BEFORE THE HON'BLE DELHI ELECTRICITY REGULATORY COMMISSION

Petition No. :

IN THE MATTER OF	Filing of Tariff Petition under section 62 of the Electricity Act, 2003 for determination of Generation Tariff for the Financial Year 2015-16 and truing up for the previous Period of FY 2012-13 to 2013-14 of current MYT.
AND	
IN THE MATTER OF	**Pragati Power Corporation Limited** Regd. Office "Himadri", Rajghat Power House Complex, New Delhi - 110002 **PETITIONER**

THE APPLICANT ABOVE NAMED RESPECTFULLY SUBMITS

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Chapter 1 : Background

This Chapter deals with the background of this Petition.

1.1 Introduction

1. The Electricity Act, 2003 was notified on 10th June, 2003 repealing the Indian Electricity Act-1910, the Electricity (Supply) Act, 1948 and the E.R.C. Act, 1998. Among the tariff related provisions, the State Electricity Regulatory Commission (SERC) has to be guided by National Electricity Policy, National Tariff Policy and Central Electricity Regulatory Commission (CERC). As per Section 86 (1)(a) of the Electricity Act, the State Commission shall discharge the function of determining the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail as the case may be within the state. The generation, transmission and distribution tariff have to be determined separately.
2. The Section 61 of the Electricity Act, 2003 provides as under in respect of Tariff Regulations:

"The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely:-

(a) the principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;

(b) the generation, transmission, distribution and supply of electricity are conducted on commercial principles;

(c) the factors which would encourage competition, efficiency, economical use of the resources, good performance and optimum investments;

(d) safeguarding of consumers' interest and at the same time, recovery of the cost of electricity in a reasonable manner;

(e) the principles rewarding efficiency in performance;

(f) multi year tariff principles;

(g) that the tariff progressively reflects the cost of supply of electricity and also, reduces cross-subsidies in the manner specified by the Appropriate Commission;]

(h) the promotion of co-generation and generation of electricity from renewable sources of energy;

(i) the National Electricity Policy and tariff policy:

Provided that the terms and conditions for determination of tariff under the Electricity (Supply) Act, 1948, the Electricity Regulatory Commission Act, 1998 and the enactments specified in the Schedule as they stood immediately before the appointed date, shall continue to apply for a period of one year or until the terms and conditions for tariff are specified under this section, whichever is earlier."

3. The Delhi Electricity Regulatory Commission (hereinafter referred as "Commission") has notified "Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2011" on 02.12.2011, specifying the terms and conditions for determination of tariff for the control period FY 2012-13 to FY 2014-15. Hon'ble Commission has further extended the principles of MYT control period FY 2012-13 to 2014-15 to the next FY 2015-16.

4. Earlier PPCL has filed the tariff petition for determination of aggregate revenue requirement for the FY 2012-13 to 2014-15 without prejudice to its right to challenge the "Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2011" and subsequently PPCL have filed Appeal No. 2904 of 2013 before Hon'ble High Court against the same. The Petition has been accepted by Hon'ble Delhi High Court.

5. PPCL is filing this petition with certain relaxations. It is further submitted that PPCL is requesting the Hon'ble Commission to invoke its power of relaxation wherever required in the petition.

1.2 Brief Company Profile

1. "Pragati Power Corporation Ltd." (PPCL) is a Government Company engaged in Power generation within the meaning of Companies Act, 1956 and is wholly owned by the Government of National Capital Territory of Delhi.

2. To augment the power supply of city of Delhi, Government of Delhi set up 330 MW combined cycle gas based Pragati Power Project-I on fast track basis. Further it is a Generating Company as defined under Section 2(28) of The Electricity Act.

3. PPCL has installed another 1371.2 MW CCGT plant at Bawana in Delhi. The COD of the both modules of the stations has been declared on 27.03.2014. The power from the station is being sold to states of Delhi, Haryana and Punjab. Since, it is an inter-state generating station. Therefore, as per Section No.79(1) (a) & (b) of Electricity Act, 2003 determination of tariff of sub-generating station having composite scheme of generation and sale of electricity in more than one state is to be determined by Hon'ble Central Electricity regulatory commission. The tariff of the station is being determined by Hon'ble Central Electricity Regulatory Commission.

4. Pursuant to the applicable provisions of the Delhi Electricity Reforms Act, 2000, the Government of National Capital Territory of Delhi undertook the reform and restructuring of the erstwhile Delhi Vidyut Board (DVB), which was implemented through a statutory transfer scheme. The Transfer Scheme rules notified provided for reorganization of DVB including transfer of its properties, assets, liabilities etc. The transfer scheme provided for unbundling of the erstwhile DVB into five companies. PPCL also took over certain assets and liabilities relating to Pragati Power Station-I from erstwhile DVB w.e.f. 01.07.2002.

Chapter 2 : Submissions

1. This Chapter lays down the modality of making submissions to the Hon'ble Commission in support of the Prayers made out as under.

2.1 Submission Plan

1. PPS-I propose to make submissions to the Hon'ble Commission in support of this Petition as under:

- Operational Parameters for the Pragati Power Station-I
- Financial Parameters for Pragati Power Station-I
- Capital Expenditure for Pragati Power Station-I
- Prayer

2.2 Brief of Submissions

The petitioner requests the Hon'ble Commission to give due considerations to the following facts while evaluating the present tariff petition:

- The Hon'ble Commission has extended the principles of MYT control period FY2012-13 to 2014-15 to the next FY 2015-16. It is submitted that CERC has issued Central Electricity Regulatory Commission (Terms and Conditions of Tariff), Regulations, 2009. The Central Commission has modified number of parameters in the regulations. The present DERC MYT Regulations were framed in the year 2011 for the control period from FY 2012-13 to 2014-15. It may be appreciated that various circumstances and applicable principles have now changed. Hence, the principles as mentioned in the MYT Regulations cannot be extended in Toto to FY 2015-16. As per Section 61 of Electricity Act, the State Electricity Regulatory Commission (SERC) has to be guided by National Electricity Policy, National Tariff Policy and CERC Regulations. It is submitted that the extension of the principles of MYT Regulations for FY 2015-16 is detrimental to the interest of the Company on number of aspects. It is prayed that the norms for FY 2015-16 may be reviewed in the light of present circumstances and new CERC Tariff Regulations for FY 2014-15 to 2018-19. It is further prayed, CERC Tariff Regulations in respect of Return on Equity, Interest on Working Capital may kindly be applied from FY 2009-10.

- It is submitted that the norms for heat rate (kCal/kWh) in open cycle mode as specified in MYT Regulations are not achievable. The guaranteed heat rate as per the manufacturer works out to 2986 kCal/kWh which further needs to be escalated by 5% to arrive at the realistic operational heat rate for the station. The heat rate in combined cycle mode may also be escalated by 5% for fixing the heat rate in combined cycle mode.

- It is submitted that the Hon'ble Commission has fixed the normative annual plant availability factor of 85% for FY 2012-13 to 2014-15. The Hon'ble Commission has fixed the norm of 85% availability for PPS-I based upon the target availability fixed by CERC for NTPC Stations. The Hon'ble Commission did not consider the principles adopted by Hon'ble CERC, such as scope of operational flexibility and the practical difficulties faced by the station. The average availability achieved by the station during FY 2012-13 to FY 2014-15 (up to Dec) was around 87.67 % which is almost equal to norm of 85% fixed by Hon'ble Commission in MYT Regulations 2011 and the company has hardly any margin for earning incentives. It is prayed that it is not able to achieve the target availability of 85% due to reasons beyond its control, the Hon'ble Commission may kindly consider and relax the norm of target availability.

- It is submitted that Operation and Maintenance expenses on Gas Turbine repair is cyclic in nature as type of maintenance required in Gas Turbines depends upon no. of hours of use in given time period. The Hon'ble Commission has allowed an additional expenditure of Rs. 15.00 Crore each from FY 2012-13 to 2014-15. It is prayed that the Hon'ble Commission may kindly consider and allow actual Operation and Maintenance and Rs. 27.42 Crore per annum for FY 2015-16 towards repair & maintenance of DLN Burners for smooth operation of the station.

