delhi Electricity Regulatory Commission (Levy and Collection of Fee and Charges by State Load Despatch Centre) Regulations, 2005
5	Delhi Electricity Regulatory Commission (Conduct of Business) Regulations, 2005

The Commission is actively considering the responses received from the public and will finalise the above Regulations in a short period.

## 2.2 Background

### 2.2.1 Transfer Scheme

Pursuant to the provisions of the Act, the Government notified the Delhi Electricity Reform (Transfer Scheme) Rules, 2001 (hereinafter referred to as 'Transfer Scheme') on November 20, 2001. The Transfer Scheme provided for unbundling of the functions of Delhi Vidyut Board (hereinafter referred to as "DVB") and the transfer of existing transmission assets of DVB to Delhi Transco Limited (formerly known as Delhi Power Supply Company Limited and hereinafter referred to as 'TRANSCO') and the existing distribution assets to three Distribution Companies (hereinafter collectively referred to as 'DISCOMs').

### 2.2.2 Pragati Power Corporation Limited (PPCL)

The Pragati Power Corporation Limited (PPCL) is a combined cycle station of 330 MW capacity consisting of two gas turbines and one steam turbine. The first gas turbine unit was

commissioned in the month of May 2002, the second gas turbine unit was commissioned in November 2002 and the combined cycle plant was commissioned in March 2003.

### **2.2.3 ARR and Tariff Determination for FY 2004-05**

The TRANSCO, Indraprastha Power Generation Company Limited (IPGCL), Pragati Power Corporation Limited and three DISCOMs filed their ARR and Tariff Petitions for FY 2004-05 in December 2003. The Commission had a series of discussions with TRANSCO, IPGCL, PPCL and the three DISCOMs wherein the Commission sought additional information, clarifications and justifications on various issues critical for admissibility of the Petitions. Subsequently, the Petitioners submitted the information and justifications. The Commission admitted the Petitions of TRANSCO, IPGCL, PPCL and DISCOMs for further processing on January 16, 2004.

The Commission brought out a Public Notice on January 17, 2004 indicating the salient features of the Petitions and invited responses from the consumers and other stakeholders on the Petitions. The Commission also brought out a public notice on February 14, 2004 and sought further suggestions/responses from the general public on the issues related to Tariff Rationalisation.

The Commission received a total of 78 responses from the various stakeholders. The Commission conducted the Public Hearings on April 7, 8 and 10, 2004 in five different sessions. Subsequently, the Commission held discussions with the Petitioners and obtained the details of actual expenses, revenue and losses for FY 2003-04.

The Commission, based on the detailed scrutiny of the Petitions and additional information/clarifications submitted by the Petitioners and after following the due public process, issued its Orders on the ARR and Tariff Petitions of TRANSCO, IPGCL, PPCL and the DISCOMs for FY 2004-05 on June 09, 2004.

### **2.2.4 Enactment of Electricity Act, 2003**

The Electricity Act, 2003 (EA 2003), enacted in June 2003 repealed the Indian Electricity Act, 1910, the Electricity (Supply) Act, 1948 and the Electricity Regulatory Commissions Act, 1998. It provides for increased competition in the sector by facilitating open access (permission to use the existing power transfer facilities) for transmission and distribution, power trading, and also allows setting up of captive power plants without any restriction. Further Section 86 (1) (a) of the EA 2003 vests the responsibility of determination of tariff with the Commission – the relevant portion of this Section is as follows;

*“ The State Commission shall discharge the following function namely –*

*(a) determine the tariff for generation, supply, transmission and wheeling of electricity, whole sale, bulk or retail, as the case may be within the state: ...”.*

### **Procedure envisaged in the EA 2003 for Tariff Order**

Section 64 of the EA 2003 specifies the procedure to be followed for issuance of a tariff order. Sub-sections (1) and (3) of this Section of EA 2003 state as follows:

Sub-section (1): *"An application for determination of tariff under section 62 shall be made by a generating company or licensee in such manner and accompanied by such fee, as may be determined by regulations".*

Subsection (3): *"The Appropriate Commission, shall within one hundred and twenty days from receipt of application under sub-section (1) and after considering all suggestions and objections received from the public:*

*(a) issue a tariff order accepting the application with such modifications or such conditions as may be specified in that order:*

*(b) reject the application for reasons to be recorded in writing if such application is not in accordance with the provisions of this Act and the rules and regulations made there under or the provisions of any other law for the time being in force:*

*Provided that an applicant shall be given a reasonable opportunity of being heard before rejecting his application."*

## **2.3 Procedural History**

### **2.3.1 ARR & Tariff filing by the Companies for FY 2005-06**

#### **2.3.1.1 Filing of petitions**

The TRANSCO, IPGCL, and PPCL filed their Petitions for approval of ARR and determination of Tariffs for FY 2005-06, on November 30, 2004. The BSES Rajdhani Power Limited (BRPL) and BSES Yamuna Power Limited (BYPL) filed their ARR and Tariff Petition for determination of Retail Supply Tariff for FY 2005-06 on December 29, 2004. Thereafter, the North Delhi Power Limited (NDPL) filed its petition for ARR approval and determination of Retail Supply Tariff (RST) for FY 2005-06 on December 31, 2004.

#### **2.3.1.2 Interactions with the Petitioner**

The submissions of the filings were followed by a series of interactions, both written and oral, wherein the Commission sought additional information/clarification and justifications on various issues, critical for admissibility of the petitions. The Petitioner submitted its response on the issues raised through separate submissions on February 2, 2005.

The Distribution Companies, the TRANSCO, and the IPGCL also provided similar information and clarifications on the issues raised in respect of their filings. The Commission admitted the Petitions for further processing on March 10, 2005.



## 2.3.2 Public Notice and response from stakeholders

### 2.3.2.1 Publicity given to the Proposal

The Petitioners brought out a Public Notice on March 14, 2005 indicating the salient features of their own Petition, and inviting responses from the consumers and other stakeholders on their own Petition. The Commission also brought out a Public Notice on March 24, 2005 indicating the salient features of all the Petitions for FY 2005-06, inviting responses from the consumers and other stakeholders on the Petitions submitted by NDPL, BRPL, BYPL, TRANSCO, IPGCL and PPCL, in accordance with the provisions of the Delhi Electricity Regulatory Commission Comprehensive (Conduct of Business) Regulations, 2001. The Public Notice was published in several dailies such as:

- The Hindustan Times and Indian Express in English;
- Dainik Jagran in Hindi; and
- Daily Milap in Urdu.

A copy of the Public Notice in English, Hindi and Urdu is attached as Annexure 2a-1, 2a-2 and 2a-3 respectively.

A detailed copy of the Petition of each Petitioner was also made available for purchase from the respective head-office of the Companies on any working day from March 14, 2005 onwards, between 11 a.m. and 4 p.m. on payment of Rs. 100/-. The Notice specified the deadline of April 14, 2005 for the receipt of responses/objections from the stakeholders which was subsequently extended till April 30, 2005. The complete copy of the Petitions was also put up on the website of the Commission, as well as that of the Petitioners.

