

BEFORE THE DELHI ELECTRICITY REGULATORY COMMISSION

Filing No:

Case No. :

IN THE MATTER OF Filing of Multi Year Tariff Petition under section 62 of the Electricity Act, 2003 for determination of Generation Tariff for the Financial Year FY 2007-08 to FY 2010-11 and truing up for FY 2006-07.

AND

IN THE MATTER OF Indraprastha Power Generation Company Limited
"Himadri", Rajghat Power House Complex,
New Delhi - 110002
PETITIONER

THE APPLICANT ABOVE NAMED RESPECTFULLY SUBMITS

Table of Contents

Chapter 1 : Background.....	4
1.1 Introduction.....	4
1.2 Brief Company Profile	4
Chapter 2 : Submissions	6
2.1 Submission Plan	6
2.2 Financial Viability of IPGCL and prayer to the Commission.....	6
Chapter 3 : Estimation of Plant wise Variable & Fixed Cost.....	14
3.1 Estimation of Variable Cost	14
3.1.1 Norms for Operation.....	14
3.1.2 Gross Generation and Net Generation	23
3.1.3 Variable Cost for proposed operational parameters.....	25
3.2 Estimation of Fixed Cost.....	31
3.2.1 O& M Cost	32
3.2.2 Interest on Loan.....	43
3.2.3 Depreciation	45
3.2.4 Return on Equity	46
3.2.5 Interest on Working Capital	47
3.2.6 Summary of Fixed Cost	48
Chapter 4 : Business Plan	49
4.1 Preamble	49
4.2 Capital Expenditure Details for the Control Period	49
Chapter 5 : Prayer.....	50
5. Prayer	50

List of Tables

Table 1: Station Heat Rates (Kcal/KWh) for IPGCL Stations	14
Table 2: SHR (Approved vs. Actual)	14
Table 3: SHR approved by other SERCs.....	16
Table 4: Target Auxiliary power Consumption (%) for IPGCL Stations	19
Table 5: Auxiliary Consumption approved by MPERC (%)	19
Table 6: Plant Load factor	21
Table 7: Gross and Net Generation	23
Table 8: Variable Cost for IP Power Station	28
Table 9: Variable Cost for Rajghat Power Station.....	29
Table 10: Variable Cost for GT Power Station	29
Table 11: Total Employee Expense for IPGCL.....	34
Table 12: R&M expense for IP Power Station.....	37
Table 13: R&M expense for Rajghat Power Station	37
Table 14: R&M expense for GT Power Station.....	38
Table 15: Total R&M expenses for IPGCL.....	38
Table 16: A&G Cost for IPGCL.....	40
Table 17: O&M Cost for IPGCL Power Plants.....	41
Table 18: Loan Bifurcation for IPGCL Plants.....	43
Table 19: Interest on Loan	44
Table 20: Depreciation of IPGCL Power Plants.....	45
Table 21: Equity Bifurcation for IPGCL Power Plants	46
Table 22: Return on Equity for IPGCL Power Plants.....	46
Table 23: Interest on Working Capital.....	47
Table 24: Total Fixed Cost for IPGCL Power Plants	48
Table 25: Proposed Fixed Cost per Unit for IP, RPH& GT PS stations	48
Table 26: Capital Expenditure for the Control Period	49

Chapter 1 : Background

This Chapter gives the background giving cause to the filing of this Petition.

1.1 Introduction

The Govt. of India notified the Electricity Act, 2003 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 and National Tariff Policy. The generation, transmission and distribution tariff have to be determined separately. The Delhi Electricity Regulatory Commission (hereinafter referred as "Commission") has framed Regulations specifying the terms and conditions for determination of tariff. With the expiry of Policy direction period (2002-2007), the petition for the First Control Period of four years is to be filed on MYT framework as per the regulations for MYT framed by the Commission.

In accordance with the statutory requirements, IPGCL is submitting this application for approval of the Aggregate Revenue Requirement (ARR) for the control period of four years i.e. from 2007-08 to 2010-11 and truing up for FY 2006-07.

While submitting this Tariff Petition, IPGCL has made efforts to adhere to most of the regulations framed by the Hon'ble Commission.

1.2 Brief Company Profile

"Indraprastha Power Generation Company Limited" (IPGCL) is a Government Company engaged in Power generation and is wholly owned by the Government of National Capital Territory of Delhi. Pursuant to the 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 provided for unbundling of the functions of Delhi Vidyut Board and the transfer of existing transmission assets of DVB to Delhi Transco Limited and the existing distribution assets to three Distribution Companies. Further, all the assets, liabilities, rights and interest of DVB in the Indraprastha, Rajghat and Gas Turbine Power Stations were transferred to IPGCL.

The Indraprastha Power Generation Company Limited (IPGCL) has three (3) plants as detailed below;

1. Indraprastha Power Station (IP) with a total capacity of 247.5 MW with three units of 62.5 MW each and one unit of 60 MW capacity using coal as fuel.
2. Rajghat Power House (RPH) with a total capacity of 135 MW with two units of 67.5 MW each using coal as fuel.
3. Gas Turbine Power Station (GTPS) with a total capacity of 282 MW having six gas turbines of 30 MW each, using CNG/RLNG as fuel and three steam turbines of 34 MW each.

Chapter 2 : Submissions

This Chapter lays down the modality of making submissions to the Honorable Commission in support of the Prayers made out under Chapter 5.

2.1 Submission Plan

IPGCL proposes to make submissions to the Honorable Commission in support of this Petition as under:

- Operational Parameters
- Financial Parameters
- Capital Expenditure Plan
- Prayer

Detailed submissions on each of the above are made in the Chapters to follow.

2.2 Financial Viability of IPGCL and prayer to the Commission

IPGCL has earlier filed the petition with the Commission seeking approval of the generation tariffs and operational and financial parameters for its generating stations for the year FY 2006-07. In the earlier petitions, IPGCL gave the required details and also the circumstances concerning the operation of the various generating stations which are old, an exception recognized under the Tariff Regulations of CERC. In the earlier petitions, IPGCL gave detailed reasons and justifications as to why IPGCL shall not be able to meet the operational norms in regard to auxiliary power consumption, station heat rate and O&M costs. IPGCL prayed for relaxation of the norms for its generating stations. However, the Commission has partially accepted the relaxation on the norms sought for by IPGCL and has mostly disallowed claims of IPGCL resulting in substantial impact on the financials of the IPGCL.

The Commission has not approved the Operation Parameters viz, Station Heat Rate, Auxiliary Power Consumption, O&M charges etc. as proposed by IPGCL. This had a significant impact on the full cost recovery, resulting in reduction in revenue and financial losses to IPGCL.

In view of above it is prayed to the Commission to give due considerations to the constraints/difficulties faced by the company. Based on the past parameters/norms, IPGCL would not be able to improve the performance of existing units and simultaneously it shall not be able to take up new projects, since it deprives IPGCL of required cash flows. This will have adverse impact on the Company and the consumers of National Capital at large.

Therefore, IPGCL requests the Hon. Commission to give due considerations to the following facts while evaluating the present tariff petition:

- Certain stations of IPGCL being relatively old in age cannot achieve the approved technical and financial performance parameters. IP station is the oldest plant serving consumer of National capital for the last 40 years. This station could still serve the consumers of Delhi, provided a viable and realistic Multi Year Tariff is approved by the Hon'ble Commission. **The petitioner prays to the Commission to adopt a lenient and relaxed approach towards the stations set up at the load center.**
- **The petitioner requests the Commission to approve the Multi Year Parameters/norms that recognizes and acknowledges the actual parameters/performance in the past and keep in view the age and other factors uncontrollable for the petitioner.**
- IPGCL is committed to improve the performance of the plants. The way for achieving the same is to take up major R&M jobs. IPGCL is having 15 No of units with total installed capacity of 664.5 MW. The R&M expenditure would be relatively high due to the small size of the units and their poor condition at the time of unbundling. The R&M will result into improved capacity utilization and improve the operating parameters of the station. Benefits of

these improves parameters will be passed on to the customer. The petitioner would like to submit to the Commission that benefits of better performance due to persistent effort of IPGCL is already evident from improved PLF of all the stations from the earlier levels and improvement in the operational performance of Rajgat and GT stations.

In this regard, the petitioner would like to highlight an independent study conducted by the MECON Limited on "Performance Evaluation Report for Indraprastha Thermal Power Station" strongly concludes that

"It may be noted from the statement of income and expenditure that with the sustained efforts by the IPGCL the expenditure on employees, Repair & Maintenance, net stations overheads etc. has gradually reduced. IPGCL has also adopted best practices in O&M thereby reducing forced outages considerably but the plant is deteriorating for the want of Renovation & Modernisation".