- It is further to submit that in the MYT Tariff Regulation, 2011, the return on equity has been fixed at 14%. It is humbly submitted that the Honorable Commission has fixed the pretax base rate of 15.5% in draft Generation Tariff Regulation in line with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for the MYT period from 01.04.2014 to 31.03.2019. However, the Honorable Commission has reduced the rate of return on equity to 14% in the final "Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2011". Even other state Commissions such as Maharashtra Electricity Regulatory Commission has kept the rate of return on equity at 15.5% for generation. It is prayed that the norm of rate of return on equity may kindly be relaxed and increased to 15.5% from 14% in line with the CERC Regulations, 2009 and 2014. Further, Hon'ble Commission while issuing the tariff order for previous years of current MYT period has not grossed up the recoverable Income-tax though the recovery of income-tax from the beneficiary becomes the part of the sales hence the further income-tax is also levied on the base income-tax. Based on the same input Central Electricity Regulatory Commission has also allowed grossing up of Income-tax in its generation tariff regulation, 2009 for the period FY 2009-10 to 2013-14 and also in its generation tariff regulation 2014 for the period FY 2014-15 to 2018-19. The relevant extract of CERC generation tariff regulation, 2009 is reproduced as under "The relevant extract is as under :

"(3) *The rate of return on equity shall be computed by grossing up the base rate with the normal tax rate for the year 2008-09 applicable to the concerned generating company or the transmission licensee, as the case may be:*

Provided that return on equity with respect to the actual tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the *provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up separately for each year of the tariff period along with the tariff petition filed for the next tariff period.*

(4) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below :

Rate of pre-tax return on equity = Base rate / (1-t)
Where it is the applicable tax rate in accordance with Clause (3) of this regulation.

Further, CERC in its generation tariff regulation, 2014 has also grossed up the rate of return of income-tax, the relevant extract of the same is reproduced as under :

"25. Tax on return on equity
(1)The base rate of return on equity as allowed by the commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the Financial acts by the concerned generating company or the transmission Licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of "effective tax rate".
(2) Rate of return on equity shall be rounded off to three decimal placed and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)
Where "t" is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT),'t' shall be considered as MAT rate including surcharge and cess.

Illustration :-

(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 20.96% including surcharge and cess:
Rate of return on equity = 15.50 / (1-0.2096) = 19.610%

(ii) In case of generating company or the transmission licensee paying normal corporate tax including surcharge and cess:

(a) Estimated Gross Income from generation or transmission business for FY 2014-15 is Rs.1000 Cr.

(b) Estimated Advance Tax for the year on above is Rs. 240 Crore.

(c) Effective Tax Rate for the year 2014-15 = Rs. 240 Crore / Rs.1000 Crore = 24%.

(d) Rate of Return on equity = 15.50 / (1-0.24) = 20.395%.

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income-tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/DICs as the case may be on year to year basis. "

It is submitted that petitioner has made certain capital additions from FY 2012-13 to FY 2014-15 and have projected the capital additions for FY 2015-16. Company has already taken in principle approval of Hon'ble Commission of the same. Besides, Company has incurred certain capital expenditure to meet the exigencies and for smooth operation of the Company. These expenditures were essentials and the same have been capitalized on the recommendation of statutory / Govt. Auditors. The Hon'ble Commission is, therefore, requested to true- up the Capital additions from FY 2012-13 to FY 2014-15 and approve the projections for FY 2015-16. Besides, Company has incurred certain other capital expenditure to meet the exigencies and for smooth operation of the Company. The Hon'ble Commission is requested to true- up the

Capital additions made by the Company from FY 2012-13 to 2014-15 and approve the projections of capital additions for FY 2015-16. Detailed submissions on each of the subject matters have been given in respective Chapters.

- It is submitted that SLDC Delhi has been backing down the generation of the stations depending on the requirement of power in Delhi. SLDC Delhi has been giving instructions to back down partially, thus resulting in non optimization of fuel consumption and higher Heat Rate and Auxiliary Power Consumption. **Therefore, Hon'ble Commission is requested to direct SLDC Delhi to back down any of the complete block of the station only and not partially. Further, it is requested that frequent backing down should not be resorted by SLDC.**
- The Hon'ble Commission has extended the principles of MYT control period FY 2012-13 to 2014-15 to the next FY 2015-16. It is submitted that CERC has issued Central Electricity Regulatory Commission (Terms and Conditions of Tariff), Regulations, 2014. The Central Commission has modified number of parameters in the regulations. DERC MYT Regulations were framed in the year 2011 for the control period from FY 2012-13 to FY 2014-15. It may be appreciated that various circumstances and applicable principles have now changed. Hence, the principles as mentioned in the MYT Regulations cannot be extended in Toto for the financial year 2015-16. Among the tariff related provisions, the State Electricity Regulatory Commission (SERC) has to be guided by National Electricity Policy, National Tariff Policy and CERC Regulations. It is submitted that the extension of the principles of MYT Regulations for FY 2015-16 is detrimental to the interest of the Company on number of aspects. It is prayed that the norms for FY 2015-16 may kindly be taken in line with new CERC Tariff Regulations 2014.

- The petitioner prays to the Hon'ble Commission to consider and relax the operational and financial parameters as requested in the petition as per clauses 7.5, 11.10, 11.14 of the MYT Regulations, 2011, in view of its practical difficulties which are beyond its control. The relevant clauses of the regulations are reproduced as under:

Clauses of MYT Regulations, 2011

"7.5 The Commission may prescribe relaxed operational norms including the norms of Normative Annual Plant Availability Factor contained in these Regulations for a generating station, and these relaxed norms shall be applicable for determination of tariff for such generating station during the Control Period.

Power of Relaxation

11.10 The Commission may in public interest and for reason to be recorded in writing, relax any of the provision of these Regulations.

Power to Amend

11.14 The Commission, for reasons to be recorded in writing, may at any time vary, alter or modify any of the provision of these Regulations by amendment."

Chapter 3 : Estimation of Variable Cost

3.1 Norms for Operation

Petitioner has taken into consideration actual performance parameters for FY 2012-13 to 2014-15 and based on these, petitioner has projected the parameters for FY 2015-16.

Petitioner requests the Hon'ble Commission to take lenient and practical view while truing up for the period FY 2012-13 to 2013-14 , approval revised estimates for FY 2014-15 and fixing the operational targets for Control Period FY 2015-16, considering the factors and principles considered by Hon'ble CERC in its tariff regulation for MYT Year From FY 2014-15 to FY 2018-19.

3.1.1 Station Heat Rate

1. Table1 depicts the SHR values for PPS-I as achieved during the control period FY 2012-13 to 2013-14 & FY 2014-15 and projected SHR for FY 2015-16.

Table 1 : Station Heat Rates (kCal/kWh) for PPS-I

Description	12-13	13-14	14-15	15-16
Station Heat Rate (Combined Cycle)	1989	1990	2036	2036
Station Heat rate (Open Cycle)	3121	3161	3135	3135

2. It is submitted that it is not always possible to achieve SHR of 2000 kCal/kWh in combined cycle mode and is not at all possible to achieve 2900 kCal/kWh in open cycle mode as specified in the DERC Regulations for MYT control period FY 2012-13 to FY 2014-15. The guaranteed heat rate of these turbines as given by the manufacturer is 1939 kCal/kWh in combined cycle mode and 2986 kCal/kWh in open cycle mode at 100% PLF. CEA has computed the Combined Cycle heat rate as 1978 kCal/kWh.

3. The Hon'ble Commission in its Regulations at point 7.3(b) on operational norms for gross heat rate for newly Commissioned projects allowed an additional factor of 5% over the designed heat rate.

4. The combined cycle heat rate computes to 2036 kCal/kWh and open cycle heat rate to 3135 kCal/kWh after applying the correction factor of 5%.

5. CEA has recognized that the operation efficiency or heat rate and other performance parameters of a Thermal Power Station depends on a number of factors which can be broadly classified as under:-
    a) Technology and equipment
    b) Ambient Conditions
    c) Fuel Quality
    d) Plant operation and maintenance practices.
    e) Unit Sizes
6. It is submitted that the Hon'ble Commission has not considered the prayer made by the petitioner for allowing higher heat rate on the ground that same norms are also fixed for 359.577 MW Rajiv Gandhi Combined Cycle Power Plant at Kayamkulam, a similar station of NTPC having 2x115.2 MW Gas Turbines + 1x129.177 MW STG. In this regard, it is submitted that the ambient and operating conditions at Kayamkulam (Kerala) are different to the ambient conditions of Delhi. The average yearly temperature at Kayamkulam is around 28.5^0C as compared to 31.5^0C in Delhi. The atmospheric pressure and humidity levels are also favorable as compare to Delhi. Further, from the manufacturer's data curve, it is evident that the average increase in temperature of 3^0C increases the heat rate of around 1.5%. The designed heat rate for RGCCP is 1928 kCal/kWh which is lower than the guaranteed heat rate of PPS-I.