## 2.3.3 Public Hearing

The Commission received 98 objections in all. Some objections were received after the deadline for submission of the responses. A detailed list of the respondents is attached with this Order as Annexure 3a. The Commission forwarded the objections to the Petitioner for submission of comments to the Commission with a copy to the Respondent. The Petitioner filed its responses to the comments/objections of the stakeholders by May 18, 2005. The Commission conducted the Public Hearings on May 24, 25 and 26, 2005. All the stakeholders who had submitted responses/objections on the ARR Petitions were invited to express their views in the matter. A list of the Respondents who participated in the Public Hearing process is attached with this Order as Annexure 3b. The entire proceeding was split across four different sessions catering to distinct groups of stakeholders as given in Table 1.4.

**Table 1.4: Dates of Public Hearing**

Date	Category
May 24, 2005 (Two Sessions)	Domestic, Co-operative Societies, and Commercial

May 25, 2005 (One Sessions)	Industrial Consumers and Associations
May 26, 2005 (One Session)	Government Departments, Utilities and NGOs

## 2.3.4 Post admission interactions

### 2.3.4.1 Discussions during technical sessions and presentation by the Petitioner

After admission of the ARR Petition, the Commission held further technical sessions with the concerned staff of the Petitioner to seek additional information and clarifications. The Commission held a meeting on May 12, 2005 and sought further details on the depreciation schedule, loan repayment, purpose of new loans, rate of interest of new loans, Return on Equity, working capital, and allocation of head office expenses.

### 2.3.4.2 Petitioner's responses to queries raised by the Commission

The Commission also sent queries to the Petitioner from time to time to ascertain more details. The Petitioner responded with its submissions on April 8, May 3 and May 18, 2005. The information submitted by the Petitioner in these submissions pertained to O&M, water charges, impact of VAT and service tax, etc. The Petitioner also submitted the Provisional Annual Accounts for FY 2004-05 on May 3, 2005.

## 2.4 Summary of the petition

A snapshot of the ARR and Tariff Petition submitted by the Petitioner is provided in the Table 1.5.

**Table 1.5: Summary of ARR and Tariff of the Petitioner for FY 2005-06**

Particulars	Units	FY 2004-05
Gross Generation	MU	2315
Net Generation	MU	2246
Total Fixed Cost	Rs. Crore	280
Total Variable Cost	Rs. Crore	292
Total Cost	Rs. Crore	572
Variable Cost per Unit	Rs/kWh	1.30
Total Cost per Unit	Rs/kWh	2.55

## 2.5 Layout of this Order

This Order is organised into 4 Chapters. While the current Chapter gives the information about the Commission, the historical background and summary of the Petition, the second Chapter gives a detailed account of responses from stakeholders, Petitioner's comments and

Commission's views on the responses. Chapter 3 discusses the Annual Revenue Requirement while Chapter 4 focuses on the Tariff Philosophy and Approved Tariff for FY 2005-06.



### **3. On the Response from Stakeholders**

These objections/responses mainly relate to Procedural issues, Privatisation Policy and Reform Process, and Transition issues. From the responses received from various stakeholders, the Commission has noted that no specific issue has been raised with respect to the expenses and tariff of PPCL.

#### **3.1 Procedural Issues**

##### **3.1.1 Objections**

Joint Committee of Residents Welfare Associations of Pitampura has objected to the procedure of inviting responses from the public. The objector submitted that the public notice published specifies that the response from consumers and stakeholders must be on affidavit, in triplicate and either in person or by post and email responses are not permitted. The Association commented that the practice adopted this year is a departure from past practice and wanted to know the purpose of affidavit and also why three copies are required. The Association mentioned that the procedure adopted this year creates an impression that DERC is not really interested in receiving responses but is putting the public notice only to meet statutory requirements.

Jhilmil DDA Flats Residents Welfare Association has suggested that the Commission should appoint an independent consultant in association with a NGO on behalf of consumers at large to analyse Tariff Petitions and represent viewpoint of consumers during the process of approval of ARR and determination of tariff for FY 2005-06.

Mr. N. Ahuja has submitted for the Commission's consideration that a brief summary of ARR and Tariff Petition be made available by the Commission in a manner which can be understood by a common man to solicit quality inputs from consumers.

The Peoples' Power Network comprising of World Wide Fund for Nature – India, Consumer Coordination Council and Parivartan has suggested that the Commission should conduct separate proceedings on the capital expenditure plans of the companies and in these proceedings, the Companies should be required to present their long term capital expenditure plans with a clear statement of objectives. It has also made the following submissions in respect of improvements or changes to the process:

- All calculation and spreadsheets of the Commission should be made public and available in electronic form.
- Periodic and public review of compliance with directions of the Commission on a quarterly basis

### **3.1.2 Response of the Petitioner**

In respect of separate proceedings on capital expenditure plans and placing long term expenditure plans with a clear statement of objectives, the Petitioner has submitted that it has not proposed any capital expenditure in its ARR. It has further submitted that it will abide by any such initiative taken by the Commission in this direction.

## **3.2 Privatisation Policy and Reform Process**

### **3.2.1 Objections**

M/s Praja has raised concerns with respect to repayment of Govt. Support after the transition period. The objector submitted that the transition period is going to end in two years and if the DISCOMs are free to buy power from other sources, how the TRANSCO will repay the loan of Rs 3450 Crore.

Senior Citizens' Forum has suggested a mid term review of the Policy Directions to effect the learnings from the experience of privatisation and protect the interest of consumers.

Shri. Ashok Rao has suggested that the Commission spell out the policy with regard to repayment of Govt. Support loan by DTL and its implications on consumer tariffs, as well as a policy with regard to the implications for consumer tariffs and reliability of supply after the end of the transition period.

Based on the Commission's viewpoint in the Order dated February 22, 2002 which was expressed as "... At this point, the Commission opines that any shortfall in revenue gap, if any, of TRANSCO during the term of five years over and above Rs. 2,600 Crore would have to be bridged in the form of Government support, sector efficiency improvements, any other suitable mechanism or a combination of all of the above, to be decided by the Commission at the appropriate stage.", Chetna has requested the GNCTD to clarify the basis and assumptions for initial level of subsidy support of Rs. 2,600 Crore, increase in subsidy support to Rs. 3,450 Crore and whether GNCTD would support any further shortfall in revenue gap alongwith the quantum of additional support, if any, and its source of funding.

## **3.3 Transition Issues**

### **3.3.1 Objections**

The Peoples' Power Network and the Consumer Coordination Council has expressed concern over the tariff structure in post-transition period including issues like whether the GoNCTD will provide additional support and how further loss reduction will be achieved. It has also requested the Commission to describe how the transition from uniform tariffs to company-specific tariff structure will be achieved once the transition period ends. It has also expressed concern over whether the DISCOMs will be free to buy power from any source after the transition period and in that event how will the loan of Rs. 3,450 crores be paid back by DTL.

### **3.4 Commission's views**

The Commission has taken a note of the various comments/objections made in response to the Petitions filed by the Utilities and appreciates the keen participation in the process by the various stakeholders to provide vital feedback to the Commission on various issues.

For instilling confidence in the Utilities as well as to bring about a greater understanding and appreciation of the complexity of the issues involved, the Commission ever since its institution, has made conscious and continuous efforts to bring about transparency in the tariff setting process.