The benefits of above efforts have already been passed on to the consumers of Delhi. However, the report clearly mentions that the plant needs higher O&M for sustaining existing performance in future. **The petitioner therefore requests to the Commission to approve higher O&M for further improving the performance of the units of IPGCL.**

The Petitioner also resubmits (as done in earlier petitions) that the Waste Heat Recovery Units (WHRUs) of GT are more than 10 years old, but are still not operating at name plate rating since its Commissioning. The issue of de rating from 34 MW to 28 MW has already been taken up with CEA. **The petitioner requests the Commission to keep in view the proposed de ration in the capacity of the units.**

Affect of age on the performance parameters of the power station has been recognized by various regulatory commissions including CERC. CEA has also recognized un-avoidable effect of age on the performance of the generating stations and has recommended liberal norms in line with the

actual performance while approving the station parameters for any aged plant. IP station is Comparable with Faridabad Thermal Power Station (FTPS) for which Hon'ble Haryana Electricity Regulatory Commission (HERC) has approved more lenient and realistic norms in view of the age and other uncontrollable factors. **We pray to the Commission to adopt a similar approach for the IPGCL stations especially for IP station.**

The parameters for Auxiliary power consumption and Station Heat Rate indicated in the Regulations could not be achieved for certain plants and **this needs to be reviewed based on MECON report on IP station and even through conducting an independent studies by the Hon'ble Commission.**

The Mecon report concludes that

"The plant heat rate has increased over the past years due to restricted loading of turbines, high unburnt carbon in flue gases, inefficient operating condition of the boilers and milling system etc. and due to expanded life of the plant."

The above mentioned reasons are beyond the control of the petitioner and therefore the petitioner requests the Commission to adopt more liberal approach towards IP station.

The Petitioner further submits that IPGCL is already cutting corners on employee cost. As prayed in earlier petitions also that despite the fact that the Company was transferred with sizeable number of employees, resulting in substantial wage bill for the Company, efforts have been made by the Company to optimize the manpower cost. In this pursuit, VRS was given to 383 employees in the past. The revision in salaries and other incentives are kept in par with the other departments of Government of Delhi and is a legal binding on the company to follow the same as per the tripartite agreement and Electricity Act 2003. Therefore, **the petitioner requests the Commission to adopt a relaxed and realistic approach for employee expenditure, keeping in view the obligation of the organization towards the employees.**

The Commission is requested to compare with the similar aged stations like FTPS, Tanda and Talchar where CERC/HERC has adopted very liberal and more realistic stand while approving the O&M cost parameters. This is one of the reasons why the plants like Tanda and Talchar are able to achieve a turn around. It would be last nail in the coffin for the petitioner, if the Hon'ble Commission adopts similar approach as adopted in the past tariff orders. **The petitioner prays to look at this matter afresh with more liberal, lenient and realistic approach for short and long term viability of the IPGCL.**

The units of GTPS are operating beyond their life IPGCL has been incurring as well as proposing limited capital expenditure. Capitalization would be recovered through Advance Against Depreciation (AAD), depreciation, interest, and ROE. **The petitioner pleads to the Hon'ble Commission to approve required costs especially AAD on the additional capitalization proposed for IPGCL especially for GT station.** This is a prudent practice adopted by most of the SERCs.

The petitioner would also like to request the Hon'ble Commission to evaluate and compare the impact of major capital expenditure of around of Rs.546 crore on Renovation & Modernization as approved by CEA for IP station vis-à-vis the increased expenditure on fuel, due to increased heat rate and O&M expenditure. Since any new capital expenditure would attract depreciation, AAD, interest and ROE etc., this would have higher impact on tariffs as compared to higher O&M and fuel cost if higher SHR is allowed by the Commission.

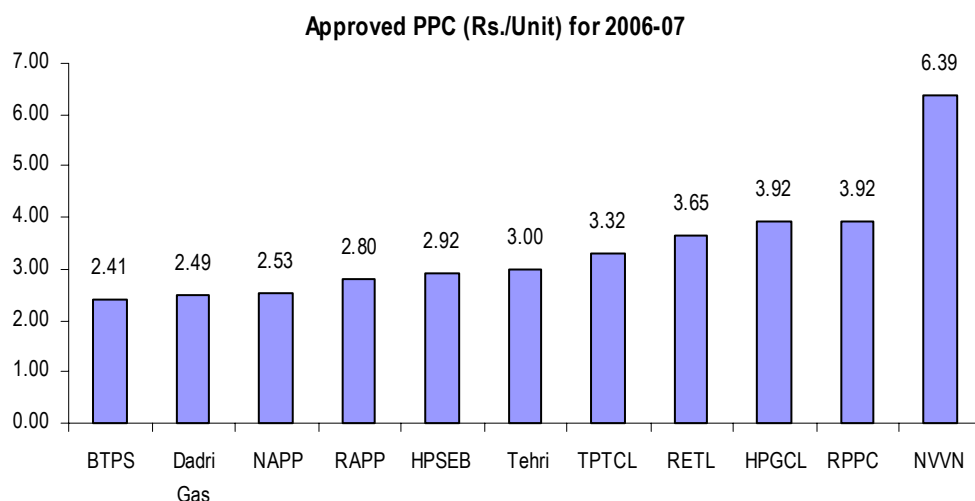
It is submitted that loan funds and Equity Funds of the Company being much less as compared to the new power plants of similar capacity, the amount of interest on loans and Return on equity are also much less as compared to the new power plants.

The petitioner would also like to plead to the Hon'ble Commission that in the past five years, the power stations of Delhi are not able to receive required cost recovery through appropriate tariffs. The bulk supply tariff was subsidize to cap the overall retail tariffs in the state (till FY 2006-07). However, the

similar benefits or breathing period was not extended to the state generating stations.

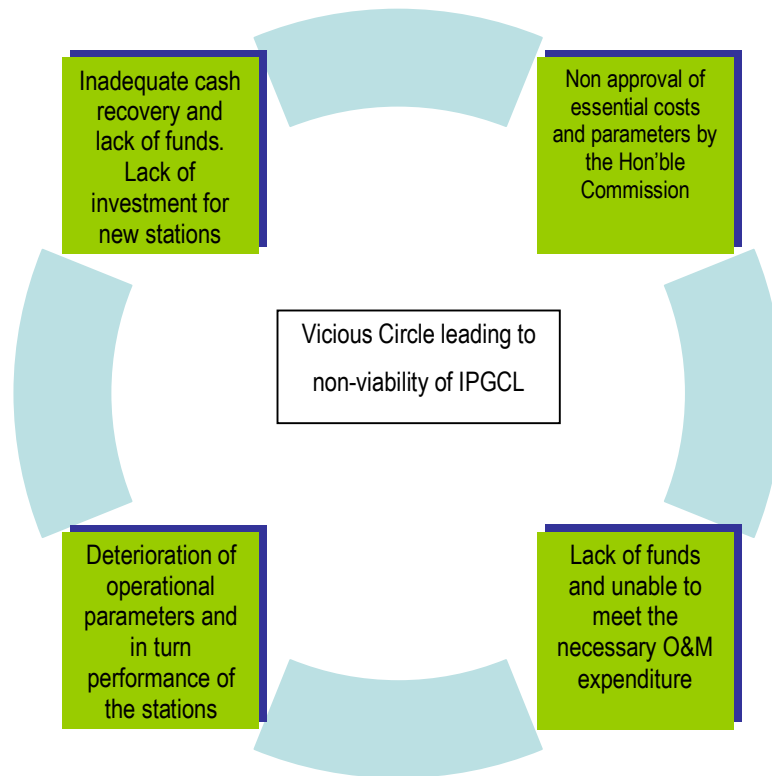
Now since the required transition period is over and DISCOMs of Delhi, to an extent, are able to reduce the T&D losses, it is requested to the Hon'ble Commission that now generation assets of Delhi should get the required cost recovery through appropriate tariffs.

IPGCL had already left no stone unturned for improving efficiency in Delhi. It may also be noted that DISCOMs of Delhi are paying much higher price for purchasing power from other and new sources. The comparison of power purchase cost of various stations of Delhi is shown in the graph below;



The average cost of IPGCL plants is among the lowest as compared to the above stations. Further, the actual cost of IP station is even comparable with the new plants from where DISCOMs of Delhi are going to purchase. The stations of IPGCL should be in sound financial health for future smooth supply to the consumers of Delhi. **The petitioner would like to plead for his due share in the reform process through appropriate tariffs.**

- The Petitioner wants to come out from this vicious circle of lack of funds resulting in deterioration of the stations.