7. Petitioner requests the Commission to allow a combined cycle heat rate of 2036 kCal/kWh on Gross Calorific Value (GCV) basis for the control period FY 2012-13 to 2014-15 and extended period of current MYT for FY 2015-16, considering the correction factor specified by Hon'ble Commission. It is submitted that apart from factors considered by CEA, PPS-I is also facing the problem of backing down of generation being a base load station, on the

instruction of SLDC, resulting into lower PLF and higher SHR. The petitioner requests the Hon'ble Commission that these are uncontrollable factors and should be considered with leniency at the time of truing–up for FY 2012-13 to FY 2014-15 and finalization of Tariff Order for extended period of FY 2015-16 for current MYT Regulation.

8. The actual Station Heat Rate in open cycle mode has been varying in the range from 3121-3213 kCal/kWh during the period FY 2012-13 to 2013-14 and to 2014-15 (Provisional). The manufacturer guaranteed heat rate is 2986 kCal/kWh at 100% PLF. It is further submitted that CEA has also considered the open cycle heat rate as 3075.3 kcal/kwh at 100% PLF on Page no. 24 of the report of December, 2004 on technical standards on operational norms for Gas Turbine stations. The Hon'ble Commission has given the reason to disallow the actual heat rate in open cycle mode that the station is expected to run in combined cycle mode most of the time and open cycle operation is rare. In this regard, it is submitted that the station runs in open cycle mode only as and when requisitioned by SLDC, Delhi. It is seen from the table-2 as below that backing down and open cycle generation has been substantially high. The backdown during FY 2012-13, 2013-14 and 2014-15 has been 4.11%, 7.86% and 18.75% respectively. The open cycle generation has also rising trend and same for FY 14-15 (upto Jan.,15) is 5.25%.

Table 2 : Details of Back down & Open cycle Generation for PPS-I

Parameters	2012-13	2013-14	2014-15 (Upto 31-Jan'15)
Station Heat Rate	2008.05	2002.94	2057.85
Heat Rate (OC)	3121.18	3161.23	3213.19
Heat Rate (CC)	1988.70	1989.94	1992.35
Gross Generation(MU)	2508.29	2425.35	1605.12
Open Cycle Gen.(MU)	42.343	26.919	84.245
Open Cycle Gen.(%)	1.68	1.11	5.25
Back down (MU)	107.547	210.437	370.431
Back down (%)	4.11	7.86	18.75

There is a direct loss on account of recovery of lesser fuel cost when operated in open cycle mode. This loss in absolute terms is on higher side. The Station always endeavour to run in combined cycle mode but, if operated in open cycle mode, on the request of SLDC, the station may be allowed higher heat rate of 3135kCal/kWh. The backing down and open cycle generation also results in increase in auxiliary consumption. **The petitioner requests the Hon'ble Commission to approve the open cycle heat rate of 3135 kCal/kWh for FY 2012-13 to FY 2014-15 and allow the actual SHR achieved in open cycle mode during the extended period of current MYT Regulation for FY 2015-16**.

3.1.2 Availability

1. Table 2 depicts the achieved parameter for Availability for PPS-I during the Control period from FY 2012-13 to 2013-14 and 2014-15 (Provisional) and proposed Availability for FY 2015-16.

Table 3 : Availability (%) for PPS-I

Description	12-13	13-14	14-15	15-16 (Estimated)
Plant Availability	90.50%	92.62%	85.00%	85.00%

2. The Hon'ble Commission has fixed the normative annual plant availability factor of 85% for FY 2012-13 to 2014-15 and extended period FY 2015-16. The Hon'ble Commission has fixed the norm of 85% availability for PPS-I based upon the target availability fixed by CERC for NTPC Stations. The Hon'ble Commission while fixing the norms did not consider the principles adopted by Hon'ble CERC such as scope of operational flexibility and the practical difficulties being faced by the station. The average availability achieved by the station during FY 2012-13, 2013-14 to 2014-15 (Provisional) was around 87.67% which is almost equal to norm fixed by Hon'ble Commission in MYT Regulations 2011 and the company has hardly any margin with the Target of 85% and to earn incentive.

3. The petitioner submits that Petitioner will make its all efforts to achieve the target availability of 85% as fixed by the Hon'ble Commission in the extended period of current MYT Regulations, 2011. It is prayed that in case if it is not able to achieve the target availability of 85% due to reasons beyond its control, the Hon'ble Commission may kindly consider and relax the norm of target availability.

3.1.3 Auxiliary Power Consumption (APC)

1. Table 4 depicts the achieved parameter for Auxiliary Power Consumption (%) in combined cycle mode during the control period FY 2012-13, 2013-14 and FY 2014-15 (Provisional) and proposed APC for extended period of current MYT FY 2015-16. The open cycle auxiliary power consumption (%) has been considered as 1%.

Table 4 : Auxiliary Power Consumption (%) in CC mode

Description	12-13	13-14	14-15	15-16 (Estimated)
Auxiliary Consumption	2.65	2.73	3.00	3.00

2. The Actual Auxiliary Power Consumption in combined cycle mode for PPS-I is in the range of 3%. PPS-I will continue to perform within the norm of 3% auxiliary power consumption in combined cycle mode and 1% in open cycle mode during extended period FY 2015-16 of current MYT Regulation.

3.2 Gross Generation and Net Generation

1. Gross generation of PPS-I for FY 2012-13, 2013-14 and FY 2014-15 (Provisional) is 2508.28 MU, 2425.35, MU and 1605.12 MU (Upto Jan.,'15) respectively. The estimated Gross generation of PPS-I is 2463.91 MU for the FY 2015-16. The Petitioner shall endeavor to perform at the target of generation at 85% Availability during FY 2015-16 in accordance with system requirement and provisions of new electricity Grid Code.

2. On the basis of Availability as referred in the Table 3 and Auxiliary Power Consumption as referred in Table 4, Gross and Net Generation from the Power Station are as per the Table 5.

Table 5 : Gross and Net Generation

Particulars	12-13	13-14	14-15	15-16 (Estimated)
Gross Generation (MU)	2508.28	2425.35	2457.18	2463.91
Auxiliary Consumption (%)	2.65%	2.73%	3.00%	3.00%
Net Generation (MU)	2441.83	2359.11	2383.46	2389.99

3.3 Variable Cost for PPS-I

3.3.1 Fuel Consumption:

1. Pragati Power Station-I has a long-term agreement with Gas Authority of India Limited (GAIL) for supply of Gas. Initially, PPS-I was having an allocation of 1.75 MMSCMD of APM Gas. This gas was sufficient to run both the Gas Turbines on base load. Due to depleting gas reserves of ONGC, GAIL has been imposing cuts on its supply on day to day basis. The present gas allocation on day to day basis is between 1.1 MMSCMD to 1.2 MMSCMD of APM gas and 0.28 MMSCMD of PMT gas. To meet the short fall in the gas supply, fall back agreement has been signed with GAIL for supply of spot R-LNG gas on take and pay basis. Recently, MoP&NG has allocated 0.02 MMSCMD non-APM ONGC gas whose supply has been commenced from mid October, 2011.
2. The Consumption of APM Gas, PMT Gas, R-LNG gas and Spot- Gas during the control period from FY 2012-13, 2013-14 and FY 2014-15 (Provisional) is depicted in Table 6.

3. During the MYT Control period FY 2012-13, 2013-14 and FY 2014-15 (Provisional), the station has also operated in open cycle mode. The quantum of open cycle generation calculated in terms of percentage is around 5.25% till Jan., 2015 for FY 2014-15 of the total generation of the station. However, the petitioner has not considered the open cycle generation for projection of fuel consumption during FY 2015-16.