The Commission is of the opinion that for any meaningful regulation of the Utilities, an effective platform for exchange of operational and performance related information is required throughout the year, rather than having limited interactions during year-end submission of filings. Accordingly, the Commission required the Utilities to spell out detailed information/reasons for further improvement over the existing situation. The Commission also undertook visits for actual verification of the physical progress of various capital expenditure undertaken by the Utilities. The shortcomings in their information systems and processes were conveyed to the Utilities while eliciting improved performance. Information availability being the key to quicker processing of the Petitions, the Commission is in the process of developing and installing a Regulatory Information Management System (RIMS). The Commission has appointed a Consultant for developing the RIMS and the RIMS is likely to be operational by October 2005. The RIMS aims at building an MIS with pre-defined information formats, accessible to the Utilities through the Internet for periodic updates. RIMS is expected to help the Utilities and the Commission to come to a common understanding about the level, form and diversity of information to be made available for processing of the ARR Petitions among others. It would also ease the pressure placed on the Utilities in the existing set-up to provide the desired information within a limited period for year-end review of operations.

The Commission recognises the impact of the Petitions filed by the Utilities and the importance of the various issues raised during the public hearings and the comments made by the stakeholders. The Commission also appreciates the efforts of the stakeholders in bringing such issues to the notice of the Commission. However, the Commission would like to point out that several issues and comments, though important, are not relevant to the determination of the ARR and Tariff of the Utilities. Therefore, the Commission, while taking note of these issues, is not addressing such issues in this Order. The Commission will deal with such issues separately under the appropriate Forum constituted for this purpose or during the amendment of the Regulations issued by the Commission. The stakeholders may also approach the Commission separately on such issues.

With this background, the Commission now proceeds to provide its views on the various issues raised by the respondents for determination of ARR and Tariff of the Utilities.

### **3.4.1 Procedural Issues**

At the outset, the Commission would like to clarify the procedure adopted by the Commission in inviting responses from the Stakeholders on the Petitions filed by the Utilities.

While processing the ARR and Tariff Petitions of the Utilities, the Commission in accordance with the provisions of the Electricity Act, 2003 directed the Utilities to publish the salient features of their Petition in leading newspapers. In compliance to the Commission's directive, the Utilities published the salient features of the respective Petitions. Subsequently, the Commission published the public notice summarising the ARR and Tariff Petitions of all the Utilities in one notice for inviting response from consumers and stakeholders. The Public notice published by the Commission specifies that the response from consumers and stakeholders must be on affidavit, in triplicate and either in person or by post and that email responses are not permitted. This practice is in line with the Delhi Electricity Regulatory Commission Comprehensive (Conduct of Business) Regulations, 2001. The Commission has not deviated from the standard practice followed by the Commission in inviting responses from the stakeholders and considering the same for meaningful interaction.

The Commission would also like to point out that submission of responses by stakeholders on affidavit is a legal requirement. However, the Commission has never denied any consumer the right to submit objections and responses if the same is not on affidavit. The Commission has considered the large number of responses and objections received without affidavits.

As regards the availability of only a brief summary of ARR and Tariff Petition by the Commission, the Commission would like to bring to the notice of the stakeholders that this practice is followed by the Commission and the Commission publishes the salient features of all the Petitions in one public notice for inviting responses. This is also in view of the fact that the advertising costs are also high. The ARR Petitions are posted on the website of the Commission as well. Further, the Orders issued by the Commission on the ARR and Tariff Petition of the Utilities are reasoned and all necessary explanation are given therein. For a better understanding of the ARR and Tariff Petitions, the Commission urges consumers to refer to the Orders on ARR and Tariff Petition issued by the Commission during the previous years. The Commission would also like to highlight that it is keen to encourage greater participation by various consumer groups and that the Commission will take appropriate steps for enhancing consumer awareness to enable consumers to better appreciate the Petitions filed by the Utilities.

As regard separate proceedings on capital expenditure plans of the Utilities, the Commission would like to bring to the notice of the stakeholders that in the Orders on ARR and Tariff Petitions of the Utilities for FY 2004-05, the Commission had directed the DISCOMs and TRANSCO to submit the complete Detail Project Report (DPR) along with cost-benefit analysis for schemes costing more than Rs 2 Crore for obtaining the scheme-wise investment approval from the Commission as per the terms and conditions of the License for Distribution and Retail Supply of Electricity within a month from the date of the issue of this Order. The Commission has also directed the Petitioner to



submit the schemes for approval of the Commission for FY 2005-06, by September 2004. Therefore, the Commission has already instituted a separate process for the approval of the capital expenditure plans of the Companies. The Commission, after detailed scrutiny of each capital scheme, accords its approval to the capital expenditure schemes proposed by the Companies. The Commission does not feel the necessity to conduct separate public proceedings for approval of capital expenditure plan of the Utilities as this is work is a continuous process spread over a period of few months.

In respect of making available the calculation and spreadsheets of the Commission, the Commission opines that detailed speaking Orders are issued by the Commission in respect of the ARR and Tariff Petitions filed by the Utilities covering various items which should solve the purpose of various stakeholders.

#### **3.4.2 Privatisation Policy and Reform Process**

The Policy formulated and Directions issued by the Government in exercise of its powers under section 12 of the Delhi Electricity Reforms Act, 2000 are binding on the Commission. The Commission, therefore, does not have any further views in the matter. Furthermore, this aspect has been discussed and addressed in the Commission's Order on Bulk Supply Tariff and opening level of AT&C losses issued on February 22, 2002.

Further, the Commission suggests that the respondents may approach the appropriate agencies for seeking clarifications.

#### **3.4.3 Transition Issues**

The Commission would like to inform the respondents that the issues raised herein are not related to the ARR and Tariff Petition of the Utilities for FY 2005-06. The Commission will deal with the issue of tariff structure in post transition period at the appropriate time.



## 4. Analysis of ARR

### 4.1 Introduction

The PPCL filed the Petition for approval of ARR and Tariff for FY 2005-06. While analysing the Petition, the Commission, based on the submission made by the Petitioner asked for further details and supporting documents, which was submitted by the Petitioner. The Commission has considered various submissions made by the Petitioner over the course of ARR and tariff determination process and has carefully analysed the different heads of expenditure to project the realistic level of allowable expenditure during FY 2005-06. During the ARR and Tariff determination process for FY 2005-06, the Commission also obtained the details of actual operational parameters, expenses and revenue for FY 2004-05.

### 4.2 Generation

#### 4.2.1 Petitioner's Submission

The Petitioner has submitted that the capacity of the Station is 330 MW with two gas turbine units of 104MW each and a steam generator of 122 MW. The two gas turbines have commenced Commercial Operation in July 2002 and December 2002 and these units were operating in open cycle and the Station commenced the Combined Cycle operations since May 15, 2003. The Petitioner has estimated the generation during FY 2004-05 by considering the actual generation for the period April to September 2004. The Petitioner has submitted that the plant has generated 1280 MU till September 2004 and is expected to generate 2315 MU by the end of the year with a PLF of 80.08%. For FY 2005-06 also, the Petitioner has estimated the generation of 2315 MU.

#### 4.2.2 Commission's Analysis

The Commission directed the Petitioner to submit the actual generation for FY 2004-05 and the petitioner submitted the same on May 03, 2005. As per the details submitted by the petitioner the actual generation during FY 2004-05 was 2552 MU at a PLF of 88.27% and the same has been considered by the Commission for FY 2004-05. For FY 2005-06, the Commission has considered the gross generation as per the generation target of 2400 MU as prescribed by Central Electricity Authority (CEA). The generation details submitted by the Petitioner and that allowed by the Commission are given in Table 3.1 below.