The petitioner would like to highlight that IPGCL would not be able to get the required cost of generation with the parameters approved by Hon'ble Commission, which shall in turn lead to deteriorating financial health and net worth of the company. The MECON Limited report on performance evaluation for Indraprastha Thermal Power Station states that

"...there is always a gap between the petition filed by IPGCL and the tariff orders. As such, the differential expenditure has to be borne by petitioner. This gives rise to further losses of IPGCL."

Further the report concludes that

"..DERC has declined to relax the norms and allow the actual expenditures on various heads despite suggestion by CEA, per unit loss of IP station is increasing continuously rendering the operation of the plant financial and commercial un-viable."

This persistent scenario is putting a question on the viability of the company thereby early death of the plant. At the end of the day, the consumers of Delhi would suffer. **The petitioner requests the Commission to revisit and relax the operational and financial parameters under clause 136 of the Regulation for relaxation of norms and parameters.** The petitioner would also make all out efforts to come out of the existing vicious circle.

- **The petitioner requests the Commission to approve the proposed levels of operational, technical and financial parameters to maintain the existing stations and raise the required funds for future expansion.** The adequate cash flows and strong balance sheet on account of relaxed norms would help IPGCL will enable IPGCL to bring debt funds from the market and fund the R&M activities as well as new projects to further serve the consumer of National Capital.
- It is submitted that 2% rebate for timely payment is being allowed to DISCOMs. **The Hon'ble Commission is requested to consider and allow this financial burden in the tariff** as the Company accounts its expenditures net of all rebates and similarly the rebates/ discounts allowed to by Company in its revenue earnings should be considered and allowed in the tariff.
- In pursuance of agreement of the erstwhile entities i.e. DESU & DVB with Haryana Government at the time of installation of Unit No. 2,3 & 4 of I.P. Station, the Company is transferring 1/3rd of power being generated from these three units of I.P. Station to Haryana Government, the co-owner in I.P. Station. Therefore, the O&M expenses and fuel expenditure of IP station are related to the share of Delhi only.
- **Lastly, the petitioner would also like to pray to the Hon'ble Commission to adopt a lenient and relaxed approach to enable IPGCL to serve as a reliable station operating in the load center, maintaining grid stability and reliability without any additional inter-state transmission losses and wheeling charges.**

Chapter 3 : Estimation of Plant wise Variable & Fixed Cost

3.1 Estimation of Variable Cost

3.1.1 Norms for Operation

IPGCL has taken into consideration actual performance parameters for FY 05-06 and FY 06-07 and based on these IPGCL has estimated the provisional parameters for control period (FY 07-08 to FY 10-11).

Station Heat Rate

Table 1 summarises the actual & proposed Station Heat Rate parameters for various IPGCL stations.

Table 1: Station Heat Rates (Kcal/KWh) for IPGCL Stations

SHR (Kcal/Kwh)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	Actual	Provisional	Proposed	Proposed	Proposed	Proposed
IP Power Station	3838	3825	3825	3825	3825	3825
Rajghat Power Station	3343	3286	3250	3250	3250	3250
GT Power Station	2494	2528	2500	2500	2500	2500
GT Power Station (Open Cycle)	3392	3366	3300	3300	3300	3300

IPGCL would like to submit that for any generation plant, SHR always deteriorates with the time. Hence the old stations of IPGCL are not expected to achieve the SHR as per the norms of the Commission. It may please be noted that aging plays a major role, whereby the plants are not in a position to operate at its full rated capacity due to technical constraints. Table 2 indicates the actual SHR achieved by various stations of IPGCL vis-à-vis approved by Hon. Commission.

Table 2: SHR (Approved vs. Actual)

Generating Station	SHR (kcal/kwh) FY 06-07	
	Approved	Provisional

IP Power Station	3235	3825
Rajghat Power Station	3200	3286
Gas Turbine	2450	2734

The heat rate of gas turbine is high due to non-performance of STG/waste heat recovery units and this cannot be attributed solely to IPGCL since BHEL has not been able to commission these units satisfactorily after overhauling. The total Station Heat rate for the Year 2005-06 was 2494 Kcal/kwh which increased to 2734Kcal/kwh in FY2006-07. The Hon'ble Commission is fully aware of this fact and even intervened by requesting the BHEL for early and successful commissioning of these units.

The gas restrictions imposed by GAIL on day to day basis are also leading to part load running of all the gas turbines, resulting in ~2% loss in performance. Due to evacuation constraints (insufficient capacity for evacuation during off peak hours i.e. 2200 Hr to 0800 Hr) the gas turbines had to be backed down by 10% for 10Hrs daily in the past, which results 1% further loss in performance.

Due to non performing STG, GT run mostly on open cycle which lead to their frequent starting/stopping as per the instruction of SLDC considering merit order dispatch. In view of this combined cycle heat rate of GTPS should be allowed as 2500 instead of 2450 in the Control Period and the actual during the FY 06-07; and open cycle heat rate of 3300 against 3125 as allowed in the Regulations.

IPGCL would like to submit that other State Electricity Regulatory Commissions (SERCs) while approving the SHR has considered the age and condition of the generating plant. IPGCL would like to bring to the notice of Hon'ble Commission that the Haryana Electricity Regulatory Commission has approved the SHR of 4000 kcal/kwh for FY 07-08, which is even higher than the HPGCL proposed SHR of 3970 kcal/kwh.

Table 3 summarises that the SHR approved by the Hon'ble Commission is lower than the SHR approved by other SERCs in India for their respective state generating station.

Table 3: SHR approved by other SERCs

Generating Station	Capacity (MW)	Age	SHR Approved by SERC (kcal/kwh)
FTPS	165.00	34	4000
Nellore TPS	30.00	39	3770
Paricha	220.00	20	3577
Harduaganj	375.00	40	3480
IPGCL	247.50	39	3235

It is important to note that the IP station is very old in age wherein few of the units have crossed even 39 years of age. The IP station units have thus outlived their useful life. These old units are not in a position to operate at optimum level. Several constraints block the optimum capacity operations for these stations e.g. boiler tube leakage starts if go beyond restricted capacity. Manufacturer has also restricted the loading on turbines of all the units due to precarious condition of turbine blades and turbine rotors.

These old units of IP are easily susceptible to the outages. These units see outages and faults at abnormally higher level. It is the efficiency of IPGCL manpower which is able to find and rectify the faults in minimum possible time period.

IP station is also incurring losses in form of UI charges as per the ABT regulation, due to above mentioned reasons.

With regard to Rajghat, the average heat rate for the past two years was high due to various problems in turbine. IPGCL has made and will consistently make all out efforts to improve the heat rate as evident from the trend. The petitioner submits that Rajghat station would be able to achieve a target of 3250 kCal/kWh during the control period.

Above facts are not unique to the IPGCL stations only, however, all other SEBs and NTPC having old power stations are facing the same problem. The above aspect was considered by the CEA in its technical report while studying and recommending the operating norms for thermal power stations. Even a review report prepared by MECON also acknowledges the various practical difficulties faced by IP station because of which SHR has increased over the period.

In this regard, the Mecon report concludes that

"The plant heat rate has increased over the past years due to restricted loading of turbines, high unburnt carbon in flue gases, inefficient operating condition of the boilers and milling system etc. and due to expanded life of the plant."

The petitioner would also like to add that SHR of IPGCL stations has increased due to considerable high number of tripping in the grid of Delhi as compared to the national grid.

The above mentioned reasons are beyond the control of the petitioner and therefore the petitioner requests the Commission to adopt more liberal approach.

The petitioner prays to the Hon'ble Commission to approve the SHR levels as proposed in this petition keeping in view:

- A) Old age of the stations and comparison with stations like FTPS.
- B) Better and improved estimates on SHR
- C) Practical difficulty in achieving lower SHR keeping in view the various technical reports.
- D) Approval of higher SHR, keeping in view the lack of required investment and R&M in the stations

It is also important to mention here that as per the report of CEA for technical standards for operations of the thermal plants (2004) the poor performance of the older units are due to various reasons attributable to basic design deficiencies, lack of appropriate R&M, aging, coal quality deterioration etc,

The CEA report stated that:

*“However, the fact is that the performance of most of the smaller units is extremely poor for various reasons attributable to basic design deficiencies, lack of appropriate R&M, ageing, coal quality deterioration etc. The average variation in GHR at present is up to 60% from design heat rates. In view of the above and foregoing discussions at para 10.4, **it is proposed that average existing heat rate may be allowed as normative heat rate for these units for some time and certain time frame of 3-5 years may be allowed to attain the recommended normative performance level of 110% of guaranteed heat rate.** Targets for specific improvement each year may be fixed by the respective regulatory commission.”*
(Page No. 38-39 of the said report)

Thus, in view of above arguments, it may please be seen that in absence of major R&M works, IPGCL has limited control over improving SHR of its years old plants.