4. Considering the heat rate of 2036 kCal/kWh in combined cycle mode at the gross calorific value of 9698 kCal/SCM, the gas consumption for FY 2015-16 has been estimated 517.27 MMSCM.

Table 6 : Total Consumption of Gas

Particulars	Unit	12-13	13-14	14-15	15-16 (Estimated)
APM Gas	MMSCM	377.321	358.200	198.475	
PMT Gas	MMSCM	49.661	38.965	21.357	
R-LNG Gas	MMSCM	92.715	101.424	90.405	
NAPM Gas	MMSCM	5.426	6.370	2.671	
Total Gas Consumption	MMSCM	525.123	504.959	312.909 (Upto Dec. 2014)	517.27

Projected Fuel Cost

1. There has been an increasing trend in Gas prices. However, the weighted average price of the Gas has been taken for preceding three months i.e. October to December, 2014 in line with the Regulations. The weighted average price of gas from October to December, 2014 for PPS-I is Rs. 20160.00 /1000 SCM.
2. The prices of APM /PMT gas are determined by Group of Ministers, GOI whereas Spot price of RLNG is driven by market fundamentals in the LNG market worldwide. The key pricing determinants will be the movement in Henry-Hub prices and crude oil prices.
3. Further, as per recent Govt. of India Order cost of APM, Non-APM and PMT gas has been revised w.e.f. 01.11.2014.
4. It is further submitted that the price of gas from all type of sources are increasing every year. However, it has been kept constant and no escalation has been provided in FY 2015-16, in line with the Regulations.

Variable Cost for Pragati Power Station-I

1. Based on above, Petitioner has estimated the total Fuel cost of Rs. 1042.82 Crores each for FY 2015-16 for generation on target availability of 85% in combined cycle mode at the heat rate of 2036 kCal/kWh. The computation of variable cost is enclosed as **Annexure-'A'**. The Variable Cost is depicted in the following Table.

Table 7 : Total Variable Cost

Particulars	Unit	Variable Cost
Total Gas Consumption	MMSCM	517.27
Average Gas Price	Rs./1000SCM	20160.00
Total Gas Cost	Rs. Crores	1042.82
Net Generation	MU	2389.99
Variable Cost - CC	**Rs./kWh**	**4.36**

2. The recovery of energy charges shall be in accordance with the formula specified in Generation Tariff Regulations, 2011 which is reproduced as under:

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

(b) For gas and liquid fuel based stations
ECR = GHR x LPPF x 100 / {CVPF x (100 - AUX)}
Where,

AUX = Normative auxiliary energy consumption in percentage.
CVPF = Gross calorific value of primary fuel as fired, in kCal per kg, per litre or per standard cubic metre, as applicable.
ECR = Energy charge rate, in Rupees per kWh sent out.
GHR = Gross station heat rate, in kCal per kWh.
LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month.

Chapter 4 : Estimation of Fixed Cost

4.1 Parameters for Fixed Cost

1. Total fixed cost of PPS-I for the period FY 2012-13, 2013-14 & FY 2014-15 (Provisional) is based on actual audited accounts, FY 2014-15 is based on provisional accounts up to December, 2014 and pro rata projections thereof and FY 2015-16 is based on estimation.

2. Fixed cost calculations include the following components:
   a. Operation & Maintenance Expenses
   b. Interest on loan
   c. Depreciation
   d. Advance against Depreciation
   e. Return on Equity
   f. Interest on Working Capital

4.2 Operation and Maintenance Expenses

The Hon'ble Commission in its Generation Tariff Regulations, 2011 has considered the Operation and Maintenance expenses as under:

"Operation and Maintenance Expenses

6.39 Normative Operation and Maintenance (O&M) expenses shall comprise the following:

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

(b) Administrative and General costs;

(c) Repairs and maintenance; and

(d) Other miscellaneous expenses.

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

O&Mn = (R&Mn + EMPn + A&Gn) * (1 - Xn)

Where,

R&Mn = K * GFAn-1;

EMPn + A&Gn = (EMPn-1 + A&Gn-1) * (INDX); and

INDX = 0.55 * CPI + 0.45 * WPI

EMPn - Employee Costs of the Licensee for the nth year;

A&Gn – Administrative and General Costs of the Licensee for the nth year;

R&Mn – Repair and Maintenance Costs of the Licensee for the nth year;

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

Where,

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

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

As per the above definition, the base Year for MYT period FY 2012-13 to 2014-15 was taken as FY 2011-12 and the INDEX in the preceding five years was computed as 7.91%. Accordingly, base year for tariff petition for FY 2015-16 and the computation of the Index is as under:-

Table 8 : Computation of INDEX

Financial Year	Wholesale Price Index		Consumer Price Index	
	Value	% Change	Value	% Change
FY 2008-09	126.02		144.83	
FY 2009-10	130.81	3.81%	162.75	12.41%
FY 2010-11	143.32	9.56%	179.75	10.45%
FY 2011-12	156.13	8.94%	194.83	8.38%
FY 2012-13	167.62	7.35%	215.16	10.43%
FY 2013-14	177.64	5.98%	236	9.68%
Average		7.13		10.26%
Weightage		0.45		0.55
INDEX	**8.85%**			

O&M expenses comprise of Employees Expenses, Repairs and Maintenance, Administrative and General Expenses, Water Charges, etc. The O&M expenses for FY

2012-13 to 2013-14 are based on the audited accounts and for FY 2014-15 are provisional. Further, for FY 2015-16 O&M expenses are based on the projections for the period.

4.2.1 Employees Expenses

Employee expenses comprise of salaries, dearness and other allowances, ex-gratia, contribution towards terminal benefits, leave encashment, staff welfare expenses etc.

However, it is submitted that as per the transfer scheme, the terms and condition of service applicable to the erstwhile employees of Delhi Vidyut Board in the transferee company shall in no way be less favorable or inferior to that applicable to them immediately before the transfer. Their service shall continue to be governed by various rules and laws applicable to them prior to unbundling. The salaries of employees of the company are governed by FRSR structure. The company has to mandatory follow the salary structure as per the FRSR and it has no control over the same. Hence, the increase in dearness allowance, Pay & allowances are at par with the increase allowed to Government employees. The Government allows two installments of DA every year effective in July and January. Due to high inflation in the past, the DA increased in the range of 14% to 18%. The increase in Basic salary further increases other allowances like DA, HRA. The average increase in salary of employees is more than 16.33% against the indexation factor of 8.85% as fixed by Hon'ble Commission in the MYT Regulations 2011 for the Control period for FY 2012-13 to FY 2014-15. It will further increase in the extended period FY 2015-16 of current MYT Regulation. it is, further submitted to Hon'ble Commission that the headquarters of IPGCL & PPCL are common and the employees posted at headquarters are rendering services to both the companies. The common headquarters is helpful in economizing the expenses for both the companies as well as for providing better facilities. The expenses of employees posted at headquarters are allocated between IPGCL & PPCL in FY 2012-13, 2013-14 & 2014-15, 2015-16 in the ratio of 50:50 and allocation between PPS-I and PPS-III has been in the ratio of weighted average installed capacity of the plants.

Employee expenses for FY 2015-16 are based upon the actual employee expenses for the base year FY 2014-15 escalated by a factor of 8.85% annually.

The petitioner prays to the Hon'ble Commission that salaries/employee cost increase should be considered as uncontrollable factor. The petitioner would not be in the position to not allow these increases as any deviation will be against law/policy. Further, 7th Pay Commission for Central Govt. Employees has already been formulated. Earlier, the salary structure of petitioner's employees has been in line with the recommendations of the Central Pay Commission and has been synchronized with implementation date of these regulations with Central Govt. Therefore, 7th Pay Commission recommendations which are likely to be implemented in January, 2016 may have impact on employees salary and expenses of the petitioner.

Table 9 : Employee Expense for PPS-I

Particulars (Rs. Crores)	12-13	13-14	14-15	15-16 (Estimated)
PPS-I	**18.03**	**18.75**	**20.41**	**22.22**

The Hon'ble Commission is, therefore, requested to approve employee expenses escalation index, employees expenses for FY 2012-13 to FY 2014-15 and allow projected employee expenses for FY 2015-16 as summarized in Table 9 after considering the above facts.

4.2.2 Repair & Maintenance

1. These expenses include expenses on repairs and maintenance of Plant and Machinery, Building, Civil works, Vehicles, Furniture & Fixtures, Office equipment, etc.