**Table:3.1 Generation**

Description	FY 2004-05			FY 2005-06	
	Order for FY 2004-05	Petition	Commission	Petition	Commission
Availability (MW)	330	330	330	330	330
PLF	76.10%	80.08%	88.27%	80.08%	83.02%
Gross Generation (MU)	2200	2315	2552	2315	2400

### 4.2.3 Auxiliary Consumption

#### 4.2.3.1 Petitioner's Submission

The Petitioner has estimated the actual Auxiliary Consumption for FY 2004-05 at 3% and has considered the same for FY 2005-06.

#### 4.2.3.2 Commission's Analysis

The Commission asked the petitioner to submit the actual data for auxiliary Consumption for FY 2004-05. The petitioner in its submission dated May 03, 2005 submitted the same. As per the revised submission the auxiliary consumption for FY 2004-05 was 101 MU, which works out to be 3.95%. However as per the norms applicable for combined cycle Generating Plants, the Commission has allowed auxiliary consumption at 3% for FY 2004-05 and FY 2005-06. The Auxiliary Consumption details submitted by the Petitioner and that allowed by the Commission are given in Table 3.2 below.

**Table:3.2 Auxiliary Consumption**

Description	FY 2004-05			FY 2005-06	
	Order for FY 2004-05	Petition	Commission	Petition	Commission
Auxiliary Consumption	3%	3%	3%	3%	3%

### 4.2.4 Net Generation

The Commission has worked out the net generation based on the gross generation and the Auxiliary Consumption allowed as discussed in the sections above. For FY 2004-05 the net generation allowed by the Commission is 2475 MU. For FY 2005-06, the Commission has arrived at a higher net generation of 2328 MU vis. a vis. the Petitioner's submission of 2245 MU for FY 2005-06 based on the CEA target. The details of net generation submitted by the Petitioner and that allowed by the Commission is given in Table 3.3 below.

**Table:3.3 Net Generation**

Description	FY 2004-05			FY 2005-06	
	Order for FY 2004-05	Petition	Commission	Petition	Commission
Gross Generation (MU)	2200	2315	2552	2315	2400
Auxiliary Consumption	3%	3%	3%	3%	3%
Net Generation (MU)	2134	2245	2475	2245	2328

However, for estimating the energy availability of TRANSCO, the Commission for FY 2004-05 has considered the sale of 2450 MU from PPCL to TRANSCO based on actual sales for the year.

### 4.3 Fixed Costs

The Commission has examined in detail all the components of the Fixed Cost of PPCL. The fixed cost of PPCL includes the following elements:

- O&M Expenses
- Depreciation and Advance Against Depreciation
- Interest Charges
- Return on Equity
- Interest on Working Capital
- Fixed Fuel Costs

#### 4.3.1 O&M Expenses

##### 4.3.1.1 Petitioner's Submission

The Petitioner has proposed O&M charges of Rs. 55.55 Crore and Rs. 77.46 Crore for FY 2004-05 and FY 2005-06 respectively which includes Employee Expenses including Corporate office expenses, A&G expenses, Repairs and Maintenance (R&M) expenses, Water Charges and other expenses.

As regards to R&M expenses, the Petitioner submitted that the company has used the technology of DLN Burners for the first time in India for reducing pollution level in Delhi and these burners are very costly. These burners require repairs every 8000 hours and subject to damages these burners have maximum life of 24000 hours. The Petitioner further submitted that at the time of clearance of the project by the CEA, the capital spares required for the project were not included and now the company is required to incur considerable amount on the procurement of these spares to replace the same in annual maintenance. Hence the expenditure on account of Repair and Maintenance will increase substantially due to multifold increase in R&M cost of gas turbines in FY 2004-05 and FY 2005-06.

As regards to water charges, the Petitioner submitted that the Praqati Power Station is unique station in sourcing its raw water requirement and the plant is being run on effluent of sewage treatment plant and has to incur higher cost to get raw water, as compared to other similar stations being operated elsewhere in the country by paying normal water cess. The Petitioner has estimated the total cost on account of water charges as Rs 2.38 Crore and Rs 2.5 Crore for FY 2004-05 and FY 2005-06 respectively.

##### 3.1.1.1 Commission's Analysis

The Commission in its Order dated June 9, 2004 on ARR and Tariff Petition of PPCL for FY 2004-05 has approved the O&M expenses for FY 2004-05 as Rs 28.82 Crore by applying the norm of 2.5% of

Capital Cost for first year of operation (FY 2003-04) and by considering escalation of 7% for FY 2004-05.

As regard to additional water charges over and above the O&M expenses, the Commission in its Order on Review Petition filed by PPCL on Commission's Order on ARR and Tariff Petition for FY 2004-05 has opined that "The Commission is dealing separately with the matter of approval of the PPA between the TRANSCO and PPCL. The Commission will deal with this issue of additional O&M expenses (due to peculiar conditions) during the approval of the PPA. Any variation in O&M expenses approved in the ARR with respect to the principles approved in the PPA would be considered by the Commission during the truing up process".

The Commission is of the opinion that as this is a special requirement for this plant and no fresh water is available for the plant at a cheaper rate, the Commission has decided to allow the expenditure on water charges as abnormal O&M expenses as a special case for FY 2004-05 as well as for FY 2005-06.

During the ARR and Tariff process for FY 2005-06, the Commission obtained the details with respect to break up of actual O&M expenses for FY 2003-04, actual O&M expenses for FY 2004-05, copy of CEA clearance, The Petitioner provided these details and the actual O&M expenses for FY 2004-05 as submitted by the Petitioner are Rs 48.38 Crore.

The Commission has deliberated the matter of additional R&M expenses required for DLN Burners and additional spares and asked the Petitioner to submit the details of expenditure incurred/estimated for replacement/repair of components of DLN burners and for critical components of the Gas Turbines. The Petitioner submitted the details of expenditure incurred/estimated for a period of six years i.e FY 2003-04 to FY 2008-09. The Petitioner submitted that the total expenditure on account of this works out of Rs 130 Crore over a period of six years which is over and above the normal O&M expenses of the Station and the year wise break up of this additional expenditure is as follows:

**Table 3.4 : Additional R&M Expenses as submitted by PPCL**

	FY 03-04	FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09
Additional R&M Expenses (Rs Crore)	10.82	18.21	15.80	10.00	24.00	63.00

The Commission has examined the details submitted by the Petitioner and is of the opinion that the additional R&M expenses towards R&M of DLN burners and for critical components of Gas Turbines are required to be incurred by the PPCL for the smooth operations of the plant and to achieve the target level of generation. Therefore, the Commission has allowed Rs 15.80 Crore as additional R&M expenses for FY 2005-06. As regard to FY 2004-05, the Commission has noticed that the PPCL has made some savings in fuel cost which was allowed on NCV basis and the normative heat rate

approved by the Commission is on the GCV basis. The additional R&M expenses for FY 2004-05 can be met from the savings in fuel costs during the year.