The petitioner would also like to draw the attention of the Hon'ble Commission to the clause (f) of the National Tariff Policy, 2005 wherein the policy has specified relaxed norms for below par old stations. The relevant extracts of the policy are reproduced as under:-

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

Considering the above-mentioned facts, IPGCL submits to the Commission to approve the Station Heat Rate at the levels submitted herein by IPGCL, without any disallowance. **The petitioner prays the Commission to grant the relaxation under clause number 136 of the Regulation under which the Hon'ble Commission has power to relax the norms and parameters.**

Auxiliary Power Consumption

Following table indicates the achieved parameter for the Auxiliary power Consumption for various IPGCL stations during FY 05-06 & FY 06-07 and proposed parameters for the control period.

Table 4: Target Auxiliary power Consumption (%) for IPGCL Stations

Description	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
IP Power Station	14.93%	15.51%	15.50%	15.50%	15.50%	15.50%
Rajghat Power Station	13.90%	12.10%	12.00%	12.00%	12.00%	12.00%
GT Power Station	2.90%	2.80%	3.00%	3.00%	3.00%	3.00%

It is a known fact that Auxiliaries of thermal power stations run at full capacities even if the plant is not running at full load. Thus, Auxiliary consumption, when measured in terms of percentage of total generated units increases when the plant is not operating at full load. Due to aging effect as explained earlier, the units of IP Power Station are not operating at full capacities. These units when operated at part load capacities, consume more auxiliary power resulting in higher auxiliary consumption.

CEA has also recognized the fact that the Auxiliary Power Consumption of any generating power plant also has direct linkage with the total generating capacity of the unit. Due to this reason only, CEA has recommended 11.5% to 12% auxiliary power consumption for units having capacity smaller than 200 MW.

Madhya Pradesh Electricity Regulatory Commission (MPERC) in Tariff order for FY 06, has approved APC of over 12% for ATPS, Chachai coal based plants.

Table 5: Auxiliary Consumption approved by MPERC (%)

Station	Capacity (MW)	Age in Years	Aux. Cons. (%)
ATPS PH I	50	40	12.85
ATPS PH II	240	27	11.85

IPGCL humbly submits to the Commission to consider the fact that even though the Auxiliary Power Consumption of IPGCL stations are slightly higher than CERC norms for efficient thermal stations but

- It is in line with norms for similar aged FTPS (12.5%) and ATPS Ph I (12.85%) stations.
- Nothing much can be done to reduce the auxiliary consumption unless major R & M is carried out. The station cannot operate in its full capacity which is leading to proportional higher auxiliary consumption. It is practically not possible to achieve lower auxiliary consumption compared to the proposed levels.
- Approval of lower levels would further deteriorate the financial and technical health of the IPGCL including lack of investments for future plants.

IPGCL has estimated auxiliary power requirement of gas based power station in table 4 as per DERC norm.

In view of above, IPGCL requests the Hon. Commission to approve the Projected Auxiliary Consumption parameters for the Control Period and true up for FY 06-07 for its various stations as submitted in the table mentioned above.

Plant Load Factor

Table 6 indicates the PLF for various stations of IPGCL.

Table 6: Plant Load factor

Generating Station	FY 06-07 (A)	FY 07-08	FY 08-09	FY 09-10	FY 10-11
IP Power Station	43.92%	43.82%	43.82%	43.82%	43.82%
Rajghat Power Station	53.69%	70.00%	70.00%	70.00%	70.00%
Gas Turbine	57.17%	64.77%	64.77%	64.77%	64.77%

PLF of IP is low, mainly due to the fact that IP station is over 40 years old. It needs to be noted that inspite of the age of the station, IPGCL is able to sustain generation at these levels through pro-active, consistent and regular maintenance.

Similarly PLF of Rajghat Power station is estimated at 70 % for FY 07-08 to FY 10-11, which is as per the DERC norm. IPGCL would like to submit that the PLF for the FY 06-07 is low at 53.69%, as units of Rajghat Power Station have been shutdown for Renovation & Overhaul. The overhauling of the Unit-I has taken considerably longer time due to non-availability of some critical spares with M/s. BHEL.

The turbine rotor which was schedule to be delivered in December 2005 was actually delivered in February 2007. This is very much in knowledge of the Hon'ble Commission. In view of difficulties and delays faced at RPH including the reasons attributed to BHEL, the petitioner requests the Commission that the actual PLF of FY 2005-06 and FY 2006-07 be allowed by the Commission while truing up for full fixed cost recovery.

IPGCL would like to submit that the PLF for gas turbine for the FY 06-07 has declined as compared to FY 05-06. This decrease is due to the undue delay in Renovation & Overhaul of STG I and STG II by BHEL. IPGCL has raised this issue with BHEL at various levels, but till date BHEL is not able to put STG II on bar.

Besides, Force Majeure condition caused due to flooding at Hazira and non supply of gas in the month of **August and September** 2006, led to the generation loss of

about 85 MUs. In January 2007 also, shut down at ONGC platform caused a generation loss of 15 MUs.

If one considers actual availability of Gas turbine during the previous year, deemed PLF of GT effectively works out to 66 %.

Considering the above facts, IPGCL submits to the Commission to approve the generation levels submitted herein as well as consider generation incentive for PLF above 70% (in case of Rajghat), 64.77% (in case of Gas Turbine) and 43.82% (in case of IP station) during FY 07-08 to FY 10-11.

3.1.2 Gross Generation and Net Generation

On the basis of estimation of PLF and Auxiliary Consumption, IPGCL has estimated the Gross and Net Generation for all power stations during the Control Period (FY 07-08 to FY 10-11) as per the table below:

Table 7: Gross and Net Generation

IP Power Station	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Capacity	247.5	247.5	247.5	247.5	247.5	247.5
PLF	45.42%	43.92%	43.82%	43.82%	43.82%	43.82%
Gross Generation (MU)	985	952	950	950	950	950
Auxiliary Consumption	14.93%	15.51%	15.50%	15.50%	15.50%	15.50%
Net Generation (MU)	838	805	803	803	803	803
Net share of Delhi (MU)	619	578	581	581	581	581
Rajghat Power Station	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Capacity	135	135	135	135	135	135
PLF	48.57%	53.69%	70.00%	70.00%	70.00%	70.00%
Gross Generation (MU)	574	635	828	828	828	828
Auxiliary Consumption	13.90%	12.10%	12.00%	12.00%	12.00%	12.00%
Net Generation (MU)	495	558	728	728	728	728
GT Power Station	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Capacity	282	282	282	282	282	282
PLF	70.76%	57.17%	64.77%	64.77%	64.77%	64.77%
Gross Generation (MU)	1748.08	1,412	1,600	1,600	1,600	1,600
Auxiliary Consumption	2.90%	2.80%	3.00%	3.00%	3.00%	3.00%
Net Generation (MU)	1,697	1,373	1,552	1,552	1,552	1,552
Total IPGCL for Delhi	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Gross Generation (MU)	3,307	2,999	3,378	3,378	3,378	3,378
Net Generation (MU)	2,811	2,508	2,861	2,861	2,861	2,861

The petitioner humbly requests the Commission to approve the gross and net generation for all the plants during the control period and the fixed cost be allowed to be recovered based on the above proposed generation targets.

Coal Transit Loss

Coal Transit loss for IPGCL is estimated to be 3.80% during the control period. It is submitted that IPGCL doesn't have much control in reducing Coal transit loss beyond certain level, as there are many uncontrollable external factors.

Transit loss in coal arises due to the differences in the quantum of coal that are considered to be loaded at the loading point by the Coal Company and the coal that is delivered at the coal unloading point of the Power plant. Such losses can arise on account of:

- Natural phenomena during transportation of coal;
- Weighment errors at the loading point and at the unloading point;
- Superficial Surface Moisture Loss due to washed coal and
- Loss of coal in transit due to theft, pilferage, etc.

IPGCL would like to submit that the loss of ~3% is due to extra moisture in washed deshaled coal used in the Stations and 0.8% on account of transit loss.

The CERC in their guidelines has allowed 0.8% of the coal dispatched towards normative transit and handling losses. The deshaled washed coal is being used at our thermal plants. The coal contained extra surface moisture besides the normal moisture.