1. Pragati Power Station-I is sourcing plant water requirement from the treated effluent water from sewage treatment plants and has to incur more cost to get raw water, as compared to other similar stations being operated elsewhere in the country, drawing water from river and paying nominal water cess. PPS-I has taken over the operation of the sewage water treatment plants from Delhi Jal Board for treating the sewerage water from Delhi Gate Nala

and Sen Nursing Home Nala. The estimated expenditure on this account is Rs.4.67 Crore during the FY 2015-16 which mainly includes expenditure on operation, electricity, Chemicals etc. Petitioner may further like to submit that These plants were commissioned by Delhi Jal Board , after handing over to these plants to petitioner , are being operated round the clock to supply uninterrupted raw water to PPS-1. Operation and Maintenance of the Plant is entrusted to originally equipment manufacturer M/s./ Degremont on year to year contact basis. Being in operation for more than 15 years some of the major equipments require replacement / extensive maintenance to ensure continuous smooth operation of plant.

The following are the major equipment requiring replacement/extensive maintenance is required in each of STP:

Table 10 : Expenditure for each STP

Sr.No.	Name of Equipment	Amount in Rs. Lacs
1.	Topping up of Biolite filter media	68.44
2.	Replacement of Coarse screen	13.00
3.	Replacement of 20 mm & 5 mm screen	08.00
4.	Replacement of Pressdeg belt filter dewatering machine with belt and Rotatary Compressor	44.00
5.	Raking of biolite filtere media	29.50
	Total	Rs.162.94 Lacs

Accordingly mid life renovation of expenditure of Rs.162.94 Lacs is required for each STP. It is being planned and proposed to carry out extensive maintenance work at one of the STPs during the year 2015-16 and another in the subsequent year 2016-17.Considering the essential O&M requirement to ensure continuous raw water supply for the plant, Hon,ble commission is requested to allow above the expenditure as part of STP during FY 2015-16 and FY 2016-17.

2. Petitioner has projected R&M expenses for PPS-I for FY 2015-16 by escalating R&M expenses of Fy 2014-15 @8.85%. The R&M expenses are based upon the assessment of the maintenance activities to be carried out as per the manufacturer’s recommendation and other maintenance practices followed, based on the experience.

3. Petitioner further submits that it has installed DLN Burner at PPS-I to control the NOx level. These types of burners were installed for the first time in India. 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 PPS-I for the smooth operations of the plant and to achieve the target level of generation. All the inspections and overhauling of the machines are as per the manufactures recommendation. The expenditure on DLN Burners are cyclic in nature and its amount vary from year to year depending upon the type of inspections carried out on the machines based on the running hours. The Hon'ble Commission has allowed Rs. 15 Crore additional R&M expenses every year during the Control period FY 2012-13, 2013-14 & 2014-15. It may be observed from the expenditure table that repair and maintenance expenditure including expenditure on DLN burners has varied significantly during the period on year to year basis only due to reasons that schedule of overhauling of Gas Turbine and DLN Burners are cyclic in nature. Therefore, Hon'ble Commission while allowing expenditure on account of DLN Burners previously have smoothen the allowed charges to reduce the impact in a single year in which the expenditure is actually incurred. During financial year 2013-14 and 2014-15 of current MYT period major maintenance activities carried out are Combustion Inspection of GT#1, Hot Gas Path Inspection of GT#2, Exciter Overhauling in FY 2012-13; Major Inspection of GT#1, Overhauling of Generator and Exciter, Combustion Inspection of GT#2, Bearing Inspection and Exciter Overhauling of STG in FY 2013-14 and Major Inspection of GT#2 & Generator and Exciter overhauling in FY 2014-15. The expenditure on account of expenditure on DLN Burner has been Rs. 34.1 Cr. during the year 2012-13, 2013-14 and 2014-15. The expenditure on account of DLN burner and critical components of Gas Turbine will continue to be incurred in the extended period FY 2015-16 of current MYT Regulation. Hon'ble Commission is accordingly requested to allow Rs. 27.42 Cr. in FY 2015-16 on account of expenditure on DLN Burners.

4. The actual Repair & Maintenance expenses including additional expenditure on account of DLN burners and expenditure on STP for sewage treated water during the control period FY 2012-13, 2013-14 and 2014-15 (Provisional) and estimated expenditure for FY 2015-16 are depicted in the table as under:

Table 11 : R&M Expenses of PPS-I

Sl. No.	Particulars (Rs.Cr.)	12-13	13-14	14-15	15-16 (Estimated)
A	**R&M expenses including additional expenditure on account of DLN Burners & STP**	44.84	23.77	58.33	68.12
B	Expenditure on DLN Burners included in A	12.38	0.67	21.05	27.42
C	Expenditure on Water from Sewage Treatment Plant included in A	3.93	4.15	4.18	4.67

5. The Hon'ble Commission is requested to allow the R&M expenses as mentioned for FY 2015-16 as given above for the smooth operations of the plant to achieve the target level of generation.

4.2.3 Administrative & General expenses

1. Administration expenses mainly comprise of security expenses, rents, insurance, telephone and other communication expenses, professional charges, conveyance & traveling allowances, etc.

2. PPCL has deployed CISF for the security of its plants. Their manpower deployment and expenditure are as per their specified norms. Their pay structure is also governed by the Central Government rules. It is further submitted that GoI has imposed service tax w.e.f. 01st May, 2006 on security agency services through Finance Act. Ministry of Home Affairs has decided to charge service tax on the services provided by CISF w.e.f. 1st April, 2009 and service tax for the period prior to 01.04.2009 is not payable pending decision by GoI. The company is paying service tax of 10.3% additionally on the services provided by CISF. Accordingly, the expenditure on security has also increased substantially. Petitioner may further like to say that during FY 2012-13 to 14-15 the increase in Dearness Allowance (DA) of Central Govt. employees

has been increased 14%, 18% & 17 % respectively. This increase in DA is applicable to employees of the petitioner and CISF personnel. However , increase in salary for FY 2015-16 has been taken average of above @ 8.85%. Details of increase in DA is given in table as below. Further, 7th Pay Commission for Central Govt. Employees has already been formulated. The salary structure of CISF is determined in accordance with the recommendations of the Central Pay Commission. Therefore, 7th Pay Commission recommendations which are likely to be implemented in January, 2016 may have impact on expenses on account of deployment of CISF at the power stations of the petitioner.

Table 12 : Increase in DA of employees during FY 2012-13 to 2014-15

Effective Dates	Increased DA	Total cumulative DA
1.1.2012	7%	65%
1.7.2012	7%	72%
1.1.2013	8%	80%
1.7.2013	10%	90%
1.1.2014	10%	100%
1.7.2014	7%	107%

3. PPS-I has taken a comprehensive Industrial all risk policy for insurance of the plant. The risk covered in the policy is mainly fire, flood, earthquake, terrorism and breakdown. Company paid premium of Rs. 4.2465 Cr., Rs. 3.9415 Cr., Rs 3.74 Cr. during the FY 2012-13, FY 2013-14 & FY 2014-15. The petitioner may incur Rs. 4.07 Cr. or more during FY 2015-16.

4. Company has implemented the ERP system in year 2009. The Hon'ble Commission has allowed additional expenditure on account of ERP for FY 2011-12 and 2012-13 to FY 2014-15 based upon the Annual Maintenance Fee

of SAP licensees and other hardware suppliers, support and training requirements etc. The petitioner may continue to incur similar expenditure in FY 2015-16 on account of ERP.

5. Accordingly, Petitioner has projected A&G expenses for FY 2015-16 by applying an indexation factor of 8.85% annually on the estimated cost for FY 2014-15 except of expenditure on CISF & ERP.

6. The Hon'ble Commission is requested to approve the MCD property/service tax, water cess, other taxes etc. as pass-through on actual basis besides the other O&M expenses as allowed in the current MYT period of FY 2012-13, 2013-14 & 2014-15.

7. The A&G expenses during the Control period FY 2012-13, 2013-14 & 2014-15. and estimated for FY 2015-16 are presented in Table 13.