For FY 2004-05, the Commission allows the O&M expenses of Rs 28.82 Crore as approved by the Commission in the Order on Tariff Petition for FY 2004-05 and additional water charges of Rs 2.38 Crore. For FY 2005-06, the Commission has estimated the O&M expenses by applying an increase of 4% p.a. in O&M expenses approved for FY 2004-05, the additional R&M expenses of Rs 15.80 Crore and the water charges of Rs 2.50 Crore. The summary of O&M charges as estimated by the Petitioner and as approved by Commission for FY 2004-05 and FY 2005-06 is as given in Table 3.5 below:

**Table:3.5 O&M Charges**

Rs. Crore

Description	FY 2004-05			FY 2005-06	
	PPCL Order for FY 2004-05	Petition	Commission	Petition	Commission
O&M Charges	28.82	55.55	31.20*	77.46	48.27*

\* Including Water Charges

As regards to additional R&M expenses mentioned at Table 3.4 for subsequent years, the same shall be dealt with while approving the norms as part of the Terms and Conditions of Tariff Regulations.

### 4.3.2 Depreciation

#### 4.3.2.1 Petitioner's Submission

The petitioner has submitted that as per Electricity Act, 2003 and after the repeal of the Electricity (Supply) Act, 1948, the Power Sector utilities are required to follow the Companies Act, 1956 in matters of depreciation. The Ministry of Power in its draft Tariff Policy has mentioned that for Tariff determination, depreciation rate would be as per Schedule XIV of the Companies Act, 1956. All power sector entities will be treated as 'continuous process plant' for the purpose of determination of depreciation rate. Accordingly the depreciation has been calculated as per the rates provided in the Companies Act, 1956. Further the depreciation on the additions during the financial year has been provided on the half of the amount assuming that the additions have been made evenly throughout the year. The petitioner in its submission has considered depreciation as Rs. 56.87 Crore for both the years i.e. FY 2004-05 and FY 2005-06.

#### 3.1.1.2 Commission's Analysis

The Commission has adequately discussed the issue of depreciation in its Tariff Order dated June 26, 2003 on TRANSCO's ARR Petition for FY 2002-03 and FY 2003-04 and the Order on Review Petition filed by the TRANSCO. The Commission's view on the concept of depreciation both from an accounting perspective and from a regulatory perspective from its Review Order dated November 25, 2003 has been reproduced below for reference.

"From an accounting perspective, Depreciation is a charge to the Profit and Loss account and represents a measure of the wearing out, consumption or other loss in value of an asset arising from use, efflux of time or obsolescence through technology and market changes. From a regulatory perspective, depreciation is a small amount of the original cost of the capital assets, built into the tariff computation every year with a view to providing the utility a source of funding to repay instalments of debt capital. As the asset is used over its operational life, Depreciation is proportionately charged over the useful life of the asset."

The Commission in its Orders on ARR and Tariff Petitions for FY 2002-03 and FY 2003-04 dated June 26, 2003 and in Orders on ARR and Tariff Petitions for FY 2004-05 has considered and applied the principle of depreciating the asset over its fair life such that 90% of the asset value is depreciated over the fair life of the asset. The Commission in earlier Order has considered the average fair life of the gas turbines and steam turbine including other equipments as 15 years and 25 years respectively for the purpose of estimating the depreciation.

The Commission has again considered the rates of depreciation for the purpose of determination of ARR and has decided to consider depreciation based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 for various asset classes from FY 2005-06 onwards. The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the cost of the asset.

For determining the weighted average depreciation rate, the Commission has considered the asset break-up as available from the Provisional Accounts for FY 2004-05. The weighted average depreciation rate as estimated by the Commission works out to 5.66% and the details of same are given in Table 3.6.

**Table 3.6 : Depreciation Rates**

S.No	Description of Assets	Asset Gross Block as at March 31, 2005 (Rs Crore)	Rate (%)
1	Buildings	1.39	1.80%
2	Roads	0.28	1.80%
3	Other Bldgs	61.52	1.80%
4	Comm. Eqpt	0.05	6.00%
5	Gas Plant Bldg.	20.52	1.80%
6	Gas Power Plant	939.57	6.00%
7	Furniture & Fixture	0.47	6.00%
8	Other Furnitures	0.00	6.00%
9	Office Eqpmt	0.01	6.00%
10	Computers	0.04	6.00%
11	Office Eqpt	0.03	6.00%
12	Portable AC	0.05	18.00%
13	Other Vehicles	0.01	18.00%
	<b>Total</b>	<b>1023.95</b>	<b>5.66%</b>



For removal of any doubt, it is being clarified that while truing up expenses for FY 2004-05, the Commission has considered the rate of depreciation as 5% as specified under the Tariff Order for FY 2004-05.

The Commission based on these principles approves the depreciation amount as Rs. 53.9 Crore for FY 2004-05. However for FY 2005-06 the depreciation charges approved by the Commission are Rs. 61 Crore, considering a weighted average depreciation rate of 5.66%. . The depreciation estimated by the Petitioner and as approved by the Commission for FY 2004-05 and FY 2005-06 is given in Table 3.7.

**Table:3.7 Depreciation**

Description	Rs. Crore				
	FY 2004-05			FY 2005-06	
	PPCL Order for FY 2004-05	Petition	Commission	Petition	Commission
Depreciation	53.9	56.87	53.9	56.87	61.0

### 4.3.3 Interest Charges

#### 4.3.3.1 Petitioner's Submission

The petitioner has submitted that the Project Cost is financed as per the Debt:Equity Ratio of 70:30. The Term Loans of Rs. 754 Crore i.e. Rs. 700 Crore and Rs. 54 Crore had been arranged from PFC and Govt. of Delhi respectively. The PFC loan was sanctioned against the State Government Loan with interest rate varying from 14% to 11.5%. However an average interest rate of 11.5% has been considered with the assumption that the Petitioner will be able to get reimbursement of subsidy on interest. The petitioner has proposed repayment of loans during the years 2004-05 and 2005-06, based on the terms and conditions of the loan agreements. The Petitioner, based on the above assumptions, has estimated interest expenses at Rs. 73.14 Crore and Rs. 65.21 Crore for FY 2004-05 and FY 2005-06 respectively.

#### 3.1.1.3 Commission's Analysis

The Commission has examined the means of finance and the interest charges estimated by the Petitioner. The Commission also directed the petitioner to submit the details of opening balance of loans, repayments made and actual interest for the FY 2004-05. The Petitioner submitted these details and the actual interest expenses of the Petitioner during FY 2004-05 were Rs 65.58 Crore (after deducting the rebate of Rs 2.29 Crore on timely payment). The weighted average interest rate for the actual interest charges during FY 2004-05 works out to 10.5%. For FY 2004-05, the Commission has considered the actual interest charges of Rs 65.58 Crore. For FY 2005-06, the Commission has estimated the interest charges considering the opening balance of loans, repayment proposed during the year and by applying an interest rate of 10.5%. The interest

charges as estimated by the Petitioner and as approved by the Commission are given in Table 3.8 below.

**Table:3.8 Interest Charges**

Description	FY 2004-05			FY 2005-06	
	PPCL order for FY 2004-05	Petition	Commission	Petition	Commission
Interest	78.11	73.14	65.58	65.21	58.50

#### 4.3.4 Return on Equity

##### 4.3.4.1 Petitioner's Submission

The Petitioner has estimated Return on Equity (ROE) @ 16% on Rs. 323 Crore equity of the company, which works out to Rs 51.7 Crore per annum.