As per NCL, 3% extra surface moisture is there on account of deshaling. It may be noted that lose of moisture is more in the washed deshaled coal as compared to the normal coal. This has also been allowed by the Commission in the tariff order dated September 22nd 2007 after careful examination of IPGCL's request.

IPGCL request the Hon. Commission to approve transit & moisture loss at the rate of 3.8% for its Coal based stations.

3.1.3 Variable Cost for proposed operational parameters

Variable cost parameter has been described in the following paragraphs. It explains the rationale of Fuel Cost Parameters for its power stations. The proposed variable cost is based on the projected operational parameters, GCV of different fuels and price of different fuels.

Fuel Supply

IPGCL plants can be broadly divided as:

- 1. Coal Based Plants:** IP & Rajghat Power Stations
- 2. Gas Based Stations:** GT Power Station

Fuel Price

IPGCL has considered price level of FY 06-07 for all the fuels e.g. Coal, Oil and Gas. These prices are then escalated by appropriate escalation factors to arrive at the prices for further years. The rationale behind the escalation factors has been explained hereunder.

1. Indigenous Coal/ Washed Coal: The price of coal is dependent on the distance of the power station from the coal mines. Apart from above, the coal prices also vary from mine to mine depending upon the factors related to the mines, including grade of coal. IPGCL is using washed coal of less than 34% ash content as per the directive of the court.

Price escalation of 7.66% per annum has been assumed to arrive at the coal cost for the FY 07-08 to FY 10-11 based on CERC notification on escalation rate for energy charge component for domestic coal.

In case of domestic coal, freight cost has been escalated by 5.18% per annum during the control period based on the CERC notification for escalating fixed charges.

2. Gas

GT Power Station of IPGCL is run on the Natural Gas being supplied by GAIL. The total (APM+PMT+LNG) allocation for GTPS was 1.44 MMSCM per day which is

sufficient to run six gas turbines. This allocation was reduced to 1.34 MMSCMD during the year. Out of the total allocation of 1.34 MMSCMD the contracted quantity of R-LNG is 0.6 MMSCMD and balance i.e. 0.74 MMSCMD comes from APM and PMT. However GAIL, due to depletive gas reserves subject these quantities to daily cuts depending on the availability. The average daily cuts for CNG (APM+PMT) is 15%.

It is estimated that these cuts will increase progressively. A cut of 15% and 20% on CNG / PMT has been estimated in the supply during the control period. The Company entered into an agreement on 07.01.2004 with GAIL for supply of LNG and the supply commenced from mid March, 2004. The contracted quantity of LNG is 0.6 MCMD. The Company is obliged to bear the cost of this contracted quantity even if there is no off take of supply. In our ARR, we have considered that the Company will first off take the LNG with cuts, if any, and rest will be drawn from CNG/PMT. This assumption has been taken on the basis of agreement with GAIL. This agreement will expire in March 2009 but the Petitioner has taken the projections for the remaining years of the control period on the similar basis.

IPGCL has also arranged spot R-LNG on take and pay basis to meet gas shortages subject to availability of Spot R-LNG with GAIL. The Petitioner has used 7.0766 MMSCMD Spot R-LNG, costing Rs 13.09 Crore during FY 06-07.

For FY 07-08 the rate of APM/PMT Gas has been considered as Rs 4164/1000 SCM, Long-term R-LNG at Rs. 210/MMBTU and Spot R-LNG at Rs 439/MMBTU. These rates are based on the latest bills received from the GAIL.

The APM & PMT price for the FY 08-09 is estimated to increase by 5% over the FY 07-08 estimates and the similar 5% escalation is factored for the subsequent years of the control period.

In case, if there is any variation in the price due to new arrangement or hike by the Authorities, the same will be adjusted at the time of fuel price adjustment mechanism.

3. Secondary oil

For the stations of IPGCL, an escalation of 5% has been considered on actual prices paid for FY 06-07 to arrive at prices for oil in further years.

Projected Fuel Cost

Considering the Gross Generation of the plant, SHR of the station, Gross Calorific Value and the Fuel Prices as explained above, IPGCL has calculated total Fuel cost for each of the station as below:

Table 8: Variable Cost for IP Power Station

Description	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Gross Generation (MU)	984.748	952.308	687	687	687	687
Net Generation (MU)	837.7	804.6	580.515	580.515	580.515	580.515
Coal Consumption (MT)	962138.73	931496.15	671986.22	671986.22	671986.22	671986.22
Cost per Tone of Coal (Rs/MT)	1858.92	1907.00	2031.48	2164.37	2306.26	2457.79
Secondary Oil Consumption-LDO (KI)	10139.74	9407.67	6786.74	6786.74	6786.74	6786.74
Cost of Secondary Oil (Rs/KI)	23925.56	28653.8	30086.49	31590.815	33170.355	34828.873
Total Cost of Fuel (Rs Crores)	203.11	211.30	162.28	172.58	183.56	195.27
Variable Cost in Rs/kWh	2.42	2.63	2.80	2.97	3.16	3.36

Table 9: Variable Cost for Rajghat Power Station

Description	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Gross Generation (MU)	574.36	634.92	827.82	827.82	827.82	827.82
Net Generation (MU)	494.51	558.07	728.48	728.48	728.48	728.48
Coal Consumption(MT)	501791.00	527781.00	694127.07	694127.07	694127.07	694127.07
Cost per Tone of Coal(Rs/MT)	1861.83	1889.38	2012.51	2143.94	2284.27	2434.11
Secondary Oil Consumption-LSHS(MT)	4084.44	2673.43	3311.28	3311.28	3311.28	3311.28
Cost of LSHS(Rs/MT)	15457.40	22490.71	23615.25	24796.01	26035.81	27337.60
Secondary Oil Consumption-LDO(KI)	1258.67	1103.85	1241.73	1241.73	1241.73	1241.73
Cost of LDO(Rs/KI)	24841.04	29385.40	30854.67	32397.40	34017.27	35718.14
Total Cost of Fuel(Rs Crores)	105.63	112.76	156.65	166.71	177.43	188.87
Variable Cost in Rs/kWh	2.14	2.02	2.15	2.29	2.44	2.59

Table 10: Variable Cost for GT Power Station

Description	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Gross Generation (MU)	1748.08	1412.22	1600.00	1600.00	1600.00	1600.00
Net Generation (MU)	1697.00	1373.00	1552.00	1552.00	1552.00	1552.00
Gas Consumption	468.10	412.51	450.51	433.89	440.67	447.45
Apm (MMSCM)	198.35	185.55	185.16	178.32	178.32	178.32
PMT	46.48	51.69	45.55	45.55	45.55	45.55
Rate/1000CSM			4164.00	4372.20	4590.81	4820.35
Cost of Gas			960680.60	978804.41	1027744.63	1079131.87
Cost for APM & PMT in Crores			96.07	97.88	102.77	107.91
R-LNG (MMSCM)	223.26	168.26	210.00	210.00	210.00	210.00
MMBTU	8251172.00	6237128.00	7854000.06	7854000.06	7854000.06	7854000.06
Rate (MMBTU)			210.00	220.50	231.53	243.10
Cost for R-LNG in Crores			164.93	173.18	181.84	190.93
Transportation Charges	43.83	41.41	44.59	46.82	49.16	51.62
Spot R-LNG(MMSCM)		7.08				
MMBTU		262508.17				

Rate (MMBTU)		439.00	460.95	484.00	508.20	533.61
Total Fuel Cost	265.75	239.62	305.59	317.88	333.77	350.46
Variable Cost in Rs/kwh	1.57	1.75	1.97	2.05	2.15	2.26

The Hon. Commission is requested to approve Station Heat Rate, Auxiliary Power Consumption, Fuel Consumption and Plant Availability Factor as submitted above for all the stations.

3.2 Estimation of Fixed Cost

Total fixed cost for IPGCL stations has been estimated considering actual cost incurred in FY 06-07 as per provisional accounts and on the basis of certain assumptions as outlined in the subsequent paragraphs.

Fixed cost calculations have been done considering cost estimates on following items:

- a. Operation & Maintenance Expenses
- b. Interest on loan
- c. Depreciation
- d. Advance Against Depreciation
- e. Return on Equity
- f. Interest on Working Capital

3.2.1 O & M Cost

O & M expenses are based on the O&M expenses for FY 06-07 as per the provisional accounts with escalation for further years. It comprises of Employees Expenses, Repairs and Maintenance, Administrative and General Expenses, Water cess and property tax etc.