Table 13 : A&G Expenses

Particulars (Rs Crores)	12-13	13-14	14-15	15-16 (Estimated)
A&G Expenses	**12.87**	**12.51**	**15.23**	**16.58**

8. The Hon'ble Commission is requested to approve the A&G expenses for FY 2012-13, 2013-14 & 2014-15 as per actual and as projected during FY 2015-16.

4.2.4 Summary of O&M expenses

The summary of Operation and Maintenance expenditure for FY FY 2012-13, 2013-14 & 2014-15 as per actual and as estimated for FY 2015-16 is as under:

Table 14 : O & M Cost

Description (Rs. Crores)	12-13	13-14	14-15	15-16 (Estimated)
O&M expenses	**75.74**	**55.03**	**93.97**	**106.91**
Employee expenses	18.03	18.75	20.41	22.22
R&M expenses	44.84	23.77	58.33	68.12
A&G expenses	12.87	12.51	15.23	16.58

The Hon'ble commission is requested to allow Operation & Maintenance expenses as presented above as per actual for FY 2012-13 to FY 2014-15 and as projected for FY 2015-16.

4.3 Interest on Loan

1. Interest expenditure on account of long-term loans depends on the outstanding loan, repayments and applicable interest rates.
2. PPS-I had taken a loan of Rs. 675.3 Crore from Power Finance Corporation Ltd. to fund the project. The loan is repayable over a period of 10 years and the interest rate on the loan varies from 6.25% to 12 % depending on the period of disbursement. The loan has been paid in FY 2013-14.
3. Petitioner has made certain capital additions in PPS-I during the Control period FY 2012-13, 2013-14 & FY 2014-15. The same has been funded through Reserve and surplus. As per Regulations, 70% of the capital additions have been considered to be funded through Loans. Accordingly, interest on this loan has been taken @ 11.00%.
4. The Interest Charges during the Control period FY 2012-13 to FY 2014-15 and extended period of FY 2015-16 has been shown in Table 15. Hon'ble Commission is requested to approve the Interest and finance charges.

Table 15 : Interest Charges

Particulars (Rs Crores)	12-13	13-14	14-15	15-16 (Estimated)
Interest Charges	8.93	2.65	1.15	1.08

4.4 Depreciation

1. The Hon'ble Commission has approved the Opening Gross Fixed Asset of Rs. 1031.57 Crores in the beginning of FY 2007-08 and accorded in–principle approval for implementation of Enterprise Resource Planning system in the company. The share of cost of ERP implementation in PPS-I was Rs. 2.48 Crore in FY 2009-10. Beside ERP, certain other capital additions were made during the control period of previous MYT and in year 2012-13, 2013-14 and 2014-15 of current MYT.

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

3. Depreciation amount during the control period from FY 2012-13, 2013-14 and 2014-15 has been as per the Depreciation Rates specified under Generation Tariff Regulations, 2011 issued by the Hon'ble Commission. The depreciation allowed by Hon'ble Commission since 2002-03 till 2014-15 along with advance against depreciation is as per table below:

Table 16: Details of accumulated Depreciation

Year	Depreciation allowed by DERC	AAD allowed by DERC
2002-03	35.55	0
2003-04	53.87	0
2004-05	53.87	13.70
2005-06	59.23	1.48
2006-07	59.23	7.82
2007-08	59.63	7.15
2008-09	59.76	7.02
2009-10	59.97	6.81
2010-11	60.06	6.72
2011-12	60.14	6.64
2012-13	52.97	
2013-14	52.97	
2014-15	52.97	
2015-16		
Total	**720.22**	**57.34**
Total Depreciation & AAD		**777.56**

Thus, total accumulated depreciation (including advance against depreciation) upto FY 2014-15 is Rs. 777.56 crores. Further, total gross block for FY 2014-15 as per books is Rs. 1053.66 Crores. Accordingly, allowed depreciation upto 90% is Rs. 948.29 Crores. Thus, balance depreciation Rs. 170.73 crores is to be recovered in balance life of twelve years at rate of Rs. 14.23 crores per years.

4. The Hon'ble Commission is requested to approve the actual Depreciation for FY 2012-13 to FY 2014-15 and as projected for extended period 2015-16 of current MYT Regulation.

Table 17 : Depreciation

Particulars (Rs Crores)	12-13	13-14	14-15	15-16 (Estimated)
Depreciation	**55.76**	**55.17**	**53.83**	**14.23**

4.5 Return on Equity

1. The Return on equity has been computed on approved equity of Rs. 323.19 Crores of the project and the 30% equivalent amount of the capital additions made during the Control period.
2. The Hon'ble Commission has fixed the pretax base rate of 15.5% in draft Generation Tariff Regulation in line with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 for the period FY 2009-14. However, the Hon'ble Commission has further reduced the rate of return on equity to 14% in the final "Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2011".
3. It is submitted that the Hon'ble Commission has not appreciated the principles enumerated by Hon'ble Central Electricity Regulatory Commission for increasing rate of return on equity to 15.5% from existing14%. Honorable Commission has fixed the pretax base rate of 15.5% in draft Generation Tariff Regulation in line with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for the MYT period from 01.04.2014 to 31.03.2019. However, the Honorable Commission has reduced the rate of

return on equity to 14% in the final "Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2011". Even other state Commissions such as Maharashtra Electricity Regulatory Commission has kept the rate of return on equity at 15.5% for generation. It is prayed that the norm of rate of return on equity may kindly be relaxed and increased to 15.5% from 14% in line with the CERC Regulations, 2009 and 2014. Further, Hon'ble Commission while issuing the tariff order for previous years of current MYT period has not grossed up the recoverable Income-tax though the recovery of income-tax from the beneficiary becomes the part of the sales hence the further income-tax is also levied on the base income-tax. Based on the same input Central Electricity Regulatory Commission has also allowed grossing up of Income-tax in its generation tariff regulation, 2009 for the period FY 2009-10 to 2013-14 and also in its generation tariff regulation 2014 for the period FY 2014-15 to 2018-19.

4. The petitioner has requested the Hon'ble Commission to retain the norm of 15.5% based upon the principles followed by CERC. The extract of the submission of the petitioner is reproduced as submitted during the finalization of MYT Regulation, 2011:

"This is in reference to the meeting held in the office of Hon'ble Commission on 22.11.2011 in respect of draft MYT Regulations. The Hon'ble Commission has given the rate of return on equity at 15.5% in line with the CERC Regulations in draft MYT Generation Tariff Regulations. During the meeting, a comparison was made between the rate of return on equity of generating companies and distribution companies.

It is submitted that rate of return on equity as fixed by Hon'ble Commission in past were in line with the rate of return on equity fixed by CERC. Every business has its own risk and there can not be any comparison between the risks of two businesses. The generating companies are having much bigger risk as compared to distribution companies as any break-down affects the whole station while in distribution companies, there operation risk is limited to particular area/locality only.

In this regard, the attention of the Hon'ble Commission is drawn to the reasons stated by CERC for increase in return on equity. CERC in its statement of reasons for terms and conditions, Regulations, 2009. The reasons are reproduces as under:-

13.4 Section 61 (d) of the Electricity Act, 2003 provides that the Commission, while specifying the terms and conditions for the determination of tariff, shall be guided by the principle of 'safeguarding of consumers interest and at the same time, recovery of cost of electricity in a reasonable manner'. Para 5(3)(a) of the Tariff Policy stipulates that:

'Balance needs to be maintained between the interests of consumers and the need for investments while laying down rate of return. Return should attract investments at par with, if not in preference to, other sectors so that the electricity sector is able to create adequate capacity. The rate of return should be such that it allows generation of reasonable surplus for growth of the sector'

13.5 The Commission has thus the mandate to fix a rate of return for equity that will not only attract investment and generate sufficient resources for further growth in the sector but also to take care of the consumers' interest. The interests of the consumers are taken care of in real sense only when quality power is made available for twenty four hours a day throughout the year. This could be achieved only through large capacity addition which in turn will require huge investment in the power sector. Considering the investment pattern of 70:30 debt-equity ratio, the utilities are required to build up sufficient internal accruals so that they are able to meet the target of investing at least 30% of capital cost in the form of equity. A higher investment in the form of equity also helps the entities in negotiating and availing loan at competitive terms and conditions.