##### 3.1.1.4 Commission's Analysis

The Commission in its earlier Order dated June 6, 2005 on ARR and Tariff Petition of PPCL for FY 2004-05 allowed ROE @16%. The Central Electricity Regulatory Commission (CERC) has issued the **"Terms and Conditions of Tariff Regulations"** during March 2004 in which CERC has revised the ROE norm from 16% to 14% for generating companies and transmission licensees. As per the provisions of the Electricity Act 2003, the Commission while determining the tariff is guided by the principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees. Further, the Draft National Tariff Policy stipulates that *"The Central Commission would notify, from time to time, the return on equity for generation projects and transmission projects, keeping in view the assessment of overall risk and prevalent cost of capital, which shall be followed by SERCs"*. In line with these statutory provisions, the Commission for FY 2005-06 approved the ROE @ 14% on the total equity. The Return on Equity as estimated by the Petitioner and as approved by the Commission is given in Table 3.9 below.

**Table: 3.9 Return on Equity**

Description	FY 2004-05			FY 2005-06	
	PPCL Order for FY 2004-05	Petition	Commission	Petition	Commission
Return on Equity	51.7	51.7	51.7	51.7	45.2

#### 4.3.5 Advance against Depreciation

##### 4.3.5.1 Petitioner's Submission

The petitioner has submitted that the depreciation amount provided as per the Companies Act does not match the loan repayment amount for the year. To this effect the petitioner has asked

the Commission to allow for an advance against depreciation of Rs. 12.13 Crore for both the years i.e. FY 2004-05 and FY 2005-06.

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

The Commission has deliberated on the principles of advance against depreciation in its Order on Review Petition filed by PPCL for the review of the Commission's Order on ARR and Tariff Petition of PPCL for FY 2004-05. The Commission's views on the principles of advance against depreciation are reproduced below:

*"As a principle, the advance against depreciation is to be considered in ARR, in case the amount allowed towards depreciation is less than the repayment obligations of the Utility. While adopting this principle, it is essential to compare not only the annual depreciation and annual repayment obligations, but also the cumulative depreciation allowed and cumulative repayment obligations from the commencement of the Plant. CERC Regulations on Terms and Conditions of Tariff also specify that a Generating Company is entitled to Advance Against Depreciation to meet debt service obligations by considering the repayment period of loan as 10 years i.e. Advance Against Depreciation would be equal to the loan repayment amount subject to a ceiling of 1/10th of the loan amount minus depreciation as per schedule. Further it specifies that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year".*

For a detailed analysis of this aspect, the Commission asked the Petitioner to submit the details of the loan repayment schedule, actual repayment of loan till FY 2003-04 and repayment made during FY 2004-05. As per the details submitted by the Petitioner, the cumulative repayment made till FY 2003-04 is of the order of Rs 83.47 Crore and actual repayment made during FY 2004-05 is of the order of Rs 67.53 Crore, while the depreciation allowed for FY 2004-05 is Rs 53.90 Crore. Thus, the cumulative repayment of the loan till FY 2004-05 works out to Rs 151 Crore. However, considering the depreciation allowed by the Commission in its Orders, the cumulative depreciation allowed by the Commission till FY 2004-05 works out to Rs 107.73 Crore.

In line with the principles of advance against depreciation as discussed above, the Commission has allowed an advance against depreciation of Rs 13.7 Crore for FY 2004-05 (as a difference of actual repayment and depreciation allowed for FY 2004-05). Similarly, for FY 2005-06, the Commission has approved an advance against depreciation of Rs 6.82 Crore (as a difference of proposed repayment during FY 2005-06 and the depreciation allowed for FY 2005-06).

Table 3.10 depicts the amount of advance against depreciation as submitted by the petitioner and that approved by the Commission.

**Table 3.10: Advance against depreciation (Rs Crore)**

Description	FY 2004-05		FY 2005-06	
	Petition	Commission	Petition	Commission
Advance against depreciation	12.13	13.70	12.13	6.82

**4.3.6 Interest on Working Capital****4.3.6.1 Petitioner's Submission**

The petitioner's submission on interest on working capital assumes the following working capital norms

- Fuel expenses for 30 days of operation at the projected PLF
- O&M expenses for one month
- Receivables for 2 months based on the projected sales.

The interest rate for working capital has been considered @ 12.50% p.a. as allowed by DERC in its Tariff Order dated 9<sup>th</sup> June 2004.

**3.1.1.5 Commission's Analysis**

The Commission during the technical sessions asked the Petitioner to submit the details of working capital based on actual generation for FY 2004-05. The petitioner submitted the revised data on May 03, 2005 and May 18, 2005. The Commission has also examined the Draft PPA between TRANSCO and PPCL. In the Draft PPA the assumptions for estimating working capital are as follows:

- Fuel expenses for 30 days of operation at the projected PLF
- O&M expenses for one month
- Receivables for 1 month based on the projected sales.

As these assumptions are within the norms approved by CERC, the Commission has estimated the working capital requirement based on the above assumptions. The working capital interest rate considered by Petitioner @ 12.50% appears to be on the higher side keeping in view the prevalent market conditions the Commission has considered the same as 10.25% equivalent to SBI PLR Rate for short term loans. The interest on working capital allowed by the Commission viz. a viz. As considered in the Petition is as given in Table 3.11 below;

**Table:3.11 Interest on Working Capital**

Description	FY 2004-05			FY 2005-06	
	PPCL Order for FY 2004-05	Petition	Commission	Petition	Commission
Interest on Work. Cap.	7.7	13.65	6.10	14.7	6.62

### 4.3.7 Fixed Fuel Cost

#### 4.3.7.1 Petitioner's Submission

As per the Fuel Supply Agreement entered into between the Petitioner and GAIL, Petitioner is required to pay monthly transmission /service charges of Rs. 15,54,682.00 for base year FY 2002-03 which shall be increased @3% p.a. Based on the above rates the Petitioner has estimated a fixed cost towards fuel supply at Rs. 2.01 Crore for FY 2004-05 and Rs. 2.06 Crore for FY 2005-06. .

#### 4.3.7.2 Commission's Analysis

As these charges are an integral part of the gas pricing and has to be paid irrespective of the quantum of gas bought from the Petitioner the same has been considered as the fixed cost instead of variable cost for the purposes of ARR calculations. The details of the fixed fuel cost is given in Table 3.12 below

**Table: 3.12 Fixed Fuel Cost**

Rs. Crore

Description	FY 2004-05			FY 2005-06	
	PPCL Order for FY 2004-05	Petition	Commission	Petition	Commission
Fixed Fuel Cost	1.99	2.01	2.01	2.06	2.06

### 4.3.8 Total Fixed Cost

The total fixed cost for FY 2004-05 and FY 2005-06 as estimated by the Petitioner and as allowed by Commission is summarised in the Table 3.13 below.