Employees Cost

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

IPGCL has taken the estimated employee expenses for FY 2006-07 as the basis for forecasting the employee expenses for the control period. The salary component (provisional) of the employee expense for FY 06-07 has been escalated by 40% taking into consideration the likely impact due to 6th Pay Commission. The sixth Pay commission has already been set up and the Report is expected shortly. The expected revision of 40% has been worked out on the basis of average increase during the last 5th Pay Commission. The likely increase due to 6th Pay Commission will be effective from January 1, 2006. Therefore, the arrears for the FY 2005-06 and FY 2006-07 have been claimed equally in the employee cost for FY 07-08 and FY 08-09.

The estimated salary & allowances for the FY 06-07 including the impact due to 6th Pay Commission has been escalated by 4% annually during the control period. This 4% increase in salaries & allowances is mainly due to annual increments on which IPGCL have no control as this forms part of the service conditions of the employees. Due to increase in Basic, other allowances like DA, HRA, which are linked to Basic, also increases.

The DA for FY 07-08 has been calculated at 6% of the total basic salary projected for FY 07-08. Thereafter, further 6% addition in DA is assumed every year for projecting the DA for subsequent years of control period.

Any increase in IPGCL's dearness pay/allowance to its employees has been at par with the increase in Pay & allowances of Central Government employees. The Central Government allows two installments of DA, generally an increase of 3 to 6% effective in July and January. IPGCL submits to the Commission to recognize the fact that IPGCL has to maintain this pay parity in order to honour the commitment made to the employees in tripartite agreement.

Medical Expenses Reimbursement, Traveling Allowance, Leave Travel Assistance and Staff Welfare Expenses during FY 08-09 to FY 10-11 have been projected to increase by 5.18% annually to cover the cost of inflation. The escalation rate of 5.18% has been taken considering the CERC notification on escalation for various costs including for escalable fixed charges.

IPGCL submits to the Commission that any disallowance of employee expenses by the Commission would force IPGCL to borrow funds in order to finance the difference between actual employee cost incurred and Commission approved costs, which would result in significant burden on IPGCL resources, in turn affecting its functioning and development works, resulting in low level of generation.

The petitioner would like to pray to the Hon'ble Commission that salaries/employee cost increase should be considered as uncontrollable factor specially factors like DA/Basic hike through Government, revision through 6th Pay Commission etc. The petitioner would not be in the position to not allow these increases as any deviation will be against law/policy. The petitioner believes that DERC would also consider this factor and would adopt more liberal, acceptable and practical approach.

The Petitioner further submits that IPGCL is already cutting corners on employee cost. As prayed in earlier petitions also that despite the fact that the Company was transferred with sizeable number of employees, resulting in substantial wage bill for

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the Company, efforts have been made by the Company to optimize the manpower costs. The Company has curtailed substantially the expenditure on overtime and holiday pay.

The petitioner would also like to put this on record that the employee retrenchment or forced reduction in the workforce/salaries cannot done. Further the petitioner would like to highlight that the petitioner is not recruiting any new staff in B, C, D category.

Table 11: Total Employee Expense for IPGCL

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
IP Power Station	21.22	20.22	33.71	36.45	35.13	38.22
Rajghat Power Station	14.23	15.06	23.05	24.77	24.17	26.09
GT Power Station	12.31	12.00	17.57	18.51	19.24	20.53
IPGCL (as a whole)	47.77	47.29	74.33	79.72	78.54	84.84

Repair & Maintenance Cost

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

IPGCL has incurred Rs 36.31 Crores and Rs 43.69 Crores in FY 05-06 and FY 06-07 respectively towards Repair and Maintenance expenses.

IPGCL has projected R&M expenses for the control period by applying 5.18% annual increase on the provisional costs for FY 06-07 except in the case of Rajghat. The R&M expenses for the control period for the Rajghat have been computed by applying 5.18% over the estimated cost for the FY 07-08.

The detailed assumption for working of R&M expenditure for the control period is provided below:

- CERC has notified the annual escalation rates vide its notification dated 04th April 2007. The notification specifies the annual escalation of 5.18% for fixed charge component. Since R&M component relates to inflation, IPGCL has adopted this rate as specified by CERC for projecting the R&M cost payable for the next four years.

IPGCL submits to the Commission that it is important for IPGCL to incur the R&M expenses for the smooth operations of the plant and to achieve the target level of generation. IPGCL is committed to improve the performance of the plants.

The petitioner would like to reiterate that the R&M expenditure would be relatively high due to the small size of the units and their poor condition at the time of unbundling and due to old age of the stations. The R&M will result into improved capacity utilization and improve the operating parameters of the station. Benefits of these improves parameters will be passed on to the customer.

In this regard, the petitioner would like to highlight an independent study conducted by the MECON Limited on "Performance Evaluation Report for Indraprastha Thermal Power Station" which strongly concludes that

" It may be noted from the statement of income and expenditure that with the sustained efforts by the IPGCL the expenditure on employees, R&M, net stations overheads etc. has gradually reduced. IPGCL has also adopted best practices in O&M thereby reducing forced outages considerably but the plant is deteriorating for the want of R&M".

The benefits of above efforts have already been passed on to the consumers of Delhi. However, the report clearly mentions that the plant needs higher R&M for sustaining existing performance in future. **The petitioner therefore requests to the Commission to approve higher R&M for further improving the performance of the units of IPGCL.**

The Petitioner also submits that the Waste Heat Recovery Units (WHRUs) of GT are more than 10 years old, but are still not operating at name plate rating since its Commissioning. The issue of deration from 34 MW to 28 MW has already been taken up with CEA. The recommendation of the same is accepted. **The petitioner requests the Commission to evaluate parameters after considering the de rated capacity of the units.**

IPGCL would like to bring to the notice of Hon'ble Commission that most of the contract work in R&M expenses are subject to service tax. The service tax has been rising continuously and it has been hiked by more than 4.5% in the last three years. Similarly the VAT which has replaced sales tax has also resulted as an additional liability. This increase in rate has resulted into substantial increase in O&M expenditure especially in R&M works.

The Commission is requested to compare with similar age stations like Faridabad and even Tanda and Talchar where CERC/HERC has adopted very liberal and more realistic view while approving the O&M cost parameters. This is one of the

major reasons leading to improvement in performance of Tanda and Talchar. The comparison of O&M cost is given in the subsequent sections.

The Petitioner prays to approve the estimated R&M expenses during the first control period and true up the actual expenses for FY 06-07.

Table 12: R&M expense for IP Power Station

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Plant and Machinery	11.51	18.65	19.62	20.63	21.70	22.83
Building	0.69	0.30	0.31	0.33	0.35	0.37
Civil Works	0.67	0.62	0.65	0.69	0.72	0.76
Vehicles	0.02	0.02	0.02	0.02	0.02	0.02
Furniture and Fixtures	0.00	0.13	0.14	0.14	0.15	0.16
Headquarter Expenses	0.31	0.45	0.47	0.50	0.52	0.55
Total	13.19	20.16	21.21	22.31	23.46	24.68
R&M Charges shared with Haryana	3.84	5.93	6.24	6.56	6.90	7.26
Net to be charged to Delhi	9.35	14.23	14.97	15.75	16.56	17.42

Table 13: R&M expense for Rajghat Power Station

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Plant and Machinery	10.69	11.50	14.25	14.99	15.76	16.58
Building	1.77	0.46	0.49	0.51	0.54	0.57
Vehicles	0.01	0.01	0.01	0.01	0.02	0.02
Office Equipments	0.00	0.17	0.18	0.19	0.20	0.21
Headquarter Expenses	0.18	0.31	0.33	0.34	0.36	0.38
Total	12.65	12.46	15.26	16.05	16.88	17.75

Table 14: R&M expense for GT Power Station

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Plant and Machinery	13.25	15.69	16.50	17.36	18.26	19.20
Building	0.43	0.31	0.33	0.35	0.36	0.38
Vehicles	0.00	0.00	0.00	0.00	0.00	0.00
Furniture and Fixtures	0.00	0.00	0.00	0.00	0.00	0.00
Office Equipments	0.00	0.00	0.00	0.00	0.00	0.00
Other Credits to R&M Charges	0.00	0.23	0.24	0.26	0.27	0.28
Headquarter Expenses	0.62	0.76	0.80	0.85	0.89	0.93
Total	14.30	17.00	17.87	18.81	19.78	20.80

Table 15: Total R&M expenses for IPGCL

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
IP Power Station	9.35	14.23	14.97	15.75	16.56	17.42
Rajghat Power Station	12.65	12.46	15.26	16.05	16.88	17.75
GT Power Station	14.31	17.00	17.88	18.81	19.78	20.81
IPGCL (as a whole)	36.31	43.69	48.11	50.60	53.22	55.98

A&G Cost

Administration expenses mainly comprise of rents, insurance, telephone and other communication expenses, professional charges, conveyance and traveling allowances, other debits.