13.6 The power sector in India during last few years has been able create a lot of enthusiasm amongst the investors and attract investment. In the last five years, there have been rapid developments in the equity market and debt market related to power sector in India. Various CPSUs and private entities working in power sector have entered into primary market to raise funds. The sector is at the take off stage at present and there is a need to ensure that the confidence evinced is sustained.

13.7 The rate of return on equity can be fixed by using any of the scientific model like dividend growth model, price/earning ratio, capital asset pricing model, risk premium model, etc or by linking to an appropriate benchmark with a mark up. As on date only few entities working in power sector in India have entered into primary market and that too, very recently. To calculate the rate of return by using a scientific model, one needs sufficient volume of related data for calculation of beta value, expected rate of return, P/E ratio, etc. Except a

few companies such as NTPC, Reliance Energy, PGCIL etc, not many generating companies and transmission licensees particularly in the State Sector are listed in the Stock Exchange. As sufficient data in regard to the power sector, particularly scripts traded in the secondary market, are not available, the Commission does not favour to estimate the rate of return by using any of the scientific models.

13.8 The Commission also discussed the option of linking rate of return on equity to an appropriate benchmark with a mark up. The rate of return on equity may be linked to an appropriate benchmark like RBI Bank Rate, SBI PLR, Average PLR, 10 yr G-Securities Rate, etc. However, the Commission cannot remain oblivious of the realities of the debt market, more so of the fluctuations in interest rates as witnessed in recent past. The debt market in India is not yet stable. The Commission feels that unless the debt market stabilizes, it may not be feasible to arrive at an appropriate benchmark rate. This leads to difficulty in linking the rate of return to a benchmark with a mark up.

13.9 It may be noted that in the last five years there has been a rise in the interest rate. The Prime Lending Rate (PLR) of the public sector banks have increased during this period, as is seen from the table given below:

Year	PLR of Public Sector Banks (%)
March 2004	10.25-11.50
March 2005	10.25-11.25
March 2006	10.25-11.25
March 2007	12.25-12.75
March 2008	12.25-13.50
January 2009	12.00-14.00

The interest rate of 10-year Government securities has also increased from 5.1461% as on March 2004 to 7.1197% as on November 2008.

13.10 The Commission allowed rate of return on equity of 16% and 14% for the tariff period 2001-04 and 2004-09 respectively. The PLRs of State Bank of India during 2001 and 2004 were 11.50% and 10.25% respectively. But as on 1st January 2009, the PLR of State Bank of India is 12.25%. After considering the rise in the PLR of the public sector banks, 10-year G-Sec, etc and also in order to help the entities to build up sufficient internal accruals for the purpose of investment in capacity addition and to ensure better cash flow, the Commission considered & deliberated to restore the rate of return at 16% as was existing

prior to 1.4.2004. After consultations & deliberations it was decided to increase the base rate from 14% to 15.5% and an additional 0.5% for timely competition as explained below.

5. The petitioner further submits that disparity in return on equity puts the augmentation of capacity in Delhi state at higher risk than at Center and other states.
6. The petitioner has considered the Return on Equity @ 14% in the present petition as per the rate specified by Hon'ble Commission in its Generation Regulations for the respective period. The taxes on Income shall continue to be reimbursed as per the existing norms of DERC Regulations, 2011. However, Hon'ble Commission while issuing the tariff order for previous years of current MYT period has not grossed up the recoverable Income-tax though the recovery of income-tax from the beneficiary becomes the part of the sales hence the further income-tax is also levied on the base income-tax.
7. The details of return on equity are given in table 18.

Table 18 : Return on Equity

(Rs. Crore)

S No	Particulars	12-13	13-14	14-15	15-16 (Estimated)
1	Equity (Opening Balance)	323.78	328.66	328.72	328.75
2	Net additions during the year	4.88	0.06	0.03	0
3	Equity(Closing Balance)	328.66	328.72	328.75	328.75
4	Average Equity	326.22	328.69	328.73	328.75
5	Rate of Return on Equity	17.52%	17.71%	17.71%	17.71%
Return on Equity		**57.15**	**58.22**	**58.23**	**58.23**

Hence it is prayed to Hon'ble Commission to consider and relax the norm and allow the rate of return on equity@ 15.5% in line with the CERC Regulations."

Further, revised tax rates with gross as per above provisions for PPS-I will be as follows:

Table 19 : Income tax with grossed up ROE

Particulars		FY 2012-13	FY 2013-14	FY 2014-15
Average Equity (Rs. Cr.)	A	326.22	328.69	328.73
Base Rate of return on equity	B	14%	14%	14%
Normal Income tax as considered by Hon'ble Commission	C	20.01%	20.9605%	20.9605%
Gross up return on equity	D (B/(1-C)	17.502%	17.7127%	17.7127%
Return on equity (Rs. Cr.)	E (AxD)	**57.15**	**58.22**	**58.23**
Base Return on Equity (Rs. Cr.)	F (AxB)	45.67	46.02	46.02
Income tax component (Rs. Cr.)	G (E-F)	11.48	12.20	12.21
Approved in Tariff Order (Rs. Cr.)	H (FxC)	9.07	9.07	9.07
Difference (Rs. Cr.)	I	2.41	3.13	3.14

Accordingly Hon'ble Commission is prayed to allow Income Tax as under:

Table 20 : Revised Income tax with grossed up ROE for FY 2012-13 to 2014-15

Particulars	FY 2012-13	FY 2013-14	FY 2014-15
PPS-I	11.48	12.20	12.21

Hon'ble Commission is requested to allow tax for FY 2015-16 as submitted by petitioner.

4.6 Interest on Working Capital

1. Petitioner has calculated the Interest on Working Capital as per the following norms:

   - Cost of fuel for 1 month
   - O&M expenses for 1 month
   - Receivables equivalent to 2 months average billing

2. Maintenance Spares @ 30% of the O&M expenses for FY 2015-16 @1% of project cost plus escalation.
3. The petitioner submits that the fuel cost has increased steeply in FY 2014-15. The Hon'ble Commission has determined the cost of fuel for 1 month and receivables equivalent of 2 months in working capital requirement based upon the initial gas price. This increase in prices of fuel had substantial impact on certain components considered in the computation of working capital and resultantly the interest on working capital has considerably increased in comparison to the interest allowed by the Commission. Accordingly, the petitioner has revised working capital and submits as under:

Table 21 : Total working Capital

Particulars (Rs Cr.)	12-13	13-14	14-15	15-16 (Estimated)
Cost of Fuel for 1 month	55.28	64.82	86.66	86.90
O&M expenses for 1 month	6.31	4.59	7.83	8.91
Receivables equivalent to 2 months average billing	150.69	165.85	217.55	213.60
Maintenance Spares	22.72	16.51	28.19	32.07
Total Working Capital	**235.01**	**251.76**	**340.24**	**341.49**

4. The rate of Interest for FY 2012-13 to FY 2014-15 has been computed in line with the Generation Tariff Regulations, 2011. The base Rate of State Bank of India is 10% w.e.f 07.11.2013. The rate of Interest for FY 2012-13 to FY 2014-15 is computed as 13.5% by additionally allowing 350 basis points on base rate of SBI. The interest on working capital during the Control period from FY 2012-13 to FY 2014-15 and extended period 2015-16 is summarized as under
5. The interest on working capital during the Control period from for FY 2012-13, 2013-14 & 2014-15 and for extended period FY 2015-16 is as per under mentioned table. The petitioner requests the Hon'ble Commission to true- up the interest on working capital for previous years of current MYT period and allow the estimated interest on working capital for FY 2015-16.

Table 22 : Interest on Working Capital

Description (Rs. Crore)	12-13	13-14	14-15	15-16 (Estimated)
Total Working Capital	**235.01**	**251.76**	**340.24**	**341.49**
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest on Working capital	**31.73**	**33.99**	**45.93**	**46.10**

Therefore, the Hon'ble Commission is requested to allow working capital as per above due to steep rise in fuel prices.

4.7 Annual Fixed Cost of Pragati Power Station-I

1. The total actual Fixed Cost[1] for the control period FY 2012-13, 2013-14 & 2014-15 (Estimated) and projection for the FY 2015-16 is summarized in Table 19.

Table 23 : Total Annual Fixed Cost

Particulars (Rs. Crores)	12-13	13-14	14-15	15-16
O&M Charges	75.74	55.03	93.97	106.91
Depreciation	55.76	55.17	53.83	14.23
Interest on Loans	8.93	2.65	1.15	1.08
Return on Equity	57.15	58.22	58.23	58.23
Income-tax	11.43	12.20	12.20	12.20
Interest on Working Capital	31.73	33.99	45.93	46.10
Total Fixed Cost	**240.74**	**217.26**	**265.32**	**238.76**
Net Generation (MU)	2441.83	2359.11	2383.46	2389.99
Fixed Cost Per Unit (Rs/Kwh)	**0.9859**	**0.9209**	**1.1132**	**0.9990**

The Performa giving details of above as per DERC format are enclosed as **Annexure-B.**

2. On the basis of above submissions, the Hon'ble Commission is requested to true-up the total fixed cost for PPS-I for the control period FY 2012-13, 2013-14 and 2014-15 (Estimated) and approve the total fixed cost for the period FY 2015-16.

Chapter 5: Capital Expenditure

5.1 Capital Expenditure

In this regard, Petitioner may like to submit that PPS-I is designated consumer under PAT Scheme of Bureau of Energy Efficiency, Ministry of Power, GOI, Notification on 30th March, 2012. The PAT framework has been developed considering the legal requirement under EC Act, 2010. The PAT scheme is involved in Order to incentivize industry to achieve better energy efficiency improvement than their specified SEC improvement targets in a cost effective manner. BEE, the nodal agency for implementation of PAT had given target to petitioner to reduce its net specific heat rate (NSHR) from average heat rat of 2068 to 2061 Kcal/kWh during 2012-13 to 2014-15. This has been computed for average annual net generation of 2352 MU. Earlier, the petitioner had submitted energy efficiency improvement scheme of the station of the petitioner. The schemes undertaken for energy efficiency improvement are capital in nature, therefore, schemes like replacement of fan coolers, BFP speed reduction have been approved as capex by Hon'ble Commission and implemented. Due to implementation of above schemes petitioner will be able to achieve target TOE (Tones of Oil Equivalent) of 4939.2 during FY 2012-13 to 2014-15. However, in the next PAT cycle of FY 15-16, 16-17, & 17-18 petitioner needs to implement energy saving schemes to achieve the target set by BEE for the period. Petitioner had framed some action plan for energy efficiency improvement during next PAT cycle before notification for next PAT cycle is issued. Some of such schemes are variable frequency drive in boiler feed pumps to further reduce the auxiliary consumption, LED tube lights and bulbs in place of conventional tube lights and Bulbs. Apart from above, there are certain expenditure required for arresting deterioration in output, reliability of equipments. Such schemes being proposed by the petitioners includes procurement of spare GT and STG generators, GT compressor rotor and IGV, replacement of cooling tower fills, renovation of side steam filtration of CW system. Apart from above, there are some investments required for procuring software for HMI / DAS system of steam turbine control system due to obsolence and non availability of spares and services. Petitioner may further like to submit that Delhi Pollution Control Board have mandated to provide online pollution monitoring system at main stack of both the HRSGs of PPS-I. This will require an expenditure of Rs.48.16 lacs.

In view of the above, petitioner have compiled list of Capex schemes along with their cost, year of implementation and possible impact on performance and reliability of the plant. Further schemes in table 24 though approved by Hon'ble Commssion for Implementation during FY 2012-12 , FY 2013-14 and FY 2014-15 will get spilled over next years as per following details:

Table 24 : Details of carry over capex schemes

Sr. No.	Scheme	Approval from DERC	Estimate (Rs. In Lacs)	2014-15			2015-16			Status
1	Up-gradation of Mark V control system to Mark Vie control system for GT#1 & 2	Approved	**1040**	628.20	91.96	720.16	576.83	84.70	661.53	PO placed on OEM for both GTs Implemented in GT 1. Shall be implemented in GT 2 during scheduled major overhauling / Major Inspection in Aug. 2015
2	Up-gradation of STG Pro control Progress 3 system for STG.	Approved	**85**	82.00	11.51	93.51	0		0.00	Implemented
3	Retrofitting of generator / transformer protection relay with numerical relays including design, engineering, testing & commissioning for GTs	Approved	**82**	24.25	3.53	27.78	24.25	3.53	27.78	PO placed on ALSTOM for both GTs Implemented in GT 1. Shall be implemented in GT 2 during scheduled major overhauling / Major Inspection in Aug. 2015
4	Procurement of two numbers of high pressure portable pumps for fire fighting	Approved	**16**	14.42	0.33	14.75	0		0.00	Implemented
	TOTAL excluding taxes		**1223**	**748.87**			**601.08**			**1,349.95**
	Taxes				**107.33**			**88.23**		**195.56**
	TOTAL including taxes					**856.20**			**689.31**	**1,545.51**

The description of major capital additions proposed for FY 2015-16, 2016-17 & 2017-18 are as under:-

Table 25 : Details of proposed Capex Schemes

	Description (Rs.in lacs)	Estimate	15-16	16-17	17-18	Remarks
1	Procurement of automatic Tan delta test kit in test lab of PPS-I :		49.00			Required for safety & reliability of the station
2	Procurement of automatic portable DGA kit in test lab of PPS-I		36.00			Required for safety & reliability of the station
3	GT spare Generator rotor	1376.00	138.00	--	1238.00	Required for reliability and availability of the station which may be effective due to ageing of present equipment.
4	STG spare Generator rotor	1660.00	166.00	--	1494.00	Required for reliability and availability of the station which may be effective due to ageing of present equipment.
5	GT Generator exciter assembly	325.00	32.00	--	293.00	Required for reliability and availability of the station which may be effective due to ageing of present equipment.
6	GT Compressor rotor & IGV	2900.00	2900.00			Required for reliability and availability of the station which may be effective due to ageing of present equipment.
7	Efficiency restoration of GT-2 during major inspection	6330.00	6330.00			Required for maintaining rated capacity of the Gas Turbine.
8	Further energy saving in BFP by use of VFD/fluid coupling	450.00	450.00			Required for meeting the PAT Target for PAT cycle the FY 2015-16 to 2017-18.
9	Up gradation of HMI / DAS of STG	154.00	154.00			Required for replacement of old obsolete system due to non-availability of spares and up gradation of technology.
10	Up gradation of processor of STG Control system	150.00	150.00			Required for replacement of old obsolete system due to non-availability of spares and upgradation of technology.
11	Providing online fuel gas analyzers for environmental emission monitoring	48.16	48.16			Statutory requirement as per DPCC.
12	Energy efficient lighting in various areas	22.44	22.44			Required for meeting the PAT Target for PAT cycle the FY 2015-16 to 2017-18.
13	Refurbishment of cooling tower cells by replacing fills	40.00	40.00			Required to replace old fills due to heavy scaling resulting in deterioration of heat transfer.

14	Renovation of side stream filteration of CW system	76.30	76.30			Required due to rusting of various parts which are beyond repair.
15	Common lift for HRSG-1 & 2	250.00	50.00	200.00		Required to meet out increased maintenance work and handling of spares at drum level of boilers due to ageing.

Petitioner may like to further submit that above schemes are in process of approval within petitioner's administrative set up and after approval of the Board of Directors of the petitioner, the Capex Schemes will be submitted with detailed analysis, pay back period and implementation plan of above schemes as per above details.

Chapter 6: Prayer

6.1 Prayer

Petitioner respectfully prays to the Hon'ble Commission;

- To admit this petition.
- To true up the tariff for FY 2012-13, 2013-14 and FY 2014-15 (Provisional) and approve the tariff for the FY 2015-16.
- To approve the operational and financial parameters as proposed for FY 2012-13 to FY 2014-15 and FY 2015-16.
- To allow taxes, property/service tax, cess, etc as pass through on actual basis for FY 2012-13 to FY 2014-15 and extended period FY 2015-16.
- To relax the norm of Return on Equity and increase the Return on Equity from 14% to 15.5% in line with the CERC Tariff Regulations, 2009.
- To allow submission of details of capex scheme at later stage.
- To grant any other relief as Hon'ble Commission may consider appropriate. The petitioner craves leave of the Hon'ble Commission to allow further submissions, addition and alteration to this Petition as may be necessary from time to time.
- Pass any other order as Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.

(JAGDISH KUMAR)
DIRECTOR (TECH.)
Pragati Power Corporation Limited
PETITIONER