**Table:3.13 Total Fixed Cost**

Rs. Crore

	FY 2004-05		FY 2005-06	
	Petition	Commission	Petition	Commission
O&M Charges	55.55	31.20	77.46	48.27
Depreciation	56.87	53.9	56.87	61.0
Interest	73.14	65.58	65.21	58.50
Return on Equity	51.7	51.7	51.7	45.2
Advance against depreciation	12.13	13.70	12.13	6.82
Interest on WC	13.65	6.14	14.7	6.67
Fixed Fuel Cost	2.01	2.01	2.06	2.06
<b>Total Fixed Cost</b>	<b>265.05</b>	<b>224.14</b>	<b>280.13</b>	<b>228.51</b>

#### 4.4 Variable (Fuel) Cost

The variable cost of the plant depends upon the operational and fuel parameters such as Gross Heat Rate, Auxiliary Consumption, Fuel Cost and Gross Calorific value of fuel. The Petitioner has submitted the details of the operating parameters of the plant as a part of ARR. The Commission has analysed all the operational and fuel parameters.

##### 4.4.1 Station Heat Rate

###### 4.4.1.1 Petitioner's Submission

The Petitioner has assumed the Station Heat Rate for the combined cycle plant operation as 2000 kCal/kWh for both the years under consideration i.e. FY 2004-05 and FY 2005-06 in accordance with the norms and as allowed by the Commission in its previous orders.

###### 4.4.1.2 Commission's Analysis

The Station Heat Rate as per the Draft PPA between the TRANSCO and the Petitioner for combined cycle operation is 2000 kCal/kWh. The heat rate of 2000 kCal/kWh proposed by the Petitioner is as per the heat rate norm approved by the Commission in its earlier Orders. Further, the Commission would like to clarify that the approved Station Heat Rate of 2000 kCal/kWh for combined cycle operation is based on Gross Calorific Value of the fuel and not on the net calorific value of the fuel. The details of the Station Heat Rate is as given in the Table 3.14 below:

**Table: 3.14 Station Heat Rate**

Description	FY 2004-05			FY 2005-06	
	TRANSCO Order	Petition	Commission	Petition	Commission
Station Heat Rate	2000	2000	2000	2000	2000

##### 4.4.2 Total Cost of Gas

###### 4.4.2.1 Petitioner's Submission

The Petitioner has submitted that due to depleting gas reserves of ONGC, Gail is imposing cuts on a day to day basis on the supply of CNG. The petitioner is of the viewpoint that these cuts will increase progressively and has estimated cuts to the tune of 20% for FY 2004-05 and FY 2005-06. The shortage of CNG is being made up from Regassified LNG (RLNG) supply, which is being charged at a higher rate because of its linkage to international prices. The petitioner has submitted the cost of fuel on the assumption of using gas from different sources. The rate of CNG gas has been considered at Rs. 4.53 per SCM and Rs. 4.75 per SCM for FY 2004-05 and FY 2005-06 respectively. The rate of RLNG has been considered at Rs. 248.73 per MMBTU for FY 2004-05 and FY 2005-06

**3.1.1.6 Commission's Analysis**

The Commission is aware of the shortage of gas in the country and believes that the petitioner makes adequate arrangements for the fuel to run its plant at the given capacity. The Commission also asked the petitioner to submit the actual data for FY 2004-05 for quantity of different fuels used and the fuel costs incurred. The petitioner submitted these details on May 03, 2005 and May 18, 2005. Based on the actual gas prices and calorific value and considering the heat rate of 2000 kCal/kWh as approved in earlier Order dated June 9, 2004 on ARR and Tariff Petition for FY 2004-05, the Commission has allowed the total fuel cost of Rs 255.85 Crore for FY 2004-05.

As regard to FY 2005-06, the Commission asked the Petitioner to submit the details of gas allocation and the gas price with effect from FY 2004-05. The details submitted by the Petitioner in this regard are as follows:

**Table 3.15 : Details of Gas Allocation and Price as submitted by the Petitioner**

S.No	Gas Allocation	Gas Price
1.	APM Gas – 1.22 MMSCMD	Rs 4343.30/10000 SCM + VAT @ 20% for the period 1.4.05 to 11.05.05 + Service tax on Transportation Component @ 10.2% from 1.7.05 onwards
2.	Gas from Panna Mukta Tapti Oil Fields – 0.33 MMSCMD	Rs 4682.6/10000 SCM + VAT @ 20% for the period 1.4.05 to 11.05.05 + Service tax on Transportation Component @ 10.2% from 1.7.05 onwards
3.	R-LNG – No contract at present, however consumption of gas over and above the daily allocation of APM and PMT is billed on R-LNG rate with a penalty of 20% on the normal rate of R-LNG	Rs 239.54/MMBTU + VAT @ 20% for the period 1.4.05 to 11.05.05 + Service tax on Transportation Component @ 10.2% from 1.7.05 onwards

The Commission has observed that the price of RLNG gas being supplied to PPCL is charged in Rs/MMBTU terms. The unit of heat content i.e. MMBTU being used for pricing of RLNG gas is not a standard SI Unit adopted in India. The PPCL is advised to take up the matter with the fuel supplier for availing the supply of RLNG gas as per the standard units adopted in India i.e. SI units.

Further, the Commission also obtained the details of actual APM gas prices, net calorific value of APM gas and the mechanism of adjustments on account of calorific value. Based on the details submitted by the Petitioner, the Commission has estimated the price of APM Gas as Rs 3836/1000 SCM for the net calorific value of 8250 kCal/SCM excluding VAT and Service Tax on Transportation. After taking into account the service tax on transportation, the estimated price of APM Gas works out to Rs 3961/1000 SCM, which has been considered by the Commission for the period July 2005 to March 2006 while approving the total fuel cost for FY 2005-06. Further, the Commission has also considered the actual VAT paid by PPCL for the gas purchased during the period 1.4.2005 to 11.05.2005 while estimating the total fuel cost for FY 2005-06.

Based on above, the total fuel cost and variable cost as estimated by the Petitioner and as approved by the Commission for FY 2004-05 and FY 2005-06 is given in Table 3.16. The Commission's estimates for FY 2005-06 are based on Gross Calorific Value of fuel and Gross Station Heat Rate :

**Table:3.16 Total Fuel Cost**

Description	FY 2004-05			FY 2005-06	
	PPCL Order for FY 2004-05	Petition	Commission	Petition	Commission
Gross Generation (MU)	2200	2315	2552	2315	2400
Net Generation (MU)	2134	2245	2475	2245	2328
Total Fuel Cost (Rs. Crore)	242	262.63	258.5	292.10	251.84
<b>Variable cost (ESO basis) (Rs./kWh)</b>	<b>1.13</b>	<b>1.17</b>	<b>1.04</b>	<b>1.30</b>	<b>1.08</b>

The assumptions with respect to the gas composition mix, net calorific value of gas and gas prices considered by the Commission for estimating the total fuel costs for FY 2005-06 and the variable cost per unit for generation with different types of fuels are given in Table 3.17. The variation in actual gas composition mix, actual net calorific value and actual price of gas with respect to the assumptions considered by the Commission shall be adjusted during truing up the total fuel costs for FY 2005-06.

**Table 3.17: Assumptions and Variable Cost for different types of fuel for FY 2005-06**

<b>APM Gas</b>		
Gross Generation	MU	1631.1
Gas Consumption	MMSCM	356.2
Net Calorific Value	kCal/scm	8250
Gas Price	Rs/1000 SCM	3960.9
Total Cost	Rs Crore	139.99
<b>Variable Cost (ESO basis)</b>	<b>Rs/kWh</b>	<b>0.885</b>
<b>PMT Gas</b>		
Gross Generation	MU	551.51
Gas Consumption	MMSCM	120.45
Net Calorific Value	kCal/scm	8250
Gas Price	Rs/1000 SCM	5760.00
Total Cost	Rs Crore	69.38
<b>Variable Cost (ESO basis)</b>	<b>Rs/kWh</b>	<b>1.297</b>
<b>R LNG Gas</b>		
Gross Generation	MU	217.36
Gas Consumption	MMBTU	1725458.95
Gross Calorific Value	Kcal/scm	9196
Gas Price	Rs/mmbtu	239.54
Total Cost	Rs Crore	42.47
<b>Variable Cost (ESO basis)</b>	<b>Rs/kWh</b>	<b>2.01</b>
<b>Total Fuel Cost on Weighted Average Basis</b>		
Total Cost	Rs Crore	251.84
<b>Variable Cost (ESO basis)</b>	<b>Rs/kWh</b>	<b>1.08</b>



#### 4.5 Summary of Fixed and Variable Costs

The summary of the Fixed and Variable Costs as estimated by the Petitioner and that approved by the Commission is as given in Table 3.18.

**Table:3.18 Summary of Fixed and Variable Costs as approved by the Commission**

	FY 2004-05		FY 2005-06	
	Petition	Commission	Petition	Commission
Fixed Cost (Rs. Crore)	265.05	224.14	280.13	228.51
Variable Cost (Rs. Crore)	262.63	258.46*	292.10	251.84
<b>Total Cost</b>	<b>527.68</b>	<b>482.60</b>	<b>572.48</b>	<b>480.35</b>

\* Considering normative auxiliary consumption of 3%



## **5. Tariff Philosophy and Approved Tariff**

### **5.1 Two Part Tariff**

Currently as per the CERC Terms and Conditions of Tariff Regulations, the tariff for the generation companies are fixed based on the 'Two Part Tariff Principles'. Under this principle the tariff is divided into two components (i) fixed component (ii) variable component.

#### **5.1.1 Fixed Component of Tariff**

The fixed component consists of all the costs incurred by the generating company irrespective of the generation of the plant. This component typically includes;

- Interest payment
- Depreciation
- Return on Equity
- O&M cost
- Interest on working capital
- Income Tax

This could also include any fixed payment to be made by the generating company towards the purchase and transportation of fuel. As the capacity of the plant is dedicated to a utility, any fixed cost arising out of some contractual obligation of the generation company e.g. minimum fuel off-take guarantee, has to be paid by the power off taker.

Further, as per the CERC Terms and Conditions of Tariff Regulations, the recovery of total Fixed Charges (Capacity Charges) is permitted at target availability of 80% and the recovery of capacity (fixed) charges below the level of target availability shall be on pro rata basis. At zero availability, no capacity charges shall be payable.

In line with the CERC regulations, the Commission approves the target availability of 80% for recovery of annual fixed charges by the Petitioner and the recovery of fixed charges below the level of target availability shall be on the pro rata basis.

### **5.2 Variable Component**

Fuel cost is the variable component of the tariff, which, as the name suggests varies, based on the actual operation of the plant. Typically this includes primary fuel cost and secondary fuel cost.

The variable cost shall be billed by the Petitioner to TRANSCO based on the actual power purchased during the month on a monthly basis as per the rates approved by the Commission. The Petitioner shall bill for the variable charges based on the Energy Sent Out (ESO) from the power station till the introduction of Intra State Availability Based Tariff (ABT) in the State of Delhi. The

mechanism for recovery of variable charge after introduction of Intra State ABT in the State of Delhi shall be governed by the stipulations to be made at the time of its introduction.

### **5.3 Incentive**

As per the CERC Terms and Conditions of Tariff Regulations, the incentive @ 25 paise/kWh is applicable for the actual generation achieved beyond the generation at target PLF of 80% for combined cycle generating stations.

The Commission is of the opinion that the improvement in performance with respect to actual generation over and above the normative level shall be incentivised. The Commission approves the incentive of 25 paise/kWh for the actual generation achieved beyond the generation at target PLF of 80%. However, the PPCL shall comply with the SLDC instructions with respect to the backing down of the station and such backing down shall not qualify for calculation of PLF for incentives. Further, in case of non-compliance by PPCL to backing down instructions by SLDC, generation during backing down period as instructed by SLDC shall not be considered for incentive purpose.

### **5.4 Fuel Price Adjustment Formula**

Apart from the approval of the ARR for FY 2005-06 the Petitioner has also requested for a Fuel Cost Adjustment Formula as discussed below.

#### **5.4.1 Petitioner's Submission**

The Petitioner has requested for an approval of appropriate Fuel Price Adjustment formula to compensate the variation of fuel cost as the fuel price is subject to price variations.

#### **5.4.2 Commission's Response**

The Commission has considered the gas consumption mix and prevalent fuel prices while estimating the total fuel costs and the variable charge. The Commission is of the opinion that there is no need for a Fuel Price Adjustment Formula at this stage. However any variation in the fuel prices during the year shall be considered during truing up at the end of the year.

### **5.5 Open Cycle Tariff**

The Petitioner has requested the Commission to fix tariff for Open Cycle operation of the plant.

#### **5.5.1 Commissioner's Response**

The Commission is of the opinion that the plant should be always operated in the combined cycle mode, as the open cycle operations are very inefficient. However under unforeseen circumstances, which are beyond the control of the Petitioner, the plant may be forced to operate in Open Cycle mode. The Commission will approve the operational parameters for open cycle and the conditions for open cycle operation as a part of Terms and Conditions of Tariff Regulations. In the interim period the heat rate for Single/Open Cycle operation shall be taken as

2900 kCal/kWh based on Gross Calorific Value (GCV) of fuel. Simple/Open Cycle operation shall be resorted to only under extreme/exceptional circumstances, if so warranted, by the directions of the SLDC.

## 5.6 Approved Tariff for FY 2005-06

The Commission further directs that the tariff applicable for billing by PPCL to TRANSCO shall be on the basis of a two-part Tariff. The total fixed costs approved by the Commission will be recovered at target availability of 80% on an annual basis. Fixed Costs shall be recovered in 12 equal monthly instalments. The variable cost shall be billed by PPCL to TRANSCO on the basis of weighted average Variable Charge as approved by the Commission. In case PPCL achieves a PLF level of beyond 80%, an incentive @ 25 paise per kWh shall be payable by TRANSCO to PPCL for the actual generation beyond 80% PLF on an annual basis at the end of the year.

Based on the two part tariff principles as discussed in the above sections, the Commission approves the tariff for PPCL for FY 2004-05 and FY 2005-06 as given in Table 4.1 below:

**Table: 4.1 Summary of the tariff approved by the Commission for FY 2004-05 and FY 2005-06**

Description	FY 2004-05	FY 2005-06
Fixed Cost p.a. (Rs. Crore)	224.14	228.51
Weighted Average Variable Charge per unit (Rs./kWh)	1.04	1.08
Variable Charg with different types of fuels (Rs/kWh) :		
- APM Gas		0.885
- PMT Gas		1.297
- RLNG Gas		2.015