IPGCL has taken the actual A&G expenses for FY 2006-07 as the basis for forecasting the A&G expenses for the control period. For FY 2007-08, FY 2008-09, FY 2009-10 and FY 10-11, IPGCL has projected expenses of Rs. 14.87 Crores, Rs. 15.63 Crores, Rs. 16.42 Crores and Rs. 17.26 Crores. The assumption for working of A&G expenditure for the control period is provided below:

- CERC has notified the annual escalation rates vide its notification dated 04th April 2007. The notification specifies the annual escalation of 5.18% for fixed charge component. Since increase in the A&G expenses will be primarily due to inflation index, IPGCL has adopted this rate as specified by CERC for projecting the A&G cost payable for the next four years.

A&G Cost is conservatively estimated to increase at around 5.18% p.a. during the control period, mainly due to inflationary effect (current inflation is ~ 5% p.a.) as well as increasing business requirements.

Insurance

IPGCL has incurred Rs 0.70 Crore on Insurance of Rajghat Station and Rs 2.75 Crore for GT station during FY 06-07 to insulate against any risk. This measure hassled to the increase in A&G expenditure but it is essential in nature and for the overall benefit of all Stakeholders. The Hon'ble Commission has allowed this expenditure additionally in its last Tariff Order.

Water Charges and Property Tax:

Barrage at ITO is being maintained by Haryana Irrigation Department for meeting the water requirements of IPGCL and its O&M expenses are shared/reimbursed by IPGCL. Besides this, water charges are also being paid to Delhi Jal Board for domestic and industrial water consumption in the form of water charges. Both the

charges have been considered in the tariff calculation for FY 2005-06 and 2006-07 under the Head "water charges".

IPGCL would like to submit that for FY 05-06 and FY 06-07 A&G Expenses includes Property tax of Rs. 2.65 Crores and 1.01 Crores respectively. But for the control period projections for rates and taxes does not include the property tax. The plant of the IPGCL is located at the prime location in Delhi hence subject to high property tax as compared to generating plants located in India.

IPGCL would like to submit that for FY 05-06 and FY 06-07 A&G Expenses includes water cess of Rs. 1.36 Crores and 1.32 Crores respectively. But for the control period projections for rates and taxes does not include the water cess. As per the CERC norms the taxes should be reimburse at actuals. Accordingly IPGCL requests the Hon'ble Commission to approve the property tax and water-cess as pass-through on actual basis besides the other O&M expenses.

Table 16: A&G Cost for IPGCL

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
IP Power Station to be Charged to Delhi	3.80	2.86	3.01	3.17	3.33	3.50
Rajghat Power Station	3.75	3.25	3.42	3.60	3.79	3.98
GT Power Station	8.59	8.03	8.44	8.86	9.31	9.77
IPGCL (as a whole)	16.14	14.15	14.87	15.63	16.42	17.26

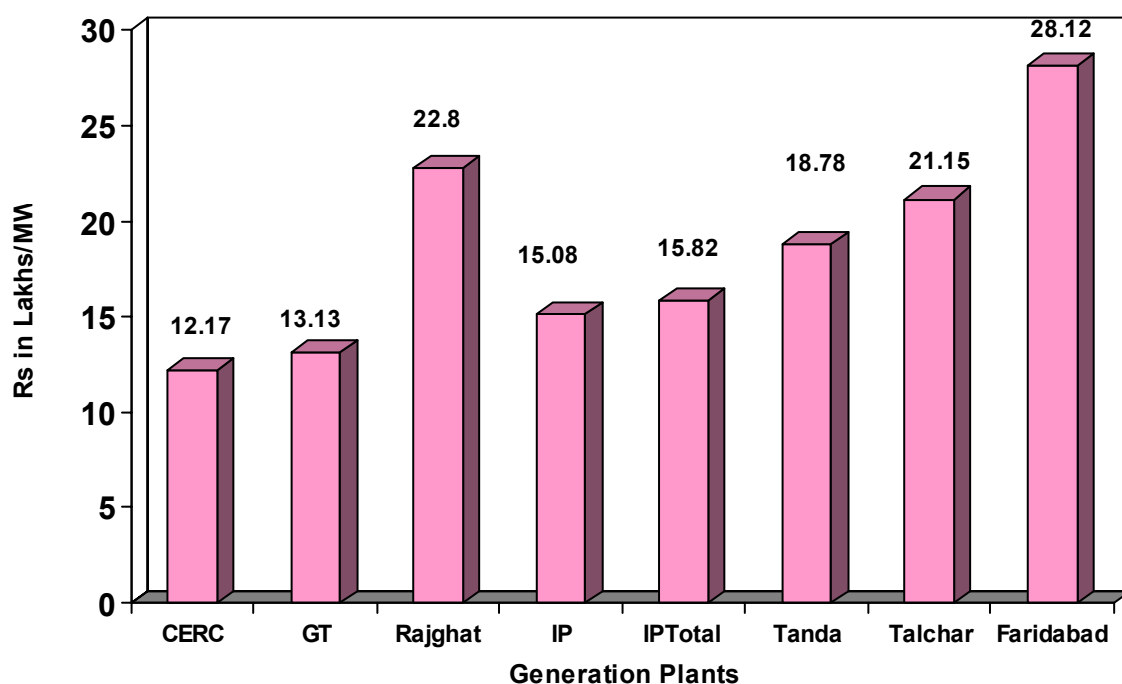
Summary on O&M cost for approval

Table 17: O&M Cost for IPGCL Power Plants

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
For IP Station	34.37	37.32	51.69	55.36	55.02	59.14
For RPH	30.64	30.77	41.73	44.41	44.83	47.82
For GTPS	35.21	37.04	43.89	46.18	48.33	51.11
IPGCL (as a whole)	100.22	105.13	137.31	145.95	148.18	158.08

IPGCL would like to plead to the Commission that the O&M cost of IPGCL is comparable with other similar Stations in the country. The graph below shows the comparison of O&M Cost per MW of some similar stations in the India.

O&M Cost in Lakhs per MW



Further, the petitioner would like to highlight the relevant portions of the CEA recommendations which are reproduced hereunder:

“

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

IPGCL requests to approve the O&M costs as estimated by IPGCL. If the Commission intends to approve a norm for O&M cost, the petitioner would request to include possible and legitimate increase in the employee costs and R&M cost. The petitioner requests to include and incorporate the required escalation factors in the norm and consider norm equivalent to FTPS levels. The Commission is requested to approve higher levels of O&M expenses keeping in view the various uncontrollable factors, which are not possible to estimate at this stage.

3.2.2 Interest on Loan

The interest expenditure on account of long-term loans depends on the outstanding loan, repayments, and applicable interest rates. Further, the projected capital expenditure and the funding of the same also have a large bearing on the long-term interest expenditure.

Loan from Holding Company:

As per the Delhi Electricity Reforms (Transfer Scheme) Rules 2001, Rs. 210 Crore of unsecured loan has been transferred to IPGCL as on July 1, 2002 and repayable to holding company. According to the Transfer Scheme, there is a moratorium of four years for payment of interest and repayment of principal. This loan has been bifurcated station wise as under, based on the gross fixed assets of the Company:

Table 18: Loan Bifurcation for IPGCL Plants

Power Stations	Rs.in Crore
IP Power Station	1.81
Rajghat Power Station	89.33
GT Power Station	118.86
Total	210.00

Loan From Delhi Government

The Plan Funds Loan from Delhi Government were taken @ 13% interest in the FY 2002-03 & from FY 2003-04 and thereafter the plan funds interest rate is @ 11.5%. A penal interest of 2% is chargeable in case of default in timely payment of interest or principle amount. There has been a default in repayment of loan due to lack of funds caused because of disallowance in full recovery of cost. Presently no amount on account of penal interest has been accounted in the ARR. The Hon'ble Commission is requested to allowed the same in case the company is required to pay the penal interest.

The Company is allowing 2% rebate on timely payments to the customers. The financial impact on this account for FY 07-08 to FY 10-11 has been reflected in the

Form No.8 on "Interest on loans" as there is no separate provision for reflection of this cost elsewhere.

Further the petitioner has proposed certain Capital expenditure plan (Discussed in chapter 4) which would be funded through both debt and equity. Based on the capitalization plan, the interest rates is estimated and included in the total interest on loan.

Accordingly, IPGCL requests Hon. Commission to approve the Interest & Rebate to Customers for the Control Period and for the Financial Year 06-07 as proposed in the following table:

Table 19: Interest on Loan

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
For IP Station	10.31	9.27	9.47	9.37	9.20	9.15
For RPH	5.44	17.56	18.88	19.51	18.53	17.18
For GTPS	14.06	26.11	33.40	35.93	35.17	33.83
IPGCL (as a whole)	29.82	52.94	61.75	64.81	62.90	60.16

3.2.3 Depreciation

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. The depreciation rates applied are as per the Regulation notified by the Hon'ble Commission.

IPGCL requests the Commission to approve the Depreciation for the Control Period. Details of depreciation have been projected in Form 7 of the MYT petition. The Hon'ble Commission is requested to approve the same for the control period.

IPGCL would like to submit that the Petitioner has not claimed the depreciation for existing plant & machinery and buildings in case of IP thermal stations as the plant has already recovered the 90% of the cost of same except for new additions shown during the FY 05-06, which have been depreciated over the remaining period of life of the plant at the rate of 16.36% to recover the 90% of the cost of the assets.

Further the petitioner has proposed certain Capital expenditure plan (Described in chapter 4) which would be funded through both debt and equity. Based on the capitalization plant, the additional depreciation and AAD is estimated and included in the total depreciation amount during the control period.

The Depreciation for IPGCL as a whole was Rs 28.13 Crores and Rs 31.98 Crores for FY 05-06 & FY06-07 respectively. For the first control period, the depreciation amount has been projected and summarized under Table 23.

Table 20: Depreciation of IPGCL Power Plants

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
For IP Station	2.88	5.54	5.53	5.53	5.53	5.53
For RPH	7.77	8.12	8.45	8.94	9.41	9.49
For GTPS	17.48	18.32	20.05	22.73	24.88	26.09
IPGCL (as a whole)	28.13	31.98	34.04	37.21	39.83	41.11

3.2.4 Return on Equity

As per the Transfer Scheme, the subscribed and paid up equity capital of IPGCL as on July 1, 2002 was fixed at Rs. 140 Crore and IPGCL has estimated the Return on Equity (ROE) @ 14% on this equity of the Company. The total equity has been bifurcated, plant wise, as under on the basis of Gross Fixed Assets of the Company:

Table 21: Equity Bifurcation for IPGCL Power Plants

Power Stations	Rs.in Crore
IP Power Station	1.20
Rajghat Power Station	59.56
GT Power Station	79.24
Total	140.00

The Plant wise Return on Equity for different IPGCL Power Plants has been tabulated as below:

Table 22: Return on Equity for IPGCL Power Plants

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
For IP Station	0.17	0.17	0.17	0.17	0.17	0.17
For RPH	8.34	8.34	8.45	9.02	9.57	9.66
For GTPS	11.09	11.09	12.03	13.90	15.41	16.25
IPGCL(as a whole)	19.60	19.60	20.64	23.09	25.14	26.07

IPGCL requests the Hon. Commission to approve the Return on Equity as proposed in above table. It may be noted that the petitioner has proposed certain Capital expenditure plan (Described in chapter 4), which would be funded through both debt and equity. Based on the capitalization plant, the return on equity is estimated and included in the proposed ROE.

3.2.5 Interest on Working Capital

Interest on Working Capital has been computed as per the following norms:

- Cost of coal & secondary oil for 2 months
- Cost of Gas for 1 month
- Cost of liquid fuel for 1/2 month
- O&M expenses for 1 month
- Receivables equivalent to 2 months average billing
- Spares 1% of project cost, escalating @6% per annum.

The petitioner would like to highlight that as per CERC Regulations Spares of 1% of total project cost is allowed with annual escalation of 6%. PPCL has included the same in the working capital computations and request the Hon'ble Commission to allow the same.

The Interest rate has been assumed at 12.75% which is the SBI PLR for calculating Interest on working Capital for the control period.

Table 23: Interest on Working Capital

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
For IP Station	8.72	10.07	9.15	9.72	10.19	10.83
For RPH	5.32	6.38	9.31	9.98	10.57	11.24
For GTPS	9.37	9.83	13.24	14.09	14.94	15.85
IPGCL (as a whole)	23.41	26.27	31.70	33.80	35.70	37.93

Based on above, IPGCL requests Hon. Commission to approve Interest on Working Capital for the Control Period and for FY 06-07 as tabulated above.

3.2.6 Summary of Fixed Cost

On the basis of above explanations, IPGCL requests to approve the total fixed cost for each of the generation station of IPGCL as per the following table:

Table 24: Total Fixed Cost for IPGCL Power Plants

Particulars (Rs. Crores)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
O&M Expenses	100.22	105.13	137.31	145.95	148.18	158.08
Depreciation	28.13	31.98	34.04	37.21	39.83	41.11
Advance against Depreciation	0.00	0.00	3.99	3.74	4.30	4.42
Interest Charges	29.82	52.94	61.75	64.81	62.90	60.16
Return on Equity	19.60	19.60	20.64	23.09	25.14	26.07
Interest on Working Capital	23.41	26.27	31.70	33.80	35.70	37.93
Total Fixed Cost	201.17	235.93	289.43	308.60	316.05	327.78
Net Generation (MU)	2810.51	2509.07	2861.48	2861.48	2861.48	2861.48
Fixed Cost/Unit (Rs/kWh)	0.72	0.94	1.01	1.08	1.10	1.15

Table 25: Proposed Fixed Cost per Unit for IP, RPH& GT PS stations

Particulars Rs./kwh	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
IP Station	0.91	1.08	1.31	1.38	1.38	1.46
RPH	1.16	1.28	1.25	1.31	1.33	1.37
GTPS	0.51	0.75	0.79	0.86	0.89	0.92

The petitioner would like to pray to the Hon'ble Commission to true up the cost and parameters for FY 2006-07 based on the actual performance rather than the approved levels. The submissions behind the deviation of various parameters and costs have already been detailed out in the petition and are beyond the control of the petitioner. The petitioner humbly submits to the Hon'ble Commission to bail out the plants of IPGCL from the vicious cycle of lack of approved costs and appropriate tariffs.

Chapter 4 : Business Plan

4.1 Preamble

This Chapter describes the various Capital Expenditure plans including the renovation & modernization plans, the details of which have already been submitted to the Commission on 29.11.06. The same has been segregated into the debt and equity on the basis of 70:30 ratio in the control period while calculating the fixed cost.

4.2 Capital Expenditure Details for the Control Period

Table 26: Capital Expenditure for the Control Period

Description (Rs.in Crore)	2007-08	2008-09	2009-10	2010-11
Capital expenditure work at GT Power Station	44.46	44.94	26.75	13.30
Capital expenditure work at Rajghat Power Station	5.20	21.90	4.25	
Capital expenditure work in IT Divison ¹	0.93	0.51	0.24	0.13
Capital expenditure work in Civil Department ²	2.43	1.48	1.48	1.48
Total	53.02	68.83	32.72	14.91

¹ The impact of the IT Division has not been factored in the MYT Petition, as the exact segregation between the plants has not been finalized.

² The impact of the Civil work has not been factored in the MYT Petition, as the exact segregation between the plants has not been finalized.

Chapter 5 : Prayer

5. Prayer

IPGCL respectfully prays to the Hon'ble Commission;

- To admit this petition.
- To true up the expenditure for FY 2006-07 based on the actual performance of IPGCL plants and to approve the tariff for the control period.
- To relax the operational, technical and financial norms and parameters defined in the Regulation under section 136 of the Regulations.
- To approve the operational and financial parameters as proposed and consider the same as Normative level for recovery of full fixed cost based on actual and realistic targets.
- To approve the Station operating parameters viz. actual Auxiliary Consumption, actual Station Heat Rate, actual Specific Oil Consumption, actual PLF during Control Period for recovery of variable cost.
- To approve proposed O&M cost that takes care of the entire proposed employee expenses, R&M and A&G expenses.
- To approve Capital Expenditure Plan as submitted.
- To allow taxes, property tax, cess, etc as pass through on actual basis.
- To approve the actual expenses on account of rebate given to customers for timely payment.
- 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 necessitating 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.

Declaration that the subject matter of the petition has not been raised by the petitioner before any other competent forum, and that no other competent forum is currently seized of the matter or has passed any orders in relation thereto,

Viney Kumar,

Director(Technical)

Indraprastha Power Generation Company Limited

PETITIONER

New Delhi

DATED: